CITY OF KYLE

Notice of Regular City Council Meeting

Kyle City Hall, 100 W. Center Street, Kyle, TX 78640
The public can watch remotely at: Spectrum 10; https://www.cityofkyle.com/kyletv/kyle-10-live. One or more members of the governing body may participate in the meeting by videoconference pursuant to Section 551.127, Texas Government Code, provided that a quorum of the governing body will be present at Kyle City Hall.

Notice is hereby given that the governing body of the City of Kyle, Texas will meet at 7:00 PM on March 7, 2023, at Kyle City Hall, 100 W. Center Street, Kyle, TX 78640, for the purpose of discussing the following agenda.

Posted this 3rd day of March, 2023, prior to 4:30 p.m.

I. Call Meeting to Order

II. Approval of Minutes

1. City Council Special Meeting Minutes - February 21, 2023. ~ *Jennifer Kirkland, TRMC, City Secretary*
2. City Council Meeting Minutes - February 21, 2023. ~ *Jennifer Kirkland, TRMC, City Secretary*

III. Citizen Comment Period with City Council

The City Council welcomes comments from Citizens early in the agenda of regular meetings. Those wishing to speak are encouraged to sign in before the meeting begins. Speakers may be provided with an opportunity to speak during this time period on any agenda item or any other matter concerning city business, and they must observe the three-minute time limit.

IV. Agenda Order

3. Agenda Order per Rules of Council Sec. B1

V. Presentation

4. International Women's Day Proclamation. ~ *Daniela Parsley, Council Member*

5. Proclamation acknowledging Jared White for his work as an Eagle Scout to benefit the Kyle Housing Authority. ~ *Jerry Hendrix, Interim City Manager*

6. Update on various capital improvement projects, road projects, building program, and/or general operational activities where no action is required. ~ *Jerry Hendrix, Interim City Manager*
    - Wall That Heals
    - International Women's Day
    - Family Camp Out at Lake Kyle
    - Easter Egg-stravaganza
    - Seed Swap Event
    - Spring Break Events at Kyle Public Library
    - Silver Screen Movie
    - Display for Women's History Month
    - PIErate Treasure Hunt
    - Comprehensive Master Plan Update
    - Downtown Master Plan Update
    - Team Kyle Updates

7. CIP/Road Projects and Consent Agenda Presentation. ~ *Leon Barba, P.E., City Engineer*

VI. Consent Agenda

8. Authorize award and execution of a Purchase Order to THE BRANDT COMPANIES, LLC, Pflugerville, Texas, in an amount not to exceed $73,079.00 to remove and replace heating, ventilation, and air conditioning (HVAC) units 1, 2, and 3 at the Kyle Public Library. This procurement is being made through the BuyBoard Purchasing Cooperative Contract No. 638-21. ~ *Timothy Cropley, Facilities Division Manager*

9. Approve Amendment No. 1 to Task Order No. 4 to CP&Y, INC., Austin, Texas, in the amount not exceed $391,628.00, increasing the total contract amount not to exceed $487,369.00 for 60% design phase engineering services and special services associated with the Wastewater Treatment Plant Interceptor Phase 1 & 2 Project. ~ *Leon Barba, P.E., City Engineer*

10. Approve a Resolution authorizing the Interim City Manager to negotiate an agreement with LJA ENGINEERING,INC., Austin, Texas and STATESIDE RIGHT OF WAY SERVICES, LLC, Dallas, Texas to provide Right of Way Acquisition Services. ~ *Leon Barba, P.E., City Engineer*

11. Approve a Resolution of the City Council of the City of Kyle, Texas accepting the Crosswinds Phase 3A subdivision improvements; finding and determining that the meeting at which this Resolution is passed was noticed and is open to the Public as required by law.~ *Leon Barba, P.E., City Engineer*

12. Approve a Resolution of the City Council of the City of Kyle, Texas accepting the Crosswinds Phase 4A subdivision improvements; finding and determining that

the meeting at which this Resolution is passed was noticed and is open to the Public as required by law. ~ *Leon Barba, P.E., City Engineer*

13. Approve a Resolution of the City Council of the City of Kyle, Texas accepting the Crosswinds Phase 5A/5B subdivision improvements; finding and determining that the meeting at which this Resolution is passed was noticed and is open to the Public as required by law. ~ *Leon Barba, P.E., City Engineer*

14. (*Second Reading*) An ordinance amending Chapter 53 (Zoning) of the City of Kyle, Texas, for the purpose of rezoning approximately 14.75 Acres of land from 'W' (Warehouse), to 'O/I' (Office/Institutional) for property located at 400 Old Post Road in Hays County, Texas. (Vertical Church - Z-23-0112) ~ *Will Atkinson, Director of Planning*

    Planning and Zoning Commission voted 6-0 to recommend approval of the request.
    City Council voted 6-0 to approve on first reading on 2/21/2023.

VII. Items Pulled from Consent Agenda

VIII. Public Hearings

15. Public Hearing Concerning the Creation of Reinvestment Zone Number Four (TIRZ #4), Pursuant to the Provisions of Chapter 311 of the Texas Tax Code. ~ *Stephanie Leibe, Norton Rose Fulbright, City's Bond Counsel*

    Public Hearing was left open on 2/7/2023.

IX. Consider and Possible Action

16. *(First Reading)* Consideration and Approval of an Ordinance of the City Council of the City of Kyle, Texas, Designating a Contiguous Geographic Area within the Corporate Limits of the City as a Reinvestment Zone Pursuant to Chapter 311 of the Texas Tax Code, to be known as Reinvestment Zone Number Four, City of Kyle; Describing the Boundaries of the Zone; Creating a Board Of Directors for the Zone; Establishing a Tax Increment Fund for the Zone; Containing Findings Related to the Creation of the Zone; Providing a Date for the Termination of the Zone; Providing that the Zone Take Effect Immediately Upon Passage of the Ordinance; Providing a Severability Clause; and Providing an Effective Date. ~ *Stephanie Leibe, Norton Rose Fulbright, City's Bond Counsel*

17. Consider and possible action on the Second Amendment to the Amended and Restated Limestone Creek Development Agreement. ~ *Paige Saenz, City Attorney*

18. Consideration and approval of a Resolution of the City of Kyle, Texas, accepting a Petition to Increase the Estimated Costs of the Improvements for Improvement Area #2 of the Southwest Kyle Public Improvement District No. 1 and calling for a Public Hearing pursuant to Chapter 372 of the Texas Local Government Code. ~ *Stephanie Leibe, Norton Rose Fulbright, City's Bond Counsel*

19. Approve Task Order No. 2 to BGE, INC., Houston, Texas in the amount not to exceed $947,810.00 for engineering services and design of Bunton Creek Road from Lehman Road to Porter Cove. ~ *Joe Cantalupo, K Friese & Associates, City's 2022 Road Bond Program Manager*

20. Approve Task Order No. 2 to AMERICAN STRUCTUREPOINT, INC., Dallas, Texas in the amount not to exceed $436,194.96 for engineering services and design of Bebee Rd. from I35 NB Frontage Road to Dacy Lane. ~ *Joe Cantalupo, K Friese & Associates, City's 2022 Road Bond Program Manager*

21. Approve Task Order No. 3 to AMERICAN STRUCTUREPOINT, INC., Dallas, Texas in the amount not to exceed $788,221.88 for engineering services and design of Bebee Rd. from Dacy Lane to East of Green Pastures Road. ~ *Joe Cantalupo, K Friese & Associates, City's 2022 Road Bond Program Manager*

22. Approve Task Order No. 16 to LJA ENGINEERING, INC., Austin, Texas in the amount not to exceed $1,101,207.34 for engineering services and design of Kohlers Crossing from IH 35 NBFR to Seton Parkway. ~ *Joe Cantalupo, K Friese & Associates, City's 2022 Road Bond Program Manager*

23. Approve Task Order No. 17 to LJA ENGINEERING, INC., Austin, Texas in the amount not to exceed $2,158,287.27 for engineering services and design of Kohlers Crossing from the IH 35 SBFR to the IH 35 NBFR. ~ *Joe Cantalupo, K Friese & Associates, City's 2022 Road Bond Program Manager*

24. Consider and possible action to approve a Resolution of the City of Kyle, Texas, Amending the Contract for Kyle Texas 3.14 ADA Transportation Program with Maruti Transportation Group Executed April 5, 2022; Making Findings of Fact; and Providing for Related Matters. ~ *Jerry Hendrix, Interim City Manager*

25. *(First Reading)* An Ordinance of the City of Kyle, Texas Repealing Article II. Alcoholic Beverages Division 2. Permits and Licenses Sections 11-42 License and Permit Fees, 11-43 Payment of Fees, and 11-44 Review and Recommendation; Amending 11-47 Violations and Penalties; Repealing 11-53; Providing Open Meeting Clauses; Providing an Effective Date; and Providing for Related Matters. ~ *Paige Saenz, City Attorney*

    City Council voted 5-2 to deny fees associated with Alcoholic Beverage Permits and Applications on 2/7/2023.

26. Discussion and possible action regarding the 2020 Prop F Ordinance presented to Council on June 15, 2021, referencing the 2020 Prop F bond language, to include but not limited to, creating a committee name, requirements for a committee seat selection and committee mission statement. ~ *Yvonne Flores-Cale, Council Member and Michael Tobias, Mayor Pro Tem*

27. Resolution for Establishing a City of Kyle Trails Committee. ~ *Mariana Espinoza, Director of Parks & Recreation*

    Parks and Recreation Board voted 7-0 to recommend this committee.

28. Resolution for Establishing a City of Kyle Keep Kyle Beautiful Committee. ~ *Mariana Espinoza, Director of Parks & Recreation*

    Parks and Recreation Board voted 7-0 to recommend this committee.

29. Resolution for Establishing a City of Kyle Community Gardens Committee. ~ *Mariana Espinoza, Director of Parks & Recreation*

    Parks and Recreation Board voted 5-0 to recommend this committee.

30. Consider and possible action to direct staff to work with Hays Caldwell Women's Center to negotiate a contract for services provided to residents of Kyle on a yearly basis, and to identify funding sources that does not exceed $15,000 to fund services for the remainder of the Fiscal Year 2022-2023. ~ *Daniela Parsley and Bear Heiser, Council Members*

31. Consider and possible action to approve a Take-Home Vehicle Program and related policy for the Police Department and to direct the Interim City Manager to implement the take-home vehicle program for all sworn police officers in phases as part of the future budgets of the Police Department. ~ *Bear Heiser and Daniela Parsley, Council Members*

32. Consider and Possible Action to Bring back the Citizen and Volunteer of the Year Award for City of Kyle. ~ *Miguel A. Zuniga PhD, Council Member*

33. Consider and Possible Action to increase Urban Tree Canopy "Green Infrastructure" throughout the City of Kyle. ~ *Miguel A. Zuniga PhD, Council Member*

34. Discussion and possible action regarding offices to be located in the Public Safety Center, including but not limited to Staff, City administration and City Council. ~ *Yvonne Flores-Cale, Council Member*

X. Executive Session

35. Pursuant to Chapter 551, Texas Government Code, the City Council reserves the right to convene into Executive Session(s) from time to time as deemed necessary during this meeting. The City Council may convene into Executive Session pursuant to any lawful exception contained in Chapter 551 of the Texas Government Code including any or all of the following topics.
    1. Pending or contemplated litigation or to seek the advice of the City Attorney and Attorneys concerning legal issues pursuant to Section 551.071, Texas Government Code, and Section 1.05, Texas Disciplinary Rules of Professional Conduct for the following matters:
        - Opioid Settlements Negotiated by the Texas Attorney General
        - Reinvestment Zone Number Four (TIRZ #4)
    2. Possible purchase, exchange, lease, or value of real estate pursuant to Section 551.072 to deliberate the purchase of real property for public

purpose.

3. Personnel matters pursuant to Section 551.074.
4. Convene into executive session pursuant to Section 551.087, Texas Government Code, to deliberate regarding the offer of economic incentives to one or more business prospects that the City seeks to have locate, stay, or expand in or near the City.
    - Project Midnight Blue
    - Project Sendero

36. Take action on items discussed in Executive Session.

XI. Adjourn

At any time during the City Council Meeting, the City Council may adjourn into an Executive Session, as needed, on any item listed on the agenda for which state law authorizes Executive Session to be held.

Under the Americans with Disabilities Act, an individual with a disability must have equal opportunity for effective communication and participation in public meetings. Kyle City Hall is wheelchair accessible. Individuals who require auxiliary aids, interpretive services, and/or other services for this meeting should submit a request at https://www.cityofkyle.com/contact or call (512)262-1010, 48 hours in advance of the meeting.

CITY OF KYLE, TEXAS

2023 0221 Special Minutes

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: City Council Special Meeting Minutes - February 21, 2023. ~ *Jennifer Kirkland, TRMC, City Secretary*

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

	Description
🗋	2023 0221 Special DRAFT

SPECIAL CITY COUNCIL MEETING MINUTES

The City Council of the City of Kyle, Texas met in Special Session on February 21, 2023 at Kyle City Hall with the following persons present:

Mayor Travis Mitchell
Mayor Pro Tem Michael Tobias
Council Member Yvonne Flores-Cale
Council Member Miguel Zuniga
Council Member Ashlee Bradshaw
Council Member Daniela Parsley
Jerry Hendrix, Interim City Manager
Amber Schmeits, Assistant City Manager
Paige Saenz, City Attorney
Rachel Sonnier, Communications Director
Grant Bowling, Video Production Specialist
Jennifer Kirkland, City Secretary
Leon Barba, City Engineer
Victoria Vargas, Economic Development Director
Marco Forti, IT Director
Will Atkinson, Planning Director

I. Call Meeting to Order

Mayor Mitchell called the meeting to order at 5:01 p.m. Mayor Mitchell asked the city secretary to call roll.

Present were: Mayor Mitchell, Mayor Pro Tem Tobias, Council Member Flores-Cale, Council Member Zuniga, Council Member Bradshaw, and Council Member Parsley. A quorum was present. Council Member Heiser was absent.

II. Citizen Comment Period with City Council

Mayor Mitchell opened citizen comments at 5:02 p.m. With no one wishing to speak, Mayor Mitchell closed citizen comments at 5:02 p.m.

III. Executive Session

1. Pursuant to Chapter 551, Texas Government Code, the City Council reserves the right to convene into Executive Session(s) from time to time as deemed necessary during this meeting. The City Council may convene into Executive Session pursuant to any lawful exception contained in Chapter 551 of the Texas Government Code including any or all of the following topics.
    1. Pending or contemplated litigation or to seek the advice of the City Attorney and Attorneys concerning legal issues pursuant to Section 551.071, Texas Government Code, and Section 1.05, Texas Disciplinary Rules of Professional Conduct for the following matters:
        - Reinvestment Zone Number Two (TIRZ #2)
        - Reinvestment Zone Number Four (TIRZ #4)
        - 104 S. Burleson
    2. Possible purchase, exchange, lease, or value of real estate pursuant to Section 551.072 to deliberate the purchase of real property for public purpose.

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3. Personnel matters pursuant to Section 551.074.
4. Convene into executive session pursuant to Section 551.087, Texas Government Code, to deliberate regarding the offer of economic incentives to one or more business prospects that the City seeks to have locate, stay, or expand in or near the City.
    - Project Two-Step
    - Project Water Wheel
    - Project Chia Pet
    - Project Good Neighbor

Mayor Mitchell read into the record, "Pursuant to Chapter 551, Texas Government Code, the City Council reserves the right to convene into Executive Session(s) from time to time as deemed necessary during this meeting. The City Council may convene into Executive Session pursuant to any lawful exception contained in Chapter 551 of the Texas Government Code including any or all of the following topics: Pending or contemplated litigation or to seek the advice of the City Attorney and Attorneys concerning legal issues pursuant to Section 551.071, Texas Government Code, and Section 1.05, Texas Disciplinary Rules of Professional Conduct for the following matters - Reinvestment Zone Number Two (TIRZ #2); Reinvestment Zone Number Four (TIRZ #4); 104 S. Burleson; and Convene into executive session pursuant to Section 551.087, Texas Government Code, to deliberate regarding the offer of economic incentives to one or more business prospects that the City seeks to have locate, stay, or expand in or near the City - Project Two-Step; Project Water Wheel; Project Chia Pet; Project Good Neighbor."

The City Council convened into executive session at 5:03 p.m.

2. Take action on items discussed in Executive Session.

Mayor Mitchell called the meeting back to order at 7:09 p.m. Mayor Mitchell announced that no action took place in Executive Session and no action would be taken now.

IV. Adjourn

Mayor Mitchell moved to adjourn. Council Member Flores-Cale seconded the motion. No vote was held.

With no further business to discuss, the City Council adjourned at 7:09 p.m.

_____
Travis Mitchell, Mayor

Attest:

_____
Jennifer Kirkland, City Secretary

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CITY OF KYLE, TEXAS

2023 0221 Regular Minutes

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: City Council Meeting Minutes - February 21, 2023. ~ *Jennifer Kirkland, TRMC, City Secretary*

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

	Description
🗋	2023 0221 DRAFT

The City Council of the City of Kyle, Texas met in Regular Session on February 21, 2023 at Kyle City Hall with the following persons present:

Mayor Travis Mitchell
Mayor Pro Tem Michael Tobias
Council Member Yvonne Flores-Cale
Council Member Miguel Zuniga
Council Member Ashlee Bradshaw
Council Member Daniela Parsley
Jerry Hendrix, Interim City Manager
Amber Schmeits, Assistant City Manager
Paige Saenz, City Attorney
Rachel Sonnier, Communications Director
Grant Bowling, Video Production Specialist
Jennifer Kirkland, City Secretary
Leon Barba, City Engineer
Kathy Roecker, SWMP Administrator
Victoria Vargas, Economic Development Director
Perwez Moheet, Finance Director
Marco Forti, IT Director
Colleen Tierney, Library Director
Cara Waits, Assistant Library Director
Michael Kaufmann-Lynch, Adult Services Librarian
Jen Cardenas, Library Assistant
Mary Folsom, Library Assistant
Judy Thomas, Library Assistant
Joel Ysla, Library Assistant
Briseida Torres, Library Assistant
Zoe Reyna, Circulation Desk Clerk
Orlando Perez, Library Assistant
Mariana Espinoza, Parks & Recreation Director
Aimee Garcia, Recreation Manager
Claudia Rocha, Special Events Manager
Will Atkinson, Planning Director
Kaela Sharp, City Planner
Jeff Barnett, Chief of Police
Pedro Hernandez, Assistant Chief of Police
Tim Cropley, Facilities Division Manager
Will Paiz-Tabash, Emergency Management Coord.
Rick Coleman
Lisa Crane
Ash Crane
Alex Guerra
Stuart Hoyt
Derek Bird
Kevin Kurtz
David Russell
Stephanie Leibe

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I. Call Meeting to Order

Mayor Mitchell called the meeting to order at 7:09 p.m. The Pledge of Allegiance was recited. Mayor Mitchell asked the city secretary to call roll.

Present were: Mayor Mitchell, Mayor Pro Tem Tobias, Council Member Flores-Cale, Council Member Zuniga, Council Member Bradshaw, and Council Member Parsley. A quorum was present. Council Member Heiser was absent.

Mayor Mitchell moved to excuse Council Member Heiser's absence due to illness. Council Member Parsley seconded the motion. Motion carried 6-0.

II. Approval of Minutes

1. City Council Special Meeting Minutes - February 7, 2023. ~ *Jennifer Kirkland, TRMC, City Secretary*
2. City Council Meeting Minutes - February 7, 2023. ~ *Jennifer Kirkland, TRMC, City Secretary*
3. City Council Workshop Meeting Minutes - February 13, 2023. ~ *Jennifer Kirkland, TRMC, City Secretary*

Mayor Pro Tem Tobias moved to approve the minutes of the February 7, 2023 Special Council Meeting, February 7, 2023 Council Meeting and the minutes of the February 13, 2023 Workshop Meeting. Council Member Parsley seconded the motion. Motion carried 6-0.

III. Citizen Comment Period with City Council

Mayor Mitchell opened citizen comments at 7:11 p.m.

Rick Coleman was called to speak as registered, representing FM 158 Land LTC. He stated that property owners around him are trying to divert water onto his property. He recapped the Council interactions regarding this issue up from December 2022.

Lisa Crane was called to speak as registered, representing Kyle Hockey. She spoke about the tourism that hockey brought to town recently, to include hotel rooms, visits to Evo, Summer Moon, and others. She stated that most of the players in the league do not live in the City of Kyle but travel here to play. She spoke about a tournament in Nashville.

Ash Crane was called to speak as registered, representing Kyle Hockey. He stated that two years ago Kyle was unknown to the hockey community, but people are now travelling from Mexico, Dallas, and other regions to play hockey in Kyle.

Alex Guerra was called to speak as registered. He spoke about Proposition F passed in 2020 for oversight of the Police Department. He stated that a committee has yet to be established in accordance with this proposition. He stated that Council has forgotten about this proposition, which needs to be rectified.

Stuart Hoyt was called to speak as registered, representing Sons of the American Revolution. He spoke of the importance of recognizing February 22 as George Washington's birthday. He spoke about the precedence that was set by George Washington. He stated that seven states recognize George Washington's birthday, but Texas is not one of them.

With no one else wishing to speak, Mayor Mitchell closed citizen comments at 7:24 p.m.

IV. Agenda Order

4. Agenda Order per Rules of Council Sec. B1

Mayor Pro Tem Tobias asked to move up Agenda Item No. 41. Council Member Parsley asked to move Item No. 27 up. Council Member Parsley withdrew her request.

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V. Presentation

5. Presentation of the Police Department's 2022 Annual Racial Profiling Report. ~ *Jeff Barnett, Chief of Police*

Chief Barnett reported for the record that the report has been submitted to the Texas Commission on Law Enforcement. No action was taken.

6. Presentation of a plan for working with the local school swim teams and a plan for offering free pool days as requested by City Council on 1/28/2023. ~ *Mariana Espinoza, Director of Parks & Recreation*

No action was taken.

7. Presentation of the 2023 Kyle Fair TexTravaganza. ~ *Mariana Espinoza, Director of Parks & Recreation*

Ms. Espinoza and Ms. Rocha presented the item. No action was taken.

8. Kyle Public Library awarded the Texas Municipal Library Directors Association Award for 2022. ~ *Colleen Tierney, Director of Library Services*

No action was taken.

9. Update on various capital improvement projects, road projects, building program, and/or general operational activities where no action is required. ~ *Jerry Hendrix, Interim City Manager*

- Pickleball Tournament
- Family Skate Night
- International Women's Day - March
- Seasonal Staff Hiring Events
- Kyle Public Library Programs
- Coffee Station in Library Lobby
- Great Texas River Cleanup
- PIErate Treasure Hunt
- Comprehensive Master Plan Update
- Downtown Master Plan Update
- Team Kyle Updates

Mayor Mitchell stated that Item No. 41 would be taken up at the end of the City Manager's Report.

Mr. Hendrix, Ms. Espinoza, Ms. Tierney, Ms. Roecker, Ms. Sonnier, and Mr. Atkinson presented the item. Mr. Barba spoke about National Engineers Week. Mr. Moheet spoke about the achievement of the Government Finance Officers Association award.

41. Recap of Ice Storm Response. ~ *Jerry Hendrix, Interim City Manager*

Mr. Hendrix then presented Item No. 41. Mr. Paiz-Tabash also provided information. No action was taken.

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10. CIP/Road Projects and Consent Agenda Presentation. *~ Leon Barba, P.E., City Engineer*

No action was taken.

VI. Consent Agenda

Mayor Mitchell stated that staff requested Item No. 16 be removed and that it will be brought back at another time. Mayor Mitchell brought forward Item Nos. 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, and 22 for consideration.

11. Authorize the City's Chief of Police and or his designee to dispose through sale to an authorized Federal Firearms Licensee (FFL) sixty-one (61) City-owned Glock 22 Generation 4 pistols determined to be surplus items by the Police Department. *~ Jeff Barnett, Chief of Police*

12. Approve an agreement with TRANSCEND INC., DBA SPA SKATEPARKS, Austin, for the design and construction of the Gregg-Clarke Park Skatepark. A Purchase Order to TRANSCEND INC., DBA SPA SKATEPARKS in the amount of $1,000,000.00 for this project was authorized by City Council on December 6, 2022. *~ Mariana Espinoza, Director of Parks & Recreation*

13. Authorize award and execution of a Purchase Order to KRAFTSMAN, LP, Spring, Texas, in amount not to exceed $192,376.26 for the design and construction of an inclusive playground at Lake Kyle Park. *~ Mariana Espinoza, Director of Parks & Recreation*

14. Authorize award and execution of a Contract and Purchase Order to MATEFLEX, INC., Utica, New York, in an amount not to exceed $80,755.00 for the installation of athletic sports flooring at the Ash Pavilion. *~ Mariana Espinoza, Director of Parks & Recreation*

15. Authorize award and execution of a Purchase Order to CHES-LEE ENTERPRISES LLC DBA AMERICAN FIREWORKS, Bastrop, Texas, in amount not to exceed $107,730.00 for the firework shows for Kyle Fair TexTravaganza, 4th of July, and Pie in the Sky events. *~ Mariana Espinoza, Director of Parks & Recreation*

17. Approve Amendment No. 1 to Task Order No. 12 to LJA ENGINEERING, INC., Austin, Texas, in the amount not exceed $149,630.06, increasing the total contract amount not to exceed $547,659.38 for additional water and wastewater lines related engineering services associated with the IH 35 South Bound Frontage Road Project. *~ Leon Barba, P.E., City Engineer*

18. A Resolution of the City Council of the City of Kyle, Texas accepting the Sage Hollow Phase 1 subdivision improvements; finding and determining that the meeting at which this Resolution is passed was noticed and is open to the Public as required by law. *~ Leon Barba, P.E., City Engineer*

19. Consider and possible action to authorize the Interim City Manager to execute a Contract and a Change Order in the amount of $14,415.71 for CONSTANT TECHNOLOGIES, INC., to upgrade the 4x2 Fiber Cable at the Public Safety Center. Funding for this Change Order will be provided from budget savings realized as shown in attached Exhibit B. *~ Derek Bird, AGCM, City of Kyle Project Manager*

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20. Consider and possible action to authorize the Interim City Manager to execute a Change Order in an amount not to exceed $190,000.00 to BARTLETT COCKE GENERAL CONTRACTORS to construct the Vybe trail as designed around the Public Safety Center. *~ Derek Bird, AGCM, City of Kyle Project Manager*

21. Approve a proposal from KALBACHER ASSOCIATES, LLC, Alexandria, VA, in the amount not to exceed $13,000.00 to provide grant writing services to apply for the FY 2023 WaterSMART: Water Recycling and Desalination Planning Grant. *~ Leon Barba, P.E., City Engineer*

    City Council approved applying for the grant on 1/17/2023.

22. Approve Task Order No. 5 to COBB, FENDLEY & ASSOCIATES, INC., Austin, Texas, in the amount not to exceed $9,384.00 to provide cost estimates to Kalbacher & Associates in support of the WaterSMART Grant application to assist the City of Kyle in applying for US Bureau of Reclamation funding for reclaimed water infrastructure improvements. *~ Leon Barba, P.E., City Engineer*

    City Council approved applying for the grant on 1/17/2023.

Council Member Flores-Cale moved to approve Consent Agenda Item Nos. 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, and 22. Council Member Parsley seconded the motion.

Mr. Barba and Ms. Schmeits provided information regarding Item Nos. 21 and 22.

After Mayor Mitchell called for the vote on the motion, Council Member Zuniga stated he had questions on Item No. 13. Ms. Espinoza and Ms. Garcia provided information regarding the item.

After Item No. 40, Mayor Mitchell asked whether there were any nay votes on consent agenda. There were none. Consent agenda was approved 6-0.

VII. Items Pulled from Consent Agenda

16. Authorize award and execution of a Purchase Order to THE BRANDT COMPANIES, LLC, Pflugerville, Texas, in an amount not to exceed $73,079.00 to remove and replace heating, ventilation, and air conditioning (HVAC) units 1, 2, and 3 at the Kyle Public Library. This procurement is being made through the BuyBoard Purchasing Cooperative Contract No. 638-21. *~ Timothy Cropley, Facilities Division Manager*

No action was taken.

VIII. Public Hearings

23. Public Hearing Concerning the Creation of Reinvestment Zone Number Four (TIRZ #4), Pursuant to the Provisions of Chapter 311 of the Texas Tax Code. *~ Stephanie Leibe, Norton Rose Fulbright*

    Public Hearing was left open on 2/7/2023.

Mayor Mitchell opened the public hearing at 8:28 p.m. With no one wishing to speak, the public hearing was left open.

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IX. Consider and Possible Action

24. Approve a Resolution authorizing the negotiation of an agreement with CP&Y, INC., Austin, Texas, to provide professional engineering consulting services for the design of the Wastewater Treatment Plant Expansion Phase 2. ~ *Leon Barba, P.E., City Engineer*

Mayor Mitchell moved to approve a Resolution authorizing the negotiation of an agreement with CP&Y, INC., Austin, Texas, to provide professional engineering consulting services for the design of the Wastewater Treatment Plant Expansion Phase 2. Council Member Parsley seconded the motion. Motion carried 6-0.

25. Acceptance of $2 Million from Lloyd Doggett's Office. ~ *Amber Schmeits, Assistant City Manager*

Mayor Mitchell moved to officially accept the $2 Million dollars from Lloyd Doggett's office for the water reclamation project. Council Member Flores-Cale seconded the motion. Motion carried 6-0.

26. Approve scope of services for 2023-2024 and reaffirm engagement agreement with AKIN GUMP STRAUSS HAUER & FELD, LLP., in the amount of $172,000.00 per year for providing federal legislative services to the City of Kyle. ~ *Mayor Travis Mitchell*

Council Member Parsley moved to approve Item No. 26. Council Member Flores-Cale seconded the motion. Motion carried 5-1 with Mayor Pro Tem Tobias dissenting.

27. Discussion to address damages created by AT&T and the other fiber companies and the timeline of repairs. ~ *Daniela Parsley, Council Member*

Kevin Kurtz spoke on behalf of AT&T. David Russell spoke on behalf of Frontier. No action was taken.

28. Consider approval of an Agreement with P3Works, LLC, for Administration Services or Tax Increment Reinvestment Zone No. 2. ~ *Stephanie Leibe, Norton Rose Fulbright*

Mayor Pro Tem Tobias moved to approve an Agreement with P3Works, LLC, for Administration Services or Tax Increment Reinvestment Zone No. 2. Council Member Flores-Cale seconded the motion. Motion carried 6-0.

29. Approve Task Order No. 6 to COBB, FENDLEY & ASSOCIATES, INC., Austin, Texas in the amount not to exceed $19,403.05 for Traffic Signal versus Roundabout Analysis and Design for Dacy Lane at Bunton Creek Road Intersection Improvements. ~ *Leon Barba, P.E., City Engineer*

Council Member Parsley moved to approve Item No. 29. Council Member Flores-Cale seconded the motion. Motion carried 6-0.

30. Consider and possible action to approve a cooperation agreement in lieu of taxes between the Kyle Housing Authority and the City of Kyle. ~ *Jerry Hendrix, Interim City Manager*

Council Member Flores-Cale moved to waive the five-year period in taxes owed to the City by the Kyle Housing Authority in the amount of $29,301.08. Mayor Pro Tem Tobias seconded the motion.

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Council Member Flores-Cale moved to amend her motion to include waiving all future tax payments from the Kyle Housing Authority. Mayor Pro Tem Tobias seconded the motion.

Mayor Mitchell stated the motion and motion to amend would be considered as one motion.

Council Member Flores-Cale moved to amend and restate her motion to waive the past due amount from the Kyle Housing Authority in the amount of $29,301.08, to waive any future payments to be made to the City of Kyle, and to direct staff to bring back an agreement for Council to review. Council Member Parsley seconded the motion. Motion carried 6-0.

31. *(First Reading)* An ordinance amending Chapter 53 (Zoning) of the City of Kyle, Texas, for the purpose of rezoning approximately 14.75 Acres of land from 'W' (Warehouse), to 'O/I' (Office/Institutional) for property located at 400 Old Post Road in Hays County, Texas. (Vertical Church - Z-23-0112) ~ *Will Atkinson, Director of Planning*

    Planning and Zoning Commission voted 6-0 to recommend approval of the request.

    - Public Hearing

Mayor Mitchell opened the public hearing at 9:33 p.m. With no one wishing to speak, Mayor Mitchell closed the public hearing at 9:33 p.m.

Mayor Mitchell moved to approve an ordinance amending Chapter 53 (Zoning) of the City of Kyle, Texas, for the purpose of rezoning approximately 14.75 Acres of land from 'W' (Warehouse), to 'O/I' (Office/Institutional) for property located at 400 Old Post Road in Hays County, Texas. (Vertical Church - Z-23-0112) Council Member Parsley seconded the motion. Motion carried 6-0.

32. *(Second Reading)* An ordinance amending Chapter 53 (Zoning) of the City of Kyle, Texas, for the purpose of rezoning approximately 18.84 acres of land from 'RS' (Retail Services) to 'PUD' (Planned Unit Development) for property located approximately 400' southwest of the intersection of Marketplace Ave & City Lights Dr. in Hays County, Texas. (Joe Brooks - Z-22-0099) ~ *Will Atkinson, Director of Planning*

    Planning and Zoning Commission voted 3-2 to recommend approval of the request.

    City Council voted 6-1 to approve first reading on 2/7/2023.

Mayor Mitchell moved to approve an Ordinance amending Chapter 53 (Zoning) of the City of Kyle, Texas, for the purpose of rezoning approximately 18.84 acres of land from 'RS' (Retail Services) to 'PUD' (Planned Unit Development) for property located approximately 400' southwest of the intersection of Marketplace Ave & City Lights Dr. in Hays County, Texas. Council Member Parsley seconded the motion. Motion carried 5-1 with Council Member Flores-Cale dissenting.

33. [Postponed 2/7/2023] Consider and possible action to direct staff to bring back reports regarding City of Kyle Boards goals to include: New projects, future activities, and or local, state federal grant possibilities for the Year 2023. ~ *Michael Tobias, Mayor Pro Tem*

    Board Updates to include from:

    - Arts and Cultural Commission
    - Library Board

DRAFT

- Parks and Recreation Board
- Economic Development & Tourism Board
- Planning & Zoning Commission

Mayor Pro Tem Tobias moved to direct staff to bring back reports regarding the Kyle Boards goals including future projects, and any grants for state and local for the next year. Council Member Parsley seconded the motion.

Mayor Mitchell left the dais at 9:35 p.m. He returned at 9:37 p.m.

Mayor Pro Tem Tobias moved to amend his motion to direct staff to bring back reports regarding Kyle Boards goals to include new projects, future activities, and local, state grant possibilities for the Arts Commission, Library Board, Parks and Recreation Board, Economic Development & Tourism Board, Planning & Zoning Commission, Kyle Train Depot, and the Kyle Animal Shelter. Council Member Parsley seconded the motion. Motion carried 5-0. Council Member Bradshaw left the dais at 9:37 p.m. and was absent for the vote.

34. [Postponed 2/7/2023] Consider and possible action to add more trail head signage and amenities at Plum Creek Bike Trails such as benches, signage, tables, trash containers, viewing platform, bike wash station, etc. ~ *Miguel A. Zuniga PhD, Council Member*

Council Member Bradshaw returned at 9:39 p.m. Ms. Espinoza presented on the item. No action was taken.

35. Consider and Possible action to add two additional Uber rides for residents of Kyle within City of Kyle City Limits. ~ *Miguel A. Zuniga PhD, Council Member*

Mr. Hendrix provided information on the item. No action was taken.

36. Discussion and possible action regarding providing direction to the Art Commission to research cost, types and locations of a statute to place within the City of Kyle. ~ *Yvonne Flores-Cale, Council Member*

Council Member Flores-Cale moved to direct the Art Commission to research cost, types and locations for works of art to place within and throughout the City of Kyle. Mayor Pro Tem Tobias seconded the motion. Motion carried 6-0.

37. Consider and possible action to cost share two additional PEC streetlights at Simon Middle School between Hays CISD, Hays County, and City of Kyle not to exceed 2500 dollars. ~ *Miguel A. Zuniga PhD, Council Member*

Mayor Pro Tem Tobias moved to approve Agenda Item No. 37 as written. Council Member Zuniga seconded the motion. Motion carried 5-1 with Council Member Bradshaw dissenting.

38. Discussion and possible action for the proposed Eastside TIRZ, to include but not limited to proposed retail. ~ *Yvonne Flores-Cale, Council Member*

Council Member Flores-Cale moved to postpone Agenda Item No. 38. Mayor Mitchell seconded the motion. Motion carried 5-0. Mayor Pro Tem Tobias left the dais at 10:11 p.m. and was absent for the vote.

DRAFT

39. Possible action to rescind Vote regarding relocation of Fire station number 1. ~ *Daniela Parsley, Council Member*

    City Council voted 6-1 to approve directing staff to work with the Kyle Fire Department to discuss the potential relocation of Kyle Fire Department Station 1, located at 210 W Moore St, Kyle, TX on 2/7/2023.

Council Member Flores-Cale called a point of order. Mayor Mitchell overruled. Council Member Flores-Cale appealed.

Mayor Pro Tem Tobias returned to the dais at 10:13 p.m. Mayor Mitchell requested a roll call vote and stated a yes vote allows for Council Member Parsley to rescind her vote, and a no vote sustains the point of order.

Mayor Mitchell voted aye; Council Member Bradshaw voted aye; Mayor Pro Tem Tobias voted aye; Council Member Zuniga voted aye; Council Member Parsley voted aye; Council Member Heiser was absent; and Council Member Flores-Cale voted nay. Motion carried 5-1.

Council Member Parsley moved to rescind the direction given to staff during the last meeting regarding relocation of Fire station number 1. Mayor Pro Tem Tobias seconded the motion.

Mayor Mitchell requested a roll call vote and stated an aye vote rescinds the direction given to staff and a nay vote allows the conversation to continue.

Council Member Heiser was absent; Mayor Pro Tem Tobias voted aye; Council Member Parsley voted aye; Council Member Flores-Cale voted nay; Mayor Mitchell voted nay; Council Member Bradshaw voted aye; and Council Member Zuniga voted nay. Motion failed 3-3.

40. Discussion regarding FY 2023-24 Budget Development Calendar. ~ *Jerry Hendrix, Interim City Manager*

No action was taken.

X. Executive Session

42. Pursuant to Chapter 551, Texas Government Code, the City Council reserves the right to convene into Executive Session(s) from time to time as deemed necessary during this meeting. The City Council may convene into Executive Session pursuant to any lawful exception contained in Chapter 551 of the Texas Government Code including any or all of the following topics.
    1. Pending or contemplated litigation or to seek the advice of the City Attorney and Attorneys concerning legal issues pursuant to Section 551.071, Texas Government Code, and Section 1.05, Texas Disciplinary Rules of Professional Conduct for the following matters:
        - Reinvestment Zone Number Two (TIRZ #2)
        - Reinvestment Zone Number Four (TIRZ #4)
        - 104 S. Burleson
    2. Possible purchase, exchange, lease, or value of real estate pursuant to Section 551.072 to deliberate the purchase of real property for public purpose.
    3. Personnel matters pursuant to Section 551.074.

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4. Convene into executive session pursuant to Section 551.087, Texas Government Code, to deliberate regarding the offer of economic incentives to one or more business prospects that the City seeks to have locate, stay, or expand in or near the City.
    - Project Two-Step
    - Project Water Wheel
    - Project Chia Pet
    - Project Good Neighbor

Mayor Mitchell read into the record, "Pursuant to Chapter 551, Texas Government Code, the City Council reserves the right to convene into Executive Session(s) from time to time as deemed necessary during this meeting. The City Council may convene into Executive Session pursuant to any lawful exception contained in Chapter 551 of the Texas Government Code including any or all of the following topics: Pending or contemplated litigation or to seek the advice of the City Attorney or Attorneys concerning legal issues pursuant to Section 551.071, Texas Government Code, and Section 1.05, Texas Disciplinary Rules of Professional Conduct for the following matters - 104 S. Burleson."

The City Council convened into executive session at 10:32 p.m.

43. Take action on items discussed in Executive Session.

Mayor Mitchell called the meeting back to order at 10:56 p.m. Mayor Mitchell announced that no action took place in Executive Session and no action would be taken now.

XI. Adjourn

Mayor Mitchell moved to adjourn. Council Member Bradshaw seconded the motion. No vote was held.

With no further business to discuss, the City Council adjourned at 10:56 p.m.

_____
Travis Mitchell, Mayor

Attest:

_____
Jennifer Kirkland, City Secretary

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CITY OF KYLE, TEXAS

Agenda Order

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Agenda Order per Rules of Council Sec. B1

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

No Attachments Available

CITY OF KYLE, TEXAS

International Women's Day Proclamation

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: International Women's Day Proclamation. ~ *Daniela Parsley, Council Member*

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

No Attachments Available

CITY OF KYLE, TEXAS

Jared White Eagle Scout

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Proclamation acknowledging Jared White for his work as an Eagle Scout to benefit the Kyle Housing Authority. ~ *Jerry Hendrix, Interim City Manager*

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

No Attachments Available

CITY OF KYLE, TEXAS

City Manager's Report

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Update on various capital improvement projects, road projects, building program, and/or general operational activities where no action is required. ~ *Jerry Hendrix, Interim City Manager*

- Wall That Heals
- International Women's Day
- Family Camp Out at Lake Kyle
- Easter Egg-stravaganza
- Seed Swap Event
- Spring Break Events at Kyle Public Library
- Silver Screen Movie
- Display for Women's History Month
- PIErate Treasure Hunt
- Comprehensive Master Plan Update
- Downtown Master Plan Update
- Team Kyle Updates

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

No Attachments Available

CITY OF KYLE, TEXAS

CIP/Road Projects Update

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: CIP/Road Projects and Consent Agenda Presentation. ~ *Leon Barba, P.E., City Engineer*

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

No Attachments Available

CITY OF KYLE, TEXAS

Authorize Award and Execution of a Purchase Order to The Brandt Companies, LLC for $73,079.00 to Replace Three (3) HVAC Units at Kyle Public Library.

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Authorize award and execution of a Purchase Order to THE BRANDT COMPANIES, LLC, Pflugerville, Texas, in an amount not to exceed $73,079.00 to remove and replace heating, ventilation, and air conditioning (HVAC) units 1, 2, and 3 at the Kyle Public Library. This procurement is being made through the BuyBoard Purchasing Cooperative Contract No. 638-21. ~ *Timothy Cropley, Facilities Division Manager*

Other Information: Please find attached proposal for the replacement of three (3) HVAC units at the Library. We had budgeted $82,250 for this work but the proposal came in under budget at $73,079. Proposal includes labor and material to remove and replace units 1, 2, and 3. Recover the refrigerant and remove the electrical, gas piping, and drain lines. Set the new unit and reconnect gas, drain lines and electrical. And lately start units and verify units operate.

Legal Notes:

Budget Information: Funding from the General Fund in the amount of $73,079.00 is available in the approved budget for Fiscal Year 2022-2023 for the Facilities Maintenance Division as follows:

- 1100-25300-572460 (General Fund)

ATTACHMENTS:

Description

Replace 3 HVAC Units

The Brandt Companies, LLC

19001 N. Heatherwilde Blvd., Ste. 120 Pflugerville, TX 78660 | 512.491.9100 | TACLA30430C | TECL20109 | M41312

Date:	11/18/2022	**BuyBoard Contract#:**	638-21 (Trade Services)
Proposal#:	0	**Proposal Name:**	Library Unit replacements
Tax Status:	Exempt		

Bill-To Customer	**Work Location**
Tim Cropley	Tim Cropley
City Of Kyle	**Library**
100 West Center Street	550 Scott Street
Kyle Texas	Kyle Texas
512.738.6711	512.738.6711

Brandt is pleased to submit this proposal for the following price and general scope of work, as detailed below.

Pricing

Subtotal	$	73,079.00
Sales Tax (if applicable)	$	-
Total	**$**	**73,079.00**

Scope of Work

- Provide labor and material to remove and replace units 1, 2, and 3
- Recover the refrigerant and remove the electrical, gas piping, and drain lines
- Set the new unit and reconnect gas, drain lines and electrical
- Start units and veify unit operations
-
-
-
-
-
-
-

Exclusions

- Anything not listed in the scope of work, including any findings that require upgrade to meet current code requirements.
- Overtime labor.
-

This proposal expires 30-days from proposal date.

We appreciate the opportunity to provide you with our services. Upon receipt of a signed proposal, we will begin mobilizing material orders and contact you to coordinate the repairs. Our terms are net ten days from the invoice date, and past due after thirty days. This contract is not valid without attachment and signature of customer on Service Descriptions Page and Terms and conditions.

Best Regards,

James King
Cell: 512.470.1391
Email: James.king@Brandt.us

Customer Acceptance		**The Brandt Companies, LLC**	
Signature:	_____	Signature:	_____
Name (print):	_____	Name (print):	_____
Title:	_____	Title:	_____
Company:	_____	Date:	_____
Date:	_____		
PO#:	_____		

Brandt Confidential: This proposal includes data that shall not be disclosed outside of the party or company to which it is intended, and shall not be duplicated, used or disclosed, in whole or in part, for any purpose other than to evaluate this proposal.

Proposal# 0 **("Proposal") is conditioned upon the following terms and conditions, which are incorporated by reference and, together with the Proposal, form the Contract between the parties:**

1 Warranty. Brandt shall furnish to Customer all manufacturers' parts and equipment warranties received by Brandt. For a period of one (1) year from the date of the respective work, repair or installation performed by Brandt, Brandt agrees to repair, replace or otherwise make good to the satisfaction of Customer, any defects in parts or materials supplied by Brandt that are not covered under a manufacturer's warranty and that are adversely affecting the performance of the equipment installed by Brandt, if any. Brandt warrants to Customer that all labor performed or provided shall be performed by licensed personnel, if required by applicable law, and will be performed in a good workman like manner. For a period of ninety (90) days from the date of the respective work, repair or installation performed by Brandt, Brandt agrees to repair, replace or otherwise make good to the satisfaction of Customer, any defects in workmanship that is adversely affecting the performance of the equipment installed by Brandt, if any.

2 Insurance. So long as any of the Work remains to be com-pleted, Brandt shall, at Brandt's sole cost and expense, carry and maintain in full force and effect, the following insurance coverages:

(a.) Workers' compensation insurance coverage on all individuals employed upon or about the Property according to the requirements of the laws of the State of Texas;

(b.) General liability insurance coverage with the limits maintained by Brandt at the time of this Proposal (which are: $1M each occurrence; $1M personal/advertising injury; $10M general aggregate; $2M products/completed operations aggregate; $10,000 medical expense (any one person)).

(c.) The policies will be issued by companies reasonably acceptable to Customer. In the event of any covered loss, or upon Customer's reasonable request, Brandt shall deliver to Customer copies of the insurance policies. Brandt and Customer mutually agree to a waiver by their respective insurer(s) of any and all rights to subrogation.

3 General Limitations on Scope of Work. Notwithstanding any other provision to the contrary in this Contract, including the incorporated Proposal, the Mechanical Service scope excludes:

(a.) Maintenance or repair of Equipment cabinets;
(b.) Ductwork and air distribution devices;
(c.) Water supply or drain beyond the Equipment;
(d.) Repair or replacement of heat exchangers in gas fired furnaces and duct heaters;
(e.) Repair or replacement of metal tubes in condensers, chiller, boilers or any other heat exchanger;
(f.) Moving or relocation of the subject equipment;

Accepted By Customer: _____ Brandt:_____

(g.) Repairs due to freezing;
(h.) Work made necessary by the enforcement of government codes, building and union regulations or as recommended by insurance companies;
(i.) Damage of any kind due to corrosion, erosion, electrolytic actions, acts of God, power failure, vandalism, or any other cause whatsoever beyond the control of Brandt;
(j.) Electrical components associated with the Equipment including: disconnect switches, fuses, circuit breakers, and electrical wiring not specifically identified within the scope of work;
(k.) Water treatment; and
(l.) Piping systems of any nature.

4 Hoisting/Rigging Operations. Prior to the use of heavy commercial hoisting or rigging equipment that could potentially cause damage to the Property or injury, Brandt will notify Customer in writing and shall not proceed without Customer's prior written consent. While all precautions will be exercised to protect Customer's Property, Brandt will not accept any responsibility for damage to parking lots, driveways, or landscaping that may occur as a result of normal hoisting and rigging operations, except to the extent that the damage is caused by Brandt's gross negligence or willful misconduct.

5 Work Hours. Unless indicated otherwise, all pricing is based upon work being performed during regular working hours of 8:00 am to 5:00 pm, Monday through Friday, except holidays. If work is required at times other than normal working hours, Customer agrees to pay the Brandt's standard overtime charge rates.

6 Payments. Customer agrees to pay Brandt all sums due with respect to this Proposal in accordance with the terms specified. Payments are due upon receipt of invoice. In the event payment is not received by Brandt within thirty (30) days following billing, such payment shall be considered past due. Beginning with the thirty-first (31st) day following billing, such payment shall bear interest at the maximum rate allowable by law until payment is received. If default is made in the payment of any sums due hereunder and it becomes necessary that this Contract be placed in the hands of an attorney for collection, Customer agrees to pay to Brandt all costs of collection, including reasonable attorney's fee. Brandt shall have the right to cancel this Contract at any time, upon five (5) business days' written notice, if payments as called for herein are not made.

7 Cancellation. This Contract may be cancelled by either party upon thirty (30) day written notice. In the event of cancellation by the Customer, Brandt reserves the right to invoice and be paid for work performed thru cancellation date.

8 No Liability from System Design or Existing Equipment Installation. Unless Brandt was the engineer of record for the existing system design under a prior and separate construction/design-build contract or system design is expressly included within the scope of the Proposal (and, in either case, to the extent of that design), Customer acknowledges and stipulates that Brandt did not select, advise Customer regarding, engineer, design or install the system, equipment or any component part thereof to be maintained under this Contract. Accordingly, Brandt shall not be liable in any capacity, under any theory of recovery for any claims or damages related to or originating from prior or existing defects, deficiencies, injuries, or damage (whether to the system, equipment or Property) associated therewith or as a result of prior ineffective maintenance. Brandt agrees, however, to advise the Customer about the existence of such conditions upon discovery in accordance with the terms of the Contract.

9 No Liability for Incidental Microbiological Growth/Mold. Customer acknowledges that the Heating, Ventilation, and Air-Conditioning equipment and systems repaired or serviced as a part of this Contract may, under certain conditions, become conducive to or incidentally support microbiological growth. Brandt assumes no liability for nor warrants its work to protect against, eliminate or inhibit any type of incidental microbiological growth including, but not limited to, molds, fungi and other related matter, in or around duct systems, HVAC and related equipment or areas. Brandt agrees, however, to advise the Customer about the existence of such conditions upon discovery and to take measures to discourage such growth as required and in accordance with the terms of the Contract.

10 Limitation of Damages for Breach of Contract. The full extent of Brandt's liability and Customer's exclusive remedy for damages from any breach of this Contract, including, but not limited to, nonperformance or misrepresentation, and regardless of the form of action, shall be limited to the annual Contract fee of the current year.

Accepted By Customer: _____ Brandt:_____

11 Mutual Waiver of Consequential and Punitive Damages. Notwithstanding any other provision to the contrary, Brandt and Customer mutually waive all claims against each other for any and all consequential/special/indirect/incidental and, to the extent allowable by law, all punitive/exemplary damages arising out of or relating to this Contract. This mutual waiver includes, but is not limited to, damages incurred for rental expenses, loss of use, lost revenue or profit, lost opportunity, loss of goodwill, loss of management or employee productivity, cost of capital, and cost of substitute facilities, services or goods regardless of the foreseeability of such damages. If Customer is a property manager or other legal agent or representative of the property owner, Customer represents and warrants that it has the express requisite authority to waive claims for and recovery of such damages on behalf of the property owner as well as for itself.

12 Indemnity. To the fullest extent permitted by law, to the PROPORTIONATE extent OF CUSTOMER'S AND Brandt's RESPECTIVE negligence and except as otherwise limited herein, CUSTOMER AND BRANDT agree to indemnify, defend, and hold ONE ANOTHER AND THEIR RESPECTIVE officers, directors, agents, assigns, successors and employees HARMLESS against all claims and damages, losses and expenses (including, but not limited to, REASONABLE attorney's fees) arising out of OR RELATED TO the performance of this contract. NOTWITHSTANDING THE FOREGOING PROVISION, THIS INDEMNITY IS SUBJECT TO THE LIMITATIONS OF LIABILITY IN SECTIONS 8-11 ABOVE.

13 Hazardous Materials. If Brandt encounters asbestos, polychlorinated biphenyl (PCB) or other hazardous materials on the Property, Brandt will immediately stop work and report in writing the evidence of such to Customer. Brandt will not resume work in the affected area until the hazardous material has been removed or determined harmless by a qualified laboratory at Customer's expense.

14 Dispute Resolution and Governing Law. This Contract shall be interpreted and construed according to the laws of the State of Texas. Any disputes arising out of or related to this Contract will be resolved by agreement through a meeting of executive representatives of each party. If no resolution can be reached, the dispute will be resolved through binding arbitration before an arbitrator experienced in construction law and according to the rules promulgated by the American Arbitration Association. The parties agree that the arbitration will be commenced within sixty (60) days of occurrence of the meeting of executive representatives. This Contract shall be governed by the laws of the State of Texas without regard to conflicts of laws principles.

15 Property Manager. If Customer is a property manager or other legal agent or representative of the property owner, Customer represents and warrants that it has the express requisite authority to enter into all of the terms of this Contract including, without limitation, the authority to waive claims for and recovery of consequential (special/indirect/incidental) and punitive damages on behalf of the property owner as well as for itself.

16 Entire Agreement. This Contract constitutes the entire agreement and is not assignable by either party without the express written consent of the other party. This Contract may be modified or amended only by written agreement of both parties.

Accepted By Customer: _____ Brandt:_____

CITY OF KYLE, TEXAS

Amendment 1 To Task Order No. 4 - CP&Y, Inc. Wastewater Treatment Plant Interceptor - Phase 1 & 2 Project

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Approve Amendment No. 1 to Task Order No. 4 to CP&Y, INC., Austin, Texas, in the amount not exceed $391,628.00, increasing the total contract amount not to exceed $487,369.00 for 60% design phase engineering services and special services associated with the Wastewater Treatment Plant Interceptor Phase 1 & 2 Project. *~ Leon Barba, P.E., City Engineer*

Other Information: Based on the recommendations provided by the completed preliminary engineering report, CP&Y will provide design phase services and Special Services for approximately 10,100 LF of proposed 48-inch wastewater line and 10,100 LF of proposed 12-inch reclaimed water line from the downstream end of the North Trails Wastewater Interceptor to the Wastewater Treatment Plant. The project design will include Phases 1 and 2.

This Task Order includes Design Coordination and Permitting, 60% Design, geotechnical, surveying, Subsurface Utility Engineering (SUE), environmental, and right of way services. The project will accommodate future flow increases which are projected to exceed the capacity of the existing wastewater line.

Legal Notes: N/A

Budget Information: Funding in the amount of $391,628.00 is available from the Wastewater Impact Fee Fund in the approved Capital Improvement Spending Plan for Fiscal Year 2022-2023 as follows:

- 3420-88410-573130 = $195,814.00 (Wastewater Impact Fee Fund)
- 3420-88411-573130 = $195,814.00 (Wastewater Impact Fee Fund)
- Total Available = $391,628.00

ATTACHMENTS:

Description

- WWTP Interceptor Admendment No. 1
- WWTP Interceptor Phase 1 Map
- WWTP Interceptor Phase 2 Map
- WWTP Interceptor Final PER

This is **Amendment No. 1** to Task Order No. 4, consisting of 3 pages.

Task Order

In accordance with Paragraph 1.01 of the Agreement Between Owner and Engineer for Professional Services – Task Order Edition, dated November 13, 2020 ("Agreement"), Owner and Engineer agree as follows:

1. Background Data

a.	Effective Date of Task Order:	_____, 2023
b.	Owner:	City of Kyle
c.	Engineer:	CP&Y, Inc.
d.	Specific Project (title):	Wastewater Treatment Plant Interceptor – Phases 1 & 2
e.	Specific Project (description):	Design phase services and Special Services for approximately 10,100 LF of proposed 48-inch wastewater line and 10,100 LF of proposed 12-inch reclaimed water line from the downstream end of the North Trails Wastewater Interceptor to the Wastewater Treatment Plant. The project design will include Phases 1 and 2. This Task Order includes Design Coordination and Permitting, 60% Design, geotechnical, survey, SUE, environmental, and right of way services. Final design, easement acquisition, bid and construction phase services will be included in a future Task Order. The project will accommodate future flow increases which are projected to exceed the capacity of the existing wastewater line.

2. Services of Engineer

A. The specific services to be provided or furnished by Engineer under this Task Order (Part 1 of Exhibit A) are:

- Design Phase Services
- Geotechnical Investigation
- Topographic Survey
- Subsurface Utility Engineering (SUE)
- Environmental Investigation
- Right of Way Services

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3. Additional Services

B. Additional Services that may be authorized or necessary under this Task Order are:

- Set forth as Additional Services in Part 2—Additional Services, of Exhibit A, "Engineer's Services for Task Order," modified for this specific Task Order, and attached to and incorporated as part of this Task Order.

4. Owner's Responsibilities

Owner shall have those responsibilities set forth in Article 2 of the Agreement and in Exhibit B of this Task Order.

5. Task Order Schedule

See attached schedule provisions provided in Exhibit A.

6. Payments to Engineer

A. Owner shall pay Engineer for services rendered under this Task Order (Part 1 of Exhibit A) as follows:

Description of Service	Amount	Basis of Compensation
A1.01 Design Phase Services (Ph 1 & 2)		
A. Project Management	$19,800.00	Lump Sum
B1. Design Coordination and Permitting	$12,410.00	Lump Sum
B2. 60% Design Documents	$128,790.00	Lump Sum
A1.02 Special Services (Ph 1 & 2)		
A. Geotechnical Investigation	$72,587.00	Lump Sum
B. Surveying	$91,445.00	Lump Sum
C. Subsurface Utility Engineering	$32,942.00	Lump Sum
D. Environmental Evaluation	$10,825.00	
E. Right of Way Services	$15,080.00	Lump Sum
Expenses	$649.00	Lump Sum
TOTAL COMPENSATION – BASIC SERVICES	**$384,528.00**	**Lump Sum**
Additional Services (Part 2 of Exhibit A)	$7,100.00	Lump Sum
GRAND TOTAL	**$391,628.00**	**Lump Sum**

C. The terms of payment are set forth in Article 4 of the Agreement and in the applicable governing provisions of Exhibit C.

7. Consultants retained as of the Effective Date of the Task Order: See above.

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8. **Other Modifications to Agreement and Exhibits:** None.

9. **Attachments:** Exhibit A, Exhibit B, Exhibit C.

10. **Other Documents Incorporated by Reference:** None.

11. **Terms and Conditions**

Execution of this Task Order by Owner and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Task Order signed by Owner.

The Effective Date of this Task Order is _____, 2023.

OWNER:	ENGINEER:
CITY OF KYLE	**CP&Y, Inc.**
By: _____	By:
Print Name: Travis Mitchell	Print Name: Marisa Vergara
Title: Mayor	Title: Senior Vice President
	Engineer License or Firm's Certificate No. (if required): F-1741
	State of: Texas
DESIGNATED REPRESENTATIVE FOR TASK ORDER:	DESIGNATED REPRESENTATIVE FOR TASK ORDER:
ATTEST: _____	Name: Ryan Owen
Jennifer Kirkland, City Secretary	
Address: 100 W. Center Street, Kyle, Texas 78740	Title: Project Manager
	Address: 13809 Research Blvd., Ste. 300 Austin, TX 78750
	E-Mail Address: rowen@cpyi.com
	Phone: (512) 492-6823

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This is **EXHIBIT A**, consisting of 6 pages, referred to in and part of the **Task Order** dated _____, 2023.

Engineer's Services for Task Order

PART 1—BASIC SERVICES

As Basic Services, Engineer shall:

A1.01 *Design Phase Services (Phases 1 & 2)*

A. PROJECT MANAGEMENT

1. Project Progress Meetings: Attend, conduct and document up to six (6) project meetings, including kickoff meeting, progress meetings, and 60% design review meeting. Engineer will prepare meeting minutes including action item list.
2. Project Administration: Internal design team meetings, coordination with subconsultants, and perform project administration. Develop monthly project status report to be submitted with monthly invoices.

B. DESIGN AND BID DOCUMENT PREPARATION

This task is based on the recommendations in the final Wastewater Treatment Plant Interceptor Phases 1 and 2 Preliminary Engineering Report (PER) for the design of 10,100 LF of 48-inch wastewater line, and 10,100 LF of 12-inch reclaimed water line.

1. Design Phase Coordination and Permitting
   (a) Utility Permitting
      (i) Coordinate with Utility Owner to confirm requirements for crossing easement, and incorporate requirements into plan set.
      (ii) Utility permitting submittals and comment response will be included in a separate scope of work.
   (b) Adjacent Development Coordination
      (i) Coordinate with up to two (2) developers of properties adjacent to the project for the purpose of discussing alignment considerations.
      (ii) Anticipate one (1) meetings to discuss design aspects prior to completing 60% design.
      (iii) Exhibits and/or drawings developed under other tasks will be utilized for this coordination task. Separate exhibits and/or drawings will not be specifically developed for the purposes of this coordination task
   (c) WWTP Tie-In
      (i) Coordinate with City's design consultant on the Waterleaf Wastewater Interceptor project for tie-in location and accommodations needed for both projects for a single tie-in point at Wastewater Treatment Plant.
   (d) Parks Department / Proposed Trail
      (i) Coordinate with City for accommodations needed for easement/property needs related to proposed trail system.
      (ii) Anticipate up to one (1) meetings.
      (iii) Design and layout of a proposed trail is not included in this scope of work. If requested, this task would be completed as a supplemental service.

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(e) Site Visits: Perform one (1) site visit to review design and constructability constraints during design phase.

2. 60% Design Documents:
   (a) Cover sheet, general location plan, general notes.
   (b) Preliminary erosion and sedimentation control sheets.
   (c) Plan and profile sheets for proposed wastewater line identifying right-of-way, property easement, existing utilities and topographic features. Scale (at full size) will be 1"=20' horizontal and 1"=4' vertical full size.
   (d) Plan and profile sheets for proposed reclaimed water line identifying right-of-way, property easement, existing utilities and topographic features. Scale (at full size) will be 1"=20' horizontal and 1"=4' vertical full size.
   (e) Standard Construction Details Sheets.
   (f) Prepare preliminary project manual including specification Table of Contents, standard specification sections, and list of special specifications needed.
   (g) Develop 60% opinion of probable construction cost (OPCC)
   (h) Perform Internal QA/QC of 60% Design Documents
   (i) Submit three (3) copies (two (2) 11”x17” and one (1) 22”x34”) and one (1) electronic copy of 60% design documents to City for review.
   (j) Review and respond to 60% review comments.
   Note: 90% and Final Design documents will be provided in a future Task Order.

A1.02 *Special Services (Phases 1 & 2)*

A. GEOTECHNICAL INVESTIGATIONS (HVJ Associates, Inc.)
   1. Subsurface Exploration: Investigate subsurface conditions and characterize soil at the project area. The exploration will consist of eighteen (18) borings ranging in depth from fifteen (15) to thirty five (35) feet deep, for total drilling footage of 490 feet. The borings will be completed with a truck-mounted rig, equipped with flight augers and sampling tools. Soil samples in particular will be collected using Shelby tubes and/or split-spoon samplers. Field-testing of soil samples will include pocket penetrometer readings in the cohesive soils and Standard Penetration Tests (SPT) in cohesionless soils. The completed boreholes will be backfilled with soil cuttings and bentonite.
   2. Laboratory Tests: Laboratory index tests will be performed on select soil samples recovered from the test borings. The index tests will include USCS Soil Classification, Atterberg limits, percent passing the number 200 sieve, moisture content, and unconfined compression tests.
   3. Engineering Report: Results of the field data and laboratory data will be used to develop design and construction recommendations for the proposed pipelines. A report will be prepared by an engineer specializing in soil mechanics after reviewing available design, boring and laboratory data. In general, the following items will be included in the report:
      (a) Site vicinity map,
      (b) Geology map,
      (c) Plan of borings,
      (d) Boring logs,
      (e) Field and Laboratory test results summary,
      (f) Recommendations for open-cut installation of the utility lines,
      (g) Pipe bedding and backfill recommendations,
      (h) General trenchless construction recommendations, and

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(i) General earthwork and select fill recommendations.

B. SURVEYING

1. Topographic Survey (CP&Y)
   (a) Coordinate with Owner and Property Owners to establish right-of-entry for field work.
   (b) Establish primary survey control monuments as inter-visible pairs (3 pairs total) at strategic locations along the project route. The coordinate values will utilize NAD '83 (HARN '93) Texas Central Zone (4203) State Plane Coordinates, US Survey feet for the horizonal datum and NAVD '88 (GEOID 2012B) for the vertical control datum. These values will be derived from the Trimble RTKNet, AllTerra VRS Network at the control points that will include geographic positions of northing, easting and orthometric heights. Vertical benchmarks utilizing differential leveling will be set at approximately 1500-foot intervals (up to 8 total). A project combined scale factor will be derived from an average of the GPS observations.
   (c) Design and establish secondary control traverse as needed for boundary and topographic data gathering tasks.
   (d) Collect spot elevations along the project alignment at a width of approximately 100 feet, at 100 foot intervals and visible grade breaks, including back of curbs, driveways, visible utilities, drainage structures, centerline of roads, trees 8" and up (trees scaled in CAD file based on trunk diameter), and any other hard surfaced improvements within the defined area, grade breaks, flowlines of watercourses, and other significant features relevant to the project, including existing inverts of sewer lines in the survey area and elevations of adjacent drainage structure locations and inverts which may impact the proposed pipeline. The collected data will include spot elevations and breaklines sufficient to generate and/or merge to a 1-foot contour interval DTM for the project.
   (e) Deliverables will include an AutoCAD Civil3D file with break-lines and associated XML file. A DTM file processed to 1-foot contours will be provided and the associated spot point data in ASCII format. A list of benchmarks and project control coordinates will be included.
   (f) Perform a Texas811 utility contact for marking of known underground utilities within the existing right-of-way of the project limits and locate the markings for depiction in the DTM file.
   (g) Locate horizontally and vertically up to eighteen (18) geotechnical bore holes in the project limits.
2. Boundary Surveying
   (a) Perform sufficient research of the affected properties to reconstruct the existing boundary lines from record information. Additionally, prepare a list of affected landowners with tract numbers, legal descriptions, etc. for use by the project team.
   (b) Prepare a property schematic generated from record data for the total project to include a list of property owners.
   (c) Perform sufficient survey field boundary surveying for the project length to locate the record boundaries developed in items 2.a. and 2.b. on the ground.
   (d) Perform sufficient boundary analysis of the gathered field work to depict the reconstructed boundaries. Prepare metes and bounds descriptions with accompanying survey plats for 11 (eleven) permanent easements along the project route. This scope of work assumes that Temporary Construction Easements will be referenced as adjacent to and parallel with the described permanent easement and will be handled as a statement within the metes and bounds descriptions. Other easements that may be required will be proposed as supplemental services. Title will be provided to the surveyor by others.

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C. SUBSURFACE UTILITY ENGINEERING (CP&Y)
   1. Utility Mapping (QL-C SUE)
      (a) Perform Quality Level 'C' SUE in accordance with ASCE Standard 38-02 in the project location to assist with alignment evaluation following survey, to supplement the Quality Level 'D' SUE file developed during the previous phase. Task to include connecting WL-D utility lines with survey data including manholes, inlets, hydrants, valves, and other utility surface features.
   2. Utility Designating Services (QL-B SUE)
      (a) Perform Utility Designating Services, Quality Level 'B' (QL-B) SUE in accordance with ASCE Standard 38-02 at roadway crossings, existing utilities crossing the proposed alignment, and specific locations along the alignment for the detailed evaluation of pipeline alignment design, not to exceed 3,000 LF of total utility designation. If additional Quality Level 'B' is required, it will be completed under a supplemental agreement.
   3. Test Holes (QL-A SUE)
      (a) Perform eight (8) QL-A SUE potholes by vacuum excavation to locate existing utilities. Provide pothole data showing coordinates of location, ground elevation, utility depth, size and material. Pothole will be backfilled following completion. If additional potholes are needed for design, is will be completed under a supplemental agreement.
      (b) Traffic control, asphalt/concrete coring, and pavement repair, permitting and removal/replacement of concrete sidewalk is not included in this scope of work. If these items are required, it will be completed under a supplemental agreement.

D. ENVIRONMENTAL EVALUATION (CP&Y and Horizon Environmental Services, Inc.)
   1. Water of the U.S. Determination: Wetlands, water bodies, regulated special aquatic sites, and other waters of the U.S. will be investigated in the project areas. Desktop results will be reviewed from constraints analysis.
      (a) Field Delineation: Perform a field investigation to identify potential wetlands and other waters of the U.S. in the project areas. Delineations will be conducted in accordance with the 1987 Corps of Engineers Wetland Delineation Manual along with the 2010 Regional Supplement for the Great Plains Region. The ordinary high water mark and wetland boundary, if present, will be mapped using a Global Positioning System (GPS) unit with sub-meter accuracy. If wetlands are encountered, a minimum of one soil station inside and outside the wetland boundary will be taken. Maps will be provided of all pertinent information collected during the desktop review and field visit.
      (b) Prepare Waters of the US Delineation Report that summarizes the results of the data collection, site visits and associated agency coordination/permitting requirements. Waters of the U.S. Report shall be suitable for submission to U.S. Army Corps of Engineers if necessary. Engineer will address comments from the City and submit a final Waters of the US Delineation Report to the City.
   2. Cultural Resource Assessment: As the proposed project represents a publicly sponsored undertaking, the project sponsor is required to provide the Texas Historical Commission (THC), which serves as the State Historic Preservation Officer (SHPO) for the state of Texas, with an opportunity to review and comment on the project's potential to adversely affect historic properties listed on or considered eligible for designation as State Antiquities Landmarks (SAL).
      (a) Perform basic archival research on the THC Texas Historic Sites Atlas and Texas Archeological Sites Atlas online databases, the Texas Archeological Research Laboratory (TARL), the General Land Office (GLO), the National Park Service's (NPS) online National Register Information System (NRIS), and/or other relevant archives for information on previous cultural resource investigations conducted in the vicinity of the project areas and previously recorded cultural resource sites and historic

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properties within and in the vicinity of the project area. Desktop archival studies will examine a 1.0-mile radius surrounding the project areas.

(b) Review the abovementioned archives; historic, geological, and soil maps; and aerial surveys and photographs prior to initiating fieldwork to evaluate the potential for encountering significant cultural resources within the project areas.

(c) Develop and submit a consultation request letter summarizing the results of the background archival research and requesting the THC's official consultation to determine the scope of any further cultural resources investigations, such as intensive survey, that may be required to ensure the city's compliance with applicable state and federal laws. Under state law, the THC has 30 days to review and respond to consultation requests.

E. RIGHT OF WAY SERVICES (Dianna Tinkler)

1. Right of Entry (up to 9 parcels)
   (a) Review maps provided by the City identifying parcels requiring survey permission right of entry
   (b) Research Hays Central Appraisal District records for owner contact information
   (c) Research Secretary of State records for business owner contact information
   (d) Prepare survey permission right of entry letter for each property owner
   (e) Prepare survey permission right of entry form for each property owner's signature
   (f) Contact each property owner to meet and discuss survey permission right of entry, if practical
   (g) Initiate and receive various phone calls throughout survey permission right of entry process
   (h) Provide property owner questions/concerns with Engineer and City to resolve property owner questions/concerns
   (i) Prepare general correspondence to property owner to address concerns, if required
   (j) Provide signed right of entry forms to Engineer and City

A1.03 *Bid Phase Services – Not applicable, not Included in this Scope*

A1.04 *Construction Phase Services – Not applicable, not included in this Scope*

PART 2—ADDITIONAL SERVICES

A2.01 *Additional Services Requiring an Amendment to Task Order*

The following Additional Services, if required, shall only commence upon written approval from the Owner:

1. Cultural Resources Pedestrian Survey, Technical Report and Records Curation: If the THC or other applicable agency requires a cultural resources survey for the project, Engineer will:
   (a) Apply for and obtain a Texas Antiquities Permit from the THC (required for any project that falls under the jurisdiction of the Antiquities Code of Texas). The application for a Texas Antiquities Permit requires the signature of the project sponsor and/or landowner, as appropriate, as well as the archeological Principal Investigator. The Texas Antiquities Permit must be issued by the THC prior to the initiation of any cultural resources field activities.
   (b) Perform an intensive archeological survey, consisting of pedestrian walkover with surface inspection and systematic shovel testing at a level of intensity sufficient to meet or exceed the Texas State Minimum Archeological Survey Standards (TSMASS) and guidelines established by the CTA unless field conditions warrant excavation of more or fewer shovel tests.

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(c) Document any cultural resources encountered to a sufficient degree to make preliminary recommendations of the significance of the resources in terms of their eligibility for inclusion in the NRHP and/or for designation as SALs, as appropriate.
(d) Inspect the locales of any previously recorded archeological sites within the project area, assess their current condition, and document the sites to a sufficient degree to make preliminary recommendations of the significance of the resources in terms of their eligibility for inclusion in the NRHP and/or for designation as SALs, as appropriate.
(e) Complete and submit State of Texas Archeological Site Data Forms (for new archeological sites) or State of Texas Archeological Site Update Forms (for previously recorded archeological sites) to TARL. Permanent site trinomials will be obtained from TARL for any new archeological sites documented within the project area during the survey.
(f) Assess the significance of any cultural resources within the project area in terms of their potential eligibility for inclusion in the NRHP and/or for designation as SALs, as appropriate.
(g) Develop a draft technical report detailing the project background, environmental and cultural setting of the project area, research goals and survey methods, survey results, recommendations for any cultural resources documented during the survey, and a bibliography of references cited suitable for review by the THC and any other applicable regulatory agencies.
(h) Submit a preliminary review copy of the archeological draft report describing the results of the survey in electronic (PDF) format to the client or review. Following approval of the draft report by the client, Horizon will submit an electronic copy of the report to the THC and any other applicable regulatory agencies for review and comment. Horizon will coordinate review with the regulatory agencies unless the client would prefer to coordinate agency review directly.
(i) Respond to any comments on the draft report offered by the THC and any other applicable regulatory agencies and produce a final report.
(j) Submit the final report to the client and the THC.
(k) Prepare project records for curation at TARL per the requirements of the Antiquities Code of Texas and TARL's Stipulations and Procedures for the Preparation of Archeological Records and Photographs, Curation Supplies, and Sources and/or Stipulations and Procedures for the Preparation of Archeological Material Collections, as appropriate.

If archeological sites are encountered during the survey, each site will be required to be recorded. This is beyond the base fee and will require additional field recording time, site form filing fee, mapping, and additional reporting.

Additional Work not described in the basic services must be approved by supplemental amendment by the City before the Engineer undertakes it. If the Engineer is of the opinion that any work is beyond the scope of this Contract and constitutes additional work, the Engineer shall promptly notify the Owner of that opinion, in writing. In the event the City finds that such work does constitute additional work, then the City shall so advise the Engineer, in writing, and shall provide extra compensation to the Engineer for the additional work as provided under a supplemental agreement.

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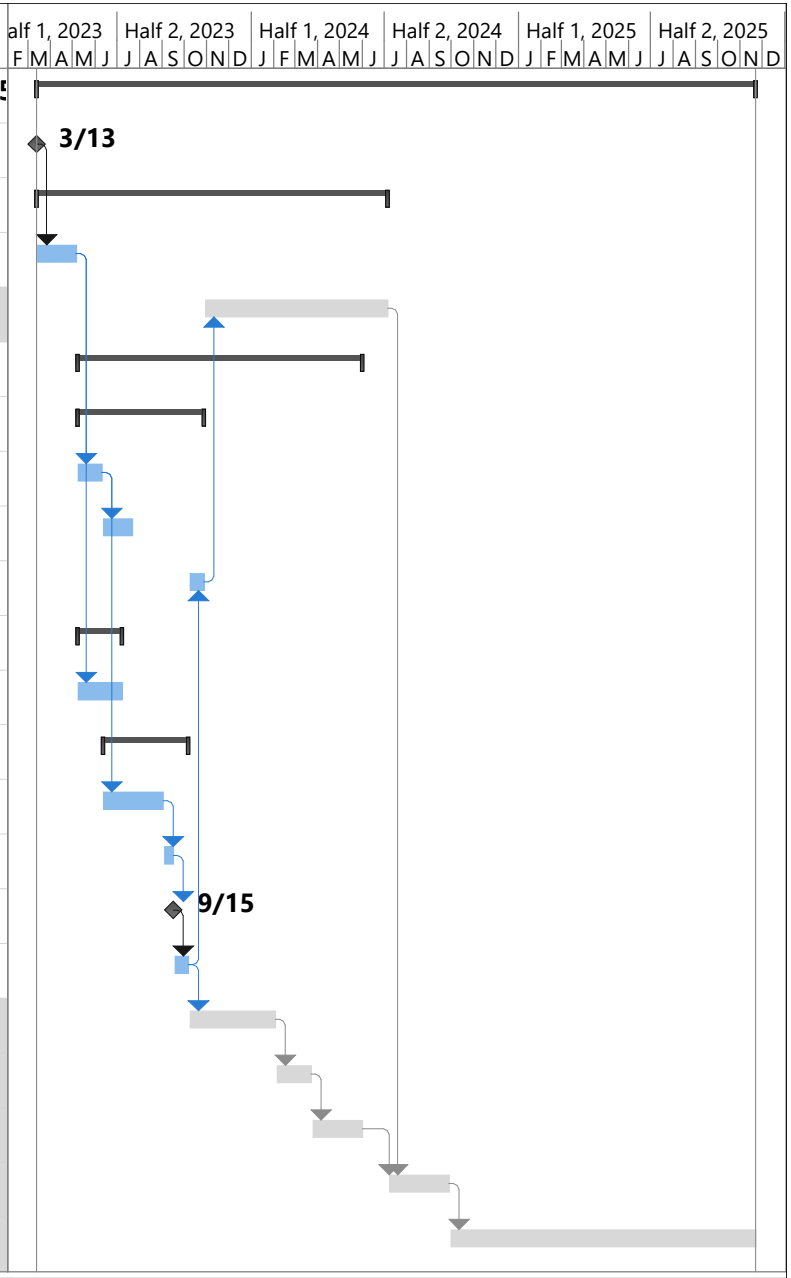
ID	Task Name	Duration	Start	Finish
1	**WWTP Interceptor Ph. 1 & 2**	**705 days**	**Mon 3/13/23**	**Fri 11/21/25**
2	**NTP**	**0 days**	**Mon 3/13/23**	**Mon 3/13/23**
3	**RIGHT OF WAY COORDINATION**	**345 days**	**Mon 3/13/23**	**Fri 7/5/24**
4	Right of Entry	40 days	Mon 3/13/23	Fri 5/5/23
5	Easement Acquisition	9 mons	Mon 10/30/23	Fri 7/5/24
6	**DESIGN PHASE**	**280 days**	**Mon 5/8/23**	**Fri 5/31/24**
7	**Survey / SUE**	**125 days**	**Mon 5/8/23**	**Fri 10/27/23**
8	Topographic Survey	25 days	Mon 5/8/23	Fri 6/9/23
9	SUE	30 days	Mon 6/12/23	Fri 7/21/23
10	Metes and Bounds	15 days	Mon 10/9/23	Fri 10/27/23
11	**Geotechnical**	**45 days**	**Mon 5/8/23**	**Fri 7/7/23**
12	Soil Borings/Testing/ Geotech Reporting	45 days	Mon 5/8/23	Fri 7/7/23
13	60% Design Submittal	85 days	Mon 6/12/23	Fri 10/6/23
14	Develop 60% Design	60 days	Mon 6/12/23	Fri 9/1/23
15	60% Design Resubmittal QC	10 days	Mon 9/4/23	Fri 9/15/23
16	Submit 60% Design Resubmittal to City	0 days	Fri 9/15/23	Fri 9/15/23
17	City Review 60% Design Resubmittal	15 days	Mon 9/18/23	Fri 10/6/23
18	90% Design	85 days	Mon 10/9/23	Fri 2/2/24
19	100% Design	35 days	Mon 2/5/24	Fri 3/22/24
20	Permit Reviews	50 days	Mon 3/25/24	Fri 5/31/24
21	**BIDDING**	**60 days**	**Mon 7/8/24**	**Fri 9/27/24**
22	**CONSTRUCTION**	**15 mons**	**Mon 9/30/24**	**Fri 11/21/25**



Project: WWTP Interceptor Ph.
Date: Sun 2/12/23

Task — Summary
Milestone — Future Tasks, Not in This Agreement

Item # 9

This is **EXHIBIT B**, consisting of 1 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated November 13, 2020.

Owner's Responsibilities

Article 2 of the Agreement is amended and supplemented to include the following responsibilities unless expressly stated otherwise in a Task Order.

B2.01 *Specific Responsibilities*

A. Owner shall:

1. Provide design documents for adjacent projects which may impact the alignment.

2. Provide access to the project site, other than as specified in Exhibit A.

3. Provide Engineer with all criteria and full information as to Owner's requirements for the Specific Project, including design objectives and constraints, space, capacity and performance requirements, flexibility, and expandability, and any budgetary limitations.

4. Furnish to Engineer any other available information pertinent to the Specific Project including reports and data relative to previous designs, construction, or investigation at or adjacent to the Site.

5. Provide reviews, approvals, and permits from all governmental authorities having jurisdiction to approve all phases of the Project designed or specified by Engineer and such reviews, approvals, and consents from others as may be necessary for completion of each phase of the Project.

6. Examine all alternative solutions, studies, reports, sketches, Drawings, Specifications, proposals, and other documents presented by Engineer (including obtaining advice of an attorney, risk manager, insurance counselor, financial/municipal advisor, and other advisors or consultants as Owner deems appropriate with respect to such examination) and render in writing timely decisions pertaining thereto.

7. Place and pay for advertisement for Bids in appropriate publications.

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This is **EXHIBIT C**, consisting of 1 page plus the following attachments, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated November 13, 2020.

Payments to Engineer for Services and Reimbursable Expenses

Article 2 of the Agreement is amended and supplemented to include the following agreement of the parties:

ARTICLE 2 – OWNER'S RESPONSIBILITIES

C2.01 *Explanation of Compensation Method*

A. *Lump Sum*

1. Owner shall pay Engineer a Lump Sum amount for the specified category of services as shown on the following pages.

2. The Lump Sum includes compensation for Engineer's services and services of Consultants, if any. The Lump Sum constitutes full and complete compensation for Engineer's services in the specified category, including labor costs, overhead, profit, expenses (other than those expenses expressly eligible for reimbursement, if any), and Consultant charges.

3. The portion of the Lump Sum amount billed for Engineer's services will be based upon Engineer's estimate of the proportion of the total services actually completed during the billing period to the Lump Sum.

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City of Kyle
Wastewater Treatment Plant Interceptor
Phases 1 & 2

FEE SUMMARY

Task Description	CP&Y Cost	Subconsultant Cost - Geotech (HVJ)	Subconsultant Cost - Archeology (Horizon)	Subconsultant Cost - Right of Way (Dianna Tinkler)	Total Cost
A1.01 DESIGN PHASE SERVICES					
A. PROJECT MANAGEMENT	$ 19,800.00	$ -	$ -	$ -	$ 19,800.00
B. DESIGN PHASE SERVICES	$ 141,200.00	$ -	$ -	$ -	$ 141,200.00
A1.02 SPECIAL SERVICES					
A. Geotechnical Engineering (HVJ)	$ 2,170.00	$ 70,417.00	$ -	$ -	$ 72,587.00
B. Surveying (CP&Y)	$ 91,445.00	$ -	$ -	$ -	$ 91,445.00
C. Subsurface Utility Engineering (CP&Y)	$ 32,942.00	$ -	$ -	$ -	$ 32,942.00
D. Environmental Evaluation (CP&Y and Horizon)	$ 9,575.00	$ -	$ 1,250.00	$ -	$ 10,825.00
E. Right of Way Services (Dianna Tinkler)	$ 1,580.00	$ -	$ -	$ 13,500.00	$ 15,080.00
A1.03 BID PHASE SERVICES - N/A					
A. Not included in this Phase	$ -	$ -	$ -	$ -	$ -
A1.04 CONSTRUCTION PHASE SERVICES - N/A					
A. Not included in this Phase	$ -	$ -	$ -	$ -	$ -
EXPENSES	$ 649.00	$ -	$ -	$ -	$ 649.00
TOTAL BASIC ENGINEERING SERVICES	**$ 299,361.00**	**$ 70,417.00**	**$ 1,250.00**	**$ 13,500.00**	**$ 384,528.00**
ADDITIONAL SERVICES (IF REQUIRED)					
A. Archeological Field Survey, Report & Records Curation	$ -	$ -	$ 7,100.00	$ -	$ 7,100.00
TOTAL ADDITIONAL SERVICES	**$ -**	**$ -**	**$ 7,100.00**	**$ -**	**$ 7,100.00**
GRAND TOTAL (BASIC & ADDITIONAL SERVICES, EXPENSES)	**$ 299,361.00**	**$ 70,417.00**	**$ 8,350.00**	**$ 13,500.00**	**$ 391,628.00**

City of Kyle
Wastewater Treatment Plant Interceptor
Phases 1 & 2

Fee Breakdown - CP&Y Basic Services

Project Phase	Task Description	Principal	Senior Engineer	Project Manager	Project Engineer	EIT	CAD Technician	Admin	Total Labor Hours	Total Direct Labor Costs	Total Cost by Phase
		$265.00	$225.00	$195.00	$150.00	$125.00	$95.00	$70.00			
A1.01 Design Phase Services											
A.	**PROJECT MANAGEMENT**										**$ 19,800.00**
1.	Project Progress Meetings	2	12	12		16		6	48	$ 7,990.00	
2.	Project Administration	2	12	32		12		12	70	$ 11,810.00	
B.	**DESIGN PHASE SERVICES**										**$ 141,200.00**
1.	Design Phase Coordination and Permitting										
a.	Utility Permitting		4	2	4	4			14	$ 2,390.00	
b.	Adjacent Development Coordination		4	4	4	4			16	$ 2,780.00	
c.	WWTP Tie-In		2	2	4	4			12	$ 1,940.00	
d.	Parks Department / Proposed Trail Coordination		2	4	4	4	2		16	$ 2,520.00	
e.	Site Visits		4	4	4	4			16	$ 2,780.00	
2.	60% Plans and Construction Documents										
a.	Cover, Layout, Boundary Map, General Notes (4 sheets)		4	4	8	8	16		40	$ 5,400.00	
b.	Erosion/Sedimentation Control Sheets (11 sheets)		11	6	11	22	44		94	$ 12,225.00	
c.	Plan and Profile Sheets - 48-inch Wastewater Line (21 sheets)		42	21	84	84	168		399	$ 52,605.00	
d.	Plan and Profile Sheets - 12-inch Reclaimed Water Line (21 sheets)		21	11	42	42	126		242	$ 30,390.00	
e.	Standard Detail Sheets (4 sheets)		2		4	4	8		18	$ 2,310.00	
f.	Specifications Table of Contents and Special Specifications Draft		4	2	8	16			30	$ 4,490.00	
g.	Opinion of Probable Construction Cost		6	4	8	24			42	$ 6,330.00	
h.	Perform Internal QA/QC of 60% Project Documents	2	16	2	4	4	8		36	$ 6,380.00	
i.	Submit 60% documents to City for Review			4	2	4	4		14	$ 1,960.00	
j.	Incorporate City's 60% Design Comments		8	4	4	16	16		48	$ 6,700.00	
									1,155	**$ 161,000.00**	**$ 161,000.00**

City of Kyle
Wastewater Treatment Plant Interceptor
Phases 1 & 2

Fee Breakdown - Special Services

Project Phase	Task Description	Principal	Senior Engineer	Project Manager	Project Engineer	EIT	CAD Technician	Admin	Senior Biologist	Field Biologist	Total Labor Hours	Total CP&Y Direct Labor Costs	Sub/ Special Service Cost	Total Cost by Phase
		$265.00	$225.00	$195.00	$150.00	$125.00	$95.00	$70.00	$160.00	$100.00				
II. Special Services														
A.	**GEOTECHNICAL ENGINEERING**													**$ 72,587.00**
1.	Subsurface Exploration			2		4	2				8	$ 1,080.00	$ 38,856.00 [1]	
2.	Laboratory Tests										0	$ -	$ 12,204.00 [1]	
3.	Engineering Report		2	2		2					6	$ 1,090.00	$ 19,357.00 [1]	
B.	**SURVEYING**													**$ 91,445.00**
1.	Topographic Survey			2		2	2				6	$ 830.00	$ 54,325.00 [2]	
2.	Boundary Survey/Metes and Bounds (11)		2	2		2					6	$ 1,090.00	$ 35,200.00 [2]	
C.	**SUBSURFACE UTILITY ENGINEERING**													**$ 32,942.00**
1.	Utility Mapping (QL-C)		2	2		4					8	$ 1,340.00	$ 6,795.00 [3]	
2.	Utility Designating Services (QL-B)		2	4							6	$ 1,230.00	$ 3,737.50 [3]	
3.	Test Holes (QL-A) (8)		2	2							4	$ 840.00	$ 18,999.50 [3]	
D.	**ENVIRONMENTAL EVALUATION**													**$ 10,825.00**
1.	Waters of the U.S. Determination			4			8		20	40	72	$ 8,740.00	$ -	
2.	Cultural Resources Assessment			1					4		5	$ 835.00	$ 1,250.00 [4]	
E.	**RIGHT OF WAY SERVICES**													**$ 15,080.00**
1.	Right of Entry (9)			4	2	4					10	$ 1,580.00	$ 13,500.00 [5]	
											131	**$ 18,655.00**	**$ 204,224.00**	**$ 222,879.00**

[1] HVJ Associates, Inc. (Breakdown Attached)
[2] Separate CP&Y Survey Breakdown Attached
[3] Separate CP&Y SUE Breakdown Attached
[4] Horizon Environmental (Breakdown Attached)
[5] Dianna Tinkler ($1,500 per Right-of-Entry)

City of Kyle
Wastewater Treatment Plant Interceptor
Phases 1 & 2

Expenses

Expense Item	Unit	Unit Cost	Amount	Total Cost
8 1/2" X 11" B/W Paper Copies	sheet	$ 0.10	200	$ 20.00
11" X 17" B/W Paper Copies	sheet	$ 0.15	180	$ 27.00
Express Mail / Courier	each	$ 15.00	1	$ 15.00
Mileage	mile	$ 0.58	150	$ 87.00
HazMat Database Search	each	$ 500.00	1	$ 500.00
TOTAL DIRECT EXPENSES				**$ 649.00**

Mr. Ryan Owen, PE
August 11, 2022
AG

Geotechnical Investigation					
City of Kyle WWTP Interceptor Ph. 1&2					
CP&Y					
HVJ SCTx Proposal No. AG					
Geotechnical Field Investigation - Drilling and Soil Sampling					
Mobilization/Demobilization - Austin	1	@	$500.00	per mobilization	$500.00
Drilling & Sampling- Sois	400	@	$28.00	per foot	$11,200.00
Drilling & Sampling- Rock	90	@	$35.00	per foot	$3,150.00
Shelby Tube (Thin Wall)	120	@	$33.00	each	$3,960.00
Standard Penetration Tests (SPT)	32	@	$33.00	each	$1,056.00
Backfilling Soils	490	@	$9.00	per foot	$4,410.00
Clearing Services	1	@	$2,000.00	each day	$2,000.00
Logging EIT	90	hr @	$100.00	per hour	$9,000.00
Utility Clearance, Drilling and ROE Coordination-EIT	24	hr @	$95.00	per	$2,280.00
Vehicle Trip	10	@	$130.00	each	$1,300.00
				Sub Total	**$38,856.00**
Laboratory Testing - Standard					
Moisture Content	54	@	$27.00	each	$1,458.00
Atterberg Limits	54	@	$89.00	each	$4,806.00
#200 Sieve Analysis	54	@	$60.00	each	$3,240.00
Unconfined Compressive Strength Tests Soil	18	@	$65.00	each	$1,170.00
Unconfined Compressive Strength Tests Rock	18	@	$85.00	each	$1,530.00
				Sub Total	**$12,204.00**
Geotechnical Engineering & Reporting					
Principal, PE	4	hr @	$257.32	hr	$1,029.28
Senior Engineer, PE	24	hr @	$183.80	hr	$4,411.20
Project Engineer, PE	48	hr @	$159.06	hr	$7,634.88
Staff Engineer II, EIT	60	hr @	$94.40	hr	$5,664.00
Project Administrator	10	hr @	$61.75	hr	$617.50
				Sub-Total	**$19,356.86**
				Grand Total	**$70,416.86**

CP&Y Survey Cost Breakdown

Wastewater Treatment Plant Interceptor Ph. 1 & 2
Kyle, Texas

Topographic Survey					
Tasks	**Classification**	**Hours**	**Rate**	**Cost**	**Totals**
Project Management	Project Manager	5	$225.00	$1,125	
Project Management	RPLS	30	$175.00	$5,250	
Right-of-way analysis	RPLS	14	$175.00	$2,450	
Topo review	RPLS	10	$175.00	$1,750	
Right-of-way coordination	Sr. CAD Technician	5	$130.00	$650	
Texas811	Sr. CAD Technician	0	$130.00	$0	
Topo	Sr. CAD Technician	25	$130.00	$3,250	
Right-of-way/deed research	Sr. CAD Technician	10	$130.00	$1,300	
Field Check	Sr. CAD Technician	10	$130.00	$1,300	
Manholes	Sr. CAD Technician	20	$130.00	$2,600	
	Administrative Assist	0	$84.00	$0	
Professional Office Staff Subtotal					$19,675
Control and Set Benchmarks	2-man Survey Party	60	$165.00	$9,900	
Monument Search	2-man Survey Party	30	$165.00	$4,950	
Topo	2-man Survey Party	90	$165.00	$14,850	
Trees	2-man Survey Party	10	$165.00	$1,650	
Soil Borings (18)	2-man Survey Party	20	$165.00	$3,300	
Field Work Subtotal					$34,650
Topographic Survey Total					**$54,325**
Boundary Survey	**Note**	**Each**	**Rate**		
Metes & Bounds Description with Sketch		11	$3,200.00	$35,200.00	
Boundary Survey Total					**$35,200**
Survey Total					**$89,525**

SUE SERVICES - FEE SCHEDULE

City of Kyle WWTP Interceptor Ph. 1 & 2 SUE - Kyle, Texas

SUE Services

CP&Y, Inc.

8/11/2022

SUE QUALITY LEVEL "B, C, D" **LABOR COSTS**	LABOR CLASS.	Sr. PROJECT MANAGER	SUE PROJECT MANAGER	FIELD CREW MANAGER	UTILITY TECH	CADD TECH	CLERICAL SUPPORT	TOTAL HOURS
		$215.00	$150.00	$126.00	$126.00	$126.00	$84.00	
Records Research		0.0	1.0	0.0	8.0	0.0	0.0	9.0
Production/Review of QL"B, C, D" Plan Deliverables		2.0	3.0	0.0	0.0	20.0	0.0	25.0
Project Meetings / Safety Orientation		0.0	6.0	4.0	0.0	0.0	0.0	10.0
Permit Coordination/Acquisition		0.0	1.0	0.0	0.0	0.0	0.0	1.0
Contract Administration		1.0	2.0	0.0	0.0	0.0	2.0	5.0
SUBTOTAL HOURS		**3.0**	**13.0**	**4.0**	**8.0**	**20.0**	**2.0**	**50.0**
SUBTOTAL DOLLARS		**$645.00**	**$1,950.00**	**$504.00**	**$1,008.00**	**$2,520.00**	**$168.00**	**$6,795.00**
SUBSURFACE UTILITY ENGINEERING COSTS		QTY	RATE	UNIT	UNIT			TOTAL
Designating (3-Man Crew & Equipment) - Quality Level B		10.0	$ 235.00	per hour	**per hour**			$2,350.00
Survey of QL"B"								
Surveying (2-Man Crew, GPS Equipment & Processing)		0.8	$ 1,850.00	per day	**per day**			$1,387.50
SUBTOTAL DOLLARS								**$3,737.50**
TOTAL ESTIMATED QUALITY LEVEL "B" FEE								***$10,532.50***
SUE QUALITY LEVEL "A" **LABOR COSTS**	LABOR CLASS.	Sr. PROJECT MANAGER	SUE PROJECT MANAGER	FIELD CREW MANAGER	UTILITY TECH	CADD TECH	CLERICAL SUPPORT	TOTAL HOURS
		$215.00	$150.00	$126.00	$126.00	$126.00	$84.00	
Records Research		0.0	0.0	0.0	4.0	0.0	0.0	4.0
Production/Review of QL"A" Deliverables		2.0	4.0	0.0	4.0	10.0	0.0	20.0
Project Meetings / Safety Orientation		0.0	5.0	3.0	3.0	0.0	0.0	11.0
Permit Coordination/Acquisition		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Contract Administration		0.0	2.0	0.0	0.0	0.0	2.0	4.0
SUBTOTAL HOURS		**2.0**	**11.0**	**3.0**	**11.0**	**10.0**	**2.0**	**39.0**
SUBTOTAL DOLLARS		**$430.00**	**$1,650.00**	**$378.00**	**$1,386.00**	**$1,260.00**	**$168.00**	**$5,272.00**
Locating (Quality Level "A" - Test Holes)								
0 feet to 5.00 feet		4	$ 1,200.00	**per hole**				$4,800.00
over 5.00 feet to 8.00 feet		4	$ 1,550.00	**per hole**				$6,200.00
over 8.00 feet to 11.00 feet		0	$ 1,850.00	**per hole**				$0.00
over 11.00 feet to 15.00 feet		0	$ 2,550.00	**per hole**				$0.00
Greater than 15 ft (per foot)		0	$ 200.00	**per hole**				$0.00
Depths over 15 feet are an additional cost of $200 per foot.								
Designating (2-Man Crew & Equipment) - Quality Level B		4.0	$ 185.00	**per hour**				$740.00
Mob-Demob Fee		1	$ 600.00	**each**				$600.00
Survey of QL"A"								
Surveying ((2-Man Crew, GPS Equipment & Processing)		0.8	$ 1,850.00	**per day**				$1,387.50
SUBTOTAL DOLLARS								**$13,727.50**
TOTAL ESTIMATED QUALITY LEVEL "A" FEE								***$18,999.50***
TOTAL COMBINED ESTIMATED FEE								**$29,532.00**

Horizon™
Environmental Services, Inc.

ARCHEOLOGICAL SURVEY AND ASSESSMENT Proposed City of Kyle Wastewater Interceptor Phases 1 and 2 Kyle, Hays County, Texas		
Task	**Description**	**Estimated Cost**
1	Desktop Archival Research and Agency Coordination	$1,250
2	Archeological Field Survey (includes pedestrian walkover with shovel testing) (assumes survey is negative for cultural resources)	$2,500
3	Technical Report (includes preparation of draft and final technical report and coordination of agency review)	$3,100
4	Records Curation (includes preparation of project records for curation and curation facility fees)	$1,500
	Total	**$8,350**

Basic Services

Additional Services

Figure 7.1.2: WWTP Interceptor Improvement Phase 1
City of Kyle Wastewater
Before Improvements

Kyle Estate
298.4 Acres
1,000 LUEs

Kyle Estate
330.0 Acres
1,200 LUEs

Bunton Creek remaining phases
90.1 Acres
440 LUEs

Bunton Creek remaining phases
90.1 Acres
440 LUEs

Creekside at Bunton Creek
97.9 Acres
500 LUEs

Overloaded Pipe Segments

WWTP

Pecan Woods
66.2 Acres

Pecan Woods
697.8 Acres

Cool Sp
125.2 A
372 LUEs

WWTP Interceptor Improvement Phase 1
Connecting Lines
Surcharged Lines

Existing Wastewater Pipe Diameter (Inches)

- 4
- 6
- 8
- 10
- 12
- 15
- 18
- 21
- 24
- 27
- 30

Force Mains
Lift Stations

Future Developments

- Reflected in Model Results
- Not Reflected in Model Results

Item #9

After Improvements

N

Kyle Estate
330.0 Acres
1,200 LUEs

Bunton Creek remaining phases
90.1 Acres
440 LUEs

Bunton Creek remaining phases
90.1 Acres
440 LUEs

Creekside at Bunton Creek
97.9 Acres
500 LUEs

Improvement Project

WWTP

Pecan Woods

Cool Springs
125.2 Acres
372 LUEs

B&N
BURGESS & NIPLE
Engineers ■ Planners

Figure 7.2.2: WWTP Interceptor Improvement Phase 2
City of Kyle Wastewater
Before Improvements

Lehman Tract
97.6 Acres
150 LUEs

Kyle Estate
330.0 Acres
1,200 LUEs

Brookside Phase 2
36.2 Acres
220 LUEs

Bunton Creek remaining phases
90.1 Acres
440 LUEs

Overloaded Pipe Segments

Bunton Creek remaining phases
90.1 Acres
440 LUEs

WWTP Interceptor Improvement Phase 2
Connecting Lines
Surcharged Lines

Existing Wastewater Pipe Diameter (Inches)

- 4
- 6
- 8
- 10
- 12
- 15
- 18
- 21
- 24
- 27
- 30
- Force Mains
- Lift Stations

Future Developments

- Reflected in Model Results
- Not Reflected in Model Results

After Improvements

N

Lehman Tract
97.6 Acres
150 LUEs

Kyle Estate
330.0 Acres
1,200 LUEs

Brookside Phase 2
36.2 Acres
220 LUEs

Bunton Creek remaining phases
90.1 Acres
440 LUEs

Improvement Project

Bunton Creek remaining phases
90.1 Acres
440 LUEs

B&N
BURGESS & NIPLE
Engineers ■ Planners

CITY OF KYLE

WASTEWATER TREATMENT PLANT INTERCEPTOR

PHASE 1 AND 2

2020 CIVIL ENGINEERING ROTATION LIST

TASK ORDER NO.: 4

CP&Y PROJECT NO.: KYLE2000707.04

PRELIMINARY ENGINEERING REPORT

AUGUST 2022

FINAL

This Preliminary Engineering Report presents the results of the preliminary study of the existing conditions and provides the design criteria and recommendations for the Wastewater Treatment Plant Interceptor. This report evaluates and recommends an alignment for approximately 10,000 linear feet of wastewater line and reclaimed water line to accommodate projected future flow increases.

CP&Y, Inc.
TBPE Registration Number: F-1741

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Appendix B – Environmental Constraints Summary Report
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Appendix E – Yard Piping, Energy Dissipation Structure and Junction Box Plan Sheets
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EXECUTIVE SUMMARY

In November 2020, the City of Kyle (City) retained CP&Y, Inc. (CP&Y) to provide engineering services under the 2020 General Civil Engineering Services Rotation List. Under the aforementioned contract, the City issued Task Order No. 4, which included engineering services to evaluate and recommend an alignment for approximately 10,000 LF of 48-inch diameter gravity wastewater line and 12-inch diameter reclaimed water line in the vicinity of the North Trails and the Wastewater Treatment Plant. The wastewater line will accommodate future flow increases that are projected to exceed the capacity of the existing wastewater line currently serving that area. Increasing the reclaimed water line size from 8 to 12 inches will significantly increase the reclaimed water available in the future. The reclaimed water line is located within the same easement as the 30-inch wastewater line.

Based on a capacity evaluation in the Wastewater Collection System Hydraulic Model Final Report June 2016 Amendment performed by Burgess & Niple, the proposed interceptor is anticipated to be 48-inch diameter with a minimum slope of 0.27%. The pipe size and slope are based on providing a capacity such that the pipe will convey the ultimate projected peak flow of 38.5 MGD at approximately 80% of the full pipe capacity. The resulting full-pipe capacity is approximately 48 MGD. The primary method of construction is anticipated to be open-cut with installation of either 48-inch fiberglass reinforced plastic (FRP) or PVC pipe. The recommendation includes abandoning the existing 30-inch wastewater interceptor following installation of the proposed 48-inch wastewater pipeline and abandoning the existing 8-inch reclaimed water line following installation of a parallel proposed 12-inch reclaimed water line. An overview of the route is shown in **Figure 3** in **Section 7.2.3**. New permanent and temporary easements are proposed for construction of the new pipelines that are generally located adjacent to the existing easement.

During the design phase, additional Subsurface Utility Engineering will be required to confirm there are no utility conflicts at utility crossing locations. As a result of the environmental evaluation, the following actions may be required to take place during design/prior to construction.

- A thorough field investigation is required to confirm any potentially jurisdictional waters of the United States (U.S.) within the project area. Should the project impact any potentially jurisdictional waters, specific permitting needs will need to be coordinated with the United States Army Corps of Engineers (USACE).
- A more detailed field investigation is required to confirm any potentially suitable habitat for federally protected species within the project area.
- Coordination with the Texas Historical Commission (THC) will need to be conducted to determine the level of effort required for archeological investigation.
- A formal database search and field site evaluation should be performed for the project area to verify potential hazardous material mapped or unmapped sites exist, especially in areas of new easements.

The Engineer's Opinion of Probable Construction Cost (OPCC) for Phase 1 is $11,543,300 and for Phase 2 is $7,072,200. These OPCCs include an 8% adjustment for inflation and a 30% Contingency.

_____

Ryan D. Owen, P.E.
Project Manager
CP&Y, Inc.

1.0 BACKGROUND

1.1 Authorization

In January 2022, the City of Kyle (City) authorized CP&Y, under Task Order No. 4, to provide engineering services to evaluate and recommend an alignment for approximately 10,000 LF of 48-inch diameter wastewater line and 12-inch reclaimed water line from the downstream end of the North Trails Wastewater Interceptor project to the Wastewater Treatment Plant. The proposed wastewater line will replace an existing 30-inch wastewater line to accommodate future flow increases that are projected to exceed the capacity of the existing wastewater line currently serving that area. The proposed 12-inch reclaimed water line will replace an existing 8-inch reclaimed water line.

1.2 Scope

This project includes the evaluation of alignment alternatives for a proposed wastewater interceptor solution that accommodates projected future flow increases. The Preliminary Engineering Report includes the following:

- An evaluation of existing conditions, including review of wastewater master plan reports and modeling data as well as GIS data provided by the City
- Cursory review of the flow projections and a pipe capacity evaluation
- A Quality Level D Subsurface Utility Engineering review in the project location to assist with alignment evaluation
- Evaluation of potentiality impacted utility owners complete with review of potential conflicts and contact information
- Analysis and GIS mapping of potential environmental constraints discovered via desktop review and limited site visits.
- Discussion of recommended materials and construction methodology including comparison of open cut versus trenchless construction and easement
- Evaluation of possible alignments and recommendation based on review of existing property lines, topography, and surface features
- Analysis of required easements for the proposed alignment
- A preliminary Engineer's Opinion of Probable Construction Cost (OPCC).

2.0 FLOW PROJECTION REVIEW

CP&Y provided a cursory review of the Wastewater Interceptor Phase 1 & 2 flow projections provided in the City of Kyle's Wastewater Collection System Hydraulic Model Final Report – Amendment by Burgess & Niple, Inc., dated June 2016 (Hydraulic Model Report). The peak flow projections appeared reasonable based on the information provided in the report, and the ultimate peak flows anticipated for the City of Kyle Wastewater Treatment Plant. Based on the Hydraulic Model Report, the Wastewater Interceptor Phase 1 & 2 Improvement project identified in the Report will need to convey an ultimate peak flow of 48 & 46 million gallons per day (MGD), respectively. The ultimate peak flow at the wastewater treatment plant is anticipated to be 48 MGD, based on a final average daily flow (ADF) limit of 12.0 MGD and a peaking factor of 4.

The capacity of a gravity wastewater line can be calculated utilizing Manning's Equation:

$$Q = \frac{1.49}{n} A {R_h}^{2/3} S^{1/2}$$

Where:

Q = flowrate, cubic feet per second (cfs)

n = Manning's Coefficient, typical value of 0.013

A = Area of pipe, square feet (ft^2)

R_h = Hydraulic radius of pipe (area of pipe divided by wetted perimeter), feet (ft)

S = Pipe slope, 0.00205 ft/ft for existing (per record drawings), 0.00205 ft/ft for proposed 42-inch, and 0.0027 ft/ft for the proposed 48-inch (so that the total projected peak flow is equal to the WWTP peak capacity of 48 MGD)

Table 1 below summarizes the capacity of the existing 30-inch wastewater line and provides recommend slopes for the proposed alignment alternatives. For sizing wastewater interceptor lines, it is typical in regional standards to design the proposed wastewater line such that the estimated capacity requirements of the interceptor are 80% of the calculated full pipe flow. These values have been provided below. As of the development of this Report, the city is updating their Hydraulic Model Report. Coordination will continue as the Hydraulic Model Report progresses to confirm the anticipated flows and sizing of the proposed wastewater line.

Table 1 – Existing and Proposed WWTP Interceptor Phase 1 & 2 Capacities

Existing and Proposed WWTP Interceptor Phase 1 & 2 Capacity								
Scenario	**Pipe Diameter (inches)**	**Area (ft^2)**	**Hydraulic Radius (ft)**	**Slope (ft/ft)**	**80% Pipe Capacity (cfs)**	**80% Pipe Capacity (MGD)**	**Full Pipe Capacity (cfs)**	**Full Pipe Capacity (MGD)**
Existing	30	4.91	0.625	0.00205	14.87	9.61	18.59	**12.02**
Proposed	42	9.62	0.875	0.00205	36.52	23.52	45.66	**29.51**
Proposed	42	9.62	00875	0.00270	41.92	27.09	52.40	**33.86**
Proposed	48	12.57	1.000	0.00205	52.17	33.72	65.21	**42.14**
Proposed	48	12.57	1.000	0.00270	59.87	38.69	74.84	**48.37**

The recommended size and slope of the proposed interceptor is based on providing a capacity such that the ultimate projected peak flow is equal to the ultimate peak capacity of the WWTP. For the purpose of this evaluation, the proposed project will utilize a proposed 48-inch diameter wastewater line with a minimum slope of 0.27%, or 0.0027 ft/ft.

3.0 SUBSURFACE UTILITY ENGINEERING (SUE)

Quality Level D subsurface utility engineering (SUE) was performed as a part of the investigation of existing site conditions. According to ASCE 38 – Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, Quality Level D SUE typically includes information derived from existing records or oral recollections. The source of some data can be unknown or require further evaluation. Level D SUE work is typically completed during the planning phase of a project and then supplemented with a higher quality level of SUE during the Design Phase. As this project progresses, it is recommended that Level D SUE information gathered for this project be supplemented with Quality Level C, B, and A at utility crossings and critical locations.

3.1 Process and Sources

In March 2022, a CP&Y representative completed Quality Level D SUE for the area near the proposed wastewater interceptor. The following resources were utilized to generate an existing utility CAD file to be referenced in the figures provided herein:

- A limited site visit within the existing easement
- Record Drawings; including but not limited to:
    - “City of Kyle, Texas Proposed Sanitary Sewer Interceptor Line” project (2001) by AquaSource Construction, Inc.
    - “City of Kyle, Texas Construction Plans for Wastewater Treatment Plant Expansion” project (2019) by Burgess & Niple, Inc.
- City of Kyle water, wastewater, and reclaimed water GIS Shapefiles
- County Line Special Utility District (SUD) water & wastewater GIS Shapefiles
- Data requested from utility owners known to be in the corridor

4.0 UTILITY AND CONSTRUCTION COORDINATION

As-built records from utility owners in the project area were obtained and reviewed. The Level D SUE investigation resulted in finding the following utility owners in the project vicinity (an overview of SUE findings is presented in **Appendix A**):

- Pedernales Electric Coop (PEC) Overhead and Underground Electric
- City of Kyle Water, Wastewater, Stormwater, and Reclaimed Water
- Guadalupe-Blanco River Authority Water
- County Line SUD Water
- Frontier Telephone
- Enterprise Gas
- Proposed Alliance Regional Water Authority Water

Construction of the proposed wastewater line is anticipated to have a range of depth between 10 and 25 feet; therefore, it is not anticipated that there will be vertical conflicts with existing utilities at this phase, however this will be confirmed during the design phase. The intent of the alignment selection is to avoid horizontal conflicts with the existing utilities. Texas 811 will be contacted prior to surveying and future SUE services during the design phase to obtain a more accurate location of underground utilities located within the project area. Location and depths of critical utilities will be confirmed during the Design Phase with Quality Level B SUE (locating) and Quality Level A SUE (potholing or probing).

5.0 ENVIRONMENTAL EVALUATION

An environmental constraints analysis was performed in March 2022 for the proposed project. The analysis included a preliminary assessment of waters of the U.S., threatened/endangered species habitat, cultural resources, and hazardous materials. The study area and the full analysis is identified in **Appendix B**.

The environmental evaluation determined the following:

- Potential waters of the U.S. are present within the study area.
- There are no historic properties within the study area.
- There are 12 threatened and endangered species, one proposed threatened species, and one candidate species known to occur in Hays County, and may be present in or adjacent to the project area
- Hazardous materials are not expected to affect the proposed project. Three (3) natural gas transmission mains are located within the project area as potential hazardous materials.

As a result of the environmental evaluation, the following actions may be required to take place during design/prior to construction.

- A thorough field investigation is required to confirm any potentially jurisdictional waters of the United States (U.S.) within the project area. Should the project impact any potentially jurisdictional waters, specific permitting needs will need to be coordinated with the United States Army Corps of Engineers (USACE).
- A more detailed field investigation is required to confirm any potentially suitable habitat for federally protected species within the project area.
- Coordination with the Texas Historical Commission (THC) will need to be conducted to determine the level of effort required for archeological investigation.
- A formal database search and field site evaluation should be performed for the project area to verify potential hazardous material mapped or unmapped sites exist, especially in areas of new easements.

6.0 MATERIALS AND METHODS OF CONSTRUCTION

The following subsections include a discussion of materials and methods of construction that were considered and / or recommended for the interceptor improvements.

6.1 Materials of Construction

Per the City of Kyle General Construction Notes, gravity sewer pipe material shall be SDR-26 polyvinyl chloride (PVC) pipe if located greater than nine (9) feet from a waterline. Closer than nine (9) feet to a waterline, pipe shall be pressure-rated. PVC pipe at a diameter of 48-inches is generally available as SDR-26. At this size, Fiberglass Reinforced Plastic (FRP) is a common material of construction for gravity sewer and can also be cost competitive with PVC. CP&Y will evaluate these materials during design to confirm applicability at the design depths and cost comparison to finalize a pipe material recommendation. For the purpose of this report pricing was averaged between manufacturers and materials when determining the preliminary Opinion of Probable Cost for each alignment alternative.

Per direction from the City, manholes shall be precast polymer concrete manholes. The manholes shall have cast iron ring and covers. Covers shall contain the City of Kyle logo.

Material pricing for the wastewater line is presented in **Table 2**. Pricing was gathered from manufacturers and reflects the effects of the current market. CP&Y recommends determining the preferred pipe materials for the project during the 60% design phase based on City preference and available cost information. Pricing for FRP and PVC reflect estimates gathered from manufactures in June 2022. Manufactures contacted include Hobas pipe for FRP, JM Eagle for PVC, and Brittco Municipal Water Products for PVC.

Table 2 - Wastewater Pipe Material Cost Comparison

Material Type	Diameter	Unit Cost ($/LF)
FRP (SN 72)	48-inch	$350.00/LF
FRP (SN 72)	42-inch	$285.00/LF
PVC (PS115)	48-inch	$547.00/LF
PVC (PS115)	42-inch	$420.00/LF

Material pricing for the reclaimed water line is presented in **Table 3**. Polyvinyl chloride (PVC) pipe at this size is currently in high demand. High density polyethylene (HDPE) is less commonly used for water lines than PVC and DIP in central Texas but is an option for this installation. Ductile iron pipe (DIP) can also be price competitive with these pipe materials in this size range. Material pricing was gathered from manufacturers and reflects the effects of the current market. CP&Y recommends determining the preferred pipe materials for the project during the 60% design phase based on City preference and available cost information. Prices are current as of April 2022. Manufactures contacted for PVC pricing include JM Eagle and Brittco Municipal Water Products. ISCO Pipe was contacted for HDPE pricing. US Pipe and American Ductile Iron were contacted for material pricing for DIP.

Table 3 - 12-inch Reclaimed Water Pipe Material Cost Comparison

Material Type	Unit Cost ($/LF)
PVC (DR14)	$66.00/LF
HDPE (DR13.5)	$20.72/LF
DIP (CL 350)	$48.00/LF

Material pricing for the various diameter polymer concrete manholes is presented in **Table 4**. The use of polymer concrete manholes was provided as a preference by the City; therefore, no other manhole pricing was gathered for this project. CP&Y agrees that polymer concrete is the appropriate product and the use in this application for a critical large diameter interceptor. Manholes constructed of polymer concrete are inherently resistant to corrosion and do not require ongoing maintenance of the corrosion resistant coatings that is applied to traditional Portland cement manholes. Prices are current as of March 2022.

Table 4 – Manhole Material Cost Comparison

Manufacture	Manhole Description	Unit Cost ($/EA)
U.S. Composite Pipe	96-inch 15-foot depth MH	$54,500/EA
Armorock	96-inch 15-foot depth MH	$58,000/EA
U.S. Composite Pipe	84-inch 15-foot depth MH	$41,300/EA
Armorock	84-inch 15-foot depth MH	$40,000/EA
U.S. Composite Pipe	72-inch 15-foot depth MH	$29,300/EA
Armorock	72-inch 15-foot depth MH	$23,000/EA
U.S. Composite Pipe	60-inch 15-foot depth MH	$19,200/EA
Armorock	60-inch 15-foot depth MH	$14,500/EA

6.2 Methods of Construction

For the purposes of this report, multiple installation methods were considered for replacing the existing wastewater pipeline. Open-Cut and auger boring are typical installation methods for the installation of pipes in projects such as this one. A combination of open-cut and trenchless methods. The sections that follow explore the unique qualities of each and will conclude with a comparison of each technology given the specific parameters of the project, ultimately leading to the recommended process for the project.

6.2.1 Open-Cut

The Open-Cut method of pipe installation is traditionally the most used form of pipe installation technology. In areas where utility easements are spacious, bury depths are reasonable and separation distances from other existing utilities are adequate, the Open-Cut method is generally the easiest and least costly method of pipe installation. Open-Cut installation allows the installer to easily correct any vertical or horizontal changes.

6.2.2 Boring

The Boring method of pipe installation is typically used in conjunction with the Open-Cut method for areas where space is not available for an open trench or when making crossings under rivers, roads, existing structures, and trees. Boring requires a borehole to be drilled along a pre-determined path from a bore pit and allows for minimal disturbance of the existing ground. As an alternative to boring, a contractor may select hand-mining a tunnel for a larger diameter casing pipe installation which would achieve a similar goal and provide a greater degree of control during construction. Hand mining is anticipated to be an allowable alternative to boring for trenchless installations.

6.2.3 CIPP Lining

The CIPP Lining method of pipe installation is typically used in urban environments when less disruption to residents and the environment is desired. This method involves adding a thin layer epoxy resin to the inside walls of the existing host pipe. Once cured CIPP lining offers a smooth interior restoration of the existing pipe with minimal loss in diameter. This method is completely trenchless and existing service laterals can be connected without the need for open-cutting. This method is useful for pipeline rehabilitation when the diameter does not need to be increased for additional capacity.

6.2.4 Method of Construction Comparison

Table 5 below outlines the advantages and disadvantages of each installation technology both in general and as they relate to the specific parameters of the current project.

Where possible, open cut installation will be used for pipeline installation. In locations with access issues, or the need to avoid impacting surface features such as roadways, parks or environmentally sensitive locations, trenchless installations such as boring or tunneling may be implemented. The table below includes a summary of each installation method noted above, with the pros and cons of each as they pertain to the evaluation.

Table 5 – Pipe Installation Method Comparison

Pipe Installation Method		
Installation Method	**Advantages**	**Disadvantages**
Open-Cut	• Commonly used where there is adequate easement available • Generally, the least expensive alternative • Allows for accurate vertical alignment	• Requires wide and cleared area along the alignment for material laydown and equipment access • Disruptive to surface • Trench box / shoring required • Potential for additional permitting requirements • May require temporary construction easement • Typically requires removal or pruning of trees • Ground survey required • Costs increase as the depth increases • Higher risk in areas prone to flooding
Boring	• Reduced surface disturbance • A single localized area can be used for launching pit • Protects ecosystem and adjacent areas • Reduces the excavation and shoring • Ability to cross beneath other utilities or surface features	• More costly alternative than Open-Cut • Not practical if mixed soil strata along the pipeline vertical alignment is present • High setup costs due to excavating bore and exit pits • May be difficult to monitor and maintain vertical grade
CIPP Lining	• Less disruption: manhole to manhole or point repair to point repair • Minimal loss in existing diameter • Protects ecosystem and adjacent areas	• More specialized equipment required • Requires TV inspection and pipe cleaning • Improved access road for heavy trucks required • Point repairs through open-cut may be needed • Pipe needs to be structurally sound • Does not improve capacity

7.0 ALIGNMENT EVALUATION

Prior to establishing the alignment alternatives, the availability of existing easements and workspace was reviewed, based on a desktop evaluation of record drawings and a site visit.

7.1 ROW and Easements

The current 30-inch wastewater line and 8-inch reclaimed water line are located within an existing 20-foot easement. The existing easement is centered on the 30-inch wastewater line. Additional permanent easements and temporary construction easements are needed for all alternatives due to the corridor needed for access and maintenance of new large diameter wastewater lines and reclaimed water lines. The city has also indicated that a future trail system may extend along this wastewater pipeline corridor.

7.1.1 Permanent Easements

In general, the proposed pipeline alignment parallels the existing 20-foot-wide wastewater easement. The existing easement contains a 30-inch wastewater line and an 8-inch reclaimed water line. Additional permanent easements will need to be acquired to allow for installation of the new pipeline while keeping the existing mains in service. Proposed additional permanent easement widths are shown in the trench cross-section details in this report based on varying depths of the wastewater line; however, these widths will be reviewed and confirmed during 60% design. The additional permanent easement widths are anticipated to be between 15 and 35-feet.

If the City desires to extend a future public trail system along the proposed wastewater alignment, the City will need to consider purchasing the property rather than acquiring a utility easement, since the property owner's rights to this property will be significantly limited as it will be open to the public. Access improvements for operations and maintenance may be combined with some or all the trail improvements, especially creek or drainage way crossings.

7.1.2 Temporary Construction Easements

Additional easement widths during construction will be needed for equipment accessibility, excavation, to provide adequate workspace, and material laydown. The width of additional temporary construction easement is anticipated to be between 20 and 40 feet wide in order to maintain a 75 feet wide corridor during construction. This width in specific locations will be reviewed and confirmed during 60% design based on depth of pipe and equipment needs, accessibility, and site and property constraints.

7.2 Alignment Alternatives

The alignment evaluation for the project is based primarily on the location and depth of the proposed wastewater line. The reclaimed water line was factored in for cost but not a constraint in determining the alignment location because it is smaller diameter and will be buried at a shallower depth. Four (4) alignment alternatives were identified based on different construction methods and route corridors. A preliminary Opinion of Probable Cost was then prepared for the four (4) alignments using the preferred materials as discussed in section **6.0 Materials and Methods of Construction**. The alignment alternatives were then evaluated and ranked. **Table 6** summarizes the route alternatives that were studied in more detail.

Table 6 – Alignment Alternatives Summary

Parameter	Description	Diameter	Length
AA-1	Installation of new 48-inch wastewater line along new alignment on the north side of Plum Creek. Existing 30-inch to be abandoned	48-inch	10,286 LF
AA-2	Installation of new 48-inch wastewater line generally following the existing 30-inch wastewater line, except for cutting through Waterleaf Park. Existing 30-inch to be abandoned	48-inch	9,625 LF
AA-3	Installation of new 48-inch wastewater line generally following the existing wastewater line. Existing 30-inch to be abandoned	48-inch	10,093 LF
AA-4	Installation of new 42-inch wastewater line that parallels the existing 30-inch wastewater line. Rehabilitation of the existing 30-inch wastewater line.	42-inch	10,090 LF

Alignments are based off the wastewater interceptor location. Route evaluation for the 12-inch reclaimed water line was not included. The existing 30-inch wastewater interceptor and 8-inch reclaimed water line are located within an existing 20-foot wide easement, and generally follow the south/west side of Plum Creek. In general, the proposed alignments follow the existing route with deviations as noted in the descriptions in the above table.

7.2.1 Detailed Alignment Discussion (AA-1)

Starting at the WWTP, Alignment Alternative 1 (AA-1) would parallel the existing 30-inch wastewater line on the west side until exiting the WWTP site. From here the proposed 48-inch line would cross Plum Creek to the opposite side of the existing wastewater line and travel northwest. The alignment would maintain a minimum 100’ separation from the centerline of the creek. This alignment alternative would generally follow the creek until reaching a point just downstream of the North Trails tie in. At this location the alignment would cross Plum Creek to the south and connect to the end of the proposed North Trails Interceptor project. An overview of this alignment alternative is presented in **Figure 1**.

Figure 1 – Alignment Alternative AA-1

Based on a preference from the city to maintain an alignment trenchless on the south side of the creek for continuous maintenance access, additional cost for installations across the creek multiple times, additional permitting, proximity, and impact to residential properties on the north side of the Plum Creek, the difficulty of reconnecting existing tie-in lines on the other side of the creek, and being higher risk due to having the pipe trench located in the floodplain potentially causing additional delays and other issues during construction. This alignment alternative was deemed to be not desirable and was not evaluated further in this report.

7.2.2 Detailed Alignment Discussion (AA-2)

Starting at the WWTP, Alignment Alternative 2 (AA-2) would parallel the existing 30-inch line on the south side of Plum Creek for approximately 100-feet. At this point the line would turn sharply to the west away from the existing wastewater line alignment and cut through Waterleaf Park. On the northwest end of the park, the proposed 48-inch line would approach the existing 30-inch line. At this point the proposed line would parallel the existing line on the south side of the existing

wastewater line alignment at approximately a 16-foot offset. The proposed 48-inch would cross over the existing line in two locations where the transitions would require bypass pumping until the proposed line was in service. This alternative would require abandoning the existing 30-inch in place upon completion of the project. An overview of this alignment is presented in **Figure 2**.

Figure 2 – Alignment Alternative AA-2

Benefits of this alternative include greater separation distances from Plum Creek near the WWTP, less risk during construction due to being outside of the floodplain, and a slightly shorter overall length with one less manhole. Cross section views in areas pertaining to the widest and narrowest separation distances of this alternative are presented in **Exhibit 3.** Disadvantages of this alignment alternative include significant impacts to the park space which will require adherence to State of Texas Chapter 26 process, which requires that no other feasible alignment alternative is practical. In addition, there would be impacts to the existing trail and baseball fields in the park. TCEQ requirements would also require a manhole in the park which could result in odors in the park and impact activities that may take place in the park.

7.2.3 Detailed Alignment Discussion (AA-3)

Starting at the WWTP, Alignment Alternative 3 (AA-3) would parallel the existing 30-inch line on the south side of the creek at approximately a 16-foot offset. The proposed 48-inch would cross over the existing line in two locations where the transition would require bypass pumping until the proposed line was in service. Upon completion of this alignment the existing 30-inch would be abandoned in place. This alternative minimizes permeant easement needs by reducing the separation distances from the abandoned lines. An overview of this alignment is presented in **Figure 3**.

Figure 3 – Alignment Alternative AA-3

Existing service connections would be reconnected to the new line and the single larger diameter line would take the full flow of the system. Benefits of this alignment include reducing future maintenance by utilizing a single pipe to convey flows, reducing impacts to existing conditions by constructing the line near the existing interceptor and minimizing easement acquisition. Cross

section views in areas pertaining to the widest and narrowest separation distances of this alternative are presented in **Exhibit 3.** Disadvantages include some challenging construction areas near the center portion of the project that have limited space, requiring replacement in place with bypass pumping, and additional pipe length as compared to Alignment AA-2.

7.2.4 Detailed Alignment Discussion (AA-4)

Starting at the WWTP, Alignment Alternative 4 (AA-4) would parallel the existing 30-inch wastewater line on the south at approximately a 25-foot offset to the end of the alignment. A reduced offset would be utilized in areas with encroaching development. A modification to the manhole at the North Trails tie-in location would split flow between the proposed 42-inch and CIPP lined existing 30-inch line. An overview of this alignment is presented in **Figure 4**.

Figure 4 – Alignment Alternative AA-4

This alignment alternative would maintain operation in the existing 30-inch wastewater line. Flow would be split between the two wastewater lines to operate at the peak capacity of the system. Benefits of this alignment would be maintaining the existing line which would offer some additional operational flexibility for the future. This alignment would also maintain the use of the newly constructed energy dissipation structure and diversion box at the City's WWTP, which was sized for the 30-inch wastewater line. Cons of this alignment are the additional maintenance requirements of two parallel large diameter interceptors and requiring additional easement space to construct both lines. Cross section views in areas pertaining to the widest and narrowest separation distances of this alternative are presented in **Exhibit 3**. The differences in the material costs and risks between constructing 42-inch and 48-inch wastewater interceptors are not significant. The addition of 10,000 LF of CIPP will add construction cost to the project, time to the schedule, and the existing wastewater line may have more significant defects that will need to be repaired prior to performing the CIPP lining. If this alternative is to be pursued, it is recommended that the existing 30-inch wastewater line be inspected to confirm the required scope of work for repair and lining of the pipe. The manholes will also need to be rehabilitated.

7.3 WWTP Tie-in

A key area of design is the proposed interceptor's connection to the WWTP. The City's WWTP expansion from 3.0 MGD to 4.5 MGD is nearly complete. Select drawings from the WWTP Expansion design plans are shown in **Appendix E**, including the site piping near the headworks of the WWTP, the energy dissipation structure constructed for the existing 30-inch wastewater line, and the junction structure to accommodate flow from the existing 30-inch wastewater line into the WWTP headworks. The current layout at the WWTP has the existing 30-inch wastewater line entering an energy dissipation structure. From the energy dissipation structure, the wastewater line flows into a junction box where flows will be combined with the Bunton Creek interceptor line before entering the headworks of the WWTP through a 48-inch wastewater line.

The existing energy dissipation structure takes flow from the existing 30-inch WWTP interceptor line and through the use of a vortex reduces the elevation of the inlet elevation. The energy dissipation structure can withstand flows between 15% - 115% of the peak design flow of 9.2 MGD. Since the combined flow from the larger diameter proposed wastewater line will need to convey a peak flow of 48 MGD this structure cannot be utilized as a long-term solution at the tie in point to the WWTP for the proposed line. If the existing 30-inch wastewater line is CIPP lined and kept in service, the energy dissipation structure could be utilized.

A 30-inch wastewater line exits the energy dissipation structure and continues towards a junction structure where flows are combined with the 42-inch Bunton Creek interceptor line. A 48-inch wastewater line exits the junction box and connects to the headworks of the WWTP. A top-level view and section view of the junction box are shown in **Appendix E**.

Due to the increase in diameter of the wastewater line and the location of #6 bars across the face of the junction box it is not anticipated that the junction box will be a viable option to tie the proposed 48-inch line into the WWTP.

Based on an analysis of the layout of the existing yard piping before the headworks of the WWTP the proposed larger diameter WWTP interceptor line is proposed to tie into the existing 48-inch wastewater line that is located between the existing junction box and headworks of the WWTP with a doghouse manhole. Further research will occur in design for viable alternatives for the tie in at the WWTP and potential alternatives involving combining flows with the Waterleaf interceptor will be analyzed. This alternative is depicted in **Exhibit 1**

7.3.1 Coordination with Adjacent Pipeline Design

In parallel with this project, another design consultant is developing the City of Kyle's Waterleaf Interceptor Improvements project. This project will also connect to the WWTP, and coordination between projects has started and will continue through design. **Exhibit 1** shows two alternatives for connecting these projects to the WWTP with a single connection. The base alternative was developed with the specific goals of this project in mind. The advantage of this option is that the construction of a doghouse manhole on the existing 48-inch wastewater line into the plant headworks can be done with bypass pumping from manholes in the WWTP yard. The alternate layout shown will result in less pipe and reduce impacts to the constructed flood wall but will require bypass pumping directly into the headworks. The connection details will continue to be evaluated in the design phase. For the purposes of this report, the base alternative is used in the OPCC evaluation and drawings.

7.4 Odor Control

All alignment alternatives follow the same general corridor which parallel portions of the existing trail system and locations of the proposed trail. Due to the proximity of the alignment to recreational trails and parks, a passive odor control system consisting of a carbon filter is anticipated to be placed at the end of vent piping to reduce odor. These products require routine maintenance of replacing the filter media, for which access to these locations will be considered during the design phase.

7.5 Project Risks

As the project develops, we will continue to coordinate with the city and monitor the following project risks:

- Cost and availability of materials
- Timeline of easement acquisition
- Adjacent property ownership and development status
- Adjacent utilities and permitting
- Coordinate with city for public engagement
- Continue to communicate with public works on operation and maintenance issues with the existing 30-inch wastewater line
- Confirm project sequencing for maintaining continuous wastewater service along existing pipeline, and at upstream and downstream tie-ins

As part of the design phase, development and monitoring of a project risk register that identifies and tracks key project risks is recommended so that a plan of action is in place to address identified risks to the project.

8.0 PERMITTING

Various permits may be required at the Local, State, and Federal levels for this project. Below is a summary of anticipated permitting needs.

8.1 Private

Easement encroachment agreements will be required at Enterprise gas crossings and with County Line SUD when crossing water lines. We will review the need for a permit for a potential future crossing with an Alliance Regional Water Authority water line.

8.2 City

City permits are not anticipated; however, coordination is required with the city's engineering team during design.

8.3 County

Permitting through Hays County is not anticipated for the project at this time.

8.4 State

At the end of design, a Summary Transmittal Letter will be sent to TCEQ communicating information about the project and requesting any variances that may be needed for the project. This is a requirement for each collection system project and wastewater treatment facility project, per Title 30, Texas Administrative Code (30 TAC), Subsection 217.6(d).

The Storm Water Pollution Prevention Permit (SWPPP or TPDES) is a state level permit through TCEQ. This permit lists the plans and practices to be used by the contractor to prevent excess pollutants from being discharged into stormwater runoff. This is a contractor obtained permit.

8.5 Federal

Refer to section **5.0 Environmental Evaluation** for a detailed list of anticipated Federal permits required.

9.0 COORDINATION CONSIDERATIONS

The following section provides details for key stakeholder coordination. **Appendix C** contains a list of stakeholders for entities requiring coordination on this project.

9.1 County Line SUD

County Line SUD serves customers with potable water in the project area. Several portions of the proposed wastewater and reclaimed water lines will cross County Line SUD potable water lines. Coordination with County Line SUD throughout design and construction is necessary to confirm utility locations and ensure service interruptions to County Line SUD customers does not occur.

9.2 Alliance Regional Water Authority

Alliance Regional Water Authority (ARWA) has a proposed Segment "C" water transmission main in the proximity of the project location. The proposed ARWA alignment currently crosses the proposed wastewater interceptor at one location. The proposed ARWA alignment is set to go into construction at the beginning of 2023. Coordination is needed to ensure that appropriate vertical and horizontal separation distances are maintained. The city is a member of ARWA.

9.3 Land Developers/Property Owners

The proposed project alignment passes through areas of rural residential, suburban residential, and City owned property. A section of the proposed alignment also passes through land which is being developed into Sunset Ridge Phase 2 community. Coordination is required to ensure little to no impact of service occurs to all communities contributing flow to the existing interceptor line. Minor traffic impacts may also occur and will need to be coordinated with traffic control.

The Sunset Ridge Phase 2 development is under construction, and a portion of the development appears to be over the existing 30-inch wastewater line and 8-inch reclaimed water line. The city has contacted the developer, and CP&Y understands the developer has agreed to work with the city to accommodate this project and revise development plans to avoid impacts to the existing and proposed wastewater lines in this location.

9.4 Enterprise Gas

Enterprise gas operates three transmission lines (with the following diameters 4.5-inch, 12.75-inch, and 30-inch) in the area that convey natural gas. Coordination is required when completing level "A" SUE locates, permitting during design for crossing existing gas line easements, and during construction to ensure that the lines are not damaged.

9.5 City of Kyle Parks and Trails

Large sections of the proposed alignments parallel or cross existing and proposed trails. Coordination with the City of Kyle parks and trails department will be vital during design and construction. Based on preliminary coordination locations of future trails should be purchased outright from the owner instead of obtaining permanent easements. Area will be needed for staging and could be within the park if acceptable. Coordination will be required to determine construction requirements in areas of existing trails. Items such as construction of temporary trail detours, fencing, signage, and restoration will need to be addressed in the bid documents.

9.6 Reclaimed Water Users

The need for uninterrupted service to reclaimed water customers' needs to be evaluated. The maximum allowable duration and any seasonal requirements needs to be addressed in the bid documents. The greater the limitations on the construction, the greater the cost to construct the new 12-inch line.

10.0 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

An Opinion of Probable Construction Cost (OPCC) was developed that includes components of the project known at this time. The OPCC was developed following the guidelines established by the Association for the Advancement of Cost Estimating International (AACEI) and is defined as a Class 3 estimate (10% to 40% development level). An OPCC was developed for each alignment alternative option. The OPCCs were developed from prior bid tabulations, industry standards and coordination with manufacturers. **Table 7** includes a comparison of the OPCCs for the proposed alternative improvements based on the alternative alignments evaluated in section **7.0 Alignment Evaluation**. A detailed breakdown of each alignment alternative is included in **Appendix D**. The construction costs for the reclaimed water line are very similar for each of the alternatives and thus the reclaimed water line is not a deciding factor between the wastewater line routes.

Table 7 – Summary of Opinion of Probable Construction Cost

Alignment Alternative	Description	Subtotal	30% Contingency	Total
AA-2	Installing a 48-inch cutting through Waterleaf Park and paralleling existing 30-inch line to the south	$13,648,900	$4,094,700	$17,743,700
AA-3	Installing a 48-inch paralleling existing 30-inch line to the south	$14,276,000	$4,282,800	$18,558,800
AA-4	CIPP lining existing 30-inch line and installing a parallel 42-inch new line to the south	$15,627,800	$4,688,400	$20,316,200

Over the past year, increasing material costs and limited availability of materials have significantly increased resulting in shortages, volatility, and unpredictability in the market. In particular, material pricing of key components of this project such as large diameter wastewater pipe, small diameter pressure pipe, and manholes have been increasing significantly due to availability of materials and supply chain challenges. The material pricing presented in this PER is based on costs received as of the time of report development.

In addition to material cost increases, Contractors have seen challenges with availability of employees in the labor market, resulting in higher labor costs and Contractors being more selective of projects pursued.

Overall, inflation has been steadily increasing to levels exceeding 8%. As the project progresses, we will continue to monitor current trends and continue to refine the costs.

11.0 ANALYSIS AND EVALUATION

A brief description of each alignment alternative is presented below.

- AA-1 would upsize the existing wastewater line to a 48-inch line and abandon the existing 30-inch in place. This alignment alternative would involve two crossings of Plum Creek and was deemed not desirable for this project.
- AA-2 would upsize the existing wastewater line to a 48-inch line and abandon the existing 30-inch in place. This alignment would generally parallel the existing 30-inch wastewater line with a 48-inch wastewater line except for at the beginning of the alignment near the WWTP. This alignment would cross though Waterleaf Park.
- AA-3 would upsize the existing wastewater line to a 48-inch line and abandon the existing 30-inch in place. This alignment would parallel the existing 30-inch line at 20 feet offset from the abandoned interceptor line. This alignment option would cross the existing 30-inch in two locations and would require bypass pumping.
- AA-4 would utilize the existing 30-inch line through CIPP lining, while adding an additional 42-inch line to convey peak flow capacities. The 42-inch would follow at approximately 30 feet offset from the existing interceptor to maintain operations of both lines.

11.1 Matrix Parameters

To facilitate the evaluation of the alignments, project parameters were developed specific to this project. The parameters were individually weighted to convey the importance of each specific parameter. The scale ranged from 1-3 with parameters receiving a three (3) being of greater importance compared to a parameter with a weight of a one (1). See **Table 8** for a list of the evaluation parameters and their assigned weight.

Table 8 – Matrix Evaluation Parameters

Evaluation Parameters	
Parameter	Weight
Minimize OPCC	3
Ease of Future Maintenance	3
Impacts to the Public	3
Ease of Construction	2
Minimize impact to environmentally sensitive areas	2
Minimize easements needed	2

Minimize OPCC – Since this project is funded by the city and the rate payers it is important to manage cost. Although not the only factor considered, construction cost is a factor of high importance. Therefore, it was given a weight of three (3).

Ease of Future Maintenance – Alignment alternatives that have adequate workspace and ease of access for future maintenance are preferred. Due to the difficult location of the alignment for long-term maintenance and the City desire for clear maintenance access in the future this parameter was given a weight of three (3).

Impacts to the Public – Minimizing impacts to the public is an important factor due to the potential for disruption to quality of life for the residents of Kyle. In addition to impacts during construction, it is important that the complete project minimizes impacts to the public where possible such as proximity to residences, traffic, and parks. For these reasons this parameter was given a weight of three (3).

Ease of Construction – Corridors that have adequate workspace during construction and ease of access are preferred to reduce risks to the Contractor. Since depths of the wastewater line can vary due to elevation changes of the terrain, having ample space for construction is a factor that must be considered. For these reasons this parameter was given a weight of two (2).

Minimize Impact to Environmentally Sensitive Areas – The location of the alignments in proximity to environmentally sensitive areas are an area of consideration. Impacts to these areas requires additional permitting, can lead to additional costs, and could cause delays in construction. Due to this a weight of two (2) was given to this parameter.

Minimize Easement Needs – Easement acquisition adds cost and time to the project. Due to the possibility of having to purchase land outright for dual use of the wastewater line and future trail system this parameter was given a weight of a two (2).

11.2 Matrix Evaluation

A matrix was created based on the defined project parameters to provide an objective and systematic method for preliminary evaluation of the alternatives. The alternatives were scored on a scale of 1 – 3 based on how the alternative satisfied the project parameter defined in the previous section relative to the other alternatives. The better the alternative satisfied the parameter, the higher the raw score. For example, the least costly alternative will receive the highest raw score (3) with the most expensive alternative receiving the lowest raw score (1). In the event multiple alternatives equally satisfied a parameter, they were given the same score. In summary, the higher the score, the more preferred the alternative.

Each parameter's weighted score is determined by multiplying the raw score by the parameter weight. The final value for each alternative is equal to the sum of each parameter's weighted score. A higher total score indicates a more preferable route alternative. Refer to **Table 9** for the evaluation matrix for each alignment alternative.

Table 9 – Matrix Evaluation of Alignment Alternatives

Parameter	Weight	AA-2		AA-3		AA-4	
		Raw Score	Weighted Score	Raw Score	Weighted Score	Raw Score	Weighted Score
Minimize OPCC	3	3	9	2	6	1	3
Ease of Future Maintenance	3	3	9	3	9	2	6
Impacts to the Public	3	2	6	3	9	3	9
Ease of Construction	2	3	6	3	6	1	2
Minimize impact to environmentally sensitive areas	2	2	4	2	4	2	4
Minimize easements needed	2	2	4	3	6	1	2
Totals			**38**		**40**		**26**

Based on the matrix evaluation alignment alternative AA-4 (CIPP lining the existing 30-inch and installation of a new 42-inch line) was eliminated as an alternative option due to having the highest OPCC, most difficult construction, and the most difficult future maintenance. Alignment alternatives AA-2 and AA-3 are very similar in each parameter, but alignment alternative AA-3 offers the greatest benefit based on cost, construction, and minimizing impact to existing conditions. Alignment alternative AA-3 follows the perimeter of Waterleaf Park, therefore has less impact as compared to alternative AA-2 and would result in less impact due to the Chapter 26 process previously discussed for impacts to public park land.

12.0 SUMMARY AND RECOMMENDATIONS

12.1 Summary

The upsizing of the existing wastewater line and reclaimed water lines have relatively limited alternative options because the existing pipelines:

- Reconnect to the same points on the upstream and downstream ends of the project
- Follows a direct route
- Are immediately adjacent to Plum Creek and adding crossings of the creek is more expensive and provides extremely limited benefit compared to following the current alignment. Being located adjacent to the creek, has provided acceptable access for operations and maintenance in the past and this will be slightly improved by constructing the new wastewater main further from the centerline of the creek.
- Are situated such that additional land is available along the current easement since the alignment is in close proximity to the floodplain and is undevelopable.
- Have lateral connections that must be reconnected and locating the new line near the existing line minimizes work to reconnect the lateral mains.
- Have development located on both sides of the creek which limits the options to reroute away from the creek.

12.2 Alignment Recommendation

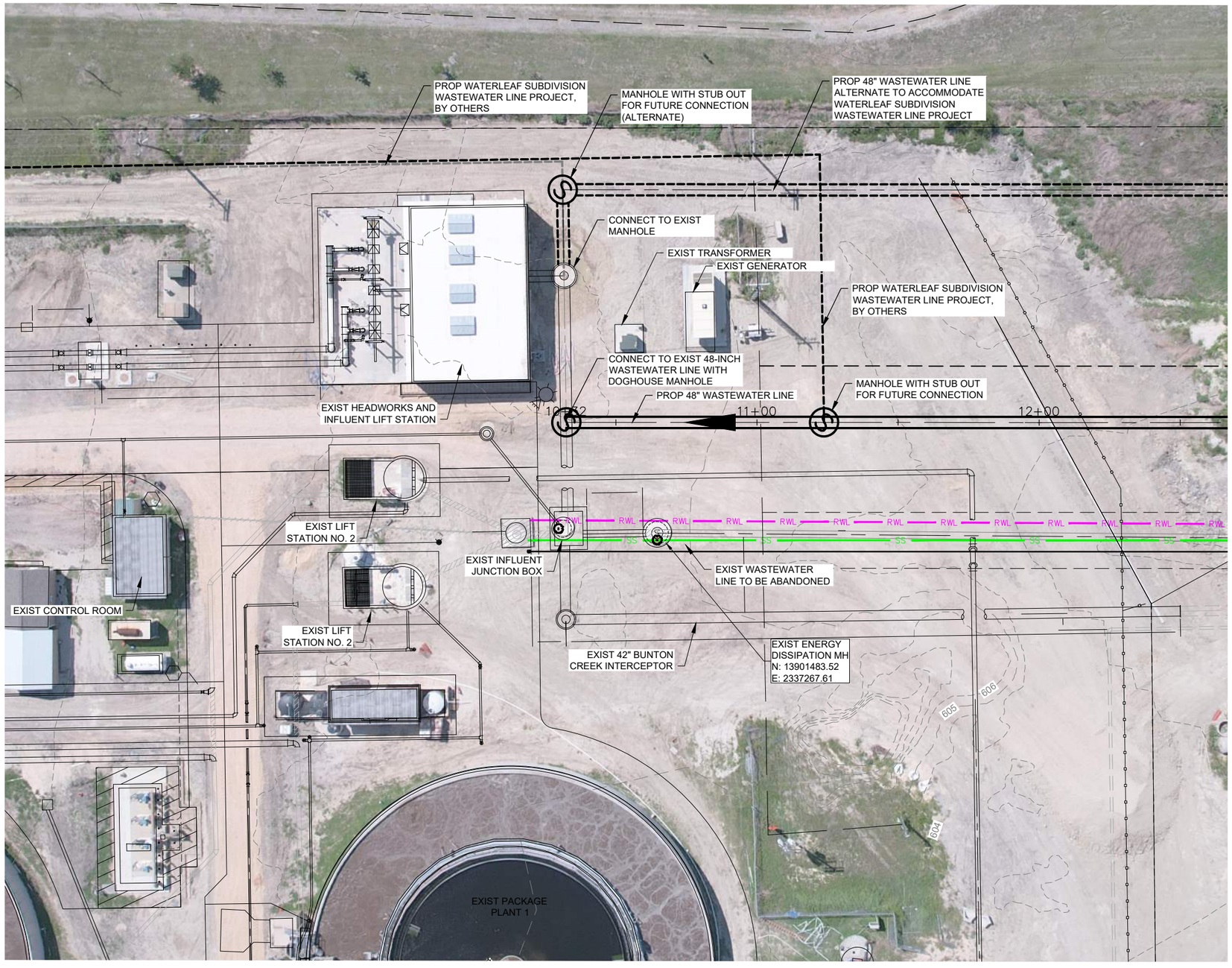
CP&Y recommends alignment alternative AA-3, a new 48-inch line that parallels the existing 30-inch line to the south. This alignment alternative will involve abandoning the existing 30-inch wastewater line and 8-inch reclaimed water line in place. The new 48-inch will generally follow the same alignment as the existing 30-inch, but on the south to provide a greater separation from Plum Creek and environmentally sensitive areas. An alignment exhibit of the recommended alternative is presented in **Exhibit 2**. The new alignment would minimize the proposed permanent easement needs between 15 and 35 feet by reducing the offset to 20 feet between the proposed 48-inch interceptor and the abandoned interceptor line and thus reducing the overall impact to surrounding areas.

Alignment alternative AA-3 will be designed as one project but split into two (2) phases for bidding and construction. Phase 1 is downstream of the manhole located off Twin Cove and runs to the WWTP to the south. Phase 2 is upstream of the manhole located off Twin Cove and runs to the south end of the North Trails Interceptor Improvements project to the north. The delineation of Phases 1 and 2 is shown in **Exhibit 2**. The preliminary OPCC for Phase 1 is $11,543,300 and the OPCC for Phase 2 is $7,072,200. These prices include all major components of the project, an 8% inflation factor, and a 30% contingency. OPCCs for the phases are presented in **Appendix F**.

12.3 Method of Construction Recommendation

Based on an evaluation of the advantages and disadvantages of each construction method, CP&Y recommends Open-Cut construction for the wastewater line in areas that allow sufficient access and trenchless installations by boring in areas with restricted construction access and when making crossings under Plum Creek, or existing petroleum pipelines. Further evaluation of the presence of wetlands may result in additional portions of the pipeline being installed using trenchless methods. The reclaimed water line will likely be open cut for the entire length given the smaller diameter and shallower depth compared to the wastewater line.

Exhibit 1 – Alternative Tie-in Options at the WWTP



N

0 20 40

SCALE IN FEET

LEGEND

- 100-YR FLOODPLAIN — 100 YR
- EXIST PROPERTY LINE
- EXIST EASEMENT
- PROPOSED EASEMENT
- PARK TRAIL
- EXIST GAS — GAS
- EXIST WATER LINE — W
- EXIST WASTEWATER LINE — SS
- EXIST RECYCLED WATER LINE — RWL
- PROPOSED RECYCLE WATER LINE
- PROPOSED WASTEWATER LINE

CP&Y, an STV Company
TEXAS REGISTERED ENGINEERING FIRM
TBPE F-1741

CITY OF KYLE

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AUGUST 2022
RYAN D. OWEN
P.E. NO. 109586

NO.	REVISION	BY	DATE

VERIFY SCALE BAR LENGTH EQUALS ONE INCH ON ORIGINAL DRAWING. VERIFY LENGTH ON THIS SHEET AND ADJUST SCALE ACCORDINGLY.
0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR
PHASE 1 & 2

EXHIBIT
PROPOSED 48" INTERCEPTOR
CONNECTION TO WWTP

DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
1.1

PRINTED BY: gmilks DATE: 8/9/2022
FILE PATH: C:\pwworking\cpy\pw_cpy\gmilks\d0898087\2000707_C-SP-GIS.dwg

Exhibit 2 – Preferred Alternative Plan Set

TIE IN TO NORTH TRAILS
INTERCEPTOR LINE

STA 70+25 TO STA 111+11
PROPOSED 48" WWTP
INTERCEPTOR LINE (AA-3)
PHASE 2

PHASE 1 AND PHASE 2
DELINEATION POINT LOCATED
AT MANHOLE AT STA 70+25.21

STA 10+32 TO STA 70+25
PROPOSED 48" WWTP
INTERCEPTOR LINE (AA-3)
PHASE 1

EXISTING 30" WWTP
INTERCEPTOR LINE AND 8"
RECYCLED WATER LINE TO
BE ABANDONED IN PLACE

STA: 49+05.77
END: CONTINUOUS BYPASS PUMPING
REMOVE EXISTING 30" WWL
AND REPLACE WITH 48" WWL
AS NEEDED TO FACILITATE CONSTRUCTION

EXISTING 30" WWTP
INTERCEPTOR LINE AND 8"
RECYCLED WATER LINE TO
BE ABANDONED IN PLACE

STA: 38+09.85
BEGIN: CONTINUOUS BYPASS PUMPING
REMOVE EXISTING 30" WWL
AND REPLACE WITH 48" WWL
AS NEEDED TO FACILITATE CONSTRUCTION

TIE IN AT CITY
OF KYLE WWTP

N

0 300 600

SCALE IN FEET

LEGEND

- 100-YR FLOODPLAIN — 100 YR —
- EXIST PROPERTY LINE
- PARK TRAIL
- EXISTING WASTEWATER LINE AND MANHOLE
- PROPOSED WASTEWATER LINE AND MANHOLE PHASE 1
- PROPOSED WASTEWATER LINE AND MANHOLE PHASE 2

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TBPE F-1741

CITY OF KYLE

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NO.	REVISION	BY	DATE

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0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR
PHASE 1 & 2

EXHIBIT
PROPOSED 48" WWTP INTERCEPTOR
OVERALL LAYOUT

DESIGN:	GWM
DRAWN:	GWM
REVIEW:	RDO
CP&Y:	
CLIENT:	

EXHIBIT
2.0

PRINTED BY: gmilks DATE: 8/9/2022
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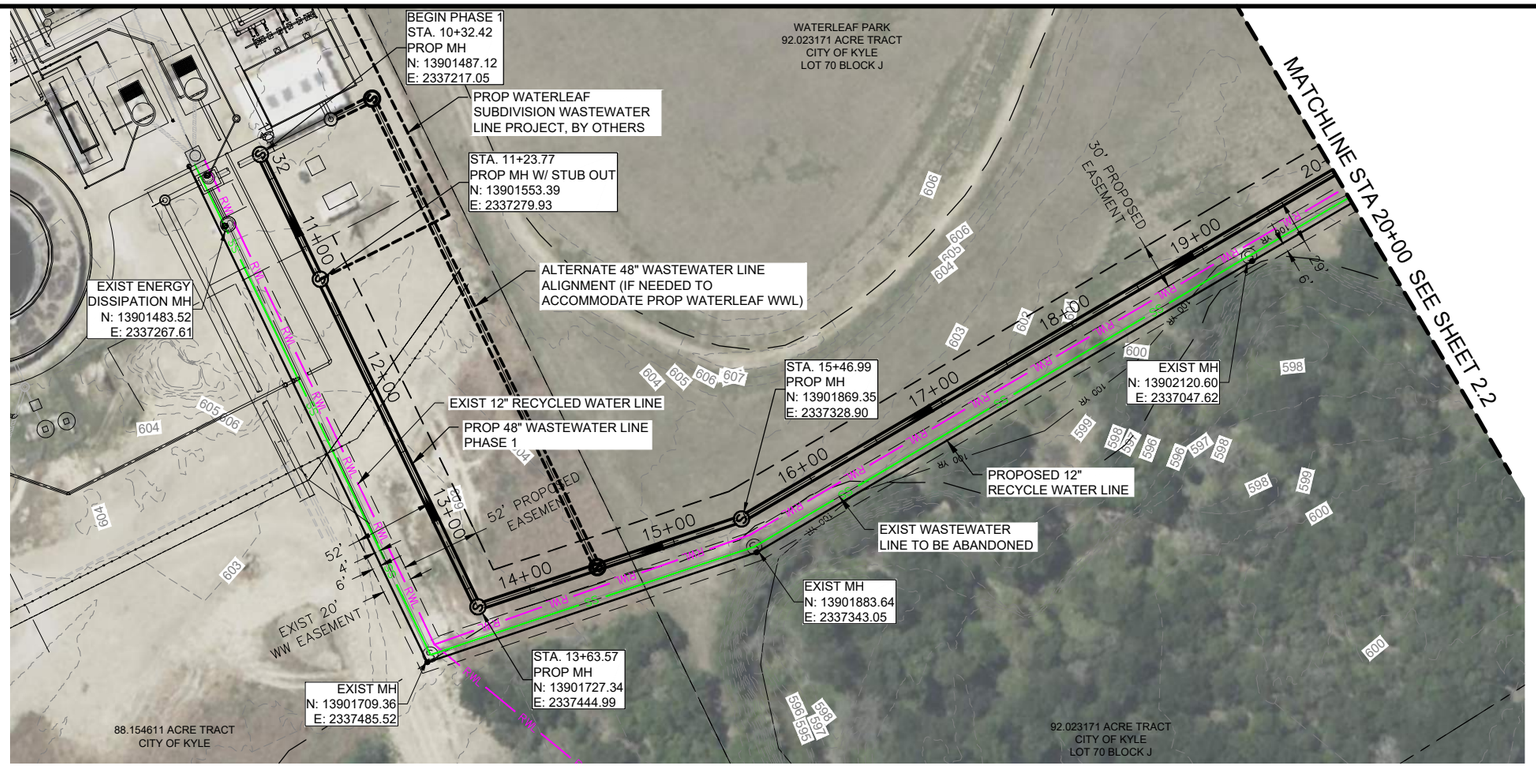
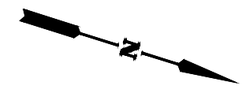
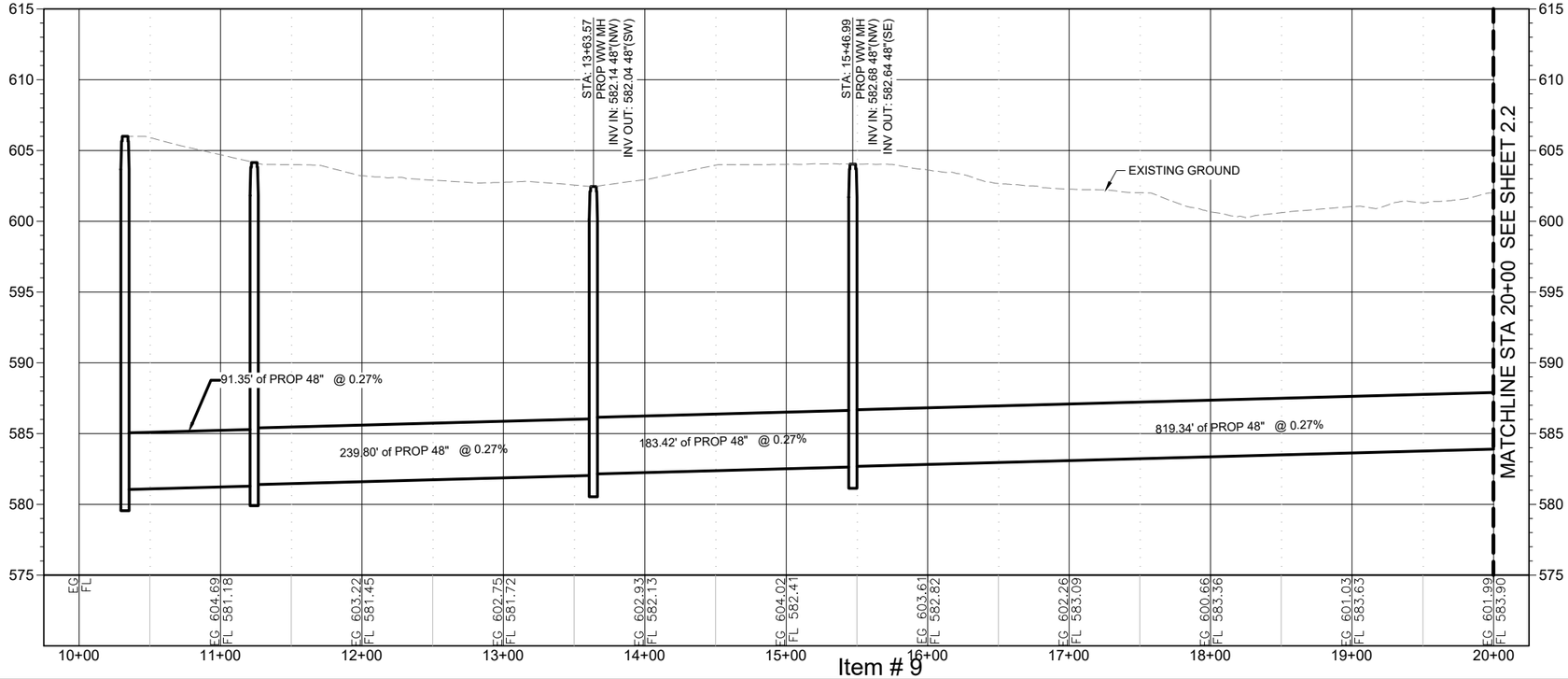




HORZ 0 50 100
VERT 0 5 10
SCALE IN FEET

LEGEND

- 100-YR FLOODPLAIN — 100 YR
- EXIST PROPERTY LINE
- EXIST EASEMENT
- PROPOSED EASEMENT
- PARK TRAIL
- EXIST GAS — GAS
- EXIST WATER LINE — W
- EXIST WASTEWATER LINE — SS
- EXIST RECYCLED WATER LINE — RWL
- PROPOSED RECYCLE WATER LINE
- PROPOSED WASTEWATER LINE



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0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR
PHASE 1 & 2

EXHIBIT
PROPOSED 48" WWTP INTERCEPTOR
STA 10+00 TO STA 20+00

DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
2.1

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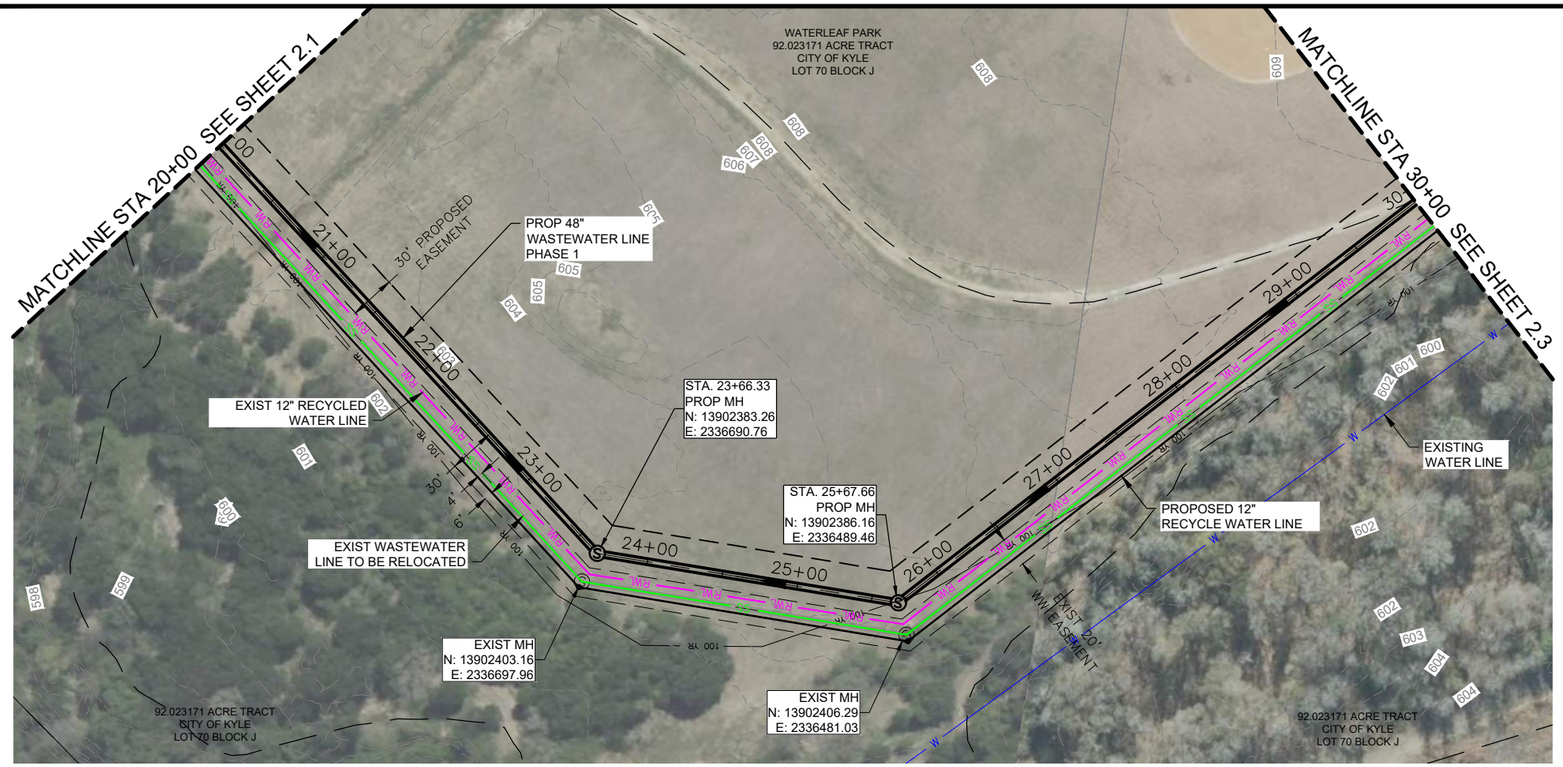

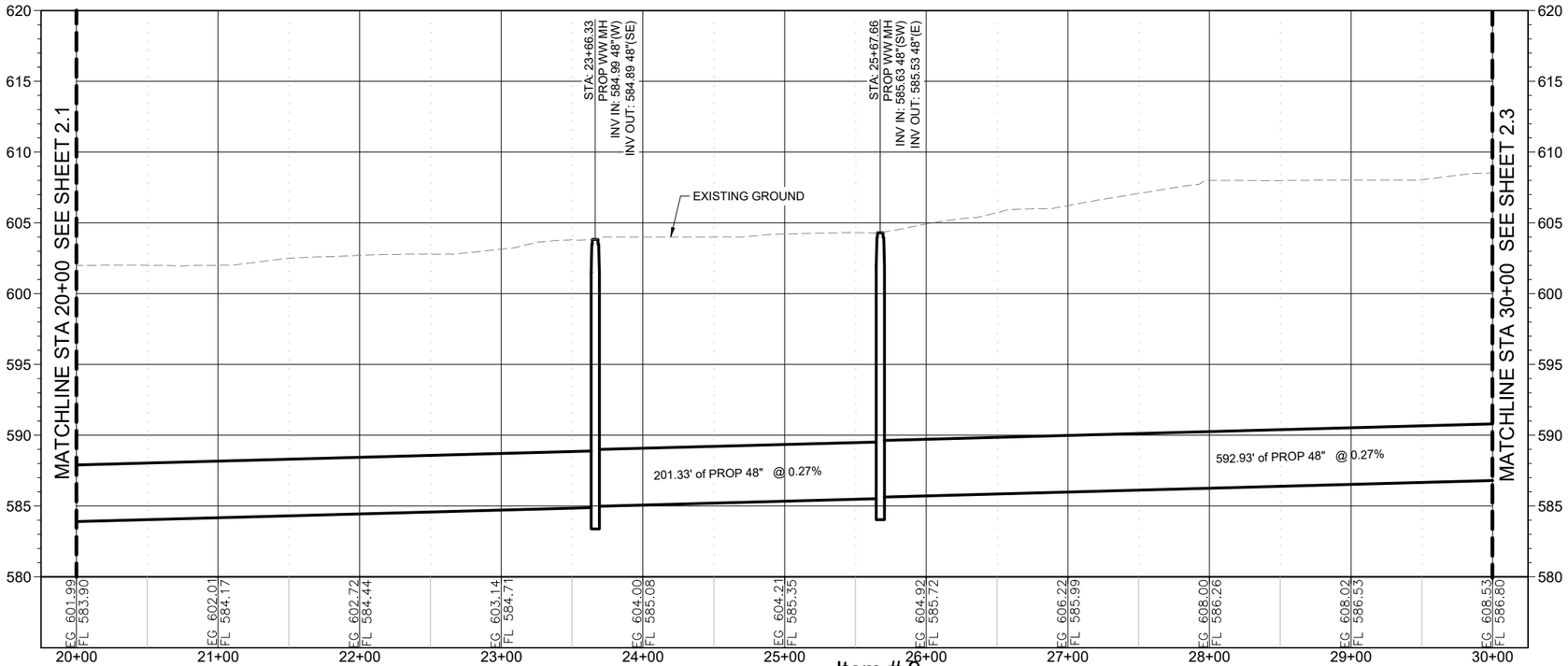

HORZ 0 50 100
VERT 0 5 10
SCALE IN FEET

LEGEND

- 100-YR FLOODPLAIN — 100 YR
- EXIST PROPERTY LINE
- EXIST EASEMENT
- PROPOSED EASEMENT
- PARK TRAIL
- EXIST GAS — GAS
- EXIST WATER LINE — W
- EXIST WASTEWATER LINE — SS
- EXIST RECYCLED WATER LINE — RWL
- PROPOSED RECYCLE WATER LINE
- PROPOSED WASTEWATER LINE

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0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR
PHASE 1 & 2

EXHIBIT
PROPOSED 48" WWTP INTERCEPTOR
STA 20+00 TO STA 30+00

DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
2.2

PRINTED BY: gmilks DATE: 8/9/2022
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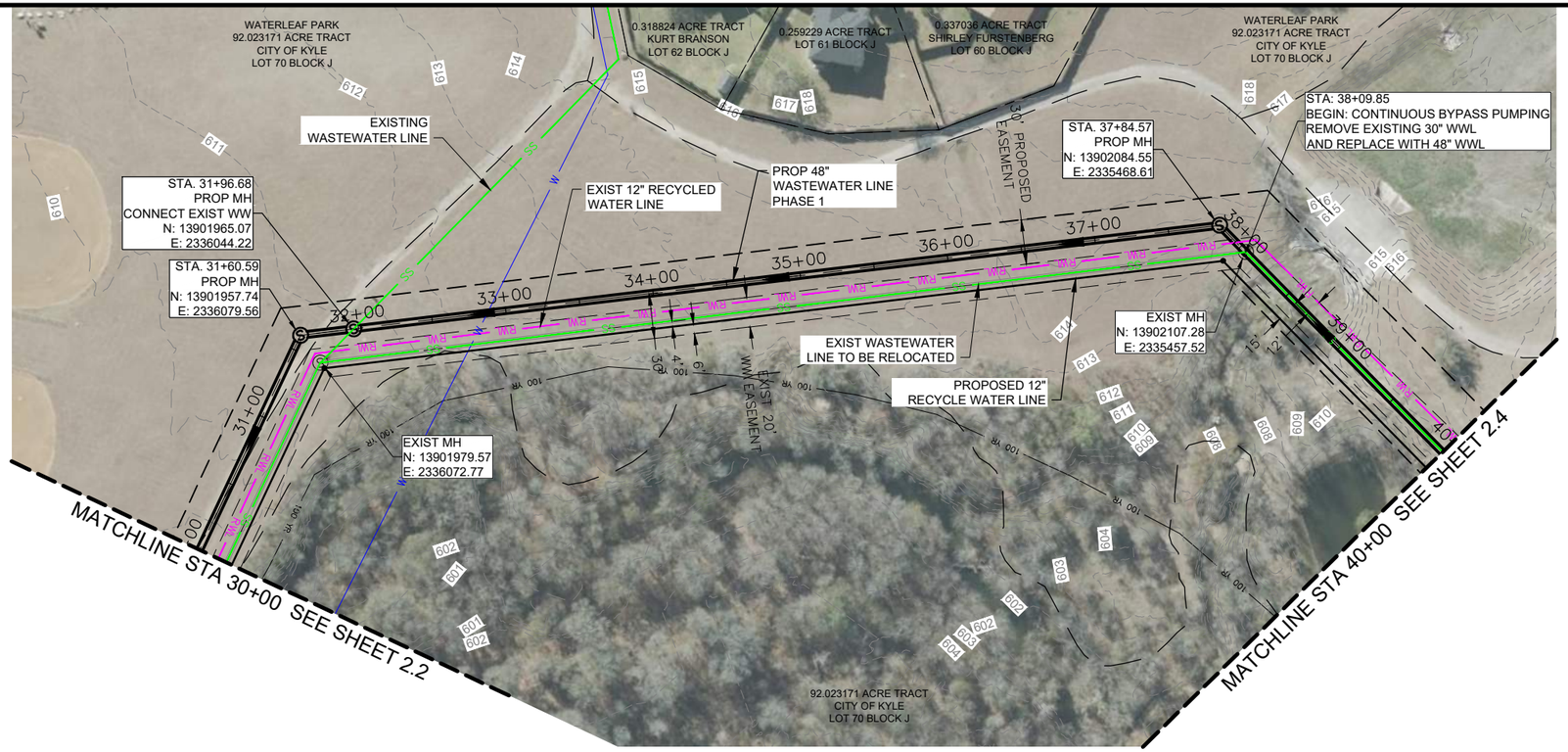
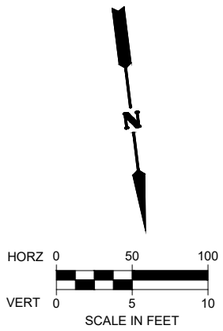
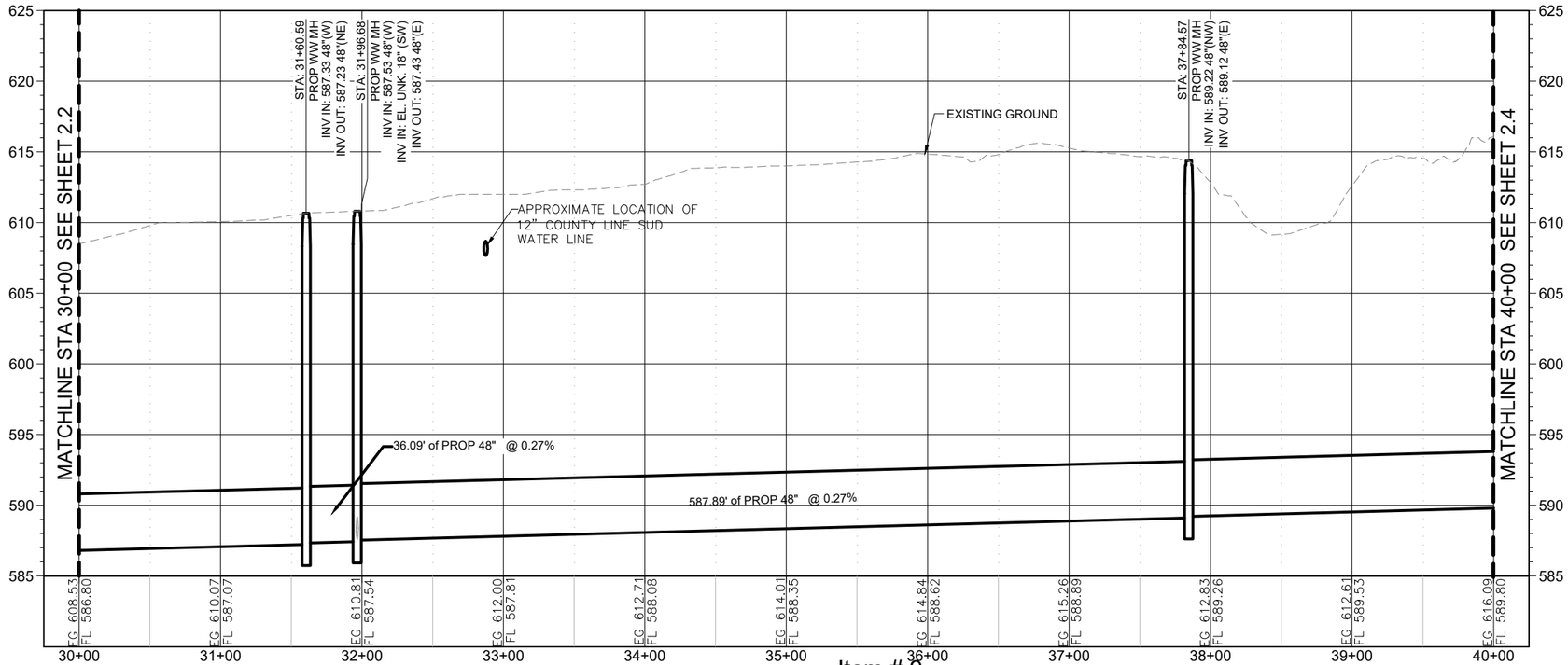




LEGEND

- 100-YR FLOODPLAIN
- EXIST PROPERTY LINE
- EXIST EASEMENT
- PROPOSED EASEMENT
- PARK TRAIL
- EXIST GAS
- EXIST WATER LINE
- EXIST WASTEWATER LINE
- EXIST RECYCLED WATER LINE
- PROPOSED RECYCLE WATER LINE
- PROPOSED WASTEWATER LINE



Item # 9

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0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR
PHASE 1 & 2

EXHIBIT
PROPOSED 48" WWTP INTERCEPTOR
STA 30+00 TO STA 40+00

DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
2.3

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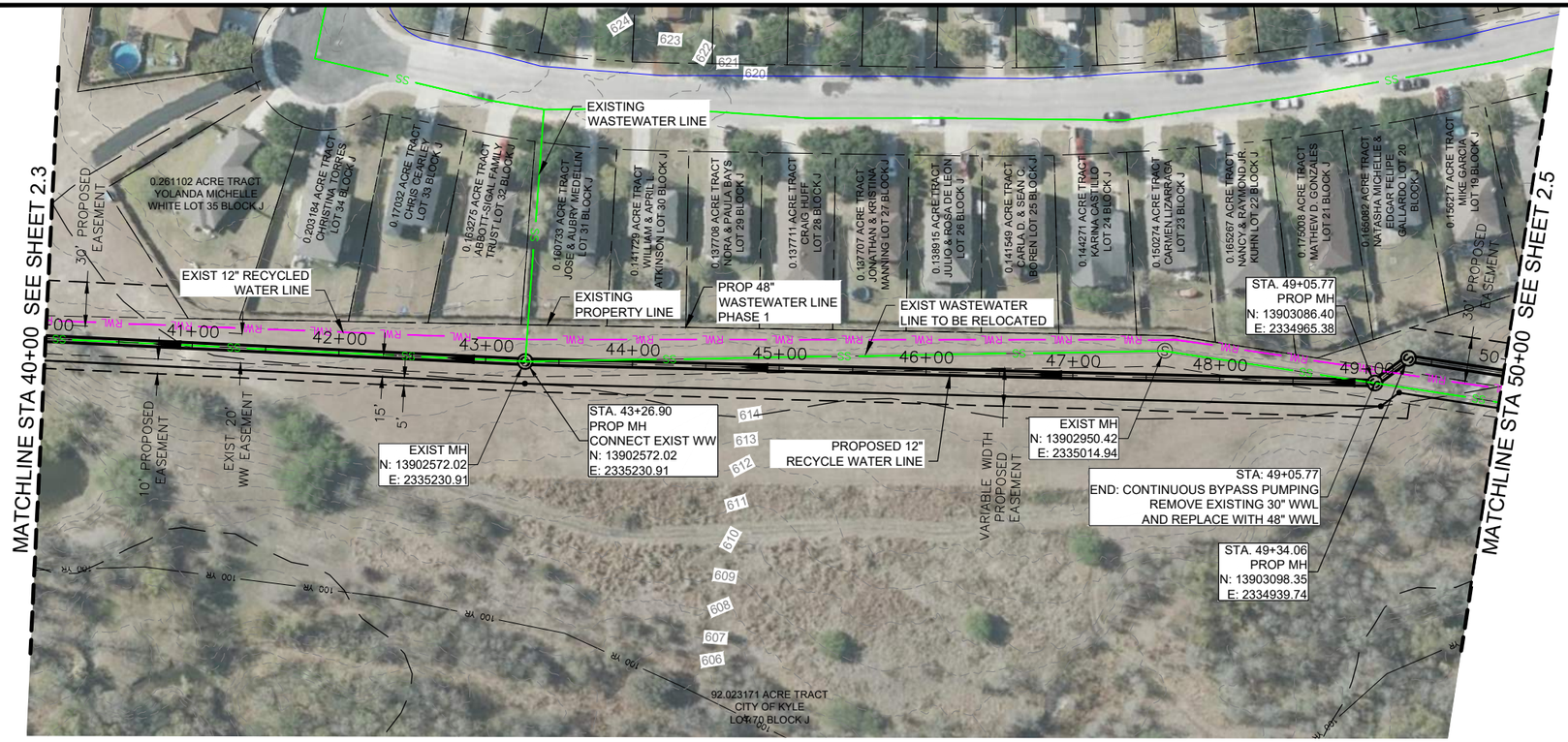
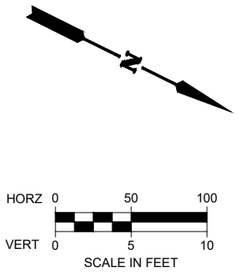
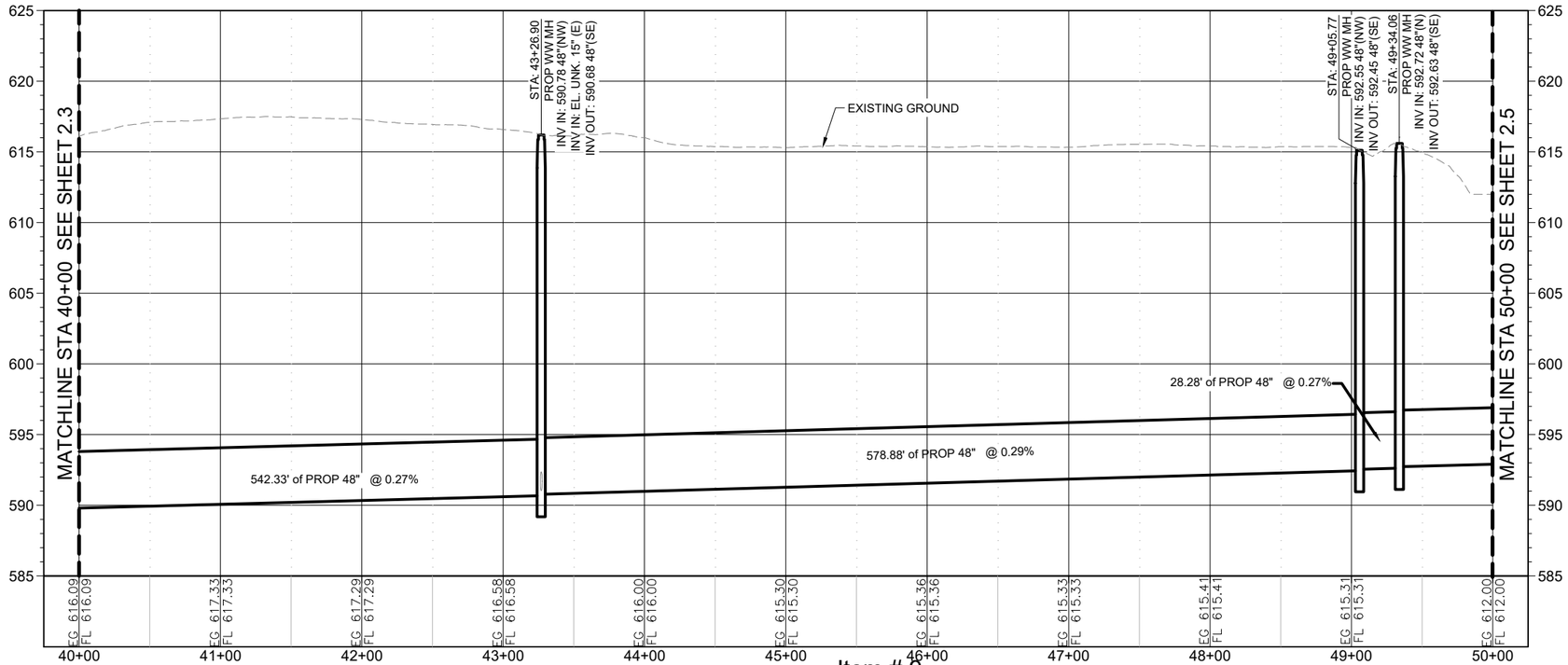




LEGEND

- 100-YR FLOODPLAIN — 100 YR
- EXIST PROPERTY LINE
- EXIST EASEMENT
- PROPOSED EASEMENT
- PARK TRAIL
- EXIST GAS — GAS
- EXIST WATER LINE — W
- EXIST WASTEWATER LINE — SS
- EXIST RECYCLED WATER LINE — RWL
- PROPOSED RECYCLE WATER LINE
- PROPOSED WASTEWATER LINE



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0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR PHASE 1 & 2

EXHIBIT
PROPOSED 48" WWTP INTERCEPTOR STA 40+00 TO STA 50+00

DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
2.4

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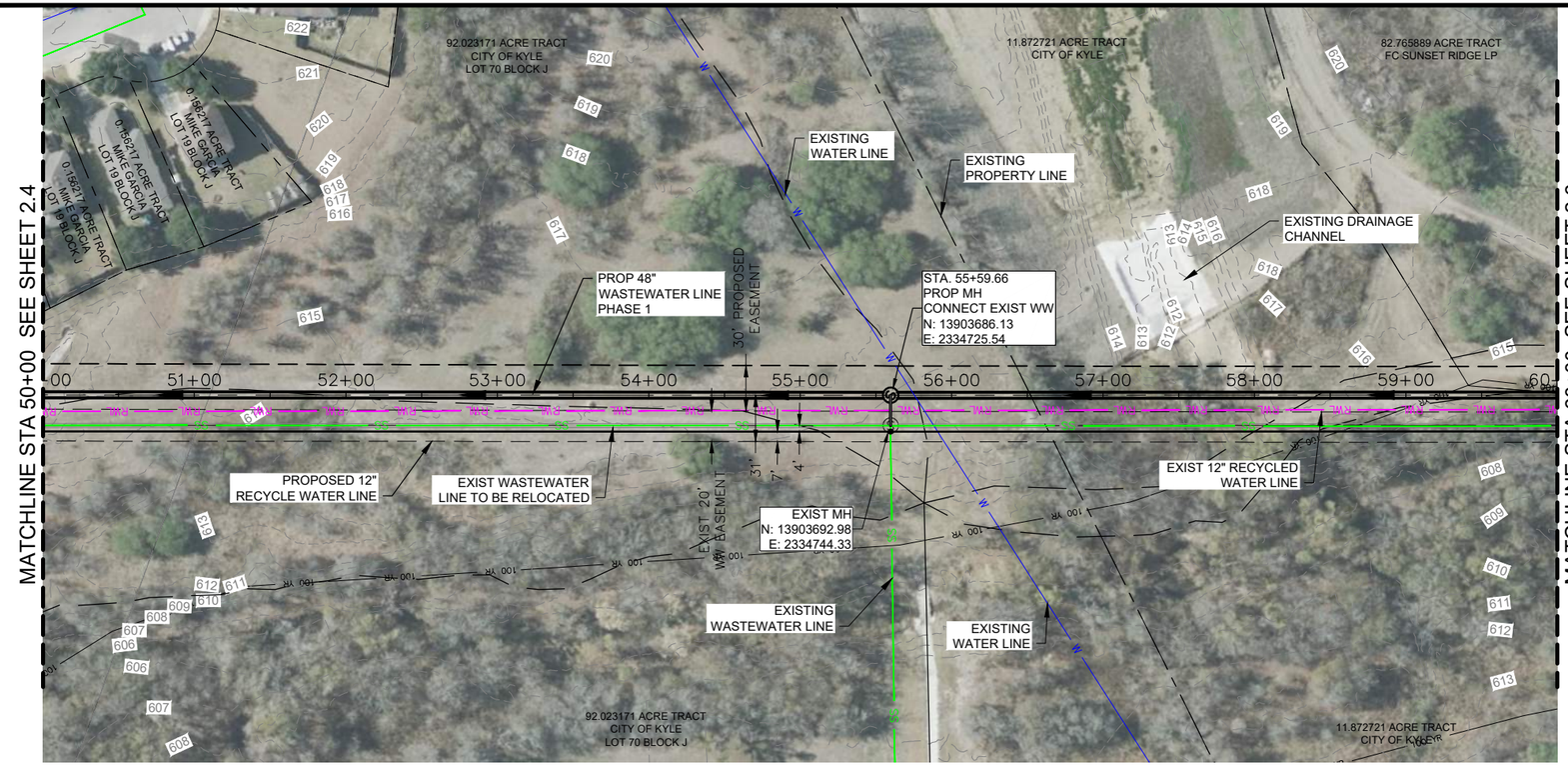

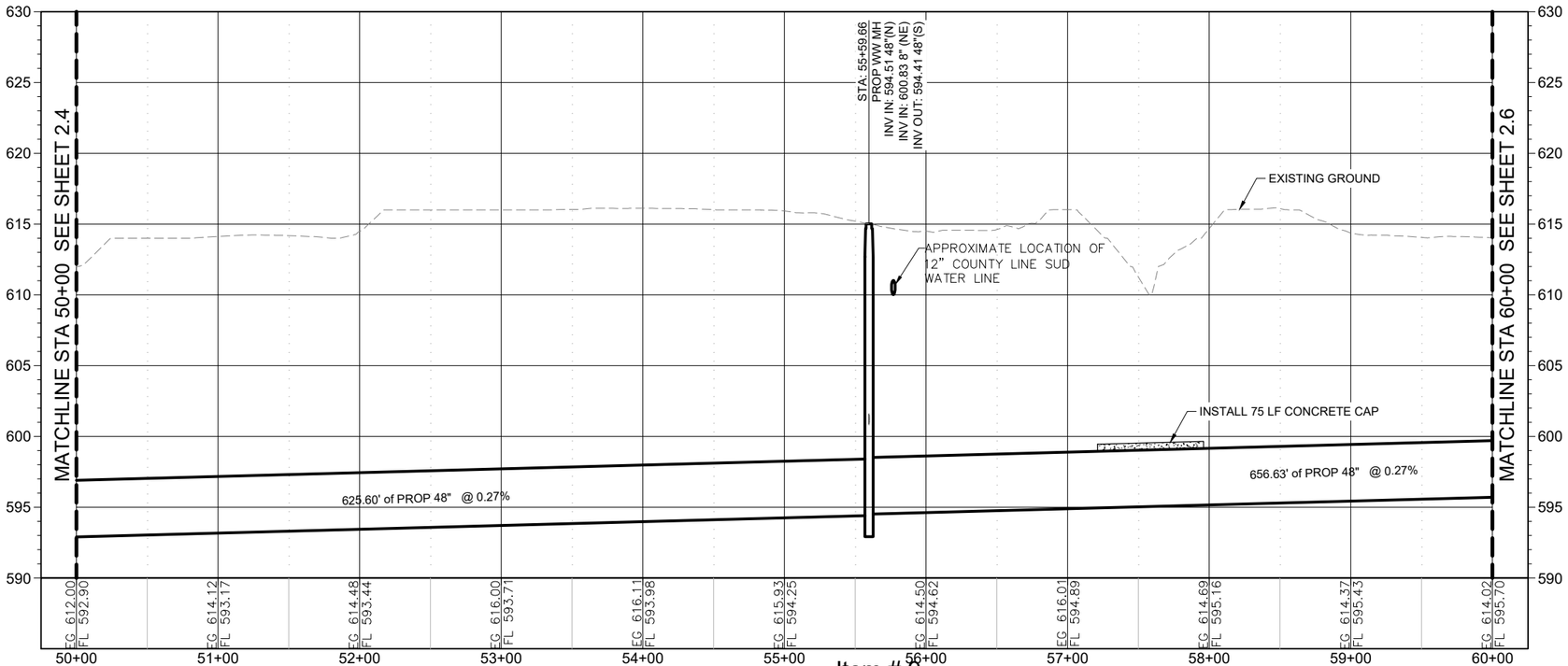

HORZ 0 50 100
VERT 0 5 10
SCALE IN FEET

LEGEND

- 100-YR FLOODPLAIN — 100 YR
- EXIST PROPERTY LINE
- EXIST EASEMENT
- PROPOSED EASEMENT
- PARK TRAIL
- EXIST GAS — GAS
- EXIST WATER LINE — W
- EXIST WASTEWATER LINE — SS
- EXIST RECYCLED WATER LINE — RWL
- PROPOSED RECYCLE WATER LINE
- PROPOSED WASTEWATER LINE

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0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR
PHASE 1 & 2

EXHIBIT
PROPOSED 48" WWTP INTERCEPTOR
STA 50+00 TO STA 60+00

DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
2.5

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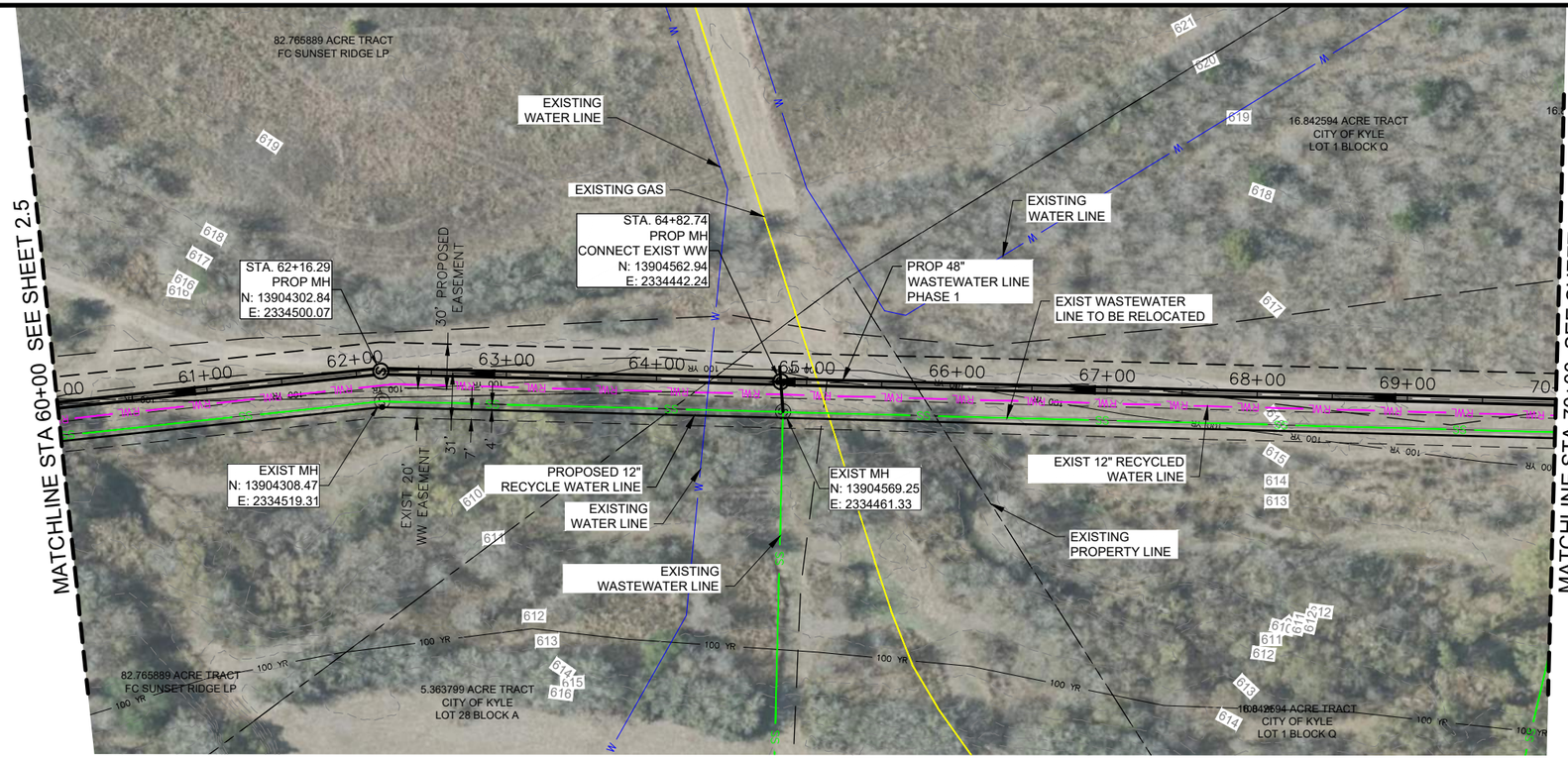
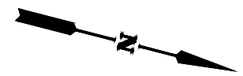
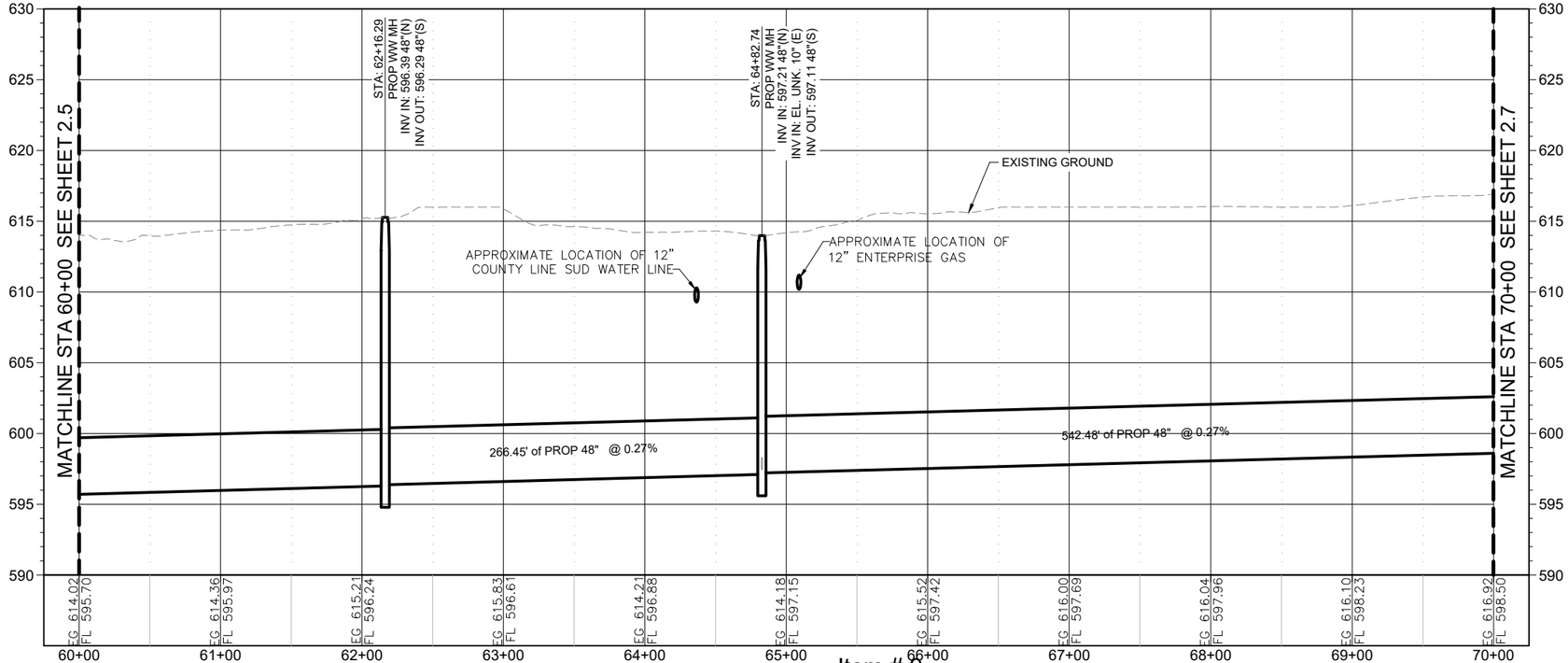




HORZ 0 50 100
VERT 0 5 10
SCALE IN FEET

LEGEND

- 100-YR FLOODPLAIN — 100 YR
- EXIST PROPERTY LINE
- EXIST EASEMENT
- PROPOSED EASEMENT
- PARK TRAIL
- EXIST GAS — GAS
- EXIST WATER LINE — W
- EXIST WASTEWATER LINE — S SS
- EXIST RECYCLED WATER LINE — RWL
- PROPOSED RECYCLE WATER LINE
- PROPOSED WASTEWATER LINE — S



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0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR
PHASE 1 & 2

EXHIBIT
PROPOSED 48" WWTP INTERCEPTOR
STA 60+00 TO STA 70+00

DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
2.6

PRINTED BY: gmilks DATE: 8/9/2022
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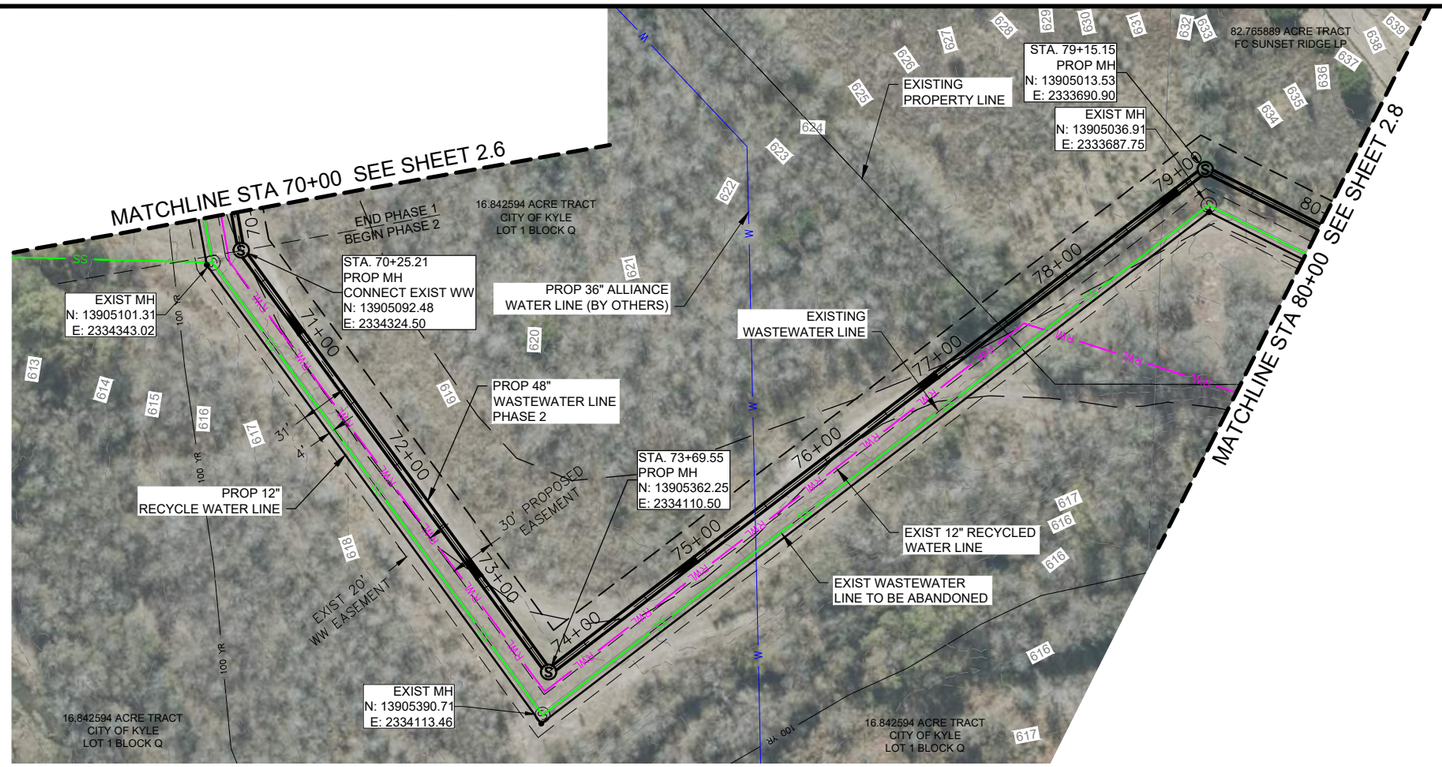
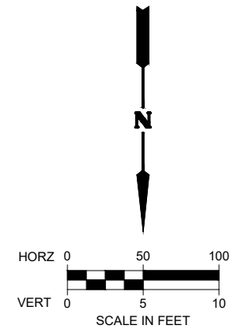
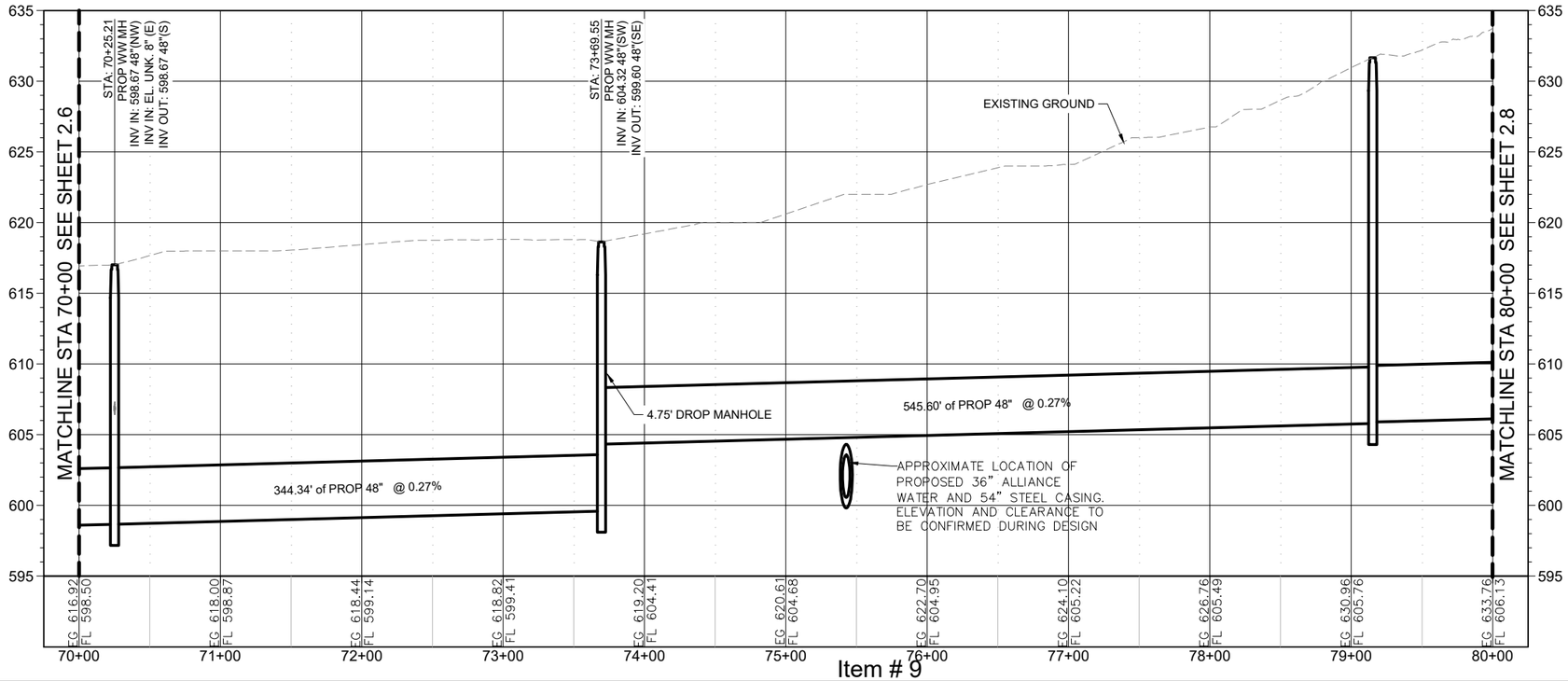




LEGEND

- 100-YR FLOODPLAIN
- EXIST PROPERTY LINE
- EXIST EASEMENT
- PROPOSED EASEMENT
- PARK TRAIL
- EXIST GAS
- EXIST WATER LINE
- EXIST WASTEWATER LINE
- EXIST RECYCLED WATER LINE
- PROPOSED RECYCLE WATER LINE
- PROPOSED WASTEWATER LINE



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0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR
PHASE 1 & 2

EXHIBIT
PROPOSED 48" WWTP INTERCEPTOR
STA 70+00 TO STA 80+00

DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
2.7

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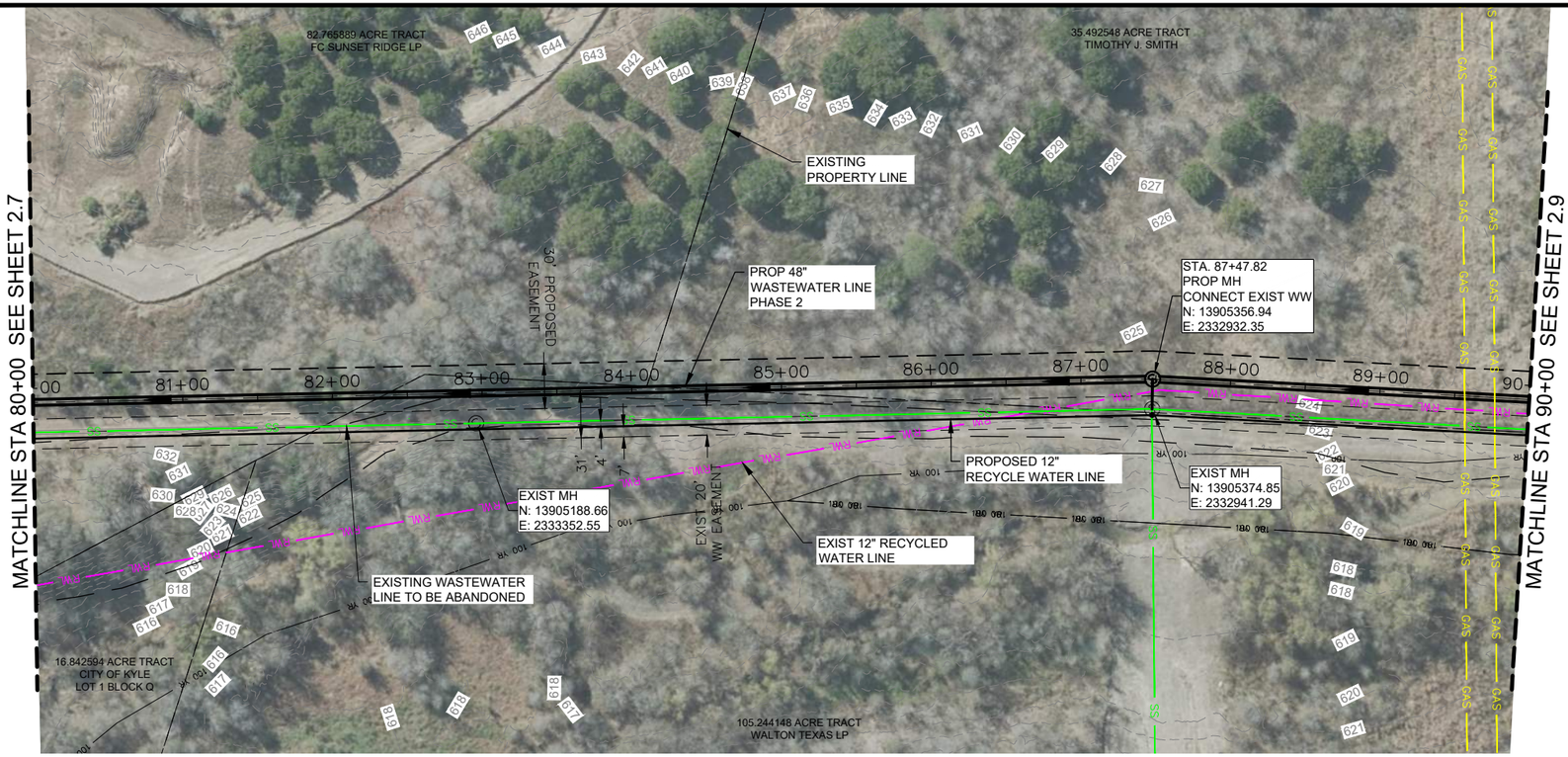
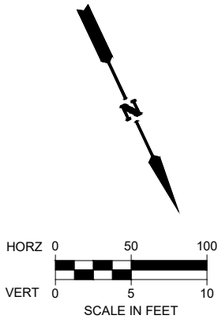
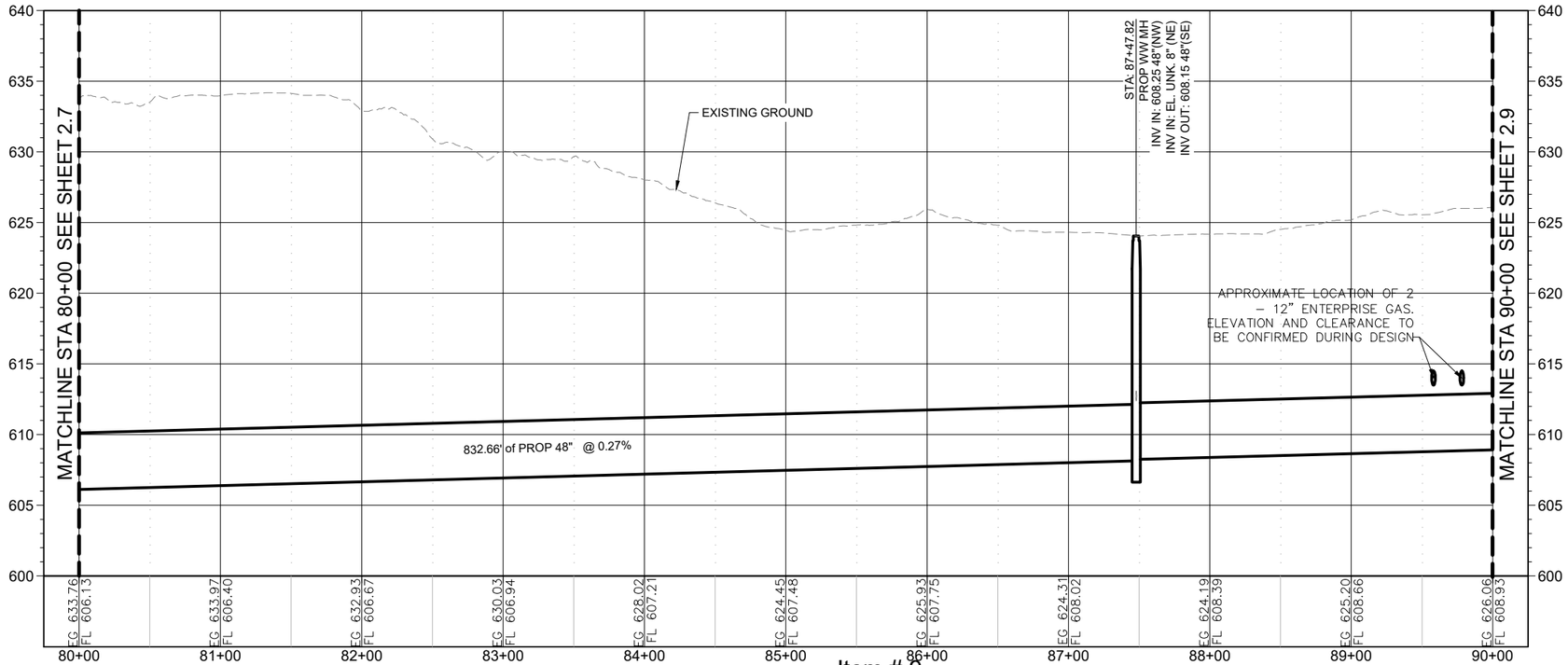




LEGEND

- 100-YR FLOODPLAIN
- EXIST PROPERTY LINE
- EXIST EASEMENT
- PROPOSED EASEMENT
- PARK TRAIL
- EXIST GAS
- EXIST WATER LINE
- EXIST WASTEWATER LINE
- EXIST RECYCLED WATER LINE
- PROPOSED RECYCLE WATER LINE
- PROPOSED WASTEWATER LINE



CP&Y
an STV Company
TEXAS REGISTERED ENGINEERING FIRM
TBPE F-1741

CITY OF KYLE

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AUGUST 2022

RYAN D. OWEN
P.E. NO. 109586

NO.	REVISION	BY	DATE

VERIFY SCALE BAR LENGTH EQUALS ONE INCH ON ORIGINAL DRAWING. VERIFY LENGTH ON THIS SHEET AND ADJUST SCALE ACCORDINGLY.

0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR
PHASE 1 & 2

EXHIBIT
PROPOSED 48" WWTP INTERCEPTOR
STA 80+00 TO STA 90+00

DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
2.8

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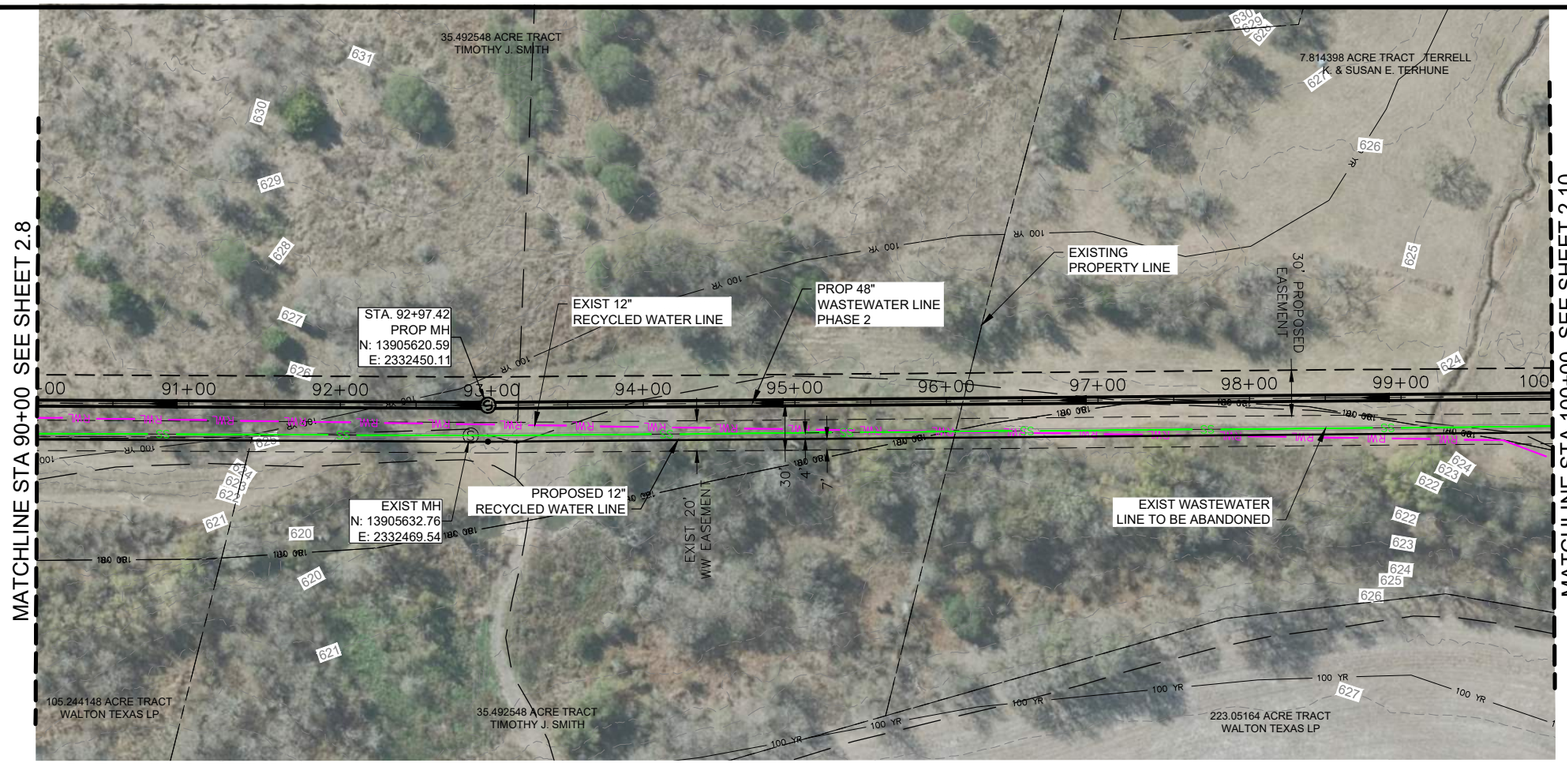
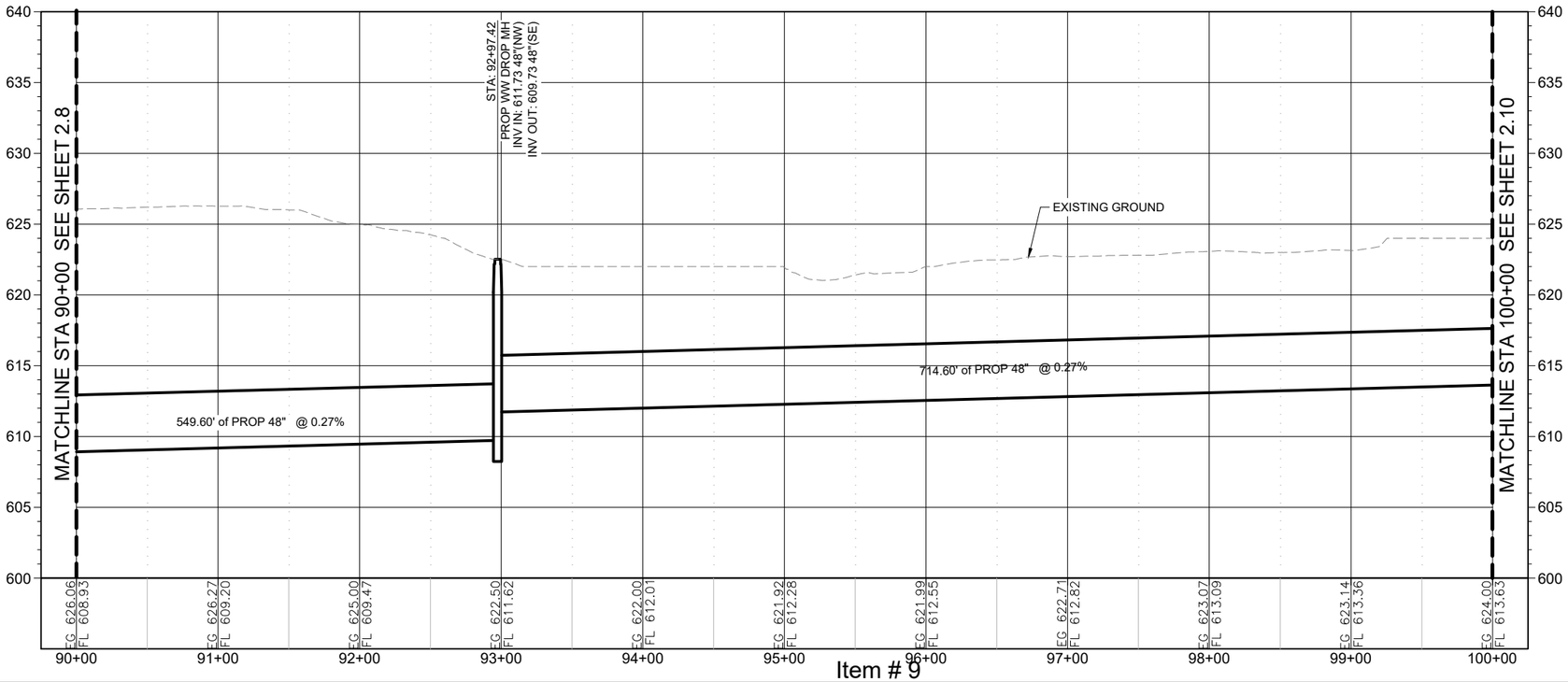


HORZ 0 50 100
VERT 0 5 10
SCALE IN FEET

LEGEND

- 100-YR FLOODPLAIN
- EXIST PROPERTY LINE
- EXIST EASEMENT
- PROPOSED EASEMENT
- PARK TRAIL
- EXIST GAS
- EXIST WATER LINE
- EXIST WASTEWATER LINE
- EXIST RECYCLED WATER LINE
- PROPOSED RECYCLE WATER LINE
- PROPOSED WASTEWATER LINE



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CITY OF KYLE

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AUGUST 2022
RYAN D. OWEN
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NO.	REVISION	BY	DATE

VERIFY SCALE BAR LENGTH EQUALS ONE INCH ON ORIGINAL DRAWING. VERIFY LENGTH ON THIS SHEET AND ADJUST SCALE ACCORDINGLY.
0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR
PHASE 1 & 2

EXHIBIT
PROPOSED 48" WWTP INTERCEPTOR
STA 900+00 TO STA 1000+00

DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
2.9

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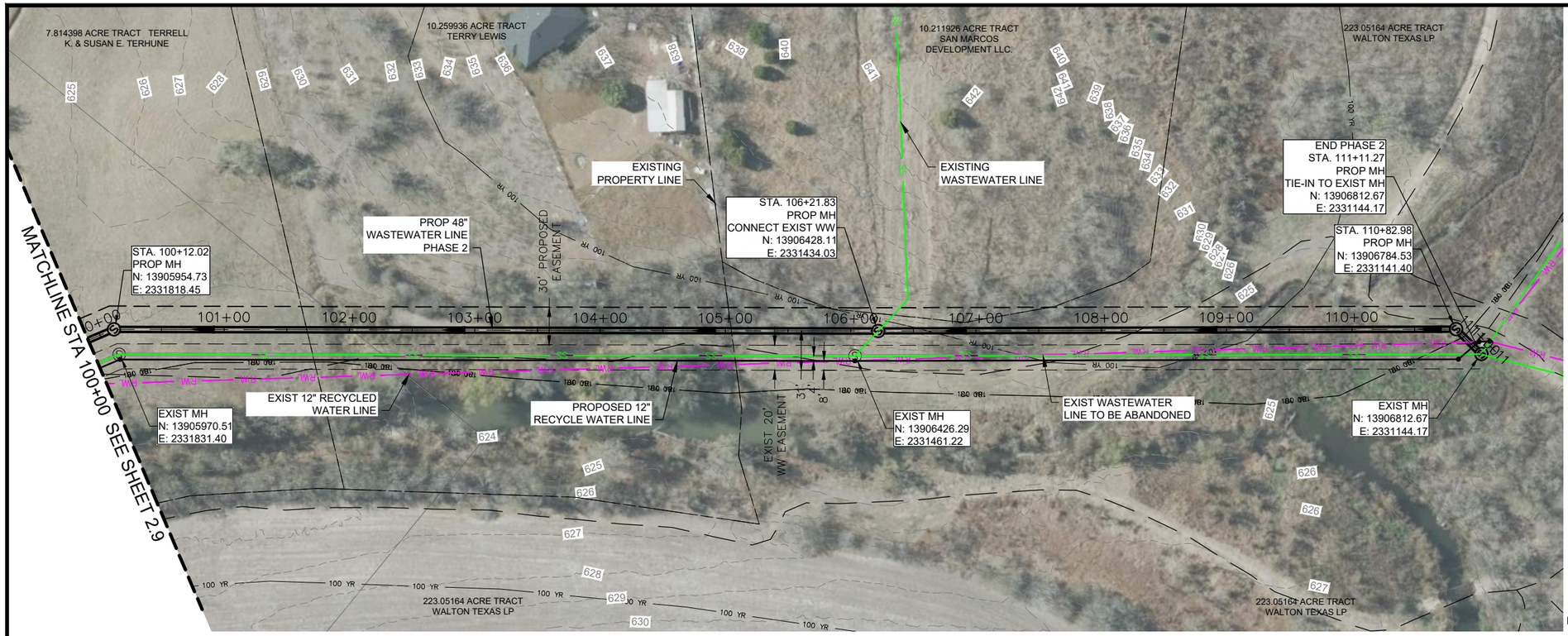

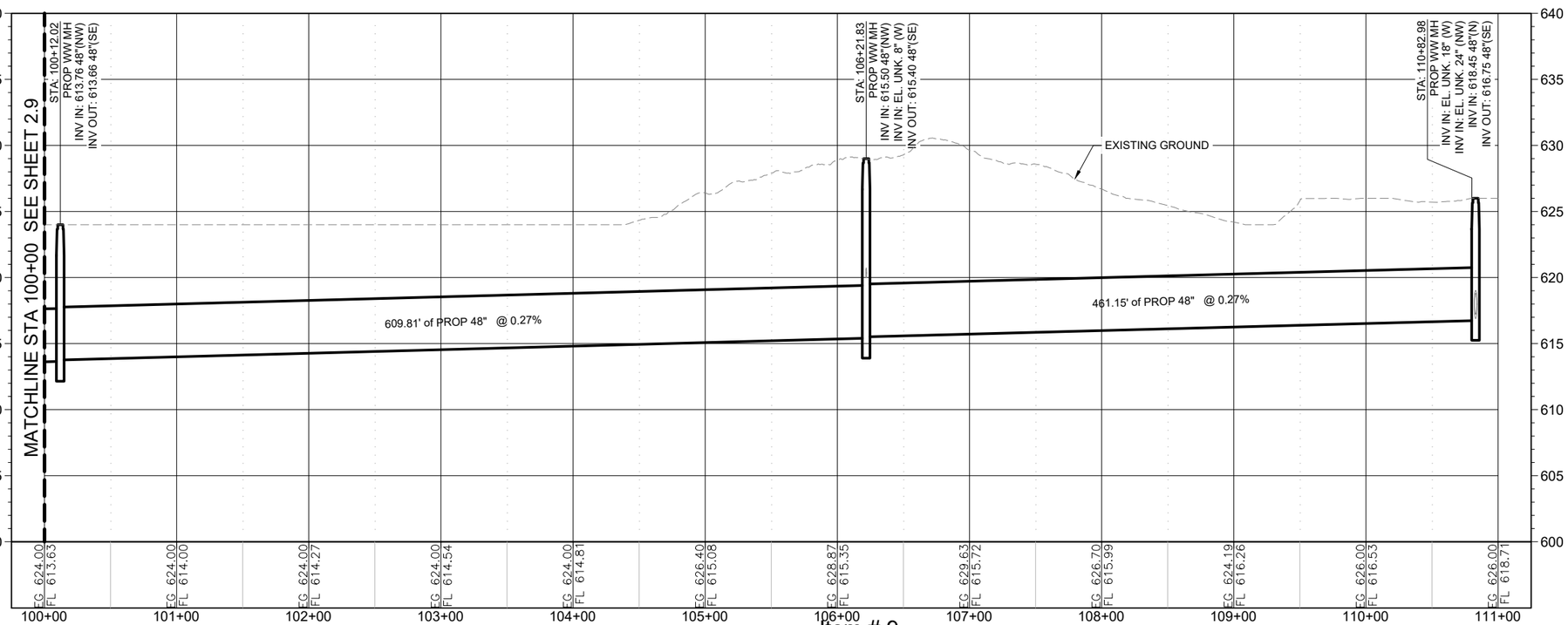

HORZ 0 50 100
VERT 0 5 10
SCALE IN FEET

LEGEND

- 100-YR FLOODPLAIN — 100 YR
- EXIST PROPERTY LINE
- EXIST EASEMENT
- PROPOSED EASEMENT
- PARK TRAIL
- EXIST GAS — GAS
- EXIST WATER LINE — W
- EXIST WASTEWATER LINE — SS
- EXIST RECYCLED WATER LINE — RWL
- PROPOSED RECYCLE WATER LINE
- PROPOSED WASTEWATER LINE

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NO.	REVISION	BY	DATE

VERIFY SCALE BAR LENGTH EQUALS ONE INCH ON ORIGINAL DRAWING. VERIFY LENGTH ON THIS SHEET AND ADJUST SCALE ACCORDINGLY.
0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR PHASE 1 & 2

EXHIBIT
PROPOSED 48" WWTP INTERCEPTOR STA 100+00 TO END

DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
2.10

PRINTED BY: gmilks DATE: 8/9/2022
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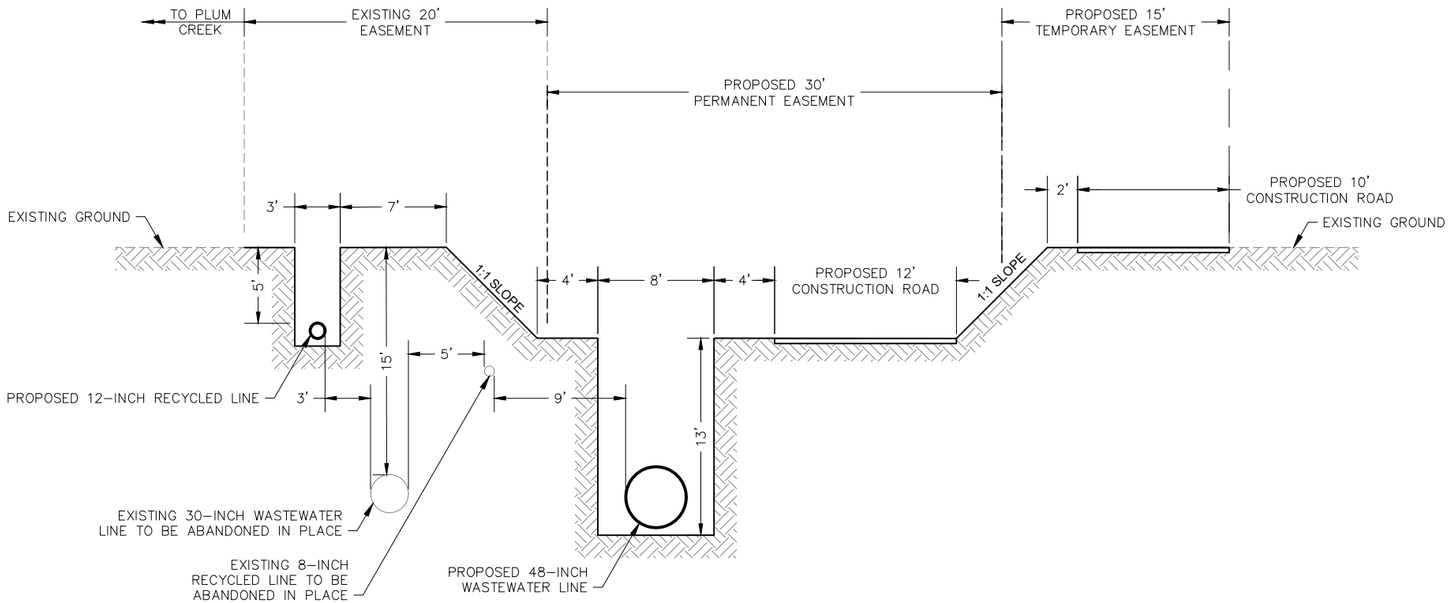
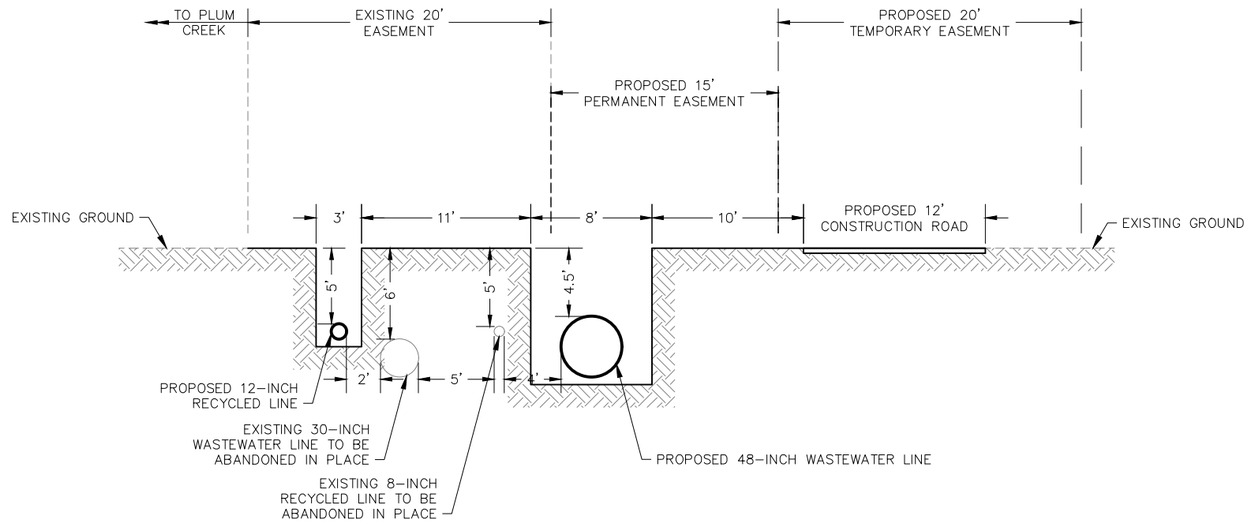
Exhibit 3 – Alignment Cross Section Alternatives



TIE-IN NEAR WWTP – ABANDON EXISTING (AA2 and AA3)

APPROX. STA 10+32 TO STA 37+85



TIE-IN NEAR NORTH TRAILS – ABANDON EXISTING (AA2 and AA3)

APPROX. STA 49+09 TO STA 111+11

PRINTED BY: gmilks DATE: 8/9/2022
FILE PATH: C:\pwworking\cpy\pw_cpy\gmilks\d0888087\2\00707_C-SP-GIS.dwg

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AUGUST 2022
RYAN D. OWEN
P.E. NO. 109586

NO.	REVISION	BY	DATE

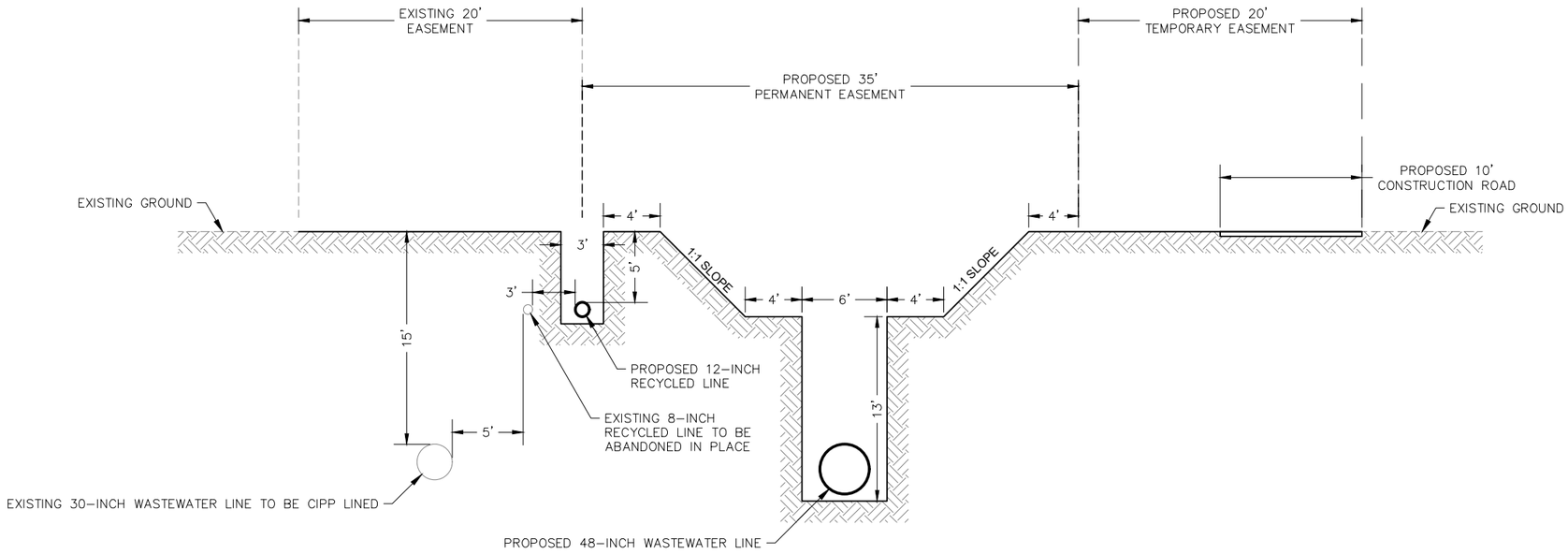
VERIFY SCALE BAR LENGTH EQUALS ONE INCH ON ORIGINAL DRAWING. VERIFY LENGTH ON THIS SHEET AND ADJUST SCALE ACCORDINGLY.
0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR PHASE 1 & 2

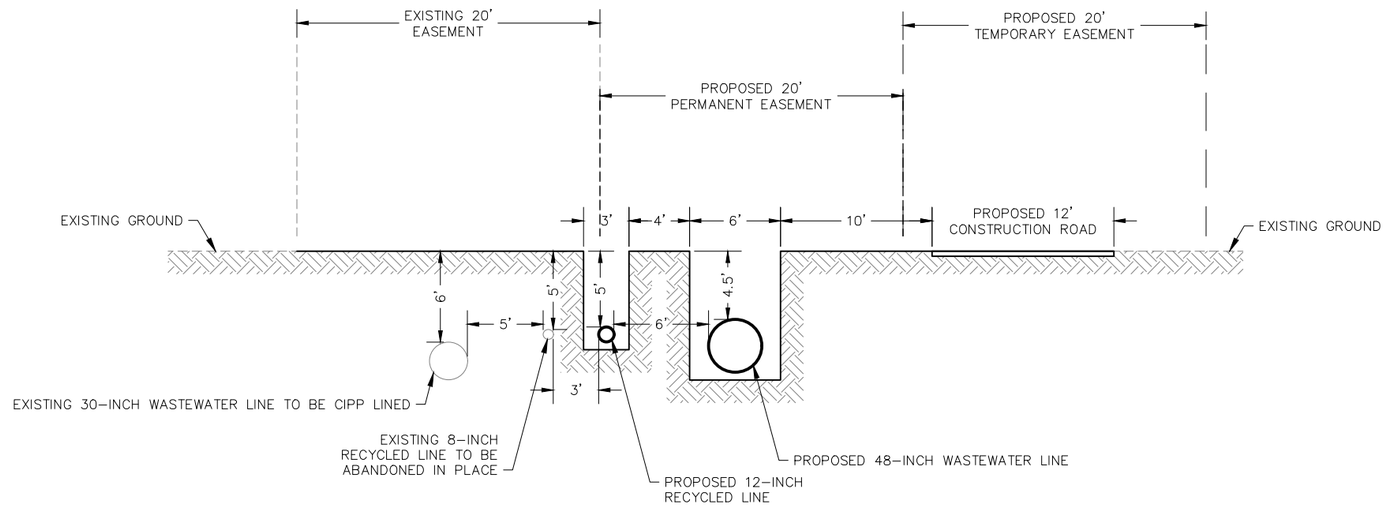
EXHIBIT
CROSS SECTION
ABANDON EXIST 30-IN WASTEWATER LINE

DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
3.1



TIE–IN NEAR WWTP – MAINTAIN EXISTING (AA4)



TIE–IN NEAR NORTH TRAILS – MAINTAIN EXISTING (AA4)

PRINTED BY: gmilks DATE: 8/9/2022
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CITY OF KYLE

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AUGUST 2022
RYAN D. OWEN
P.E. NO. 109586

NO.	REVISION	BY	DATE

VERIFY SCALE BAR LENGTH EQUALS ONE INCH ON ORIGINAL DRAWING. VERIFY LENGTH ON THIS SHEET AND ADJUST SCALE ACCORDINGLY.
0 1"

CITY OF KYLE
WASTEWATER TREATMENT PLANT INTERCEPTOR
PHASE 1 & 2

EXHIBIT
CROSS SECTION
MAINTAIN EXIST 30-IN WASTEWATER LINE

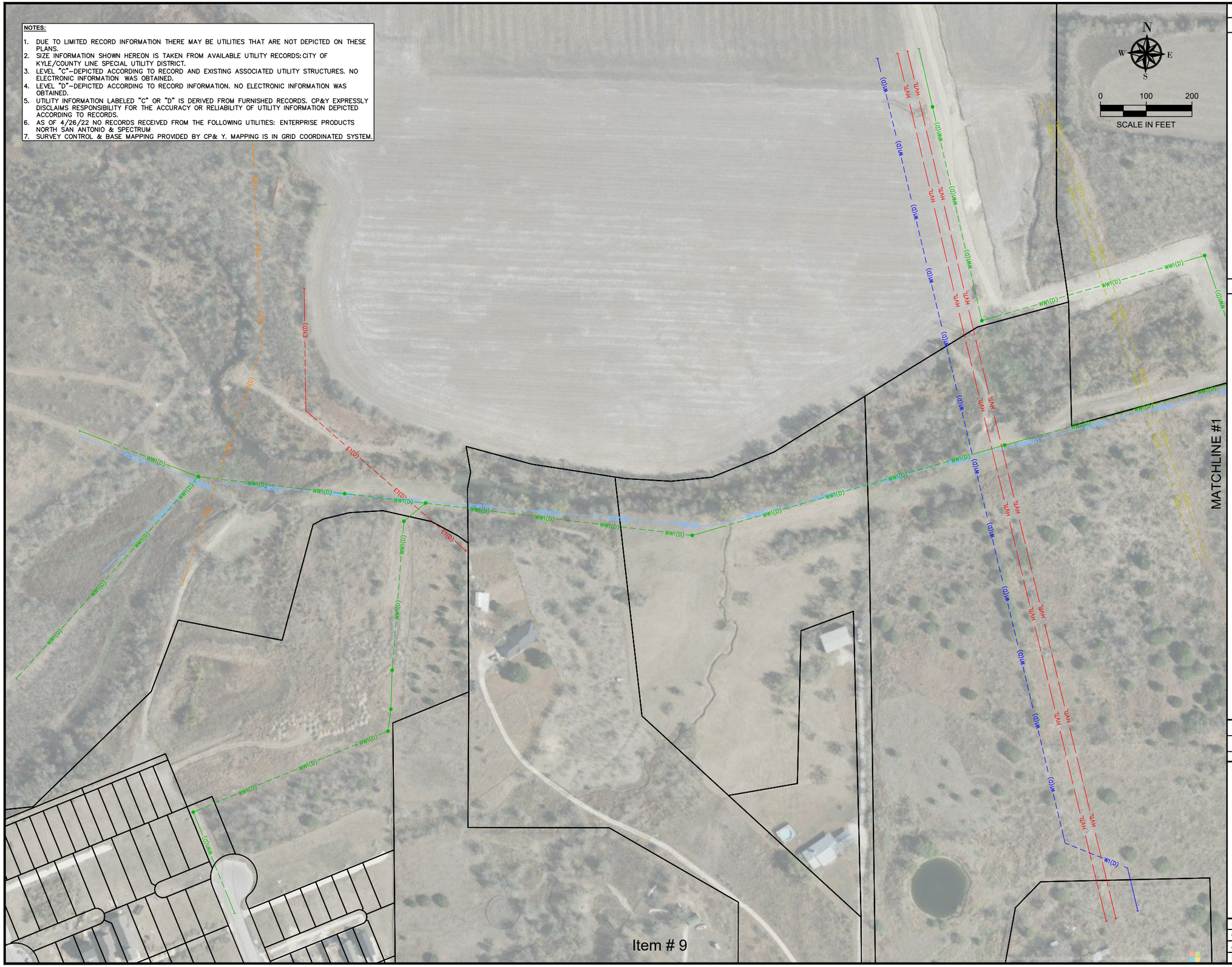
DESIGN: GWM
DRAWN: GW
REVIEW: RDO
CP&Y:
CLIENT:

EXHIBIT
3.2

Appendix A – Subsurface Utility Engineering Exhibit

NOTES:

1. DUE TO LIMITED RECORD INFORMATION THERE MAY BE UTILITIES THAT ARE NOT DEPICTED ON THESE PLANS.
2. SIZE INFORMATION SHOWN HEREON IS TAKEN FROM AVAILABLE UTILITY RECORDS: CITY OF KYLE/COUNTY LINE SPECIAL UTILITY DISTRICT.
3. LEVEL "C"–DEPICTED ACCORDING TO RECORD AND EXISTING ASSOCIATED UTILITY STRUCTURES. NO ELECTRONIC INFORMATION WAS OBTAINED.
4. LEVEL "D"–DEPICTED ACCORDING TO RECORD INFORMATION. NO ELECTRONIC INFORMATION WAS OBTAINED.
5. UTILITY INFORMATION LABELED "C" OR "D" IS DERIVED FROM FURNISHED RECORDS. CP&Y EXPRESSLY DISCLAIMS RESPONSIBILITY FOR THE ACCURACY OR RELIABILITY OF UTILITY INFORMATION DEPICTED ACCORDING TO RECORDS.
6. AS OF 4/26/22 NO RECORDS RECEIVED FROM THE FOLLOWING UTILITIES: ENTERPRISE PRODUCTS NORTH SAN ANTONIO & SPECTRUM
7. SURVEY CONTROL & BASE MAPPING PROVIDED BY CP& Y. MAPPING IS IN GRID COORDINATED SYSTEM.



LEGEND

UTILITY TYPE (OWNER)	QL–B	QL–D
ELECTRIC (PERDENALES)	HVTL	HVTL(D)
TELEPHONE (FRONTIER)	T1	T1(D)
GAS (ENTERPRISE PIPELINE)	G1	G1(D)
RECLAIMED WATER (CITY OF KYLE)	RCW1	RCW1(D)
WATER (GUADALUPE-BLANCO RIVER)	W1	W1(D)
WATER (COUNTY LINE SPECIAL UTILITY DISTRICT) –	W2	W2(D)
WASTE WATER (CITY OF KYLE)	WW1	WW1(D)
STORMDRAIN (CITY OF KYLE)	SD1	SD1(D)

UTILITY SYMBOL

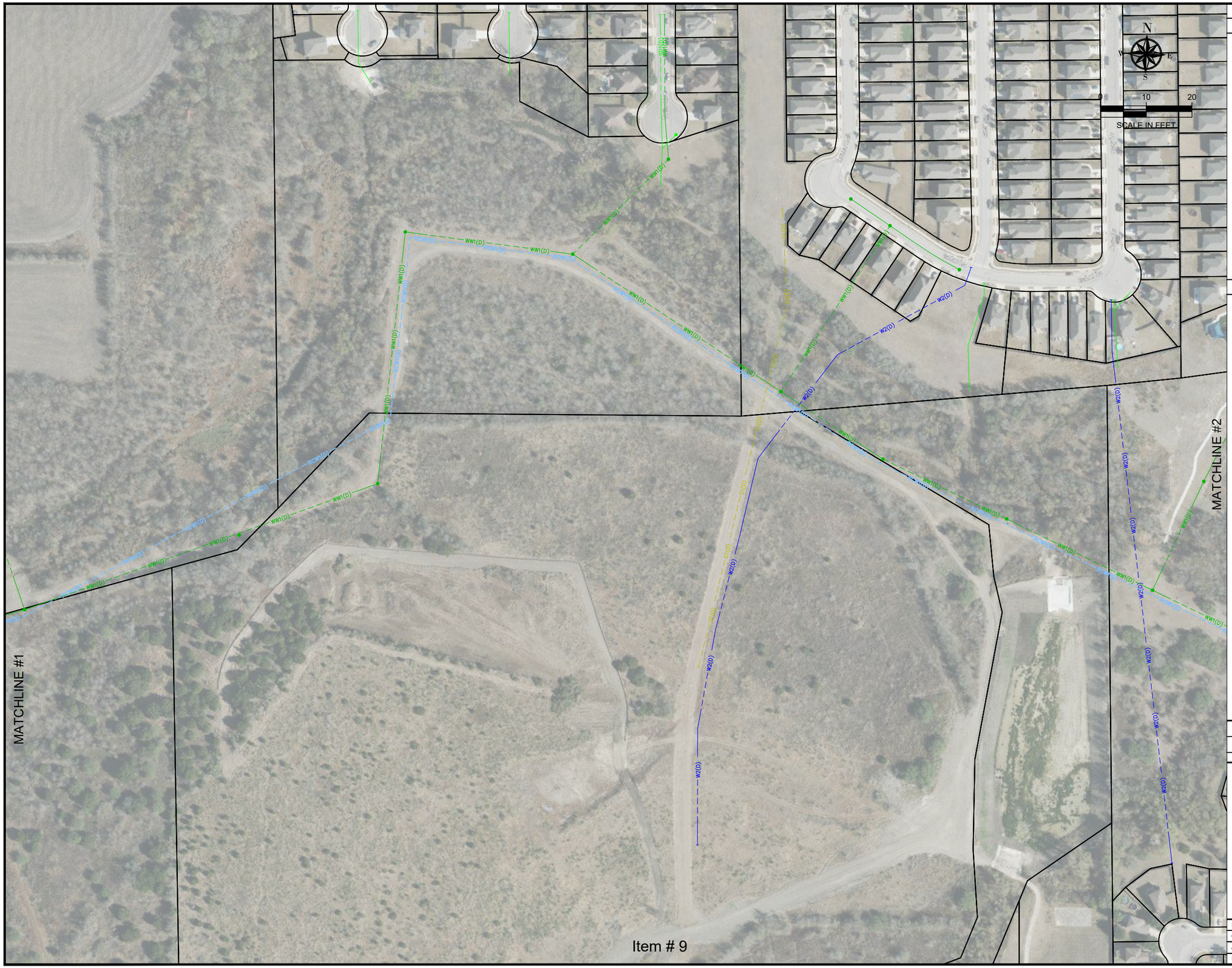
WASTE WATER MANHOLE	WW
STORMDRAIN MANHOLE	SD
LINE CONTINUES	≀

NO.	REVISION	BY	DATE

QUALITY LEVEL "B & D"
UTILITY INVESTIGATION
AT
KYLE WWTP INTERCEPTOR PH 1& 2
CITY OF KYLE, TX

CP&Y
an STV Company
SUBSURFACE UTILITY ENGINEERING
1820 Regal Row, Suite 150, Dallas, Texas 75235 214.747.3733
TEXAS REGISTERED ENGINEERING FIRM F-1741
TBPLS 10194115

DRAWN BY: JP
CHECKED BY: REL
JOB: 2000707.04 KYLE WWTP INTERCEPTOR PH 1 & 2
DATE: 4/26/22 SHEET : 1 OF 4



LEGEND

UTILITY TYPE (OWNER)	QL-B	QL-D
ELECTRIC (PERDENALES)	HVTL	HVTL(D)
TELEPHONE (FRONTIER)	T1	T1(D)
GAS (ENTERPRISE PIPELINE)	G1	G1(D)
RECLAIMED WATER (CITY OF KYLE)	RCW1	RCW1(D)
WATER (GUADALUPE-BLANCO RIVER)	W1	W1(D)
WATER (COUNTY LINE SPECIAL UTILITY DISTRICT)	W2	W2(D)
WASTE WATER (CITY OF KYLE)	WW1	WW1(D)
STORMDRAIN (CITY OF KYLE)	SD1	SD1(D)

UTILITY SYMBOL

WASTE WATER MANHOLE	WW
STORMDRAIN MANHOLE	SD
LINE CONTINUES	≀

NO.	REVISION	BY	DATE

QUALITY LEVEL "B & D"
UTILITY INVESTIGATION
AT
KYLE WWTP INTERCEPTOR PH 1& 2
CITY OF KYLE, TX

CP&Y
an SIV Company
SUBSURFACE UTILITY ENGINEERING
1820 Regal Row, Suite 150, Dallas, Texas 75235 214.747.3733
TEXAS REGISTERED ENGINEERING FIRM F-1741
TBPLS 10194115

DRAWN BY: JP
CHECKED BY: REL
JOB: 2000707.04 KYLE WWTP INTERCEPTOR PH 1 & 2
DATE: 4/26/22 SHEET : 2 OF 4

LEGEND

UTILITY TYPE (OWNER)	QL-B	QL-D
ELECTRIC (PERDENALES)	HVTL	HVTL(D)
TELEPHONE (FRONTIER)	T1	T1(D)
GAS (ENTERPRISE PIPELINE)	G1	G1(D)
RECLAIMED WATER (CITY OF KYLE)	RCW1	RCW1(D)
WATER (GUADALUPE-BLANCO RIVER)	W1	W1(D)
WATER (COUNTY LINE SPECIAL UTILITY DISTRICT)	W2	W2(D)
WASTE WATER (CITY OF KYLE)	WW1	WW1(D)
STORMDRAIN (CITY OF KYLE)	SD1	SD1(D)

UTILITY SYMBOL

WASTE WATER MANHOLE	WW
STORMDRAIN MANHOLE	SD
LINE CONTINUES	≀

NO.	REVISION	BY	DATE

QUALITY LEVEL "B & D"
UTILITY INVESTIGATION
AT
KYLE WWTP INTERCEPTOR PH 1& 2
CITY OF KYLE, TX

CP&Y
an SIV Company
SUBSURFACE UTILITY ENGINEERING
1820 Regal Row, Suite 150, Dallas, Texas 75235 214.747.3733
TEXAS REGISTERED ENGINEERING FIRM F-1741
TBPLS 10194115

DRAWN BY: JP
CHECKED BY: REL
JOB: 2000707.04 KYLE WWTP INTERCEPTOR PH 1 & 2
DATE: 4/26/22 SHEET : 3 OF 4

MATCHLINE #3
WW1(D)
WW1(D)
RCW1(D)
WW1(D)
WW1(D)
WW1(D)
HVTL
HVTL
RCW1(D)
W1(D)
W1(D)
W

Appendix B – Environmental Constraints Summary Report

Environmental Constraints Report

Wastewater Treatment Plant Interceptor – Phases 1 and 2

Kyle, Hays County, Texas

Prepared by:

CP&Y an STV Company

13809 Research Blvd, Suite 300

Austin, TX 78750

April 2022

Table of Contents

Environmental Evaluation 1

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Section 1.7.3 Potential Hazardous Materials 4

List of Attachments

Attachment A Constraints Map

Attachment B IPaC Official Species List

Attachment C Texas Railroad Commission Public GIS Viewer

Attachment D Photograph Log

ENVIRONMENTAL EVALUATION

A desktop assessment of documented and mapped environmental resources was performed for the project area. Cultural resources, endangered species, water resources, and potential hazardous materials were examined in the pursuit of due diligence and federal compliance. All conclusions for biological and hazardous materials discussed herein are preliminary desktop conclusions only and all resources should be field verified in order to comply with state and federal regulations.

1.1 CULTURAL RESOURCES

A desktop examination of historic and archeological resources within and near the project area was performed in March 2022. A 1-mile buffer was created around the project area to evaluate any documented resources within and immediately adjacent to the project area. The desktop study found one previous archaeological survey that covered a majority of the project area and one archaeological site documented within the buffer. The Texas Historical Commission (THC) Site Atlas (Atlas) offered little details as to when the survey was conducted. There were no archeological sites recorded during the survey. One previously recorded archeological site, 41HY535, is located approximately 0.71-mile northeast of the project area. The site was determined to be not eligible for listing on the National Register of Historic Places (NRHP) in 2017. The site consists of remains of a small collapsed structure with some historic-era artifacts scattered. Review of THC historical database search reveals no cemeteries mapped within 2-miles of the project area. Review of the THC historical landmarks did not identify any historic-age resources within 0.5-mile of the project area. It is concluded that no Registered Texas Historic Landmarks (RTHLs), NRHP properties or districts, cemeteries, or historical markers are recorded within the buffer or immediately adjacent to the project area. The likelihood of uncovering any previously undocumented historical resources within the project area is unlikely. The approximate location of the documented archeological sites can be viewed in **Attachment A**.

Since there is not much detail associated with the previous archeological survey results, coordination with THC would be recommended. It is likely that an archeological survey would be required since the area has not been surveyed before. This would require an Antiquities Permit by a qualified archeologist.

1.2 ENDANGERED SPECIES

U.S. Fish and Wildlife Service (USFWS) designated critical habitat maps, the Texas Parks and Wildlife Department (TPWD) Texas Natural Diversity Database (NDD) maps and the USFWS Information for Planning and Consultation Report (IPaC) for Hays County, and the Hays County Threatened and Endangered Species were examined for potential protected habitat or protected species occurrences in the project area. No elemental occurrences of protected species were recorded within one mile of the project area according to the NDD. No critical or protected habitat as provided by USFWS was recorded within or near the project area. According to the USFWS Information for Planning and Consultation IPaC website accessed on March 14, 2022, there are 12 threatened and endangered species, one proposed threatened species, and one candidate species that may occur in or adjacent to the project area. For the purposes of this report only federally

listed species will be discussed. Species listed include: the Golden-cheeked Warbler (*Dendroica chrysoparia*), Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), Whooping Crane *(Grus americana*), Austin Blind Salamander (*Eurycea waterlooensis*), Barton Springs Salamander (*Eurycea sosorum*), San Marcos Salamander (*Eurycea nana*), Texas Blind Salamander (*Eurycea rathbuni*), Fountain Darter (*Etheostoma fonticola*), San Marcos Gambusia (*Gambusia georgei*), Guadalupe Orb (*Cyclonaias necki*), Monarch Butterfly (*Danaus plexippus*), Bracted Twistflower (*Streptanthus bracteatus*), and the Texas Wild-rice (*Zizania texana*). The IPaC website also indicates there is no critical habitat in the project area. An examination of aerial images and aquifer maps for Hays County indicate that there is likely no potential habitat for these federally protected species within the project area. Additionally, the project area is not mapped within any region of the Edwards Aquifer. However, the project area is within mapped karst zone 4b, an area which does not contain endangered cave fauna. A field investigation is required to confirm any potentially suitable habitat for federally protected species within the project area. The USFWS IPaC list is available for review in **Attachment B**.

1.3 WATERS, WETLANDS, FLOODPLAINS

Data from the National Hydrography Dataset (NHD), Federal Emergency Management Agency (FEMA) Community Floodplain Maps, USFWS National Wetland Inventory (NWI), U.S. Geological Survey (USGS) Topographic maps, and Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) were examined for water resources within the project area. There are five NWI-mapped riverine features, including Plum Creek, and one freshwater pond. According to the NHD and USGS Topo maps, there are five intermittent streams within the project area: Plum Creek, and four unnamed tributaries to Plum Creek. Approximately 33.48 acres of the project area is within the 100-year floodplain of these streams. All mapped NWI features correspond with the listed NHD features with the exception of the freshwater pond. Primary hydrology sources are likely a result of storm runoff, discharges to Plum Creek, and floodplain influence.

According to the NRCS WSS, six soil mapping units lie within the project area: Branyon clay, 1-3% slopes (ByB), Heiden clay, 1-3% slopes (HeB), Heiden clay, 3-5% slopes (HeC3), Heiden clay, 5-8% slopes, eroded (HeD3), Houston Black clay, 1-3% slopes (HoB), and Tinn clay, 0-1% slopes, frequently flooded (Tn). None of the listed mapping units are reported as hydric soil.

A thorough field investigation is required to confirm any potentially jurisdictional waters of the United States (U.S.) within the project area. Should the project impact any potentially jurisdiction waters, specific permitting needs will need to be coordinated with the United States Army Corps of Engineers (USACE)

1.4 HAZARDOUS MATERIALS

Potential hazardous materials sites within and immediately adjacent to the project area was examined through the Texas Commission for Environmental Quality Central Database Query, the Environmental Protection Agency Cleanups in My Neighborhood website, and the Texas Railroad Commission Public GIS Viewer. Three natural gas/other transmission lines occur within the project area as potential hazardous materials. One wastewater outfall occurs approximately 475 ft

southeast of the project area. The TRRC Public GIS Viewer did not reveal any dry petroleum tests bore sites, canceled/abandoned wells, or plugged oil well sites within the project area or immediately adjacent to the project area. The identified pipelines are not anticipated to impact any potential work in the area. No other sites were identified in this preliminary database and resource search. A formal database search and field site evaluation should be performed for the project area to verify potential hazardous material mapped or unmapped sites exist, especially in those areas of new easements. A printout of the TRRC Public GIS Viewer is provided in **Attachment C**.

1.5 PARKS, PRESERVES, TRAILS, AND GREENBELTS

The City of Kyle mapping database reports five parks and eight trails within or immediately adjacent to the project area: Brookside Trail, Bunton Creek Park, Bunton Creek Trail, Bunton Reserve, Lake Kyle Park, Lake Kyle Trail, Linebarger Lake Oso Oro, Plum Creek Preserve, Plum Creek Trail, Waterleaf Park, Waterleaf Trail, and Wildflower Loop. There are no documented greenbelts within or immediately adjacent to the project area. Photographs are available for viewing in **Attachment D**.

1.6 OTHER

According to review of aerial imagery, land use in the surrounding area appears to be residential, undeveloped land, pastureland, City of Kyle Wastewater Treatment Facility, Waterleaf Park, and Lake Kyle Park. Land use within the project area consists of the City of Kyle Wastewater Treatment Facility, undeveloped land, Plum Creek, Waterleaf Park, and Lake Kyle Park.

1.7 FIELD RECONNAISSANCE

A preliminary investigation of the project area was performed on April 6, 2022. During the investigation, observations regarding the potential presence of suitable habitat for federally listed species, jurisdictional waters of the U.S., and hazardous materials were documented.

1.7.1 FEDERALLY LISTED SPECIES

Habitats observed within the project area consisted primarily of fragmented riparian woodland, honey mesquite shrubland, and maintained open fields and rights-of-way. Additionally, a maintained two-track road occurs parallel to most of the project area. Representative photographs of the project area are included in **Attachment D**.

Evident areas of potential suitable habitat for the Golden-cheeked Warbler, Whooping Crane, Piping Plover, and Red Knot were not observed within the project area. These species may occur as temporary migrants through the area at certain times of the year; however, they would not be expected to use the area for breeding. Disturbance from the surrounding residential neighborhoods, homesteads, and urban development activities would likely inhibit these species from using the project area. Additionally, the USFWS only requires consideration for the Piping Plover and Red Knot as they relate to wind energy projects in this region.

Evident areas of potential suitable habitat for the Austin Blind Salamander, Barton Springs Salamander, San Marcos Salamander, Texas Blind Salamander, Fountain Darter, San Marcos Gambusia, Guadalupe Orb, and Texas Wild-rice were not observed within the project area. Depending on the species, habitats such as natural springs, aquatic caves, and non-impounded medium- to large-streams and rivers are required, none of which occur within the project area.

Additionally, evident areas of potential suitable habitat for the Bracted Twistflower and Monarch Butterfly were not observed within the project area. Areas with abundant nectar plants suitable for the Monarch Butterfly were not observed during the preliminary investigation.

1.7.2 POTENTIAL JURISDICTIONAL WATERS OF THE U.S.

During the preliminary investigation, three intermittent streams (including Plum Creek) and two ephemeral streams were observed within the project area. Plum Creek and one unnamed tributary to Plum Creek located near the northwest terminus of the project area, were confirmed as being intermittent streams. The unnamed intermittent tributary originates from the Soil Conservation Service Site 2 Reservoir located west of the project area. An ephemeral stream previously mapped by the NHD as intermittent, was also observed within the northwest portion of the project area. This unnamed ephemeral stream originates at the Soil Conservation Service Site 3 Reservoir, located southwest of the project area. A second ephemeral stream previously mapped as an intermittent stream by the NHD, was observed in the central portion of the project area. An intermittent stream located in the southeast half of the project area has been partially channelized into a stormwater runoff drainage. The channelized storm water runoff drainage connects to a stormwater retention pond located west of the project area. The presence of a pond located in the southeast half of the project area was also confirmed. Two potential emergent wetlands not previously mapped by the USFWS NWI, were observed in the northwest portion of the project area. Photographs of potential waters of the U.S observed within the project area are included in **Attachment D**.

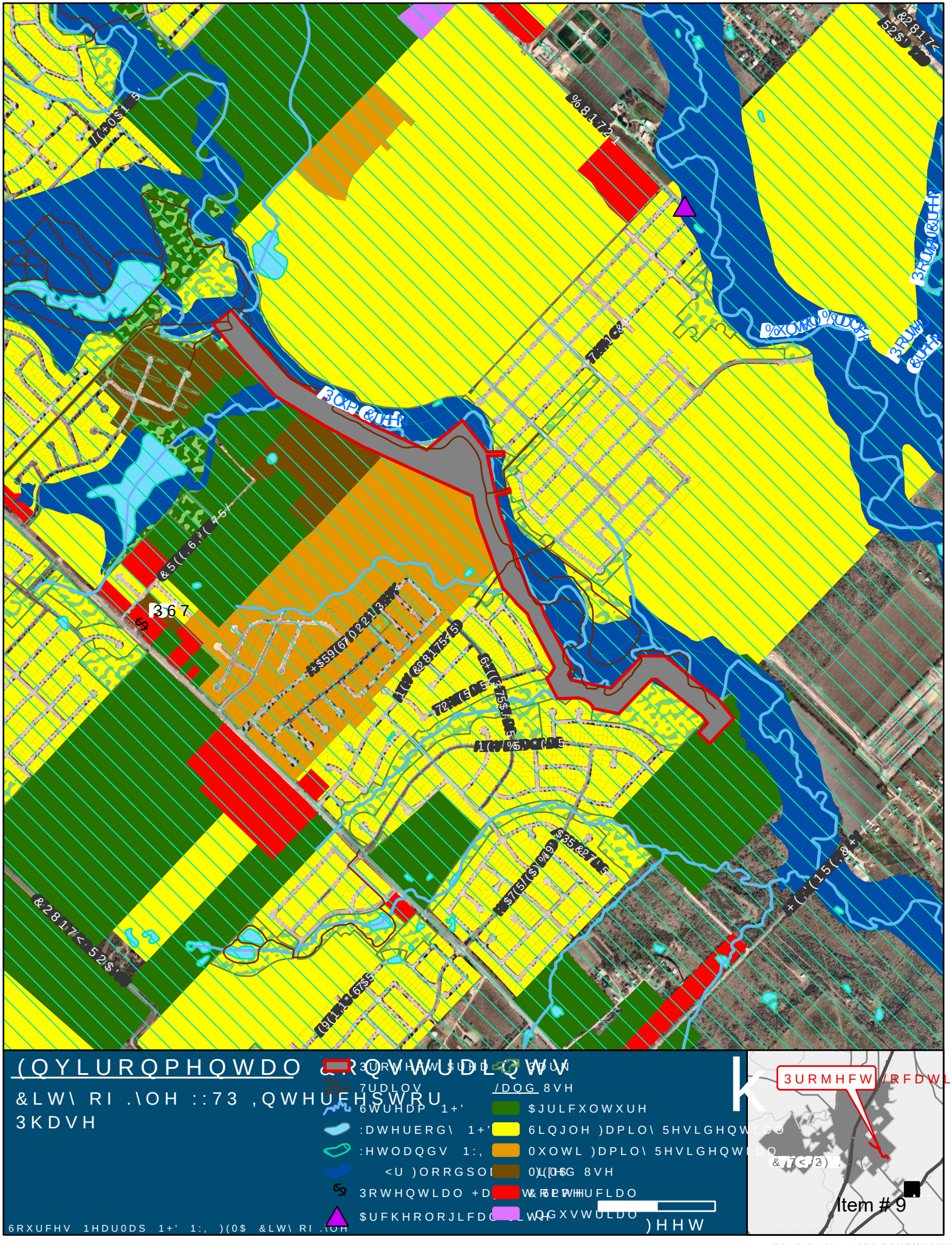
Streams and the potential emergent wetlands observed within the project area may be considered potentially jurisdictional by the USACE as they flow into Plum Creek and/or are located within the mapped 100-year floodplain.

1.7.3 POTENTIAL HAZARDOUS MATERIALS

During the field investigation, no potential hazardous materials were observed within the project area.

Attachment A

Constraints Map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7UDLOV
6WUHDP 1+'
:DWHUERG\ 1+'
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Item # 9

Attachment B

IPaC Official Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Austin Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, TX 78758-4460
Phone: (512) 490-0057 Fax: (512) 490-0974
http://www.fws.gov/southwest/es/AustinTexas/
http://www.fws.gov/southwest/es/EndangeredSpecies/lists/

In Reply Refer To: March 14, 2022
Project Code: 2022-0019190
Project Name: City of Kyle WWTP Interceptor Phase 1 & 2

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of

this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Austin Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, TX 78758-4460
(512) 490-0057

Project Summary

Project Code: 2022-0019190
Event Code: None
Project Name: City of Kyle WWTP Interceptor Phase 1 & 2
Project Type: Wastewater Pipeline - Maintenance / Modification - Below Ground
Project Description: WWTP Interceptor in the City of Kyle, in Comal and Hays Counties, Texas
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@29.97580385,-97.84390878450043,14z

Counties: Hays County, Texas

Endangered Species Act Species

There is a total of 14 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Golden-cheeked Warbler *Setophaga chrysoparia*	Endangered
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/33	
Piping Plover *Charadrius melodus*	Threatened
Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/6039	
Red Knot *Calidris canutus rufa*	Threatened
There is **proposed** critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/1864	
Whooping Crane *Grus americana*	Endangered
Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/758	

Amphibians

NAME	STATUS
Austin Blind Salamander *Eurycea waterlooensis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5737	Endangered
Barton Springs Salamander *Eurycea sosorum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1113	Endangered
San Marcos Salamander *Eurycea nana* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6374	Threatened
Texas Blind Salamander *Eurycea rathbuni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5130	Endangered

Fishes

NAME	STATUS
Fountain Darter *Etheostoma fonticola* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5858	Endangered
San Marcos Gambusia *Gambusia georgei* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7519	Endangered

Clams

NAME	STATUS
Guadalupe Orb *Cyclonaias necki* Population: There is **proposed** critical habitat for this species. The location of the critical habitat is not available.	Proposed Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Bracted Twistflower *Streptanthus bracteatus* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2856	Proposed Threatened
Texas Wild-rice *Zizania texana* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/805	Endangered

Critical habitats

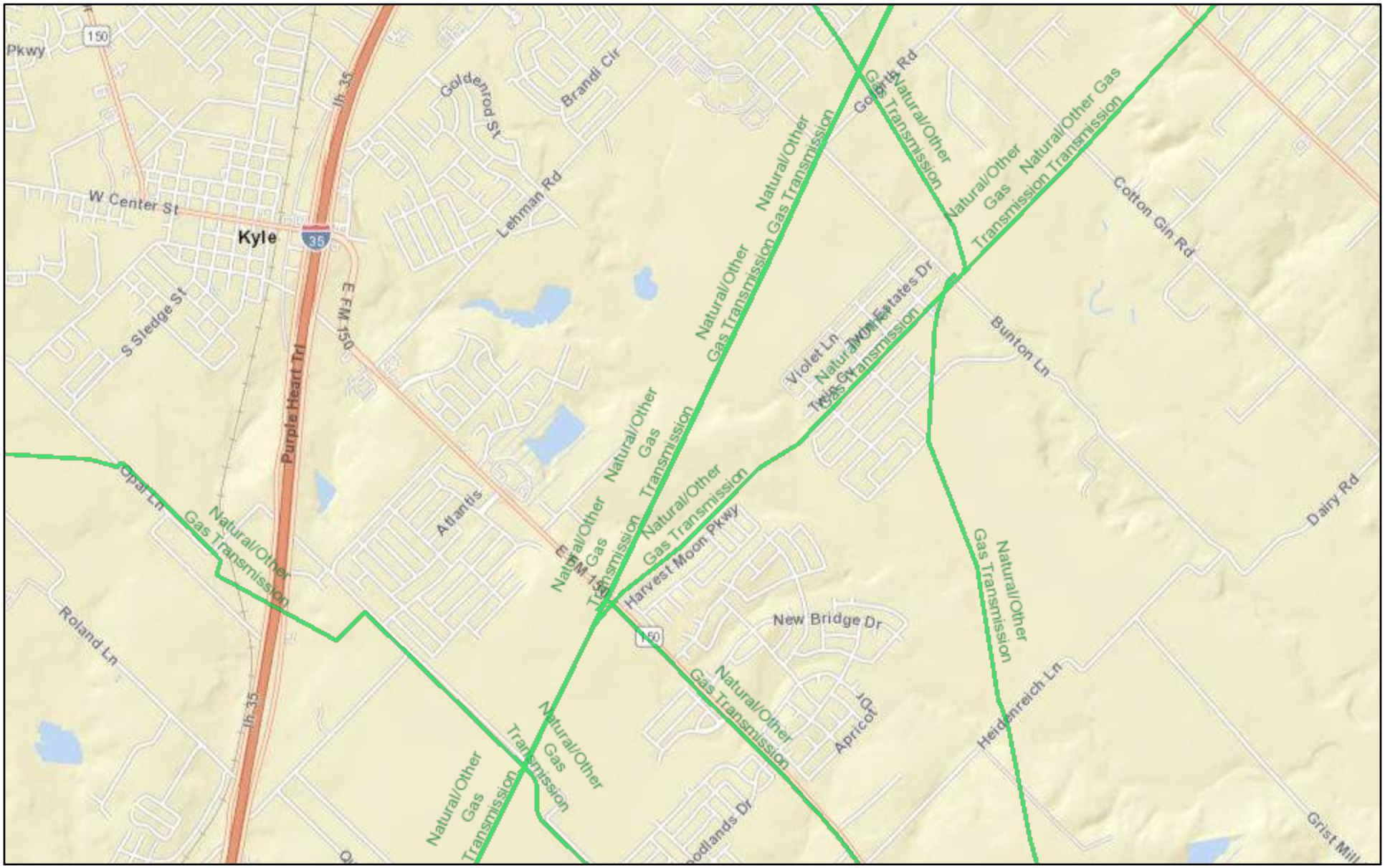
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: CP&Y Inc., an STV Company
Name: Kameryn Strickland
Address: 1820 Regal Row
City: Dallas
State: TX
Zip: 75235
Email kstrickland@cpyi.com
Phone: 2142766543

Attachment C

Texas Railroad Commission Public GIS Viewer



March 10, 2022

1:36,112

0 0.28 0.55 1.1 mi

0 0.42 0.85 1.7 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand),

Item # 9

Public GIS Viewer Legend

Well Number

Well Locations

- Permitted Location
- Dry Hole
- Oil
- Gas
- Oil / Gas
- Plugged Oil
- Plugged Gas
- Canceled / Abandoned Location
- Plugged Oil / Gas
- Injection / Disposal
- Core Test
- Sulfur Test
- Storage from Oil
- Storage from Gas
- Shut-In Oil
- Shut-In Gas
- Injection / Disposal from Oil
- Injection / Disposal from Gas
- Injection / Disposal from Oil / Gas
- Geothermal
- Brine Mining
- Water Supply
- Water Supply from Oil
- Water Supply from Gas
- Water Supply from Oil / Gas
- Observation
- Observation from Oil
- Observation from Gas
- Observation from Oil / Gas
- Storage
- Service
- Service from Oil
- Service from Gas
- Service from Oil / Gas
- Storage from Oil / Gas
- Injection / Disposal from Storage
- Injection / Disposal from Storage / Oil
- Injection / Disposal from Storage / Gas
- Injection / Disposal from Storage / Oil / Gas
- Observation from Storage
- Observation from Storage / Oil
- Observation from Storage / Gas
- Observation from Storage / Oil / Gas
- Service from Storage
- Service from Storage / Oil
- Service from Storage / Gas
- Service from Storage / Oil / Gas
- Plugged Storage
- Plugged Storage / Oil

Public GIS Viewer Legend

- Plugged Storage / Gas
- Plugged Storage Oil / Gas
- Brine Mining
- Brine Mining / Oil
- Brine Mining / Gas
- Brine Mining / Oil / Gas
- Injection / Disposal from Brine Mining
- Injection / Disposal from Brine Mining / Oil
- Injection / Disposal from Brine Mining / Gas
- Injection / Disposal from Brine Mining / Oil / Gas
- Observation from Brine Mining
- Observation from Brine Mining / Oil
- Observation from Brine Mining / Gas
- Observation from Brine Mining / Oil / Gas
- Service from Brine Mining
- Service from Brine Mining / Oil
- Service from Brine Mining / Gas
- Service from Brine Mining / Oil / Gas
- Plugged Brine Mining
- Plugged Brine Mining / Oil
- Plugged Brine Mining / Gas
- Plugged Brine Mining / Oil / Gas
- Storage / Brine Mining
- Storage / Brine Mining / Oil
- Storage / Brine Mining / Gas
- Storage / Brine Mining / Oil / Gas
- Injection / Disposal from Storage / Brine Mining
- Injection / Disposal from Storage / Brine Mining / Oil
- Injection / Disposal from Storage / Brine Mining / Gas
- Injection / Disposal from Storage / Brine Mining / Oil / Gas
- Observation from Storage / Brine Mining
- Observation from Storage / Brine Mining / Oil
- Observation from Storage / Brine Mining / Gas
- Observation from Storage / Brine Mining / Oil / Gas
- Plugged Storage / Brine Mining
- Plugged Storage / Brine Mining / Oil
- Plugged Storage / Brine Mining / Gas
- Plugged Storage / Brine Mining / Oil / Gas

Orphan Wells

Commercial Disposal

Injection/Disposal

HCTS Deeper than 15,000 ft.

Public GIS Viewer Legend

High Cost Tight Sands

EOR H13 Oil Wells

Well Logs

Horiz/Dir Surface Locations

Horizontal Well

Directional Well

Horizontal/Directional Lines

LPGAS Sites

QPipelines

Pipelines

Bay Tracts

Offshore Areas

Offshore Tracts

Water Lines

Subdivisions

Railroads

Surveys

Quads

Alert Areas

Water

City Limits

Counties

Operator Cleanup Program Sites

Active

Closed

Voluntary Cleanup Program Sites

VCP, Accepted

VCP, Closed

Brownfield Response Program Sites

Brownfield, Accepted

Brownfield, Closed

Commercial Waste Disposal Sites & Discharge Permits

Commercial Waste Disposal

Discharge Permits

Oil and Gas Districts

AED Districts

Pipeline Safety Regions

Attachment D

Photograph Log

Photograph 1. View looking east at maintained open fields and a two-track road located within the northwest portion of the project area.

Photograph 2. View looking north at Plum Creek located in the northwest portion of the project area.

Photograph 3. View looking northwest at a potential emergent wetland within the project area.

Photograph 4. View looking southwest at an ephemeral stream within maintained open fields, that originates from the Soil Conservation Service Site 3 Reservoir.

Photograph 5. View looking southeast at a potential emergent wetland within the project area.

Photograph 6. View looking southeast at the fragmented riparian woodland occurring along Plum Creek in the northern half of the project area.

Photograph 7. View looking southwest at a maintained pipeline right-of-way that intersects with the north half of the project area.

Photograph 8. View looking southwest at an active construction site located southwest of the project area.

Photograph 9. View looking northwest at honey mesquite shrubland observed within the project area.

Photograph 10. View looking south at the maintained two-track road that parallels most of the project area.

Photograph 11. View looking southwest at the channelized segment of an intermittent stream located in the southeast half of the project area. This channelized segment connects to stormwater retention pond.

Photograph 12. View looking northwest at an ephemeral stream observed in the central portion of the project area.

Photograph 13. View looking southeast at a pond located in the southeast half of the project area.

Photograph 14. View looking southwest at a stormwater drainage located in the southern extent of the project area.

Appendix C – Stake Holder Coordination Log

City of Kyle - Wastewater Treatment Plant Interceptor Line Phase 1 & 2
List of Stakeholders

List of Utilities

Stakeholder	Point of Contact	Contact Phone	Contact Email	Utility Type	Location of Crossing	Utility Size (in)	Permit/Encroachment Agreement Required	SUE Needed?
Enterprise Products San Antonio	Brian Thorton	830-312-0436	bdthorton@eprod.com	Petroleum Products	Various	Various	Yes	Yes
County Line SUD	Jeff Kallus	830-672-7546	jeff.kallus@swengineers.com	Water lines	Various	Various	Yes	Yes
County Line SUD	Drew Schnautz		inspector@clsud.com	County line inspector	Various	Various	Yes	Yes
County Line SUD	Daniel Heideman	512-738-2073	generalmanager@clsud.com	County line general manager	Various	Various	Yes	Yes
County Line SUD	Allison Nieto		allison.nieto@swengineers.com	Sewer lines	N/A	N/A	Yes	Yes
AT&T	Philip Austin	210-905-2101	pa1657@att.com	Internet Provider	Various	N/A	Yes	Yes
AT&T	Sean Slanina-Wertz	210-620-4261		Internet Provider	Various	N/A	Yes	Yes
AT&T	Hunter Travis	210-300-5160	th961b@att.com	Internet Provider	Various	N/A	Yes	Yes
TCEQ	N/A	N/A	N/A	SWPPP Permitting	Storm water prevention plan along project limits.	N/A	Yes	No
Alliance Water	James Bryan	N/A	james.bryan@kimley-horn.com	Transmission Water Line Segment "C"	One Project Crossing	Unsure	No	No
U.S. Army Corps of Engineer	N/A	N/A	N/A	NWP 58 Permitting	Locations near low water zones and 100-yr flood plains.	N/A	Yes	No

Appendix D – Alignment Alternative OPCC's

City of Kyle - Wastewater Treatment Plant Interceptor Phase 1 & 2
Engineer's Opinion of Probable Construction Cost
Class 3 OPCC (AA-2)

New 48-inch interceptor cutting across waterleaf park and abandonment of existing 30-inch interceptor.

CP&Y an STV Company

ITEM NO.	DESCRIPTION	UNITS	QNTY	UNIT COST[1]	UNIT SUBTOTAL[2]
1	Preparing Right-of-Way (5%)	LS	1	$ 562,425.25	$ 562,425.25
2	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 72" (0-15' Depth)	EA	9	$ 52,300.00	$ 470,700.00
3	Extra Depth Standard Polymer Concrete Manhole, 72"	VF	25	$ 578.00	$ 14,450.00
4	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 84" (0-15' Depth)	EA	12	$ 81,300.00	$ 975,600.00
5	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 96" (0-15' Depth)	EA	1	$ 112,500.00	$ 112,500.00
6	Wastewater Manhole Vent	EA	21	$ 4,500.00	$ 94,500.00
7	Odor Control	EA	21	$ 560.00	$ 11,760.00
8	Trench Excavation Safety Protection Systems (all depths)	LF	19250	$ 10.00	$ 192,500.00
9	Pipe, 48" Dia. FRP, all depths, incl. Excavation & Backfill	LF	9625	$ 750.00	$ 7,218,750.00
10	CLSM/ Concrete Cap	CY	300	$ 237.00	$ 71,100.00
11	Native Seeding for Erosion Control	AC	17	$ 2,500.00	$ 42,500.00
12	Protective Fencing Type A Chain Link Fence (Typical Application - High Damage Potential)	LF	2500	$ 5.00	$ 12,500.00
13	Stabilized Construction Entrance	EA	4	$ 2,500.00	$ 10,000.00
14	Silt Fence for Erosion	LF	19250	$ 2.00	$ 38,500.00
15	Abandonment of Existing 30" Wastewater Line	LF	10114	$ 10.00	$ 101,140.00
16	Abandon Existing Manhole	EA	21	$ 5,000.00	$ 105,000.00
17	Storm Water Pollution Prevention Plan (SWPPP)	EA	1	$ 5,000.00	$ 5,000.00
18	Connect to Existing WWL (Sta. 106+25)	LS	1	$ 10,000.00	$ 10,000.00
19	Connect to Existing WWTP (Sta. 10+00)	LS	1	$ 200,000.00	$ 200,000.00
20	Sanitary Sewer Lateral Stub outs and Reconnects	EA	7	$ 2,000.00	$ 14,000.00
21	Bypass Pumping / Flow Diversion	LS	1	$ 100,000.00	$ 100,000.00
22	Pipe, 12" Pressure Pipe (all depths), including Excavation and Backfill	LF	9625	$ 143.00	$ 1,376,375.00
23	Gate Valve (12")	EA	2	$ 5,100.00	$ 10,200.00
24	Combination Air Release Assembly - 2"	EA	4	$ 5,520.00	$ 22,080.00
25	Ductile Iron Fittings	TON	2.5	$ 12,940.00	$ 32,350.00
26	Project Signs	EA	2	$ 3,500.00	$ 7,000.00
				Project Sub-Total[5]	**$ 11,811,000.00**
				Inflation/Escalation (8% of Sub-total)[3&5]	$ 944,900.00
				Sub-Total with Inflation/Escalation[5]	**$ 12,755,900.00**
				Mobilization (5%)[5]	$ 637,800.00
				Bonds & Insurance (2%)[5]	$ 255,200.00
				Sub-Total with Inflation/Escalation, Mobilization and Bonds/Insurance[5]	**$ 13,648,900.00**
				Contingency (30%)[5]	$ 4,094,700.00
				Project Total[4&5]	**$ 17,743,600.00**

[1]The 'Unit Cost' is the manufacturer's supplied cost plus installation, unless otherwise noted. Unit Cost is rounded to the nearest $1.

[2]Unit Subtotal is the 'Unit Cost" multiplied by the 'Qnty'.

[3]Inflation/Escalation is calculated at 8% of the project subtotal to account for the time between this estimate and time of bid.

[4]These costs have been developed from prior bid tabulations, industry standards and coordination with material / equipment manufacturers. The items included herein are based on CP&Y's perception of current conditions at the project location. The OPCC is considered a Class 3 Estimate per the Association for the Advancement of Cost Engineering (AACE). CP&Y has no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. CP&Y cannot warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs included in the OPCC herein.

[5]Values are rounded to the nearest $100.

City of Kyle - Wastewater Treatment Plant Interceptor Phase 1 & 2
Engineer's Opinion of Probable Construction Cost
Class 3 OPCC (AA-3)

New 48-inch interceptor paralleling along existing 30-inch interceptor and abandonment of existing 30-inch interceptor.

ITEM NO.	DESCRIPTION	UNITS	QNTY	UNIT COST[1]	UNIT SUBTOTAL[2]
1	Preparing Right-of-Way (5%)	LS	1	$ 588,270.75	$ 588,270.75
2	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 72" (0-15' Depth)	EA	9	$ 52,300.00	$ 470,700.00
3	Extra Depth Standard Polymer Concrete Manhole, 72"	VF	25	$ 578.00	$ 14,450.00
4	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 84" (0-15' Depth)	EA	13	$ 81,300.00	$ 1,056,900.00
5	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 96" (0-15' Depth)	EA	1	$ 112,500.00	$ 112,500.00
6	Wastewater Manhole Vent	EA	21	$ 4,500.00	$ 94,500.00
7	Odor Control	EA	21	$ 560.00	$ 11,760.00
8	Trench Excavation Safety Protection Systems (all depths)	LF	20208	$ 10.00	$ 202,080.00
9	Pipe, 48" Dia. FRP, all depths, incl. Excavation & Backfill	LF	10093	$ 750.00	$ 7,569,750.00
10	CLSM/ Concrete Cap	CY	300	$ 237.00	$ 71,100.00
11	Native Seeding for Erosion Control	AC	18	$ 2,500.00	$ 45,000.00
12	Protective Fencing Type A Chain Link Fence (Typical Application - High Damage Potential)	LF	2600	$ 5.00	$ 13,000.00
13	Stabilized Construction Entrance	EA	4	$ 2,500.00	$ 10,000.00
14	Silt Fence for Erosion	LF	20230	$ 2.00	$ 40,460.00
15	Abandonment of Existing 30" Wastewater Line	LF	10114	$ 10.00	$ 101,140.00
16	Abandon Existing Manhole	EA	21	$ 5,000.00	$ 105,000.00
17	Storm Water Pollution Prevention Plan (SWPPP)	EA	1	$ 5,000.00	$ 5,000.00
18	Connect to Existing WWL (Sta. 110+93)	LS	1	$ 10,000.00	$ 10,000.00
19	Connect to Existing WWTP (Sta. 10+00)	LS	1	$ 200,000.00	$ 200,000.00
20	Sanitary Sewer Lateral Stub outs and Reconnects	EA	7	$ 2,000.00	$ 14,000.00
21	Bypass Pumping / Flow Diversion	LS	1	$ 100,000.00	$ 100,000.00
22	Pipe, 12" Pressure Pipe (all depths), including Excavation and Backfill	LF	10115	$ 143.00	$ 1,446,445.00
23	Gate Valve (12")	EA	2	$ 5,100.00	$ 10,200.00
24	Combination Air Release Assembly - 2"	EA	4	$ 5,520.00	$ 22,080.00
25	Ductile Iron Fittings	TON	2.5	$ 12,940.00	$ 32,350.00
26	Project Signs	EA	2	$ 3,500.00	$ 7,000.00
				Project Sub-Total[5]	**$ 12,353,700.00**
				Inflation/Escalation (8% of Sub-total)[3&5]	$ 988,300.00
				Sub-Total with Inflation/Escalation[5]	**$ 13,342,000.00**
				Mobilization (5%)[5]	$ 667,100.00
				Bonds & Insurance (2%)[5]	$ 266,900.00
				Sub-Total with Inflation/Escalation, Mobilization and Bonds/Insurance[5]	**$ 14,276,000.00**
				Contingency (30%)[5]	$ 4,282,800.00
				Project Total[4&5]	**$ 18,558,800.00**

[1]The 'Unit Cost' is the manufacturer's supplied cost plus installation, unless otherwise noted. Unit Cost is rounded to the nearest $1.

[2]Unit Subtotal is the 'Unit Cost" multiplied by the 'Qnty'.

[3]Inflation/Escalation is calculated at 8% of the project subtotal to account for the time between this estimate and time of bid.

[3]These costs have been developed from prior bid tabulations, industry standards and coordination with material / equipment manufacturers. The items included herein are based on CP&Y's perception of current conditions at the project location. The OPCC is considered a Class 3 Estimate per the Association for the Advancement of Cost Engineering (AACE). CP&Y has no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. CP&Y cannot warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs included in the OPCC herein.

[5]Values are rounded to the nearest $100.

City of Kyle - Wastewater Treatment Plant Interceptor Phase 1 & 2
Engineer's Opinion of Probable Construction Cost
Class 3 OPCC (AA-4)

Rehabilitation of existing 30-inch interceptor line along with installation of new 42-inch interceptor parallel to existing line.

CP&Y an STV Company

ITEM NO.	DESCRIPTION	UNITS	QNTY	UNIT COST[1]	UNIT SUBTOTAL[2]
1	Preparing Right-of-Way (5%)	LS	1	$ 643,967.80	$ 643,967.80
2	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 60" (0-15' Depth)	EA	9	$ 33,700.00	$ 303,300.00
3	Extra Depth Standard Polymer Concrete Manhole, 60"	VF	25	$ 478.00	$ 11,950.00
4	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 72" (0-15' Depth)	EA	13	$ 52,300.00	$ 679,900.00
5	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 96" (0-15' Depth)	EA	2	$ 112,500.00	$ 225,000.00
6	Wastewater Manhole Vent	EA	22	$ 4,500.00	$ 99,000.00
7	Odor Control	EA	44	$ 560.00	$ 24,640.00
8	Trench Excavation Safety Protection Systems (all depths)	LF	20205	$ 10.00	$ 202,050.00
9	Pipe, 42" Dia. FRP, all depths, incl. Excavation & Backfill	LF	10090	$ 600.00	$ 6,054,000.00
10	CLSM/ Concrete Cap	CY	263	$ 237.00	$ 62,331.00
11	Sanitary Sewer Main Television Pre Inspection (30")With Cleaning	LF	10114	$ 25.00	$ 252,850.00
12	Install CIPP Sanitary Sewer Pipe (30")	LF	10114	$ 300.00	$ 3,034,200.00
13	Rehabilitation of existing Manholes	EA	24	$ 400.00	$ 9,600.00
14	Native Seeding for Erosion Control	AC	18	$ 2,500.00	$ 45,000.00
15	Protective Fencing Type A Chain Link Fence (Typical Application - High Damage Potential)	LF	2600	$ 5.00	$ 13,000.00
16	Stabilized Construction Entrance	EA	4	$ 2,500.00	$ 10,000.00
17	Stabilized Construction Access Road	LS	1	$ 50,000.00	$ 50,000.00
18	Silt Fence for Erosion	LF	20230	$ 2.00	$ 40,460.00
19	Storm Water Pollution Prevention Plan (SWPPP)	EA	1	$ 5,000.00	$ 5,000.00
20	Connect to Existing WWL (Sta. 110+90)	LS	1	$ 25,000.00	$ 25,000.00
21	Connect to Existing WWTP (Sta. 10+00)	LS	1	$ 200,000.00	$ 200,000.00
22	Sanitary Sewer Lateral Stub outs and Reconnects	EA	7	$ 2,000.00	$ 14,000.00
23	Pipe, 12" Pressure Pipe (all depths), including Excavation and Backfill	LF	10115	$ 143.00	$ 1,446,445.00
24	Gate Valve (12")	EA	2	$ 5,100.00	$ 10,200.00
25	Combination Air Release Assembly - 2"	EA	4	$ 5,520.00	$ 22,080.00
26	Ductile Iron Fittings	TON	2.5	$ 12,940.00	$ 32,350.00
27	Project Signs	EA	2	$ 3,500.00	$ 7,000.00
				Project Sub-Total[5]	**$ 13,523,400.00**
				Inflation/Escalation (8% of Sub-total)[3&5]	$ 1,081,900.00
				Sub-Total with Inflation/Escalation[5]	**$ 14,605,300.00**
				Mobilization (5%)[5]	$ 730,300.00
				Bonds & Insurance (2%)[5]	$ 292,200.00
				Sub-Total with Inflation/Escalation, Mobilization and Bonds/Insurance[5]	**$ 15,627,800.00**
				Contingency (30%)[5]	$ 4,688,400.00
				Project Total[4&5]	**$ 20,316,200.00**

[1]The 'Unit Cost' is the manufacturer's supplied cost plus installation, unless otherwise noted. Unit Cost is rounded to the nearest $1.

[2]Unit Subtotal is the 'Unit Cost" multiplied by the 'Qnty'.

[3]Inflation/Escalation is calculated at 8% of the project subtotal to account for the time between this estimate and time of bid.

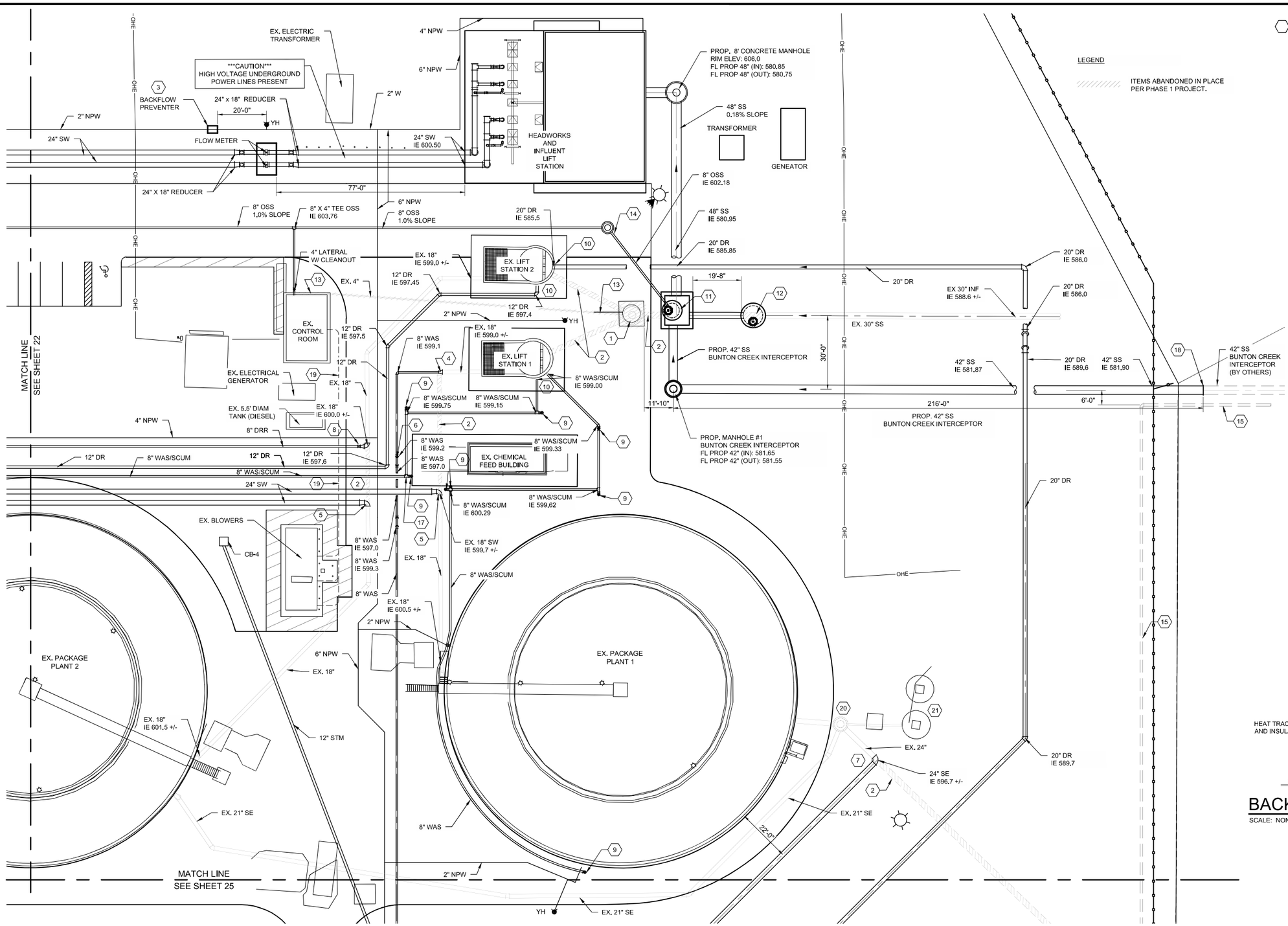
[4]These costs have been developed from prior bid tabulations, industry standards and coordination with material / equipment manufacturers. The items included herein are based on CP&Y's perception of current conditions at the project location. The OPCC is considered a Class 3 Estimate per the Association for the Advancement of Cost Engineering (AACE). CP&Y has no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. CP&Y cannot warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs included in the OPCC herein.

[5]Values are rounded to the nearest $100.

Appendix E – Yard Piping, Energy Dissipation Structure and Junction Box Plan Sheets

Plan Sheets 23, 30 and 31 from City of Kyle, Texas Construction Plans for Wastewater Treatment Plant Expansion, by Burgess & Niple and dated October 2019

PLOTTED: 11/6/2019 11:07:38 AM

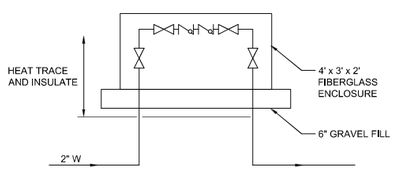


LEGEND

ITEMS ABANDONED IN PLACE PER PHASE 1 PROJECT.

CODED NOTES:

1. EX. SPLITTER MANHOLE TO BE ABANDONED IN PLACE BY FILLING WITH CONCRETE.
2. EX. PIPE TO BE REMOVED FROM SERVICE. CUT 2 FEET FROM EXISTING STRUCTURE INTERCONNECTION AND FILL ABANDONED PIPE ENDS WITH CONCRETE. PROPERLY DISPOSE OF ALL REMOVED PIPE AND MATERIALS OFF WWTP SITE.
3. INSTALL ABOVE-GRADE BACKFLOW PREVENTER PER DETAIL THIS SHEET.
4. REMOVE 90° BEND ON EX. 18" LINE AND INSTALL 18"x8" REDUCER.
5. CONNECT PROP. 24" SW LINE TO EX. 18" LINE WITH A 90° BEND AND 24"x18" REDUCER.
6. INSTALL 22.5° BENDS ON 8" WAS LINE TO CLEAR 18" SW LINE.
7. CONNECT EX. 24" LINE TO PROP. 24" SE LINE WITH A 90° BEND.
8. INSTALL 18" ELBOW, 18" x 8" REDUCER, AND 8" PLUG VALVE. PROVIDE VALVE WITH VALVE BOX AND OPERATING NUT.
9. INSTALL CLEANOUT AT BEND ON 8" WAS/SCUM LINE..
10. CORE DRILL EXISTING CONCRETE WALL AND INSTALL NEW PIPE INTO WET WELL FLUSH WITH INTERIOR WALL FACE. FILL SPACE BETWEEN WALL HOLE AND NEW PIPE WITH ONE CENTERED LINK SEAL AND NON-SHRINK GROUT AND PLACED FLUSH WITH BOTH WALL FACES (TYP OF 4).
11. INSTALL INFLUENT JUNCTION BOX PER PLANS AND SECTIONS ON SHEET 31. COORDINATE INSTALLATION WITH KYLE OPERATING STAFF AND INSTALLATION SUBMITTAL SHOULD BYPASS PUMPING OR OTHER INFLUENT FLOW MANAGEMENT OR TRANSFER BE REQUIRED. PROPERLY DISPOSE OF ALL REMOVED PIPE AND MATERIALS OFF WWTP SITE.
12. INSTALL ENERGY DISSIPATION MANHOLE PER PLANS AND SECTIONS ON SHEET 30. COORDINATE INSTALLATION WITH KYLE OPERATING STAFF AND INSTALLATION SUBMITTAL SHOULD BYPASS PUMPING OR OTHER INFLUENT FLOW MANAGEMENT OR TRANSFER BE REQUIRED. PROPERLY DISPOSE OF ALL REMOVED PIPE AND MATERIALS OFF WWTP SITE.
13. ABANDON EX. 4" SS UPON ACCEPTANCE OF NEW LINE.
14. PROP. 4' CONCRETE MANHOLE
RIM ELEV: 606.0 (MATCH PAVEMENT)
FL PROP 8" (IN): 602.45
FL PROP 8" (OUT): 602.35
15. KEEP AREA CLEAR FOR 12" NON-POTABLE REUSE LINE (TO BE CONSTRUCTED BY OTHERS).
16. NOT USED.
17. INSTALL 8" WAS/SCUM TEE AT IE 602.45.
18. TERMINATE 42" BUNTON CREEK INTERCEPTOR AT APPROXIMATELY STATION 2+10.77 AND INVERT ELEVATION 581.96± (OR INTERCONNECT WITH EXISTING INTERCEPTOR SHOULD ITS CONSTRUCTION PROCEED WWTP WORK).
19. COORDINATE YARD PIPING WITH EXISTING RECENTLY OWNER INSTALLED ELECTRICAL DUCT BANK.
20. BOLT DOWN LID OF EXISTING MANHOLE WITH TYPE 316 SST BOLTS AND NEW GASKET.
21. EXISTING REUSE PUMP STATION TO REMAIN INTACT.



BACKFLOW PREVENTER DETAIL

SCALE: NONE

N

0 10' 20' 40'

NO.	REVISIONS	DATE	BY	CHK.
2	ADDENDUM 2 DRAWING REVISIONS	10/31	CKD	SWS

BURGESS & NIPLE
4029 CAPITAL OF TEXAS HIGHWAY, SUITE 220
AUSTIN, TEXAS 78704
PHONE: (512) 306-9266
TBPE FIRM REGISTRATION NO. 10834

SAMUEL W. SWANSON 127053 LICENSED PROFESSIONAL ENGINEER
10/01/2019

CITY OF KYLE, TEXAS
WASTEWATER TREATMENT PLANT EXPANSION

YARD PIPING
ENLARGED PLAN 2

CHECKED BY:	DES
DRAWN BY:	CKD
DESIGNED BY:	SWS
APPROVED BY:	SWS
DATE:	OCTOBER 2019
SCALE:	AS NOTED
	PR55768
SHEET NO.	OF
23	282

Item # 9

P:\PR55768\Cadd\Sheets\23 YARD PIPING ENLARGED PLAN 2 PH2.dwg 10/31/2019 9:42:39 AM Doss, Colleen

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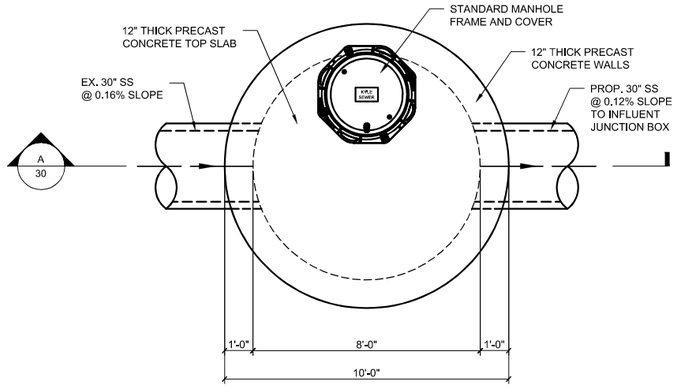
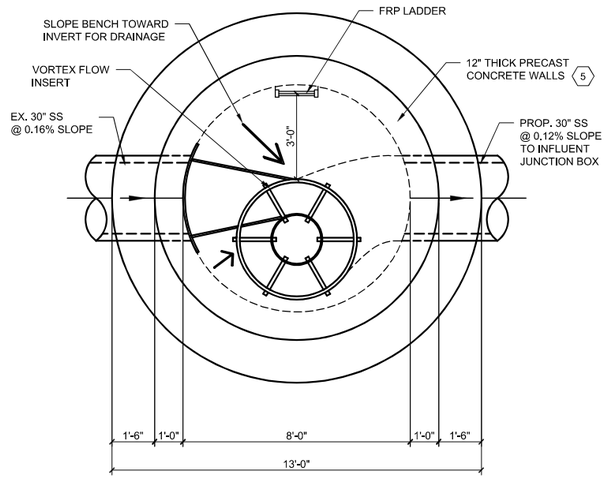


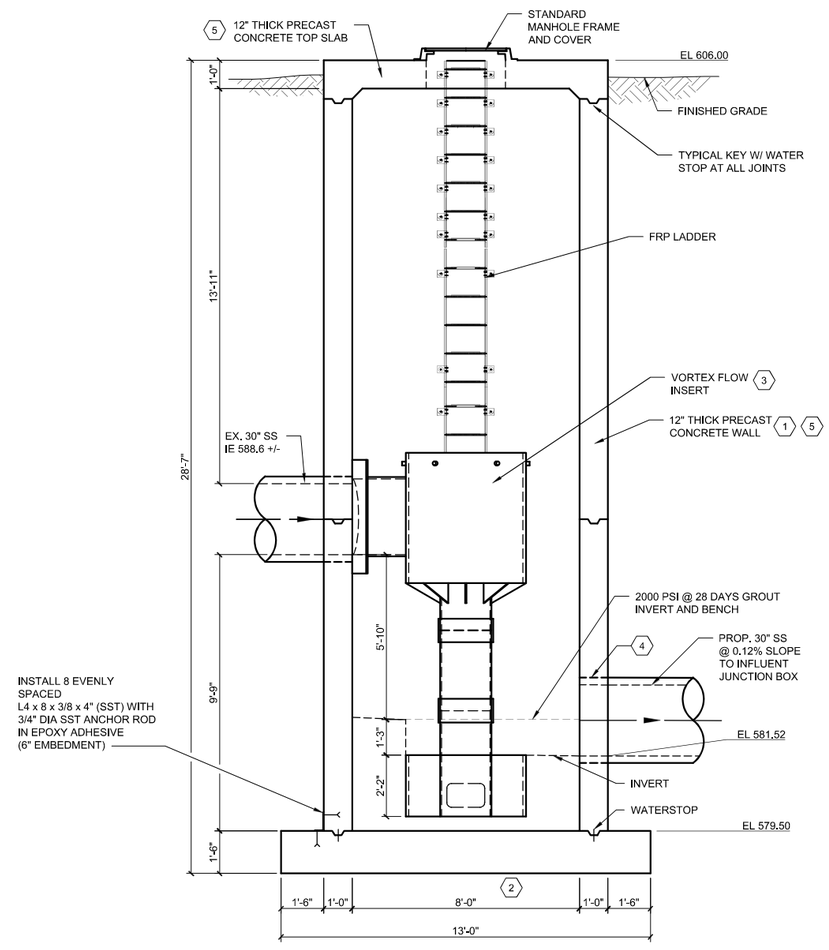
TOP LEVEL PLAN

3/8"=1'-0"



CHANNEL LEVEL PLAN

3/8"=1'-0"



A SECTION

3/8"=1'-0"

CODED NOTES:

1. PROVIDE 8'-0" DIA. TYPE B PRECAST MANHOLE SECTION PER ASTM C478 WITH CAST IN PLACE (SHOWN) OR MONOLITHIC BASE AND 300 PSF RATED TOP SLAB WITH CAST IN MANHOLE FRAME.
2. PROVIDE CONCRETE MUDMAT WITH LEAN CLAY BACKFILL, PER TYPICAL FOUNDATION UNDERCUT/BACKFILL STANDARD DETAIL ON STRUCTURAL FOUNDATION DETAILS SHEET.
3. INSTALL AND INTERCONNECT WITH EXISTING PIPE PER VORTEX INSERT MANUFACTURER'S RECOMMENDATIONS.
4. INSTALL PER WALL PENETRATION COMPRESSIBLE RUBBER LINK TYPE STANDARD DETAIL.
5. PROVIDE INTERIOR CONCRETE CORROSION-RESISTANT COATING PER SPECIFICATIONS.

0 1'-4" 2'-8" 5'-4"

SCALE: 3/8" = 1'-0"

NO.	REVISIONS	DATE	BY	CHK.

BURGESS & NIPLE
4029 CAPITAL OF TEXAS HIGHWAY, SUITE 220
AUSTIN, TEXAS 78704
PHONE: (512) 306-9266
TBPE FIRM REGISTRATION NO. 10834

SAMUEL W. SWANSON 127053 LICENSED PROFESSIONAL ENGINEER
10/01/2019

CITY OF KYLE, TEXAS
WASTEWATER TREATMENT PLANT EXPANSION

ENERGY DISSIPATION MANHOLE PLANS AND SECTIONS

CHECKED BY:	DES
DRAWN BY:	CKD
DESIGNED BY:	SWS
APPROVED BY:	SWS
DATE:	OCTOBER 2019
SCALE:	3/8"=1'-0"
	PR55768
SHEET NO.	OF
30	282

Item # 9

P:\PR55768\Cadd\Sheets\30 ENERGY DISSIPATION MANHOLE PLANS AND SECTIONS.dwg 9/20/2019 11:20:04 AM Doss, Colleen

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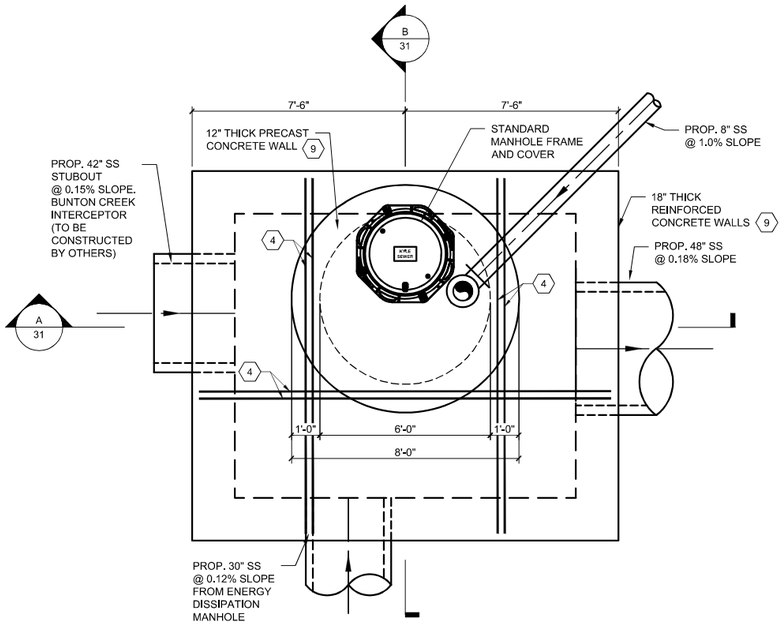
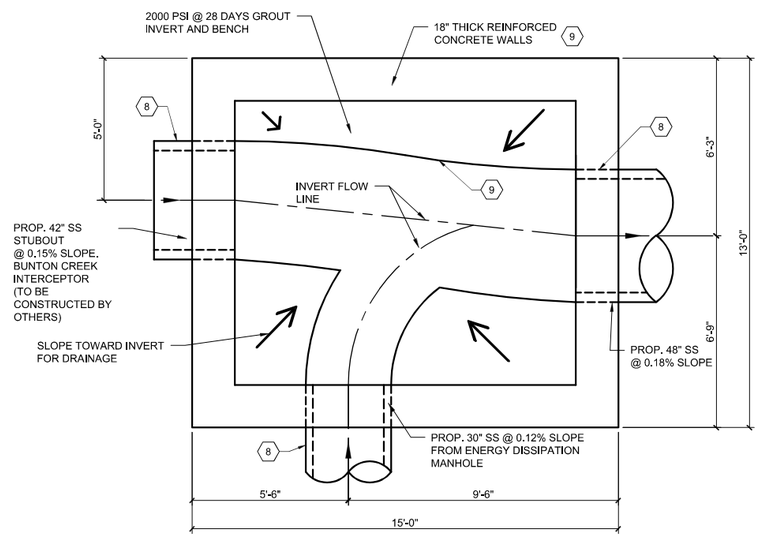


TOP LEVEL PLAN

3/8"=1'-0"

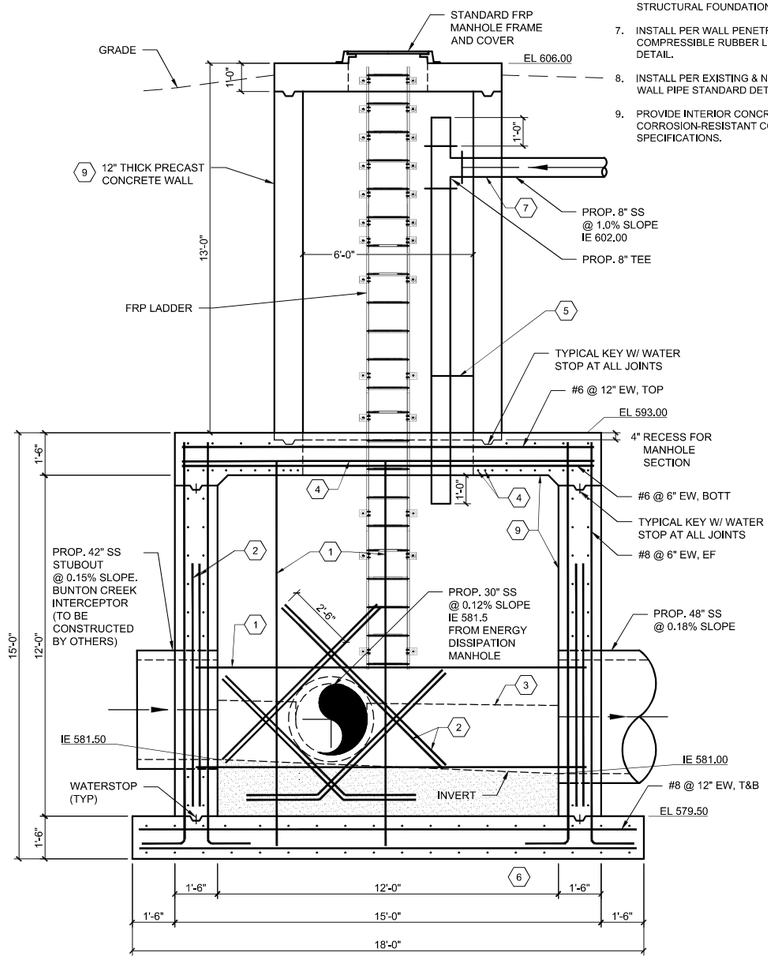


CHANNEL LEVEL PLAN

3/8"=1'-0"

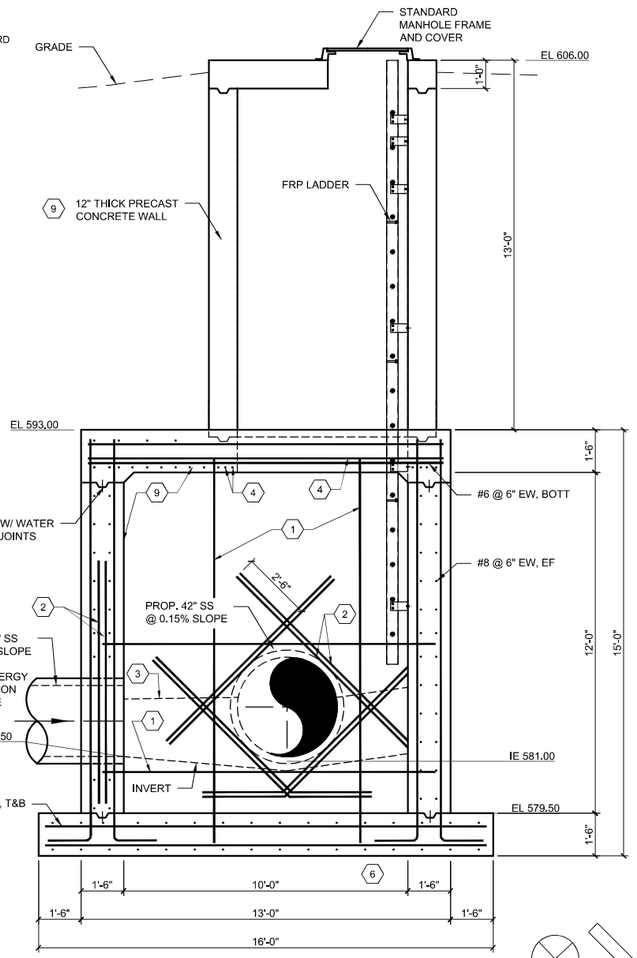
CODED NOTES:

1. PROVIDE ONE ADDITIONAL #6 BAR EACH SIDE OF OPENING FOR 30" Ø PIPE OPENING AND PROVIDE TWO ADDITIONAL #6 BARS EACH SIDE OF OPENING FOR 42" Ø AND 48" Ø OPENINGS WITH SLAB DOWELS.
2. PROVIDE TWO #6 DIAGONAL BARS AS SHOWN AT EACH FACE OF WALL CENTERED ON OPENING (TYP 3 WALLS).
3. INSTALL 2000 PSI @ 28 DAYS GROUT INVERT AND BENCH.
4. PROVIDE TWO ADDITIONAL #6 BARS EACH SIDE OF OPENING (3 SIDES) BOTTOM ONLY. SEE TOP LEVEL PLAN.
5. PROVIDE RISER BRACKET TYPE PIPE SUPPORT PER STANDARD DETAILS.
6. PROVIDE CONCRETE MUDMAT WITH LEAN CLAY BACKFILL, PER TYPICAL FOUNDATION UNDERCUT/BACKFILL STANDARD DETAIL ON STRUCTURAL FOUNDATION DETAILS SHEET.
7. INSTALL PER WALL PENETRATION COMPRESSIBLE RUBBER LINK TYPE STANDARD DETAIL.
8. INSTALL PER EXISTING & NEW WALL & SLAB WALL PIPE STANDARD DETAIL.
9. PROVIDE INTERIOR CONCRETE CORROSION-RESISTANT COATING PER SPECIFICATIONS.



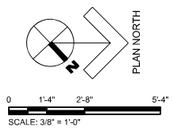
A SECTION

3/8"=1'-0"



B SECTION

3/8"=1'-0"



0 1'-4" 2'-8" 5'-4"

SCALE: 3/8" = 1'-0"

NO.	REVISIONS	DATE	BY	CHK.

BURGESS & NIPLE
4029 CAPITAL OF TEXAS HIGHWAY, SUITE 220
AUSTIN, TEXAS 78704
PHONE: (512) 306-9266
TBPE FIRM REGISTRATION NO. 10834

SAMUEL W. SWANSON 127053 LICENSED PROFESSIONAL ENGINEER
10/01/2019

CITY OF KYLE, TEXAS
WASTEWATER TREATMENT PLANT EXPANSION

INFLUENT JUNCTION BOX
PLANS AND SECTIONS

CHECKED BY:	DES
DRAWN BY:	CKD
DESIGNED BY:	SWS
APPROVED BY:	SWS
DATE:	OCTOBER 2019
SCALE:	3/8" = 1'-0"
	PR55768
SHEET NO.	OF
31	282

Item # 9

P:\PR55768\Cadd\Sheets\31 INFLUENT JUNCTION BOX PLANS AND SECTIONS.dwg 8/20/2019 11:21:37 AM Doss, Colleen

Appendix F - Preferred Alternative Phase 1 & 2 OPCCs

City of Kyle - Wastewater Treatment Plant Interceptor Phase 1 & 2
Engineer's Opinion of Probable Construction Cost
Class 3 OPCC (AA-3 - Phase 1)

Phase 1 of new 48-inch interceptor paralleling along existing 30-inch interceptor and abandonment of existing 30-inch interceptor.

CP&Y an STV Company

ITEM NO.	DESCRIPTION	UNITS	QNTY	UNIT COST[1]	UNIT SUBTOTAL[2]
1	Preparing Right-of-Way (5%)	LS	1	$ 365,886.75	$ 365,886.75
2	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 72" (0-15' Depth)	EA	7	$ 52,300.00	$ 366,100.00
3	Extra Depth Standard Polymer Concrete Manhole, 72"	VF	25	$ 578.00	$ 14,450.00
4	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 84" (0-15' Depth)	EA	8	$ 81,300.00	$ 650,400.00
5	Doghouse Polymer Concrete Manhole W/Polymer Concrete Base, 96" (0-15' Depth)	EA	1	$ 112,500.00	$ 112,500.00
6	Wastewater Manhole Vent	EA	14	$ 4,500.00	$ 63,000.00
7	Odor Control	EA	14	$ 560.00	$ 7,840.00
8	Trench Excavation Safety Protection Systems (all depths)	LF	12053	$ 10.00	$ 120,530.00
9	Pipe, 48" Dia. FRP, all depths, incl. Excavation & Backfill	LF	5993	$ 750.00	$ 4,494,750.00
10	CLSM/ Concrete Cap	CY	300	$ 237.00	$ 71,100.00
11	Native Seeding for Erosion Control	AC	11	$ 2,500.00	$ 27,500.00
12	Protective Fencing Type A Chain Link Fence (Typical Application - High Damage Potential)	LF	2600	$ 5.00	$ 13,000.00
13	Stabilized Construction Entrance	EA	2	$ 2,500.00	$ 5,000.00
14	Silt Fence for Erosion	LF	12120	$ 2.00	$ 24,240.00
15	Abandonment of Existing 30" Wastewater Line	LF	5993	$ 10.00	$ 59,930.00
16	Abandon Existing Manhole	EA	12	$ 5,000.00	$ 60,000.00
17	Storm Water Pollution Prevention Plan (SWPPP)	EA	1	$ 5,000.00	$ 5,000.00
18	Connect to Existing WWTP (Sta. 10+00)	LS	1	$ 200,000.00	$ 200,000.00
19	Sanitary Sewer Lateral Stub outs and Reconnects	EA	5	$ 2,000.00	$ 10,000.00
20	Bypass Pumping / Flow Diversion	LS	1	$ 100,000.00	$ 100,000.00
21	Pipe, 12" Pressure Pipe (all depths), including Excavation and Backfill	LF	6060	$ 143.00	$ 866,580.00
22	Gate Valve (12")	EA	1	$ 5,100.00	$ 5,100.00
23	Combination Air Release Assembly - 2"	EA	2	$ 5,520.00	$ 11,040.00
24	Ductile Iron Fittings	TON	1.25	$ 12,940.00	$ 16,175.00
25	Project Signs	EA	1	$ 3,500.00	$ 3,500.00
26	Phase 2 Connection (Provide stub-out for Phase 2 connection & connect to existing sewer)	EA	1	$ 10,000.00	$ 10,000.00
				Project Sub-Total[5]	**$ 7,683,700.00**
				Inflation/Escalation (8% of Sub-total)[3&5]	$ 614,700.00
				Sub-Total with Inflation/Escalation[5]	**$ 8,298,400.00**
				Mobilization (5%)[5]	$ 415,000.00
				Bonds & Insurance (2%)[5]	$ 166,000.00
				Sub-Total with Inflation/Escalation, Mobilization and Bonds/Insurance[5]	**$ 8,879,400.00**
				Contingency (30%)[5]	$ 2,663,900.00
				Project Total[4&5]	**$ 11,543,300.00**

[1]The 'Unit Cost' is the manufacturer's supplied cost plus installation, unless otherwise noted. Unit Cost is rounded to the nearest $1.

[2]Unit Subtotal is the 'Unit Cost" multiplied by the 'Qnty'.

[3]Inflation/Escalation is calculated at 8% of the project subtotal to account for the time between this estimate and time of bid.

[4]These costs have been developed from prior bid tabulations, industry standards and coordination with material / equipment manufacturers. The items included herein are based on CP&Y's perception of current conditions at the project location. The OPCC is considered a Class 3 Estimate per the Association for the Advancement of Cost Engineering (AACE). CP&Y has no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. CP&Y cannot warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs included in the OPCC herein.

[5]Values are rounded to the nearest $100.

City of Kyle - Wastewater Treatment Plant Interceptor Phase 1 & 2
Engineer's Opinion of Probable Construction Cost
Class 3 OPCC (AA-3 - Phase 2)

Phase 2 of new 48-inch interceptor paralleling along existing 30-inch interceptor and abandonment of existing 30-inch interceptor.

CP&Y an STV Company

ITEM NO.	DESCRIPTION	UNITS	QNTY	UNIT COST[1]	UNIT SUBTOTAL[2]
1	Preparing Right-of-Way (5%)	LS	1	$ 224,164.55	$ 224,164.55
2	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 72" (0-15' Depth)	EA	2	$ 52,300.00	$ 104,600.00
3	Standard Polymer Concrete Manhole W/Polymer Concrete Base, 84" (0-15' Depth)	EA	5	$ 81,300.00	$ 406,500.00
4	Wastewater Manhole Vent	EA	7	$ 4,500.00	$ 31,500.00
5	Odor Control	EA	7	$ 560.00	$ 3,920.00
6	Trench Excavation Safety Protection Systems (all depths)	LF	8208	$ 10.00	$ 82,080.00
7	Pipe, 48" Dia. FRP, all depths, incl. Excavation & Backfill	LF	4100	$ 750.00	$ 3,075,000.00
8	Native Seeding for Erosion Control	AC	8	$ 2,500.00	$ 20,000.00
9	Stabilized Construction Entrance	EA	2	$ 2,500.00	$ 5,000.00
10	Silt Fence for Erosion	LF	8216	$ 2.00	$ 16,432.00
11	Abandonment of Existing 30" Wastewater Line	LF	4100	$ 10.00	$ 41,000.00
12	Abandon Existing Manhole	EA	9	$ 5,000.00	$ 45,000.00
13	Storm Water Pollution Prevention Plan (SWPPP)	EA	1	$ 5,000.00	$ 5,000.00
14	Connect to Existing WWL (Sta. 110+93)	LS	1	$ 10,000.00	$ 10,000.00
15	Connect to Phase 1 Stub out WWL (Sta. 70+25)	LS	1	$ 10,000.00	$ 10,000.00
16	Sanitary Sewer Lateral Stub outs and Reconnects	EA	2	$ 2,000.00	$ 4,000.00
17	Pipe, 12" Pressure Pipe (all depths), including Excavation and Backfill	LF	4108	$ 143.00	$ 587,444.00
18	Gate Valve (12")	EA	1	$ 5,100.00	$ 5,100.00
19	Combination Air Release Assembly - 2"	EA	2	$ 5,520.00	$ 11,040.00
20	Ductile Iron Fittings	TON	1.25	$ 12,940.00	$ 16,175.00
21	Project Signs	EA	1	$ 3,500.00	$ 3,500.00
				Project Sub-Total[5]	**$ 4,707,500.00**
				Inflation/Escalation (8% of Sub-total)[3&5]	$ 376,600.00
				Sub-Total with Inflation/Escalation[5]	**$ 5,084,100.00**
				Mobilization (5%)[5]	$ 254,300.00
				Bonds & Insurance (2%)[5]	$ 101,700.00
				Sub-Total with Inflation/Escalation, Mobilization and Bonds/Insurance[5]	**$ 5,440,100.00**
				Contingency (30%)[5]	$ 1,632,100.00
				Project Total[4&5]	**$ 7,072,200.00**

[1]The 'Unit Cost' is the manufacturer's supplied cost plus installation, unless otherwise noted. Unit Cost is rounded to the nearest $1.

[2]Unit Subtotal is the 'Unit Cost" multiplied by the 'Qnty'.

[3]Inflation/Escalation is calculated at 8% of the project subtotal to account for the time between this estimate and time of bid.

[4]These costs have been developed from prior bid tabulations, industry standards and coordination with material / equipment manufacturers. The items included herein are based on CP&Y's perception of current conditions at the project location. The OPCC is considered a Class **3** Estimate per the Association for the Advancement of Cost Engineering (AACE). CP&Y has no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. CP&Y cannot warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs included in the OPCC herein.

[5]Values are rounded to the nearest $100.

CITY OF KYLE, TEXAS

Approve Right of Way Acquisition Services Resolution

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Approve a Resolution authorizing the Interim City Manager to negotiate an agreement with LJA ENGINEERING,INC., Austin, Texas and STATESIDE RIGHT OF WAY SERVICES, LLC, Dallas, Texas to provide Right of Way Acquisition Services. ~ *Leon Barba, P.E., City Engineer*

Other Information: A Request for Proposals (RFP) was issued on January 18, 2023 seeking qualified consultant services to provide Right of Way Acquisition Services.

Fourteen (14) submittals were received in response to the RFP prior to the February 21, 2023 (5:00 p.m.) deadline.

Staff evaluated the proposals and is recommending the firms of LJA Engineering and Stateside Right of Way Services, LLC, for City Council approval to provide right of way acquisition services for City wide projects as needed.

Legal Notes: N/A

Budget Information:

ATTACHMENTS:

Description

- Scoresheet
- Resolution

Right of Way Acquisition City Wide Projects

K 22-23.4

	Firm	Qualifications & Availability	Proposed Staff	Project Experience	Project Approach	Cost	Score	Ranking
		0 - 15	0 - 15	0 - 25	0 - 20	0 - 25		
1	THC, Inc.	14.00	14.33	21.67	19.00	15.83	**84.83**	7
2	Criado & Associates, Inc.	10.67	10.67	20.00	13.67	19.67	**74.67**	13
3	LJA Engineering	14.67	14.00	25.00	19.33	20.33	**93.33**	1
4	Pape-Dawson Engineers	11.67	10.00	21.67	17.67	22.67	**83.67**	9
5	Volkert	13.00	13.00	21.00	19.67	19.83	**86.50**	3
6	Cobb, Fendley & Associates	15.00	12.67	24.00	15.00	15.00	**81.67**	10
7	WSP USA Environment & Infrastructure	14.00	13.00	20.00	16.67	21.50	**85.17**	5
8	Overland, Pacific & Cutler, LLC (OPC)	13.67	12.33	22.00	17.67	19.33	**85.00**	6
9	O.R. Colan Associates, LLC (ORC)	10.00	12.00	21.00	17.67	15.17	**75.83**	12
10	7Arrows Landstaff, LLC	13.67	11.67	19.67	17.00	16.17	**78.17**	11
11	Stateside Right of Way Services, LLC	13.33	13.33	23.00	18.33	21.50	**89.50**	2
12	HDR	13.67	15.00	24.67	19.67	13.33	**86.33**	4
13	Clark Land Resources, Inc.	13.33	12.67	20.33	16.67	21.33	**84.33**	8
14	Pinnacle Consulting Management Group, Inc.	10.67	11.33	18.33	16.33	13.33	**70.00**	14

RESOLUTION NO. _____

A RESOLUTION OF THE CITY OF KYLE, TEXAS, AUTHORIZING THE INTERIM CITY MANAGER TO EXECUTE AN AGREEMENT WITH LJA ENGINEERING, OF AUSTIN, TEXAS, AND STATESIDE RIGHT OF WAY SERVICES, LLC., OF DALLAS, TEXAS TO PROVIDE RIGHT OF WAY ACQUISITION SERVICES.

WHEREAS, on January 18, 2023, the City of Kyle requested proposals from professional engineering firms the Right of Way Acquisition Services for the City of Kyle; and

WHEREAS, the City received proposals by the February 21, 2023 deadline.

WHEREAS, the City desires to obtain property acquisition services from LJA Engineering of Austin, Texas and Stateside Right of Way Services, LLC of Dallas, Texas; and

WHEREAS, LJA Engineering and Stateside Right of Way Services, LLC, are qualified and capable of performing the real estate services for the Right of Way Acquisition Services proposed herein and is willing to enter into an Agreement with the City of Kyle to perform such services; and

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS, AS FOLLOWS:

SECTION 1. Findings. The hereinabove recitals are hereby found to be true and correct and are hereby adopted by the City Council and made a part hereof for all purposes as findings of fact.

SECTION 2. Authorization. The Interim City Manager is hereby authorized to execute a professional services agreement with LJA Engineering and Stateside Right of Way Services, LLC for the appraising, negotiation, and acquisition of properties necessary for City improvements.

SECTION 3. Effective Date. This resolution shall take effect immediately from and after its passage by the City Council of the City of Kyle.

SECTION 4. Open Meetings. It is hereby officially found and determined that the meeting at which this Resolution was passed was open to the public as required and that public notice of the time, place, and purpose of said meeting was given as required by the Open Meetings Act, Chapter 551, Texas Government Code.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS, on this 7th day of March, 2023.

THE CITY OF KYLE, TEXAS

_____
Travis Mitchell, Mayor

ATTEST:

_____
Jennifer Kirkland, City Secretary

CITY OF KYLE, TEXAS

Acceptance of Crosswinds Phase 3A Subdivision

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Approve a Resolution of the City Council of the City of Kyle, Texas accepting the Crosswinds Phase 3A subdivision improvements; finding and determining that the meeting at which this Resolution is passed was noticed and is open to the Public as required by law.~ *Leon Barba, P.E., City Engineer*

Other Information: A final walkthrough was completed on July 13, 2022. The punch list items have been completed on the project. The water and wastewater improvements have been constructed in substantial accordance with the City's requirements. Record drawings have been provided to the City.

A Maintenance Bond (Philadelphia Indemnity Insurance Company – Bond No. PB 03016800706M) in the amount of $991,704.35 has been provided for a period of two (2) years.

Legal Notes: N/A

Budget Information: N/A

ATTACHMENTS:

Description

- Resolution
- Acceptance Memo
- Maintenance Bond
- Subdivision Map

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS ACCEPTING CROSSWINDS PHASE THREE-A SUBDIVISION; FINDING AND DETERMINING THAT THE MEETING AT WHICH THIS RESOLUTION IS PASSED WAS NOTICED AND IS OPEN TO THE PUBLIC AS REQUIRED BY LAW.

WHEREAS, the developer of this subdivision has completed construction of the improvements in general accordance with plans approved by the City of Kyle; and

WHEREAS, the subdivision improvements are defined as water and wastewater systems installed within public rights-of-way and any dedicated public utility easements within the subdivision; and

WHEREAS, the contractor has also provided the City a two (2) year maintenance bond in an amount of thirty five percent (35%) of the cost of the construction for any repairs that may be necessary during a two-year period from the date of acceptance by City Council.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS hereby accepts the public improvements and certifies completion of the improvements for Crosswinds Phase Three-A. The current maintenance surety is hereby $991,704.35 being thirty five percent of the total cost of required improvements, to be held for two years from this date.

SECTION 1. That the subdivision improvements within the Crosswinds Phase Three-A are hereby accepted for operation and maintenance.

SECTION 2. That it is hereby officially found and determined that the meeting at which this resolution is passed is open to the public and that public notice of the time, place, and purpose of said meeting was given as required by law.

PASSED AND APPROVED this the ____ day of _____, 2023.

CITY OF KYLE, TEXAS

_____
Travis Mitchell, Mayor

ATTEST:

_____
Jennifer Kirkland, City Secretary

EXHIBIT A

STAFF ACCEPTANCE MEMO

CITY OF KYLE

100 W. Center St. Kyle, Texas 78640
Office (512) 262-1010 Fax (512) 262-3915

MEMORANDUM

TO: Jerry Hendrix, Interim City Manager

FROM: Leon Barba, P.E., City Engineer

DATE: February 10, 2023

SUBJECT: Crosswinds Phase Three-A
Final Acceptance

The referenced subdivision is recommended for acceptance by the City of Kyle.

A final walkthrough was completed on July 13,2022. The punch list items have been completed on the project. The water and wastewater improvements have been constructed in substantial accordance with the City's requirements. Record drawings have been provided to the City.

A Maintenance Bond (Philadelphia Indemnity Insurance Company – Bond No. PB 03016800706M) in the amount of $991,704.35 has been provided for a period of two (2) years.

Please let me know if you need any additional information.

Xc: Harper Wilder, Public Works Dept.
Perwez Moheet, Finance Dept.
Debbie Guerra, Planning and Zoning

Carlson, Brigance & Doering, Inc.

Civil Engineering ❖ Surveying

ENGINEER'S CONCURRENCE LETTER
FOR FINAL INSPECTION AND
ENGINEERING RELEASE

Date: February 9, 2023

Project Name: **Crosswinds 3A**
Address: Intersection of Goforth Road and Crosswinds Parkway
Hays County
CBD No. 5239

On this day, December 22, 2022, the undersigned professional engineer or representative made a final visual inspection of the above referenced project. The site was visited during construction and site grading, drainage structures, water, and wastewater were constructed per the approved plans, with insignificant deviation. I, therefore, verify the adequate completion of the following items:

All curbs, pavement, storm sewers, inlets, outlet structures, manholes, water, wastewater, Lift Station pond and similar construction items.

Sincerely,
Carlson, Brigance and Doering, Inc. (F-3791)

Brett R. Pasquarella, P.E.
Vice President of Engineering

STATE OF TEXAS
BRETT R. PASQUARELLA
84769
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

EXHIBIT B

MAINTENANCE BOND

Philadelphia Indemnity Insurance Company

One Bala Plaza, Suite 100
Bala Cynwyd, PA 19004
877-438-7459

Bond No. PB03016800706M

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we DNT Construction, LLC as Principal, and Philadelphia Indemnity Insurance Company, a corporation organized under the laws of the State of Pennsylvania, and duly authorized to do business in the State of Texas as Surety, are held and firmly bound unto City of Kyle, TX as Obligee, in the penal sum of Nine Hundred Ninety One Thousand Seven Hundred Four and 35/100 ($991,704.35) to which payment well and truly to be made we do bind ourselves, and each of our heirs, executors, administrators, successors and assigns jointly and severally, firmly by these presents.

WHEREAS, the said Principal entered into a contract with Development Solutions CW, LLC on behalf of: Crosswinds M.U.D. for Crosswinds Subdivision 3A Water, Wastewater, Forcemain, & Lift Station Improvements, which contract is hereinafter referred to as the "Contract."

WHEREAS, said Obligee requires that the Principal furnish a bond conditioned to guarantee for the period of Two year (s) from date of acceptance of the work performed under the Contract against all defects in workmanship and materials which would have been the responsibility under the Contract for which written notice is made to Surety during said period

NOW THEREFORE, THE CONDITIONS OF THIS OBLIGATION IS SUCH that, if the Principal shall indemnify the Obligee for all loss that the Obligee may sustain by reason of any defective materials or workmanship which may become apparent and with respect to which notice is delivered to Surety in writing during the period of Two year (s) from and after date of acceptance of the work under the Contract, then this obligation shall be void, otherwise to remain in full force and effect.

No right of action shall accrue hereunder to or for the benefit of any person or entity other the Obligee named herein, nor shall any suit be filed or action maintained on this bond more than twenty five (25) months after the date of the earliest timely notice of defect by Obligee to Surety.

SIGNED, SEALED AND DATED THIS 20th day of July, 2022.

DNT Construction, LLC
Principal

By: _____
Dean Tomme, President

Philadelphia Indemnity Insurance Company

By: _____
Jeremy Farque, Attorney-in-Fact

PHILADELPHIA INDEMNITY INSURANCE COMPANY
One Bala Plaza, Suite 100
Bala Cynwyd, PA 19004-0950

Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS: That **PHILADELPHIA INDEMNITY INSURANCE COMPANY** (the Company), a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, does hereby constitute and appoint **Tom Mulanax, Michael Whorton, David Whorton, Rachel Martinez, Rosemarie Lopez, Jeremy Farque and/or Noe Moreno of Whorton Insurance Services,** its true and lawful Attorney-in-fact with full authority to execute on its behalf bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, issued in the course of its business and to bind the Company thereby, in an amount not to exceed **$50,000,000.**

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of PHILADELPHIA INDEMNITY INSURANCE COMPANY on the 14th of November, 2016.

RESOLVED: That the Board of Directors hereby authorizes the President or any Vice President of the Company: (1) Appoint Attorney(s) in Fact and authorize the Attorney(s) in Fact to execute on behalf of the Company bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof and to attach the seal of the Company thereto; and (2) to remove, at any time, any such Attorney-in-Fact and revoke the authority given. And, be it

FURTHER RESOLVED: That the signatures of such officers and the seal of the Company may be affixed to any such Power of Attorney or certificate relating thereto by facsimile, and any such Power of Attorney so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached.

IN TESTIMONY WHEREOF, PHILADELPHIA INDEMNITY INSURANCE COMPANY HAS CAUSED THIS INSTRUMENT TO BE SIGNED AND ITS CORPORATE SEALTO BE AFFIXED BY ITS AUTHORIZED OFFICE THIS 5TH DAY OF MARCH, 2021.

(Seal)

John Glomb, President & CEO
Philadelphia Indemnity Insurance Company

On this 5th day of March, 2021 before me came the individual who executed the preceding instrument, to me personally known, and being by me duly sworn said that he is the therein described and authorized officer of the **PHILADELPHIA INDEMNITY INSURANCE COMPANY**; that the seal affixed to said instrument is the Corporate seal of said Company; that the said Corporate Seal and his signature were duly affixed.

Commonwealth of Pennsylvania - Notary Seal
Vanessa Mckenzie, Notary Public
Montgomery County
My commission expires November 3, 2024
Commission number 1366394
Member, Pennsylvania Association of Notaries

Notary Public: Vanessa McKenzie

residing at: Bala Cynwyd, PA

My commission expires: November 3, 2024

I, Edward Sayago, Corporate Secretary of PHILADELPHIA INDEMNITY INSURANCE COMPANY, do hereby certify that the foregoing resolution of the Board of Directors and the Power of Attorney issued pursuant thereto on the 5th day March, 2021 are true and correct and are still in full force and effect. I do further certify that John Glomb, who executed the Power of Attorney as President, was on the date of execution of the attached Power of Attorney the duly elected President of PHILADELPHIA INDEMNITY INSURANCE COMPANY.

In Testimony Whereof I have subscribed my name and affixed the facsimile seal of each Company this 20th day of July, 2022.

Edward Sayago, Corporate Secretary
PHILADELPHIA INDEMNITY INSURANCE COMPANY

DNT CONSTRUCTION

DNT CONSTRUCTION FINAL COST & QUANTITIES
PROJECT: Crosswinds Subdivision 3A
City of Kyle

CONTRACTOR: DNT CONSTRUCTION
P O Box 6210
Round Rock, Texas 78683

I. WATER ITEMS						CONTRACT
ITEM	DESCRIPTION	QTY.	UNIT	UNIT PRICE		AMOUNT
1	8" Wet Connect	3	EA	$	1,000.00	$3,000.00
2	12" C900 DR-14 PVC, including fittings	2,744	LF	$	56.00	$153,664.00
3	8" C900 DR-14 PVC, including fittings	8,594	LF	$	30.00	$257,820.00
4	5 1/4" Fire Hydrant Assembly, including fire lead	20	EA	$	3,430.00	$68,600.00
5	6" Gate Valve,	20	EA	$	910.00	$18,200.00
6	8" Gate Valve,	27	EA	$	1,310.00	$35,370.00
7	12" Gate Valve	14	EA	$	2,310.00	$32,340.00
8	Raise Gate Valve,	61	EA	$	350.00	$21,350.00
9	Single Water Service Assembly,	32	EA	$	1,300.00	$41,600.00
10	Double Water Service Assembly,	124	EA	$	1,900.00	$235,600.00
11	1" Irrigation Service Assembly	3	EA	$	1,320.00	$3,960.00
12	2" AARV Assembly	3	EA	$	3,000.00	$9,000.00
13	Trench Safety	11,338	LF	$	0.50	$5,669.00
						$886,173.00

II. WASTEWATER ITEMS						CONTRACT
ITEM	DESCRIPTION	QTY.	UNIT	UNIT PRICE		AMOUNT
1	Tie to Existing Wastewater Line to include Force Main	5	EA	$	540.00	$2,700.00
2	Tie to Wet Well	1	EA	$	100.00	$100.00
3	8" SDR-26 PVC,	7,482	LF	$	29.00	$216,978.00
4	12" SDR-26 PVC,	4,411	LF	$	51.00	$224,961.00
5	Concrete Encasement	65	LF	$	21.00	$1,365.00
6	Single Wastewater Service	32	EA	$	1,030.00	$32,960.00
7	Double Wastewater Service	124	EA	$	1,550.00	$192,200.00
8	Install Tee and Plug on Main for Future Wastewater Service	9	EA	$	520.00	$4,680.00
9	4' Wastewater Manhole	42	EA	$	2,880.00	$120,960.00
10	4' Bolted Wastewater Manhole	9	EA	$	3,840.00	$34,560.00
11	4' Vented and Bolted Wastewater Manhole	1	EA	$	6,320.00	$6,320.00
12	5' Wastewater Manhole	2	EA	$	8,190.00	$16,380.00
13	5' Bolted Drop Manhole	1	EA	$	9,205.00	$9,205.00
14	5' Drop Manhole	1	EA	$	9,875.00	$9,875.00
15	Manhole Coating	56	EA	$	1,350.00	$75,600.00
16	Raise Wastwater Manhole	56	EA	$	380.00	$21,280.00
17	Trench Safety	11,893	LF	$	1.00	$11,893.00
						$982,017.00

III. FORCEMAIN ITEMS						CONTRACT
ITEM	DESCRIPTION	QTY.	UNIT	UNIT PRICE		AMOUNT
1	8" SDR-21 PVC,	3,021	LF	$	30.00	$90,630.00
2	Trench Safety	3,021	LF	$	1.00	$3,021.00
						$93,651.00

IV. LIFT STATION ITEMS						CONTRACT
ITEM	DESCRIPTION	QTY.	UNIT	UNIT PRICE		AMOUNT
1	Lift Station - including all associated appurtenances, but not limited to: ie. excavation, RPZ w/Enclosure; Water Meter; Electric Transformer; Fence; Valve Vault; Wet Well; Yard Light; Yard Hydrant, Jib Crane; Electrical Equipment; Scada Tower; Bollards; Generator and Generator Pad; Ordor Control (to be painted black from manufacture); 16' Raod Base Driveway; Hatch; Pumps; 1" Stone; Start Up; O&M Manuals;	1	LS	$	871,600.00	$871,600.00
						$871,600.00

TOTAL CONTRACT	**$2,833,441.00**

CONTRACTOR: DNT CONSTRUCTION, LLC

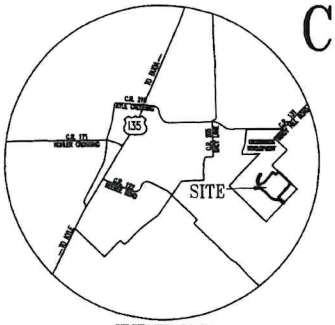
By: _____ Date: 7/14/2022

Casey McGlaughn, Project Manager

EXHIBIT C

SUBDIVISION MAP

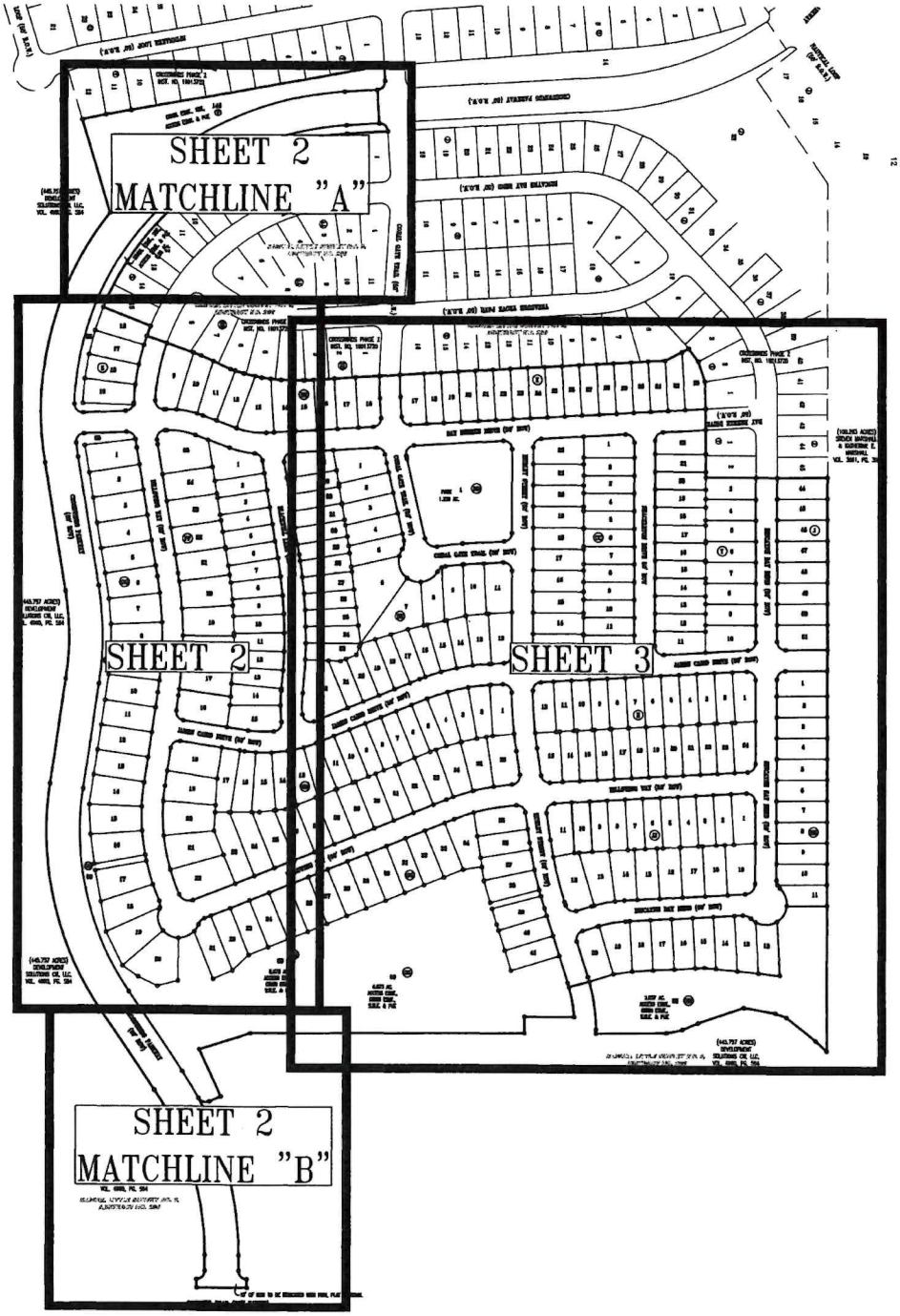
CROSSWINDS PHASE THREE-A



VICINITY MAP
NOT TO SCALE

SCALE: 1" = 200'

OVERALL LAYOUT

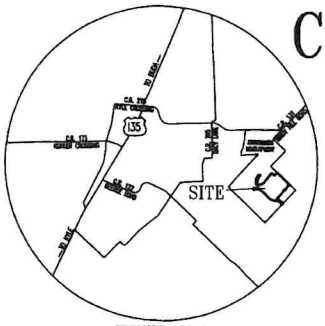


SHEET NO. 1 OF 7

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5239\Survey\PLAT – CROSSWINDS PHASE 3A

CROSSWINDS PHASE THREE-A



VICINITY MAP
NOT TO SCALE

OWNER:
CROSSWINDS DEVELOPMENT, INC.
2100 NORTHLAND DRIVE
AUSTIN, TX 78756
(512) 656-7549 PHONE

ENGINEER & SURVEYOR:
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE
AUSTIN, TEXAS 78749
(512) 280-5160 PHONE
(512) 280-5165 FAX

DATE: JANUARY 22, 2021

ACREAGE: 70.028 ACRES

SURVEY: SAMUEL LITTLE SURVEY NO. 8, ABSTRACT NO. 286, HAYS COUNTY, TEXAS

F.E.M.A. MAP NO. 48209C0290F
NO. 48209C0293F
HAYS COUNTY, TEXAS DATED SEPTEMBER 2, 2005

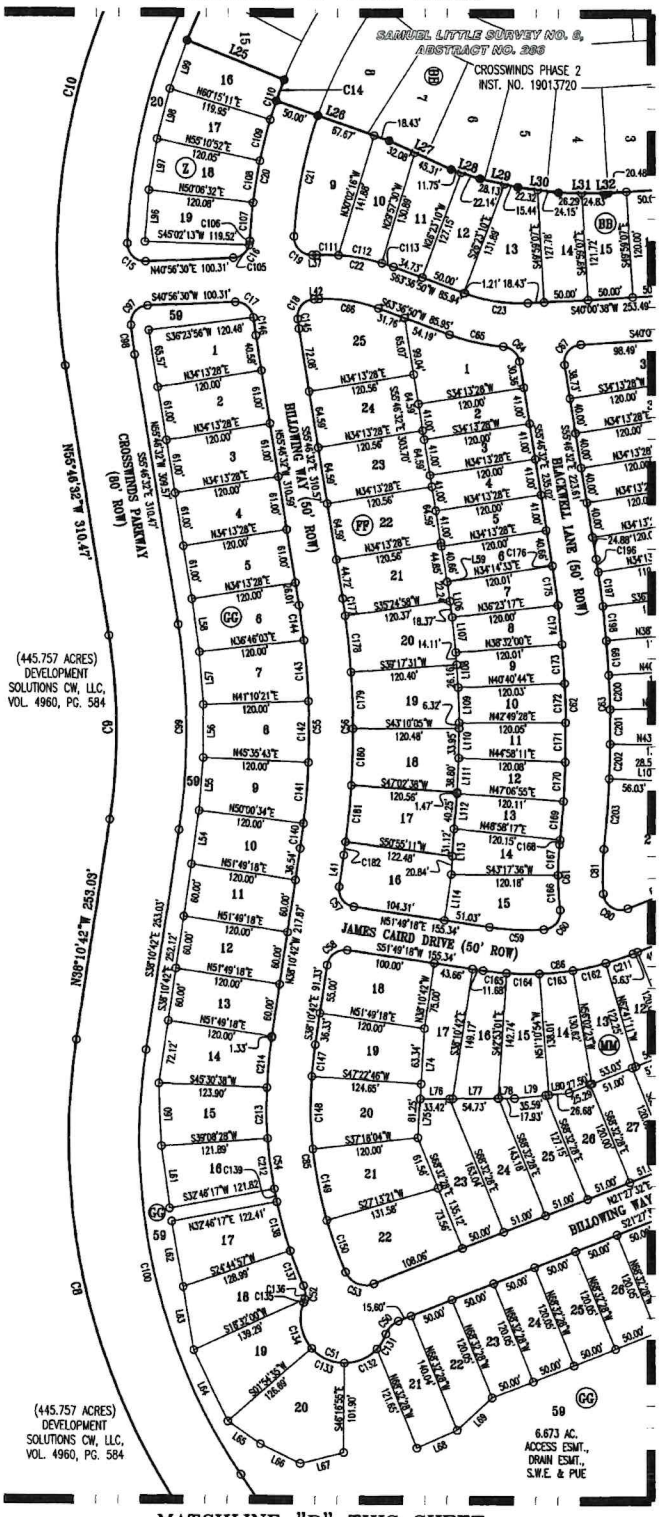
SINGLE FAMILY LOTS	280
DRAINAGE, SIDEWALK, ACCESS & PUBLIC UTILITY LOTS	4
PARK LOTS	1
NUMBER OF BLOCKS	14

LEGEND

- ● 1/2" IRON ROD FOUND (UNLESS OTHERWISE NOTED)
- ○ 1/2" CAPPED IRON ROD SET (UNLESS OTHERWISE NOTED)
- 25 LOT NUMBER
- Ⓕ BLOCK DESIGNATION

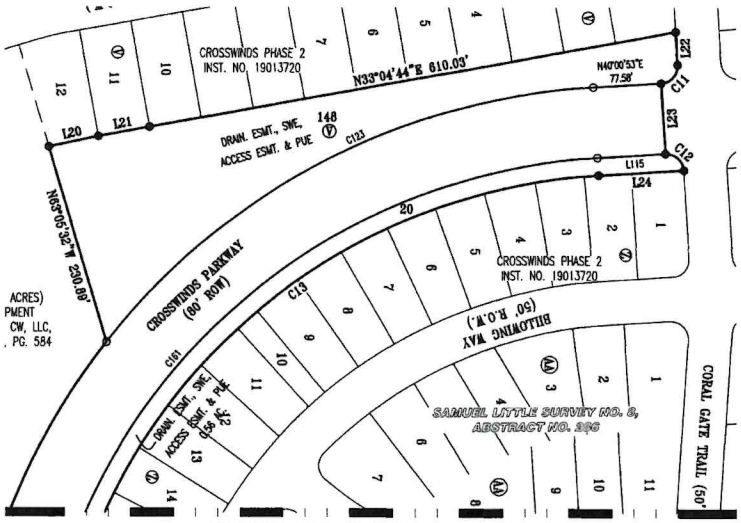
SCALE: 1" = 100'

MATCHLINE "A" THIS SHEET



MATCHLINE "B" THIS SHEET

MATCHLINE "A" THIS SHEET



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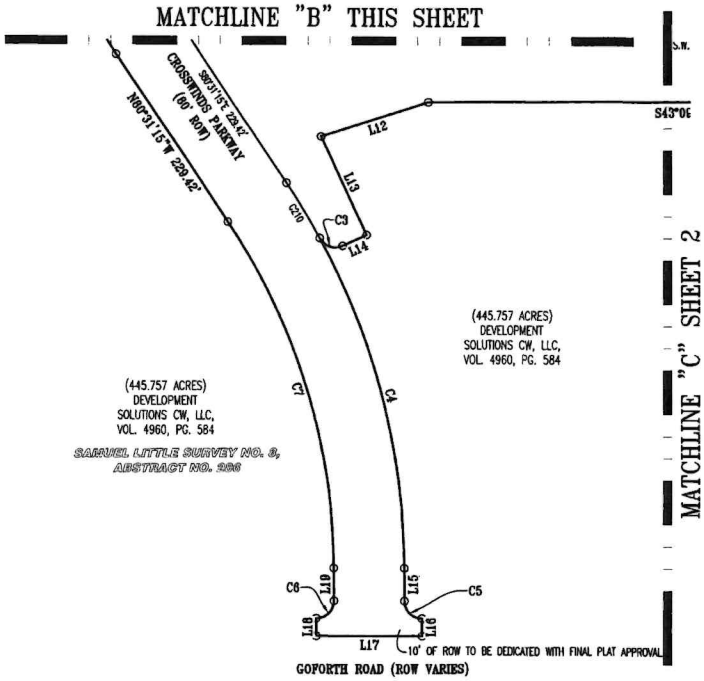


MATCHLINE "C" SHEET 2

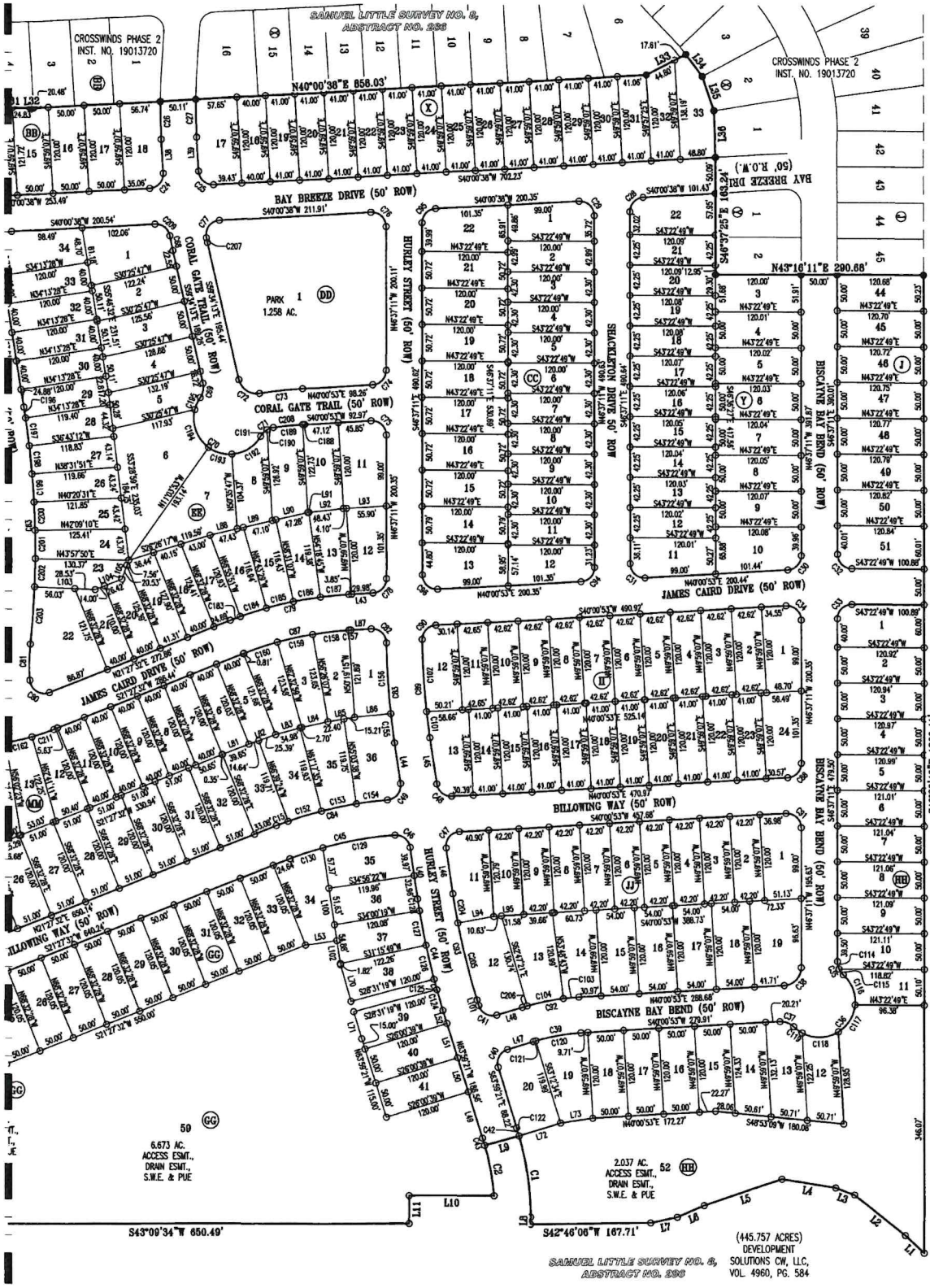
MATCHLINE "C" SHEET 2

SHEET NO. 2 OF 7

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5239\Survey\PLAT - CROSSWINDS PHASE 3A

CROSSWINDS PHASE THREE-A



SHEET NO. 3 OF 7

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5239\Survey\PLAT – CROSSWINDS PHASE 3A

CROSSWINDS PHASE THREE-A

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C1	115.04	425.00	S54°38'49"E	114.69	57.87	15°30'33"
C2	71.83	375.00	S56°54'50"E	71.72	36.03	10°58'30"
C3	30.13	20.00	S61°38'22"W	27.36	18.76	86°19'16"
C4	390.31	790.00	S61°02'46"E	386.35	199.23	28°18'28"
C5	31.41	20.00	N88°06'44"E	28.28	20.00	89°59'29"
C6	31.42	20.00	N01°53'16"W	28.29	20.00	90°00'31"
C7	416.72	710.00	N63°42'24"W	410.77	214.56	33°37'43"
C8	565.35	765.00	N59°20'58"W	552.57	296.28	42°20'34"
C9	210.38	685.00	N46°56'37"W	209.56	106.03	17°35'50"
C10	632.55	765.00	N32°05'15"W	614.69	335.62	47°22'33"
C11	31.42	20.00	S04°59'22"E	28.28	20.00	90°00'00"
C12	31.42	20.00	N85°00'38"E	28.28	20.00	90°00'00"
C13	750.86	664.30	S07°38'50"W	711.53	421.27	64°45'42"
C14	25.44	545.00	S26°00'58"E	25.44	12.72	2°40'29"
C15	32.78	20.00	N87°53'40"E	29.23	21.41	93°53'48"
C16	29.81	20.00	N01°45'42"W	27.13	18.46	85°24'23"
C17	29.83	20.00	S83°40'12"W	27.14	18.47	85°27'22"
C18	33.30	20.00	S06°45'41"E	29.59	21.98	95°24'22"
C19	33.32	20.00	N88°40'29"E	29.60	22.01	95°27'59"
C20	162.76	545.00	S35°54'33"E	162.16	81.99	17°06'41"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C21	140.29	495.00	S35°29'22"E	139.82	70.62	16°14'16"
C22	89.03	225.00	S52°15'40"W	88.45	45.11	22°40'20"
C23	72.09	175.00	N51°48'44"E	71.58	36.56	23°36'11"
C24	31.41	20.00	N04°59'14"W	28.28	20.00	89°59'46"
C25	31.42	20.00	N85°00'46"E	28.29	20.00	90°00'14"
C26	52.56	825.00	S48°08'37"E	52.55	26.29	3°39'00"
C27	52.57	775.00	S48°02'32"E	52.56	26.29	3°53'10"
C28	30.24	20.00	S03°18'16"E	27.44	18.86	86°37'50"
C29	32.59	20.00	S86°41'44"W	29.10	21.21	93°22'10"
C30	30.24	19.99	N03°18'09"W	27.44	18.87	86°41'04"
C31	32.59	20.00	N86°41'53"E	29.10	21.21	93°21'54"
C32	31.42	20.00	N88°22'49"E	28.28	20.00	90°00'00"
C33	31.42	20.00	S01°37'11"E	28.28	20.00	90°00'00"
C34	32.59	20.00	S86°41'51"W	29.10	21.21	93°21'56"
C35	21.03	25.00	S70°42'53"E	20.41	11.18	48°11'23"
C36	159.71	50.00	N03°18'00"W	99.97	1897.35	183°01'09"
C37	21.03	25.00	S64°06'44"W	20.41	11.18	48°11'42"
C38	37.80	25.00	N03°18'09"W	34.30	23.57	86°38'04"
C39	67.21	275.00	S33°00'48"W	67.05	33.78	14°00'14"
C40	31.42	20.00	S18°59'21"E	28.28	20.00	90°00'00"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C41	31.42	20.00	N71°00'39"E	28.28	20.00	90°00'00"
C42	11.78	425.00	N63°11'43"W	11.78	5.89	1°35'16"
C43	10.39	375.00	N63°11'43"W	10.39	5.20	1°35'16"
C44	159.73	1025.00	S59°31'30"E	159.57	80.03	8°55'43"
C45	150.88	475.00	S30°33'32"W	150.25	76.08	18°11'58"
C46	29.77	20.00	S82°17'56"W	27.10	18.42	85°16'51"
C47	33.19	20.00	S07°31'23"E	29.51	21.85	95°04'31"
C48	29.84	20.00	N82°28'37"E	27.00	18.30	84°55'29"
C49	32.79	20.00	N08°05'29"W	29.24	21.42	93°56'19"
C50	21.03	25.00	S02°38'09"E	20.41	11.18	48°11'23"
C51	158.86	50.00	N84°17'27"E	99.98	2804.47	182°02'34"
C52	19.71	25.00	N47°16'39"W	19.21	10.40	45°10'45"
C53	38.45	25.00	N65°31'14"E	34.77	24.19	88°07'24"
C54	287.60	520.00	S54°01'21"E	283.95	147.58	31°41'20"
C55	277.95	905.00	N46°58'37"W	276.86	140.08	17°35'50"
C56	293.31	955.00	N46°58'37"W	292.16	147.82	17°35'50"
C57	31.42	20.00	S83°10'42"E	28.28	20.00	90°00'00"
C58	31.42	20.00	S06°49'18"W	28.28	20.00	90°00'00"
C59	61.74	275.00	N45°23'23"E	61.61	31.00	12°51'51"
C60	32.36	20.00	N07°23'31"W	28.94	20.97	92°41'56"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C61	74.86	325.00	S47°09'37"E	74.50	37.50	13°09'44"
C62	318.27	1200.00	N48°10'38"W	317.34	160.07	15°11'47"
C63	331.53	1250.00	N48°10'38"W	330.56	166.74	15°11'47"
C64	26.67	20.00	S86°01'37"W	24.73	15.74	76°23'42"
C65	61.98	225.00	N55°43'18"E	61.79	31.19	15°47'03"
C66	69.25	175.00	S52°16'40"W	68.80	35.08	22°40'20"
C67	33.44	20.00	S07°52'57"E	29.68	22.13	95°47'10"
C68	20.95	525.00	S58°25'38"E	20.95	10.48	2°17'12"
C69	21.03	25.00	N35°28'32"W	20.41	11.18	48°11'23"
C70	161.93	50.00	N76°50'28"E	99.88	1030.36	185°33'23"
C71	22.54	25.00	S08°53'29"W	21.78	12.10	51°39'25"
C72	37.97	25.00	N76°54'50"E	34.43	23.74	87°01'53"
C73	60.82	525.00	S36°42'23"W	60.59	30.35	6°36'59"
C74	30.24	20.00	N03°18'09"W	27.44	18.86	86°38'04"
C75	32.59	20.00	S86°41'51"W	29.10	21.21	93°21'56"
C76	32.59	20.00	S86°41'44"W	29.10	21.21	93°22'10"
C77	34.47	20.00	S09°21'47"E	30.36	23.31	98°44'52"
C78	30.24	20.00	N03°18'09"W	27.44	18.86	86°38'04"
C79	170.02	525.00	S30°44'12"W	169.28	85.76	18°33'20"
C80	37.50	20.00	N75°10'02"E	32.24	27.24	107°25'00"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C81	50.61	275.00	S48°51'08"E	50.54	25.38	10°32'43"
C82	32.38	20.00	S86°23'50"W	28.98	20.99	92°45'56"
C83	140.27	1025.00	S51°08'25"E	140.16	70.24	7°50'27"
C84	159.61	525.00	S30°10'08"W	158.99	80.42	17°25'08"
C85	264.46	470.00	S54°17'53"E	260.99	135.83	32°14'22"
C86	172.23	325.00	N36°38'25"E	170.22	88.19	30°21'46"
C87	153.83	475.00	S30°44'12"W	153.16	77.60	18°33'20"
C88	30.24	20.00	N03°18'09"W	27.44	18.86	86°38'04"
C89	137.86	975.00	S51°00'35"E	137.75	69.05	8°06'06"
C90	30.36	20.00	S03°28'19"E	27.53	18.97	86°58'27"
C91	32.59	20.00	S86°41'51"W	29.10	21.21	93°21'56"
C92	79.43	325.00	S33°00'48"W	79.24	39.92	14°00'14"
C93	151.94	975.00	S59°31'30"E	151.78	76.12	8°55'43"
C94	30.24	20.00	N03°18'09"W	27.44	18.86	86°38'04"
C95	30.24	20.00	S03°18'16"E	27.44	18.86	86°37'50"
C96	32.59	20.00	N88°41'51"E	29.10	21.21	93°21'56"
C97	32.76	20.00	S05°56'53"E	29.22	21.39	93°50'57"
C98	34.17	685.00	S54°20'47"E	34.17	17.09	2°51'30"
C99	234.95	765.00	N46°58'37"W	234.03	118.41	17°35'50"
C100	506.23	685.00	S59°20'58"E	494.79	265.30	42°20'34"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C101	36.76	975.00	S53°56'50"E	36.76	18.38	2°09'37"
C102	101.10	975.00	S49°55'47"E	101.06	50.60	5°56'28"
C103	21.71	325.00	N38°06'05"E	21.70	10.86	3°49'36"
C104	50.92	325.00	N31°41'58"E	50.87	25.51	8°58'38"
C105	25.28	20.00	N04°43'48"E	23.63	14.64	72°25'24"
C106	4.53	20.00	N37°56'24"W	4.52	2.28	12°58'59"
C107	43.75	545.00	N42°09'55"W	43.74	21.89	4°35'57"
C108	48.24	545.00	N37°15'48"W	48.22	24.13	5°04'15"
C109	48.23	545.00	N32°15'33"W	48.22	24.13	5°04'15"
C110	47.99	545.00	N27°12'05"W	47.97	24.01	5°02'42"
C111	24.62	225.00	N44°04'33"E	24.60	12.32	6°16'06"
C112	50.39	225.00	N53°37'33"E	50.29	25.30	12°49'55"
C113	14.03	225.00	N61°48'40"E	14.03	7.02	3°34'19"
C114	10.84	25.00	S59°02'13"E	10.75	5.50	24°50'03"
C115	10.19	25.00	S83°07'54"E	10.12	5.17	23°21'20"
C116	46.76	50.00	S68°01'08"E	45.07	25.25	53°34'53"
C117	45.77	50.00	S15°00'24"E	44.18	24.63	52°26'35"
C118	52.49	50.00	S41°17'22"W	50.11	28.95	60°08'56"
C119	14.70	50.00	S79°47'12"W	14.65	7.40	16°50'45"
C120	63.47	275.00	S33°24'09"W	63.33	31.88	13°13'27"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C121	3.74	275.00	S26°24'02"W	3.74	1.87	0°46'47"
C122	11.78	425.00	S63°11'43"E	11.78	5.89	1°35'16"
C123	646.41	765.00	N15°48'27"E	627.35	343.92	48°24'51"
C124	29.92	1025.00	N63°09'11"W	29.92	14.96	1°40'21"
C125	15.00	1025.00	N61°53'51"W	15.00	7.50	0°50'19"
C126	49.05	1025.00	N60°06'26"W	49.04	24.53	2°44'30"
C127	49.05	1025.00	N57°21'56"W	49.04	24.53	2°44'30"
C128	16.71	1025.00	N55°31'40"W	16.71	8.36	0°56'03"
C129	101.87	475.00	S33°30'52"W	101.68	51.13	12°17'17"
C130	49.01	475.00	S24°24'53"W	48.99	24.53	5°54'41"
C131	19.83	50.00	N15°22'12"W	19.70	10.05	22°43'16"
C132	41.65	50.00	N19°51'16"E	40.46	22.12	47°43'40"
C133	42.06	50.00	N67°48'50"E	40.83	22.36	48°11'29"
C134	55.33	50.00	S56°23'21"E	52.55	30.88	63°24'09"
C135	4.06	25.00	N29°20'05"W	4.05	2.03	9°17'38"
C136	15.66	25.00	N51°55'28"W	15.40	8.10	35°53'07"
C137	42.19	520.00	S67°32'33"E	42.18	21.11	4°38'57"
C138	57.51	520.00	S62°02'59"E	57.48	28.78	6°20'11"
C139	15.00	520.00	S58°03'18"E	15.00	7.50	1°39'11"
C140	28.63	905.00	N39°05'04"W	28.63	14.32	1°48'45"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C141	69.72	905.00	N42°11'51"W	69.70	34.88	4°24'50"
C142	69.73	905.00	N46°36'43"W	69.72	34.88	4°24'54"
C143	69.70	905.00	N51°01'34"W	69.69	34.87	4°24'47"
C144	40.17	905.00	N54°30'14"W	40.16	20.09	2°32'35"
C145	11.09	485.00	S55°06'21"E	11.09	5.54	1°16'59"
C146	20.43	545.00	N54°49'28"W	20.43	10.21	2°08'51"
C147	36.44	470.00	S40°23'58"E	36.43	18.23	4°26'32"
C148	82.67	470.00	S47°39'35"E	82.57	41.44	10°04'42"
C149	82.67	470.00	S57°44'17"E	82.57	41.44	10°04'42"
C150	62.67	470.00	S66°35'51"E	62.63	31.38	7°38'25"
C151	17.27	525.00	N22°24'04"E	17.26	8.63	1°53'03"
C152	49.15	525.00	N26°01'30"E	49.13	24.59	5°21'49"
C153	49.54	525.00	N31°24'37"E	49.52	24.79	5°24'24"
C154	43.65	525.00	N36°29'45"E	43.64	21.84	4°45'51"
C155	41.19	1025.00	N35°34'34"W	41.19	20.60	2°18'09"
C156	99.07	1025.00	N40°59'20"W	99.04	49.58	5°32'17"
C157	2.78	475.00	S39°50'49"W	2.78	1.39	0°20'08"
C158	50.69	475.00	S36°37'19"W	50.67	25.37	6°06'52"
C159	50.69	475.00	S30°30'27"W	50.67	25.37	6°06'52"
C160	49.67	475.00	S24°27'16"W	49.65	24.88	5°59'28"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C161	1018.27	685.00	S02°34'17"E	927.07	629.58	85°10'18"
C162	37.72	325.00	S30°29'14"W	37.70	18.88	6°38'58"
C163	38.34	325.00	S37°11'30"W	38.32	19.19	6°45'33"
C164	37.13	325.00	S43°50'38"W	37.11	18.58	6°32'42"
C165	26.69	325.00	S49°28'09"W	26.68	13.35	4°42'19"
C166	39.70	325.00	N50°14'30"W	39.68	19.88	6°59'56"
C167	34.96	325.00	N43°39'38"W	34.94	17.50	6°09'46"
C168	5.12	1200.00	N40°42'05"W	5.12	2.56	0°14'40"
C169	44.15	1200.00	N41°52'40"W	44.15	22.08	2°06'28"
C170	44.77	1200.00	N44°00'02"W	44.77	22.39	2°08'16"
C171	44.77	1200.00	N46°08'18"W	44.77	22.39	2°08'16"
C172	44.77	1200.00	N48°16'33"W	44.77	22.39	2°08'16"
C173	44.77	1200.00	N50°24'49"W	44.77	22.39	2°08'15"
C174	44.77	1200.00	N52°33'04"W	44.77	22.39	2°08'15"
C175	44.77	1200.00	N54°41'19"W	44.77	22.39	2°08'15"
C176	0.38	1200.00	N55°45'59"W	0.38	0.19	0°01'05"
C177	19.86	955.00	S55°10'47"E	19.86	9.93	1°11'30"
C178	64.60	955.00	S52°38'45"E	64.59	32.31	3°52'33"
C179	64.60	955.00	S48°46'12"E	64.59	32.31	3°52'33"
C180	64.60	955.00	S44°53'39"E	64.59	32.31	3°52'33"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C181	64.60	955.00	S41°01'06"E	64.59	32.31	3°52'33"
C182	15.04	955.00	S38°37'45"E	15.04	7.52	0°54'08"
C183	14.75	525.00	N22°15'51"E	14.75	7.38	1°36'36"
C184	38.54	525.00	N25°10'20"E	38.53	19.28	4°12'22"
C185	38.54	525.00	N29°22'42"E	38.53	19.28	4°12'22"
C186	38.54	525.00	N33°35'04"E	38.53	19.28	4°12'22"
C187	39.65	525.00	N37°51'04"E	39.64	19.83	4°19'37"
C188	2.88	475.00	S39°50'28"W	2.88	1.44	0°20'49"
C189	41.02	475.00	S37°11'37"W	41.01	20.52	4°56'52"
C190	9.47	25.00	S23°51'58"W	9.41	4.79	21°42'25"
C191	13.07	25.00	S01°57'44"E	12.92	6.69	29°56'59"
C192	49.17	50.00	S11°14'00"W	47.21	26.78	56°20'27"
C193	34.50	50.00	S59°10'10"W	33.82	17.97	39°31'54"
C194	59.68	50.00	N66°52'14"W	56.20	33.97	68°23'17"
C195	18.58	50.00	N22°01'43"W	18.48	9.40	21°17'45"
C196	15.12	1250.00	S55°25'44"E	15.12	7.56	0°41'35"
C197	39.13	1250.00	S54°11'08"E	39.13	19.57	1°47'37"
C198	39.37	1250.00	S52°23'11"E	39.37	19.69	1°48'16"
C199	39.37	1250.00	S50°34'55"E	39.37	19.69	1°48'17"
C200	39.37	1250.00	S48°46'38"E	39.37	19.69	1°48'17"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C201	39.37	1250.00	S46°58'22"E	39.37	19.69	1°48'17"
C202	39.37	1250.00	S45°10'05"E	39.37	19.69	1°48'17"
C203	80.43	1250.00	S42°25'21"E	80.41	40.23	3°41'11"
C204	41.24	975.00	S56°16'20"E	41.23	20.62	2°25'24"
C205	110.70	975.00	S80°44'12"E	110.64	55.41	6°30'19"
C206	6.81	325.00	N26°36'39"E	6.81	3.40	1°12'00"
C207	6.91	475.00	S59°09'13"E	6.91	3.45	0°50'00"
C208	43.90	475.00	S37°22'02"W	43.88	21.96	5°17'42"
C209	28.87	20.00	S81°21'48"W	26.43	17.80	82°42'20"
C210	73.36	790.00	N77°51'38"W	73.34	36.71	5°19'15"
C211	32.35	325.00	S24°18'39"W	32.34	16.19	5°42'13"
C212	57.81	520.00	S54°02'38"E	57.78	28.93	6°22'10"
C213	57.81	520.00	S47°40'27"E	57.78	28.93	6°22'10"
C214	57.26	520.00	S41°20'02"E	57.25	28.67	6°18'41"

SHEET NO. 4 OF 7

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

CROSSWINDS PHASE THREE-A

RIGHT-OF-WAY LINEAR FOOTAGE

BAY BREEZE DRIVE	50' R.O.W.	1,549'	LOCAL
BILLOWING WAY	50' R.O.W.	2,849'	LOCAL
BISCAYNE BAY BEND	50' R.O.W.	1,507'	LOCAL
BLACKWELL LANE	50' R.O.W.	710'	LOCAL
CORAL GATE DRIVE	50' R.O.W.	695'	LOCAL
CROSSWINDS PARKWAY	80' R.O.W.	3,358'	ARTERIAL
FRANK WILD DRIVE	50' R.O.W.	492'	LOCAL
HURLEY DRIVE	50' R.O.W.	1,416'	LOCAL
JAMES CAIRD DRIVE	50' R.O.W.	1,612'	LOCAL
SHACKLETON DRIVE	50' R.O.W.	581'	LOCAL
TOTAL	ROW=18.335 AC.	14,769'	

Line Table

Line #	Length	Direction
L1	35.75	S86°09'23"W
L2	90.46	S81°49'28"W
L3	28.08	S63°58'51"W
L4	75.40	S52°33'21"W
L5	115.13	S24°28'30"W
L6	41.08	S20°06'39"W
L7	38.19	S30°46'41"W
L8	9.88	N46°53'32"W
L9	50.00	S27°35'55"W
L10	118.83	S43°08'05"W
L11	39.10	S46°53'32"E
L12	128.28	S25°18'28"W
L13	122.93	S71°31'16"E
L14	29.84	S18°28'44"W
L15	37.06	S46°53'32"E
L16	20.12	S46°53'32"E
L17	120.00	S43°06'28"W
L18	20.14	N46°53'32"W
L19	37.04	N46°53'32"W
L20	57.84	N31°25'56"E

Line Table

Line #	Length	Direction
L21	60.00	N33°05'52"E
L22	37.13	S48°59'22"E
L23	80.00	S48°59'22"E
L24	97.59	S40°00'38"W
L25	119.78	N65°16'39"E
L26	136.10	N62°38'47"E
L27	77.39	N68°09'34"E
L28	33.89	N60°59'19"E
L29	43.58	N56°00'00"E
L30	46.46	N50°12'04"E
L31	51.12	N43°54'57"E
L32	4.76	N40°19'01"E
L33	62.41	N16°03'09"E
L34	38.15	S83°50'14"E
L35	50.49	S65°13'03"E
L36	64.97	S48°23'25"E
L37	5.00	S40°56'30"W
L38	47.48	S49°59'07"E
L39	47.47	S49°59'07"E
L40	72.93	N55°03'38"W

Line Table

Line #	Length	Direction
L41	36.54	S38°10'42"E
L42	5.06	N40°56'30"E
L43	33.83	N40°00'53"E
L44	57.47	N55°03'38"W
L45	65.35	S55°03'38"E
L46	64.95	S55°03'38"E
L47	37.76	S26°00'39"W
L48	37.76	N26°00'39"E
L49	67.35	N63°59'21"W
L50	50.00	N63°59'21"W
L51	50.00	N63°59'21"W
L52	19.21	N63°59'21"W
L53	44.22	N34°56'22"E
L54	61.37	N38°32'42"W
L55	60.46	N42°11'31"W
L56	60.46	N46°36'41"W
L57	60.46	N51°01'31"W
L58	60.84	N55°02'51"W
L59	0.33	S54°41'37"E
L60	71.46	S49°16'55"E

Line Table

Line #	Length	Direction
L61	71.32	S54°06'11"E
L62	75.28	S56°51'05"E
L63	73.10	S56°19'42"E
L64	90.00	S72°25'24"E
L65	45.06	N78°12'13"E
L66	50.00	N69°05'42"E
L67	51.03	N29°09'17"E
L68	50.03	S19°27'47"W
L69	53.85	S00°20'11"E
L70	53.08	S82°42'52"E
L71	39.38	S63°11'11"E
L72	60.04	S26°00'40"W
L73	45.36	N54°49'56"E
L74	80.33	S43°19'35"E
L75	44.26	S43°19'35"E
L76	36.92	N42°43'52"E
L77	50.69	N42°43'52"E
L78	18.48	N42°43'52"E
L79	38.15	N36°59'35"E
L80	23.12	N36°59'35"E

Line Table

Line #	Length	Direction
L81	40.00	N21°30'25"E
L82	40.03	N23°49'15"E
L83	37.68	N27°16'23"E
L84	37.48	N30°36'42"E
L85	37.81	N33°56'51"E
L86	50.68	N37°52'12"E
L87	28.60	S40°00'53"W
L88	38.73	N30°00'03"E
L89	50.64	N30°00'03"E
L90	50.77	N30°00'03"E
L91	1.66	N30°00'03"E
L92	48.43	N37°06'39"E
L93	60.00	N40°00'53"E
L94	51.00	N32°30'58"E
L95	42.21	N38°56'33"E
L96	56.85	S42°26'13"E
L97	58.84	S37°18'03"E
L98	58.84	S32°09'55"E
L99	58.46	S27°02'45"E
L100	131.44	N55°05'49"W

Line Table

Line #	Length	Direction
L101	8.33	S83°59'21"E
L102	34.27	S55°05'49"E
L103	84.56	N45°46'29"E
L104	40.42	N21°27'32"E
L105	28.08	N27°07'01"W
L106	40.27	N54°41'37"W
L107	40.27	N52°32'21"W
L108	40.27	N50°23'38"W
L109	40.27	N48°14'54"W
L110	40.27	N46°06'11"W
L111	40.27	S43°57'27"E
L112	40.25	N41°48'43"W
L113	51.96	N43°23'03"W
L114	52.75	S38°15'24"E
L115	77.58	S40°00'53"W

DEVELOPMENT AGREEMENT LOT SCHEDULE [PER 1.01(a) & (e)]

40' LOTS			40' LOTS			50' LOTS			50' LOTS			60' LOTS		
BLK.	LOT	S.F.	BLK.	LOT	S.F.	BLK.	LOT	S.F.	BLK.	LOT	S.F.	BLK.	LOT	S.F.
X	17	7,015	FF	1	8,159	J	44	6,049	HH	1	7,168	FF	16	8,911
X	18	4,800	FF	2	4,920	J	45	6,036	HH	2	6,047	FF	17	8,304
X	19	4,920	FF	3	4,920	J	46	6,037	HH	3	6,048	FF	18	8,272
X	20	4,920	FF	4	4,920	J	47	6,038	HH	4	6,049	FF	19	8,272
X	21	4,920	FF	5	4,920	J	48	6,040	HH	5	6,050	FF	20	8,272
X	22	4,920	FF	6	4,921	J	49	6,042	HH	6	6,051	FF	21	7,934
X	23	4,920	FF	7	5,107	J	50	6,042	HH	7	6,053	FF	22	7,787
X	24	4,920	FF	8	5,108	J	51	7,166	HH	8	6,054	FF	23	7,787
X	25	4,920	FF	9	5,108				HH	9	6,055	FF	24	7,787
X	26	4,920	FF	10	5,109	Y	3	6,216	HH	10	6,048	FF	25	10,878
X	27	4,920	FF	11	5,110	Y	4	6,001	HH	11	5,171			
X	28	4,920	FF	12	5,112	Y	5	6,001	HH	12	6,064	GG	1	7,598
X	29	4,920	FF	13	5,074	Y	6	6,002	HH	13	6,616	GG	2	7,320
X	30	4,920	FF	14	5,506	Y	7	6,002	HH	14	6,412	GG	3	7,320
X	31	4,824	FF	15	7,432	Y	8	6,003	HH	15	6,059	GG	4	7,320
X	32	5,289				Y	9	6,004	HH	16	6,000	GG	5	7,320
X	33	6,159	II	1	6,169	Y	10	7,412	HH	17	6,000	GG	6	7,636
			II	2	5,114				HH	18	6,000	GG	7	7,834
			II	3	5,114	BB	9	9,437	HH	19	7,164	GG	8	7,836
Y	11	6,357	II	4	5,114	BB	10	6,810	HH	20	7,196	GG	9	7,835
Y	12	5,071	II	5	5,114	BB	11	6,762				GG	10	7,601
Y	13	5,071	II	6	5,114	BB	12	6,449	JJ	12	8,627	GG	11	7,200
Y	14	5,071	II	7	5,114	BB	13	6,474	JJ	13	7,595	GG	12	7,200
Y	15	5,072	II	8	5,114	BB	14	6,203	JJ	14	6,811	GG	13	7,200
Y	16	5,072	II	9	5,114	BB	15	6,023	JJ	15	6,480	GG	14	7,919
Y	17	5,073	II	10	5,114	BB	16	6,000	JJ	16	6,480	GG	15	7,896
Y	18	5,073	II	11	5,118	BB	17	6,000	JJ	17	6,480	GG	16	7,823
Y	19	5,074	II	12	6,022	BB	18	6,550	JJ	18	6,480	GG	17	8,025
Y	20	5,074	II	13	6,404				JJ	19	8,140	GG	18	8,592
Y	21	5,074	II	14	4,920	CC	13	7,399				GG	19	8,213
Y	22	6,460	II	15	4,920	CC	14	6,095	MM	18	8,914	GG	20	11,613
			II	16	4,920	CC	15	6,086	MM	19	8,346			
Z	16	6,357	II	17	4,920	CC	16	6,086	MM	20	8,853			
Z	17	6,400	II	18	4,920	CC	17	6,086	MM	21	9,065			
Z	18	6,404	II	19	4,920	CC	18	6,086	MM	22	10,523			
Z	19	6,403	II	20	4,920	CC	19	6,086	MM	23	8,192			
			II	21	4,920	CC	20	6,086	MM	24	7,809			
CC	1	6,309	II	22	4,920	CC	21	6,086	MM	25	6,861			
CC	2	5,159	II	23	4,920	CC	22	7,410	MM	26	6,212			
CC	3	5,078	II	24	6,280				MM	27	6,120			
CC	4	5,078				EE	1	8,485	MM	28	6,120			
CC	5	5,076	JJ	1	6,461	EE	2	6,195	MM	29	6,120			
CC	6	5,076	JJ	2	5,064	EE	3	6,361	MM	30	6,120			
CC	7	5,076	JJ	3	5,064	EE	4	6,527	MM	31	6,120			
CC	8	5,076	JJ	4	5,064	EE	5	6,481	MM	32	6,120			
CC	9	5,076	JJ	5	5,064	EE	6	14,992	MM	33	6,275			
CC	10	5,076	JJ	6	5,064	EE	7	10,938	MM	34	6,559			
CC	11	5,076	JJ	7	5,064	EE	8	5,592	MM	35	6,717			
CC	12	6,359	JJ	8	5,064	EE	9	6,300	MM	36	7,700			
			JJ	9	5,064	EE	10	6,063						
EE	12	6,209	JJ	10	5,081	EE	11	7,525						
EE	13	5,734	JJ	11	6,991									
EE	14	5,041				GG	21	6,760						
EE	15	4,983	MM	1	6,005	GG	22	6,502						
EE	16	5,089	MM	2	5,432	GG	23	6,003						
EE	17	5,046	MM	3	5,463	GG	24	6,003						
EE	18	5,046	MM	4	5,417	GG	25	6,003						
EE	19	5,342	MM	5	4,834	GG	26	6,003						
EE	20	4,505	MM	6	4,801	GG	27	6,003						
EE	21	4,553	MM	7	4,800	GG	28	6,003						
EE	22	11,555	MM	8	4,800	GG	29	6,003						
EE	23	4,826	MM	9	4,800	GG	30	6,003						
EE	24	5,289	MM	10	4,800	GG	31	6,003						
EE	25	5,104	MM	11	4,800	GG	32	6,003						
EE	26	4,980	MM	12	5,327	GG	33	6,003						
EE	27	4,914	MM	13	5,668	GG	34	7,368						
EE	28	4,665	MM	14	5,976	GG	35	7,160						
EE	29	4,794	MM	15	6,640	GG	36	6,079						
EE	30	4,800	MM	16	6,455	GG	37	6,287						
EE	31	4,800	MM	17	6,373	GG	38	6,288						
EE	32	4,800				GG	39	6,206						
EE	33	4,800				GG	40	6,000						
EE	34	6,466				GG	41	6,000						

LOT SUMMARY

WIDTH	PHASE 3A	% OF PHASE 3A	% OF TOTAL*
40'	135	48%	9%
50'	110	39%	7.3%
60'	35	13%	2.4%
TOTAL	280	100%	18.7%

*1500 LOTS - MAXIMUM ALLOWED

SHEET NO. 5 OF 7

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

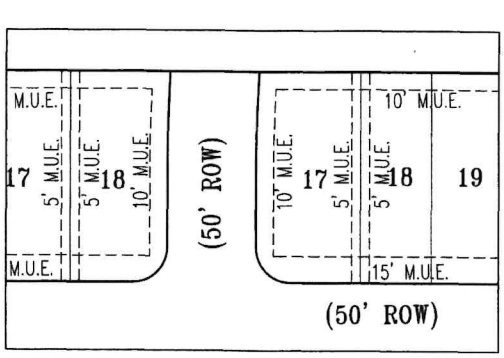
CROSSWINDS PHASE THREE-A

FINAL PLAT NOTES:

1. THIS FINAL PLAT IS LOCATED WITHIN THE EXTRA TERRITORIAL JURISDICTION (ETJ) OF THE CITY OF KYLE.
2. THIS PROJECT IS LOCATED IN THE BRUSHY CREEK – PLUM CREEK SUB WATERSHED.
3. NO PORTION OF THIS PRELIMINARY PLAT LIES WITHIN THE BOUNDARIES OF THE EDWARDS AQUIFER RECHARGE ZONE OR CONTRIBUTING ZONE.
4. THIS PLAT IS LOCATED WITHIN THE BOUNDARY OF THE HAYS CONSOLIDATED INDEPENDENT SCHOOL DISTRICT.
5. WATER SERVICE WILL BE PROVIDED TO EACH LOT FROM THE CITY OF KYLE.
6. ORGANIZED WASTEWATER SERVICE WILL BE PROVIDED TO EACH LOT BY THE CITY OF KYLE.
7. ELECTRIC SERVICE WILL BE PROVIDED BY THE PEDERNALES ELECTRIC COOPERATIVE.
8. TELEPHONE SERVICE WILL BE PROVIDED BY SPECTRUM.
9. ORGANIZED GAS SERVICE MAY BE PROVIDED.
10. MINIMUM FRONT SETBACK SHALL BE TWENTY (20') FEET.
11. MINIMUM REAR SETBACK SHALL BE FIFTEEN (15') FEET.
12. MINIMUM SIDE AND INTERIOR SIDE SETBACKS SHALL BE FIVE (5') FEET.
13. MINIMUM SIDE SETBACK ADJACENT TO A PUBLIC STREET SHALL BE TEN (10') FEET.
14. A 15' MUNICIPAL UTILITY EASEMENT (M.U.E.) SHALL BE LOCATED ALONG THE FRONT OF EACH LOT ADJACENT TO THE R.O.W., A 10' M.U.E. ALONG SIDE YARDS ADJACENT TO THE ROW AND A 10' M.U.E. ALONG REAR PROPERTY LINES.
15. ALL STREETS SHALL BE DESIGNED AS IN ACCORDANCE WITH APPLICABLE CITY OF KYLE AND HAYS COUNTY DEVELOPMENT REGULATIONS AND DEDICATED AS PUBLIC R.O.W. AT FINAL PLATTING.
16. NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A STATE-APPROVED COMMUNITY WATER SYSTEM.
17. NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A STATE-APPROVED ORGANIZED WASTEWATER SYSTEM.
18. THE WATER AND WASTEWATER UTILITY SYSTEM SERVING THIS SUBDIVISION MUST BE IN ACCORDANCE WITH THE CITY OF KYLE CODE OF ORDINANCES. THE WATER AND WASTEWATER UTILITY PLAN MUST BE REVIEWED AND APPROVED BY THE KYLE WATER UTILITY. THE UTILITY CONSTRUCTION MUST BE INSPECTED BY THE CITY OF KYLE.
19. PRIOR TO CONSTRUCTION ON ANY LOT IN THIS SUBDIVISION, DRAINAGE PLANS WILL BE SUBMITTED TO THE CITY OF KYLE FOR REVIEW. RAINFALL RUN-OFF SHALL BE HELD TO THE AMOUNT OF EXISTING CONDITIONS.
20. NO CONSTRUCTION OR OTHER DEVELOPMENT WITHIN THIS SUBDIVISION MAY BEGIN UNTIL ALL HAYS COUNTY DEVELOPMENT PERMIT REQUIREMENTS HAVE BEEN MET.
21. NO STRUCTURE SHALL BE OCCUPIED UNTIL A CERTIFICATE OF OCCUPANCY IS ISSUED BY THE CITY OF KYLE.
22. IN ORDER TO PROMOTE SAFE USE OF ROADWAYS AND TO PRESERVE THE CONDITIONS OF PUBLIC ROADWAYS, NO DRIVEWAY CONSTRUCTED ON ANY LOT WITHIN THIS SUBDIVISION SHALL BE PERMITTED ACCESS ONTO A PUBLIC ROADWAY UNLESS (A) A PERMIT FOR USE OF THE COUNTY ROADWAY RIGHT-OF-WAY HAS BEEN ISSUED UNDER AND (B) THE DRIVEWAY SATISFIES THE MINIMUM SPACING REQUIREMENTS FOR DRIVEWAYS AS SET FORTH IN CHAPTER 721 OF THE HAYS COUNTY DEVELOPMENT REGULATIONS.
23. ALL ROADWAYS WILL BE PUBLICLY DEDICATED AND MAINTAINED.
24. DRAINAGE EASEMENTS SHALL REMAIN OPEN AND FREE OF OBSTRUCTIONS.
25. EROSION/SEDIMENTATION CONTROLS ARE REQUIRED ON EACH LOT INCLUDING SINGLE FAMILY AND DUPLEX CONSTRUCTION.
26. PUBLIC SIDEWALKS BUILT TO THE CITY OF KYLE STANDARDS, ARE REQUIRED ALONG BOTH SIDES OF ALL STREETS, INCLUDING CROSSWINDS PARKWAY, WHICH SHALL HAVE A 10 CONCRETE SIDEWALK ON ONE SIDE AND A 5' DECOMPOSED GRANITE ON THE OPPOSITE SIDE. ALL THE OTHER STREETS SHALL HAVE 4' CONCRETE SIDEWALKS EACH SIDE.
27. SIDEWALKS SHALL BE INSTALLED ON THE SUBDIVISION SIDE OF GOFORTH ROAD. THIS INCLUDES EXISTING STREETS ADJACENT TO THE PROPOSED SUBDIVISION, WHERE SIDEWALKS DO NOT ALREADY EXIST OR ARE IN NEED OF REPLACEMENT. THOSE SIDEWALKS NOT ABUTTING A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL LOT SHALL BE INSTALLED WHEN THE ADJOINING STREET IS CONSTRUCTED. WHERE THERE ARE DOUBLE FRONTAGE LOTS, SIDEWALKS ON THE STREET TO WHICH ACCESS IS PROHIBITED ARE ALSO REQUIRED TO BE INSTALLED WHEN THE STREETS IN THE SUBDIVISION ARE CONSTRUCTED (ORD. #439, ARTICLE V, SEC. 10). SIDEWALKS TO BE MAINTAINED BY THE CROSSWINDS MUNICIPAL UTILITY DISTRICT.
28. THE CITY OF KYLE HAS THE RIGHT TO PRUNE AND REMOVE TREES, SHRUBBERY AND OTHER OBSTRUCTIONS TO THE EXTENT NECESSARY TO KEEP THE EASEMENTS CLEAR.
29. THE OWNER/DEVELOPER OF THIS SUBDIVISION SHALL PROVIDE THE ELECTRIC COMPANY THAT SHALL SERVICE THIS SUBDIVISION WITH ANY EASEMENT AND/OR ACCESS REQUIRED, IN ADDITION TO THOSE INDICATED, FOR THE INSTALLATION AND ONGOING MAINTENANCE OF OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES. THESE EASEMENTS AND ACCESS ARE REQUIRED TO PROVIDE ELECTRIC SERVICE TO THE BUILDING AND WILL NOT BE LOCATED SO AS TO CAUSE THE SITE TO BE OUT OF COMPLIANCE WITH THE CITY OF KYLE CODE OF ORDINANCES.
30. THE OWNER SHALL BE RESPONSIBLE FOR ANY INSTALLATION OF TEMPORARY EROSION CONTROL, REVEGETATION AND TREE PROTECTION. IN ADDITION, THE OWNER SHALL BE RESPONSIBLE FOR ANY TREE PRUNING AND TREE REMOVAL THAT IS WITHIN TEN FEET OF THE CENTER LINE OF THE OVERHEAD ELECTRICAL FACILITIES DESIGNED TO PROVIDE ELECTRIC SERVICE TO THIS PROJECT.
31. PROPERTY OWNER SHALL PROVIDE FOR ACCESS TO THE DRAINAGE EASEMENTS AS MAY BE NECESSARY AND SHALL NOT PROHIBIT ACCESS BY GOVERNMENTAL AUTHORITIES.
32. NO BUILDINGS, FENCES, LANDSCAPING OR OTHER OBSTRUCTIONS ARE PERMITTED IN DRAINAGE EASEMENTS EXCEPT AS APPROVED BY THE CITY OF KYLE AND HAYS COUNTY.
33. PARKLAND REQUIREMENTS ARE SATISFIED THROUGH THE CROSSWINDS MUNICIPAL UTILITY DISTRICT.
34. ALL DRAINAGE EASEMENTS ON PRIVATE PROPERTY SHALL BE MAINTAINED BY THE PROPERTY OWNER OR ASSIGNS.
35. THIS FINAL PLAT IS LOCATED WITHIN ESD #5.
36. THE OWNER/DEVELOPER IS ADVISED TO OBTAIN APPROVAL FOR ANY NEEDED LICENSE AGREEMENTS PRIOR TO APPROVAL OF THE CONSTRUCTION PLANS. OTHER SPECIAL OR NONSTANDARD TREATMENTS OF THE R.O.W. MAY ALSO REQUIRE A LICENSE AGREEMENT.
37. LOT 148, BLOCK "V", LOT 20 BLOCK "Z", LOT 52 BLOCK "HH", LOT 1, BLOCK "DD", AND LOT 59 BLOCK "GG", ARE TO BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION OR HIS OR HERS ASSIGNS.
38. THE OWNER OF THIS SUBDIVISION, AND HIS OR HER SUCCESSORS AND ASSIGNS, ASSUMES RESPONSIBILITY FOR PLANS FOR CONSTRUCTION OF SUBDIVISION IMPROVEMENTS WHICH COMPLY WITH APPLICABLE CODES AND REQUIREMENTS OF THE CITY OF KYLE. THE OWNER UNDERSTANDS AND ACKNOWLEDGES THAT PLAT VACATION OR RE-PLATTING MAY BE REQUIRED, AT THE OWNER'S SOLE EXPENSE, IF PLANS TO CONSTRUCT THIS SUBDIVISION DO NOT COMPLY WITH SUCH CODES AND REQUIREMENTS.
39. THE LANDOWNER SHALL BE RESPONSIBLE FOR PROVIDING THE SUBDIVISION INFRASTRUCTURE, INCLUDING WATER AND WASTEWATER UTILITY IMPROVEMENTS, OFFSITE MAIN EXTENSION AND SYSTEM UPGRADES.
40. ALL ELECTRICAL, TELEPHONE, CABLE TELEVISION AND SIMILAR LINES SHALL BE UNDERGROUND.
41. SIDEWALKS, PEDESTRIAN CROSSINGS AND OTHER PUBLIC AMENITIES TO BE DEDICATED TO THE CITY OF KYLE SHALL MEET OR EXCEED ALL 2010 ADA STANDARDS OF ACCESSIBILITY DESIGN AND ALL CURRENT FEDERAL AND STATE LAWS REGARDING ACCESS FOR PEOPLE WITH DISABILITIES FOR TITLE II ENTITIES.
42. PER CHAPTER 731 OF THE HAYS COUNTY DEVELOPMENT REGULATIONS, STORM WATER DRAINAGE FACILITIES MAY BE REQUIRED SUCH THAT THERE IS NO ADVERSE IMPACT TO THE LOCAL FLOODPLAIN, DRAINAGE WAYS, OR ROADWAYS. PER SECTION 3.02 POST DEVELOPED FLOW SHALL EQUAL PRE-DEVELOPED FOR THE 2,5,10,25, AND 100 YEAR STORM.
43. ALL MAILBOXES LOCATED IN THE RIGHT-OF-WAY SHALL BE OF AN APPROVED TxDOT OR FHWA APPROVED DESIGN.
44. POST-CONSTRUCTION STORMWATER CONTROL MEASURES SHALL HAVE A MAINTENANCE PLAN. THE MAINTENANCE PLAN MUST BE FILED IN THE REAL PROPERTY RECORDS OF HAYS COUNTY. THE OWNER OPERATOR OF ANY NEW DEVELOPMENT OR REDEVELOPMENT SITE SHALL DEVELOP AND IMPLEMENT A MAINTENANCE PLAN ADDRESSING MAINTENANCE REQUIREMENTS FOR ANY STRUCTURAL CONTROL MEASURES INSTALLED ON SITE. OPERATION AND MAINTENANCE PERFORMED SHALL BE DOCUMENTED AND RETAINED AND MADE AVAILABLE FOR REVIEW UPON REQUEST.

AREA TABLE	
AREA WITHIN SUBDIVISION	78.028 ACRES (3,050,407 sq. ft.)
AREA OF SINGLE FAMILY LOTS	40.291 ACRES (1,755,076 sq. ft.)
AREA WITHIN STREETS	18.335 ACRES

BLK.	LOT	S.F.	ACRES
J	44	6,049	0.139
J	45	6,036	0.139
J	46	6,037	0.139
J	47	6,038	0.139
J	48	6,040	0.139
J	49	6,042	0.139
J	50	6,042	0.139
J	51	7,166	0.165
V	148	62,189	1.428
X	17	7,015	0.161
X	18	4,800	0.110
X	19	4,920	0.113
X	20	4,920	0.113
X	21	4,920	0.113
X	22	4,920	0.113
X	23	4,920	0.113
X	24	4,920	0.113
X	25	4,920	0.113
X	26	4,920	0.113
X	27	4,920	0.113
X	28	4,920	0.113
X	29	4,920	0.113
X	30	4,920	0.113
X	31	4,924	0.113
X	32	5,289	0.121
X	33	6,159	0.141
Y	3	6,216	0.143
Y	4	6,001	0.138
Y	5	6,001	0.138
Y	6	6,002	0.138
Y	7	6,002	0.138
Y	8	6,003	0.138
Y	9	6,004	0.138
Y	10	7,412	0.170
Y	11	6,357	0.146
Y	12	5,071	0.116
Y	13	5,071	0.116
Y	14	5,071	0.116
Y	15	5,072	0.116
Y	16	5,072	0.116
Y	17	5,073	0.116
Y	18	5,073	0.116
Y	19	5,074	0.116
Y	20	5,074	0.116
Y	21	5,074	0.116
Y	22	6,460	0.148
Z	16	8,357	0.148
Z	17	6,400	0.147
Z	18	6,404	0.147
Z	19	6,403	0.147
Z	20	24,517	0.563
BB	9	9,437	0.217
BB	10	6,810	0.156
BB	11	6,762	0.155
BB	12	6,449	0.148
BB	13	8,474	0.195
BB	14	6,203	0.142
BB	15	6,023	0.138
BB	16	6,000	0.138
BB	17	6,000	0.138
BB	18	6,550	0.150
CC	1	6,309	0.145
CC	2	5,159	0.118
CC	3	5,076	0.117
CC	4	5,076	0.117
CC	5	5,076	0.117
CC	6	5,076	0.117
CC	7	5,076	0.117
CC	8	5,076	0.117
CC	9	5,076	0.117
CC	10	5,076	0.117
CC	11	5,076	0.117
CC	12	6,359	0.146
CC	13	7,399	0.170
CC	14	6,095	0.140
CC	15	6,086	0.140
CC	16	6,086	0.140
CC	17	6,086	0.140
CC	18	6,086	0.140
CC	19	6,086	0.140
CC	20	6,086	0.140
CC	21	6,086	0.140
CC	22	7,410	0.170
EE	1	8,485	0.195
EE	2	6,195	0.142
EE	3	6,361	0.146
EE	4	6,527	0.150
EE	5	6,481	0.149
EE	6	14,992	0.344
EE	7	10,938	0.251
EE	8	5,592	0.128
EE	9	6,300	0.145
EE	10	6,063	0.139
EE	11	7,525	0.173
EE	12	6,209	0.143
EE	13	5,734	0.132
EE	14	5,041	0.116
EE	15	4,983	0.114
EE	16	5,089	0.117
EE	17	5,046	0.116
EE	18	5,046	0.116
EE	19	5,342	0.123
EE	20	4,505	0.103
EE	21	4,553	0.105
EE	22	11,555	0.265
EE	23	4,826	0.111
EE	24	5,289	0.121
EE	25	5,104	0.117
EE	26	4,980	0.114
EE	27	4,914	0.113
EE	28	4,665	0.114
EE	29	4,794	0.110
EE	30	4,800	0.110
EE	31	4,800	0.110
EE	32	4,800	0.110
EE	33	4,800	0.110
EE	34	6,466	0.148
FF	1	8,159	0.187
FF	2	4,920	0.113
FF	3	4,920	0.113
FF	4	4,920	0.113
FF	5	4,920	0.113
FF	6	4,921	0.113
FF	7	5,107	0.117
FF	8	5,108	0.117
FF	9	5,108	0.117
FF	10	5,109	0.117
FF	11	5,110	0.117
FF	12	5,112	0.117
FF	13	5,074	0.116
FF	14	5,506	0.126
FF	15	7,432	0.171
FF	16	8,911	0.205
FF	17	8,304	0.191
FF	18	8,272	0.190
FF	19	8,272	0.190
FF	20	8,272	0.190
FF	21	7,934	0.182
FF	22	7,787	0.179
FF	23	7,787	0.179
FF	24	7,787	0.179
FF	25	10,878	0.250
GG	1	7,598	0.174
GG	2	7,320	0.168
GG	3	7,320	0.168
GG	4	7,320	0.168
GG	5	7,320	0.168
GG	6	7,636	0.175
GG	7	7,834	0.180
GG	8	7,838	0.180
GG	9	7,835	0.180
GG	10	7,601	0.175
GG	11	7,200	0.165
GG	12	7,200	0.165
GG	13	7,200	0.165
GG	14	7,919	0.182
GG	15	7,896	0.181
GG	16	7,823	0.180
GG	17	8,317	0.191
GG	18	8,648	0.199
GG	19	8,919	0.205
GG	20	10,817	0.248
GG	21	6,760	0.155
GG	22	6,502	0.149
GG	23	6,003	0.138
GG	24	6,003	0.138
GG	25	6,003	0.138
GG	26	6,003	0.138
GG	27	6,003	0.138
GG	28	6,003	0.138
GG	29	6,003	0.138
GG	30	6,003	0.138
GG	31	6,003	0.138
GG	32	6,003	0.138
GG	33	6,003	0.138
GG	34	7,374	0.169
GG	35	7,160	0.164
GG	36	6,076	0.139
GG	37	6,282	0.144
GG	38	6,286	0.144
GG	39	6,206	0.142
GG	40	6,000	0.138
GG	41	6,000	0.138
GG	59	290,696	6.673
HH	1	7,168	0.165
HH	2	6,047	0.139
HH	3	6,048	0.139
HH	4	6,049	0.139
HH	5	6,050	0.139
HH	6	6,051	0.139
HH	7	6,053	0.139
HH	8	6,054	0.139
HH	9	6,055	0.139
HH	10	6,048	0.139
HH	11	5,171	0.119
HH	12	6,064	0.139
HH	13	6,616	0.152
HH	14	6,412	0.147
HH	15	6,059	0.139
HH	16	6,000	0.138
HH	17	6,000	0.138
HH	18	6,000	0.138
HH	19	7,164	0.164
HH	20	7,196	0.165
HH	52	88,734	2.037
II	1	6,169	0.142
II	2	5,114	0.117
II	3	5,114	0.117
II	4	5,114	0.117
II	5	5,114	0.117
II	6	5,114	0.117
II	7	5,114	0.117
II	8	5,114	0.117
II	9	5,114	0.117
II	10	5,114	0.117
II	11	5,118	0.117
II	12	6,022	0.138
II	13	6,404	0.147
II	14	4,920	0.113
II	15	4,920	0.113
II	16	4,920	0.113
II	17	4,920	0.113
II	18	4,920	0.113
II	19	4,920	0.113
II	20	4,920	0.113
II	21	4,920	0.113
II	22	4,920	0.113
II	23	4,920	0.113
II	24	6,280	0.144
JJ	1	6,461	0.148
JJ	2	5,064	0.116
JJ	3	5,064	0.116
JJ	4	5,064	0.116
JJ	5	5,064	0.116
JJ	6	5,064	0.116
JJ	7	5,064	0.116
JJ	8	5,064	0.116
JJ	9	5,064	0.116
JJ	10	5,081	0.117
JJ	11	6,991	0.160
JJ	12	8,627	0.198
JJ	13	7,585	0.174
JJ	14	6,811	0.156
JJ	15	6,480	0.149
JJ	16	6,480	0.149
JJ	17	6,480	0.149
JJ	18	6,480	0.149
JJ	19	8,140	0.187
MM	1	6,005	0.138
MM	2	5,432	0.125
MM	3	5,463	0.125
MM	4	5,417	0.124
MM	5	4,834	0.111
MM	6	4,801	0.110
MM	7	4,800	0.110
MM	8	4,800	0.110
MM	9	4,800	0.110
MM	10	4,800	0.110
MM	11	4,800	0.110
MM	12	5,327	0.122
MM	13	5,668	0.130
MM	14	5,976	0.137
MM	15	6,640	0.152
MM	16	6,455	0.148
MM	17	6,373	0.146
MM	18	8,914	0.205
MM	19	8,346	0.192
MM	20	8,853	0.203
MM	21	9,065	0.208
MM	22	10,523	0.242
MM	23	8,192	0.188
MM	24	7,809	0.179
MM	25	6,861	0.158
MM	26	6,212	0.143
MM	27	6,120	0.140
MM	28	6,120	0.140
MM	29	6,120	0.140
MM	30	6,120	0.140
MM	31	6,120	0.140
MM	32	6,120	0.140
MM	33	6,275	0.144
MM	34	6,559	0.151
MM	35	6,717	0.154
MM	36	7,700	0.177



M.U.E. DETAIL
SCALE 1" = 50'

SHEET NO. 6 OF 7

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5239\Survey\PLAT – CROSSWINDS PHASE 3A

CROSSWINDS PHASE THREE-A

STATE OF TEXAS
COUNTY OF HAYS
KNOW ALL MEN BY THESE PRESENTS:

THAT CROSSWINDS DEVELOPMENT, INC., ACTING BY AND THROUGH ITS Attorney-in-Fact Gregory L. Rich, OWNER OF 70.028 ACRES OF LAND, ALSO KNOWN AS TRACT 3, OUT OF THE SAMUEL LITTLE SURVEY, NO. 8, A-286, IN HAYS COUNTY, TEXAS, AS CONVEYED BY SPECIAL WARRANTY DEED RECORDED IN INSTRUMENT NUMBER 21069744, AND CORRECTED IN INSTRUMENT NUMBER 22008979, OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS, DO HEREBY SUBDIVIDE A 70.028 ACRE PORTION OF SAID TRACT IN ACCORDANCE WITH THE ATTACHED MAP OR PLAT TO BE KNOWN AS:

"CROSSWINDS PHASE THREE-A"

IN ACCORDANCE WITH THE PLAT SHOWN HEREON, SUBJECT TO ANY AND ALL EASEMENTS OR RESTRICTIONS HERETOFORE GRANTED, AND DO HEREBY DEDICATE TO THE PUBLIC THE USE OF THE STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS, AND PUBLIC PLACES SHOWN ON THIS PLAT.

WITNESS MY HAND THIS THE 30th DAY OF March A.D. 2022

NAME: Gregory L. Rich
TITLE: Attorney-in-Fact
OF CSLK XWINDS LLC.
12222 MERIT DRIVE, SUITE 1020
DALLAS, TX 75251

STATE OF TEXAS }
COUNTY OF HAYS}

BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE ON THIS DAY PERSONALLY APPEARED Gregory L. Rich, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 30th DAY OF March A.D. 2022.

NOTARY PUBLIC, STATE OF TEXAS

KATHLEEN FRAZEE
NOTARY PUBLIC STATE OF TEXAS
MY COMM. EXP. 08/16/23
NOTARY ID 13213371-5

STATE OF TEXAS
COUNTY OF HAYS
KNOW ALL MEN BY THESE PRESENTS:

THE OWNERS OF THE LAND SHOWN ON THIS PLAT WHOSE NAMES ARE SUBSCRIBED HERETO, AND IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, HEREBY DEDICATED TO USE OF THE PUBLIC FOREVER ALL STREETS, PARKS, WATER COURSES, DRAINS, MUNICIPAL UTILITY EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED. I (WE) FURTHER CERTIFY THAT ALL OTHER PARTIES WHO HAVE A MORTGAGE OR LIEN INTEREST IN THE SUBDIVISION HAVE BEEN NOTIFIED AND SIGNED THIS PLAT.

I (WE) FURTHER ACKNOWLEDGE THAT THE DEDICATIONS AND/OR EXACTIONS MADE HEREIN ARE PROPORTIONAL TO THE IMPACT OF THE SUBDIVISION UPON THE PUBLIC SERVICE REQUIRED IN ORDER THAT THE DEVELOPMENT WILL COMPORT WITH THE PRESENT AND FUTURE GROWTH NEEDS OF THE CITY; I (WE), MY (OUR) SUCCESSORS AND ASSIGNS HEREBY WAIVE ANY CLAIM, DAMAGE, OR CAUSE OF ACTION THAT I (WE) MAY HAVE AS A RESULT OF DEDICATIONS OF EXACTIONS MADE HEREIN.

OF CSLK ALLGT LLC,
a Delaware limited liability company
By:
Name: Gregory L. Rich
Title: Attorney-in-Fact

STATE OF TEXAS }
COUNTY OF HAYS}

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED Gregory L. Rich KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN STATED. GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 30th DAY OF March A.D. 2022

NOTARY PUBLIC, STATE OF TEXAS

KATHLEEN FRAZEE
NOTARY PUBLIC STATE OF TEXAS
MY COMM. EXP. 08/16/23
NOTARY ID 13213371-5

MY COMISSION EXPIRES: 8-16-2023

STATE OF TEXAS }
COUNTY OF TRAVIS }

I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN GIVEN THIS PLAT.

DO HEREBY CERTIFY THAT NO PORTION OF THIS PROPERTY IS LOCATED WITHIN A DESIGNATED 100-YEAR FLOOD ZONE AREA, AS DELINEATED ON THE FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANELS 48209C 0290F AND 48209C 0293F, DATED SEPTEMBER 2, 2005, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. ADDITIONALLY, STORMWATER RUNOFF FROM THE 100 YEAR STORM EVENT SHALL BE CONTAINED WITHIN THE DRAINAGE FACILITIES TO BE LOCATED WITHIN THE RIGHTS-OF-WAY, AND /OR OPEN SPACE AND DRAINAGE EASEMENT LOTS.

3-24-2022

BRETT R. PASQUARELLA, P.E. No. 84769 — DATE
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON
AUSTIN, TEXAS 78749
(512) 280-5160

STATE OF TEXAS
BRETT R. PASQUARELLA
84769
LICENSED
PROFESSIONAL ENGINEER

STATE OF TEXAS }
COUNTY OF TRAVIS }

I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE AND IS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND AND THAT THE CORNER MONUMENTS WERE PROPERLY PLACED UNDER MY SUPERVISION.

SURVEYED BY: 24 March 2022 — DATE

AARON V. THOMASON, R.P.L.S #6214
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON
AUSTIN, TEXAS 78749
aaron@cbdeng.com

STATE OF TEXAS
REGISTERED
AARON V. THOMASON
6214
PROFESSIONAL
LAND SURVEYOR

THIS FLOOD STATEMENT, AS DETERMINED BY A H.U.D.-F.I.A. FLOOD INSURANCE RATE MAP, DOES NOT IMPLY THAT THE PROPERTY OR THE IMPROVEMENTS THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. ON RARE OCCASIONS, GREATER FLOODS CAN AND WILL OCCUR, AND FLOOD HEIGHTS MAY INCREASE BY MAN-MADE OR NATURAL CAUSES.

THIS STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF ENGINEER OR SURVEYOR.

REVIEWED BY:

CITY ENGINEER, CITY OF KYLE — 4/8/22 DATE

REVIEWED BY:

DIRECTOR OF PUBLIC WORKS, CITY OF KYLE — 4-14-22 DATE

THIS FINAL PLAT HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF KYLE, TEXAS, AND IS HEREBY APPROVED BY SUCH PLANNING AND ZONING COMMISSION.

DATED THIS 22nd DAY OF February A.D. 2022

CHAIRPERSON

SEWAGE DISPOSAL/INDIVIDUAL WATER SUPPLY CERTIFICATION, TO-WIT:

NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO AN INDIVIDUAL WATER SUPPLY OR A STATE APPROVED COMMUNITY WATER SYSTEM. DUE TO DECLINING WATER SUPPLIES AND DIMINISHING WATER QUALITY, PROSPECTIVE PROPERTY OWNERS ARE CAUTIONED BY HAYS COUNTY TO QUESTION THE SELLER CONCERNING GROUND WATER AVAILABILITY. RAIN WATER COLLECTION IS ENCOURAGED AND IN SOME AREAS MAY OFFER THE BEST RENEWABLE WATER RESOURCE.

NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A PUBLIC SEWER SYSTEM OR TO AN ON-SITE WASTEWATER SYSTEM WHICH HAS BEEN APPROVED AND PERMITTED BY HAYS COUNTY DEVELOPMENT SERVICES DEPARTMENT.

NO CONSTRUCTION OR OTHER DEVELOPMENT WITHIN THIS SUBDIVISION MAY BEGIN UNTIL ALL HAYS COUNTY DEVELOPMENT AUTHORIZATION REQUIREMENTS HAVE BEEN SATISFIED.

4-19-22
MARCUS PACHECO, DIRECTOR
HAYS COUNTY DEVELOPMENT SERVICES

4-19-2022
ERIC VAN GAASBEEK, R.S., C.F.M.
HAYS COUNTY FLOODPLAIN ADMINISTRATOR

STATE OF TEXAS
COUNTY OF HAYS

I, THE UNDERSIGNED, DIRECTOR OF HAYS COUNTY DEVELOPMENT SERVICES, HEREBY CERTIFY THAT THIS SUBDIVISION PLAT CONFORMS TO ALL HAYS COUNTY REQUIREMENTS AS STATED IN THE INTERLOCAL COOPERATION AGREEMENT BETWEEN HAYS COUNTY AND THE CITY OF KYLE FOR SUBDIVISION REGULATION WITHIN THE EXTRATERRITORIAL JURISDICTION OF THE CITY OF KYLE.

4-19-22
MARCUS PACHECO, DIRECTOR
HAYS COUNTY DEVELOPMENT SERVICES

STATE OF TEXAS }
COUNTY OF HAYS }

I, ELAINE H. CARDENAS, COUNTY CLERK OF HAYS COUNTY, TEXAS, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE ON THE 27 DAY OF April, 2022 A.D., AND DULY RECORDED ON THE 27

DAY OF April, 2022 A.D., AT 10:42 O'CLOCK A M., IN THE PLAT RECORDS OF HAYS COUNTY, TEXAS IN INSTRUMENT NUMBER 2207.0808

WITNESS MY HAND AND SEAL OF OFFICE THIS THE 27 DAY OF April, 2022 A.D.

Elaine H. Cardenas by Madison Kirk, Deputy
ELAINE H. CARDENAS
COUNTY CLERK
HAYS COUNTY, TEXAS

SHEET NO. 7 OF 7

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

CITY OF KYLE, TEXAS

Acceptance of Crosswinds Phase 4A Subdivision

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Approve a Resolution of the City Council of the City of Kyle, Texas accepting the Crosswinds Phase 4A subdivision improvements; finding and determining that the meeting at which this Resolution is passed was noticed and is open to the Public as required by law. ~ *Leon Barba, P.E., City Engineer*

Other Information: A final walkthrough was completed on November 28, 2022. The punch list items have been completed on the project. The water and wastewater improvements have been constructed in substantial accordance with the City's requirements. Record drawings have been provided to the City.

A Maintenance Bond (Philadelphia Indemnity Insurance Company – Bond No. PB 03016800803M1) in the amount of $349,271.14 has been provided for a period of two (2) years.

Legal Notes: N/A

Budget Information: N/A

ATTACHMENTS:

Description

- Resolution
- Acceptance Memo
- Maintenance Bond
- Subdivision Map

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS ACCEPTING CROSSWINDS PHASE FOUR-A SUBDIVISION; FINDING AND DETERMINING THAT THE MEETING AT WHICH THIS RESOLUTION IS PASSED WAS NOTICED AND IS OPEN TO THE PUBLIC AS REQUIRED BY LAW.

WHEREAS, the developer of this subdivision has completed construction of the improvements in general accordance with plans approved by the City of Kyle; and

WHEREAS, the subdivision improvements are defined as water and wastewater systems installed within public rights-of-way and any dedicated public utility easements within the subdivision; and

WHEREAS, the contractor has also provided the City a two (2) year maintenance bond in an amount of thirty five percent (35%) of the cost of the construction for any repairs that may be necessary during a two-year period from the date of acceptance by City Council.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS hereby accepts the public improvements and certifies completion of the improvements for Crosswinds Phase Four A. The current maintenance surety is hereby $349,271.14 being thirty five percent of the total cost of required improvements, to be held for two years from this date.

SECTION 1. That the subdivision improvements within the Crosswinds Phase Four-A are hereby accepted for operation and maintenance.

SECTION 2. That it is hereby officially found and determined that the meeting at which this resolution is passed is open to the public and that public notice of the time, place, and purpose of said meeting was given as required by law.

PASSED AND APPROVED this the ____ day of _____, 2023.

CITY OF KYLE, TEXAS

_____
Travis Mitchell, Mayor

ATTEST:

_____
Jennifer Kirkland, City Secretary

EXHIBIT A

STAFF ACCEPTANCE MEMO

CITY OF KYLE

100 W. Center St.
Office (512) 262-1010

Kyle, Texas 78640
Fax (512) 262-3915

MEMORANDUM

TO: Jerry Hendrix, Interim City Manager

FROM: Leon Barba, P.E., City Engineer

DATE: February 10, 2023

SUBJECT: Crosswinds Phase Four-A
Final Acceptance

The referenced subdivision is recommended for acceptance by the City of Kyle.

A final walkthrough was completed on November 28, 2022. The punch list items have been completed on the project. The water and wastewater improvements have been constructed in substantial accordance with the City's requirements. Record drawings have been provided to the City.

A Maintenance Bond (Philadelphia Indemnity Insurance Company – Bond No. PB 03016800803M1) in the amount of $349,271.14 has been provided for a period of two (2) years.

Please let me know if you need any additional information.

Xc: Harper Wilder, Public Works Dept.
Perwez Moheet, Finance Dept.
Debbie Guerra, Planning and Zoning

Carlson, Brigance & Doering, Inc.

Civil Engineering ❖ Surveying

ENGINEER'S CONCURRENCE LETTER
FOR FINAL INSPECTION AND
ENGINEERING RELEASE

Date: December 21, 2022

Project Name: **Crosswinds Phase 4A**
Address: Intersection of Bay Breeze Drive and Crosswinds Parkway
City of Kyle
CBD No. 5333

On this day, December 21, 2022, the undersigned professional engineer, or representative, made a final visual inspection of the above referenced project. The site was visited during construction and site grading, drainage structures, water, and wastewater were constructed per the approved plans, with insignificant deviation. I, therefore, verify the adequate completion of the following items:

All curbs, pavement, storm sewers, inlets, outlet structures, manholes, water, wastewater, pond and similar construction items.

Sincerely,
Carlson, Brigance and Doering, Inc. (F-3791)

12/21/2022

QUYNN DUSEK, P.E.
PROJECT MANAGER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

EXHIBIT B

MAINTENANCE BOND

Philadelphia Indemnity Insurance Company

One Bala Plaza, Suite 100
Bala Cynwyd, PA 19004
877-438-7459

Bond No. PB03016800803M1

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we DNT Construction, LLC as Principal, and Philadelphia Indemnity Insurance Company, a corporation organized under the laws of the State of Pennsylvania, and duly authorized to do business in the State of Texas as Surety, are held and firmly bound unto City of Kyle, TX as Obligee, in the penal sum of Three Hundred Forty Nine Thousand Two Hundred Seventy One and 14/100 ($349,271.14) to which payment well and truly to be made we do bind ourselves, and each of our heirs, executors, administrators, successors and assigns jointly and severally, firmly by these presents.

WHEREAS, the said Principal entered into a contract with PHAU - CW4A, LLC for Crosswinds Subdivision PH4 Water & Wastewater, which contract is hereinafter referred to as the "Contract."

WHEREAS, said Obligee requires that the Principal furnish a bond conditioned to guarantee for the period of Two year (s) from date of acceptance of the work performed under the Contract against all defects in workmanship and materials which would have been the responsibility under the Contract for which written notice is made to Surety during said period

NOW THEREFORE, THE CONDITIONS OF THIS OBLIGATION IS SUCH that, if the Principal shall indemnify the Obligee for all loss that the Obligee may sustain by reason of any defective materials or workmanship which may become apparent and with respect to which notice is delivered to Surety in writing during the period of Two year (s) from and after date of acceptance of the work under the Contract, then this obligation shall be void, otherwise to remain in full force and effect.

No right of action shall accrue hereunder to or for the benefit of any person or entity other the Obligee named herein, nor shall any suit be filed or action maintained on this bond more than twenty five (25) months after the date of the earliest timely notice of defect by Obligee to Surety.

SIGNED, SEALED AND DATED THIS 7th day of November, 2022.

DNT Construction, LLC
Principal

By: _____
Dean Tomme, President

Philadelphia Indemnity Insurance Company

By: _____
Rosemarie Lopez, Attorney-in-Fact

PHILADELPHIA INDEMNITY INSURANCE COMPANY
One Bala Plaza, Suite 100
Bala Cynwyd, PA 19004-0950

Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS: That **PHILADELPHIA INDEMNITY INSURANCE COMPANY** (the Company), a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, does hereby constitute and appoint **Tom Mulanax, Michael Whorton, David Whorton, Rachel Martinez, Rosemarie Lopez, Jeremy Farque and/or Noe Moreno of Whorton Insurance Services,** its true and lawful Attorney-in-fact with full authority to execute on its behalf bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, issued in the course of its business and to bind the Company thereby, in an amount not to exceed **$50,000,000.**

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of PHILADELPHIA INDEMNITY INSURANCE COMPANY on the 14th of November, 2016.

RESOLVED: That the Board of Directors hereby authorizes the President or any Vice President of the Company: (1) Appoint Attorney(s) in Fact and authorize the Attorney(s) in Fact to execute on behalf of the Company bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof and to attach the seal of the Company thereto, and (2) to remove, at any time, any such Attorney-in-Fact and revoke the authority given. And, be it

FURTHER RESOLVED: That the signatures of such officers and the seal of the Company may be affixed to any such Power of Attorney or certificate relating thereto by facsimile, and any such Power of Attorney so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached.

IN TESTIMONY WHEREOF, PHILADELPHIA INDEMNITY INSURANCE COMPANY HAS CAUSED THIS INSTRUMENT TO BE SIGNED AND ITS CORPORATE SEALTO BE AFFIXED BY ITS AUTHORIZED OFFICE THIS 5TH DAY OF MARCH, 2021.

(Seal)

John Glomb, President & CEO
Philadelphia Indemnity Insurance Company

On this 5th day of March, 2021 before me came the individual who executed the preceding instrument, to me personally known, and being by me duly sworn said that he is the therein described and authorized officer of the **PHILADELPHIA INDEMNITY INSURANCE COMPANY**; that the seal affixed to said instrument is the Corporate seal of said Company; that the said Corporate Seal and his signature were duly affixed.

Commonwealth of Pennsylvania - Notary Seal
Vanessa Mckenzie, Notary Public
Montgomery County
My commission expires November 3, 2024
Commission number 1366394
Member, Pennsylvania Association of Notaries

Notary Public: Vanessa McKenzie

residing at: Bala Cynwyd, PA

My commission expires: November 3, 2024

I, Edward Sayago, Corporate Secretary of PHILADELPHIA INDEMNITY INSURANCE COMPANY, do hereby certify that the foregoing resolution of the Board of Directors and the Power of Attorney issued pursuant thereto on the 5th day March, 2021 are true and correct and are still in full force and effect. I do further certify that John Glomb, who executed the Power of Attorney as President, was on the date of execution of the attached Power of Attorney the duly elected President of PHILADELPHIA INDEMNITY INSURANCE COMPANY.

In Testimony Whereof I have subscribed my name and affixed the facsimile seal of each Company this 7th day of November, 2022.

Edward Sayago, Corporate Secretary
PHILADELPHIA INDEMNITY INSURANCE COMPANY

DNT CONSTRUCTION

DNT CONSTRUCTION FINAL COST & QUANTITIES
PROJECT: Crosswinds Subdivision PH 4
City of Kyle

CONTRACTOR: **DNT CONSTRUCTION**
P O Box 6210
Round Rock, Texas 78683

I. WATER ITEMS					CONTRACT
ITEM	DESCRIPTION	QTY.	UNIT	UNIT PRICE	AMOUNT
1	8" Wet Connect	1	EA	$ 1,690.70	$1,690.70
2	12" C900 DR-14 PVC, including fittings	305	LF	$ 101.60	$30,988.00
3	8" C900 DR-14 PVC, including fittings	4,214	LF	$ 51.05	$215,124.70
4	5 1/4" Fire Hydrant Assembly, including fire lead	7	EA	$ 4,322.85	$30,259.95
5	6" Gate Valve for Fire Hydrant,	7	EA	$ 1,712.00	$11,984.00
6	8" Gate Valve,	15	EA	$ 1,809.00	$27,135.00
7	12" Gate Valve	1	EA	$ 3,003.95	$3,003.95
8	Raise Gate Valve,	23	EA	$ 402.00	$9,246.00
9	Single Water Service Assembly,	7	EA	$ 1,617.50	$11,322.50
10	Double Water Service Assembly,	66	EA	$ 2,161.70	$142,672.20
11	1" Irrigation Service Assembly	1	EA	$ 2,032.40	$2,032.40
12	2" AARV Assembly	2	EA	$ 3,718.80	$7,437.60
13	Trench Safety	4,519	LF	$ 0.50	$2,259.50
					$495,156.50

II. WASTEWATER ITEMS					CONTRACT
ITEM	DESCRIPTION	QTY.	UNIT	UNIT PRICE	AMOUNT
1	Tie to Existing Wastewater Line to include Force Main	2	EA	$ 675.00	$1,350.00
2	8" SDR-26 PVC,	4,237	LF	$ 40.40	$171,174.80
3	12" SDR-26 PVC,	140	LF	$ 75.00	$10,500.00
4	Single Wastewater Service	7	EA	$ 1,662.70	$11,638.90
5	Double Wastewater Service	66	EA	$ 2,715.70	$179,236.20
6	Install Tee and Plug on Main for Future Wastewater Service	1	EA	$ 21,956.40	$21,956.40
7	4' Wastewater Manhole	15	EA	$ 3,275.85	$49,137.75
8	4' Bolted Wastewater Manhole	4	EA	$ 5,486.25	$21,945.00
9	Manhole Coating	19	EA	$ 1,165.00	$22,135.00
10	Raise Wastewater Manhole	19	EA	$ 490.00	$9,310.00
11	Trench Safety	4,377	LF	$ 1.00	$4,377.00
					$502,761.05

TOTAL CONTRACT	**$997,917.55**

CONTRACTOR: DNT CONSTRUCTION, LLC

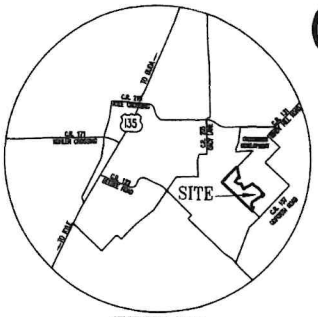
By: _____ Date: 12/6/2022

Casey McGlauflin , Project Manager

EXHIBIT C

SUBDIVISION MAP

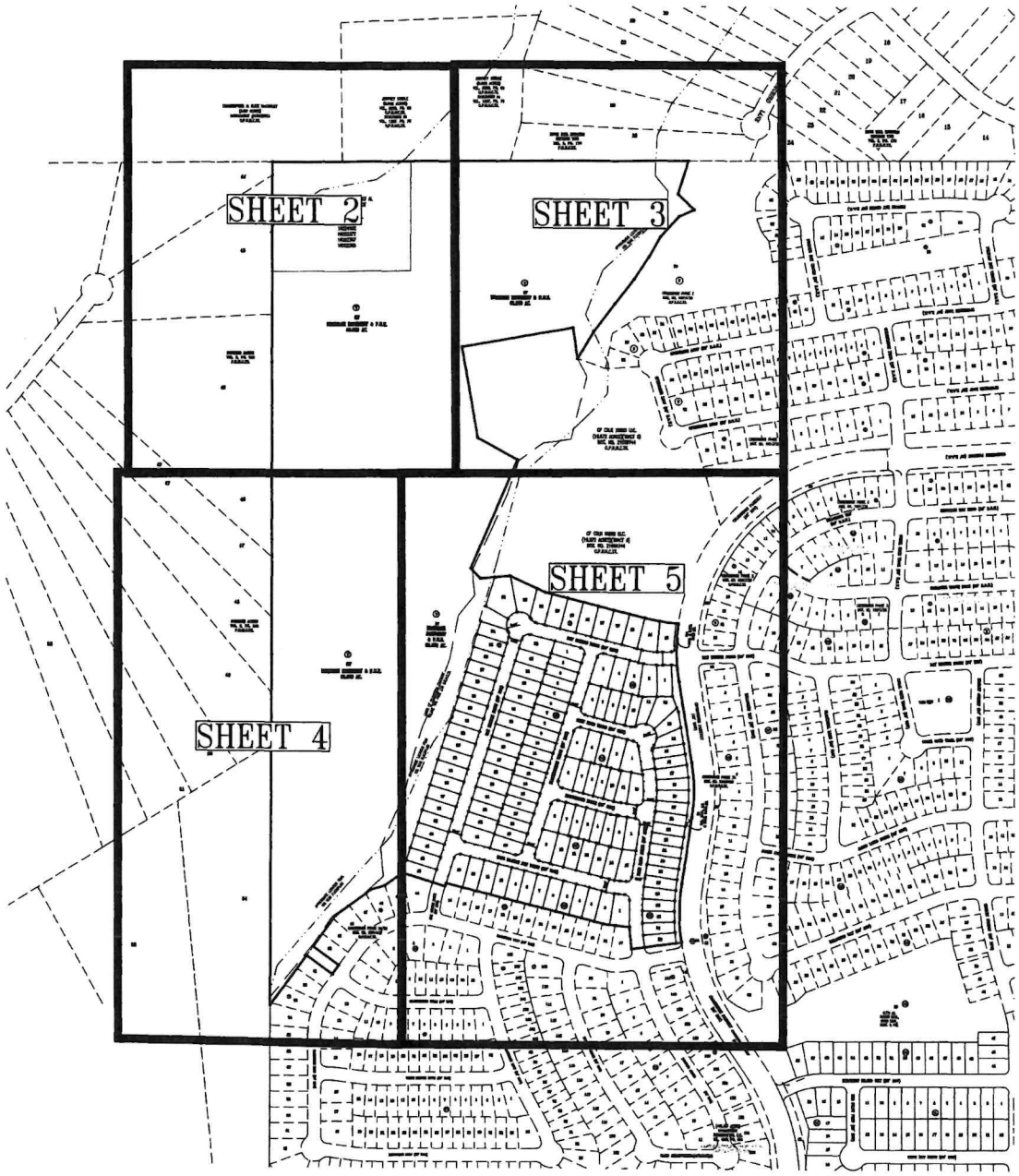
CROSSWINDS PHASE FOUR-A



VICINITY MAP
NOT TO SCALE

SCALE: 1" = 300'

OVERALL LAYOUT

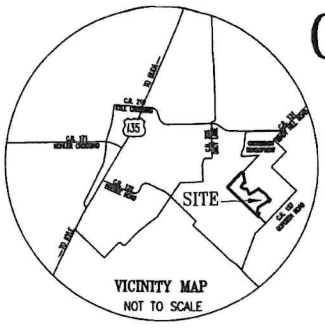


SHEET NO. 1 OF 9

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5333\Survey\PLAT - CROSSWINDS PHASE 4A

CROSSWINDS PHASE FOUR-A



VICINITY MAP
NOT TO SCALE

SCALE: 1" = 100'

LEGEND

- ● 1/2" IRON ROD FOUND (UNLESS OTHERWISE NOTED)
- ○ 1/2" CAPPED IRON ROD SET (UNLESS OTHERWISE NOTED)
- 25 LOT NUMBER
- Ⓕ BLOCK DESIGNATION
- ····· 4' SIDEWALK
- — — 100 YEAR FEMA FLOOD PLAIN

O.P.R.H.C.TX. OFFICIAL PUBLIC RECORDS, HAYS COUNTY, TEXAS

P.R.H.C.TX. PLAT RECORDS, HAYS COUNTY, TEXAS

CHRISTOPHER & ALICE McCAWLEY
(5.89 ACRES)
INSTRUMENT #17025853
O.P.R.H.C.TX.

JEFFREY STEELE
(8.662 ACRES)
VOL. 3286, PG. 80
O.P.R.H.C.TX.
DESCRIBED IN
VOL. 1287, PG. 76
O.P.R.H.C.TX.

N42°44'52"E 1058.81'

44

ELIZABETH EDWARDS, ET AL
MUD DIRECTORS LOT
(5.000 ACRES)
INSTRUMENT NOS.
16024119
16024102
16002372
16002367
16002365

45

N46°42'01"W 756.82'

Ⓥ
87
DRAINAGE EASEMENT & P.U.E.
58.653 AC.

MATCHLINE SHEET 3

SUNRISE ACRES
VOL. 2, PG. 346
P.R.H.C.TX.

46

MATCHLINE SHEET 4

MATCHLINE SHEET 5

OWNER: CF CSLK XWIND, LLC
C/O SR CAPITAL MANAGEMENT, LLC
ATT: GREGORY L RICH
12222 MERIT DRIVE, STE 1020
DALLAS, TX 75251
(972)960-2777

OWNER: PHAU - CW4A LLC
1921 WEST STATE HWY. 46
NEW BRAUNFELS, TEXAS, 78132
(210) 580-8598

OWNER: AMY LAINE, PRESIDENT
401 CONGRESS AVENUE, SUITE 2100
AUSTIN, TEXAS 78701,
(512) 370-2800

OWNER: LEE WEBER, VICE-PRESIDENT
401 CONGRESS AVENUE, SUITE 2100
AUSTIN, TEXAS 78701,
(512) 370-2800

OWNER: ELIZABETH P. EDWARDS, SECRETARY
401 CONGRESS AVENUE, SUITE 2100
AUSTIN, TEXAS 78701,
(512) 370-2800

OWNER: ANTHONY DELL'ABATE, ASSISTANT SECRETARY
401 CONGRESS AVENUE, SUITE 2100
AUSTIN, TEXAS 78701,
(512) 370-2800

OWNER: MICHAEL GIDEON, ASSISTANT SECRETARY
401 CONGRESS AVENUE, SUITE 2100
AUSTIN, TEXAS 78701,
(512) 370-2800

ENGINEER & SURVEYOR:
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE
AUSTIN, TEXAS 78749
(512) 280-5160 PHONE

DATE: JUNE 28, 2022
ACREAGE: 83.388 ACRES

SURVEY: SAMUEL LITTLE SURVEY NO. 8, ABSTRACT NO. 286, HAYS COUNTY, TEXAS

F.E.M.A. MAP NO. 48209C0290F
HAYS COUNTY, TEXAS DATED SEPTEMBER 2, 2005

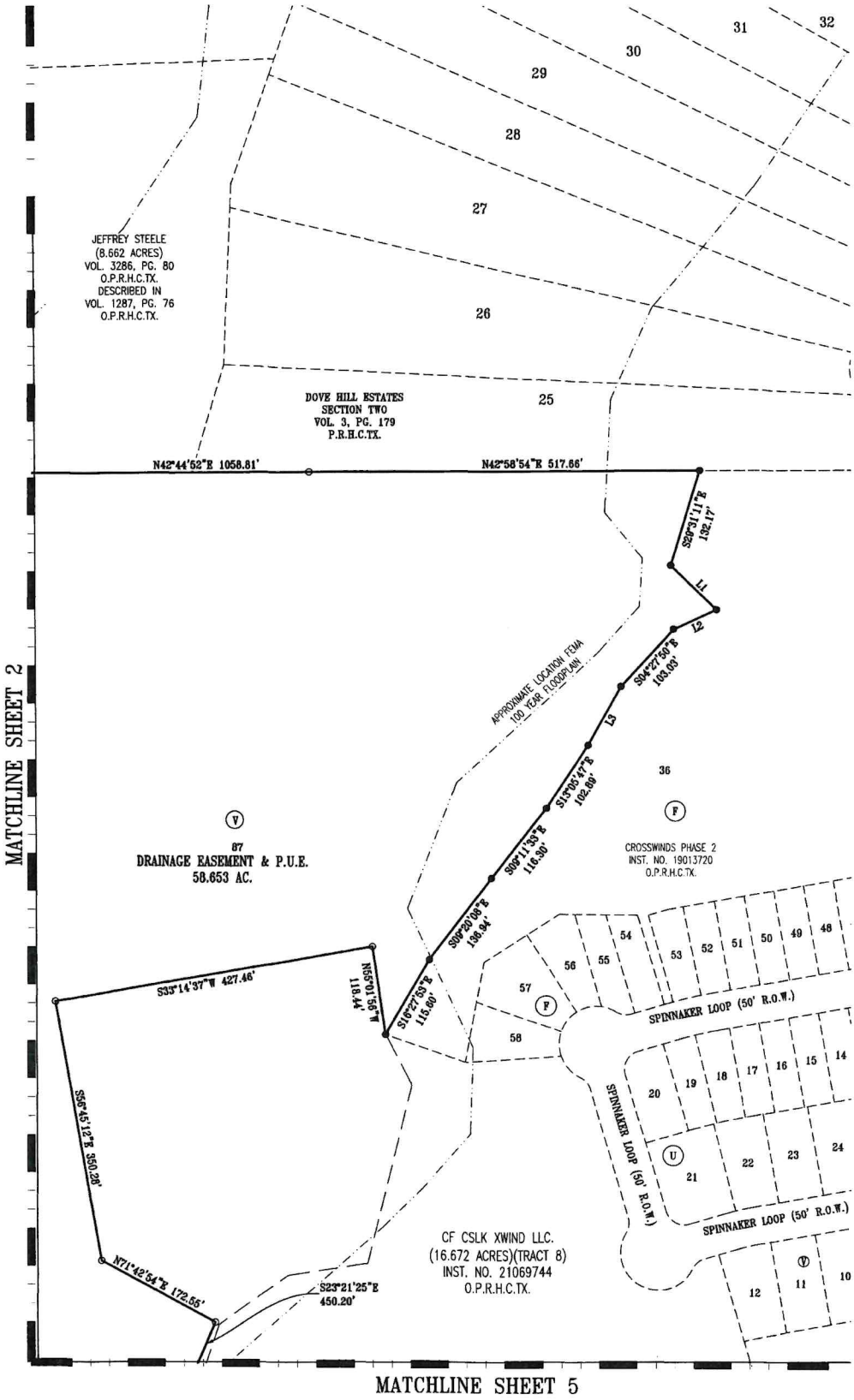
SINGLE FAMILY LOTS	139
DRAINAGE, SIDEWALK, ACCESS & PUBLIC UTILITY LOTS	3
NUMBER OF BLOCKS	6

SHEET NO. 2 OF 9

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5333\Survey\PLAT - CROSSWINDS PHASE 4A

CROSSWINDS PHASE FOUR-A



SCALE: 1" = 100'

LEGEND

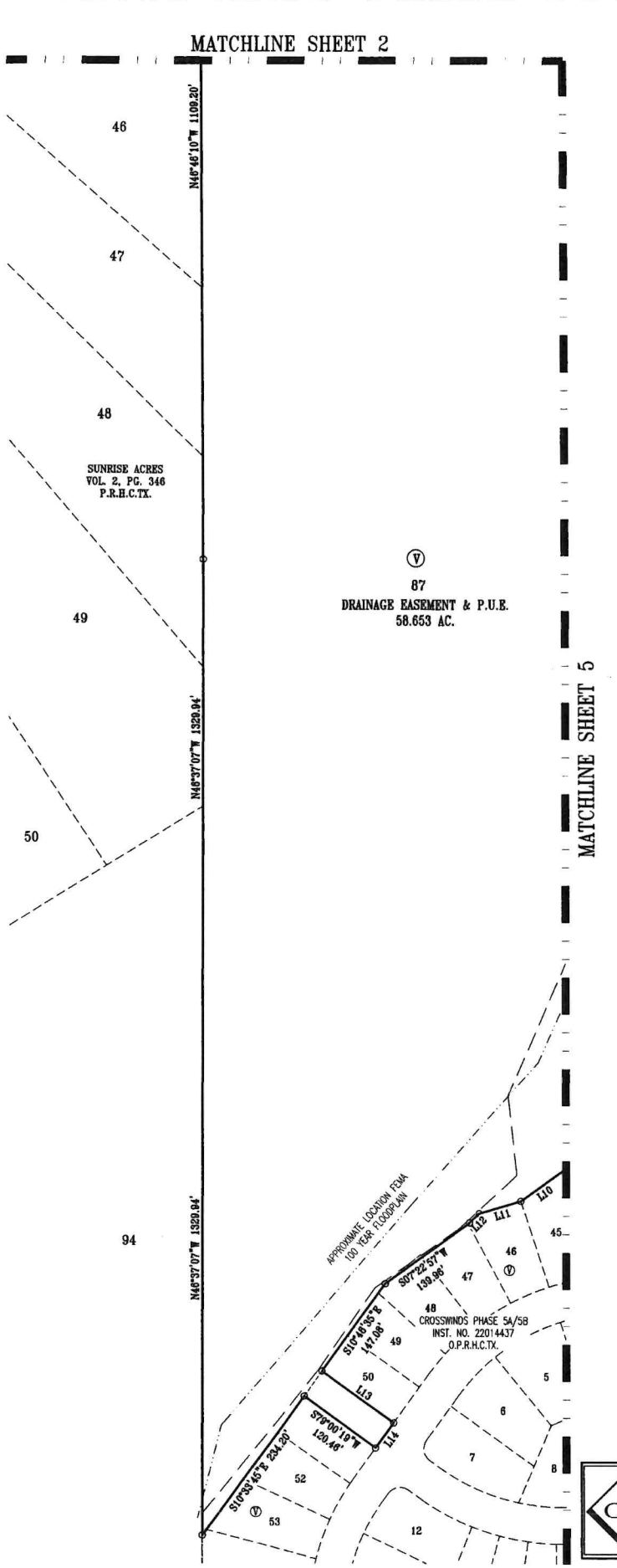
- ● 1/2" IRON ROD FOUND (UNLESS OTHERWISE NOTED)
- ○ 1/2" CAPPED IRON ROD SET (UNLESS OTHERWISE NOTED)
- 25 LOT NUMBER
- Ⓕ BLOCK DESIGNATION
- ····· 4' SIDEWALK
- —·— 100 YEAR FEMA FLOOD PLAIN
- O.P.R.H.C.TX. OFFICIAL PUBLIC RECORDS, HAYS COUNTY, TEXAS
- P.R.H.C.TX. PLAT RECORDS, HAYS COUNTY, TEXAS

SHEET NO. 3 OF 9

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5333\Survey\PLAT - CROSSWINDS PHASE 4A

CROSSWINDS PHASE FOUR-A



SCALE: 1" = 100'

LEGEND

- ● 1/2" IRON ROD FOUND (UNLESS OTHERWISE NOTED)
- ○ 1/2" CAPPED IRON ROD SET (UNLESS OTHERWISE NOTED)
- 25 LOT NUMBER
- Ⓥ BLOCK DESIGNATION
- ····· 4' SIDEWALK
- — · — 100 YEAR FEMA FLOOD PLAIN
- O.P.R.H.C.TX. OFFICIAL PUBLIC RECORDS, HAYS COUNTY, TEXAS
- P.R.H.C.TX. PLAT RECORDS, HAYS COUNTY, TEXAS

SHEET NO. 4 OF 9

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

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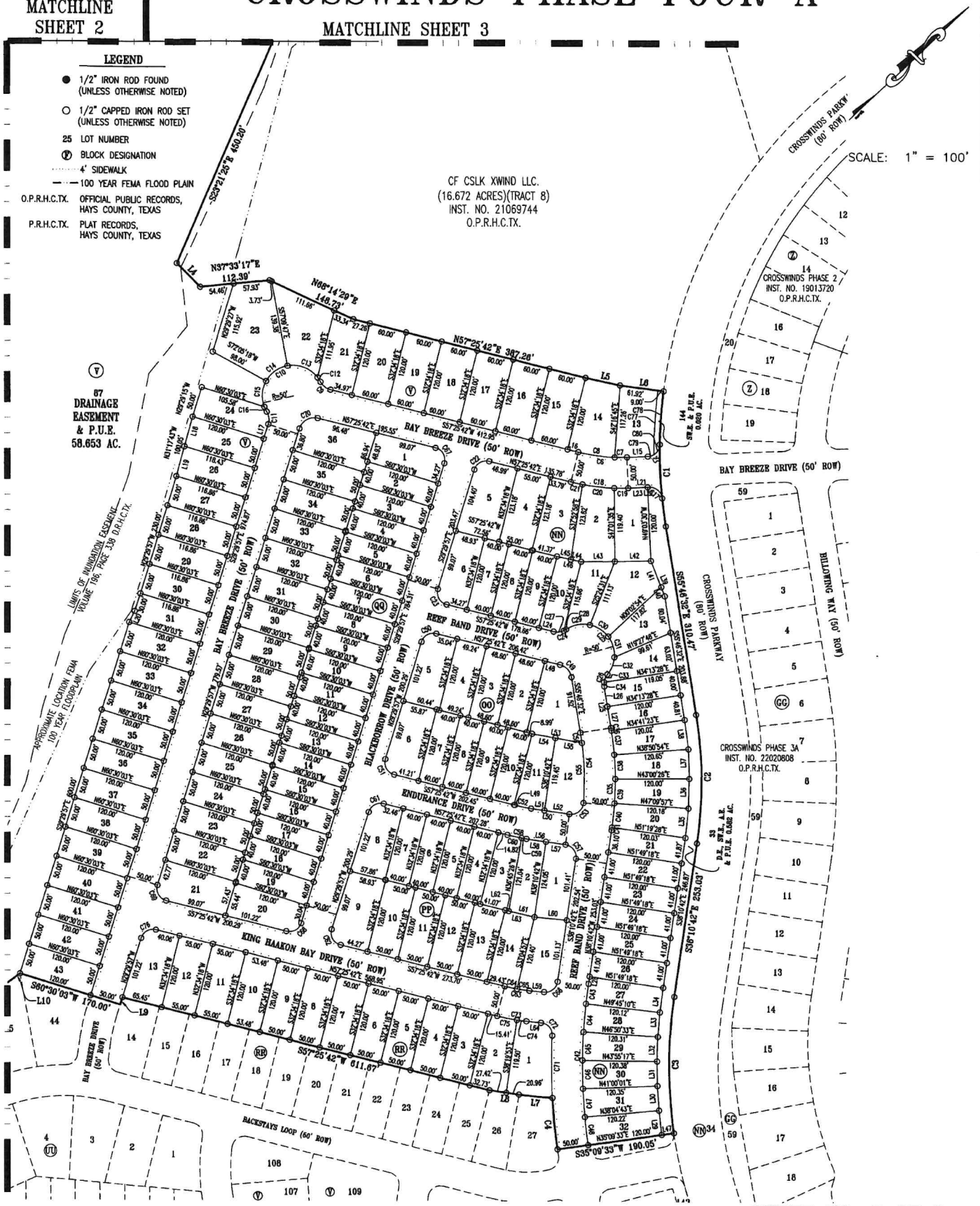
CROSSWINDS PHASE FOUR-A



SHEET NO. 5 OF 9

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5333\Survey\PLAT – CROSSWINDS PHASE 4-A

CROSSWINDS PHASE FOUR-A

Line Table		
Line #	Direction	Length
L1	N87°16'10"E	84.82'
L2	S18°35'42"W	63.06'
L3	S17°17'03"E	89.77'
L4	N89°03'27"E	54.04'
L5	N55°27'02"E	57.17'
L6	N50°45'24"E	70.92'
L7	S48°56'20"W	53.83'
L8	S51°41'06"W	48.38'
L9	S29°29'57"E	12.47'
L10	S07°18'51"W	81.75'
L11	S26°23'57"W	59.74'
L12	S00°43'29"E	19.66'
L13	N79°00'19"E	120.39'
L14	S10°59'41"E	41.98'
L15	N40°56'30"E	34.13'
L16	S57°25'42"W	17.98'

Line Table		
Line #	Direction	Length
L17	S29°29'57"E	24.87'
L18	S31°17'43"E	50.02'
L19	N31°17'43"W	50.02'
L20	S20°35'15"E	20.24'
L21	S40°56'30"W	34.10'
L22	S40°56'30"W	2.54'
L23	S40°56'30"W	31.56'
L24	N57°25'42"E	24.39'
L25	S55°46'32"E	68.58'
L26	S55°46'32"E	33.17'
L27	S55°46'32"E	35.41'
L28	S38°10'42"E	11.93'
L29	S53°03'40"E	39.99'
L30	S50°16'53"E	40.01'
L31	S47°29'57"E	40.00'
L32	S44°43'03"E	40.00'

Line Table		
Line #	Direction	Length
L33	S41°56'08"E	39.86'
L34	S39°04'45"E	40.28'
L35	S40°34'33"E	48.26'
L36	S45°07'21"E	48.26'
L37	S48°17'50"E	48.28'
L38	S53°58'47"E	48.29'
L39	S67°44'28"E	61.52'
L40	S67°44'28"E	15.82'
L41	S67°44'28"E	45.70'
L42	S42°22'42"W	58.52'
L43	S42°22'42"W	54.32'
L44	S55°48'27"W	17.02'
L45	S55°48'27"W	22.99'
L46	N55°48'27"E	40.02'
L47	S35°09'33"W	20.05'
L48	N57°25'42"E	24.94'

Line Table		
Line #	Direction	Length
L49	S57°25'42"W	1.24'
L50	N51°49'18"E	62.11'
L51	S51°49'18"W	21.66'
L52	S51°49'18"W	40.45'
L53	N53°56'47"E	81.58'
L54	S53°56'47"W	38.06'
L55	S53°56'47"W	43.52'
L56	N51°49'18"E	63.44'
L57	N51°49'18"E	31.99'
L58	N51°49'18"E	31.44'
L59	N48°56'20"E	23.56'
L60	N48°54'43"E	52.06'
L61	N56°03'44"E	42.62'
L62	N56°03'44"E	6.30'
L63	N56°03'44"E	48.93'
L64	N48°56'20"E	23.57'

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	Delta
C1	220.61'	765.00'	S47°30'50"E	219.85'	111.08'	16°31'22"
C2	210.38'	685.00'	S46°58'37"E	209.56'	106.03'	17°35'50"
C3	222.49'	765.00'	S46°30'37"E	221.71'	112.04'	16°39'50"
C4	84.12'	955.00'	N52°19'03"W	84.09'	42.09'	5°02'48"
C5	30.26'	20.00'	N02°24'25"W	27.46'	18.88'	86°41'51"
C6	79.13'	275.00'	N49°11'06"E	78.86'	39.84'	16°29'13"
C7	19.74'	275.00'	N42°59'54"E	19.74'	9.88'	4°06'48"
C8	59.39'	275.00'	N51°14'30"E	59.27'	29.81'	12°22'25"
C9	21.03'	25.00'	N81°31'24"E	20.41'	11.18'	48°11'23"
C10	159.97'	50.00'	S13°57'53"W	99.96'	1732.13'	183°18'25"
C11	21.03'	25.00'	N53°35'38"W	20.41'	11.18'	48°11'23"
C12	8.78'	50.00'	N79°24'49"W	8.77'	4.40'	10°03'48"
C13	54.73'	50.00'	S64°11'45"W	52.04'	30.47'	62°43'04"
C14	44.29'	50.00'	S07°27'46"W	42.85'	23.71'	50°44'55"
C15	43.26'	50.00'	S42°41'52"E	41.92'	23.09'	49°34'21"
C16	8.91'	50.00'	S72°35'11"E	8.89'	4.46'	10°12'17"
C17	30.27'	20.00'	S84°18'24"W	27.47'	18.89'	86°43'48"
C18	93.52'	325.00'	N49°11'06"E	93.20'	47.08'	16°29'13"
C19	22.73'	325.00'	N42°56'43"E	22.73'	11.37'	4°00'26"
C20	51.66'	325.00'	N49°30'09"E	51.61'	25.89'	9°06'27"
C21	19.13'	325.00'	N55°44'33"E	19.13'	9.57'	3°22'20"
C22	30.34'	20.00'	S13°57'53"W	27.52'	18.96'	86°55'39"
C23	32.49'	20.00'	S76°02'07"E	29.03'	21.10'	93°04'21"
C24	21.03'	25.00'	N33°20'01"E	20.41'	11.18'	48°11'23"
C25	142.40'	50.00'	N89°10'25"W	98.92'	338.10'	163°10'32"
C26	21.03'	25.00'	S31°40'50"E	20.41'	11.18'	48°11'23"
C27	16.86'	25.00'	N38°06'46"E	16.54'	8.76'	38°37'53"
C28	4.17'	25.00'	N14°01'05"E	4.17'	2.09'	9°33'30"
C29	40.36'	50.00'	S32°21'48"W	39.27'	21.35'	46°14'57"
C30	35.76'	50.00'	S75°58'31"W	35.00'	18.68'	40°58'29"
C31	35.76'	50.00'	N63°03'01"W	35.00'	18.68'	40°58'29"
C32	30.52'	50.00'	N25°04'28"W	30.05'	15.75'	34°58'38"
C33	14.11'	25.00'	S23°45'06"E	13.92'	7.25'	32°19'54"
C34	6.92'	25.00'	S47°50'47"E	6.90'	3.46'	15°51'29"
C35	167.39'	545.00'	N46°58'37"W	166.73'	84.36'	17°35'50"
C36	4.43'	545.00'	N55°32'34"W	4.43'	2.21'	0°27'55"
C37	39.56'	545.00'	N53°13'51"W	39.55'	19.79'	4°09'31"
C38	39.56'	545.00'	N49°04'20"W	39.55'	19.79'	4°09'31"
C39	39.56'	545.00'	N44°54'48"W	39.55'	19.79'	4°09'31"
C40	39.56'	545.00'	N40°45'18"W	39.55'	19.79'	4°09'31"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	Delta
C41	4.73'	545.00'	N38°25'37"W	4.73'	2.37'	0°29'51"
C42	263.19'	905.00'	S46°30'34"E	262.26'	132.53'	16°39'46"
C43	32.68'	905.00'	S39°12'46"E	32.68'	16.34'	2°04'09"
C44	45.97'	905.00'	S41°42'09"E	45.96'	22.99'	2°54'36"
C45	46.14'	905.00'	S44°37'05"E	46.13'	23.07'	2°55'16"
C46	46.14'	905.00'	S47°32'21"E	46.14'	23.08'	2°55'16"
C47	46.15'	905.00'	S50°27'38"E	46.14'	23.08'	2°55'17"
C48	46.12'	905.00'	S53°22'52"E	46.11'	23.08'	2°55'11"
C49	29.15'	25.00'	N89°10'25"W	27.52'	16.48'	66°47'46"
C50	30.34'	20.00'	S13°57'53"W	27.52'	18.96'	86°55'39"
C51	32.49'	20.00'	S76°02'07"E	29.03'	21.10'	93°04'21"
C52	26.91'	275.00'	N54°37'30"E	26.90'	13.47'	5°36'24"
C53	32.91'	20.00'	N04°40'49"E	29.32'	21.55'	94°17'00"
C54	115.03'	495.00'	N48°07'06"W	114.77'	57.77'	13°18'51"
C55	97.98'	495.00'	N48°07'54"W	97.82'	49.15'	11°20'27"
C56	17.05'	495.00'	N54°47'20"W	17.05'	8.52'	1°58'24"
C57	31.42'	20.00'	N83°10'42"W	28.28'	20.00'	90°00'00"
C58	31.80'	325.00'	N54°37'30"E	31.79'	15.91'	5°36'24"
C59	8.06'	325.00'	N52°31'56"E	8.06'	4.03'	1°25'15"
C60	23.74'	325.00'	N55°20'08"E	23.74'	11.88'	4°11'09"
C61	30.34'	20.00'	S13°57'53"W	27.52'	18.96'	86°55'39"
C62	32.49'	20.00'	S76°02'07"E	29.03'	21.10'	93°04'21"
C63	40.75'	275.00'	N53°11'01"E	40.71'	20.41'	8°29'22"
C64	20.58'	275.00'	N55°17'04"E	20.58'	10.29'	4°17'16"
C65	20.17'	275.00'	N51°02'23"E	20.16'	10.09'	4°12'06"
C66	30.41'	20.00'	N05°22'49"E	27.56'	19.02'	87°07'02"
C67	32.49'	20.00'	N76°02'07"W	29.03'	21.10'	93°04'21"
C68	30.34'	20.00'	N13°57'53"E	27.52'	18.96'	86°55'39"
C69	32.49'	20.00'	S76°02'07"E	29.03'	21.10'	93°04'21"
C70	37.93'	25.00'	S13°57'53"W	34.39'	23.69'	86°55'39"
C71	101.47'	855.00'	S46°45'01"E	101.42'	50.78'	6°05'16"
C72	30.49'	20.00'	N87°23'01"W	27.62'	19.10'	87°21'17"
C73	48.16'	325.00'	N53°11'01"E	48.11'	24.12'	8°29'22"
C74	15.48'	325.00'	N50°18'14"E	15.48'	7.74'	2°43'47"
C75	32.67'	325.00'	N54°32'55"E	32.66'	16.35'	5°45'36"
C76	30.34'	20.00'	S13°57'53"W	27.52'	18.96'	86°55'39"
C77	104.44'	774.00'	S43°07'05"E	104.36'	52.30'	7°43'52"
C78	86.83'	765.00'	S42°30'15"E	86.78'	43.46'	6°30'12"
C79	10.71'	20.00'	N25°36'13"E	10.58'	5.49'	30°40'34"
C80	19.56'	20.00'	N17°44'43"W	18.79'	10.64'	56°01'17"

DEVELOPMENT AGREEMENT LOT SCHEDULE
[PER 1.01(a) & (e)]

40' LOTS			50' LOTS			50' LOTS			60' LOTS		
BLK.	LOT	S.F.	BLK.	LOT	S.F.	BLK.	LOT	S.F.	BLK.	LOT	S.F.
NN	6	6,161	V	24	5,476	QQ	21	7,181	V	13	6,915
NN	7	4,800	V	25	5,986	QQ	22	6,000	V	14	8,057
NN	8	4,800	V	26	5,914	QQ	23	6,000	V	15	7,200
NN	9	4,800	V	27	5,849	QQ	24	6,000	V	16	7,200
NN	10	4,795	V	28	5,843	QQ	25	6,000	V	17	7,200
NN	11	4,895	V	29	5,843	QQ	26	6,000	V	18	7,200
NN	12	7,902	V	30	5,843	QQ	27	6,000	V	19	7,200
NN	13	5,542	V	31	5,843	QQ	28	6,000	V	20	7,200
NN	14	5,234	V	32	5,969	QQ	29	6,000	V	21	7,183
NN	15	4,798	V	33	6,000	QQ	30	6,000	V	22	8,977
NN	16	4,839	V	34	6,000	QQ	31	6,000	V	23	13,106
NN	17	5,272	V	35	6,000	QQ	32	6,000			
NN	18	5,271	V	36	6,000	QQ	33	6,000			
NN	19	5,260	V	37	6,000	QQ	34	6,000			
NN	20	5,261	V	38	6,000	QQ	35	6,000			
NN	21	4,962	V	39	6,000	QQ	36	7,527			
NN	22	4,920	V	40	6,000						
NN	23	4,920	V	41	6,000						
NN	24	4,920	V	42	6,000	RR	1	7,750			
NN	25	4,920	V	43	6,000	RR	2	6,490			
NN	26	4,920				RR	3	6,000			
NN	27	5,101	NN	1	6,734	RR	4	6,000			
NN	28	5,165	NN	2	7,492	RR	5	6,000			
NN	29	5,190	NN	3	7,225	RR	6	6,000			
NN	30	5,192	NN	4	6,775	RR	7	6,000			
NN	31	5,188	NN	5	8,455	RR	8	6,000			
NN	32	5,178				RR	9	6,000			
			PP	9	7,361	RR	10	6,418			
			PP	10	6,000	RR	11	6,600			
00	1	7,799	PP	11	6,000	RR	12	6,600			
00	2	5,832	PP	12	6,000	RR	13	7,392			
00	3	5,832	PP	13	6,000						
00	4	5,909	PP	14	5,959						
00	5	6,791	PP	15	6,810						
00	6	6,994									
00	7	4,800									
00	8	4,800									
00	9	4,800									
00	10	4,800									
00	11	5,274									
00	12	6,411									
PP	1	6,295									
PP	2	5,024									
PP	3	5,166									
PP	4	4,800									
PP	5	4,800									
PP	6	4,800									
PP	7	4,800									
PP	8	6,481									
QQ	1	6,161									
QQ	2	4,800									
QQ	3	4,800									
QQ	4	4,800									
QQ	5	4,800									
QQ	6	4,800									
QQ	7	4,800									
QQ	8	4,800									
QQ	9	4,800									
QQ	10	4,800									
QQ	11	4,800									
QQ	12	4,800									
QQ	13	4,800									
QQ	14	4,800									
QQ	15	4,800									
QQ	16	4,800									
QQ	17	4,800									
QQ	18	4,800									
QQ	19	4,800									
QQ	20	6,191									

LOT SUMMARY

WIDTH	PHASE 4A	% OF PHASE 4A	% OF TOTAL[1]
40'	67	48%	4.5%
50'	61	44%	4.1%
60'	11	8%	0.7%
TOTAL	139	100%	9.3%

[1]1500 LOTS - MAXIMUM ALLOWED

SHEET NO. 6 OF 9

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5333\Survey\PLAT - CROSSWINDS PHASE 4A

CROSSWINDS PHASE FOUR-A

FINAL PLAT NOTES:

1. THIS FINAL PLAT IS LOCATED WITHIN THE EXTRA TERRITORIAL JURISDICTION (ETJ) OF THE CITY OF KYLE.
2. THIS PROJECT IS LOCATED IN THE BRUSHY CREEK – PLUM CREEK SUB WATERSHED.
3. NO PORTION OF THIS PRELIMINARY PLAT LIES WITHIN THE BOUNDARIES OF THE EDWARDS AQUIFER RECHARGE ZONE OR CONTRIBUTING ZONE.
4. THIS PLAT IS LOCATED WITHIN THE BOUNDARY OF THE HAYS CONSOLIDATED INDEPENDENT SCHOOL DISTRICT.
5. WATER SERVICE WILL BE PROVIDED TO EACH LOT FROM THE CITY OF KYLE.
6. ORGANIZED WASTEWATER SERVICE WILL BE PROVIDED TO EACH LOT BY THE CITY OF KYLE.
7. ELECTRIC SERVICE WILL BE PROVIDED BY THE PEDERNALES ELECTRIC COOPERATIVE.
8. TELEPHONE SERVICE WILL BE PROVIDED BY SPECTRUM.
9. ORGANIZED GAS SERVICE MAY BE PROVIDED.
10. MINIMUM FRONT SETBACK SHALL BE TWENTY (20') FEET.
11. MINIMUM REAR SETBACK SHALL BE FIFTEEN (15') FEET.
12. MINIMUM SIDE AND INTERIOR SIDE SETBACKS SHALL BE FIVE (5') FEET.
13. MINIMUM SIDE SETBACK ADJACENT TO A PUBLIC STREET SHALL BE TEN (10') FEET.
14. A 15' MUNICIPAL UTILITY EASEMENT (M.U.E.) SHALL BE LOCATED ALONG THE FRONT OF EACH LOT ADJACENT TO THE R.O.W., A 10' M.U.E. ALONG SIDE YARDS ADJACENT TO THE ROW AND A 10' M.U.E. ALONG REAR PROPERTY LINES.
15. ALL STREETS SHALL BE DESIGNED AS IN ACCORDANCE WITH APPLICABLE CITY OF KYLE AND HAYS COUNTY DEVELOPMENT REGULATIONS AND DEDICATED AS PUBLIC R.O.W. AT FINAL PLATTING.
16. NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A STATE-APPROVED COMMUNITY WATER SYSTEM.
17. NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A STATE-APPROVED ORGANIZED WASTEWATER SYSTEM.
18. THE WATER AND WASTEWATER UTILITY SYSTEM SERVING THIS SUBDIVISION MUST BE IN ACCORDANCE WITH THE CITY OF KYLE CODE OF ORDINANCES. THE WATER AND WASTEWATER UTILITY PLAN MUST BE REVIEWED AND APPROVED BY THE KYLE WATER UTILITY. THE UTILITY CONSTRUCTION MUST BE INSPECTED BY THE CITY OF KYLE.
19. PRIOR TO CONSTRUCTION ON ANY LOT IN THIS SUBDIVISION, DRAINAGE PLANS WILL BE SUBMITTED TO THE CITY OF KYLE FOR REVIEW. RAINFALL RUN-OFF SHALL BE HELD TO THE AMOUNT OF EXISTING CONDITIONS.
20. NO CONSTRUCTION OR OTHER DEVELOPMENT WITHIN THIS SUBDIVISION MAY BEGIN UNTIL ALL HAYS COUNTY DEVELOPMENT PERMIT REQUIREMENTS HAVE BEEN MET.
21. NO STRUCTURE SHALL BE OCCUPIED UNTIL A CERTIFICATE OF OCCUPANCY IS ISSUED BY THE CITY OF KYLE.
22. IN ORDER TO PROMOTE SAFE USE OF ROADWAYS AND TO PRESERVE THE CONDITIONS OF PUBLIC ROADWAYS, NO DRIVEWAY CONSTRUCTED ON ANY LOT WITHIN THIS SUBDIVISION SHALL BE PERMITTED ACCESS ONTO A PUBLIC ROADWAY UNLESS (A) A PERMIT FOR USE OF THE COUNTY ROADWAY RIGHT-OF-WAY HAS BEEN ISSUED UNDER AND (B) THE DRIVEWAY SATISFIES THE MINIMUM SPACING REQUIREMENTS FOR DRIVEWAYS AS SET FORTH IN CHAPTER 721 OF THE HAYS COUNTY DEVELOPMENT REGULATIONS.
23. ALL ROADWAYS WILL BE PUBLICLY DEDICATED AND MAINTAINED.
24. DRAINAGE EASEMENTS SHALL REMAIN OPEN AND FREE OF OBSTRUCTIONS.
25. EROSION/SEDIMENTATION CONTROLS ARE REQUIRED ON EACH LOT INCLUDING SINGLE FAMILY AND DUPLEX CONSTRUCTION.
26. PUBLIC SIDEWALKS BUILT TO THE CITY OF KYLE STANDARDS, ARE REQUIRED ALONG BOTH SIDES OF ALL STREETS, WHICH SHALL HAVE SHALL HAVE 4' CONCRETE SIDEWALKS EACH SIDE.
27. THE CITY OF KYLE HAS THE RIGHT TO PRUNE AND REMOVE TREES, SHRUBBERY AND OTHER OBSTRUCTIONS TO THE EXTENT NECESSARY TO KEEP THE EASEMENTS CLEAR.
28. THE OWNER/DEVELOPER OF THIS SUBDIVISION SHALL PROVIDE THE ELECTRIC COMPANY THAT SHALL SERVICE THIS SUBDIVISION WITH ANY EASEMENT AND/OR ACCESS REQUIRED, IN ADDITION TO THOSE INDICATED, FOR THE INSTALLATION AND ONGOING MAINTENANCE OF OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES. THESE EASEMENTS AND ACCESS ARE REQUIRED TO PROVIDE ELECTRIC SERVICE TO THE BUILDING AND WILL NOT BE LOCATED SO AS TO CAUSE THE SITE TO BE OUT OF COMPLIANCE WITH THE CITY OF KYLE CODE OF ORDINANCES.
29. THE OWNER SHALL BE RESPONSIBLE FOR ANY INSTALLATION OF TEMPORARY EROSION CONTROL, REVEGETATION AND TREE PROTECTION. IN ADDITION, THE OWNER SHALL BE RESPONSIBLE FOR ANY TREE PRUNING AND TREE REMOVAL THAT IS WITHIN TEN FEET OF THE CENTER LINE OF THE OVERHEAD ELECTRICAL FACILITIES DESIGNED TO PROVIDE ELECTRIC SERVICE TO THIS PROJECT.
30. PROPERTY OWNER SHALL PROVIDE FOR ACCESS TO THE DRAINAGE EASEMENTS AS MAY BE NECESSARY AND SHALL NOT PROHIBIT ACCESS BY GOVERNMENTAL AUTHORITIES.
31. NO BUILDINGS, FENCES, LANDSCAPING OR OTHER OBSTRUCTIONS ARE PERMITTED IN DRAINAGE EASEMENTS EXCEPT AS APPROVED BY THE CITY OF KYLE AND HAYS COUNTY.
32. PARKLAND REQUIREMENTS ARE SATISFIED THROUGH THE CROSSWINDS MUNICIPAL UTILITY DISTRICT.
33. ALL DRAINAGE EASEMENTS ON PRIVATE PROPERTY SHALL BE MAINTAINED BY THE PROPERTY OWNER OR ASSIGNS.
34. THIS FINAL PLAT IS LOCATED WITHIN ESD #5.
35. THE OWNER/DEVELOPER IS ADVISED TO OBTAIN APPROVAL FOR ANY NEEDED LICENSE AGREEMENTS PRIOR TO APPROVAL OF THE CONSTRUCTION PLANS. OTHER SPECIAL OR NONSTANDARD TREATMENTS OF THE R.O.W. MAY ALSO REQUIRE A LICENSE AGREEMENT.
36. APPROVAL OF THIS PRELIMINARY PLAN DOES NOT CONSTITUTE APPROVAL OF ANY DEVIATION FROM THE CITY OF KYLE'S CODE OF ORDINANCES IN THE FINAL PLAT, CONSTRUCTION PLAN OR SITE PLAN STAGE, UNLESS SUCH DEVIATIONS HAVE BEEN SPECIFICALLY REQUESTED IN WRITING AND SUBSEQUENTLY APPROVED IN WRITING BY THE CITY. SUCH APPROVALS DO NOT RELIEVE THE ENGINEER OF THE OBLIGATION TO MODIFY THE DESIGN OF THE PROJECT IF IT DOES NOT MEET ALL OTHER CITY OF KYLE'S REGULATIONS OR IF IT IS SUBSEQUENTLY DETERMINED THAT THE DESIGN WOULD ADVERSELY IMPACT THE PUBLIC'S SAFETY, HEALTH, WELFARE OR PROPERTY.
37. LOTS 87 AND 144, BLOCK "V", AND LOT 33, BLOCK "NN" ARE TO BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION OR HIS OR HERS ASSIGNS.
38. THE OWNER OF THIS SUBDIVISION, AND HIS OR HER SUCCESSORS AND ASSIGNS, ASSUMES RESPONSIBILITY FOR PLANS FOR CONSTRUCTION OF SUBDIVISION IMPROVEMENTS WHICH COMPLY WITH APPLICABLE CODES AND REQUIREMENTS OF THE CITY OF KYLE. THE OWNER UNDERSTANDS AND ACKNOWLEDGES THAT PLAT VACATION OR RE-PLATTING MAY BE REQUIRED, AT THE OWNER'S SOLE EXPENSE, IF PLANS TO CONSTRUCT THIS SUBDIVISION DO NOT COMPLY WITH SUCH CODES AND REQUIREMENTS.
39. THE LANDOWNER SHALL BE RESPONSIBLE FOR PROVIDING THE SUBDIVISION INFRASTRUCTURE, INCLUDING WATER AND WASTEWATER UTILITY IMPROVEMENTS, OFFSITE MAIN EXTENSION AND SYSTEM UPGRADES.
40. ALL ELECTRICAL, TELEPHONE, CABLE TELEVISION AND SIMILAR LINES SHALL BE UNDERGROUND.
41. SIDEWALKS, PEDESTRIAN CROSSINGS AND OTHER PUBLIC AMENITIES TO BE DEDICATED TO THE CITY OF KYLE SHALL MEET OR EXCEED ALL 2010 ADA STANDARDS OF ACCESSIBILITY DESIGN AND ALL CURRENT FEDERAL AND STATE LAWS REGARDING ACCESS FOR PEOPLE WITH DISABILITIES FOR TITLE II ENTITIES.
43. POST-DEVELOPMENT CONDITIONS RUNOFF RATE SHALL BE NO GREATER THAN THE PRE-DEVELOPED CONDITION FOR 2, 5, 10, 25, AND 100 YEAR STORM EVENTS. PRE AND POST DEVELOPMENT RUNOFF CALCULATIONS SHALL BE INCLUDED WITH THE CONSTRUCTION DRAWINGS FOR THIS SUBDIVISION.
44. ALL MAILBOXES LOCATED IN THE RIGHT-OF-WAY SHALL BE OF AN APPROVED TxDOT OR FHWA APPROVED DESIGN.
45. POST-CONSTRUCTION STORMWATER CONTROL MEASURES SHALL HAVE A MAINTENANCE PLAN. THE MAINTENANCE PLAN MUST BE FILED IN THE REAL PROPERTY RECORDS OF HAYS COUNTY. THE OWNER OPERATOR OF ANY NEW DEVELOPMENT OR REDEVELOPMENT SITE SHALL DEVELOP AND IMPLEMENT A MAINTENANCE PLAN ADDRESSING MAINTENANCE REQUIREMENTS FOR ANY STRUCTURAL CONTROL MEASURES INSTALLED ON SITE. OPERATION AND MAINTENANCE PERFORMED SHALL BE DOCUMENTED AND RETAINED AND MADE AVAILABLE FOR REVIEW UPON REQUEST. THIS REQUIREMENT IS UNDER THE TPDES GENERAL PERMIT TXR040000 PART III, SECTION B.
46. HAYS COUNTY IS NOT RESPONSIBLE FOR SIDEWALK MAINTENANCE. A FULLY EXECUTED LICENSE AGREEMENTS MUST BE IN-PLACE PRIOR TO CONSTRUCTION OF SIDEWALKS WITHIN HAYS COUNTY ROW.

AREA TABLE	
AREA WITHIN SUBDIVISION	83.388 ACRES (3,632,419 sq. ft.)
AREA OF SINGLE FAMILY LOTS	18.833 ACRES (820,347 sq. ft.)
AREA WITHIN D.E., S.W., A.E. & P.U.E.	59.184 ACRES (2,578,067 sq. ft.)
AREA WITHIN STREETS	5.371 ACRES

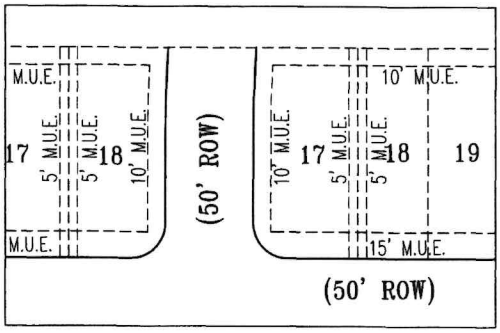
BLK.	LOT	S.F.	ACRES
V	13	6,915	0.159
V	14	8,057	0.185
V	15	7,200	0.165
V	16	7,200	0.165
V	17	7,200	0.165
V	18	7,200	0.165
V	19	7,200	0.165
V	20	7,200	0.165
V	21	7,183	0.165
V	22	8,977	0.206
V	23	13,106	0.301
V	24	5,476	0.126
V	25	5,986	0.137
V	26	5,914	0.136
V	27	5,849	0.134
V	28	5,843	0.134
V	29	5,843	0.134
V	30	5,843	0.134
V	31	5,843	0.134
V	32	5,969	0.137
V	33	6,000	0.138
V	34	6,000	0.138
V	35	6,000	0.138
V	36	6,000	0.138
V	37	6,000	0.138
V	38	6,000	0.138
V	39	6,000	0.138
V	40	6,000	0.138
V	41	6,000	0.138
V	42	6,000	0.138
V	43	6,000	0.138
V	87	2,554,904	58.653
V	144	891	0.020
NN	1	6,734	0.155
NN	2	7,492	0.172
NN	3	7,225	0.166
NN	4	6,775	0.156
NN	5	8,455	0.194
NN	6	6,161	0.141
NN	7	4,800	0.110
NN	8	4,800	0.110
NN	9	4,800	0.110
NN	10	4,795	0.110
NN	11	4,895	0.112
NN	12	7,902	0.181
NN	13	5,542	0.127
NN	14	5,234	0.120
NN	15	4,798	0.110
NN	16	4,839	0.111
NN	17	5,272	0.121
NN	18	5,271	0.121
NN	19	5,260	0.121
NN	20	5,261	0.121
NN	21	4,962	0.114
NN	22	4,920	0.113
NN	23	4,920	0.113
NN	24	4,920	0.113
NN	25	4,920	0.113
NN	26	4,920	0.113
NN	27	5,101	0.117
NN	28	5,165	0.119
NN	29	5,190	0.119
NN	30	5,192	0.119
NN	31	5,188	0.119
NN	32	5,178	0.119
NN	33	22,272	0.511
OO	1	7,799	0.179
OO	2	5,832	0.134
OO	3	5,832	0.134
OO	4	5,909	0.136
OO	5	6,791	0.156
OO	6	6,994	0.161
OO	7	4,800	0.110
OO	8	4,800	0.110
OO	9	4,800	0.110
OO	10	4,800	0.110
OO	11	5,274	0.121
OO	12	6,411	0.147

BLK.	LOT	S.F.	ACRES
PP	1	6,295	0.145
PP	2	5,024	0.115
PP	3	5,166	0.119
PP	4	4,800	0.110
PP	5	4,800	0.110
PP	6	4,800	0.111
PP	7	4,800	0.111
PP	8	6,481	0.149
PP	9	7,361	0.169
PP	10	6,000	0.138
PP	11	6,000	0.138
PP	12	6,000	0.138
PP	13	6,000	0.138
PP	14	5,959	0.137
PP	15	6,810	0.156
QQ	1	6,161	0.141
QQ	2	4,800	0.110
QQ	3	4,800	0.110
QQ	4	4,800	0.110
QQ	5	4,800	0.110
QQ	6	4,800	0.110
QQ	7	4,800	0.110
QQ	8	4,800	0.110
QQ	9	4,800	0.110
QQ	10	4,800	0.110
QQ	11	4,800	0.110
QQ	12	4,800	0.110
QQ	13	4,800	0.110
QQ	14	4,800	0.110
QQ	15	4,800	0.110
QQ	16	4,800	0.110
QQ	17	4,800	0.110
QQ	18	4,800	0.110
QQ	19	4,800	0.110
QQ	20	6,191	0.142
QQ	21	7,181	0.165
QQ	22	6,000	0.138
QQ	23	6,000	0.138
QQ	24	6,000	0.138
QQ	25	6,000	0.138
QQ	26	6,000	0.138
QQ	27	6,000	0.138
QQ	28	6,000	0.138
QQ	29	6,000	0.138
QQ	30	6,000	0.138
QQ	31	6,000	0.138
QQ	32	6,000	0.138
QQ	33	6,000	0.138
QQ	34	6,000	0.138
QQ	35	6,000	0.138
QQ	36	7,527	0.173
RR	1	7,750	0.178
RR	2	6,490	0.149
RR	3	6,000	0.138
RR	4	6,000	0.138
RR	5	6,000	0.138
RR	6	6,000	0.138
RR	7	6,000	0.138
RR	8	6,000	0.138
RR	9	6,000	0.138
RR	10	6,418	0.147
RR	11	6,600	0.151
RR	12	6,600	0.151
RR	13	7,392	0.170

LOT SIZE	NO.
< 1 ACRE	141
1-2 ACRE	X
2-5 ACRE	X
5-10 ACRE	X
> 10 ACRE	1
MINIMUM LOT SIZE: 0.023 AC (996 sq. ft.)	
AVERAGE LOT SIZE: 0.554 AC (24,118 sq. ft.)	

RIGHT-OF-WAY LINEAR FOOTAGE

BAY BREEZE DRIVE (LOCAL ROAD)	50' R.O.W.	1,639'
BLACKBURROW DRIVE (LOCAL ROAD)	50' R.O.W.	874'
ENDURANCE DRIVE (LOCAL ROAD)	50' R.O.W.	388'
KING HAAKON BAY DRIVE (LOCAL ROAD)	50' R.O.W.	724'
REEF BAND DRIVE (LOCAL ROAD)	50' R.O.W.	1,090'
TOTAL	ROW=5.371 AC.	4,715'



M.U.E. DETAIL
SCALE 1" = 50'

SHEET NO. 7 OF 9

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5333\Survey\PLAT - CROSSWINDS PHASE 4A

CROSSWINDS PHASE FOUR-A

STATE OF TEXAS
COUNTY OF HAYS
KNOW ALL MEN BY THESE PRESENTS:

THAT CF CSLK XWIND, LLC, ACTING BY AND THROUGH ITS MANAGER, GREGORY L. RICH, OWNER OF 445.757 ACRES OF LAND OUT OF THE SAMUEL LITTLE SURVEY, NO. 8, A-286, IN HAYS COUNTY, TEXAS, AS CONVEYED BY CORRECTION SPECIAL WARRANTY DEED RECORDED IN INSTRUMENT NUMBER 22008979, OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS, DO HEREBY SUBDIVIDE A 53.652 ACRE PORTION OF SAID TRACT IN ACCORDANCE WITH THE ATTACHED MAP OR PLAT TO BE KNOWN AS:

"CROSSWINDS PHASE FOUR-A"

IN ACCORDANCE WITH THE PLAT SHOWN HEREON, SUBJECT TO ANY AND ALL EASEMENTS OR RESTRICTIONS HERETOFORE GRANTED, AND DO HEREBY DEDICATE TO THE PUBLIC THE USE OF THE STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS, AND PUBLIC PLACES SHOWN ON THIS PLAT.

WITNESS MY HAND THIS THE 7th DAY OF October A.D. 2022

GREGORY L. RICH/ MANAGER Attorney-in-Fact
CF CSLK XWIND, LLC
C/O SR CAPITAL MANAGEMENT, LLC
12222 MERIT DRIVE, SUITE 1020
DALLAS, TX 75251

STATE OF Texas
COUNTY OF Dallas

BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE ON THIS DAY PERSONALLY APPEARED GREGORY L. RICH, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 7th DAY OF October A.D. 2022

NOTARY PUBLIC, STATE OF TEXAS

MEGAN ELIZABETH TERRY
MY COMMISSION EXPIRES
06/17/2026
NOTARY ID: 13382020-3

STATE OF TEXAS
COUNTY OF HAYS
KNOW ALL MEN BY THESE PRESENTS:

THAT PHAU-CW4A, LLC., ACTING BY AND THROUGH ITS REPRESENTATIVE, NICK MCINTYRE, OWNER OF 24.736 ACRES OF LAND OUT OF THE SAMUEL LITTLE SURVEY, NO. 8, A-286, IN HAYS COUNTY, TEXAS, AS CONVEYED BY SPECIAL WARRANTY DEED RECORDED IN INSTRUMENT NUMBER 22004171, OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS, DO HEREBY SUBDIVIDE A 24.736 ACRE PORTION OF SAID TRACT IN ACCORDANCE WITH THE ATTACHED MAP OR PLAT TO BE KNOWN AS:

"CROSSWINDS PHASE FOUR-A"

IN ACCORDANCE WITH THE PLAT SHOWN HEREON, SUBJECT TO ANY AND ALL EASEMENTS OR RESTRICTIONS HERETOFORE GRANTED, AND DO HEREBY DEDICATE TO THE PUBLIC THE USE OF THE STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS, AND PUBLIC PLACES SHOWN ON THIS PLAT.

WITNESS MY HAND THIS THE 25th DAY OF October A.D. 2022

NICK MCINTYRE / V.P. LAND
PHAU - CW4A LLC
1921 WEST STATE HWY. 46
NEW BRAUNFELS, TEXAS, 78132

STATE OF TEXAS |
COUNTY OF Travis

BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE ON THIS DAY PERSONALLY APPEARED NICK MCINTYRE, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 25th DAY OF October A.D. 2022

NOTARY PUBLIC, STATE OF TEXAS

TALISSA HALCOMB
Notary Public, State of Texas
My Commission Expires
August 18, 2026
NOTARY ID 13380773-5

STATE OF TEXAS
COUNTY OF HAYS
KNOW ALL MEN BY THESE PRESENTS:

THE OWNERS OF THE LAND SHOWN ON THIS PLAT WHOSE NAMES ARE SUBSCRIBED HERETO, AND IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, HEREBY DEDICATED TO USE OF THE PUBLIC FOREVER ALL STREETS, PARKS, WATER COURSES, DRAINS, MUNICIPAL UTILITY EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED. I (WE) FURTHER CERTIFY THAT ALL OTHER PARTIES WHO HAVE A MORTGAGE OR LIEN INTEREST IN THE SUBDIVISION HAVE BEEN NOTIFIED AND SIGNED THIS PLAT.

I (WE) FURTHER ACKNOWLEDGE THAT THE DEDICATIONS AND/OR EXACTIONS MADE HEREIN ARE PROPORTIONAL TO THE IMPACT OF THE SUBDIVISION UPON THE PUBLIC SERVICE REQUIRED IN ORDER THAT THE DEVELOPMENT WILL COMPORT WITH THE PRESENT AND FUTURE GROWTH NEEDS OF THE CITY; I (WE), MY (OUR) SUCCESSORS AND ASSIGNS HEREBY WAIVE ANY CLAIM, DAMAGE, OR CAUSE OF ACTION THAT I (WE) MAY HAVE AS A RESULT OF DEDICATIONS OF EXACTIONS MADE HEREIN.

INTERNATIONAL BANK OF COMMERCE

STATE OF TEXAS |
COUNTY OF Travis

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED Jason Rangel KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN STATED. GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 13 DAY OF October A.D. 2022

NOTARY PUBLIC, STATE OF TEXAS

MY COMMISSION EXPIRES: 5-26-2025

JAMIE B. BURKETT
Notary Public, State of Texas
Commission Expires 05-26-2025
Notary ID 10868787

STATE OF TEXAS
COUNTY OF HAYS
KNOW ALL MEN BY THESE PRESENTS:

THAT AMY LAINE, OWNER OF A 1/5TH INTEREST IN 5.00. ACRES OF LAND OUT OF THE SAMUEL LITTLE SURVEY, NO. 8, A-286, IN HAYS COUNTY, TEXAS, AS CONVEYED BY DEED RECORDED IN INSTRUMENT NUMBER 16002372, LEE WEBER, OWNER OF A 1/5TH INTEREST IN 5.00. ACRES OF LAND OUT OF THE SAMUEL LITTLE SURVEY, NO. 8, A-286, IN HAYS COUNTY, TEXAS, AS CONVEYED BY DEED RECORDED IN INSTRUMENT NUMBER 16002365, ELIZABETH P. EDWARDS, OWNER OF A 1/5TH INTEREST IN 5.00. ACRES OF LAND OUT OF THE SAMUEL LITTLE SURVEY, NO. 8, A-286, IN HAYS COUNTY, TEXAS, AS CONVEYED BY DEED RECORDED IN INSTRUMENT NUMBER 16024119, ANTHONY DELL'ABATE, OWNER OF A 1/5TH INTEREST IN 5.00. ACRES OF LAND OUT OF THE SAMUEL LITTLE SURVEY, NO. 8, A-286, IN HAYS COUNTY, TEXAS, AS CONVEYED BY DEED RECORDED IN INSTRUMENT NUMBER 16024102, AND MICHAEL GIDEON, OWNER OF A 1/5TH INTEREST IN 5.00. ACRES OF LAND OUT OF THE SAMUEL LITTLE SURVEY, NO. 8, A-286, IN HAYS COUNTY, TEXAS, AS CONVEYED BY DEED RECORDED IN INSTRUMENT NUMBER 16002367, OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS, DO HEREBY SUBDIVIDE A 58.652 ACRE PORTION OF SAID TRACT IN ACCORDANCE WITH THE ATTACHED MAP OR PLAT TO BE KNOWN AS:

"CROSSWINDS PHASE FOUR-A"

IN ACCORDANCE WITH THE PLAT SHOWN HEREON, SUBJECT TO ANY AND ALL EASEMENTS OR RESTRICTIONS HERETOFORE GRANTED, AND DO HEREBY DEDICATE TO THE PUBLIC THE USE OF THE STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS, AND PUBLIC PLACES SHOWN ON THIS PLAT.

WITNESS MY HAND THIS THE 12th DAY OF October A.D. 2022

AMY LAINE, PRESIDENT
CROSSWINDS MUNICIPAL UTILITY DISTRICT
401 CONGRESS AVENUE, SUITE 2100
AUSTIN, TEXAS 78701,
(512) 370-2800

STATE OF TEXAS |
COUNTY OF TRAVIS

BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE ON THIS DAY PERSONALLY APPEARED AMY LAINE, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 12th DAY OF October A.D. 2022

NOTARY PUBLIC, STATE OF TEXAS

KIMBERLY STUDDARD
Notary Public, State of Texas
Notary ID 13089109-8
My Commission Exp. 11-07-2024

LEE WEBER, VICE-PRESIDENT
CROSSWINDS MUNICIPAL UTILITY DISTRICT
401 CONGRESS AVENUE, SUITE 2100
AUSTIN, TEXAS 78701,
(512) 370-2800

STATE OF TEXAS |
COUNTY OF Travis

BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE ON THIS DAY PERSONALLY APPEARED LEE WEBER, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 25th DAY OF October A.D. 2022

NOTARY PUBLIC, STATE OF TEXAS

TALISSA HALCOMB
Notary Public, State of Texas
My Commission Expires
August 18, 2026
NOTARY ID 13380773-5

ELIZABETH P. EDWARDS, SECRETARY
CROSSWINDS MUNICIPAL UTILITY DISTRICT
401 CONGRESS AVENUE, SUITE 2100
AUSTIN, TEXAS 78701,
(512) 370-2800

STATE OF TEXAS |
COUNTY OF TRAVIS

BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE ON THIS DAY PERSONALLY APPEARED ELIZABETH P. EDWARDS, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 12th DAY OF October A.D. 2022

NOTARY PUBLIC, STATE OF TEXAS

KIMBERLY STUDDARD
Notary Public, State of Texas
Notary ID 13089109-8
My Commission Exp. 11-07-2024

ANTHONY DELL'ABATE, ASSISTANT SECRETARY
CROSSWINDS MUNICIPAL UTILITY DISTRICT
401 CONGRESS AVENUE, SUITE 2100
AUSTIN, TEXAS 78701,
(512) 370-2800

STATE OF TEXAS |
COUNTY OF Travis

BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE ON THIS DAY PERSONALLY APPEARED ANTHONY DELL'ABATE, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 25th DAY OF October A.D. 2022

NOTARY PUBLIC, STATE OF TEXAS

TALISSA HALCOMB
Notary Public, State of Texas
My Commission Expires
August 18, 2026
NOTARY ID 13380773-5

MICHAEL GIDEON, ASSISTANT SECRETARY
CROSSWINDS MUNICIPAL UTILITY DISTRICT
401 CONGRESS AVENUE, SUITE 2100
AUSTIN, TEXAS 78701,
(512) 370-2800

STATE OF TEXAS |
COUNTY OF TRAVIS

BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE ON THIS DAY PERSONALLY APPEARED MICHAEL GIDEON, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 12th DAY OF October A.D. 2022

NOTARY PUBLIC, STATE OF TEXAS

KIMBERLY STUDDARD
Notary Public, State of Texas
Notary ID 13089109-8
My Commission Exp. 11-07-2024

SHEET NO. 8 OF 9

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

CROSSWINDS PHASE FOUR-A

SEWAGE DISPOSAL/INDIVIDUAL WATER SUPPLY CERTIFICATION, TO-WIT:

NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO AN INDIVIDUAL WATER SUPPLY OR A STATE APPROVED COMMUNITY WATER SYSTEM. DUE TO DECLINING WATER SUPPLIES AND DIMINISHING WATER QUALITY, PROSPECTIVE PROPERTY OWNERS ARE CAUTIONED BY HAYS COUNTY TO QUESTION THE SELLER CONCERNING GROUND WATER AVAILABILITY. RAIN WATER COLLECTION IS ENCOURAGED AND IN SOME AREAS MAY OFFER THE BEST RENEWABLE WATER RESOURCE.

NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A PUBLIC SEWER SYSTEM OR TO AN ON-SITE WASTEWATER SYSTEM WHICH HAS BEEN APPROVED AND PERMITTED BY HAYS COUNTY DEVELOPMENT SERVICES DEPARTMENT.

NO CONSTRUCTION OR OTHER DEVELOPMENT WITHIN THIS SUBDIVISION MAY BEGIN UNTIL ALL HAYS COUNTY DEVELOPMENT AUTHORIZATION REQUIREMENTS HAVE BEEN SATISFIED.

10-22-2022
MARCUS PACHECO, DIRECTOR
HAYS COUNTY DEVELOPMENT SERVICES

10-27-2022
ERIC VAN GAASBEEK, R.S., C.F.M.
HAYS COUNTY FLOODPLAIN ADMINISTRATOR

STATE OF TEXAS
COUNTY OF HAYS

I, THE UNDERSIGNED, DIRECTOR OF HAYS COUNTY DEVELOPMENT SERVICES, HEREBY CERTIFY THAT THIS SUBDIVISION PLAT CONFORMS TO ALL HAYS COUNTY REQUIREMENTS AS STATED IN THE INTERLOCAL COOPERATION AGREEMENT BETWEEN HAYS COUNTY AND THE CITY OF KYLE FOR SUBDIVISION REGULATION WITHIN THE EXTRATERRITORIAL JURISDICTION OF THE CITY OF KYLE.

10-27-2022
MARCUS PACHECO, DIRECTOR
HAYS COUNTY DEVELOPMENT SERVICES

REVIEWED BY:

11/3/22
CITY ENGINEER, CITY OF KYLE — DATE

REVIEWED BY:

11-2-22
DIRECTOR OF PUBLIC WORKS, CITY OF KYLE — DATE

THIS FINAL PLAT HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF KYLE, TEXAS, AND IS HEREBY APPROVED BY SUCH PLANNING AND ZONING COMMISSION.

DATED THIS 23rd DAY OF August A.D. 2022

CHAIRPERSON

STATE OF TEXAS }
COUNTY OF TRAVIS }

I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN GIVEN THIS PLAT.

DO HEREBY CERTIFY THAT A PORTION OF THIS PROPERTY IS LOCATED WITHIN A DESIGNATED 100-YEAR FLOOD ZONE AREA, AS DELINEATED ON THE FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL 48209C 0290F, DATED SEPTEMBER 2, 2005, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
ADDITIONALLY, STORMWATER RUNOFF FROM THE 100 YEAR STORM EVENT SHALL BE CONTAINED WITHIN THE DRAINAGE FACILITIES TO BE LOCATED WITHIN THE RIGHTS-OF-WAY, AND /OR OPEN SPACE AND DRAINAGE EASEMENT LOTS.

9-30-22
DATE

BRETT R. PASQUARELLA, P.E. No. 84769
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON
AUSTIN, TEXAS 78749
(512) 280-5160

STATE OF TEXAS
BRETT R. PASQUARELLA
84769
LICENSED
PROFESSIONAL ENGINEER

STATE OF TEXAS }
COUNTY OF TRAVIS }

I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE AND IS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND AND THAT THE CORNER MONUMENTS WERE PROPERLY PLACED UNDER MY SUPERVISION.

SURVEYED BY: 30SEP2022
DATE

AARON V. THOMASON, R.P.L.S. 6214
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON
AUSTIN, TEXAS 78749
aaron@cbdeng.com

STATE OF TEXAS
REGISTERED
AARON V. THOMASON
6214
PROFESSIONAL
LAND SURVEYOR

THIS FLOOD STATEMENT, AS DETERMINED BY A H.U.D.-F.I.A. FLOOD INSURANCE RATE MAP, DOES NOT IMPLY THAT THE PROPERTY OR THE IMPROVEMENTS THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. ON RARE OCCASIONS, GREATER FLOODS CAN AND WILL OCCUR, AND FLOOD HEIGHTS MAY INCREASE BY MAN-MADE OR NATURAL CAUSES.

THIS STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF ENGINEER OR SURVEYOR.

STATE OF TEXAS }
COUNTY OF HAYS }

I, ELAINE H. CARDENAS, COUNTY CLERK OF HAYS COUNTY, TEXAS, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE ON THE 15 DAY OF November 2022 A.D., AND DULY RECORDED ON THE 15 DAY OF November 2022 A.D., AT 11:28 O'CLOCK A M., IN THE PLAT RECORDS OF HAYS COUNTY, TEXAS IN INSTRUMENT NUMBER 22052852

WITNESS MY HAND AND SEAL OF OFFICE THIS THE 15 DAY OF November, 2022 A.D.

Elaine H. Cardenas by: Crystal Ruiz
ELAINE H. CARDENAS
COUNTY CLERK
HAYS COUNTY, TEXAS

SHEET NO. 9 OF 9

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5333\Survey\PLAT - CROSSWINDS PHASE 4A

CITY OF KYLE, TEXAS

Acceptance of Crosswinds Phase 5A/5B Subdivision

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Approve a Resolution of the City Council of the City of Kyle, Texas accepting the Crosswinds Phase 5A/5B subdivision improvements; finding and determining that the meeting at which this Resolution is passed was noticed and is open to the Public as required by law. ~ *Leon Barba, P.E., City Engineer*

Other Information: A final walkthrough was completed on November 9, 2022. The punch list items have been completed on the project. The water and wastewater improvements have been constructed in substantial accordance with the City's requirements. Record drawings have been provided to the City.

A Maintenance Bond (Philadelphia Indemnity Insurance Company – Bond No. PB03016800800M1) in the amount of $545,902.96 has been provided for a period of two (2) years.

Legal Notes: N/A

Budget Information: N/A

ATTACHMENTS:

Description

- Resolution
- Acceptance Memo
- Maintenance Bond
- Subdivision Map

RESOLUTION NO. ____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS ACCEPTING CROSSWINDS PHASES 5A/5B SUBDIVISION; FINDING AND DETERMINING THAT THE MEETING AT WHICH THIS RESOLUTION IS PASSED WAS NOTICED AND IS OPEN TO THE PUBLIC AS REQUIRED BY LAW.

WHEREAS, the developer of this subdivision has completed construction of the improvements in general accordance with plans approved by the City of Kyle; and

WHEREAS, the subdivision improvements are defined as water and wastewater systems installed within public rights-of-way and any dedicated public utility easements within the subdivision; and

WHEREAS, the contractor has also provided the City a two (2) year maintenance bond in an amount of thirty five percent (35%) of the cost of the construction for any repairs that may be necessary during a two-year period from the date of acceptance by City Council.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS hereby accepts the public improvements and certifies completion of the improvements for Crosswinds Phases 5A/5B. The current maintenance surety is hereby $545,902.96 being thirty five percent of the total cost of required improvements, to be held for two years from this date.

SECTION 1. That the subdivision improvements within the Crosswinds Phases 5A/5B are hereby accepted for operation and maintenance.

SECTION 2. That it is hereby officially found and determined that the meeting at which this resolution is passed is open to the public and that public notice of the time, place, and purpose of said meeting was given as required by law.

PASSED AND APPROVED this the ____ day of _____, 2023.

CITY OF KYLE, TEXAS

_____
Travis Mitchell, Mayor

ATTEST:

_____
Jennifer Kirkland, City Secretary

EXHIBIT A

STAFF ACCEPTANCE MEMO

CITY OF KYLE

100 W. Center St.
Office (512) 262-1010

Kyle, Texas 78640
Fax (512) 262-3915

MEMORANDUM

TO: Jerry Hendrix, Interim City Manager

FROM: Leon Barba, P.E., City Engineer LB

DATE: February 10, 2023

SUBJECT: Crosswinds Phases 5A/5B
Final Acceptance

The referenced subdivision is recommended for acceptance by the City of Kyle.

A final walkthrough was completed on November 9, 2022. The punch list items have been completed on the project. The water and wastewater improvements have been constructed in substantial accordance with the City's requirements. Record drawings have been provided to the City.

A Maintenance Bond (Philadelphia Indemnity Insurance Company – Bond No. PB 03016800800M1) in the amount of $545,902.96 has been provided for a period of two (2) years.

Please let me know if you need any additional information.

Xc: Harper Wilder, Public Works Dept.
Perwez Moheet, Finance Dept.
Debbie Guerra, Planning and Zoning

Carlson, Brigance & Doering, Inc.
Civil Engineering ❖ Surveying

ENGINEER'S CONCURRENCE LETTER
FOR FINAL INSPECTION AND
ENGINEERING RELEASE

Date: December 21, 2022

Project Name: **Crosswinds Phase 5A/B**
Address: Intersection of Goforth Road and Crosswinds Parkway
City of Kyle
CBD No. 5334

On this day, December 21, 2022, the undersigned professional engineer or representative made a final visual inspection of the above referenced project. The site was visited during construction and site grading, drainage structures, water, and wastewater were constructed per the approved plans, with insignificant deviation. I, therefore, verify the adequate completion of the following items:

All curbs, pavement, storm sewers, inlets, outlet structures, manholes, water, wastewater, pond and similar construction items.

Sincerely,
Carlson, Brigance and Doering, Inc. (F-3791)

Quynn Dusek 12/21/2022

QUYNN DUSEK, P.E.
PROJECT MANAGER

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

EXHIBIT B

MAINTENANCE BOND

Philadelphia Indemnity Insurance Company

One Bala Plaza, Suite 100
Bala Cynwyd, PA 19004
877-438-7459

Bond No. PB03016800800M1

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we DNT Construction, LLC as Principal, and Philadelphia Indemnity Insurance Company, a corporation organized under the laws of the State of Pennsylvania, and duly authorized to do business in the State of Texas as Surety, are held and firmly bound unto City of Kyle, TX as Obligee, in the penal sum of Five Hundred Forty Five Thousand Nine Hundred Two and 96/100 ($545,902.96) to which payment well and truly to be made we do bind ourselves, and each of our heirs, executors, administrators, successors and assigns jointly and severally, firmly by these presents.

WHEREAS, the said Principal entered into a contract with Milestone Community Builders on behalf of: Crosswinds M.U.D. for Crosswinds Subdivision 5A&B Water & Wastewater, which contract is hereinafter referred to as the "Contract."

WHEREAS, said Obligee requires that the Principal furnish a bond conditioned to guarantee for the period of Two year (s) from date of acceptance of the work performed under the Contract against all defects in workmanship and materials which would have been the responsibility under the Contract for which written notice is made to Surety during said period

NOW THEREFORE, THE CONDITIONS OF THIS OBLIGATION IS SUCH that, if the Principal shall indemnify the Obligee for all loss that the Obligee may sustain by reason of any defective materials or workmanship which may become apparent and with respect to which notice is delivered to Surety in writing during the period of Two year(s) from and after date of acceptance of the work under the Contract, then this obligation shall be void, otherwise to remain in full force and effect.

No right of action shall accrue hereunder to or for the benefit of any person or entity other the Obligee named herein, nor shall any suit be filed or action maintained on this bond more than twenty five (25) months after the date of the earliest timely notice of defect by Obligee to Surety.

SIGNED, SEALED AND DATED THIS 7th day of November, 2022.

DNT Construction, LLC
Principal

By: _____
Dean Tomme, President

Philadelphia Indemnity Insurance Company

By: _____
Rosemarie Lopez, Attorney-in-Fact

PHILADELPHIA INDEMNITY INSURANCE COMPANY
One Bala Plaza, Suite 100
Bala Cynwyd, PA 19004-0950

Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS: That **PHILADELPHIA INDEMNITY INSURANCE COMPANY** (the Company), a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, does hereby constitute and appoint **Tom Mulanax, Michael Whorton, David Whorton, Rachel Martinez, Rosemarie Lopez, Jeremy Farque and/or Noe Moreno of Whorton Insurance Services,** its true and lawful Attorney-in-fact with full authority to execute on its behalf bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, issued in the course of its business and to bind the Company thereby, in an amount not to exceed **$50,000,000.**

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of PHILADELPHIA INDEMNITY INSURANCE COMPANY on the 14th of November, 2016.

RESOLVED: That the Board of Directors hereby authorizes the President or any Vice President of the Company: (1) Appoint Attorney(s) in Fact and authorize the Attorney(s) in Fact to execute on behalf of the Company bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof and to attach the seal of the Company thereto; and (2) to remove, at any time, any such Attorney-in-Fact and revoke the authority given. And, be it

FURTHER RESOLVED: That the signatures of such officers and the seal of the Company may be affixed to any such Power of Attorney or certificate relating thereto by facsimile, and any such Power of Attorney so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached.

IN TESTIMONY WHEREOF, PHILADELPHIA INDEMNITY INSURANCE COMPANY HAS CAUSED THIS INSTRUMENT TO BE SIGNED AND ITS CORPORATE SEALTO BE AFFIXED BY ITS AUTHORIZED OFFICE THIS 5TH DAY OF MARCH, 2021.

(Seal)

John Glomb, President & CEO
Philadelphia Indemnity Insurance Company

On this 5th day of March, 2021 before me came the individual who executed the preceding instrument, to me personally known, and being by me duly sworn said that he is the therein described and authorized officer of the **PHILADELPHIA INDEMNITY INSURANCE COMPANY**; that the seal affixed to said instrument is the Corporate seal of said Company; that the said Corporate Seal and his signature were duly affixed.

Commonwealth of Pennsylvania - Notary Seal
Vanessa Mckenzie, Notary Public
Montgomery County
My commission expires November 3, 2024
Commission number 1356394
Member, Pennsylvania Association of Notaries

Notary Public: Vanessa McKenzie

residing at: Bala Cynwyd, PA

My commission expires: November 3, 2024

I, Edward Sayago, Corporate Secretary of PHILADELPHIA INDEMNITY INSURANCE COMPANY, do hereby certify that the foregoing resolution of the Board of Directors and the Power of Attorney issued pursuant thereto on the 5th day March, 2021 are true and correct and are still in full force and effect. I do further certify that John Glomb, who executed the Power of Attorney as President, was on the date of execution of the attached Power of Attorney the duly elected President of PHILADELPHIA INDEMNITY INSURANCE COMPANY.

In Testimony Whereof I have subscribed my name and affixed the facsimile seal of each Company this 7th day of November, 2022.

Edward Sayago, Corporate Secretary
PHILADELPHIA INDEMNITY INSURANCE COMPANY

DNT CONSTRUCTION

DNT CONSTRUCTION FINAL COST & QUANTITIES
PROJECT: Crosswinds Subdivision PH 5
City of Kyle

CONTRACTOR: DNT CONSTRUCTION
P O Box 6210
Round Rock, Texas 78683

I. WATER ITEMS					CONTRACT
ITEM	DESCRIPTION	QTY.	UNIT	UNIT PRICE	AMOUNT
1	8-INCH C-900, DR-14 POTABLE WATER LINE AND APPURTENANCES, ALL DEF	7627	LF	$ 52.75	$402,324.25
2	12-INCH C-900, DR-14 POTABLE WATER LINE AND APPURTENANCES, ALL DE	120	LF	$ 124.50	$14,940.00
3	SINGLE WATER SERVICE, 2 INCH, PER EACH, CIP	25	EA	$ 1,555.00	$38,875.00
4	DOUBLE WATER SERVICE, 2 INCH, PER EACH, CIP	93	EA	$ 2,230.00	$207,390.00
5	SINGLE WATER SERVICE, 1 INCH FOR IRRIGATION, PER EACH, CIP	1	EA	$ 3,020.00	$3,020.00
6	FIRE HYDRANT INCLUDING 6-INCH LEAD AND 6-INCH VALVE, PER W.C.E.S.D.	14	EA	$ 5,075.00	$71,050.00
7	12-INCH GATE VALVE PER EACH, CIP	1	EA	$ 2,820.00	$2,820.00
8	8-INCH GATE VALVE PER EACH, CIP	19	EA	$ 1,685.00	$32,015.00
9	RAISE GATE VALVES PER EACH	20	EA	$ 345.00	$6,900.00
10	2 EA 4-INCH AND 1 EA 6- INCH SCH 40 IRRIGATION SLEEVES, PER LINEAR FC	203	LF	$ 42.00	$8,526.00
11	WET CONNECTION, 8 INCH, PER EACH, CIP	3	EA	$ 1,295.00	$3,885.00
12	WET CONNECTION, 12 INCH, PER EACH, CIP	1	EA	$ 2,410.00	$2,410.00
13	TRENCH SAFETY SYSTEMS PER LINEAR FOOT (ALL DEPTHS), CIP	7,747.00	LF	$ 0.50	$3,873.50
					$798,028.75

II. WASTEWATER ITEMS					CONTRACT
ITEM	DESCRIPTION	QTY.	UNIT	UNIT PRICE	AMOUNT
1	8-INCH WASTEWATER SDR-26 PVC PIPE AND APPURTENANCES, 0' TO 8' DEI	4159	LF	$ 37.00	$153,883.00
2	8-INCH WASTEWATER SDR-26 PVC PIPE AND APPURTENANCES, 8' TO 10' DE	659	LF	$ 40.00	$26,360.00
3	8-INCH WASTEWATER SDR-26 PVC PIPE AND APPURTENANCES, 10' TO 12' D	495	LF	$ 43.00	$21,285.00
4	8-INCH WASTEWATER SDR-26 PVC PIPE AND APPURTENANCES, 12' TO 14' D	251	LF	$ 46.00	$11,546.00
5	8-INCH WASTEWATER SDR-26 PVC PIPE AND APPURTENANCES, 14' TO 16' D	203	LF	$ 48.00	$9,744.00
6	8-INCH WASTEWATER SDR-26 PVC PIPE AND APPURTENANCES, 16' TO 18' D	957	LF	$ 51.00	$48,807.00
7	12-INCH WASTEWATER SDR-26 PVC PIPE AND APPURTENANCES, 18' TO 20'	115	LF	$ 80.00	$9,200.00
8	12-INCH WASTEWATER SDR-26 PVC PIPE AND APPURTENANCES, 20' TO 22'	25	LF	$ 96.00	$2,400.00
9	MANHOLE COATING, PER EACH, CIP	41	EA	$ 927.00	$38,007.00
10	STANDARD MANHOLE FOR WASTEWATER, 4-FOOT DIA. PER EACH, CIP	40	EA	$ 3,110.00	$124,400.00
11	DROP MANHOLE FOR WASTEWATER, 4-FOOT DIA. PER EACH, CIP	1	EA	$ 5,470.00	$5,470.00
12	RAISE MANHOLES TO GRADE, PER EACH, CIP	41	EA	$ 435.00	$17,835.00
13	EXTRA DEPTH, MANHOLE, PER VERTICAL LINEAR FOOT, CIP	108	VF	$ 223.00	$24,084.00
14	SINGLE WASTEWATER SERVICE PER EACH, CIP	25	EA	$ 1,533.00	$38,325.00
15	DOUBLE WASTEWATER SERVICE PER EACH, CIP	93	EA	$ 2,393.00	$222,549.00
16	TRENCH SAFETY SYSTEMS (ALL DEPTHS) PER LINEAR FOOT, CIP	6864	LF	$ 1.00	$6,864.00
17	WET CONNECTION, 8" DIA X 8" DIA, PER EACH, CIP	1	EA	$ 380.00	$380.00
18	WET CONNECTION, 12" DIA X 12" DIA, PER EACH, CIP	1	EA	$ 555.00	$555.00
					$761,694.00

TOTAL CONTRACT **$1,559,722.75**

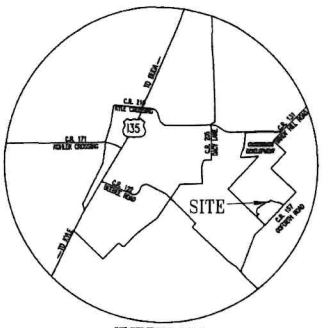
CONTRACTOR: DNT CONSTRUCTION, LLC

By: _____ Date: 10/24/2022
Casey McGlauflin, Project Manager

EXHIBIT C

SUBDIVISION MAP

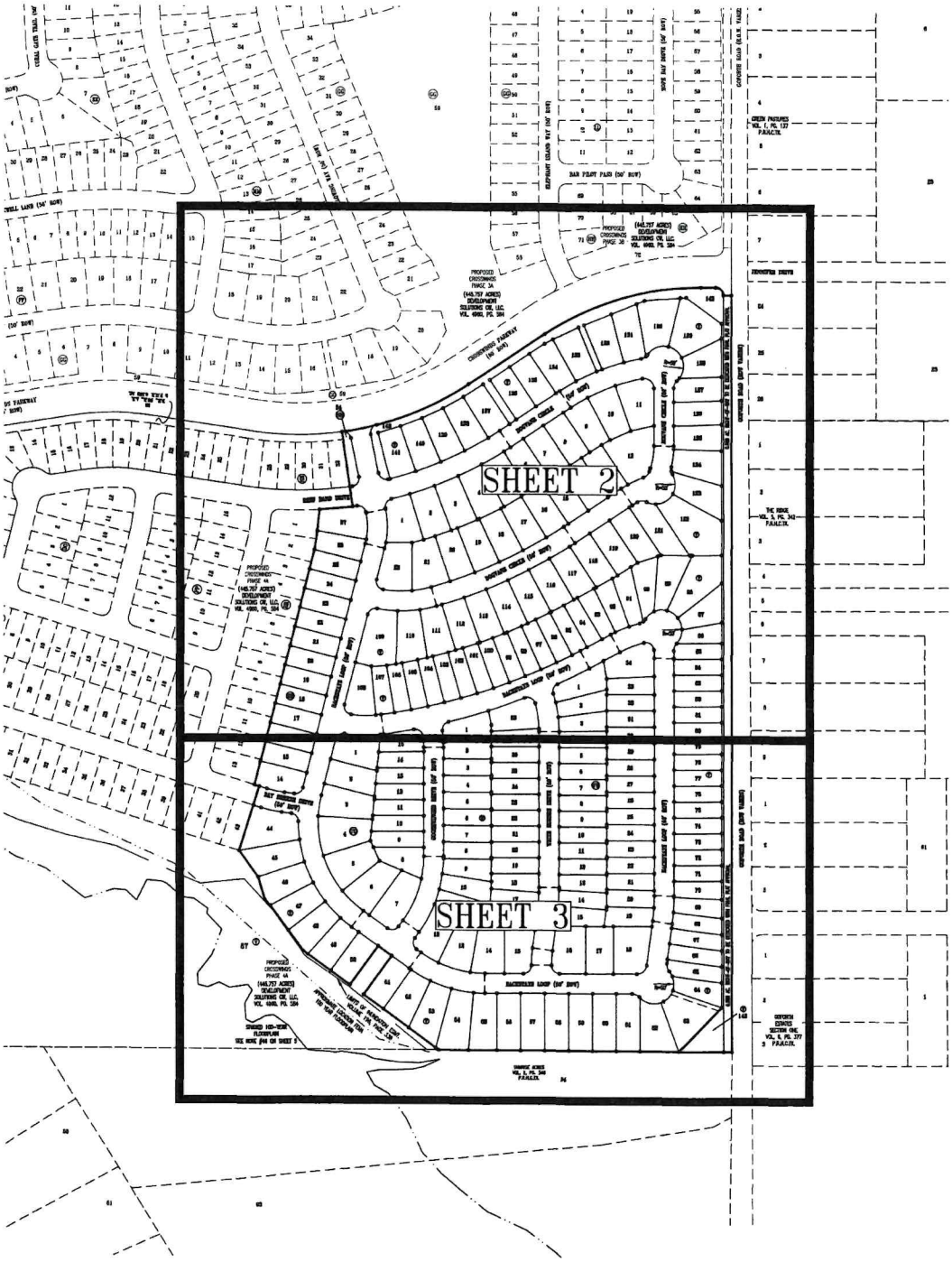
CROSSWINDS PHASES 5A/5B



VICINITY MAP
NOT TO SCALE

SCALE: 1" = 200'

OVERALL LAYOUT



SHEET NO. 1 OF 6

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

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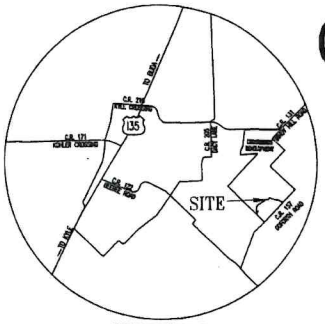
CROSSWINDS PHASES 5A/5B



VICINITY MAP
NOT TO SCALE

OWNER:
CROSSWINDS DEVELOPMENT, INC.
2100 NORTHLAND DRIVE
AUSTIN, TX 78756
(512) 656-7549 PHONE

ENGINEER & SURVEYOR:
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE
AUSTIN, TEXAS 78749
(512) 280-5160 PHONE
(512) 280-5165 FAX

DATE: FEBRUARY 4, 2022

ACREAGE: 43.296 ACRES

SURVEY: SAMUEL LITTLE SURVEY NO. 8, ABSTRACT NO. 286, HAYS COUNTY, TEXAS

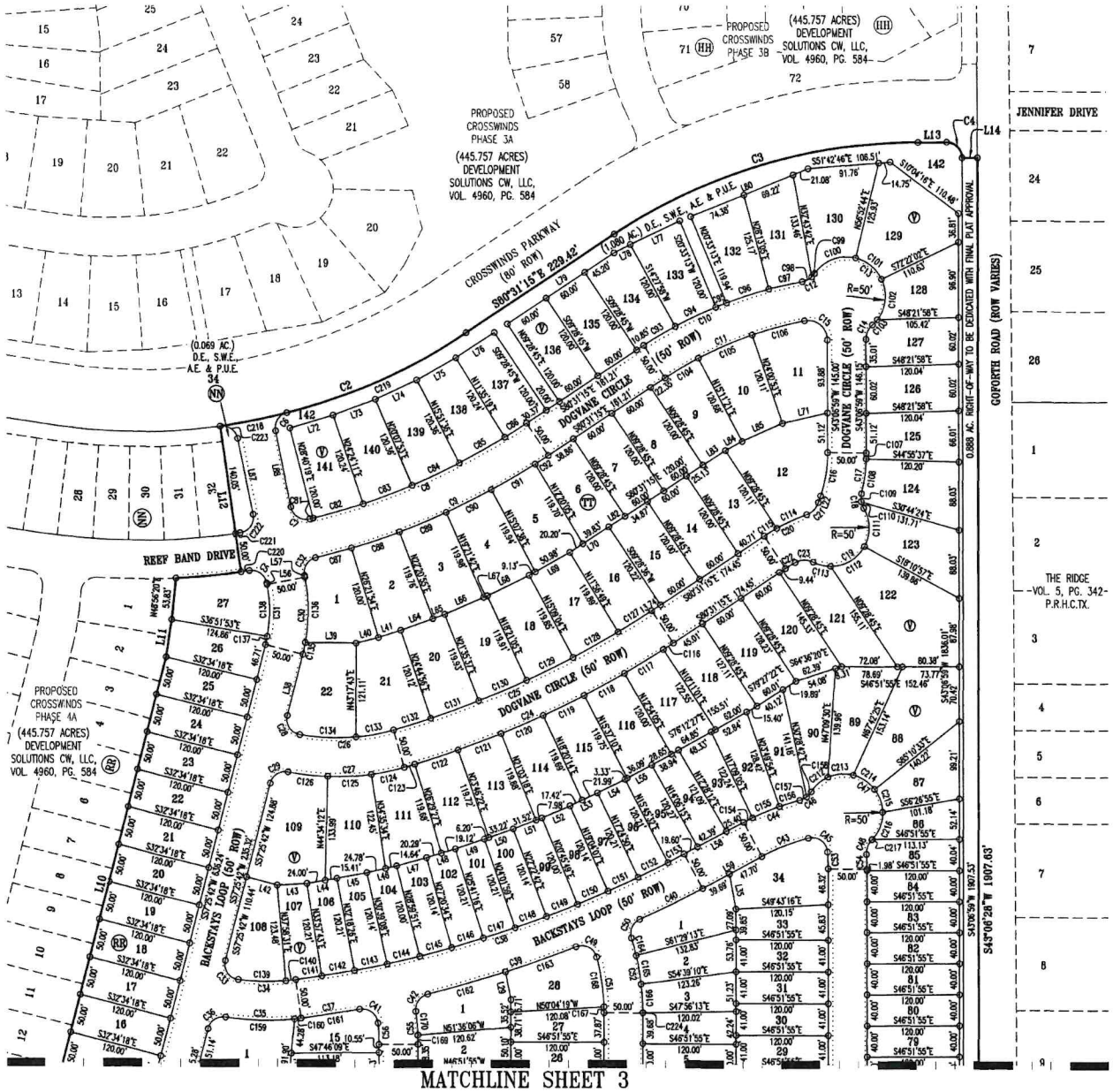
F.E.M.A. MAP NO. 48209C0290F
NO. 48209C0293F
HAYS COUNTY, TEXAS DATED SEPTEMBER 2, 2005

SINGLE FAMILY LOTS	211
DRAINAGE, SIDEWALK, ACCESS & PUBLIC UTILITY LOTS	2
NUMBER OF BLOCKS	7

LEGEND

- ● 1/2" IRON ROD FOUND (UNLESS OTHERWISE NOTED)
- ○ 1/2" CAPPED IRON ROD SET (UNLESS OTHERWISE NOTED)
- 25 LOT NUMBER
- Ⓥ BLOCK DESIGNATION
- ····· 4' SIDEWALK
- — · — 100 YEAR FEMA FLOOD PLAIN
- O.P.R.H.C.TX. OFFICIAL PUBLIC RECORDS, HAYS COUNTY, TEXAS
- P.R.H.C.TX. PLAT RECORDS, HAYS COUNTY, TEXAS

SCALE: 1" = 100'



RIGHT-OF-WAY LINEAR FOOTAGE

BACKSTAYS LOOP	50' R.O.W.	3,869'	LOCAL
REEF BAND DRIVE	50' R.O.W.	53'	LOCAL
DOGVANE CIRCLE	50' R.O.W.	1924'	LOCAL
GOOSEWINGED DRIVE	50' R.O.W.	606'	LOCAL
BAY BREEZE DRIVE	50' R.O.W.	136'	LOCAL
WHITE HORSES DRIVE	50' R.O.W.	765'	LOCAL
TOTAL	ROW=9.379 AC.	7,353'	

SHEET NO. 2 OF 6

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

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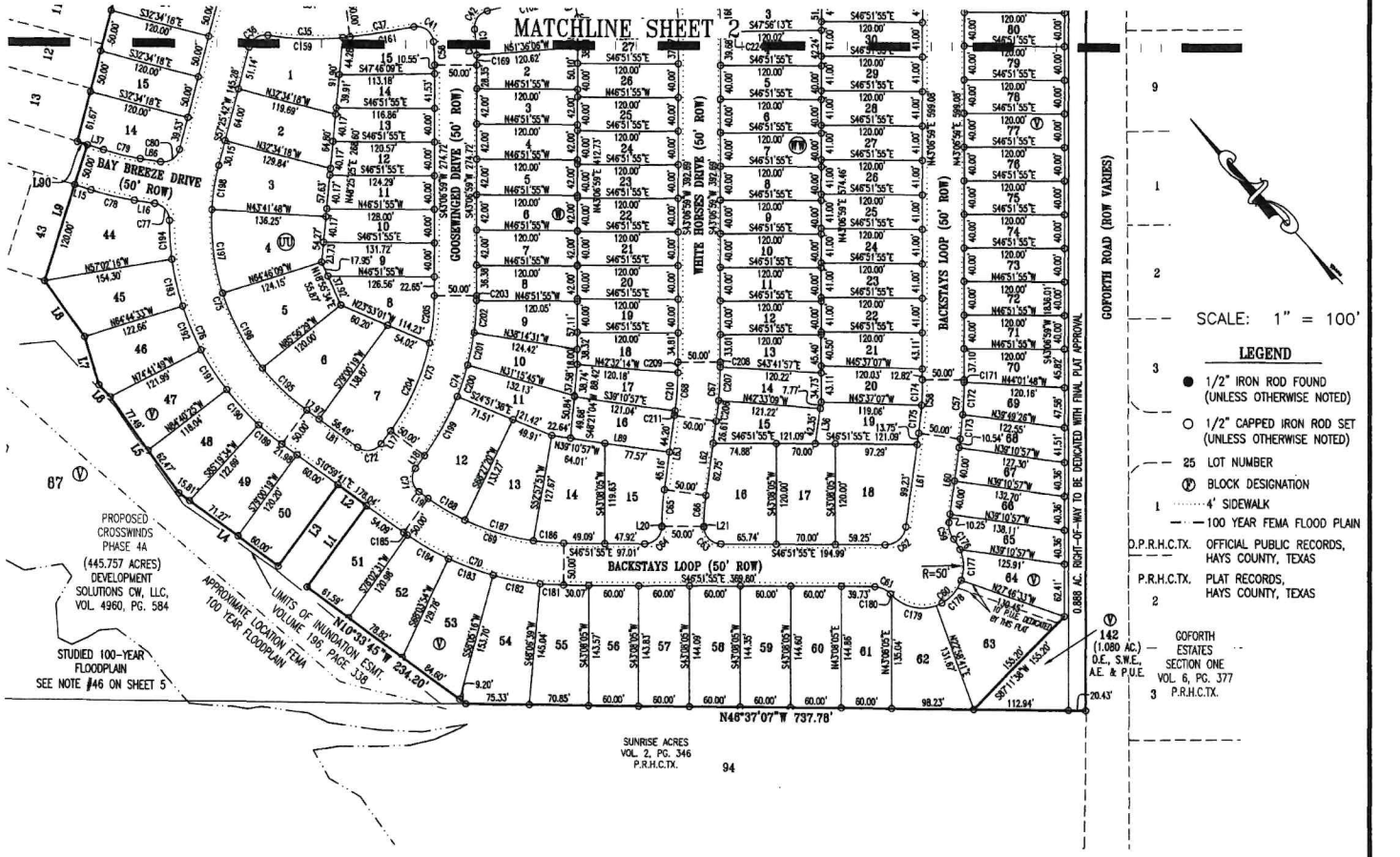
CROSSWINDS PHASES 5A/5B



DEVELOPMENT AGREEMENT LOT SCHEDULE [PER 1.01(a) & (e)]

40' LOTS

BLK.	LOT	S.F.
V	108	7,901
V	107	5,214
V	106	4,951
V	105	4,950
V	104	4,945
V	103	4,945
V	102	4,950
V	101	4,951
V	100	4,950
V	99	4,950
V	98	4,940
V	97	4,950
V	96	4,951
V	95	4,950
V	94	4,906
V	93	5,267
V	92	5,638
V	91	6,140
V	90	7,002
V	89	8,260
V	88	12,105
V	87	7,325
V	86	4,127
V	85	4,778
V	84	4,800
V	83	4,800
V	82	4,800
V	81	4,800
V	80	4,800
V	79	4,800
V	78	4,800
V	77	4,800
V	76	4,800
V	75	4,800
V	74	4,800
V	73	4,800
V	72	4,800
V	71	4,800
V	70	5,141
V	69	5,200
V	68	5,047
V	67	5,200
V	66	5,416
V	65	5,435
V	64	6,030
UU	8	6,602
UU	9	5,270
UU	10	5,195
UU	11	5,046
UU	12	4,897
UU	13	4,749
UU	14	4,672
UU	15	5,548

40' LOTS

BLK.	LOT	S.F.
W	1	7,202
W	2	5,416
W	3	5,040
W	4	5,040
W	5	5,040
W	6	5,040
W	7	5,040
W	8	5,040
W	9	5,806
W	10	6,045
W	11	6,469
W	16	5,956
W	17	5,112
W	18	5,142
W	19	4,800
W	20	4,800
W	21	4,800
W	22	4,800
W	23	4,800
W	24	4,800
W	25	4,800
W	26	4,800
W	27	5,048
W	28	8,142
WW	1	7,614
WW	2	5,750
WW	3	5,344
WW	4	4,916
WW	5	4,800
WW	6	4,800
WW	7	4,800
WW	8	4,800
WW	9	4,800
WW	10	4,800
WW	11	4,800
WW	12	4,800
WW	13	5,049
WW	14	4,891
WW	15	5,731
WW	19	5,822
WW	20	5,163
WW	21	5,017
WW	22	4,920
WW	23	4,920
WW	24	4,920
WW	25	4,920
WW	26	4,920
WW	27	4,920
WW	28	4,920
WW	29	4,920
WW	30	4,920
WW	31	4,920
WW	32	4,920
WW	33	5,141
WW	34	8,976

50' LOTS

BLK.	LOT	S.F.
RR	14	7,362
RR	15	6,000
RR	16	6,000
RR	17	6,000
RR	18	6,000
RR	19	6,000
RR	20	6,000
RR	21	6,000
RR	22	6,000
RR	23	6,000
RR	24	6,000
RR	25	6,000
RR	26	6,477
RR	27	8,417

60' LOTS

BLK.	LOT	S.F.
V	141	7,583
V	140	7,599
V	139	7,602
V	138	7,599
V	137	7,395
V	136	7,200
V	135	7,200
V	134	7,640
V	133	7,669
V	132	8,048
V	131	8,231
V	130	10,455
V	129	12,275
V	128	7,310
V	127	7,079
V	126	7,202
V	125	7,489
V	124	8,912
V	123	8,678
V	122	15,326
V	121	9,460
V	120	8,207
V	119	7,680
V	118	7,623
V	117	7,494
V	116	7,415
V	115	7,409
V	114	7,417
V	113	7,413
V	112	7,409
V	111	7,924
V	110	8,622
V	109	12,216
V	63	11,586
V	62	9,337
V	61	8,836
V	60	8,684
V	59	8,668
V	58	8,653
V	57	8,637
V	56	8,632
V	55	9,279
V	54	10,500
V	53	9,662
V	52	8,373
V	51	7,309
V	50	7,217
V	49	7,784
V	48	8,264
V	47	8,467
V	46	8,492
V	45	9,138
V	44	11,418

60' LOTS

BLK.	LOT	S.F.
TT	1	8,755
TT	2	8,325
TT	3	8,201
TT	4	8,362
TT	5	8,178
TT	6	7,420
TT	7	7,200
TT	8	7,200
TT	9	7,910
TT	10	8,105
TT	11	9,595
TT	12	12,438
TT	13	7,193
TT	14	7,200
TT	15	7,203
TT	16	7,533
TT	17	7,625
TT	18	7,615
TT	19	7,622
TT	20	7,616
TT	21	9,555
TT	22	9,579
UU	1	8,726
UU	2	7,985
UU	3	9,449
UU	4	10,144
UU	5	9,702
UU	6	9,619
UU	7	10,268
W	12	9,461
W	13	8,894
W	14	9,254
W	15	8,041
WW	16	9,758
WW	17	8,400
WW	18	10,606

Line Table		
Line #	Direction	Length
L1	N79°00'19"W	120.46
L2	N10°59'41"W	41.98
L3	S79°00'19"W	120.39
L4	N10°48'35"W	147.08
L5	N07°22'57"E	139.96
L6	N00°43'29"W	19.66
L7	N26°23'57"E	58.74
L8	N07°18'51"E	61.75
L9	N60°30'03"E	170.00
L10	N57°25'42"E	611.67
L11	N51°41'06"E	48.38
L12	N35°09'33"E	190.05
L13	S46°53'32"E	37.04
L14	S46°53'32"E	20.14
L15	S29°29'57"E	20.32
L16	S38°57'53"E	24.34
L17	S79°00'19"W	18.96
L18	S79°00'19"W	18.96
L19	S10°59'41"E	13.59
L20	S43°08'05"W	1.05
L21	S43°08'05"W	1.05
L22	S61°45'13"W	9.10
L29	N32°06'22"E	36.63
L35	N32°35'05"E	45.71
L36	N51°23'31"E	50.12
L37	S29°29'57"E	32.79
L38	S57°25'42"W	81.58

Line Table		
Line #	Direction	Length
L39	S46°51'19"E	65.73
L40	S61°38'08"E	29.70
L41	S64°39'53"E	30.32
L42	S32°34'18"E	41.17
L43	S50°09'17"E	38.55
L44	S56°51'53"E	39.42
L45	S58°24'58"E	39.42
L46	S59°58'18"E	39.50
L47	S62°02'25"E	39.34
L48	S63°35'14"E	39.42
L49	S65°08'19"E	39.42
L50	S66°41'24"E	39.42
L51	S68°14'45"E	39.50
L52	S70°18'52"E	39.34
L53	S71°51'41"E	39.42
L54	S73°24'46"E	39.42
L55	S74°57'51"E	39.42
L56	S31°52'37"W	2.09
L57	S31°52'37"W	2.09
L58	N75°08'22"W	87.39
L59	N75°08'22"W	87.39
L60	N50°49'03"E	100.79
L61	N50°49'03"E	112.98
L62	S50°49'03"W	89.36
L63	S50°49'03"W	89.36
L64	N66°34'25"W	43.41
L65	S66°56'03"E	18.61

Line Table		
Line #	Direction	Length
L66	S70°01'10"E	54.98
L67	S70°11'40"E	5.05
L68	S73°10'59"E	60.02
L69	S76°28'52"E	60.12
L70	S79°52'37"E	60.03
L71	S59°42'48"E	60.11
L72	S63°41'57"E	58.47
L73	S67°51'06"E	58.49
L74	S72°00'16"E	58.48
L75	S76°09'26"E	58.49
L76	S79°46'20"E	59.26
L77	S72°29'24"E	70.82
L78	S74°23'40"E	23.59
L79	S80°31'15"E	165.20
L80	S69°01'36"E	164.69
L81	S10°59'41"E	74.45
L82	S80°01'34"E	25.13
L83	S79°30'31"E	34.88
L84	S76°04'04"E	24.80
L85	S70°58'14"E	57.65
L86	S38°57'53"E	24.27
L87	N31°52'37"E	100.19
L88	S31°52'37"W	100.19
L89	S39°10'57"E	116.93
L90	N29°29'57"W	12.47

LOT SUMMARY

WIDTH	PHASE 5	% OF PHASE 5	% OF TOTAL
40'	108	51%	7.2%
50'	14	7%	0.9%
60'	89	42%	5.9%
TOTAL	211	100%	14%

'1500 LOTS - MAXIMUM ALLOWED

SHEET NO. 3 OF 6

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

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CROSSWINDS PHASES 5A/5B

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C2	342.86	785.00	S67°40'53"E	339.99	174.36	25°40'44"
C3	416.72	710.00	S63°42'24"E	410.77	214.56	33°37'43"
C4	31.42	20.00	S01°53'16"E	28.29	20.00	90°00'31"
C5	30.48	20.00	N11°48'01"W	27.62	19.10	87°21'17"
C6	30.27	20.00	S75°14'00"W	27.46	18.88	86°42'46"
C7	32.43	20.00	S14°34'48"E	28.99	21.04	92°54'53"
C8	307.74	905.00	S70°46'45"E	306.26	155.37	19°29'00"
C9	329.23	955.00	S70°38'41"E	327.61	166.27	19°45'09"
C10	222.98	545.00	N68°48'00"W	221.43	113.07	23°26'31"
C11	196.22	485.00	N69°09'53"W	194.94	99.42	22°42'44"
C12	19.77	25.00	S78°44'10"E	19.26	10.44	45°18'52"
C13	169.03	50.00	N05°32'37"W	99.29	416.24	193°41'58"
C14	21.03	25.00	S67°12'41"W	20.41	11.18	48°11'23"
C15	44.04	25.00	N07°20'46"W	38.56	30.29	100°55'30"
C16	56.92	175.00	N52°26'06"E	56.67	28.72	18°38'14"
C17	53.18	225.00	N49°53'15"E	53.06	26.71	13°32'31"
C18	19.24	25.00	S34°36'32"W	18.77	10.13	44°05'52"
C19	128.56	50.00	N86°13'17"E	95.86	170.57	147°19'27"
C20	62.19	255.00	N73°32'02"W	62.04	31.25	13°58'26"
C21	22.56	25.00	N87°36'12"E	21.80	12.11	51°41'59"
C22	14.65	205.00	N78°28'27"W	14.64	7.33	4°05'36"
C23	24.57	25.00	N48°16'19"W	23.59	13.38	56°18'39"
C24	383.55	1245.00	S71°41'43"E	382.03	193.30	17°39'04"
C25	368.14	1195.00	S71°41'43"E	366.69	185.54	17°39'04"
C26	122.31	275.00	S50°07'43"E	121.30	62.18	25°28'56"
C27	151.88	325.00	S49°29'58"E	150.51	77.25	26°46'26"
C28	33.10	20.00	S10°01'14"W	29.45	21.76	94°48'58"
C29	30.17	20.00	N79°21'01"W	27.39	18.80	86°26'32"
C30	100.34	225.00	N44°39'10"E	99.51	51.02	25°33'05"
C31	67.26	175.00	N42°53'14"E	66.84	34.05	22°01'13"
C32	30.49	20.00	S75°33'16"W	27.62	19.10	87°21'17"
C33	33.72	20.00	S09°07'51"W	29.86	22.45	96°35'44"
C34	74.67	275.00	S46°56'44"E	74.44	37.57	15°33'26"
C35	98.03	325.00	S46°04'58"E	97.66	49.39	17°16'57"
C36	29.72	20.00	N80°00'24"W	27.06	18.37	85°07'48"
C37	76.61	1535.00	S56°09'14"E	76.60	38.31	2°51'34"
C38	529.13	1485.00	S64°55'55"E	526.33	267.40	20°24'55"
C39	201.37	1535.00	S64°40'30"E	201.23	100.83	7°30'59"
C40	90.15	1535.00	S73°27'25"E	90.14	45.09	3°21'54"
C41	33.14	20.00	N10°06'28"W	29.48	21.81	94°57'11"
C42	29.13	20.00	S77°21'37"W	28.62	17.83	83°26'44"
C43	65.17	275.00	N68°21'03"W	65.01	32.74	13°34'39"
C44	78.53	325.00	N68°13'01"W	78.34	39.46	13°50'42"
C45	34.99	20.00	N11°26'17"W	30.70	23.94	100°14'53"
C46	18.95	25.00	S83°00'38"E	18.50	9.96	43°25'55"
C47	167.20	50.00	N08°55'40"W	99.49	492.35	191°35'50"
C48	20.54	25.00	S63°20'15"W	19.96	10.89	47°04'00"
C49	33.66	20.00	N20°13'17"W	29.82	22.38	96°25'25"
C50	26.75	20.00	S67°02'52"W	26.34	17.50	82°21'21"
C51	72.60	275.00	N35°33'12"E	72.39	36.51	15°07'34"
C52	97.83	325.00	N34°29'35"E	97.46	49.29	17°14'48"
C53	21.26	275.00	N40°54'04"E	21.26	10.64	4°25'50"
C54	18.79	325.00	N41°27'37"E	18.79	9.40	3°18'45"
C55	42.42	325.00	N38°22'37"E	42.39	21.24	7°28'44"
C56	27.58	275.00	N40°14'34"E	27.57	13.80	5°44'49"
C57	70.57	525.00	N46°58'01"E	70.51	35.34	7°42'04"
C58	63.85	475.00	N46°58'01"E	63.80	31.97	7°42'04"
C59	21.03	25.00	S26°43'22"W	20.41	11.18	48°11'23"
C60	155.94	50.00	S88°01'26"E	99.99	4395.22	178°41'47"
C61	21.03	25.00	N22°46'14"W	20.41	11.18	48°11'23"
C62	35.92	25.00	S88°01'26"E	32.91	21.85	82°19'02"
C63	31.42	20.00	S01°51'55"E	28.28	20.00	90°00'00"
C64	31.42	20.00	N88°08'05"E	28.28	20.00	90°00'00"
C65	43.58	325.00	S46°58'34"W	43.55	21.82	7°40'58"
C66	36.88	275.00	S46°58'34"W	36.85	18.47	7°40'58"
C67	70.57	525.00	N46°58'01"E	70.51	35.34	7°42'04"
C68	63.85	475.00	N46°58'01"E	63.80	31.97	7°42'04"
C69	172.17	275.00	S28°55'48"E	169.37	89.01	35°52'14"
C70	203.47	325.00	S28°55'48"E	200.16	105.19	35°52'14"
C71	31.42	20.00	S34°00'19"W	28.28	20.00	90°00'00"
C72	31.42	20.00	S55°59'41"E	28.28	20.00	90°00'00"
C73	172.25	275.00	N61°03'39"E	169.45	89.06	35°53'20"
C74	203.57	325.00	N61°03'39"E	200.26	105.25	35°53'20"
C75	328.41	275.00	S23°13'01"W	309.24	186.97	68°25'23"
C76	309.34	325.00	S16°16'23"W	297.80	167.51	54°32'07"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C77	28.80	20.00	N02°17'16"E	26.38	17.54	82°30'19"
C78	53.69	325.00	S34°13'55"E	53.63	26.91	9°27'56"
C79	45.43	275.00	S34°13'55"E	45.38	22.77	9°27'56"
C80	29.16	20.00	S80°46'05"E	26.66	17.88	83°36'24"
C81	4.59	905.00	S81°30'58"E	4.59	2.29	0°17'25"
C82	67.43	905.00	S83°27'45"E	67.42	33.73	4°16'09"
C83	67.47	905.00	S87°43'58"E	67.45	33.75	4°16'17"
C84	67.47	905.00	S72°00'15"E	67.45	33.75	4°16'17"
C85	67.47	905.00	S76°16'33"E	67.45	33.75	4°16'17"
C86	33.32	905.00	S79°27'58"E	33.32	16.66	2°06'34"
C87	47.78	955.00	S62°12'06"E	47.78	23.90	2°52'00"
C88	65.32	955.00	S65°35'41"E	65.31	32.67	3°55'09"
C89	65.34	955.00	S69°30'51"E	65.32	32.68	3°55'12"
C90	65.33	955.00	S73°26'02"E	65.32	32.68	3°55'10"
C91	65.33	955.00	S77°21'12"E	65.32	32.68	3°55'10"
C92	20.13	955.00	S79°55'01"E	20.13	10.07	1°12'28"
C93	47.44	545.00	N78°01'38"W	47.42	23.73	4°59'14"
C94	57.90	545.00	N72°29'24"W	57.88	28.98	6°05'15"
C95	15.00	545.00	N68°39'28"W	15.00	7.50	1°34'38"
C96	57.90	545.00	N64°49'32"W	57.87	28.98	6°05'14"
C97	44.74	545.00	N59°25'50"W	44.72	22.38	4°42'11"
C98	13.93	25.02	S73°02'29"E	13.75	7.15	31°53'53"
C99	5.84	25.00	N84°18'05"E	5.83	2.93	13°23'22"
C100	60.45	50.00	N67°45'26"W	56.84	34.54	69°16'20"
C101	44.29	50.00	N07°44'39"W	42.86	23.72	50°45'14"
C102	55.06	50.00	N49°10'43"E	52.32	30.69	63°05'29"
C103	9.23	50.00	N86°00'55"E	9.22	4.63	10°34'55"
C104	48.33	495.00	N77°39'57"W	48.31	24.69	5°42'36"
C105	76.25	495.00	N70°23'53"W	76.17	38.20	8°49'33"
C106	70.64	495.00	N61°53'49"W	70.58	35.38	8°10'35"
C107	7.68	225.00	N64°05'41"E	7.68	3.84	1°57'24"
C108	45.50	225.00	N50°51'57"E	45.42	22.83	11°35'07"
C109	10.59	25.00	S44°31'07"W	10.51	5.38	24°16'47"
C110	8.85	25.00	S22°28'08"W	8.80	4.37	19°49'10"
C111	51.71	50.00	N42°11'18"E	49.44	28.44	59°15'30"
C112	53.26	50.00	S77°39'58"E	50.78	29.47	61°01'56"
C113	23.59	50.00	S33°38'01"E	23.37	12.02	27°02'02"
C114	42.89	255.00	N71°21'55"W	42.84	21.49	9°38'12"
C115	19.30	255.00	N78°21'08"W	19.30	9.66	4°20'15"
C116	15.31	1245.00	S80°10'07"E	15.31	7.65	0°42'16"
C117	59.06	1245.00	S78°27'27"E	59.05	29.53	2°43'04"
C118	59.06	1245.00	S75°44'23"E	59.05	29.53	2°43'04"
C119	59.06	1245.00	S73°01'18"E	59.05	29.53	2°43'04"
C120	59.06	1245.00	S70°18'14"E	59.05	29.53	2°43'04"
C121	59.06	1245.00	S67°35'10"E	59.05	29.53	2°43'04"
C122	59.06	1245.00	S64°52'06"E	59.05	29.53	2°43'04"
C123	13.89	1245.00	S63°11'22"E	13.89	6.95	0°38'22"
C124	43.33	325.00	S59°03'02"E	43.30	21.70	7°38'19"
C125	56.56	325.00	S50°14'46"E	56.48	28.35	9°58'14"
C126	51.80	325.00	S40°41'42"E	51.74	25.95	9°07'54"
C127	51.47	1195.00	S78°17'13"E	51.47	25.74	2°28'04"
C128	66.83	1195.00	S76°27'04"E	66.82	33.42	3°12'15"
C129	66.73	1195.00	S73°14'58"E	66.72	33.37	3°11'57"
C130	66.82	1195.00	S70°02'52"E	66.81	33.42	3°12'14"
C131	66.64	1195.00	S66°50'55"E	66.63	33.33	3°11'42"
C132	49.66	1195.00	S64°03'38"E	49.66	24.84	2°22'52"
C133	49.32	275.00	S57°43'54"E	49.26	24.73	10°16'35"
C134	72.98	275.00	S44°59'26"E	72.77	36.71	15°12'21"
C135	15.38	225.00	N55°28'14"E	15.37	7.69	3°54'57"
C136	84.96	225.00	N42°41'41"E	84.46	42.99	21°38'08"
C137	10.79	175.00	N55°39'46"E	10.78	5.39	3°31'52"
C138	67.26	175.00	N42°53'14"E	66.84	34.05	22°01'13"
C139	81.71	275.00	S45°35'45"E	81.58	30.99	12°51'27"
C140	12.96	275.00	S53°22'28"E	12.95	6.48	2°41'59"
C141	34.05	1485.00	S55°22'52"E	34.05	17.03	1°18'50"
C142	42.89	1485.00	S56°51'56"E	42.89	21.45	1°39'17"
C143	42.89	1485.00	S58°31'13"E	42.89	21.45	1°39'17"
C144	42.89	1485.00	S60°10'30"E	42.89	21.45	1°39'17"
C145	42.89	1485.00	S61°49'48"E	42.89	21.45	1°39'17"
C146	42.89	1485.00	S63°29'05"E	42.89	21.45	1°39'17"
C147	42.89	1485.00	S65°08'22"E	42.89	21.45	1°39'17"
C148	42.89	1485.00	S66°47'40"E	42.89	21.45	1°39'17"
C149	42.89	1485.00	S68°26'57"E	42.89	21.45	1°39'17"
C150	42.89	1485.00	S70°06'14"E	42.89	21.45	1°39'17"
C151	42.89	1485.00	S71°45'32"E	42.89	21.45	1°39'17"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C152	42.89	1485.00	S73°24'49"E	42.89	21.45	1°39'17"
C153	23.29	1485.00	S74°41'25"E	23.29	11.64	0°53'55"
C154	12.99	325.00	N73°56'39"W	12.99	6.50	2°17'27"
C155	37.89	325.00	N69°30'31"W	37.87	18.97	6°40'49"
C156	27.65	325.00	N63°43'53"W	27.64	13.83	4°52'26"
C157	10.41	25.00	S73°13'29"E	10.34	5.28	23°51'37"
C158	8.54	25.00	N85°03'33"E	8.50	4.31	19°34'18"
C159	89.49	325.00	S45°19'49"E	89.21	45.03	15°46'39"
C160	8.54	325.00	S53°58'16"E	8.54	4.27	1°30'19"
C161	76.81	1535.00	S56°09'14"E	76.60	38.31	2°51'34"
C162	104.87	1535.00	S62°32'28"E	104.85	52.45	3°54'51"
C163	96.51	1535.00	S66°37'56"E	96.49	48.27	3°36'08"
C164	23.15	325.00	N27°54'37"E	23.14	11.58	4°04'52"
C165	37.50	325.00	N33°15'24"E	37.48	18.77	6°36'42"
C166	36.86	325.00	N39°48'41"E	36.84	18.45	6°29'53"
C167	7.56	275.00	N42°19'46"E	7.56	3.78	1°34'27"
C168	65.04	275.00	N34°45'59"E	64.89	32.67	13°33'06"
C169	11.79	325.00	N42°04'37"E	11.79	5.90	2°04'45"
C170	30.63	318.29	N38°20'15"E	30.62	15.33	5°30'49"
C171	2.78	525.00	N43°16'05"E	2.78	1.39	0°18'11"
C172	38.54	525.00	N49°31'21"E	38.53	19.28	4°12'22"
C173	29.25	525.00	N49°13'18"E	29.24	14.63	3°11'31"
C174	30.29	475.00	N44°56'36"E	30.29	15.15	3°39'14"
C175	33.55	475.00	N48°47'38"E	33.55	16.78	4°02'50"
C176	14.53	50.00	N10°57'07"E	14.48	7.32	16°38'52"
C177	37.48	50.00	N40°45'00"E	36.61	19.67	42°56'54"
C178	44.29	50.00	N87°36'04"E	42.86	23.72	50°45'14"
C179	57.25	50.00	S34°13'12"E	54.17	32.22	65°36'13"
C180	2.39	50.00	S00°02'49"E	2.39	1.20	2°44'34"
C181	28.23	325.00	S44°22'38"E	28.22	14.12	4°58'34"
C182	56.59	325.00	S36°54'02"E	56.52	28.37	9°58'38"
C183	56.59	325.00	S26°55'25"E	56.52	28.37	9°58'38"
C184	56.59	325.00	S16°56'47"E	56.52	28.37	9°58'38"
C185	5.46	325.00	S11°28'35"E	5.46	2.73	0°57'48"
C186	36.24	275.00	S43°05'23"E	36.22	18.15	7°33'04"
C187	85.29	275.00	S30°25'46"E	84.95	42.99	17°46'12"
C188	50.64	275.00	S16°16'10"E	50.56	25.39	10°32'59"
C189	35.85	325.00	S07°50'03"E	35.84	17.95	6°19'15"
C190	56.59	325.00	S00°18'53"W	56.52	28.37	9°58'38"
C191	56.59	325.00	S10°17'30"W	56.52	28.37	9°58'38"
C192	56.59	325.00	S20°16'08"W	56.52	28.37	9°58'38"
C193	57.39	325.00	S30°18'57"W	57.31	28.77	10°07'01"
C194	46.32	325.00	S38°27'27"W	46.28	23.20	8°09'58"
C195	72.73	275.00	S03°25'05"E	72.52	36.58	15°09'11"
C196	101.14	275.00	S14°41'41"W	100.57	51.15	21°04'21"
C197	101.14	275.00	S35°46'01"W	100.57	51.15	21°04'21"
C198	53.40	275.00	S51°51'57"W	53.31	26.78	11°07'31"
C199	80.38	325.00	N71°55'11"E	80.18	40.40	14°10'16"
C200	39.65	325.00	N61°20'21"E	39.62	19.85	6°59'24"
C201	39.32	325.00	N54°22'40"E	39.30	19.69	6°55'58"
C202	38.59	325.00	N47°30'35"E	38.57	19.32	6°48'13"
C203	5.62	325.00	N43°36'44"E	5.62	2.81	0°59'30"
C204	115.31	275.00	N66°59'33"E	114.47	58.52	24°01'31"
C205	56.94	275.00	N49°02'53"E	56.84	28.57	11°51'48"
C206	24.81	525.00	N49°27'50"E	24.80	12.41	2°42'26"
C207	40.01	525.00	N45°55'38"E	40.00	20.01	4°21'59"
C208	5.75	525.00	N43°25'48"E	5.75	2.88	0°37'39"
C209	12.57	475.00	N43°52'29"E	12.57	6.29	1°30'59"
C210	45.83	475.00	N47°23'49"E	45.81	22.93	5°31'42"
C211	5.44	475.00	N50°29'22"E	5.44	2.72	0°39'23"
C212	29.37	50.00	N87°53'51"W	28.95	15.12	33°39'28"
C213	33.49	50.00	N51°52'49"W	32.87	17.40	38°22'36"
C214	33.49	50.00	N13°30'10"W	32.87	17.40	38°22'42"
C215	31.40	50.00	N23°40'45"E	30.89	16.24	35°59'08"
C216	38.99	50.00	N63°50'24"E	37.73	20.37	44°20'10"
C217	0.75	50.00	N86°26'22"E	0.75	0.38	0°51'46"
C218	87.70	765.00	S58°07'34"E	87.65	43.90	6°34'05"
C219	255.16	765.00	S70°57'56"E	253.98	128.78	19°06'38"
C220	10.61	955.00	S55°08'33"E	10.61	5.31	0°38'12"
C221	5.81	905.00	S55°01'29"E	5.81	2.90	0°22'03"
C222	32.43	20.00	N78°20'03"E	28.99	21.04	92°54'53"
C223	30.21	20.00	N11°23'46"W	27.42	18.83	86°32'57"
C224	0.32	325.00	N43°05'18"E	0.32	0.16	0°03'21"

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
3501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

CROSSWINDS PHASES 5A/5B

FINAL PLAT NOTES:

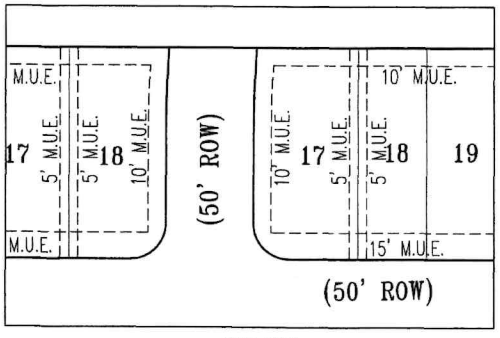
1. THIS FINAL PLAT IS LOCATED WITHIN THE EXTRA TERRITORIAL JURISDICTION (ETJ) OF THE CITY OF KYLE.
2. THIS PROJECT IS LOCATED IN THE BRUSHY CREEK – PLUM CREEK SUB WATERSHED.
3. NO PORTION OF THIS PRELIMINARY PLAT LIES WITHIN THE BOUNDARIES OF THE EDWARDS AQUIFER RECHARGE ZONE OR CONTRIBUTING ZONE.
4. THIS PLAT IS LOCATED WITHIN THE BOUNDARY OF THE HAYS CONSOLIDATED INDEPENDENT SCHOOL DISTRICT.
5. WATER SERVICE WILL BE PROVIDED TO EACH LOT FROM THE CITY OF KYLE.
6. ORGANIZED WASTEWATER SERVICE WILL BE PROVIDED TO EACH LOT BY THE CITY OF KYLE.
7. ELECTRIC SERVICE WILL BE PROVIDED BY THE PEDERNALES ELECTRIC COOPERATIVE.
8. TELEPHONE SERVICE WILL BE PROVIDED BY SPECTRUM.
9. ORGANIZED GAS SERVICE MAY BE PROVIDED.
10. MINIMUM FRONT SETBACK SHALL BE TWENTY (20') FEET.
11. MINIMUM REAR SETBACK SHALL BE TWENTY FEET (20') FEET.
12. MINIMUM SIDE AND INTERIOR SIDE SETBACKS SHALL BE FIVE (5') FEET.
13. MINIMUM SIDE SETBACK ADJACENT TO A PUBLIC STREET SHALL BE TEN (10') FEET.
14. A 15' MUNICIPAL UTILITY EASEMENT (M.U.E.) SHALL BE LOCATED ALONG THE FRONT OF EACH LOT ADJACENT TO THE R.O.W., A 10' M.U.E. ALONG SIDE YARDS ADJACENT TO THE ROW AND A 10' M.U.E. ALONG REAR PROPERTY LINES.
15. ALL STREETS SHALL BE DESIGNED AS IN ACCORDANCE WITH APPLICABLE CITY OF KYLE AND HAYS COUNTY DEVELOPMENT REGULATIONS AND DEDICATED AS PUBLIC R.O.W. AT FINAL PLATTING.
16. NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A STATE-APPROVED COMMUNITY WATER SYSTEM.
17. NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A STATE-APPROVED ORGANIZED WASTEWATER SYSTEM.
18. THE WATER AND WASTEWATER UTILITY SYSTEM SERVING THIS SUBDIVISION MUST BE IN ACCORDANCE WITH THE CITY OF KYLE CODE OF ORDINANCES. THE WATER AND WASTEWATER UTILITY PLAN MUST BE REVIEWED AND APPROVED BY THE KYLE WATER UTILITY. THE UTILITY CONSTRUCTION MUST BE INSPECTED BY THE CITY OF KYLE.
19. PRIOR TO CONSTRUCTION ON ANY LOT IN THIS SUBDIVISION, DRAINAGE PLANS WILL BE SUBMITTED TO THE CITY OF KYLE FOR REVIEW. RAINFALL RUN-OFF SHALL BE HELD TO THE AMOUNT OF EXISTING CONDITIONS.
20. NO CONSTRUCTION OR OTHER DEVELOPMENT WITHIN THIS SUBDIVISION MAY BEGIN UNTIL ALL HAYS COUNTY DEVELOPMENT PERMIT REQUIREMENTS HAVE BEEN MET.
21. NO STRUCTURE SHALL BE OCCUPIED UNTIL A CERTIFICATE OF OCCUPANCY IS ISSUED BY THE CITY OF KYLE.
22. IN ORDER TO PROMOTE SAFE USE OF ROADWAYS AND TO PRESERVE THE CONDITIONS OF PUBLIC ROADWAYS, NO DRIVEWAY CONSTRUCTED ON ANY LOT WITHIN THIS SUBDIVISION SHALL BE PERMITTED ACCESS ONTO A PUBLIC ROADWAY UNLESS (A) A PERMIT FOR USE OF THE COUNTY ROADWAY RIGHT-OF-WAY HAS BEEN ISSUED UNDER AND (B) THE DRIVEWAY SATISFIES THE MINIMUM SPACING REQUIREMENTS FOR DRIVEWAYS AS SET FORTH IN CHAPTER 721 OF THE HAYS COUNTY DEVELOPMENT REGULATIONS.
23. ALL ROADWAYS WILL BE PUBLICLY DEDICATED AND MAINTAINED.
24. DRAINAGE EASEMENTS SHALL REMAIN OPEN AND FREE OF OBSTRUCTIONS.
25. EROSION/SEDIMENTATION CONTROLS ARE REQUIRED ON EACH LOT INCLUDING SINGLE FAMILY AND DUPLEX CONSTRUCTION.
26. PUBLIC SIDEWALKS BUILT TO THE CITY OF KYLE STANDARDS, ARE REQUIRED ALONG BOTH SIDES OF ALL STREETS, INCLUDING CROSSWINDS PARKWAY, WHICH SHALL HAVE A 10 CONCRETE SIDEWALK ON ONE SIDE AND A 5' DECOMPOSED GRANITE ON THE OPPOSITE SIDE. ALL THE OTHER STREETS SHALL HAVE 4' CONCRETE SIDEWALKS EACH SIDE.
27. SIDEWALKS SHALL BE INSTALLED ON THE SUBDIVISION SIDE OF GOFORTH ROAD. THIS INCLUDES EXISTING STREETS ADJACENT TO THE PROPOSED SUBDIVISION, WHERE SIDEWALKS DO NOT ALREADY EXIST OR ARE IN NEED OF REPLACEMENT. THOSE SIDEWALKS NOT ABUTTING A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL LOT SHALL BE INSTALLED WHEN THE ADJOINING STREET IS CONSTRUCTED. WHERE THERE ARE DOUBLE FRONTAGE LOTS, SIDEWALKS ON THE STREET TO WHICH ACCESS IS PROHIBITED ARE ALSO REQUIRED TO BE INSTALLED WHEN THE STREETS IN THE SUBDIVISION ARE CONSTRUCTED (ORD. #439, ARTICLE V, SEC. 10). SIDEWALKS TO BE MAINTAINED BY THE CROSSWINDS MUNICIPAL UTILITY DISTRICT.
28. THE CITY OF KYLE HAS THE RIGHT TO PRUNE AND REMOVE TREES, SHRUBBERY AND OTHER OBSTRUCTIONS TO THE EXTENT NECESSARY TO KEEP THE EASEMENTS CLEAR.
29. THE OWNER/DEVELOPER OF THIS SUBDIVISION SHALL PROVIDE THE ELECTRIC COMPANY THAT SHALL SERVICE THIS SUBDIVISION WITH ANY EASEMENT AND/OR ACCESS REQUIRED, IN ADDITION TO THOSE INDICATED, FOR THE INSTALLATION AND ONGOING MAINTENANCE OF OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES. THESE EASEMENTS AND ACCESS ARE REQUIRED TO PROVIDE ELECTRIC SERVICE TO THE BUILDING AND WILL NOT BE LOCATED SO AS TO CAUSE THE SITE TO BE OUT OF COMPLIANCE WITH THE CITY OF KYLE CODE OF ORDINANCES.
30. THE OWNER SHALL BE RESPONSIBLE FOR ANY INSTALLATION OF TEMPORARY EROSION CONTROL, REVEGETATION AND TREE PROTECTION. IN ADDITION, THE OWNER SHALL BE RESPONSIBLE FOR ANY TREE PRUNING AND TREE REMOVAL THAT IS WITHIN TEN FEET OF THE CENTER LINE OF THE OVERHEAD ELECTRICAL FACILITIES DESIGNED TO PROVIDE ELECTRIC SERVICE TO THIS PROJECT.
31. PROPERTY OWNER SHALL PROVIDE FOR ACCESS TO THE DRAINAGE EASEMENTS AS MAY BE NECESSARY AND SHALL NOT PROHIBIT ACCESS BY GOVERNMENTAL AUTHORITIES.
32. NO BUILDINGS, FENCES, LANDSCAPING OR OTHER OBSTRUCTIONS ARE PERMITTED IN DRAINAGE EASEMENTS EXCEPT AS APPROVED BY THE CITY OF KYLE AND HAYS COUNTY.
33. PARKLAND REQUIREMENTS ARE SATISFIED THROUGH THE CROSSWINDS MUNICIPAL UTILITY DISTRICT.
34. ALL DRAINAGE EASEMENTS ON PRIVATE PROPERTY SHALL BE MAINTAINED BY THE PROPERTY OWNER OR ASSIGNS.
35. THIS FINAL PLAT IS LOCATED WITHIN ESD #5.
36. THE OWNER/DEVELOPER IS ADVISED TO OBTAIN APPROVAL FOR ANY NEEDED LICENSE AGREEMENTS PRIOR TO APPROVAL OF THE CONSTRUCTION PLANS. OTHER SPECIAL OR NONSTANDARD TREATMENTS OF THE R.O.W. MAY ALSO REQUIRE A LICENSE AGREEMENT.
37. APPROVAL OF THIS PRELIMINARY PLAN DOES NOT CONSTITUTE APPROVAL OF ANY DEVIATION FROM THE CITY OF KYLE'S CODE OF ORDINANCES IN THE FINAL PLAT, CONSTRUCTION PLAN OR SITE PLAN STAGE, UNLESS SUCH DEVIATIONS HAVE BEEN SPECIFICALLY REQUESTED IN WRITING AND SUBSEQUENTLY APPROVED IN WRITING BY THE CITY. SUCH APPROVALS DO NOT RELIEVE THE ENGINEER OF THE OBLIGATION TO MODIFY THE DESIGN OF THE PROJECT IF IT DOES NOT MEET ALL OTHER CITY OF KYLE'S REGULATIONS OR IF IT IS SUBSEQUENTLY DETERMINED THAT THE DESIGN WOULD ADVERSELY IMPACT THE PUBLIC'S SAFETY, HEALTH, WELFARE OR PROPERTY.
38. LOT 57, BLOCK "SS" AND LOT 22, BLOCK "TT" ARE TO BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION OR HIS OR HERS ASSIGNS.
39. THE OWNER OF THIS SUBDIVISION, AND HIS OR HER SUCCESSORS AND ASSIGNS, ASSUMES RESPONSIBILITY FOR PLANS FOR CONSTRUCTION OF SUBDIVISION IMPROVEMENTS WHICH COMPLY WITH APPLICABLE CODES AND REQUIREMENTS OF THE CITY OF KYLE. THE OWNER UNDERSTANDS AND ACKNOWLEDGES THAT PLAT VACATION OR RE-PLATTING MAY BE REQUIRED, AT THE OWNER'S SOLE EXPENSE, IF PLANS TO CONSTRUCT THIS SUBDIVISION DO NOT COMPLY WITH SUCH CODES AND REQUIREMENTS.
40. THE LANDOWNER SHALL BE RESPONSIBLE FOR PROVIDING THE SUBDIVISION INFRASTRUCTURE, INCLUDING WATER AND WASTEWATER UTILITY IMPROVEMENTS, OFFSITE MAIN EXTENSION AND SYSTEM UPGRADES.
41. ALL ELECTRICAL, TELEPHONE, CABLE TELEVISION AND SIMILAR LINES SHALL BE UNDERGROUND.
42. SIDEWALKS, PEDESTRIAN CROSSINGS AND OTHER PUBLIC AMENITIES TO BE DEDICATED TO THE CITY OF KYLE SHALL MEET OR EXCEED ALL 2010 ADA STANDARDS OF ACCESSIBILITY DESIGN AND ALL CURRENT FEDERAL AND STATE LAWS REGARDING ACCESS FOR PEOPLE WITH DISABILITIES FOR TITLE II ENTITIES.
43. POST-DEVELOPMENT CONDITIONS RUNOFF RATE SHALL BE NO GREATER THAN THE PRE-DEVELOPED CONDITION FOR 2, 5, 10, 25, AND 100 YEAR STORM EVENTS. PRE AND POST DEVELOPMENT RUNOFF CALCULATIONS SHALL BE INCLUDED WITH THE CONSTRUCTION DRAWINGS FOR THIS SUBDIVISION.
44. ALL MAILBOXES LOCATED IN THE RIGHT-OF-WAY SHALL BE OF AN APPROVED TxDOT OR FHWA APPROVED DESIGN.
45. POST-CONSTRUCTION STORMWATER CONTROL MEASURES SHALL HAVE A MAINTENANCE PLAN. THE MAINTENANCE PLAN MUST BE FILED IN THE REAL PROPERTY RECORDS OF HAYS COUNTY. THE OWNER OPERATOR OF ANY NEW DEVELOPMENT OR REDEVELOPMENT SITE SHALL DEVELOP AND IMPLEMENT A MAINTENANCE PLAN ADDRESSING MAINTENANCE REQUIREMENTS FOR ANY STRUCTURAL CONTROL MEASURES INSTALLED ON SITE. OPERATION AND MAINTENANCE PERFORMED SHALL BE DOCUMENTED AND RETAINED AND MADE AVAILABLE FOR REVIEW UPON REQUEST. THIS REQUIREMENT IS UNDER THE TPDES GENERAL PERMIT TXR040000 PART III, SECTION B.
46. THE PROPOSED 100-YR FLOODPLAIN BOUNDARY PER ATLAS 14 SHOWN ON THE PLAT WAS DETERMINED BY A STUDY PREPARED BY CARLSON, BRIGANCE & DOERING, INC., DATED MARCH 5, 2020. THE FEMA 100-YR FLOODPLAIN SHOWN ON THE PLAT WAS TAKEN FROM THE FEMA FIRM No. 48209C0290F & 48209C0293F, EFFECTIVE SEPTEMBER 2, 2005. THE MINIMUM FINISHED FLOOR ELEVATIONS SHOWN ON THE PLAT WERE DETERMINED BY ADDING ONE (1) FOOT TO EITHER THE BASE FLOOD ELEVATION OF THE PROPOSED 100-YR FLOODPLAIN BOUNDARY PER ATLAS 14, OR BY ADDING ONE (1) FOOT TO THE 100-YR WATER SURFACE ELEVATION OF THE WATER QUALITY/DETENTION POND DETERMINED BY A STUDY PREPARED BY CARLSON, BRIGANCE & DOERING, INC. DATED MARCH 5, 2020.

AREA TABLE	
AREA WITHIN SUBDIVISION	43.296 ACRES (1,885,991 sq. ft.)
AREA OF SINGLE FAMILY LOTS	32.768 ACRES (1,427,375 sq. ft.)
AREA WITHIN STREETS	9.379 ACRES

BLK.	LOT	S.F.	ACRES
V	142	47,057	1.080
V	141	7,583	0.174
V	140	7,599	0.174
V	139	7,602	0.175
V	138	7,599	0.174
V	137	7,395	0.170
V	136	7,200	0.165
V	135	7,200	0.165
V	134	7,640	0.175
V	133	7,669	0.176
V	132	8,048	0.185
V	131	8,231	0.189
V	130	10,455	0.240
V	129	12,275	0.282
V	128	7,310	0.168
V	127	7,079	0.163
V	126	7,202	0.165
V	125	7,489	0.172
V	124	8,912	0.205
V	123	8,678	0.200
V	122	15,326	0.352
V	121	9,460	0.217
V	120	8,207	0.188
V	119	7,660	0.176
V	118	7,623	0.175
V	117	7,494	0.172
V	116	7,415	0.170
V	115	7,409	0.170
V	114	7,417	0.170
V	113	7,413	0.170
V	112	7,409	0.170
V	111	7,924	0.182
V	110	8,622	0.198
V	109	12,216	0.280
V	108	7,901	0.181
V	107	5,214	0.120
V	106	4,951	0.114
V	105	4,950	0.114
V	104	4,945	0.114
V	103	4,945	0.114
V	102	4,950	0.114
V	101	4,951	0.114
V	100	4,950	0.114
V	99	4,950	0.114
V	98	4,940	0.113
V	97	4,950	0.114
V	96	4,951	0.114
V	95	4,950	0.114
V	94	4,906	0.113
V	93	5,267	0.121
V	92	5,638	0.129
V	91	6,140	0.141
V	90	7,002	0.161
V	89	8,260	0.190
V	88	12,105	0.278
V	87	7,325	0.168
V	86	4,127	0.095
V	85	4,778	0.110
V	84	4,800	0.110
V	83	4,800	0.110
V	82	4,800	0.110
V	81	4,800	0.110
V	80	4,800	0.110
V	79	4,800	0.110
V	78	4,800	0.110
V	77	4,800	0.110
V	76	4,800	0.110
V	75	4,800	0.110
V	74	4,800	0.110
V	73	4,800	0.110
V	72	4,800	0.110
V	71	4,800	0.110
V	70	5,141	0.118

BLK.	LOT	S.F.	ACRES
V	69	5,200	0.119
V	68	5,047	0.116
V	67	5,200	0.119
V	66	5,416	0.124
V	65	5,435	0.124
V	64	6,030	0.138
V	63	11,586	0.266
V	62	9,337	0.214
V	61	8,638	0.198
V	60	8,684	0.198
V	59	8,668	0.198
V	58	8,653	0.198
V	57	8,637	0.198
V	56	8,632	0.198
V	55	9,279	0.213
V	54	10,500	0.241
V	53	9,662	0.221
V	52	8,373	0.192
V	51	7,309	0.167
V	50	7,217	0.165
V	49	7,784	0.178
V	48	8,264	0.189
V	47	8,467	0.194
V	46	8,492	0.194
V	45	9,138	0.209
V	44	11,418	0.262
TT	1	8,755	0.201
TT	2	8,325	0.191
TT	3	8,201	0.188
TT	4	8,362	0.192
TT	5	8,178	0.188
TT	6	7,420	0.170
TT	7	7,200	0.165
TT	8	7,200	0.165
TT	9	7,910	0.182
TT	10	8,105	0.186
TT	11	9,595	0.220
TT	12	12,438	0.286
TT	13	7,193	0.165
TT	14	7,200	0.165
TT	15	7,203	0.165
TT	16	7,533	0.173
TT	17	7,625	0.175
TT	18	7,615	0.175
TT	19	7,622	0.175
TT	20	7,616	0.175
TT	21	9,555	0.219
TT	22	9,579	0.220
UU	1	8,726	0.200
UU	2	7,985	0.183
UU	3	9,449	0.217
UU	4	10,144	0.233
UU	5	9,702	0.223
UU	6	9,619	0.221
UU	7	10,268	0.236
UU	8	6,602	0.152
UU	9	5,270	0.121
UU	10	5,195	0.119
UU	11	5,046	0.116
UU	12	4,897	0.112
UU	13	4,749	0.109
UU	14	4,672	0.107
UU	15	5,548	0.127
RR	14	7,362	0.169
RR	15	6,000	0.138
RR	16	6,000	0.138
RR	17	6,000	0.138
RR	18	6,000	0.138
RR	19	6,000	0.138
RR	20	6,000	0.138
RR	21	6,000	0.138
RR	22	6,000	0.138
RR	23	6,000	0.138
RR	24	6,000	0.138
RR	25	6,000	0.138
RR	26	6,477	0.149
RR	27	8,417	0.193

BLK.	LOT	S.F.	ACRES
W	1	7,202	0.165
W	2	5,416	0.124
W	3	5,040	0.116
W	4	5,040	0.116
W	5	5,040	0.116
W	6	5,040	0.116
W	7	5,040	0.116
W	8	5,040	0.116
W	9	5,806	0.133
W	10	6,045	0.139
W	11	6,469	0.149
W	12	9,461	0.217
W	13	8,894	0.204
W	14	9,254	0.212
W	15	8,041	0.185
W	16	5,956	0.137
W	17	5,112	0.117
W	18	5,142	0.118
W	19	4,800	0.110
W	20	4,800	0.110
W	21	4,800	0.110
W	22	4,800	0.110
W	23	4,800	0.110
W	24	4,800	0.110
W	25	4,800	0.110
W	26	4,800	0.110
W	27	5,048	0.116
W	28	8,142	0.187
WW	1	7,614	0.175
WW	2	5,750	0.132
WW	3	5,344	0.123
WW	4	4,916	0.113
WW	5	4,800	0.110
WW	6	4,800	0.110
WW	7	4,800	0.110
WW	8	4,800	0.110
WW	9	4,800	0.110
WW	10	4,800	0.110
WW	11	4,800	0.110
WW	12	4,800	0.110
WW	13	5,049	0.116
WW	14	4,891	0.112
WW	15	5,731	0.132
WW	16	9,758	0.224
WW	17	8,400	0.193
WW	18	10,606	0.243
WW	19	5,822	0.134
WW	20	5,163	0.119
WW	21	5,017	0.115
WW	22	4,920	0.113
WW	23	4,920	0.113
WW	24	4,920	0.113
WW	25	4,920	0.113
WW	26	4,920	0.113
WW	27	4,920	0.113
WW	28	4,920	0.113
WW	29	4,920	0.113
WW	30	4,920	0.113
WW	31	4,920	0.113
WW	32	4,920	0.113
WW	33	5,141	0.118
WW	34	8,976	0.206
NN	34	3,025	0.069



M.U.E. DETAIL
SCALE 1" = 50'

SHEET NO. 5 OF 6

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5334\Survey\PLAT – CROSSWINDS PHASE 5

CROSSWINDS PHASES 5A/5B

STATE OF TEXAS
COUNTY OF HAYS
KNOW ALL MEN BY THESE PRESENTS:

THAT CROSSWINDS DEVELOPMENT, INC., ACTING BY AND THROUGH ITS CEO, GARRETT MARTIN, OWNER OF 43.296 ACRES OF LAND, OUT OF THE SAMUEL LITTLE SURVEY, NO. 8, A-286, IN HAYS COUNTY, TEXAS, AS CONVEYED BY SPECIAL WARRANTY DEED RECORDED IN INSTRUMENT NUMBER 22003712, OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS, DO HEREBY SUBDIVIDE A 43.296 ACRE PORTION OF SAID TRACT IN ACCORDANCE WITH THE ATTACHED MAP OR PLAT TO BE KNOWN AS:

"CROSSWINDS PHASES 5A/5B"

IN ACCORDANCE WITH THE PLAT SHOWN HEREON, SUBJECT TO ANY AND ALL EASEMENTS OR RESTRICTIONS HERETOFORE GRANTED, AND DO HEREBY DEDICATE TO THE PUBLIC THE USE OF THE STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS, AND PUBLIC PLACES SHOWN ON THIS PLAT.

WITNESS MY HAND THIS THE 4 DAY OF February A.D. 2022

GARRETT MARTIN, CEO
CROSSWINDS DEVELOPMENT, INC.
2100 NORTHLAND DRIVE
AUSTIN, TX 78756

STATE OF TEXAS }
COUNTY OF ~~HAYS~~ Travis }

BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE ON THIS DAY PERSONALLY APPEARED Garrett Martin KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 7 DAY OF February A.D. 2022

NOTARY PUBLIC, STATE OF TEXAS

ARACELI HERNANDEZ
Notary Public, State of Texas
Commission Expires 06-02-2024
Notary ID 126285198

STATE OF TEXAS
COUNTY OF ~~HAYS~~ Travis

KNOW ALL MEN BY THESE PRESENTS:

THE OWNERS OF THE LAND SHOWN ON THIS PLAT WHOSE NAMES ARE SUBSCRIBED HERETO, AND IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, HEREBY DEDICATED TO USE OF THE PUBLIC FOREVER ALL STREETS, PARKS, WATER COURSES, DRAINS, MUNICIPAL UTILITY EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED. I (WE) FURTHER CERTIFY THAT ALL OTHER PARTIES WHO HAVE A MORTGAGE OR LIEN INTEREST IN THE SUBDIVISION HAVE BEEN NOTIFIED AND SIGNED THIS PLAT.

I (WE) FURTHER ACKNOWLEDGE THAT THE DEDICATIONS AND/OR EXACTIONS MADE HEREIN ARE PROPORTIONAL TO THE IMPACT OF THE SUBDIVISION UPON THE PUBLIC SERVICE REQUIRED IN ORDER THAT THE DEVELOPMENT WILL COMPORT WITH THE PRESENT AND FUTURE GROWTH NEEDS OF THE CITY; I (WE), MY (OUR) SUCCESSORS AND ASSIGNS HEREBY WAIVE ANY CLAIM, DAMAGE, OR CAUSE OF ACTION THAT I (WE) MAY HAVE AS A RESULT OF DEDICATIONS OF EXACTIONS MADE HEREIN.

INTERNATIONAL BANK OF COMMERCE

STATE OF TEXAS }
COUNTY OF ~~HAYS~~ Travis }

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED Nick Fuhrman KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN STATED. GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 7th DAY OF February A.D. 2022

NOTARY PUBLIC, STATE OF TEXAS

ARACELI HERNANDEZ
Notary Public, State of Texas
Commission Expires 06-02-2024
Notary ID 126285198

MY COMISSION EXPIRES: 6-2-2024

STATE OF TEXAS }
COUNTY OF TRAVIS }

I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN GIVEN THIS PLAT.

DO HEREBY CERTIFY THAT NO PORTION OF THIS PROPERTY IS LOCATED WITHIN A DESIGNATED 100-YEAR FLOOD ZONE AREA, AS DELINEATED ON THE FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANELS 48209C 0290F AND 48209C 0293F, DATED SEPTEMBER 2, 2005, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. ADDITIONALLY, STORMWATER RUNOFF FROM THE 100 YEAR STORM EVENT SHALL BE CONTAINED WITHIN THE DRAINAGE FACILITIES TO BE LOCATED WITHIN THE RIGHTS-OF-WAY, AND /OR OPEN SPACE AND DRAINAGE EASEMENT LOTS.

2-4-2022
DATE

BRETT R. PASQUARELLA, P.E. No. 84769
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON
AUSTIN, TEXAS 78749
(512) 280-5160

STATE OF TEXAS
BRETT R. PASQUARELLA
84769
LICENSED
PROFESSIONAL ENGINEER

STATE OF TEXAS }
COUNTY OF TRAVIS }

I, THE UNDERSIGNED, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE AND IS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND AND THAT THE CORNER MONUMENTS WERE PROPERLY PLACED UNDER MY SUPERVISION.

SURVEYED BY: 04 Feb 2022
DATE

AARON V. THOMASON, R.P.L.S #6214
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON
AUSTIN, TEXAS 78749
aaron@cbdeng.com

STATE OF TEXAS
REGISTERED
AARON V. THOMASON
6214
PROFESSIONAL
LAND SURVEYOR

THIS FLOOD STATEMENT, AS DETERMINED BY A H.U.D.-F.I.A. FLOOD INSURANCE RATE MAP, DOES NOT IMPLY THAT THE PROPERTY OR THE IMPROVEMENTS THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. ON RARE OCCASIONS, GREATER FLOODS CAN AND WILL OCCUR, AND FLOOD HEIGHTS MAY INCREASE BY MAN-MADE OR NATURAL CAUSES.

THIS STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF ENGINEER OR SURVEYOR.

REVIEWED BY:

CITY ENGINEER, CITY OF KYLE — 2/9/22 DATE

REVIEWED BY:

DIRECTOR OF PUBLIC WORKS, CITY OF KYLE — 2-9-22 DATE

THIS FINAL PLAT HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF KYLE, TEXAS, AND IS HEREBY APPROVED BY SUCH PLANNING AND ZONING COMMISSION.

DATED THIS 8TH DAY OF February A.D. 2022

CHAIRPERSON

SEWAGE DISPOSAL/INDIVIDUAL WATER SUPPLY CERTIFICATION, TO-WIT:

NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO AN INDIVIDUAL WATER SUPPLY OR A STATE APPROVED COMMUNITY WATER SYSTEM. DUE TO DECLINING WATER SUPPLIES AND DIMINISHING WATER QUALITY, PROSPECTIVE PROPERTY OWNERS ARE CAUTIONED BY HAYS COUNTY TO QUESTION THE SELLER CONCERNING GROUND WATER AVAILABILITY. RAIN WATER COLLECTION IS ENCOURAGED AND IN SOME AREAS MAY OFFER THE BEST RENEWABLE WATER RESOURCE.

NO STRUCTURE IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A PUBLIC SEWER SYSTEM OR TO AN ON-SITE WASTEWATER SYSTEM WHICH HAS BEEN APPROVED AND PERMITTED BY HAYS COUNTY DEVELOPMENT SERVICES DEPARTMENT.

NO CONSTRUCTION OR OTHER DEVELOPMENT WITHIN THIS SUBDIVISION MAY BEGIN UNTIL ALL HAYS COUNTY DEVELOPMENT AUTHORIZATION REQUIREMENTS HAVE BEEN SATISFIED.

02-17-2022
MARCUS PACHECO, DIRECTOR
HAYS COUNTY DEVELOPMENT SERVICES

2-17-2022
ERIC VAN GAASBEEK, R.S., C.F.M.
HAYS COUNTY FLOODPLAIN ADMINISTRATOR

STATE OF TEXAS
COUNTY OF HAYS

I, THE UNDERSIGNED, DIRECTOR OF HAYS COUNTY DEVELOPMENT SERVICES, HEREBY CERTIFY THAT THIS SUBDIVISION PLAT CONFORMS TO ALL HAYS COUNTY REQUIREMENTS AS STATED IN THE INTERLOCAL COOPERATION AGREEMENT BETWEEN HAYS COUNTY AND THE CITY OF KYLE FOR SUBDIVISION REGULATION WITHIN THE EXTRATERRITORIAL JURISDICTION OF THE CITY OF KYLE.

02-17-2022
MARCUS PACHECO, DIRECTOR
HAYS COUNTY DEVELOPMENT SERVICES

STATE OF TEXAS }
COUNTY OF HAYS }

I, ELAINE H. CARDENAS, COUNTY CLERK OF HAYS COUNTY, TEXAS, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE ON THE 24th DAY OF March, 2022 A.D., AND DULY RECORDED ON THE 24th March 2022

DAY OF 24th March, 2022 A.D., AT 9:22 O'CLOCK A.M., IN THE PLAT RECORDS OF HAYS COUNTY, TEXAS IN INSTRUMENT NUMBER 22014437.

WITNESS MY HAND AND SEAL OF OFFICE THIS THE 24th DAY OF March 2022 A.D.

Elaine H. Cardenas by Kimberly Mueller Deputy
ELAINE H. CARDENAS
COUNTY CLERK
HAYS COUNTY, TEXAS

SHEET NO. 6 OF 6

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5334\Survey\PLAT - CROSSWINDS PHASE 5

CITY OF KYLE, TEXAS

Vertical Church - Zoning (Z-23-0112)

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: (*Second Reading*) An ordinance amending Chapter 53 (Zoning) of the City of Kyle, Texas, for the purpose of rezoning approximately 14.75 Acres of land from 'W' (Warehouse), to 'O/I' (Office/Institutional) for property located at 400 Old Post Road in Hays County, Texas. (Vertical Church - Z-23-0112) ~ *Will Atkinson, Director of Planning*

Planning and Zoning Commission voted 6-0 to recommend approval of the request. City Council voted 6-0 to approve on first reading on 2/21/2023.

Other Information: See attached.

Legal Notes: N/A

Budget Information: N/A

ATTACHMENTS:

Description

- Staff Report
- Ordinance
- Request Letter
- Landowner Authorization Form
- Franchise Tax Status Form
- Deed
- Survey
- Location Map

Petition No. Z-23-0112

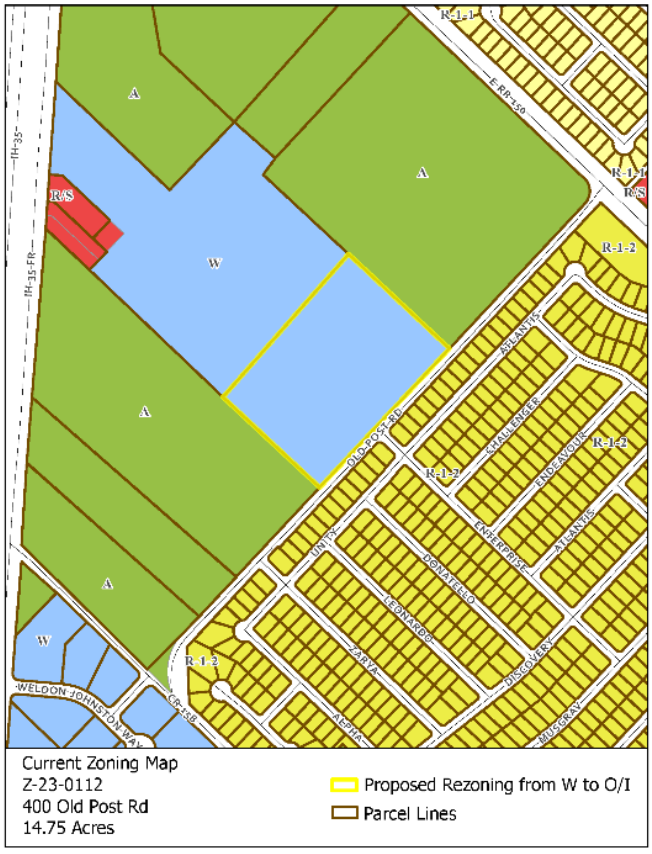
Property Location	**400 Old Post Road, Kyle, TX 78640**
Owner	**Vertical Chapel** **400 Old Post Road** **Kyle, TX 78640**
Agent	**Henry Juarez** **205 Cimarron Park Loop Ste. B** **Buda, TX 78610**
Request	**Rezone 14.75-Acre "W" (Warehouse) to "O/I" (Office/Institutional)**

Vicinity Map

Site Description

The site proposed to be rezoned is located along Old Post Road and consists of an existing Church. To the northeast and southwest are properties currently zoned “A” Agriculture. To the southeast is a subdivision zoned Single Family R-1-2. To the northwest is a property zoned “W” Warehouse.

Existing Zoning



W (Warehouse)

Sec. 53-527. - Purpose and permitted uses.

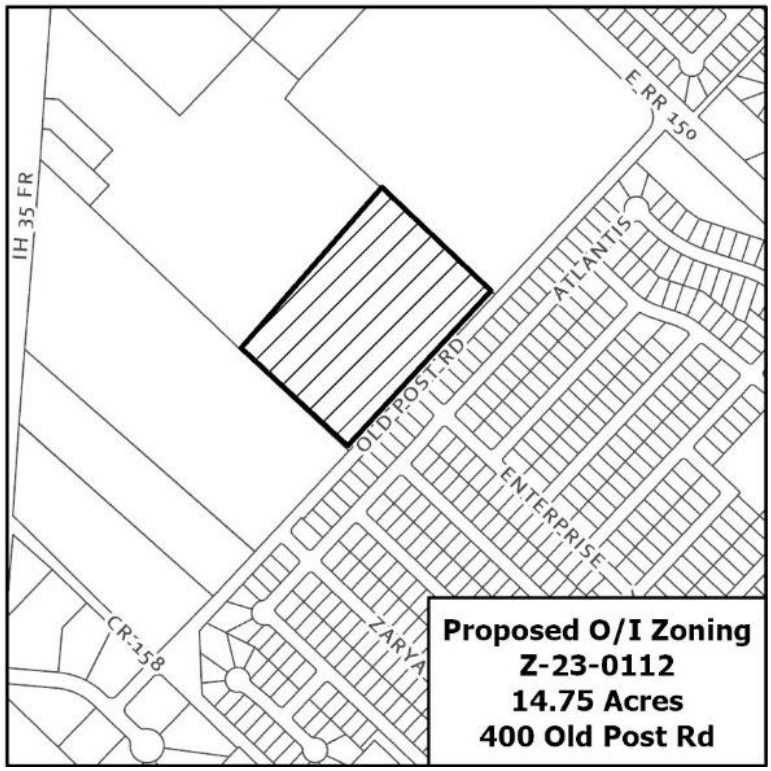
(a) The warehouse district W is designed to provide locations for outlets offering goods and services to a targeted segment of the general public as well as industrial users.

(b) The permitted uses include those that primarily serve other commercial and industrial enterprises and do not include any use listed in the construction and

manufacturing district CM, in division 19 of this article. No building or land shall be used, and no building hereafter shall be erected, maintained, or structurally altered, except for one or more of the uses hereinafter enumerated.

(c) Any use permitted in district CBD-1, CBD-2, RS and this district as provided in section 53-1230.

Requested Zoning



O/I (Office/Institutional)

Sec. 53-693.2. - Permitted primary uses in O/I.

The following uses may be established in the O/I district:

(1) Convent and monastery.
(2) Fraternity house, sorority house or residence hall.
(3) Nursing home.

(4) Personal care home with eight or more units.

(5) Child care institution.

(6) Club or lodge, noncommercial.

(7) Cultural exhibit hall.

(8) Day care facility, child and adult.

(9) College or university.

(10) Research and training facility, college or university affiliated.

(11) School; elementary, middle or high.

(12) School, specialized non-degree.

(13) School, vocational or trade.

(14) Place of worship.

(15) Auditorium or stadium.

(16) Special events facility without lodging.

(17) Banks, credit union, brokerage and investment services.

(18) Cemetery, mausoleum, or columbarium.

(19) Funeral home.

(20) Hospice care with eight or more units.

(21) Medical and dental office, clinic and/or laboratory.

(22) Professional office (excluding the sales of goods and sundries at retail; and excluding outdoor operations, storage, or facilities), including but not limited to health service practitioners, legal services, employment, personnel, and temporary help service (excluding day labor or labor pool), accounting, auditing and bookkeeping services, advertising services, management, consulting, and public relations offices, corporate operations, engineering and architecture, finance, insurance, real estate and financial institutions, telecommunications, radio and television broadcasting stations, telephone business offices, urban planning services, and similar business and professional offices.

(23) Public parking structures, non-accessory to on-site uses.

(24) Golf course and clubhouse.

(25) Passive recreation park.

(26) Recreation center, including sports fields, stadiums and arenas; pools and natatoriums; baseball and softball fields; tennis and basketball courts, indoor and outdoor; similar uses and activities.

(27) Museum.

(28) Library.

(29) Police and fire stations (not ambulance service).

(30) City, county, and state office and business facilities, without outdoor operations, storage, or facilities.

(969 , § 2(Exh. A, § 2), 10-17-2017)

Sec. 53-693.3. - Specific uses prohibited.

The following uses are prohibited in the O/I district, both as primary and accessory uses, whether indoors or outdoors:

- Ambulance service;
- bail bond and appearance bond operations;
- barter, swap, and trading offices;
- body craft studio;
- cash advance;
- check cashing establishments;
- building and construction contractor's offices;
- exterminating and pest control offices;
- lawn care offices;
- moving and storage companies;
- taxi service and dispatch agencies;
- trucking and transport firms;
- wrecker service;
- day labor or labor pool agencies;
- delivery services;
- driving schools;
- escort services;
- elective massage therapy,
- fortunetellers;
- handwriting analysts;
- hypnotists;
- modeling agencies;
- palmistry;
- pawnshops, including title pawn, and pawnbrokers;

- automotive and truck rental;
- and automotive dealer's office are specifically excluded.
- No vehicle whose gross vehicle weight rating (GVWR) of over 10,000 pounds, including commercial tractor-trailers, dump trucks, wreckers, or earth moving equipment shall be parked, stored, or dispatched in connection with a business or professional office use conducted on the premises. No vehicle for hire shall be parked, stored, or dispatched from the site.

(969 , § 2(Exh. A, § 3), 10-17-2017)

Sec. 53-693.4. - Accessory uses and structures.

The following accessory uses of land and structures shall be authorized in the O/I (office/institutional) district; provided, none of the following uses may operate as a stand-alone use or structure, and shall be required to function in support of an allowable primary use to be considered accessory.

(1) Restaurant, when located on the ground floor and inside the primary structure, and totaling no more than 1,500 square feet of total area (food prep, display, sales, and seating).

(2) Cafeteria.

(3) Publicly-accessible parking lot and/or structure.

(4) Retail use where accessory to a professional office building, provided that all such uses shall be located on the ground floor and not exceed 15 percent of the total floor area of the building. Said accessory retail uses shall be designed and scaled in relation to the primary building. Specific uses include, but are not limited to: coffee shop; newsstand; laundry and dry-cleaning pick-up station; box office ticket sales; banks, ATMs, sundries, and mail and copy centers.

(5) Retail sales of concessions and specialty goods, when located in stadiums, indoors, on the grounds of a recreation center, and totaling less than 1,000 square feet of total gross floor area.

(6)Concerts and festivals, as accessory to stadiums, arenas, auditoriums, and open space.

(969 , § 2(Exh. A, § 4), 10-17-2017)

Conditions of the Zoning Ordinance

Sec. 53-1205 Amendments

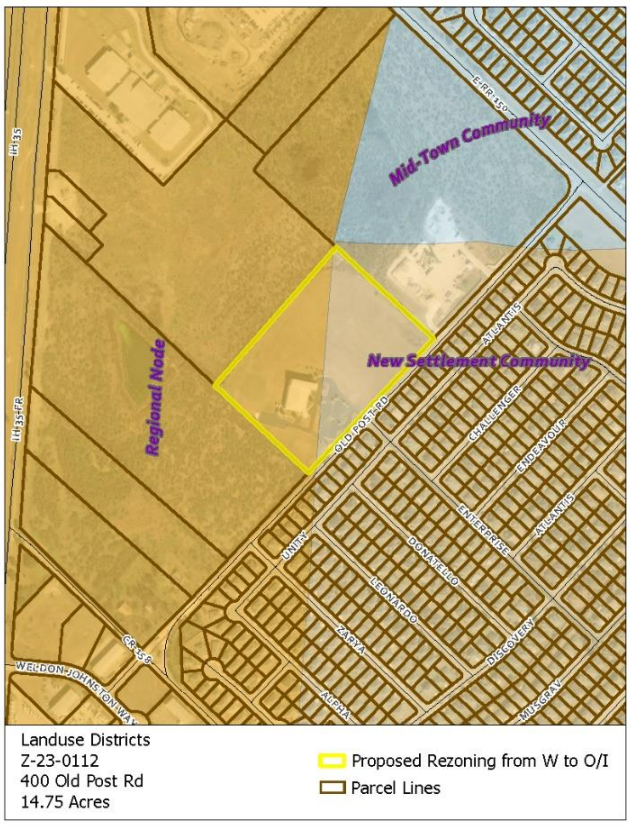
(d)

Referral of amendment to planning and zoning commission. Upon its own motion, a request by the planning and zoning commission, or the receipt of an administratively complete petition and application to zone or rezone a lot, tract or parcel of land, which petition and application has been examined and approved as to form by the city manager, shall be referred to the planning and zoning commission for consideration, public hearing, and recommendation to the city council. The council may not enact a rezoning amendment until the planning and zoning commission has held a public hearing and made its recommendation to the city council, or has made a final vote on the matter without obtaining a majority, on the zoning or rezoning of the property.

(e)

Action by the planning and zoning commission. The planning and zoning commission shall cause such study and review to be made as advisable and required, shall give public notice and hold a public hearing as provided by state law, and shall recommend to the council such action as the planning and zoning commission deems proper…

Comprehensive Plan Text



The subject site is located within both the "Regional Node" and the "New Settlement" district. The "O/I" zoning district is recommended conditionally in the "Regional Node" district and recommended in the "New Settlement" district.

Regional Node

Recommended: R-1-C, R-3-2, R-3-3, CC, NC, R/S, MXD
Conditional: CBD-1, CBD-2, E, HS, R-3-1, **O/I**

'Character': Regional Nodes should have regional scale retail and commercial activity complemented by regional scale residential uses. Th ese Nodes should represent the character and identity of Kyle, and signal these traits to the surrounding community. Regional Nodes have a radius of approximately 1/3 of a mile so that they are walkable, but are able to contain a greater range of uses at a larger scale than those found in Local Nodes. Appropriate uses may include grocery stores, retail shopping centers, multi-family housing, and municipal services, such as libraries and recreation centers. Regional Nodes are scaled and designed as activity centers where users not only secure good and services, but also congregate and remain for extended periods, unlike Local Nodes which are

designed around quick turnaround convenience retail. The Regional Nodes located along I-35 at the northern and southern boundaries of Kyle should be designed as entryways into Kyle with elements that are symbolic of Kyle and serve to attract I-35 travelers into Kyle. Transitions between Regional Nodes and surrounding districts must be carefully constructed to avoid abrupt shifts in land uses. Trails and sidewalks should be present throughout all Regional Nodes and should connect to surrounding neighborhoods.

'Intent': The primary goal of the Regional Modes is to capture commercial opportunities necessary to close Kyle's tax gap. To achieve this goal, the Nodes should draw upon anticipated regional growth and aggregate density to enhance value and activity levels in a concentrated and visible location. Regional Nodes should provide a mixture of uses that complements regional commercial activity, as well as encourage high intensity residential development. Th ese Nodes should respond to other regional areas of growth, specifically along I-35 and FM 1626, and to growth toward Hwy 21, SH 45 and SH 130. Th e anchor of each Regional Node should be regional commercial uses, and Regional Nodes should have a high level of development intensity.

New Settlement

Recommended: **O/I**
Conditional: E, R-1-A, R-1-1, R-1-2, R-1-3, R-1-C, R-1-T, R-2, T/U, UE, NC, CC, MXD, R/S, W

'Character': The New Settlement District is comprised primarily of farm fields and new residential developments that are being carved out of former farm fields in an area that stretches across the city's southern-most region, from Old Stagecoach Road on the west, across I-35 toward the east, to the western border of the Plum Creek Riparian Landscape. The character of the district is as diverse as the the district is expansive, as the New Settlement District spans the largest portion of the southern region of Kyle. For this reason, owing to such a diverse cross-section of Kyle's landscape, the character of the district is defined more by the function of the streets and neighborhoods that serve any particular block being examined, and less by the multiple landforms characteristic of the region as a whole. Northwest to southeast roadway patterns are strong, while northeast to southwest connections are lacking. Traditional residential enclaves predominate in the New Settlement District, aggregated in neighborhoods of unique housing forms. Some landscapes are bisected by I-35, others are permeated by feeder creeks and tributaries which should require heightened standards for physical development going forward. The region is dominated by legacy agricultural lands which feature old growth stands of trees and sparse one-family residences. However, there are areas experiencing significant development pressures to fulfill the current need for single family residential, and with few barriers to development, the region is growing in popularity for new housing, held

back in the western region by the large portion of the district being under-served by public waste water utilities. Private and public spaces are clearly separate, with the public domain defined by shared neighborhood amenities and the private domain defined by privatized landscapes. Acreage tracts abound in the Districts, some of which are uniquely suited for high turnover, high density retail and service uses by their location close to available roadways and wet utilities. Other properties are not yet ripe for development for their location along under-performing roadways, or from being so far removed from sewer and/or sufficient water supply. Public space is not encroached on by private functions. The New Settlement District has a lower density and intensity of development than the adjacent Mid-Town District, and the open character of the landscape removed from the interstate corridor should evoke the agricultural heritage of the District. Physical and visual portioning and division of land should be avoided where possible in this District.

'Intent': The flat land and large parcel size in the New Settlement District result in a high level of development potential, which is beginning to be realized through market-driven demand for new housing stock. The city of Kyle should seek to capitalize on this "developability", while emphasizing community amenities, enhancing the neighborhood lifestyle through shared spaces, and improving connectivity within and without the District. The unique water features, such as creekways and detention/retention facilities, in the New Settlement District should be utilized as form-giving elements and corridors for connections. Future development will occur along the roadways best suited for access, and in the best proximity to the emerging water and waste water infrastructure expansion planned for in the city's capital improvement plan. Use patterns should be established that compliment residential development and facilitate beneficial land use transitions. In this way, the New Settlement District should serve as a transition between the higher intensity of use within the core Districts and the low intensity of use of the Farm District.

Analysis

The subject property is located on approximately 14.75-acres and is currently zoned "W." This site is currently home to an existing church that wishes to expand its current footprint within the existing property lines.

The request to zone this property to Office/Institutional aligns with the Comprehensive Plan, is an appropriate zoning district for the site, and allows the owner to expand its current operations in an appropriate fashion. Churches and places of worship are allowed in any zoning district but must follow the requirements of the zoning district it

is located in. The Office/Institutional zoning district was specifically created to account for governmental, museums, schools, places of worship, etc. While churches may exist in any zoning district per the federal law "Religious Land Use and Institutionalized Person Act", the City of Kyle created the "O/I" zoning district to comprehensively account for said uses earlier in the staff report.

Re-zoning the site will allow for the Church to expand and add the additional parking and building space needed to continue its operations. The rezoning is important because the existing Warehouse zoning only allows for 1 parking space per 1,000 square feet of gross floor area, plus 1 space per 1.5 employees. This effectively limits the site to a very low number of parking spaces given that churches need a significant amount of parking on their primary worship days (Sundays). Changing the zoning to "O/I" will allow the facility to utilize a more appropriate ratio, better suited to places of worship.

"One space for each three seats in the main auditorium, or, where fixed seats are not utilized, one space for each 25 square feet of floor space in the largest assembly room utilized for public worship."

The above ratio is the minimum allowed. The maximum will be a multiplier of 1.5 times the minimum. Additionally, the O/I zoning district has far more restrictive uses than the Warehouse zoning district, which is good as the site is adjacent to the Post Oak neighborhood (single family residential).

The site requesting the rezoning is serviced by the following utilities:

- Water = City of Kyle
- Wastewater = City of Kyle
- Power = Pedernales Electric Cooperative

Following rezoning, the site will need to follow standard permits, including site development permit, Conditional Use Permit (I-35 Overlay), and Building Permits.

Recommendation

Staff has reviewed this zoning request and has determined the re-zoning is appropriate and aligns with the current Comprehensive Plan. At the February 9th, 2023, Planning & Zoning Commission meeting, the Commission voted 6-0 to recommend approval of the proposed zoning (Commissioner Oncken was not in attendance). Staff asks the Mayor & Council to approve the request to rezone the parcel to Office/Institutional.

ORDINANCE NO. _____

AN ORDINANCE AMENDING CHAPTER 53 (ZONING) OF THE CITY OF KYLE, TEXAS, FOR THE PURPOSE OF REZONING APPROXIMATELY 14.75-ACRES OF LAND FROM 'W' (WAREHOUSE), TO 'O/I' (OFFICE/INSTITUTIONAL) – FOR PROPERTY LOCATED AT 400 OLD POST ROAD IN HAYS COUNTY, TEXAS; AUTHORIZING THE CITY SECRETARY TO AMEND THE CITY OF KYLE CODE OF ORDINANCES SO AS TO REFLECT THIS CHANGE; PROVIDING FOR PUBLICATION AND EFFECTIVE DATE; PROVIDING FOR SEVERABILITY; AND ORDAINING OTHER PROVISIONS RELATED TO THE SUBJECT MATTER HEREOF; FINDING AND DETERMINING THAT THE MEETING AT WHICH THIS ORDINANCE WAS PASSED WAS OPEN TO THE PUBLIC AS REQUIRED BY LAW.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS, THAT:

SECTION 1. That the zoning district map of the City of Kyle adopted in Chapter 53 (Zoning) be and the same is hereby amended to rezone approximately 14.75-acres from 'W' (Warehouse) to 'O/I' (Office/Institutional) for property located at 400 Old Post Road in Hays County, Texas and the property location map and survey labeled 'Exhibit A'**.**

SECTION 2. That the City Secretary is hereby authorized and directed to designate the tract of land zoned herein, as such on the zoning district map of the City of Kyle, as shown in 'Exhibit A' and by proper endorsement indicate the authority for said notation.

SECTION 3. If any provision, section, sentence, clause, or phrase of this Ordinance, or the application of same to any person or set of circumstances is for any reason held to be unconstitutional, void or invalid (or for any reason unenforceable), the validity of the remaining portions of this Ordinance or the application to such other persons or sets of circumstances shall not be affected hereby, it being the intent of the City Council of the City of Kyle in adopting this Ordinance, that no portion hereof or provision contained herein shall become inoperative or fail by reason of any unconstitutionality or invalidity of any other portion or provision.

SECTION 4. This Ordinance shall be published according to law and shall be and remain in full force and effect from and after the date of publication.

SECTION 5. It is hereby officially found and determined that the meeting at which this ordinance was passed was open to the public as required by law.

READ, CONSIDERED, PASSED AND APPROVED ON FIRST READING by the City Council of Kyle at a regular meeting on the _____ day of _____, 2023, at which a quorum was present and for which due notice was given pursuant to Section 551.001, et. Seq. of the Government Code.

READ, CONSIDERED, PASSED AND APPROVED ON SECOND AND FINAL READING by the City Council of Kyle at a regular meeting on the _____day of _____, 2023, at which a quorum

was present and for which due notice was given pursuant to Section 551.001, et. Seq. of the Government Code.

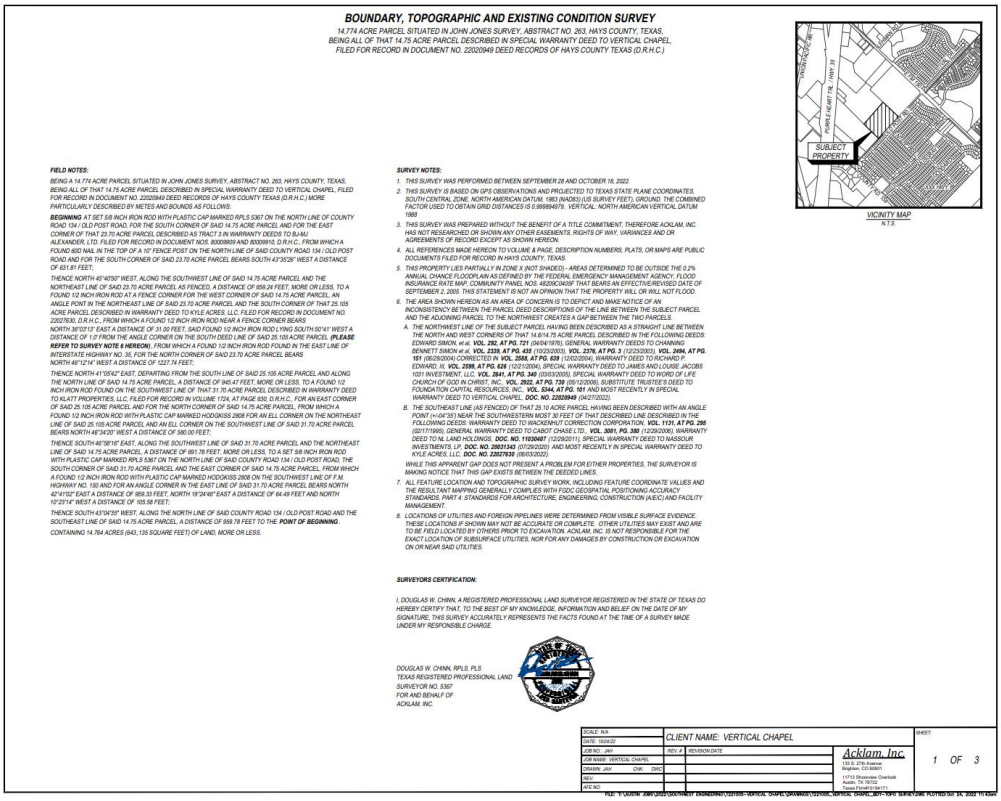
APPROVED this _____day of _____, 2023.

ATTEST:

_____ _____

Jennifer Holm, City Secretary Travis Mitchell, Mayor

Exhibit A



BOUNDARY, TOPOGRAPHIC AND EXISTING CONDITION SURVEY

14.774 ACRE PARCEL SITUATED IN JOHN JONES SURVEY, ABSTRACT NO. 263, HAYS COUNTY, TEXAS, BEING ALL OF THAT 14.75 ACRE PARCEL DESCRIBED IN SPECIAL WARRANTY DEED TO VERTICAL CHAPEL, FILED FOR RECORD IN DOCUMENT NO. 22020949 DEED RECORDS OF HAYS COUNTY TEXAS (D.R.H.C.)

VICINITY MAP
N.T.S.

SUBJECT PROPERTY

FIELD NOTES:

BEING A 14.774 ACRE PARCEL SITUATED IN JOHN JONES SURVEY, ABSTRACT NO. 263, HAYS COUNTY, TEXAS, BEING ALL OF THAT 14.75 ACRE PARCEL DESCRIBED IN SPECIAL WARRANTY DEED TO VERTICAL CHAPEL, FILED FOR RECORD IN DOCUMENT NO. 22020949 DEED RECORDS OF HAYS COUNTY TEXAS (D.R.H.C.) MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT SET 5/8 INCH IRON ROD WITH PLASTIC CAP MARKED RPLS 5367 ON THE NORTH LINE OF COUNTY ROAD 134 / OLD POST ROAD, FOR THE SOUTH CORNER OF SAID 14.75 ACRE PARCEL AND FOR THE EAST CORNER OF THAT 23.70 ACRE PARCEL DESCRIBED AS TRACT 3 IN WARRANTY DEEDS TO ALIALI ALEXANDER, LTD. FILED FOR RECORD IN DOCUMENT NOS. 80009809 AND 80009915, D.R.H.C., FROM WHICH A FOUND 60D NAIL IN THE TOP OF A 10" FENCE POST ON THE NORTH LINE OF SAID COUNTY ROAD 134 / OLD POST ROAD AND FOR THE SOUTH CORNER OF SAID 23.70 ACRE PARCEL BEARS SOUTH 43°35'26" WEST A DISTANCE OF 691.81 FEET;

THENCE NORTH 40°47'05" WEST, ALONG THE SOUTHWEST LINE OF SAID 14.75 ACRE PARCEL AND THE NORTHEAST LINE OF SAID 23.70 ACRE PARCEL AS FENCED, A DISTANCE OF 859.24 FEET, MORE OR LESS, TO A FOUND 1/2 INCH IRON ROD AT A FENCE CORNER FOR THE WEST CORNER OF SAID 14.75 ACRE PARCEL, AN ANGLE POINT IN THE NORTHEAST LINE OF SAID 23.70 ACRE PARCEL AND THE SOUTH CORNER OF THAT 25.105 ACRE PARCEL DESCRIBED IN WARRANTY DEED TO KYLE ACRES, LLC, FILED FOR RECORD IN DOCUMENT NO. 22027630, D.R.H.C., FROM WHICH A FOUND 1/2 INCH IRON ROD NEAR A FENCE CORNER BEARS NORTH 36°03'13" EAST A DISTANCE OF 31.00 FEET, SAID FOUND 1/2 INCH IRON ROD LYING SOUTH 50°41' WEST A DISTANCE OF 1.0' FROM THE ANGLE CORNER ON THE SOUTH DEED LINE OF SAID 25.105 ACRE PARCEL **(PLEASE REFER TO SURVEY NOTE 6 HEREON)**, FROM WHICH A FOUND 1/2 INCH IRON ROD FOUND IN THE EAST LINE OF INTERSTATE HIGHWAY NO. 35, FOR THE NORTH CORNER OF SAID 23.70 ACRE PARCEL BEARS NORTH 46°12'14" WEST A DISTANCE OF 1227.74 FEET;

THENCE NORTH 41°15'42" EAST, DEPARTING FROM THE SOUTH LINE OF SAID 25.105 ACRE PARCEL AND ALONG THE NORTH LINE OF SAID 14.75 ACRE PARCEL, A DISTANCE OF 845.47 FEET, MORE OR LESS, TO A FOUND 1/2 INCH IRON ROD FOUND ON THE SOUTHWEST LINE OF THAT 31.70 ACRE PARCEL DESCRIBED IN WARRANTY DEED TO KLATT PROPERTIES, LLC, FILED FOR RECORD IN VOLUME 1724, AT PAGE 630, D.R.H.C., FOR AN EAST CORNER OF SAID 25.105 ACRE PARCEL AND FOR THE NORTH CORNER OF SAID 14.75 ACRE PARCEL, FROM WHICH A FOUND 1/2 INCH IRON ROD WITH PLASTIC CAP MARKED HODGKISS 2808 FOR AN ELL CORNER ON THE NORTHEAST LINE OF SAID 25.105 ACRE PARCEL AND AN ELL CORNER ON THE SOUTHWEST LINE OF SAID 31.70 ACRE PARCEL BEARS NORTH 48°34'20" WEST A DISTANCE OF 580.00 FEET;

THENCE SOUTH 48°58'16" EAST, ALONG THE SOUTHWEST LINE OF SAID 31.70 ACRE PARCEL AND THE NORTHEAST LINE OF SAID 14.75 ACRE PARCEL, A DISTANCE OF 691.78 FEET, MORE OR LESS, TO A SET 5/8 INCH IRON ROD WITH PLASTIC CAP MARKED RPLS 5367 ON THE NORTH LINE OF SAID COUNTY ROAD 134 / OLD POST ROAD, THE SOUTH CORNER OF SAID 31.70 ACRE PARCEL AND THE EAST CORNER OF SAID 14.75 ACRE PARCEL, FROM WHICH A FOUND 1/2 INCH IRON ROD WITH PLASTIC CAP MARKED HODGKISS 2808 ON THE SOUTHWEST LINE OF F.M. HIGHWAY NO. 150 AND FOR AN ANGLE CORNER IN THE EAST LINE OF SAID 31.70 ACRE PARCEL BEARS NORTH 42°41'52" EAST A DISTANCE OF 958.33 FEET, NORTH 19°24'46" EAST A DISTANCE OF 64.49 FEET AND NORTH 10°23'14" WEST A DISTANCE OF 103.58 FEET;

THENCE SOUTH 41°34'35" WEST, ALONG THE NORTH LINE OF SAID COUNTY ROAD 134 / OLD POST ROAD AND THE SOUTHEAST LINE OF SAID 14.75 ACRE PARCEL, A DISTANCE OF 859.78 FEET TO THE **POINT OF BEGINNING**.

CONTAINING 14.764 ACRES (643,135 SQUARE FEET) OF LAND, MORE OR LESS.

SURVEY NOTES:

1. THIS SURVEY WAS PERFORMED BETWEEN SEPTEMBER 28 AND OCTOBER 16, 2022.
2. THIS SURVEY IS BASED ON GPS OBSERVATIONS AND PROJECTED TO TEXAS STATE PLANE COORDINATES, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM, 1983 (NAD83) (US SURVEY FEET), GROUND. THE COMBINED FACTOR USED TO OBTAIN GRID DISTANCES IS 0.99989479. VERTICAL: NORTH AMERICAN VERTICAL DATUM 1988
3. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT. THEREFORE ACKLAM, INC. HAS NOT RESEARCHED OR SHOWN ANY OTHER EASEMENTS, RIGHTS OF WAY, VARIANCES AND OR AGREEMENTS OF RECORD EXCEPT AS SHOWN HEREON.
4. ALL REFERENCES MADE HEREON TO VOLUME & PAGE, DESCRIPTION NUMBERS, PLATS, OR MAPS ARE PUBLIC DOCUMENTS FILED FOR RECORD IN HAYS COUNTY, TEXAS.
5. THIS PROPERTY LIES PARTIALLY IN ZONE X (NOT SHADED) - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NOS. 48209C0405F THAT BEARS AN EFFECTIVE/REVISED DATE OF SEPTEMBER 2, 2005. THIS STATEMENT IS NOT AN OPINION THAT THE PROPERTY WILL OR WILL NOT FLOOD.
6. THE AREA SHOWN HEREON AS AN AREA OF CONCERN IS TO DEPICT AND MAKE NOTICE OF AN INCONSISTENCY BETWEEN THE PARCEL DEED DESCRIPTIONS OF THE LINE BETWEEN THE SUBJECT PARCEL AND THE ADJOINING PARCEL TO THE NORTHWEST CREATES A GAP BETWEEN THE TWO PARCELS.
   A. THE NORTHWEST LINE OF THE SUBJECT PARCEL HAVING BEEN DESCRIBED AS A STRAIGHT LINE BETWEEN THE NORTH AND WEST CORNERS OF THAT 14.8/14.75 ACRE PARCEL DESCRIBED IN THE FOLLOWING DEEDS: EDWARD SIMON, et al. **VOL. 292, AT PG. 721** (04/04/1978), GENERAL WARRANTY DEEDS TO CHANNING BENNETT SIMON et al. **VOL. 2339, AT PG. 435** (10/23/2003), **VOL. 2376, AT PG. 3** (12/23/2003), **VOL. 2494, AT PG. 151** (06/26/2004) CORRECTED IN **VOL. 2585, AT PG. 639** (12/02/2004), WARRANTY DEED TO RICHARD P. EDWARD, III, **VOL. 2599, AT PG. 628** (12/21/2004), SPECIAL WARRANTY DEED TO JAMES AND LOUISE JACOBS 1031 INVESTMENT, LLC, **VOL. 2641, AT PG. 340** (03/03/2005), SPECIAL WARRANTY DEED TO WORD OF LIFE CHURCH OF GOD IN CHRIST, INC., **VOL. 2822, AT PG. 730** (05/12/2006), SUBSTITUTE TRUSTEE'S DEED TO FOUNDATION CAPITAL RESOURCES, INC., **VOL. 5344, AT PG. 101** AND MOST RECENTLY IN SPECIAL WARRANTY DEED TO VERTICAL CHAPEL, **DOC. NO. 22020949** (04/27/2022).
   B. THE SOUTHEAST LINE (AS FENCED) OF THAT 25.10 ACRE PARCEL HAVING BEEN DESCRIBED WITH AN ANGLE POINT (+/-04°34') NEAR THE SOUTHWESTERN MOST 30 FEET OF THAT DESCRIBED LINE DESCRIBED IN THE FOLLOWING DEEDS: WARRANTY DEED TO WACKENHUT CORRECTION CORPORATION, **VOL. 1131, AT PG. 280** (02/17/1989), GENERAL WARRANTY DEED TO CABOT CHASE LTD., **VOL. 3591, PG. 338** (12/26/2006), WARRANTY DEED TO NL LAND HOLDINGS, **DOC. NO. 11030487** (12/29/2011), SPECIAL WARRANTY DEED TO NASSOUR INVESTMENTS, LP, **DOC. NO. 20031343** (07/29/2020) AND MOST RECENTLY IN SPECIAL WARRANTY DEED TO KYLE ACRES, LLC, **DOC. NO. 22027630** (08/03/2022).

   WHILE THIS APPARENT GAP DOES NOT PRESENT A PROBLEM FOR EITHER PROPERTIES, THE SURVEYOR IS MAKING NOTICE THAT THIS GAP EXISTS BETWEEN THE DEEDED LINES.
7. ALL FEATURE LOCATION AND TOPOGRAPHIC SURVEY WORK, INCLUDING FEATURE COORDINATE VALUES AND THE RESULTANT MAPPING GENERALLY COMPLIES WITH FGDC GEOSPATIAL POSITIONING ACCURACY STANDARDS, PART 4: STANDARDS FOR ARCHITECTURE, ENGINEERING, CONSTRUCTION (A/E/C) AND FACILITY MANAGEMENT.
8. LOCATIONS OF UTILITIES AND FOREIGN PIPELINES WERE DETERMINED FROM VISIBLE SURFACE EVIDENCE. THESE LOCATIONS IF SHOWN MAY NOT BE ACCURATE OR COMPLETE. OTHER UTILITIES MAY EXIST AND ARE TO BE FIELD LOCATED BY OTHERS PRIOR TO EXCAVATION. ACKLAM, INC. IS NOT RESPONSIBLE FOR THE EXACT LOCATION OF SUBSURFACE UTILITIES, NOR FOR ANY DAMAGES BY CONSTRUCTION OR EXCAVATION ON OR NEAR SAID UTILITIES.

SURVEYORS CERTIFICATION:

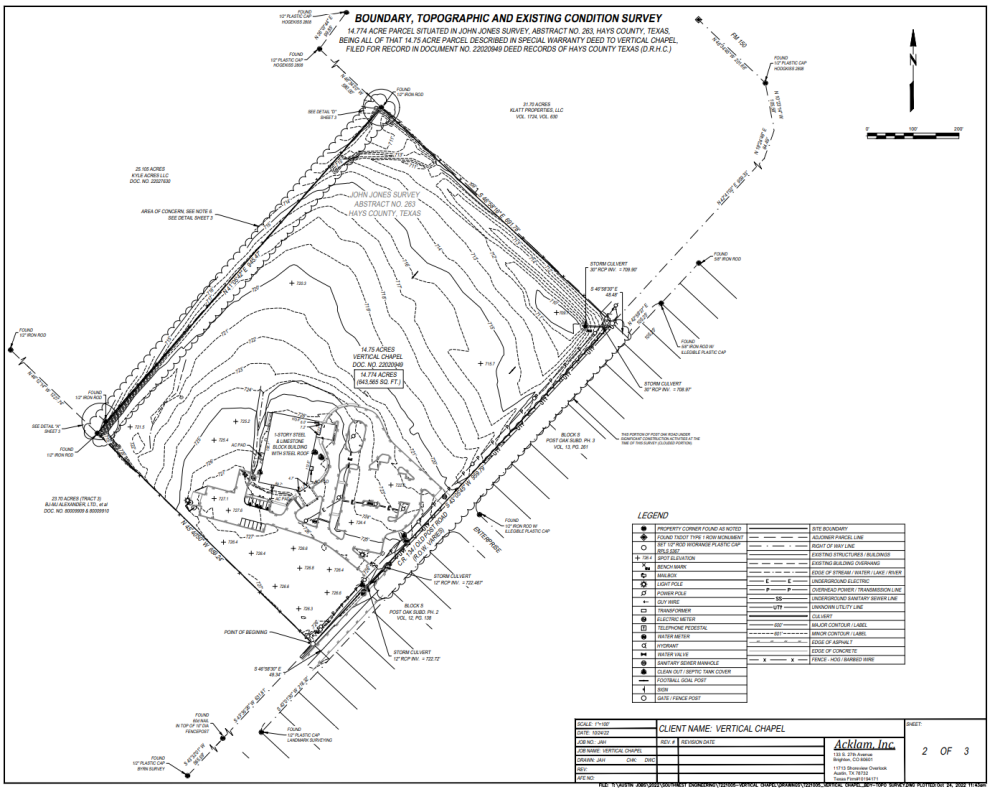
I, DOUGLAS W. CHINN, A REGISTERED PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF TEXAS DO HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF ON THE DATE OF MY SIGNATURE, THIS SURVEY ACCURATELY REPRESENTS THE FACTS FOUND AT THE TIME OF A SURVEY MADE UNDER MY RESPONSIBLE CHARGE.

DOUGLAS W. CHINN, RPLS, PLS
TEXAS REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5367
FOR AND BEHALF OF
ACKLAM, INC.

SCALE: N/A	CLIENT NAME: VERTICAL CHAPEL		SHEET:
DATE: 10/24/22			
JOB NO: JAH	REV. #	REVISION DATE	1 OF 3
JOB NAME: VERTICAL CHAPEL			
DRAWN: JAH CHK: DWC			
REV:			
WE NO:			

Acklam, Inc
120 S. 27th Avenue
Brighton, CO 80601
11713 Shoreview Overlook
Austin, TX 78739
Texas Firm# F-13417

FILE: T:\JOHN JOBS\2022\SURVEY ENGINEERING\122105--VERTICAL CHAPEL\DRAWINGS\122105_VERTICAL CHAPEL_BDY--TOPO SURVEY.DWG PLOTTED:Oct 24, 2022 11:43am



BOUNDARY, TOPOGRAPHIC AND EXISTING CONDITION SURVEY

14.774 ACRE PARCEL SITUATED IN JOHN JONES SURVEY, ABSTRACT NO. 263, HAYS COUNTY, TEXAS, BEING ALL OF THAT 14.75 ACRE PARCEL DESCRIBED IN SPECIAL WARRANTY DEED TO VERTICAL CHAPEL, FILED FOR RECORD IN DOCUMENT NO. 22020949 DEED RECORDS OF HAYS COUNTY TEXAS (D.R.H.C.)

JOHN JONES SURVEY
ABSTRACT NO. 263
HAYS COUNTY, TEXAS

14.75 ACRES
VERTICAL CHAPEL
DOC. NO. 22020949
14.774 ACRES
(643,565 SQ. FT.)

25.105 ACRES
KYLE ACRES LLC
DOC. NO. 22027630

31.70 ACRES
KLATT PROPERTIES, LLC
VOL. 1724, VOL. 630

23.70 ACRES (TRACT 3)
ALI ALI ALEXANDER, LTD., et al
DOC. NO. 80009809 & 80009915

AREA OF CONCERN, SEE NOTE 6
SEE DETAIL SHEET 3

POINT OF BEGINNING

BLOCK B
POST OAK SUBD. PH. 2
VOL. 12, PG. 138

BLOCK B
POST OAK SUBD. PH. 3
VOL. 13, PG. 261

THIS PORTION OF POST OAK ROAD UNDER SIGNIFICANT CONSTRUCTION ACTIVITIES AT THE TIME OF THIS SURVEY (CLOSED PORTION)

1-STORY STEEL & LIMESTONE BLOCK BUILDING WITH STEEL ROOF

STORM CULVERT
30" RCP INV. = 709.98'

STORM CULVERT
30" RCP INV. = 709.97'

STORM CULVERT
18" RCP INV. = 722.49'

STORM CULVERT
18" RCP INV. = 722.72'

FM 150

TRAVERSE SLAT

ENTERPRISE

LEGEND

PROPERTY CORNER FOUND AS NOTED	SITE BOUNDARY
FOUND TXDOT TYPE I ROW MONUMENT	ADJOINER PARCEL LINE
SET 1/2" ROD W/ORANGE PLASTIC CAP RPLS 5367	RIGHT OF WAY LINE
+ 724.1 SPOT ELEVATION	EXISTING STRUCTURES / BUILDINGS
BENCH MARK	EXISTING BUILDING OVERHANG
MAILBOX	EDGE OF STREAM / WATER / LAKE / RIVER
LIGHT POLE	UNDERGROUND ELECTRIC
POWER POLE	OVERHEAD POWER / TRANSMISSION LINE
GUY WIRE	UNDERGROUND SANITARY SEWER LINE
TRANSFORMER	UNKNOWN UTILITY LINE
ELECTRIC METER	CULVERT
TELEPHONE PEDESTAL	MAJOR CONTOUR / LABEL
WATER METER	MINOR CONTOUR / LABEL
HYDRANT	EDGE OF ASPHALT
WATER VALVE	EDGE OF CONCRETE
SANITARY SEWER MANHOLE	FENCE - HOG / BARBED WIRE
CLEAN OUT / SEPTIC TANK COVER	
FOOTBALL GOAL POST	
SIGN	
GATE / FENCE POST	

SCALE: 1"=100'	CLIENT NAME: VERTICAL CHAPEL		SHEET:
DATE: 10/24/22			
JOB NO: JAH	REV. #	REVISION DATE	2 OF 3
JOB NAME: VERTICAL CHAPEL			
DRAWN: JAH CHK: DWC			
REV:			
WE NO:			

Acklam, Inc
120 S. 27th Avenue
Brighton, CO 80601
11713 Shoreview Overlook
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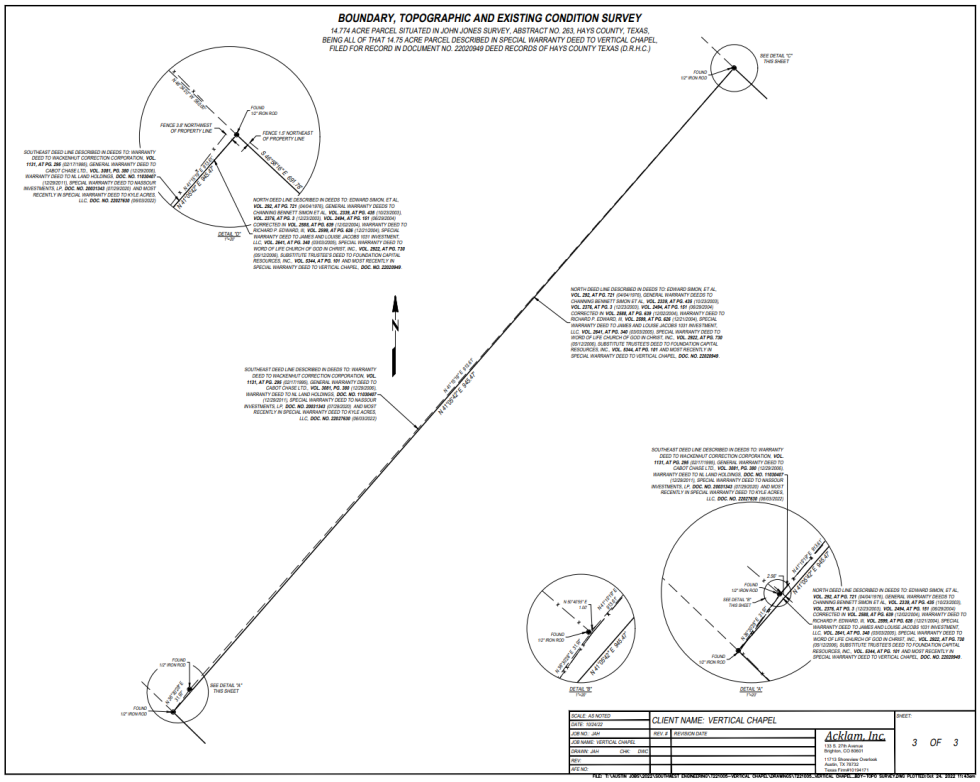
FILE: T:\JOHN JOBS\2022\SURVEY ENGINEERING\122105--VERTICAL CHAPEL\DRAWINGS\122105_VERTICAL CHAPEL_BDY--TOPO SURVEY.DWG PLOTTED:Oct 24, 2022 11:43am


BOUNDARY, TOPOGRAPHIC AND EXISTING CONDITION SURVEY
14.774 ACRE PARCEL SITUATED IN JOHN JONES SURVEY, ABSTRACT NO. 263, HAYS COUNTY, TEXAS,
BEING ALL OF THAT 14.75 ACRE PARCEL DESCRIBED IN SPECIAL WARRANTY DEED TO VERTICAL CHAPEL,
FILED FOR RECORD IN DOCUMENT NO. 22020949 DEED RECORDS OF HAYS COUNTY TEXAS (D.R.H.C.)
SEE DETAIL "C" THIS SHEET
FOUND 1/2" IRON ROD
FENCE 0.8' NORTHEAST OF PROPERTY LINE
FENCE 1.0' NORTHEAST OF PROPERTY LINE
FOUND 1/2" IRON ROD
N 63°47'05" E 1.00'
N 63°47'05" E 1.00'
N 63°47'05" E 1.00'

Southwest Engineers

BUDA
205 CIMARRON PARK LOOP
BUDA, TX 78610
512-312-4336

January 10, 2023

Debbie Guerra
Planning Technician
City of Kyle
100 W. Center Street
Kyle, Texas 78640

RE: Vertical Chapel
Rezoning Request Letter
SWE Project No. 1018-002-22

Dear Mrs. Guerra,

This Rezoning Request Letter is submitted in support of the Rezoning application for the Vertical Chapel property, a religious facility located at 400 Old Post Road in Kyle, Texas.

PROJECT SUMMARY

The subject property is a 14.75-acre tract located within Kyle City Limits, which has an existing Church building with parking and drives. The existing zoning classification of the property is Warehouse (W). The requested zoning classification is Office/Institutional (O/I). The owner is planning to renovate and expand the existing church by adding additional buildings and parking aisles and is seeking a change of zoning in order to be allowed to have more parking availability for the church.

Under the existing zoning the allowable parking capacity is the following:

- 1 space per 1,000 sf of gross floor area, or
- 1 space for every 1.5 employees
- Maximum Parking allowed is 150% of parking required

This would allow for only 20-30 spaces given the current floor area of the church.

The zone classification Office/Institutional (O/I) has additional uses allowed which one of them is Place of Worship and under this zoning the allowable parking capacity is the following:

- One space for each three seats in the main auditorium, or
- Where fixed seats are not utilized, one space for each 25 square feet of floor space in the largest assembly room is utilized for public worship.

This would allow for ±268 new parking spaces.

If you have any questions or require additional information, please contact me at (512) 312-4336.

Respectfully submitted,

Henry Juarez,
Project Manager
/in

LANDOWNER AUTHORIZATIONAND AFFIDAVIT OF OWNERSHIP

SUBJECT PROPERTY INFORMATION

Subdivision Name, Block, Lot, or legal description if not subdivided: A0263 John Jones Survey, Acres 14.75
# of lots (if subdivided): _____ # of acres: _____
Site APN/Property ID #(s): R111957
Location: 400 Old Post Rd Kyle, TX County: Hays County
Development Name: Vertical Chapel

OWNER

Company/Applicant Name: Vertical Chapel
Authorized Company Representative (if company is owner): Jesús Prado
Type of Company and State of Formation: Church
Title of Authorized Company Representative (if company is owner): Executive Pastor
Applicant Address: 400 old Post Road, Kyle TX 78640
Applicant Fax: _____
Applicant Phone: 512-481-2838
Applicant/Authorized Company Representative Email: Jesús@Verticalchapel.com

APPLICANT REPRESENTATIVE

Check one of the following:

____. I will represent the application myself; or

✓ I hereby designate Southwest Engineers (name of project representative) to act in the capacity as the agent for filing, processing, representation, and/or presentation of this development application. The designated agent shall be the principal contact person for responding to all requests for information and for resolving all issues of concern relative to this application.

I hereby certify that the above-named owner is the rightful owner of the Property. I am either the owner of the property identified above or a partner/manager/officer/director/member of the company who is authorized to act on behalf of the company. I further certify that the information provided herein and in the application for the development is true and correct. By signing below, I agree that the City of Kyle (the "City") is authorized and permitted to provide information contained within this application, including the email address, to the public.

Owner's Signature: _____ Date: 1/17/2023

State of TEXAS

County of HAYS

This instrument was acknowledged before me on (date) by (name of authorized company representative) who is a(n) (member, manager, authorized officer, etc.) of (name of company), a (Texas) (limited liability company, corporation, partnership, etc.).

SUBSCRIBED AND SWORN TO before me, this the 17th day of JANUARY, 2023

Notary Public's Signature

07-21-26
My Commission Expires

NOTARY PUBLIC STATE OF TEXAS
MICHELLE MORPHIS
MY COMMISSION EXPIRES
07/21/2026
NOTARY ID: 12823475-7

PROJECT REPRESENTATIVE

Representative Name: Henry Juarez
Representative Address: 205 Cimarron Park Loop Buda, Texas 78610
Representative Phone: (512) 312-4336
Representative Email: henry.juarez@swengineers.com
Representative's Signature: _____ Date: 1/17/23

Item # 14

Franchise Tax Account Status

As of : 01/10/2023 12:49:11

This page is valid for most business transactions but is not sufficient for filings with the Secretary of State

VERTICAL CHAPEL	
Texas Taxpayer Number	32051303652
Mailing Address	5401 FM 1626 STE 170-475 KYLE, TX 78640-6038
Right to Transact Business in Texas	ACTIVE
State of Formation	TX
Effective SOS Registration Date	06/20/2013
Texas SOS File Number	0801804899
Registered Agent Name	DAN A MEDLIN
Registered Office Street Address	5401 S. FM 1626 #170-475 KYLE, TX 78640

22020949 DEED Total Pages: 5
Filed and Recorded: 04/27/2022 03:21:58 PM

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

SPECIAL WARRANTY DEED WITH VENDOR'S LIEN

Date: APRIL 26, 2022

Grantor: Foundation Capital Resources, Inc. a Georgia corporation

Grantee: Vertical Chapel, a Texas non-profit corporation

Grantee's Mailing Address: 400 Old Post Oak Rd.
Kyle, Texas 78640

Consideration:

$10.00 and other valuable consideration including a Promissory Note of even date, executed by Grantee, payable to the order of Grantor. The Note is secured by a vendor's lien retained in this Deed and by a Deed of Trust of even date from Grantee to William A. Hunt, Jr., TRUSTEE, Trustee.

Property (including any improvements):

14.75 ACRES OF LAND OUT OF THE JOHN JONES SURVEY, ABSTRACT NO.263 IN HAYS COUNTY, TEXAS AS MORE PARTICULARLY DESCRIBED IN EXHIBIT A ATTACHED HERETO.

Reservations from Conveyance:

NONE

Exceptions to Conveyance and Warranty:

Liens described as part of the Consideration and any other liens described in this deed as being either assumed or subject to which title is taken; validly existing easements, rights-of-way, and prescriptive rights, whether of record or not; all presently recorded and validly existing restrictions, reservations, covenants, conditions, oil and gas leases, mineral interests, and water interests outstanding in persons other than Grantor, and other instruments, other than conveyances of the surface fee estate, that affect the Property; validly existing rights of adjoining owners in any walls and fences situated on a common boundary; any discrepancies, conflicts, or shortages in area or boundary lines; and taxes for 2022, the payment of which

Unofficial Copy

Grantee assumes and agrees to pay on a prorated basis, and subsequent assessments for that and prior years due to change in land usage, ownership, or both, the payment of which Grantee assumes as of the date first above written].

Grantor, for the Consideration and subject to the Reservations from and Exceptions to Conveyance and Warranty, grants, sells, and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging to Grantor, to have and hold it to Grantee, Grantee's heirs, executors, administrators, successors, and assigns forever. Grantor binds Grantor and Grantor's heirs, executors, administrators, successors and assigns to warrant and forever defend all and singular the Property to Grantee and Grantee's heirs, executors, administrators, successors, and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the Reservations from and Exceptions to Conveyance and Warranty, when the claim is by, through, or under Grantor, but not otherwise .

The vendor's lien against and superior title to the Property are retained until the note described above is fully paid according to its terms, at which time this Deed shall become absolute.

When the context requires, singular nouns and pronouns include the plural. Reference to any gender shall include either gender and, in the case of a legal entity that is not a natural person, shall include the neuter gender, all as the case may be.

EXECUTED EFFECTIVE AS OF THE DATE FIRST WRITTEN ABOVE.

(Remainder of Page Intentionally Left Blank)

Unofficial Copy

SIGNATURE PAGE TO SPECIAL WARRANTY DEED WITH VENDOR'S LIEN

Foundation Capital Resources, Inc. a Georgia corporation

By: _____
Name: Leslie Lingenfelser
Title: VP

STATE OF ~~TEXAS~~ Missouri §
§
COUNTY OF Greene §

This instrument was acknowledged before me on Apr. 1 15, 2022, by Leslie Lingenfelser Vice President of Foundation Capital Resources, Inc. a Georgia corporation, on behalf of said corporation.

_____
Notary Public, State of ~~Texas~~ Missouri

TINA RIPPEE
Notary Public – Notary Seal
STATE OF MISSOURI
Webster County
My Commission Expires Sept. 4, 2022
Commission #14428659

AFTER RECORDING, RETURN TO:

Unofficial Copy

EXHIBIT "A"

FIELD NOTE DESCRIPTION OF 14.75 ACRES OF LAND OUT OF THE JOHN JONES SURVEY, ABSTRACT NO.263 IN HAYS COUNTY, TEXAS, AND BEING ALL THAT CERTAIN (14.8 ACRE) TRACT OF LAND AS CONVEYED TO EDWARD SIMON, ET AL., BY DEED RECORDED IN VOLUME 292, PAGE 721 OF THE DEED RECORDS OF HAYS COUNTY, TEXAS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A ½" IRON ROD FOUND IN THE NORTHWEST LINE OF HAYS COUNTY ROAD NO. 134 FOR THE EAST CORNER OF THAT CERTAIN (23.70 ACRES) TRACT OF LAND AS CONVEYED TO BOBBY JOE ALEXANDER AND MARY JANE ALEXANDER BY WARRANTY DEED RECORDED IN VOLUME 1757, PAGE 454 OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS, AND BEING THE SOUTH CORNER OF THAT CERTAIN (14.8 ACRE) TRACT OF LAND AS CONVEYED TO EDWARD SIMON, ET AL., BY DEED RECORDED IN VOLUME 292, PAGE 721 OF THE DEED RECORDS OF HAYS COUNTY, TEXAS, AND FROM WHICH A ½" IRON ROD FOUND FOR THE MOST SOUTHERLY CORNER OF SAID ALEXANDER (23.70 ACRES) TRACT BEARS SOUTH 44 DEGREES 00 MINUTES 19 SECONDS WEST 631.13 FEET;

THENCE LEAVING THE NORTHWEST LINE OF HAYS COUNTY ROAD 134 WITH THE SOUTHWEST LINE OF SAID SIMON (14.8 ACRE) TRACT, NORTH 45 DEGREES 10 MINUTES 23 SECONDS WEST 658.47 FEET TO A ½" IRON ROD FOUND IN THE NORTHEAST LINE OF SAID ALEXANDER (23.70 ACRE) TRACT, AND BEING THE SOUTH CORNER OF THAT CERTAIN (25.10 ACRE) IN TRACT OF LAND AS CONVEYED TO WACKENHUT CORRECTIONS CORPORATION BY WARRANTY DEED RECORDED IN VOLUME 1131, PAGE 195 OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS, FOR THE WEST CORNER OF SAID SIMON (14.8 ACRE) TRACT, AND BEING THE WEST CORNER OF THIS TRACT, AND FROM WITH A ½" IRON ROD FOUND AT A FENCE CORNER POST FOR AN ANGLE CORNER IN THE SOUTHEAST LINE OF SAID WACKENHUT (25.10 ACRE) TRACT BEARS NORTH 37 DEGREES 03 MINUTES 50 SECONDS EAST 30.95 FEET;

THENCE WITH THE NORTHWEST LINE OF SAID SIMON (14.8 ACRE) TRACT, NORTH 41 DEGREES 39 MINUTES 12 SECONDS EAST 946.44 FEET TO A ½" IRON ROD FOUND FOR THE EAST CORNER OF SAID WACKENHUT (25.10 ACRE) TRACT, AND FOR THE NORTH CORNER OF SAID SIMON (14.8 ACRE) TRACT, AND BEING THE NORTH CORNER OF THIS TRACT;

THENCE WITH THE NORTHEAST LINE OF SAID SIMON (14.8 ACRE) TRACT, SOUTH 46 DEGREES 20 MINUTES 11 SECONDS EAST 691.76 FEET TO A ½" IRON ROD FOUND IN THE NORTHWEST LINE OF HAYS COUNTY ROAD 134, AND FOR THE SOUTH CORNER OF THAT CERTAIN (31.70 ACRE) TRACT OF LAND AS CONVEYED TO KLATT PROPERTIES, LLC, BY DEED RECORDED IN VOLUME 1724, PAGE 630, OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS, AND FOR THE EAST CORNER SAID SIMON (14.8 ACRE) TRACT, AND BEING THE EAST CORNER OF THIS TRACT, AND FROM WHICH A ½" IRON ROD FOUND WITH A PLASTIC CAP IMPRINTED WITH "HODGKISS 2808" IN THE SOUTHEAST LINE OF HAYS COUNTY ROAD NO. 134 FOR THE MOST NORTHERLY CORNER OF THAT CERTAIN (218.58 ACRE) TRACT OF LAND AS CONVEYED TO RICHARD JENKINS, DAVID LE BOEUF, AND STEPHEN BARTHOLOMEW BY WARRANTY DEED RECORDED IN VOLUME 1757, PAGE 461 OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS, BEARS NORTH 45 DEGREES 38 MINUTES 55 SECONDS EAST 1081.74 FEET;

THENCE WITH THE NORTHWEST LINE OF HAYS COUNTY ROAD NO. 134, AND WITH THE SOUTHEAST LINE OF SAID SIMON (14.8 ACRE) TRACT SOUTH 43 DEGREES 40 MINUTES 37 SECONDS WEST 959.22 FEET TO THE PLACE OF BEGINNING, CONTAINING 14.75 ACRES OF LAND.

Unofficial Copy

THE STATE OF TEXAS
COUNTY OF HAYS

I hereby certify that this instrument was FILED on the date and the time stamped hereon by me and was duly RECORDED in the Records of Hays County, Texas.

22020949 DEED
04/27/2022 03:21:58 PM Total Fees: $38.00

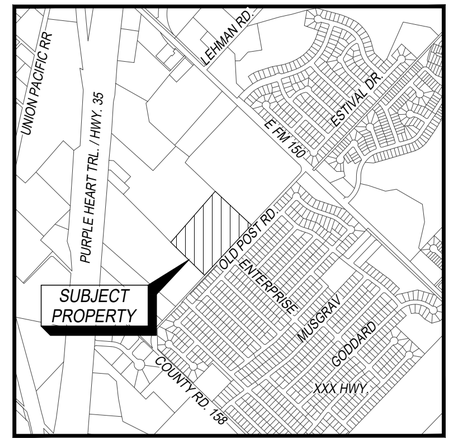
Elaine H. Cárdenas, MBA, PhD,County Clerk
Hays County, Texas

Elaine H Cárdenas

Unofficial Copy

BOUNDARY, TOPOGRAPHIC AND EXISTING CONDITION SURVEY

14.774 ACRE PARCEL SITUATED IN JOHN JONES SURVEY, ABSTRACT NO. 263, HAYS COUNTY, TEXAS,
BEING ALL OF THAT 14.75 ACRE PARCEL DESCRIBED IN SPECIAL WARRANTY DEED TO VERTICAL CHAPEL,
FILED FOR RECORD IN DOCUMENT NO. 22020949 DEED RECORDS OF HAYS COUNTY TEXAS (D.R.H.C.)



VICINITY MAP
N.T.S.

FIELD NOTES:

BEING A 14.774 ACRE PARCEL SITUATED IN JOHN JONES SURVEY, ABSTRACT NO. 263, HAYS COUNTY, TEXAS, BEING ALL OF THAT 14.75 ACRE PARCEL DESCRIBED IN SPECIAL WARRANTY DEED TO VERTICAL CHAPEL, FILED FOR RECORD IN DOCUMENT NO. 22020949 DEED RECORDS OF HAYS COUNTY TEXAS (D.R.H.C.) MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING *AT SET 5/8 INCH IRON ROD WITH PLASTIC CAP MARKED RPLS 5367 ON THE NORTH LINE OF COUNTY ROAD 134 / OLD POST ROAD, FOR THE SOUTH CORNER OF SAID 14.75 ACRE PARCEL AND FOR THE EAST CORNER OF THAT 23.70 ACRE PARCEL DESCRIBED AS TRACT 3 IN WARRANTY DEEDS TO BJ-MJ ALEXANDER, LTD. FILED FOR RECORD IN DOCUMENT NOS. 80009909 AND 80009910, D.R.H.C., FROM WHICH A FOUND 60D NAIL IN THE TOP OF A 10" FENCE POST ON THE NORTH LINE OF SAID COUNTY ROAD 134 / OLD POST ROAD AND FOR THE SOUTH CORNER OF SAID 23.70 ACRE PARCEL BEARS SOUTH 43°35'26" WEST A DISTANCE OF 631.81 FEET;*

THENCE NORTH 45°40'50" WEST, ALONG THE SOUTHWEST LINE OF SAID 14.75 ACRE PARCEL AND THE NORTHEAST LINE OF SAID 23.70 ACRE PARCEL AS FENCED, A DISTANCE OF 659.24 FEET, MORE OR LESS, TO A FOUND 1/2 INCH IRON ROD AT A FENCE CORNER FOR THE WEST CORNER OF SAID 14.75 ACRE PARCEL, AN ANGLE PONT IN THE NORTHEAST LINE OF SAID 23.70 ACRE PARCEL AND THE SOUTH CORNER OF THAT 25.105 ACRE PARCEL DESCRIBED IN WARRANTY DEED TO KYLE ACRES, LLC, FILED FOR RECORD IN DOCUMENT NO. 22027630, D.R.H.C., FROM WHICH A FOUND 1/2 INCH IRON ROD NEAR A FENCE CORNER BEARS NORTH 36°03'13" EAST A DISTANCE OF 31.00 FEET, SAID FOUND 1/2 INCH IRON ROD LYING SOUTH 50°41' WEST A DISTANCE OF 1.0' FROM THE ANGLE CORNER ON THE SOUTH DEED LINE OF SAID 25.105 ACRE PARCEL ***(PLEASE REFER TO SURVEY NOTE 6 HEREON)****, FROM WHICH A FOUND 1/2 INCH IRON ROD FOUND IN THE EAST LINE OF INTERSTATE HIGHWAY NO. 35, FOR THE NORTH CORNER OF SAID 23.70 ACRE PARCEL BEARS NORTH 46°12'14" WEST A DISTANCE OF 1227.74 FEET;*

THENCE NORTH 41°05'42" EAST, DEPARTING FROM THE SOUTH LINE OF SAID 25.105 ACRE PARCEL AND ALONG THE NORTH LINE OF SAID 14.75 ACRE PARCEL, A DISTANCE OF 945.47 FEET, MORE OR LESS, TO A FOUND 1/2 INCH IRON ROD FOUND ON THE SOUTHWEST LINE OF THAT 31.70 ACRE PARCEL DESCRIBED IN WARRANTY DEED TO KLATT PROPERTIES, LLC, FILED FOR RECORD IN VOLUME 1724, AT PAGE 630, D.R.H.C., FOR AN EAST CORNER OF SAID 25.105 ACRE PARCEL AND FOR THE NORTH CORNER OF SAID 14.75 ACRE PARCEL, FROM WHICH A FOUND 1/2 INCH IRON ROD WITH PLASTIC CAP MARKED HODGKISS 2808 FOR AN ELL CORNER ON THE NORTHEAST LINE OF SAID 25.105 ACRE PARCEL AND AN ELL CORNER ON THE SOUTHWEST LINE OF SAID 31.70 ACRE PARCEL BEARS NORTH 46°34'20" WEST A DISTANCE OF 580.00 FEET;

THENCE SOUTH 46°58'16" EAST, ALONG THE SOUTHWEST LINE OF SAID 31.70 ACRE PARCEL AND THE NORTHEAST LINE OF SAID 14.75 ACRE PARCEL, A DISTANCE OF 691.78 FEET, MORE OR LESS, TO A SET 5/8 INCH IRON ROD WITH PLASTIC CAP MARKED RPLS 5367 ON THE NORTH LINE OF SAID COUNTY ROAD 134 / OLD POST ROAD, THE SOUTH CORNER OF SAID 31.70 ACRE PARCEL AND THE EAST CORNER OF SAID 14.75 ACRE PARCEL, FROM WHICH A FOUND 1/2 INCH IRON ROD WITH PLASTIC CAP MARKED HODGKISS 2808 ON THE SOUTHWEST LINE OF F.M. HIGHWAY NO. 150 AND FOR AN ANGLE CORNER IN THE EAST LINE OF SAID 31.70 ACRE PARCEL BEARS NORTH 42°41'02" EAST A DISTANCE OF 959.33 FEET, NORTH 19°24'46" EAST A DISTANCE OF 64.49 FEET AND NORTH 10°23'14" WEST A DISTANCE OF 105.58 FEET;

THENCE SOUTH 43°04'35" WEST, ALONG THE NORTH LINE OF SAID COUNTY ROAD 134 / OLD POST ROAD AND THE SOUTHEAST LINE OF SAID 14.75 ACRE PARCEL, A DISTANCE OF 959.78 FEET TO THE ***POINT OF BEGINNING****.*

CONTAINING 14.764 ACRES (643,135 SQUARE FEET) OF LAND, MORE OR LESS.

SURVEY NOTES:

1. *THIS SURVEY WAS PERFORMED BETWEEN SEPTEMBER 28 AND OCTOBER 18, 2022.*
2. *THIS SURVEY IS BASED ON GPS OBSERVATIONS AND PROJECTED TO TEXAS STATE PLANE COORDINATES, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM, 1983 (NAD83) (US SURVEY FEET), GROUND. THE COMBINED FACTOR USED TO OBTAIN GRID DISTANCES IS 0.999894979. VERTICAL: NORTH AMERICAN VERTICAL DATUM 1988*
3. *THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT, THEREFORE ACKLAM, INC. HAS NOT RESEARCHED OR SHOWN ANY OTHER EASEMENTS, RIGHTS OF WAY, VARIANCES AND OR AGREEMENTS OF RECORD EXCEPT AS SHOWN HEREON.*
4. *ALL REFERENCES MADE HEREON TO VOLUME & PAGE, DESCRIPTION NUMBERS, PLATS, OR MAPS ARE PUBLIC DOCUMENTS FILED FOR RECORD IN HAYS COUNTY, TEXAS.*
5. *THIS PROPERTY LIES PARTIALLY IN ZONE X (NOT SHADED) - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NOS. 48209C0405F THAT BEARS AN EFFECTIVE/REVISED DATE OF SEPTEMBER 2, 2005. THIS STATEMENT IS NOT AN OPINION THAT THE PROPERTY WILL OR WILL NOT FLOOD.*
6. *THE AREA SHOWN HEREON AS AN AREA OF CONCERN IS TO DEPICT AND MAKE NOTICE OF AN INCONSISTENCY BETWEEN THE PARCEL DEED DESCRIPTIONS OF THE LINE BETWEEN THE SUBJECT PARCEL AND THE ADJOINING PARCEL TO THE NORTHWEST CREATES A GAP BETWEEN THE TWO PARCELS.*
   A. *THE NORTHWEST LINE OF THE SUBJECT PARCEL HAVING BEEN DESCRIBED AS A STRAIGHT LINE BETWEEN THE NORTH AND WEST CORNERS OF THAT 14.8/14.75 ACRE PARCEL DESCRIBED IN THE FOLLOWING DEEDS: EDWARD SIMON, et al,* ***VOL. 292, AT PG. 721*** *(04/04/1976), GENERAL WARRANTY DEEDS TO CHANNING BENNETT SIMON et al,* ***VOL. 2339, AT PG. 435*** *(10/23/2003),* ***VOL. 2376, AT PG. 3*** *(12/23/2003),* ***VOL. 2494, AT PG. 151*** *(06/29/2004) CORRECTED IN* ***VOL. 2588, AT PG. 639*** *(12/02/2004), WARRANTY DEED TO RICHARD P. EDWARD, III,* ***VOL. 2599, AT PG. 626*** *(12/21/2004), SPECIAL WARRANTY DEED TO JAMES AND LOUISE JACOBS 1031 INVESTMENT, LLC,* ***VOL. 2641, AT PG. 340*** *(03/03/2005), SPECIAL WARRANTY DEED TO WORD OF LIFE CHURCH OF GOD IN CHRIST, INC.,* ***VOL. 2922, AT PG. 730*** *(05/12/2006), SUBSTITUTE TRUSTEE'S DEED TO FOUNDATION CAPITAL RESOURCES, INC.,* ***VOL. 5344, AT PG. 101*** *AND MOST RECENTLY IN SPECIAL WARRANTY DEED TO VERTICAL CHAPEL,* ***DOC. NO. 22020949*** *(04/27/2022).*
   B. *THE SOUTHEAST LINE (AS FENCED) OF THAT 25.10 ACRE PARCEL HAVING BEEN DESCRIBED WITH AN ANGLE POINT (+/-04°35') NEAR THE SOUTHWESTERN MOST 30 FEET OF THAT DESCRIBED LINE DESCRIBED IN THE FOLLOWING DEEDS: WARRANTY DEED TO WACKENHUT CORRECTION CORPORATION,* ***VOL. 1131, AT PG. 295*** *(02/17/1995), GENERAL WARRANTY DEED TO CABOT CHASE LTD.,* ***VOL. 3081, PG. 380*** *(12/29/2006), WARRANTY DEED TO NL LAND HOLDINGS,* ***DOC. NO. 11030407*** *(12/29/2011), SPECIAL WARRANTY DEED TO NASSOUR INVESTMENTS, LP,* ***DOC. NO. 20031343*** *(07/29/2020) AND MOST RECENTLY IN SPECIAL WARRANTY DEED TO KYLE ACRES, LLC,* ***DOC. NO. 22027630*** *(06/03/2022).*

   WHILE THIS APPARENT GAP DOES NOT PRESENT A PROBLEM FOR EITHER PROPERTIES, THE SURVEYOR IS MAKING NOTICE THAT THIS GAP EXISTS BETWEEN THE DEEDED LINES.
7. *ALL FEATURE LOCATION AND TOPOGRAPHIC SURVEY WORK, INCLUDING FEATURE COORDINATE VALUES AND THE RESULTANT MAPPING GENERALLY COMPLIES WITH FGDC GEOSPATIAL POSITIONING ACCURACY STANDARDS, PART 4: STANDARDS FOR ARCHITECTURE, ENGINEERING, CONSTRUCTION (A/E/C) AND FACILITY MANAGEMENT.*
8. *LOCATIONS OF UTILITIES AND FOREIGN PIPELINES WERE DETERMINED FROM VISIBLE SURFACE EVIDENCE. THESE LOCATIONS IF SHOWN MAY NOT BE ACCURATE OR COMPLETE. OTHER UTILITIES MAY EXIST AND ARE TO BE FIELD LOCATED BY OTHERS PRIOR TO EXCAVATION. ACKLAM, INC. IS NOT RESPONSIBLE FOR THE EXACT LOCATION OF SUBSURFACE UTILITIES, NOR FOR ANY DAMAGES BY CONSTRUCTION OR EXCAVATION ON OR NEAR SAID UTILITIES.*

SURVEYORS CERTIFICATION:

I, DOUGLAS W. CHINN, A REGISTERED PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF TEXAS DO HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF ON THE DATE OF MY SIGNATURE, THIS SURVEY ACCURATELY REPRESENTS THE FACTS FOUND AT THE TIME OF A SURVEY MADE UNDER MY RESPONSIBLE CHARGE.

DOUGLAS W. CHINN, RPLS, PLS
TEXAS REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5367
FOR AND BEHALF OF
ACKLAM, INC.

SCALE: N/A	CLIENT NAME: VERTICAL CHAPEL		SHEET:
DATE: 10/24/22			
JOB NO.: JAH	REV. #	REVISION DATE	
JOB NAME: VERTICAL CHAPEL			
DRAWN: JAH CHK: DWC			
REV:			
AFE NO:			

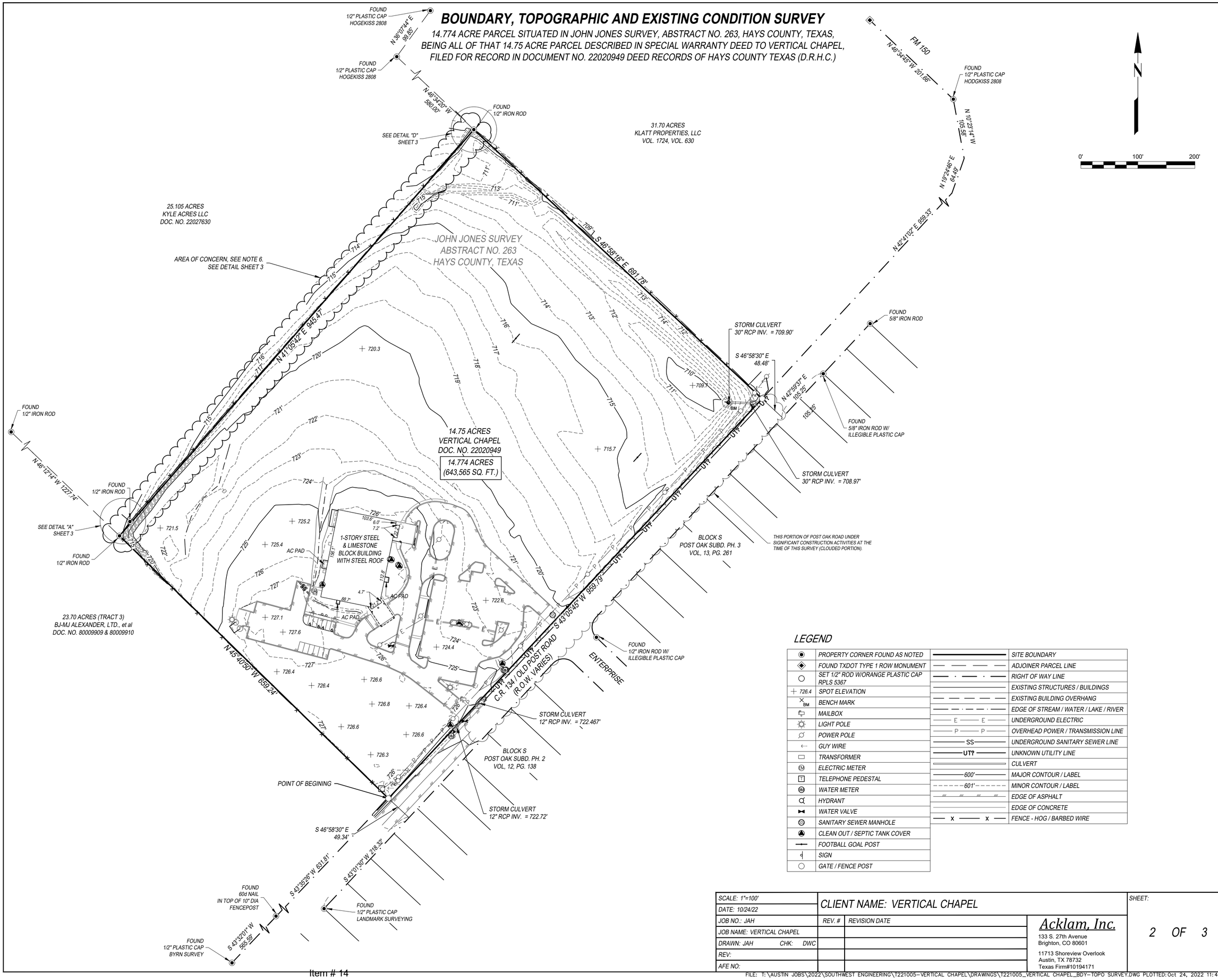
Acklam, Inc.
133 S. 27th Avenue
Brighton, CO 80601
11713 Shoreview Overlook
Austin, TX 78732
Texas Firm#10194171

1 OF 3

FILE: T:\AUSTIN JOBS\2022\SOUTHWEST ENGINEERING\T221005-VERTICAL CHAPEL\DRAWINGS\T221005_VERTICAL CHAPEL_BDY-TOPO SURVEY.DWG PLOTTED: Oct 24, 2022 11:43am

BOUNDARY, TOPOGRAPHIC AND EXISTING CONDITION SURVEY

14.774 ACRE PARCEL SITUATED IN JOHN JONES SURVEY, ABSTRACT NO. 263, HAYS COUNTY, TEXAS, BEING ALL OF THAT 14.75 ACRE PARCEL DESCRIBED IN SPECIAL WARRANTY DEED TO VERTICAL CHAPEL, FILED FOR RECORD IN DOCUMENT NO. 22020949 DEED RECORDS OF HAYS COUNTY TEXAS (D.R.H.C.)



LEGEND

◉	PROPERTY CORNER FOUND AS NOTED	———	SITE BOUNDARY
◈	FOUND TXDOT TYPE 1 ROW MONUMENT	— — — —	ADJOINER PARCEL LINE
○	SET 1/2" ROD W/ORANGE PLASTIC CAP RPLS 5367	— · — · —	RIGHT OF WAY LINE
+ 726.4	SPOT ELEVATION	———	EXISTING STRUCTURES / BUILDINGS
BM	BENCH MARK	— — — —	EXISTING BUILDING OVERHANG
MB	MAILBOX	— — · — · —	EDGE OF STREAM / WATER / LAKE / RIVER
LP	LIGHT POLE	E E	UNDERGROUND ELECTRIC
PP	POWER POLE	P P	OVERHEAD POWER / TRANSMISSION LINE
GW	GUY WIRE	SS	UNDERGROUND SANITARY SEWER LINE
TR	TRANSFORMER	UT?	UNKNOWN UTILITY LINE
EM	ELECTRIC METER	═══	CULVERT
T	TELEPHONE PEDESTAL	600'	MAJOR CONTOUR / LABEL
WM	WATER METER	601'	MINOR CONTOUR / LABEL
HY	HYDRANT	/// /// /// ///	EDGE OF ASPHALT
WV	WATER VALVE		EDGE OF CONCRETE
SS	SANITARY SEWER MANHOLE	x x	FENCE - HOG / BARBED WIRE
CO	CLEAN OUT / SEPTIC TANK COVER		
	FOOTBALL GOAL POST		
	SIGN		
	GATE / FENCE POST		

SCALE: 1"=100'	CLIENT NAME: VERTICAL CHAPEL		SHEET:
DATE: 10/24/22			
JOB NO.: JAH	REV. #	REVISION DATE	
JOB NAME: VERTICAL CHAPEL			
DRAWN: JAH CHK: DWC			
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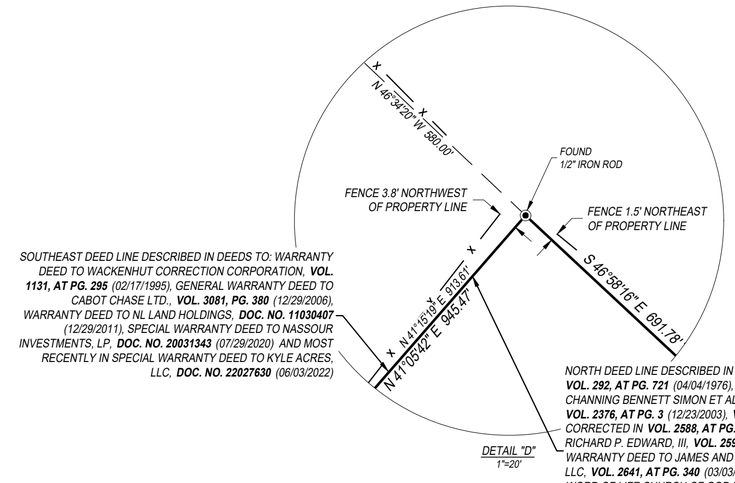

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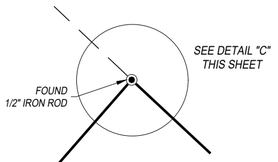
DETAIL "D"
1"=20'



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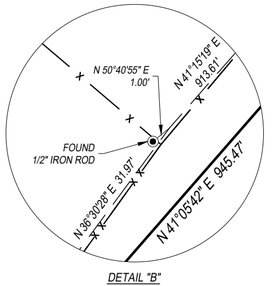
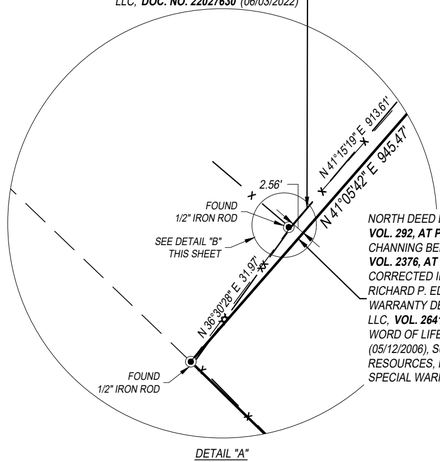


DETAIL "B"
1"=20'



DETAIL "A"
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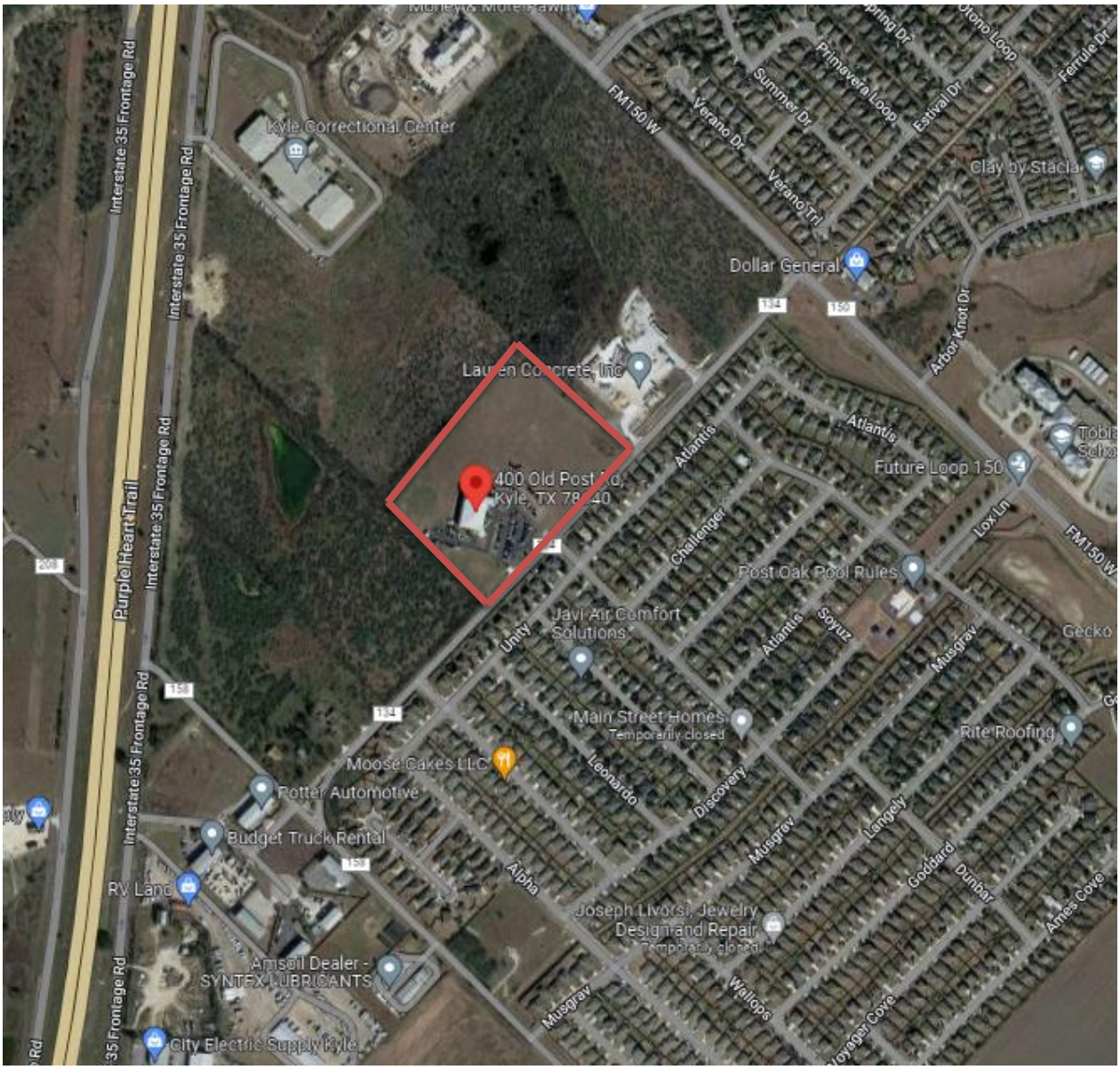


Location Map

400 Old Post Road,

Kyle, TX 78640

CITY OF KYLE, TEXAS

Limestone Creek TIRZ Public Hearing

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Public Hearing Concerning the Creation of Reinvestment Zone Number Four (TIRZ #4), Pursuant to the Provisions of Chapter 311 of the Texas Tax Code. ~ *Stephanie Leibe, Norton Rose Fulbright, City's Bond Counsel*

Public Hearing was left open on 2/7/2023.

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

- Limestone Creek TIRZ Notice of Hearing

City of Kyle City Council
Notice of Public Hearing
On Creation of Reinvestment Zone

THE KYLE CITY COUNCIL WILL HOLD A PUBLIC HEARING ON *TUESDAY FEBRUARY 7, 2023* AT *7:00 P.M. IN THE KYLE CITY HALL, LOCATED AT 100 W. CENTER STREET, KYLE, TEXAS 78640*, ON THE CREATION OF A REINVESTMENT ZONE AND ITS BENEFITS TO THE CITY OF KYLE AND TO PROVIDE A REASONABLE OPPORTUNITY FOR ANY OWNER OF PROPERTY WITHIN THE PROPOSED REINVESTMENT ZONE TO PROTEST THE INCLUSION OF THEIR PROPERTY WITHIN THE PROPOSED REINVESTMENT ZONE, WHICH PROPOSED ZONE CONSISTS OF APPROXIMATELY 179.3 ACRES GENERALLY LOCATED EAST OF POST ROAD AND SOUTH OF COUNTY ROAD 158 AND AS MORE PARTICULARLY DESCRIBED BY A METES AND BOUNDS DESCRIPTION AVAILABLE AT KYLE CITY HALL AND AVAILABLE FOR PUBLIC INSPECTION. AT THE PUBLIC HEARING, ANY INTERESTED PERSON MAY SPEAK FOR OR AGAINST THE INCLUSION OF PROPERTY WITHIN THE REINVESTMENT ZONE, THE CREATION OF THE REINVESTMENT ZONE, ITS BOUNDARIES, OR THE CONCEPT OF TAX INCREMENT FINANCING. FOLLOWING THE PUBLIC HEARING, THE KYLE CITY COUNCIL WILL CONSIDER ADOPTING AN ORDINANCE CREATING THE REINVESTMENT ZONE.

CITY OF KYLE, TEXAS

Limestone Creek TIRZ

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: *(First Reading)* Consideration and Approval of an Ordinance of the City Council of the City of Kyle, Texas, Designating a Contiguous Geographic Area within the Corporate Limits of the City as a Reinvestment Zone Pursuant to Chapter 311 of the Texas Tax Code, to be known as Reinvestment Zone Number Four, City of Kyle; Describing the Boundaries of the Zone; Creating a Board Of Directors for the Zone; Establishing a Tax Increment Fund for the Zone; Containing Findings Related to the Creation of the Zone; Providing a Date for the Termination of the Zone; Providing that the Zone Take Effect Immediately Upon Passage of the Ordinance; Providing a Severability Clause; and Providing an Effective Date. ~ *Stephanie Leibe, Norton Rose Fulbright, City's Bond Counsel*

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

	Description
🗋	Ordinance

ORDINANCE NO._____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS, DESIGNATING A CONTIGUOUS GEOGRAPHIC AREA WITHIN THE CORPORATE LIMITS OF THE CITY AS A REINVESTMENT ZONE PURSUANT TO CHAPTER 311 OF THE TEXAS TAX CODE, TO BE KNOWN AS REINVESTMENT ZONE NUMBER FOUR, CITY OF KYLE; DESCRIBING THE BOUNDARIES OF THE ZONE; CREATING A BOARD OF DIRECTORS FOR THE ZONE; ESTABLISHING A TAX INCREMENT FUND FOR THE ZONE; CONTAINING FINDINGS RELATED TO THE CREATION OF THE ZONE; PROVIDING A DATE FOR THE TERMINATION OF THE ZONE; PROVIDING THAT THE ZONE TAKE EFFECT IMMEDIATELY UPON PASSAGE OF THE ORDINANCE; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Kyle, Texas (the "City"), pursuant to Chapter 311 of the Texas Tax Code, as amended (the "Act"), may designate a geographic area within the corporate limits or extraterritorial jurisdiction of the City as a tax increment reinvestment zone if the area satisfies the requirements of the Act; and

WHEREAS, the Act provides that the governing body of a municipality by ordinance may designate a contiguous or noncontiguous geographic area within the corporate limits of the municipality or within the extraterritorial jurisdiction of the municipality to be a reinvestment zone if the governing body determines that development or redevelopment would not occur solely through private investment in the reasonably foreseeable future; and

WHEREAS, the City Council of the City (the "City Council ") desires for the City to consider the creation of a tax increment reinvestment zone with the boundaries described in the metes and bounds attached hereto as ***Exhibit A*** and more generally depicted in ***Exhibit B*** attached hereto (the "Zone"); and

WHEREAS, pursuant to and as required by the Act, the City has prepared a *Preliminary Project and Finance Plan for Reinvestment Zone Number Four, City of Kyle*, *Texas* dated March 7, 2023, attached as ***Exhibit C*** (hereinafter referred to as the "Preliminary Project and Finance Plan") for a proposed tax increment reinvestment zone containing the real property within the Zone; and

WHEREAS, notice of the public hearing on the creation of the proposed zone was published in the official newspaper of the City on or before January 31, 2023, which date is the seventh (7^{th}) day before the public hearing was opened on February 7, 2023, and

WHEREAS, on February 7, 2023, the City Council opened and left open a public hearing in accordance with Section 311.003(c) of the Act and interested persons were allowed to speak for or against the creation of the Zone, the boundaries of the Zone, and

the concept of tax increment financing, and owners of property in the proposed Zone were given a reasonable opportunity to protest the inclusion of their property in the Zone; and

WHEREAS, on March 7, 2023, the City Council continued the public hearing on the creation of the Zone and, after all comments and evidence, both written and oral, were received by the City Council, the public hearing was closed; and

WHEREAS, the public hearing was held in full accordance with Section 311.003(c) of the Act; and

WHEREAS, the City has taken all actions required to create the Zone including, but not limited to, all actions required by the home-rule Charter of the City, the Act, the Texas Open Meetings Act (defined herein), and all other laws applicable to the creation of the Zone; and

WHEREAS, the percentage of the property in the proposed zone, excluding property that is publicly owned, that is used for residential purposes is less than thirty percent (30%); and

WHEREAS, the total appraised value of taxable real property in the proposed zone and in existing reinvestment zones within the City does not exceed fifty percent (50%) of the total appraised value of the taxable real property in the City and in the industrial districts created by the City, if any; and

WHEREAS, a Preliminary Project and Finance plan has been prepared for the proposed reinvestment zone.

NOW THEREFORE , BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS, THAT:

SECTION 1. RECITALS INCORPORATED.

The facts and recitations contained in the preamble of this Ordinance are hereby found and declared to be true and correct and are incorporated and adopted as part of this Ordinance for all purposes.

SECTION 2. FINDINGS.

That the City Council, after conducting the above described hearing and having heard the evidence and testimony presented at the hearing, has made the following findings and determined based on the evidence and testimony presented to it:

(a) That the public hearing on the creation of the proposed reinvestment zone has been properly called, held and conducted and that notice of such hearing has been published as required by applicable law, including the Act; and

(b) That creation of the proposed reinvestment zone with boundaries as described and depicted in ***Exhibits A*** and ***B*** will result in benefits to the City, its residents and

property owners, in general, and to the property, residents and property owners in the reinvestment zone; and

(c) That the proposed reinvestment zone, as described and depicted in ***Exhibits A*** and ***B***, meets the criteria for the creation of a reinvestment zone set forth in the Act in that:

1. It is a geographic area located wholly within the corporate limits of the City; and

2. The area is predominately open, undeveloped or underdeveloped, and the lack of necessary public improvements substantially impairs sound growth of the City; and

(d) That thirty percent (30%) or less of the property in the proposed reinvestment zone, excluding property dedicated to public use, is currently used for residential purposes; and

(e) That the total appraised value of taxable real property in the proposed reinvestment zone according to the most recent appraisal rolls of the City, together with the total appraised value of taxable real property in all other existing reinvestment zones within the City, according to the most recent appraisal rolls of the City, does not exceed fifty percent (50%) of the current total appraised value of taxable real property in the City and in the industrial districts created by the City, if any; and

(f) That the improvements in the proposed reinvestment zone will significantly enhance the value of all taxable real property in the proposed reinvestment zone and will be of general benefit to the City; and

(g) That the development of the Property in the proposed reinvestment zone will not occur solely through private investment in the reasonably foreseeable future: and

(h) The City Council has prepared the Preliminary Project and Finance Plan prior to the execution of this Ordinance; and

(i) The City Council finds that the Preliminary Project and Finance Plan is feasible.

SECTION 3. DESIGNATION AND NAME OF THE ZONE.

Pursuant to the authority of, and in accordance with the requirements of the Act, the City Council hereby designates the area described and depicted in ***Exhibits A*** and ***B*** hereto as a tax increment reinvestment zone. The name assigned to the zone for identification is **Reinvestment Zone Number Four, City of Kyle, Texas** (hereinafter referred to as the "Zone'').

SECTION 4. BOARD OF DIRECTORS.

(a) The City Council hereby creates a board of directors for the Zone (hereinafter referred to as the "Board") consisting of seven (7) members all appointed by the City Council. The Mayor and Council Members may serve as Board members.

(b) The Board members appointed to the Board shall be eligible to serve on the Board if that person is at least 18 years of age, and is a resident of the county in which the Zone is located or a county adjacent to that county.

(c) The Board shall make recommendations to the City Council concerning the administration, management, and operation of the Zone. The Board shall prepare or cause to be prepared and adopt a project plan and a reinvestment zone financing plan for the Zone (hereinafter referred to as the "Project and Finance Plan") as required by the Act, and shall submit the Project and Finance Plan to the City Council for approval. The Board shall consider amendments to the Project and Finance Plan on its own initiative or upon submission by the City Council, but amendments considered by Board shall not take effect unless and until adopted by City Council.

(d) Directors shall not receive any salary or other compensation for their services as directors.

(e) Members of the Board shall be appointed for terms of two years. The terms of the Board members may be staggered. The City Council may remove and replace Board members at any time during a term.

(f) The initial Board shall be seven members and the following shall be members:

1. Mayor
2. City Councilmember, Place 1
3. City Councilmember, Place 2
4. City Councilmember, Place 3
5. City Councilmember, Place 4
6. City Councilmember, Place 5
7. City Councilmember, Place 6

The City Council hereby appoints Mayor to serve as chairman of the Board during the time the initial Board is serving. Each year the City shall appoint one member of the Board to serve as chairman for a term of one year that begins on January 1 of the year. If City Council does not appoint a chairman during that period, the Mayor is automatically appointed to serve as chairperson for the term that begins on January 1 of the following year. The Board may elect a vice-chairman to preside in the absence of the chairman or when there is a vacancy in the office of chairman. The Board may elect other officers as it considers appropriate.

SECTION 5. DURATION OF THE ZONE.

That the Zone shall take effect immediately upon the passage and approval of this Ordinance, consistent with Section 311.004(a)(3) of the Act, and termination of the Zone shall occur upon any of the following: (i) on December 31, 2063; or (ii) at such time that all project costs and other obligations of the Zone, and the interest thereon, have been paid in full, in accordance with Section 311.017 of the Act.

SECTION 6. TAX INCREMENT BASE AND TAX INCREMENT.

Pursuant to Section 311.012(c) of the Act, the tax increment base of the City is the total taxable value of all real property taxable by the City and located in the Zone for the year in which the Zone was designated as a reinvestment zone (the "Tax Increment Base"). That, consistent with Section 311.012(a) of the Act, the amount of the tax increment for a year is forty percent (**40.00%**) of real property taxes levied, assessed, and collected by the City (as set forth in an agreement to participate in the Zone) for that year on the Captured Appraised Value (defined below) of real property taxable by City and located in the Zone (the "Tax Increment"). Consistent with Section 311.012(b) of the Act, the Captured Appraised Value of real property taxable by the City for a year is the total appraised value of all real property taxable by the City and located in the Zone for that year less the Tax Increment Base (the "Captured Appraised Value").

SECTION 7. TAX INCREMENT FUND.

There is hereby created and established a "Tax Increment Fund" for the Zone that may be divided into subaccounts as authorized by subsequent ordinances, into which the Tax Increment of the City, as such increments are described in the Project and Finance Plan and includes administration costs, less any of the amounts not required to be paid into the Tax Increment Fund pursuant to the Act, are to be deposited. The Tax Increment Fund and any subaccounts shall be maintained at the affiliated depository bank of the City and shall be secured in the manner prescribed by law for funds of Texas cities. In addition, all revenues to be dedicated to and used in the Zone shall be deposited into the Tax Increment Fund from which money will be disbursed to pay project costs, plus interest, for the Zone, however excess funds may be transferred to the City's general fund as determined by the City.

SECTION 8. SEVERABILITY CLAUSE.

Should any provision , section, subsection, sentence, clause or phrase of this Ordinance be declared unconstitutional or invalid by a court of competent jurisdiction, it is expressly provided that any and all remaining portions of this Ordinance shall remain in full force and effect. The City hereby declares that it would have passed this Ordinance, and each provision, section, subsection, sentence, clause or phrase thereof irrespective of the fact that any one or more provisions, sections, subsections, sentences, clauses and phrases be declared unconstitutional or invalid.

SECTION 9. OPEN MEETINGS.

It is hereby found, determined, and declared that sufficient written notice of the date, hour, place and subject of the meeting of the City Council at which this Ordinance was adopted was posted at a place convenient and readily accessible at all times to the general public at the City Hall of the City for the time required by law preceding its meeting, as required by Chapter 551 of the Texas Government Code, as amended (the "Texas Open Meetings Act"), and that this meeting has been open to the public as required by law at all times during which this Ordinance and the subject matter hereof has been discussed,

considered and formally acted upon. The City Council further ratifies, approves and confirms such written notice and the contents and posting thereof.

SECTION 10. EFFECTIVE DATE.

This Ordinance shall take effect immediately upon its adoption and publication in accordance with and as provided by law and the City Charter.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS, THIS THE 7th DAY OF MARCH, 2023.

_____
Travis Mitchell, Mayor

ATTEST:

_____
Jennifer Kirkland, City Secretary

(CITY SEAL)

Exhibit A – Metes and bounds description

[TO COME]

Exhibit B – Map of the Zone

[TO COME]

Exhibit C – Preliminary Project and Finance Plan

CITY OF KYLE, TEXAS

2nd Amend Limestone Creek DA

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Consider and possible action on the Second Amendment to the Amended and Restated Limestone Creek Development Agreement. ~ *Paige Saenz, City Attorney*

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description
Second Amendment to DA - Limestone Creek Dev City Final
Second Am Ex A-1 Commercial Tracts 4858-0461-7023_1
2023.02.10 Development Agreement Exhibit C
2023.02.10 Development Agreement Exhibit D

SECOND AMENDMENT TO
AMENDED AND RESTATED
LIMESTONE CREEK DEVELOPMENT AGREEMENT

This Second Amendment to Amended and Restated Limestone Creek Development Agreement (this "Second Amendment") is made and entered into as of the _____, 2023 (the "Second Amendment Effective Date") by and among **The City of Kyle, Texas**, a home rule municipality situated in Hays County, Texas (the "City"), and **Meritage Homes of Texas, LLC,** an Arizona limited liability company, their successors and assigns (the "Developer"). The City and Developer are sometimes each individually herein referred to as a "Party" and sometimes collectively herein referenced as the "Parties".

RECITALS

A. Developer and City entered into that certain Amended and Restated Limestone Creek Development Agreement, dated June 21, 2022 (the "Amended and Restated Agreement"), which was amended by that certain First Amendment to Amended and Restated Limestone Creek Development Agreement, dated October 18, 2022 (the "First Amendment") in connection with the development of a master planned community, providing for, among other terms, certain development obligations of the Developer in return for consideration of special financing terms by the City.

B. Developer and City desire to modify and amend the Amended and Restated Agreement on the terms and conditions hereinafter set forth.

NOW, THEREFORE, for and in consideration of the mutual agreements, covenants, and conditions contained in this Second Amendment, and other good and valuable consideration, the City and Developer agree as follows:

1. The recitals set forth above are incorporated herein and made a part of this Second Amendment to the same extent as if set forth herein in full.

2. All capitalized terms in this Second Amendment shall have the same meanings as in the Amended and Restated Agreement unless expressly provided otherwise herein.

3. Section A of the Recitals of the Amended and Restated Agreement is hereby deleted and replaced with the following:

> A.Developer owns approximately 161.5 acres of land, more or less, located within the City and described by metes and bounds on the attached Exhibit "A" (the "Property"). Kyle Land Partners, LLC, the Consenting Party, owns approximately 17.841 acres of land, more or less adjacent to the Property and described by metes and bounds on the attached Exhibit

"A-1" (the "Commercial Tracts") which the Parties intend to be included, along with the Property, in the proposed TIRZ.

4. Section E of the Recitals of the Amended and Restated Agreement is hereby deleted and replaced with the following:

E. Prior to the Effective Date, the Property was subject to that certain Agreement Regarding Roadway and Drainage Improvements — Spooner Tract, entered into December 15, 2020 (the "Original Agreement") between the City and Sandera Land Development Company, LLC, as predecessor in interest to Developer (the "Previous Owner"), which provided for certain improvements to the Property for the benefit of the City. Sandera assigned the Roadway and Drainage Agreement to Kyle Land Partners, LLC, effective June 1, 2021. Developer subsequently acquired approximately 161.5 acres from Kyle Land Partners, LLC and Kyle Land Partners retained approximately 17.841 acres.

5. The Definition of "Eminent Domain Fees" in the Amended and Restated Agreement is hereby deleted and replaced with the following:

"**Eminent Domain Fees**" means the reasonable and necessary legal proceeding/litigation costs, compensation awards by courts or negotiated amounts for the condemned property interest, attorneys' fees, appraiser and expert witness fees, right-of-way and/or relocation agent fees, reasonable moving costs, replacement housing payments, and/or purchase supplements for displaced residents, interest, court costs, mediation fees, deposition costs, copy charges, courier fees, postage and taxable court costs.

6. The Definition of "Goforth Boulevard" in the Amended and Restated Agreement is hereby deleted and replaced with the following:

"**S. Goforth Road**" means the roadway that will be constructed to City standards in addition to the requirements set forth in Sections 5.03 and 6.03 in this Agreement, and as generally depicted on the Concept Plan and on Exhibit "C" attached hereto. The use of "Goforth Boulevard" in the Agreement shall mean "S. Goforth Road."

7. The following definition is hereby added to Article II Definitions in the Amended and Restated Agreement:

"Negotiated Settlement Fees" means the reasonable and necessary negotiated amounts for the property interest subject to a cap equal to the fair market appraisal of such property, attorneys' fees, appraiser fees, right-of-way and/or relocation agent fees, reasonable moving costs, replacement housing payments, and/or purchase supplements for displaced residents, interest, costs, copy charges, courier fees, and postage.

8. **Section 6.04**. Section 6.04 of the Amended and Restated Agreement is hereby deleted and replaced with the following:

(a) Off-Site Properties Acquisition.

(1) The Parties acknowledge that in order to facilitate the construction of the off-site portion of S. Goforth Road and its inclusion of same into the City's Transportation Master Plan network, the Off-Site Properties, consisting of no more than six (6) lots and any partial additional property that may need to be acquired for the construction of the off-site portion of S. Goforth Road, as generally shown in Exhibit "D" attached hereto, will need to be acquired by the City. Once acquired by the City, the City will own and maintain the Off-Site Properties.

(2) Construction of the off-site portion of S. Goforth Road, Access to acquired Off-Site Properties and Platting. The City hereby agrees to grant the Developer access to the Off-Site Properties after the City acquires the Off-Site Properties for purposes related to the construction of the off-site portion of S. Goforth Road pursuant to the submission by the Developer of a re-plat, or other instrument agreed to by the Parties, that includes the City as owner of the Off-Site Properties and the Off-Site Properties dedicated as right-of-way. Developer agrees to construct the off-site portion of S. Goforth Road to City standards in addition to the requirements set forth in Sections 5.03 and 6.03. Developer further agrees that in its agreement with the contractor for the construction of the off-site portion of S. Goforth Road, cause the contractor to: (i) carry commercial general liability insurance, with a combined single limit of not less than one million and No/100 Dollars ($1,000,000.00), which coverage may be provided in the form of a rider and/or endorsement to a previously existing insurance policy and such insurance coverage shall specifically name the City as an additional insured; and (ii) indemnify, defend, and hold harmless the City and its officers, agents and employees against all claims, suits, demands, judgments, expenses, including attorney's fees, or other liability for personal injury, death, or damage to any person or property which arises from or is in any manner caused by the construction or installation of the off-site portion of S. Goforth Road or use of the Off-Site Properties by the contractor.

(3) As a condition to requiring the Developer to construct the off-site portion of S. Goforth Road outside the Property, the City shall use its best efforts and pursue all reasonable actions to secure the Off-Site Properties, including consideration of the use of the City's power of eminent domain or negotiated settlement. If the City takes such eminent domain action or negotiated settlement pursuant to an acquisition, the Developer shall fund all reasonable and necessary Negotiated Settlement Fees or Eminent Domain Fees paid or incurred by the City in the exercise of its eminent domain powers or general acquisition powers and shall escrow with a mutually agreed upon escrow agent the City's reasonably estimated Negotiated Settlement Fees or Eminent Domain Fees both in advance of the initiations of each eminent domain proceeding or negotiated acquisition and as funds are needed by the City. If the escrow fund remains appropriately funded in accordance with this Agreement and in accordance with the City's discretionary governmental powers, the City will use all reasonable efforts to expedite such condemnation procedures so that the off-site portion of S. Goforth Road can be constructed as soon as reasonably practicable. If the Eminent Domain Fees exceed the amount of funds escrowed in accordance with this paragraph, Developer shall

deposit additional funds as requested by the City into the escrow account within ten (10) days after written notice from the City. Any unused escrow funds will be refunded to Developer within thirty (30) days after any condemnation award or settlement becomes final and non-appealable. Nothing in this subsection is intended to constitute a delegation of the police powers or governmental authority of the City, and the City reserves the right, at all times, to control its proceedings in eminent domain.

(4) To the extent Eminent Domain Fees and/or Negotiated Settlement Fees are paid by the Developer, the Developer may seek reimbursement of any or all eligible Eminent Domain Fees and/or Negotiated Settlement Fees from PID Bonds, or if PID Bonds are not issued, Assessments. The Developer may seek reimbursement of Eminent Domain Fees and/or Negotiated Settlement Fees from TIRZ proceeds, if a determination is made that any Eminent Domain Fees and/or Negotiated Settlement Fees are not reimbursable from the PID but are eligible for reimbursement from the TIRZ.

(b) Relocation Plan.

(1) The Parties acknowledge that no more than six (6) residences, as shown on Exhibit D, will be displaced as a result of condemnation proceedings and/or negotiated settlement and may be eligible for relocation assistance through the implementation of a relocation plan (the "Relocation Plan" or "Plan"). Through the Relocation Plan, residents of each displaced residence will be given sufficient time to plan for an orderly, timely, and efficient move. Information regarding the Relocation Plan will be provided to the residents individually and may also be provided and discussed at City initiated public hearings, town hall meetings or both, as may be necessary. In addition to the acquisition costs for [real] property acquired, certain displaced persons may also be eligible for relocation benefits (including reasonable moving costs, replacement housing payments, and/or purchase supplements). Relocation services will be provided by a relocation expert retained by the City in order to ensure that displaced persons are relocated to decent, safe, and sanitary housing.

(2) As part of the Eminent Domain Fees and/or Negotiated Settlement Fees, Developer agrees to pay for all reasonable and necessary costs associated with the implementation of the Relocation Plan, including but not limited to, the City's cost in retaining a right-of-way and/or relocation agent(s).

(3) If there is a dispute by the Developer on the amount of additional funds requested by the City, the Developer shall give written notice to the City of the amount disputed and the specific basis for the dispute within five (5) days of receipt of the City's additional funds request. The Parties shall cooperate to resolve any dispute permitted under this paragraph promptly in order to avoid a default under this

Amended and Restated Agreement. The Developer agrees to deposit with the City the amount not in dispute or another amount in order to not delay the eminent domain proceedings and/or negotiated settlement while the dispute is being resolved.

9. **Section 12.21**. The following section is hereby added to the Amended and Restated Agreement:

12.21. Acceptance of Authorized Improvements. The Parties acknowledge and confirm that any Authorized Improvements identified in a PID Service and Assessment Plan approved by the City for the Property, will only be acquired by the City through the City's formal process for accepting Authorized Improvements and with the proceeds of PID Assessments, PID bond proceeds, or TIRZ proceeds. For off-site Authorized Improvements, Developer shall request acceptance of the off-site Authorized Improvements in writing to the City Engineer and City Engineer shall provide Developer an acceptance letter once the City Engineer deems the off-site Authorized Improvements completed and ready for acceptance. For on-site Authorized Improvements, Developer shall request acceptance of the on-site Authorized Improvements in writing to the City Engineer and the City Engineer shall place the request on the City Council agenda for City Council acceptance approval once the City Engineer deems the on-site Authorized Improvements completed and ready for acceptance.

10. **Additional Exhibits**. Exhibit "A-1" Commercial Tracts is hereby added as an exhibit to the Amended and Restated Agreement.

11. **Replaced Exhibits**. Exhibits "C" S. Goforth Road, and "D" Off-Site Properties to the Amended and Restated Agreement are hereby deleted and replaced with the following:

Exhibit "C" S. Goforth Road and Drainage
Exhibit "D" Off-Site Properties (showing connection to S. Goforth Road). At the request of city staff, a vehicular connection shall be made between the southern, east/west alignment of Quail Ridge Drive to S. Goforth Road, as depicted in Exhibit D. Developer is not responsible for any other improvements to Quail Ridge Drive or nearby residential driveways.

12. **Incorporation of Amended and Restated Development Agreement**. The Amended and Restated Agreement is incorporated herein by reference for all purposes.

13. **Ratification and Compliance**. Except as expressly amended or modified by this Second Amendment, the Amended and Restated Agreement and First Amendment shall continue in full force and effect. The City and Developer each hereby ratify, affirm, and agree that the Amended and Restated Agreement and First Amendment, as herein modified, represent the valid, binding, and enforceable obligations of Developer and the City respectively. Developer and the City each promise and agree to perform and comply with the terms, provision, and conditions of and the agreements in the Amended and Restated Agreement, as modified by this Second Amendment. In the event of any conflict or inconsistency between the provisions of

the Amended and Restated Agreement, the First Amendment and this Second Amendment, the provisions of this Second Amendment shall control and govern.

14. Binding. This Second Amendment shall be binding on and inure to the benefit of City, Developer, and their respective heirs, executors, administrators, legal representatives, successors and assigns.

15. Governing Law. This Second Amendment shall be construed and governed by the laws of the State of Texas in effect from time to time.

16. No Waiver. Neither City's nor Developer's execution of this Second Amendment shall (a) constitute a waiver of any of its rights and remedies under the Amended and Restated Agreement and the First Amendment, or at law with respect to the other party's obligations under the Amended and Restated Agreement and First Amendment; or (b) be construed as a bar to any subsequent enforcement of any of its rights or remedies against the other party.

17. Section Headings. The section headings used herein are intended for reference purposes only and shall not be considered in the interpretation of the terms and conditions hereof.

18. Construction. Each party acknowledges that is and its counsel have had the opportunity to review this Amendment; that the normal rule of construction shall not be applicable and there shall be no presumption that any ambiguities will be resolved against the drafting party in interpretation of this Amendment.

19. Counterparts. This Amendment may be executed in any number of counterparts, all of which taken together shall constitute one and the same agreement, and any parties to this Amendment may execute the Amendment by signing any of the counterparts.

20. Boycotts and Foreign Business Engagements.

A. The Developer hereby verifies that it and its parent company, wholly- or majority-owned subsidiaries, and other affiliates, if any, do not boycott Israel and, to the extent this Second Amendment is a contract for goods or services, will not boycott Israel during the term of this Second Amendment. The foregoing verification is made solely to comply with Section 2271.002, Texas Government Code, and to the extent such Section does not contravene applicable State or federal law. As used in the foregoing verification, 'boycott Israel' means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes. The Developer understands 'affiliate' to mean an entity that controls, is controlled by, or is under common control with the Developer and exists to make a profit.

B. The Developer represents that neither it nor any of its respective parent companies, wholly- or majority-owned subsidiaries, and other affiliates is a company identified on a list prepared and maintained by the Texas Comptroller of Public Accounts under Section 2252.153 or Section 2270.0201, Texas Government Code, and posted on any of the following pages of such

officer's internet website: https://comptroller.texas.gov/purchasing/docs/sudan-list.pdf, https://comptroller.texas.gov/purchasing/docs/iran-list.pdf, or https://comptroller.texas.gov/purchasing/docs/fto-list.pdf. The foregoing representation is made solely to comply with Section 2252.152, Texas Government Code, and to the extent such Section does not contravene applicable Federal law and excludes the Developer and its respective parent companies, wholly- or majority-owned subsidiaries, and other affiliates, if any, that the United States government has affirmatively declared to be excluded from its federal sanctions regime relating to Sudan or Iran or any federal sanctions regime relating to a foreign terrorist organization. The Developer understands "affiliate" to mean any entity that controls, is controlled by, or is under common control with the Developer and exists to make a profit.

C. Firearm Entity Boycotts. To the extent this Second Amendment constitutes a contract for the purchase of goods or services for which a written verification is required under Section 2274.002, Texas Government Code, (as added by Senate Bill 19, 87th Texas Legislature, Regular Session, "SB 19"), as amended, the Developer hereby verifies that it and its parent company, wholly- or majority- owned subsidiaries, and other affiliates, if any,

(1) do not have a practice, policy, guidance or directive that discriminates against a firearm entity or firearm trade association; and

(2) will not discriminate during the term of this Second Amendment against a firearm entity or firearm trade association.

The foregoing verification is made solely to comply with Section 2274.002, Texas Government Code, as amended, to the extent Section 2274.002, Texas Government Code does not contravene applicable Texas or federal law. As used in the foregoing verification, "discriminate against a firearm entity or firearm trade association" shall have the meaning assigned to such term in Section 2274.001(3), Texas Government Code (as added by SB 19). The Developer understands "affiliate" to mean an entity that controls, is controlled by, or is under common control with the Developer and exists to make a profit.

D. Energy Company Boycotts. To the extent this Second Amendment constitutes a contract for goods or services for which a written verification is required under Section 2274.002, Texas Government Code, (as added by Senate Bill 13, 87th Texas Legislature, Regular Session) as amended, the Developer hereby verifies that it and its parent company, wholly- or majority- owned subsidiaries, and other affiliates, if any, do not boycott energy companies and, will not boycott energy companies during the term of this Second Amendment. The foregoing verification is made solely to comply with Section 2274.002, Texas Government Code, as amended, to the extent Section 2274.002, Texas Government Code does not contravene applicable Texas or federal law. As used in the foregoing verification, "boycott energy companies" shall have the meaning assigned to the term "boycott energy company" in Section 809.001, Texas Government Code. The Developer understands "affiliate" to mean an entity that controls, is controlled by, or is under common control with the Trustee and exists to make a profit.

21. 1295 Compliance. Section 2252.908 of the Texas Government Code requires that for certain types of contracts, you must fill out a conflict of interest form ("Disclosure of Interested Parties") at the time you submit your signed contract to the City. For further information please go to the Texas Ethics Commission website via the following link.

https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm. The City has no obligation under this Second Amendment until such form is accurately completed and properly submitted, and any City obligation is conditioned on such proper completion and submission.

[Signature pages follow]

EXECUTED in multiple counterparts, each of which shall constitute an original, as of the____ day of _____, 20__.

CITY:

CITY OF KYLE, TEXAS
a Texas home-rule municipal corporation

Attest:

By:_____
Name: Jennifer Kirkland
Title: City Secretary

By:_____
Name: Travis Mitchell
Title: Mayor

THE STATE OF TEXAS §
COUNTY OF HAYS §

This instrument was acknowledged before me on this ____ day of _____, 2023, by Travis Mitchell, Mayor of the City of Kyle, Texas, a Texas home-rule municipal corporation, on behalf of said corporation.

(SEAL)

_____
Notary Public, State of Texas

EXECUTED in multiple counterparts, each of which shall constitute an original, as of the____ day of _____, 20__.

DEVELOPER:

Meritage Homes of Texas, LLC
an Arizona limited liability company

By:_____
Name:
Title:

THE STATE OF TEXAS §
COUNTY OF TRAVIS §

This instrument was acknowledged before me on this ____ day of _____, 2023, by _____, as _____ of Meritage Homes of Texas, LLC, an Arizona limited liability company, on behalf of said limited liability company.

_____
(SEAL) Notary Public, State of Texas

EXECUTED in multiple counterparts, each of which shall constitute an original, as of the____ day of _____, 20__.

CONSENTING PARTY:

Kyle Land Partners, LLC
a Texas limited liability company
By:_____
Name:_____
Title:_____

EXHIBIT “A-1”
COMMERCIAL TRACTS

A DESCRIPTION OF 11.946 ACRES IN THE JAMES W. WILLIAMS SURVEY NO. 11, ABSTRACT 473, HAYS COUNTY, TEXAS, BEING OUT OF A CALLED 134 1/2 ACRE TRACT OF LAND CONVEYED TO JOHN H. SPOONER, IN VOLUME 2940, PAGE 806 OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY TEXAS (OPRHCT); SAID 11.946 ACRES BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

COMMENCING at a 1/2-inch iron rod found at the west corner of said 134 1/2 acre tract, same being the north corner of Lot 86, Quail Ridge Subdivision, recorded in Volume 2, Page 337 of the Plat Records of Hays County, Texas (OPRHCT), also being in the southeast right-of-way-line of E Post Road (right-of-way width varies);

THENCE, with the northwest line of said 134 1/2 acre tract, same being the southeast right-of-way line of E Post Road, **N43°16'11"E**, at a distance of **122.88** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set in the northwest line of said 134 1/2 acre tract, the same being in the southeast right-of-way line of said E Post Road and in the north right-of-way line of a 7.87 acre tract (80' wide road) conveyed to LaSalle Municipal Utility District No. 1 in Document No. 21016927 ORHCT, being the **POINT OF BEGINNING** hereof;

THENCE, leaving the 7.87 acre right-of-way tract, continuing with the northwest line of said 134 1/2 acre tract, same being the southeast right-of-way line of E Post Road, **N43°16'11"E**, at a distance of **865.89** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set in the northwest line of said 134 1/2 acre tract, the same being the southeast right-of-way line of said E Post Road from which a calculated point at the north corner of said 134 1/2 acre tract bears N43°16'11"E a distance of 471.57 feet;

THENCE, leaving E Post Road and across said 134 1/2 acre tract the following four (4) courses and distances:

1) **S47°21'20"E**, a distance of **480.45** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set,

2) with a curve to the left, having a radius of 330.00 feet, a delta angle of 23°38'24", an arc length of 136.16 feet, and a chord which bears **S14°33'37"W**, a distance of **135.19** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set,

3) **S02°44'25"W**, a distance of **419.43** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set, and,

4) with a curve to the right, having a radius of 20.00 feet, a delta angle of 90°26'03", an arc length of 31.57 feet, and a chord which bears **S47°57'26"W**, a distance of **28.39** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set in the north right-of-way line of the previously mentioned 7.87 acre roadway conveyed in Document Number 21016927, ORHCT ;

THENCE, across said 134 1/2 acre tract and with said north right-of-way of the 7.87 acre roadway tract the following four (4) courses and distances:

1) **N86°49'32"W**, a distance of **279.81** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set,

2) with a curve to the right, having a radius of 960.25 feet, a delta angle of 31°34'30", an arc length of 529.18 feet, and a chord which bears **N71°23'26"W**, a distance of **522.51** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set,

3) **N55°36'03"W**, a distance of **114.06** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set, and,

4) **N10°17'05"W**, a distance of **17.41** feet to the **POINT OF BEGINNING** hereof, and containing 11.946 acres, more or less.

Surveyed on the ground May 20, 2021. Bearing Basis: Grid North on The Texas Coordinate System of 1983 (NAD83), South Central Zone, based on GPS solutions. Attachments: drawing 1960-001-PLAT EXCEPTION-NORTH

6/5/21

Phillip C. Payne, RPLS
State of Texas #6064

NOTES:

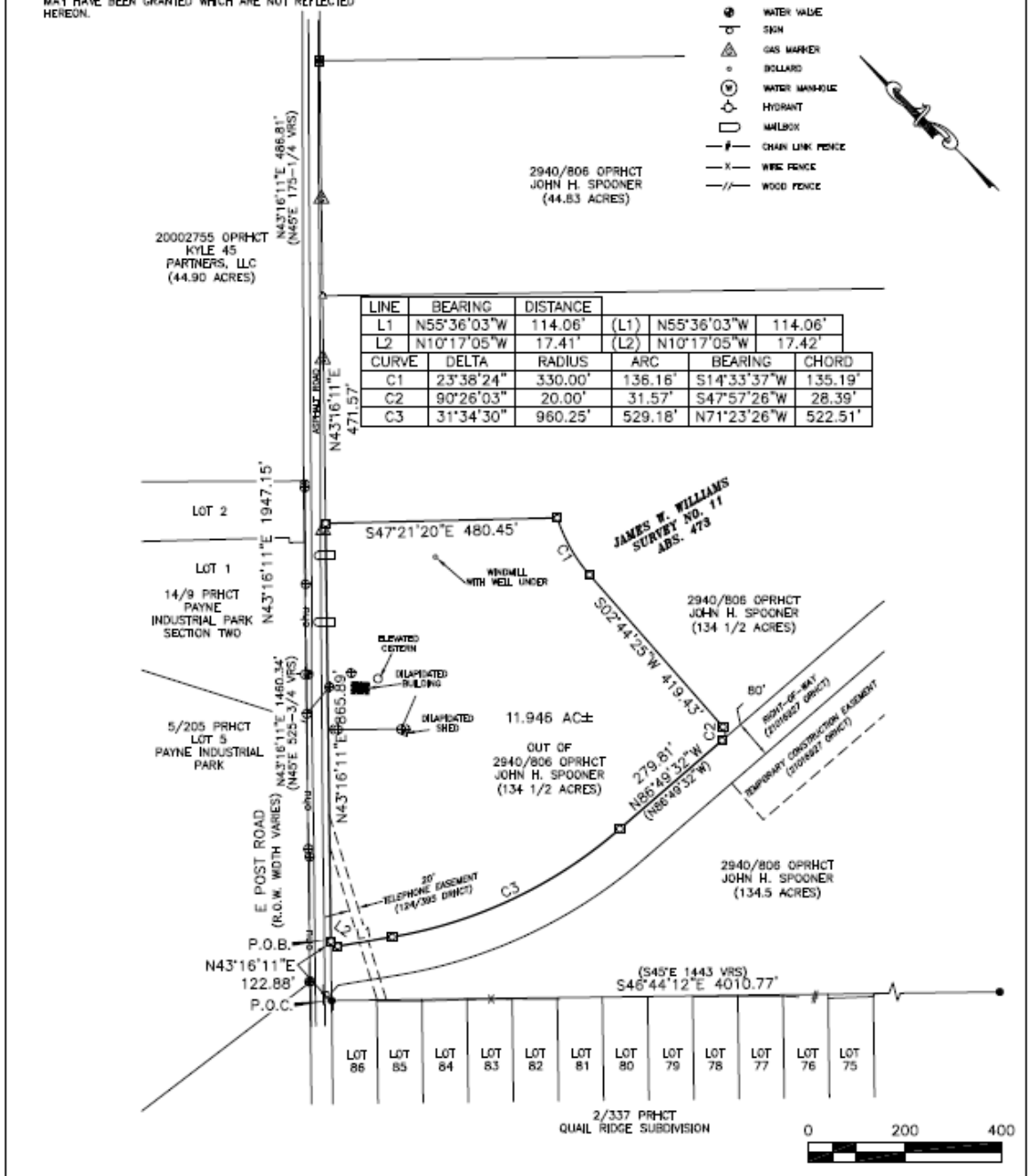
1. FENCES MEANDER.
2. BEARINGS, DISTANCES AND AREAS IN PARENTHESIS ARE FROM RECORD INFORMATION.
3. ACCORDING TO HORIZONTAL SCALING FROM THE CURRENT F.E.M.A. FLOOD INSURANCE RATE MAP NO. 48209C0405F, DATED SEPTEMBER 2, 2005, THIS TRACT DOES NOT LIE WITHIN ZONE A OR ZONE AE.
4. ATTACHMENTS: METES AND BOUNDS DESCRIPTION 1960-001-11.946 ACRE TRACT
5. THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT AND THIS SURVEYOR DID NOT RESEARCH THE DEED RECORDS FOR PREVIOUS CONFLICTS IN TITLE OR EASEMENT, THEREFORE, CERTAIN EASEMENTS MAY HAVE BEEN GRANTED WHICH ARE NOT REFLECTED HEREON.

CONTROL/BEARING BASIS INFORMATION

BEARING BASIS: GRID NORTH ON THE TEXAS COORDINATE SYSTEM OF 1983 (NAD83), SOUTH CENTRAL ZONE, BASED ON GPS SOLUTIONS.

LEGEND

OPRHCT	OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS
PRHCT	PLAT RECORDS OF HAYS COUNTY, TEXAS
DRHCT	DEED RECORDS OF HAYS COUNTY, TEXAS
VRS	VARIAS
■	1/2" IRON ROD FOUND WITH A PLASTIC CAP STAMPED "RPLS 4046" OR OTHERWISE NOTED
●	1/2" IRON ROD FOUND UNLESS OTHERWISE NOTED
△	CALCULATED POINT
⊡	1/2" IRON ROD SET WITH A PLASTIC CAP STAMPED "PAYNE 6064"
⊕	UTILITY POLE, OVERHEAD UTILITY LINE, GUY
⊛	WATER VALVE
⊤	SIGN
◬	GAS MARKER
○	BOLLARD
Ⓦ	WATER MANHOLE
⊹	HYDRANT
▭	MAILBOX
—#—	CHAIN LINK FENCE
—X—	WIRE FENCE
—//—	WOOD FENCE



LINE	BEARING	DISTANCE			
L1	N55°36'03"W	114.06'	(L1)	N55°36'03"W	114.06'
L2	N10°17'05"W	17.41'	(L2)	N10°17'05"W	17.42'

CURVE	DELTA	RADIUS	ARC	BEARING	CHORD
C1	23°38'24"	330.00'	136.16'	S14°33'37"W	135.19'
C2	90°26'03"	20.00'	31.57'	S47°57'26"W	28.39'
C3	31°34'30"	960.25'	529.18'	N71°23'26"W	522.51'

ADDRESS: 6605 E. POST ROAD KYLE, TX 78640

JOB NUMBER: 1960-001-PLAT EXCEPTION NORTH

CLIENT: SANDERA LAND CO.

DATE: 6/5/2021

FIELD CREW: DV/BJ/ZB/LB

OFFICE: RM/LB/ED/PP

FB/PG: 9/16 AND 8V22/22

A BOUNDARY SURVEY WITH IMPROVEMENTS OF 11.946 ACRES, IN THE JAMES W. WILLIAMS SURVEY NO. 11, ABSTRACT 473, HAYS COUNTY, TEXAS, BEING PART OF A CALLED 134 1/2 ACRE TRACT OF LAND CONVEYED TO JOHN H. SPOONER, IN VOLUME 2940, PAGE 806 OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS

STATE OF TEXAS REGISTERED PHILLIP C. PAYNE 6064 PROFESSIONAL LAND SURVEYOR

I HEREBY STATE TO THE BEST OF MY KNOWLEDGE: THAT THIS PLAT IS TRUE AND CORRECT ACCORDING TO AN ACTUAL SURVEY MADE ON THE GROUND ON MAY 20, 2021; THAT ALL CORNERS ARE MONUMENTED AS SHOWN HEREON; AND THAT THERE ARE NO VISIBLE ENCROACHMENTS OR OVERLAPPING OF IMPROVEMENTS, EXCEPT AS SHOWN OR NOTED HEREON.

6/5/2021

PHILLIP C. PAYNE, R.P.L.S. NO. 6064
FIRM NO. 10194453

CITY OF KYLE,
HAYS COUNTY, TEXAS

PAYNE INDUSTRIES

302 W. Hopkins, Ste. 1A, San Marcos, TX 78666
(512) 663-0004 www.payne-llc.com

NOTES:

1. FENCES MEANDER.
2. BEARINGS, DISTANCES AND AREAS IN PARENTHESIS ARE FROM RECORD INFORMATION.
3. ACCORDING TO HORIZONTAL SCALING FROM THE CURRENT F.E.M.A. FLOOD INSURANCE RATE MAP NO. 48209C0405F, DATED SEPTEMBER 2, 2005, THIS TRACT DOES NOT LIE WITHIN ZONE A OR ZONE AE.
4. ATTACHMENTS: METES AND BOUNDS DESCRIPTION 1960-001-5.895 ACRE TRACT
5. THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT AND THIS SURVEYOR DID NOT RESEARCH THE DEED RECORDS FOR PREVIOUS CONFLICTS IN TITLE OR EASEMENT, THEREFORE, CERTAIN EASEMENTS MAY HAVE BEEN GRANTED WHICH ARE NOT REFLECTED HEREON.

CONTROL/BEARING BASIS INFORMATION

BEARING BASIS: GRID NORTH ON THE TEXAS COORDINATE SYSTEM OF 1983 (NAD83), SOUTH CENTRAL ZONE, BASED ON GPS SOLUTIONS.

LEGEND

OPRHCT	OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS
PRHCT	PLAT RECORDS OF HAYS COUNTY, TEXAS
DRHCT	DEED RECORDS OF HAYS COUNTY, TEXAS
VRS	VARIAS
■	1/2" IRON ROD FOUND WITH A PLASTIC CAP STAMPED "RPLS 4046" OR OTHERWISE NOTED
●	1/2" IRON ROD FOUND UNLESS OTHERWISE NOTED
△	CALCULATED POINT
⊠	1/2" IRON ROD SET WITH A PLASTIC CAP STAMPED "PAYNE 6064"
ohu	UTILITY POLE, OVERHEAD UTILITY LINE, GUY
	WATER VALVE
	SIGN
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	BOLLARD
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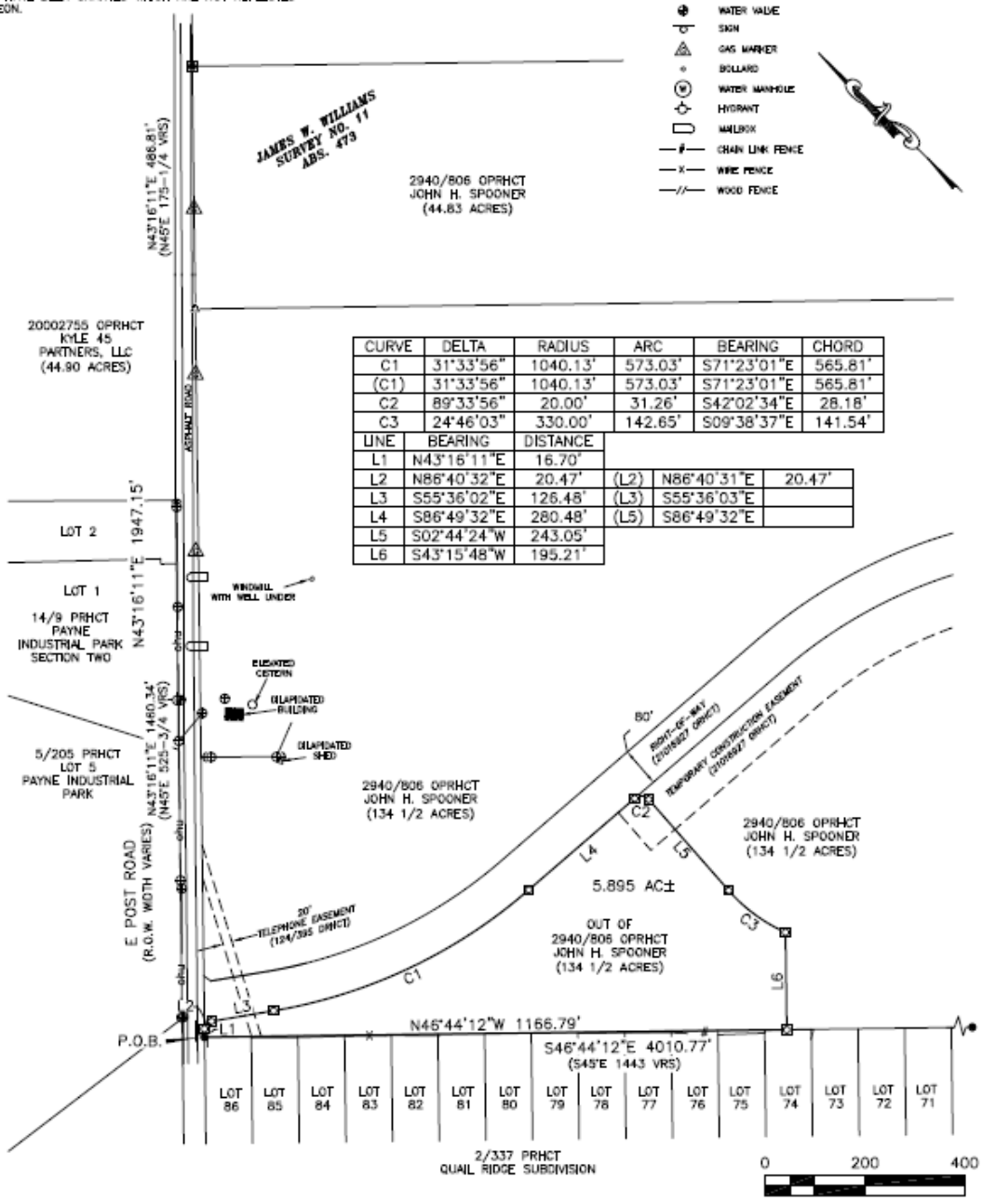


CURVE	DELTA	RADIUS	ARC	BEARING	CHORD
C1	31°33'56"	1040.13'	573.03'	S71°23'01"E	565.81'
(C1)	31°33'56"	1040.13'	573.03'	S71°23'01"E	565.81'
C2	89°33'56"	20.00'	31.26'	S42°02'34"E	28.18'
C3	24°46'03"	330.00'	142.65'	S09°38'37"E	141.54'

LINE	BEARING	DISTANCE			
L1	N43°16'11"E	16.70'			
L2	N86°40'32"E	20.47'	(L2)	N86°40'31"E	20.47'
L3	S55°36'02"E	126.48'	(L3)	S55°36'03"E	
L4	S86°49'32"E	280.48'	(L5)	S86°49'32"E	
L5	S02°44'24"W	243.05'			
L6	S43°15'48"W	195.21'			

ADDRESS: 6605 E. POST ROAD KYLE, TX 78640 JOB NUMBER: 1960-001-PLAT EXCEPTION NORTH CLIENT: SANDERA LAND CO. DATE: 6/10/2021 FIELD CREW: DV/BJ/ZB/LB OFFICE: RM/LB/ED/PP FB/PG: 9/16 AND BV22/22	A BOUNDARY SURVEY WITH IMPROVEMENTS OF 5.895 ACRES, IN THE JAMES W. WILLIAMS SURVEY NO. 11, ABSTRACT 473, HAYS COUNTY, TEXAS, BEING PART OF A CALLED 134 1/2 ACRE TRACT OF LAND CONVEYED TO JOHN H. SPOONER, IN VOLUME 2940, PAGE 806 OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS	STATE OF TEXAS REGISTERED PHILLIP C. PAYNE 6064 PROFESSIONAL LAND SURVEYOR	I HEREBY STATE TO THE BEST OF MY KNOWLEDGE: THAT THIS PLAT IS TRUE AND CORRECT ACCORDING TO AN ACTUAL SURVEY MADE ON THE GROUND ON MAY 20, 2021; THAT ALL CORNERS ARE MONUMENTED AS SHOWN HEREON; AND THAT THERE ARE NO VISIBLE ENCROACHMENTS OR OVERLAPPING OF IMPROVEMENTS, EXCEPT AS SHOWN OR NOTED HEREON. 6/10/2021 PHILLIP C. PAYNE, R.P.L.S. NO. 6064 FIRM NO. 10194453	CITY OF KYLE, HAYS COUNTY, TEXAS PAYNE INDUSTRIES 322 W. Hopkins, Ste. 1A, San Marcos, TX 78666 (512) 665-0004 www.payne-tx.com

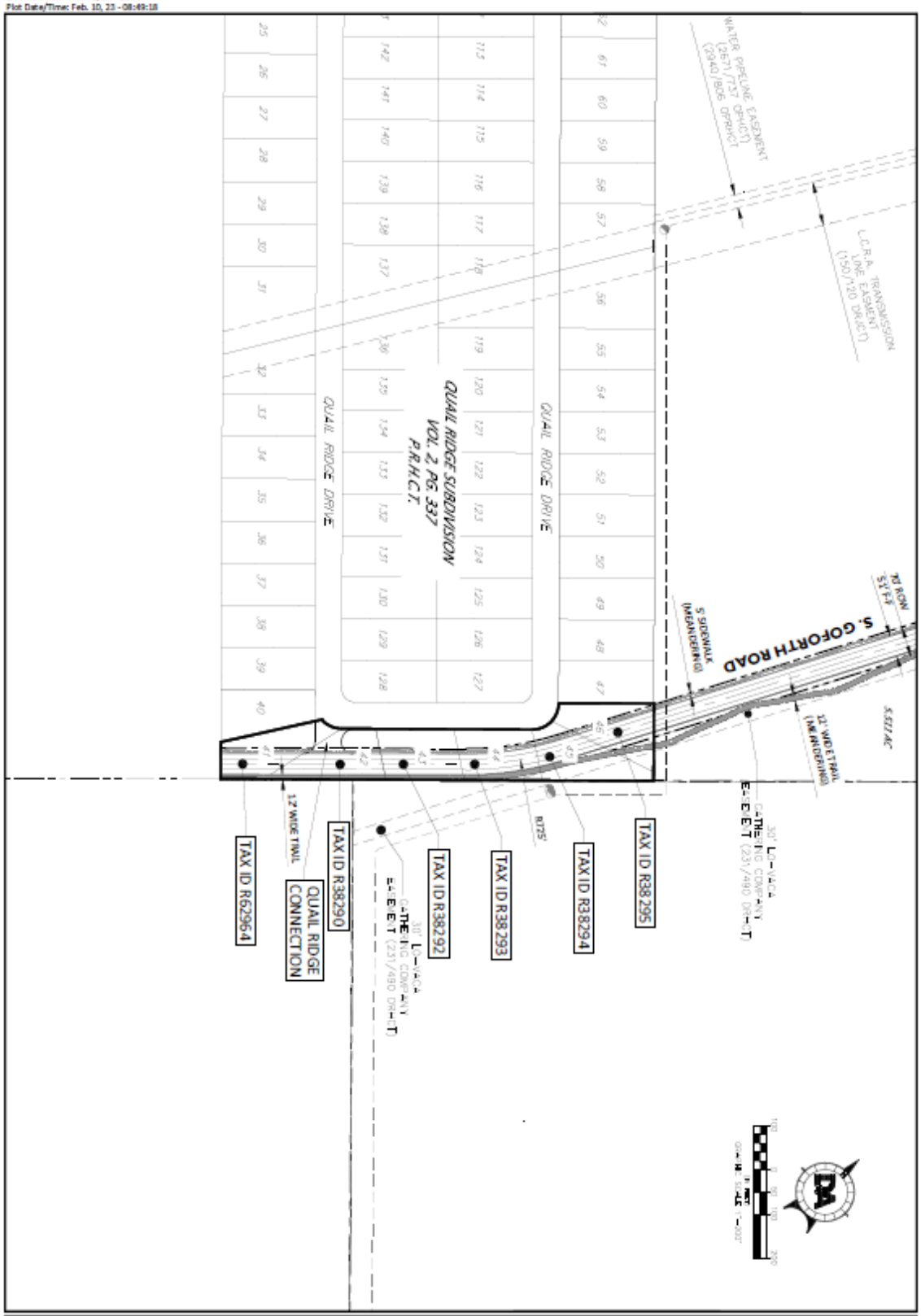
EXHIBIT “C”
S. GOFORTH ROAD AND DRAINAGE

Drawing: C:\pw_working\jean.crandon\dms98171\Development Agreement Exhibit C & D.dwg
User: SCRANDON
Last Modified: Feb. 10, 23 - 13:38
Plot Date/Time: Feb. 10, 23 - 13:38:47

Scale: 1" = 6' Date: 02/10/23 Project No.: 3691-009	LIMESTONE CREEK SUBDIVISION KYLE, TEXAS	DEVELOPMENT AGREEMENT EXHIBIT C	DOUCET Civil Engineering | Entitlements | Geospatial 7401 B. Highway 71 W, Ste. 160 Austin, TX 78735, Tel: (512)-583-2600 www.doucetengineers.com TBPE Firm Number: 3937 TBPELS Firm Number: 10105800

EXHIBIT “D”
OFF-SITE PROPERTIES
(showing connection to S. Goforth Road)

Drawing: C:\pw_working\pwan.crandon\dmx98171\Development Agreement Exhibit C & D.dwg
User: SCRANDON
Last Modified: Feb. 02, 23 - 11:50
Plot Date/Time: Feb. 10, 23 - 08:49:18



Scale: 1" = 200'	LIMESTONE CREEK SUBDIVISION KYLE, TEXAS	DEVELOPMENT AGREEMENT QUAIL RIDGE ACQUIRED LOTS EXHIBIT D	DOUCET Civil Engineering | Entitlements | Geospatial 7401 B. Highway 71 W, Ste. 160 Austin, TX 78735, Tel: (512)-583-2600 www.doucetengineers.com TBPE Firm Number: 3937 TBPELS Firm Number: 10105800
Date: 02/02/2023			
Project No.: 3691-009			

A DESCRIPTION OF 11.946 ACRES IN THE JAMES W. WILLIAMS SURVEY NO. 11, ABSTRACT 473, HAYS COUNTY, TEXAS, BEING OUT OF A CALLED 134 1/2 ACRE TRACT OF LAND CONVEYED TO JOHN H. SPOONER, IN VOLUME 2940, PAGE 806 OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY TEXAS (OPRHCT); SAID 11.946 ACRES BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

COMMENCING at a 1/2-inch iron rod found at the west corner of said 134 1/2 acre tract, same being the north corner of Lot 86, Quail Ridge Subdivision, recorded in Volume 2, Page 337 of the Plat Records of Hays County, Texas (OPRHCT), also being in the southeast right-of-way-line of E Post Road (right-of-way width varies);

THENCE, with the northwest line of said 134 1/2 acre tract, same being the southeast right-of-way line of E Post Road, **N43°16'11"E**, at a distance of **122.88** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set in the northwest line of said 134 1/2 acre tract, the same being in the southeast right-of-way line of said E Post Road and in the north right-of-way line of a 7.87 acre tract (80' wide road) conveyed to LaSalle Municipal Utility District No. 1 in Document No. 21016927 ORHCT, being the **POINT OF BEGINNING** hereof;

THENCE, leaving the 7.87 acre right-of-way tract, continuing with the northwest line of said 134 1/2 acre tract, same being the southeast right-of-way line of E Post Road, **N43°16'11"E**, at a distance of **865.89** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set in the northwest line of said 134 1/2 acre tract, the same being the southeast right-of-way line of said E Post Road from which a calculated point at the north corner of said 134 1/2 acre tract bears N43°16'11"E a distance of 471.57 feet;

THENCE, leaving E Post Road and across said 134 1/2 acre tract the following four (4) courses and distances:

1) **S47°21'20"E**, a distance of **480.45** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set,

2) with a curve to the left, having a radius of 330.00 feet, a delta angle of 23°38'24", an arc length of 136.16 feet, and a chord which bears **S14°33'37"W**, a distance of **135.19** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set,

3) **S02°44'25"W**, a distance of **419.43** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set, and,

4) with a curve to the right, having a radius of 20.00 feet, a delta angle of 90°26'03", an arc length of 31.57 feet, and a chord which bears **S47°57'26"W**, a distance of **28.39** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set in the north right-of-way line of the previously mentioned 7.87 acre roadway conveyed in Document Number 21016927, ORHCT ;

THENCE, across said 134 1/2 acre tract and with said north right-of-way of the 7.87 acre roadway tract the following four (4) courses and distances:

1) **N86°49'32"W,** a distance of **279.81** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set,

2) with a curve to the right, having a radius of 960.25 feet, a delta angle of 31°34'30", an arc length of 529.18 feet, and a chord which bears **N71°23'26"W**, a distance of **522.51** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set,

3) **N55°36'03"W,** a distance of **114.06** feet to a 1/2-inch iron rod with "PAYNE 6064" cap set, and,

4) **N10°17'05"W**, a distance of **17.41** feet to the **POINT OF BEGINNING** hereof, and containing 11.946 acres, more or less.

Surveyed on the ground May 20, 2021. Bearing Basis: Grid North on The Texas Coordinate System of 1983 (NAD83), South Central Zone, based on GPS solutions. Attachments: drawing 1960-001-PLAT EXCEPTION-NORTH

6/5/21

Phillip C. Payne, RPLS
State of Texas #6064

NOTES

1. FENCES MEANDER.
2. BEARINGS, DISTANCES AND AREAS IN PARENTHESIS ARE FROM RECORD INFORMATION.
3. ACCORDING TO HORIZONTAL SCALING FROM THE CURRENT F.E.M.A. FLOOD INSURANCE RATE MAP NO. 48290C0405F, DATED SEPTEMBER 2, 2005, THIS TRACT DOES NOT LIE WITHIN ZONE A OR ZONE AE.
4. ATTACHMENTS: METES AND BOUNDS DESCRIPTION 1960–001–11.946 ACRE TRACT
5. THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT AND THIS SURVEYOR DID NOT RESEARCH THE DEED RECORDS FOR PREVIOUS CONFLICTS IN TITLE OR EASEMENT, THEREFORE, CERTAIN EASEMENTS MAY HAVE BEEN GRANTED WHICH ARE NOT REFLECTED HEREON.

CONTROL/BEARING BASIS INFORMATION

BEARING BASIS: GRID NORTH ON THE TEXAS COORDINATE SYSTEM OF 1983 (NAD83), SOUTH CENTRAL ZONE, BASED ON GPS SOLUTIONS.

LEGEND

OPRHCT	OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS
PRTCT	PLAT RECORDS OF HAYS COUNTY, TEXAS
DRTCT	DEED RECORDS OF HAYS COUNTY, TEXAS
VRS	VARAS
◉	1/2" IRON ROD FOUND WITH A PLASTIC CAP STAMPED "RPLS 4046" OR OTHERWISE NOTED
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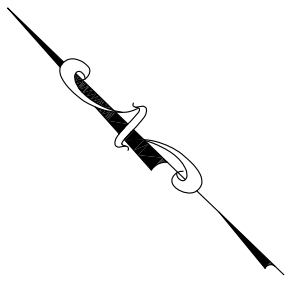

LINE	BEARING	DISTANCE			
L1	N55°36'03"W	114.06'	(L1)	N55°36'03"W	114.06'
L2	N10°17'05"W	17.41'	(L2)	N10°17'05"W	17.42'

CURVE	DELTA	RADIUS	ARC	BEARING	CHORD
C1	23°38'24"	330.00'	136.16'	S14°33'37"W	135.19'
C2	90°26'03"	20.00'	31.57'	S47°57'26"W	28.39'
C3	31°34'30"	960.25'	529.18'	N71°23'26"W	522.51'

20002755 OPRHCT
KYLE 45
PARTNERS, LLC
(44.90 ACRES)

N43°16'11"E 486.81'
(N45°E 175–1/4 VRS)

2940/806 OPRHCT
JOHN H. SPOONER
(44.83 ACRES)

N43°16'11"E 471.57'

ASPHALT ROAD

LOT 2

N43°16'11"E 1947.15'

LOT 1

14/9 PRHCT
PAYNE
INDUSTRIAL PARK
SECTION TWO

S47°21'20"E 480.45'

JAMES W. WILLIAMS
SURVEY NO. 11
ABS. 473

WINDMILL
WITH WELL UNDER

C1

S02°44'25"W 419.43'

2940/806 OPRHCT
JOHN H. SPOONER
(134 1/2 ACRES)

ELEVATED
CISTERN

DILAPIDATED
BUILDING

DILAPIDATED
SHED

N43°16'11"E 865.89'

11.946 AC±

OUT OF
2940/806 OPRHCT
JOHN H. SPOONER
(134 1/2 ACRES)

N43°16'11"E 1460.34'
(N45°E 525–3/4 VRS)

5/205 PRHCT
LOT 5
PAYNE INDUSTRIAL
PARK

279.81'
N86°49'32"W C2
(N86°49'32"W)

80'
RIGHT–OF–WAY
(21016927 ORHCT)

TEMPORARY CONSTRUCTION EASEMENT
(21016927 ORHCT)

E POST ROAD
(R.O.W. WIDTH VARIES)

20'
TELEPHONE EASEMENT
(124/395 DRHCT)

C3

2940/806 OPRHCT
JOHN H. SPOONER
(134.5 ACRES)

L2 L1

P.O.B.

N43°16'11"E
122.88'

P.O.C.

(S45°E 1443 VRS)
S46°44'12"E 4010.77'

LOT 86 | LOT 85 | LOT 84 | LOT 83 | LOT 82 | LOT 81 | LOT 80 | LOT 79 | LOT 78 | LOT 77 | LOT 76 | LOT 75

2/337 PRHCT
QUAIL RIDGE SUBDIVISION

0 200 400

ADDRESS: 6605 E. POST ROAD KYLE, TX 78640
JOB NUMBER: 1960–001–PLAT EXCEPTION NORTH
CLIENT: SANDERA LAND CO.
DATE: 6/5/2021
FIELD CREW: DV/BJ/ZB/LB
OFFICE: RM/LB/ED/PP
FB/PG: 9/16 AND BV22/22

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6/5/2021

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FIRM NO. 10194453

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(L2)	N86°40'31"E	20.47'
(L3)	S55°36'03"E	
(L5)	S86°49'32"E	

JAMES W. WILLIAMS SURVEY NO. 11 ABS. 473

2940/806 OPRHCT
JOHN H. SPOONER
(44.83 ACRES)

N43°16'11"E 486.81'
(N45°E 175–1/4 VRS)

20002755 OPRHCT
KYLE 45
PARTNERS, LLC
(44.90 ACRES)

ASPHALT ROAD

LOT 2

N43°16'11"E 1947.15'

LOT 1

14/9 PRHCT
PAYNE
INDUSTRIAL PARK
SECTION TWO

WINDMILL
WITH WELL UNDER

ELEVATED
CISTERN

DILAPIDATED
BUILDING

DILAPIDATED
SHED

5/205 PRHCT
LOT 5
PAYNE INDUSTRIAL
PARK

N43°16'11"E 1460.34'
(N45°E 525–3/4 VRS)

2940/806 OPRHCT
JOHN H. SPOONER
(134 1/2 ACRES)

80'
RIGHT–OF–WAY
(21016927 ORHCT)

TEMPORARY CONSTRUCTION EASEMENT
(21016927 ORHCT)

2940/806 OPRHCT
JOHN H. SPOONER
(134 1/2 ACRES)

E POST ROAD
(R.O.W. WIDTH VARIES)

20'
TELEPHONE EASEMENT
(124/395 DRHCT)

5.895 AC±

OUT OF
2940/806 OPRHCT
JOHN H. SPOONER
(134 1/2 ACRES)

P.O.B.

N46°44'12"W 1166.79'

S46°44'12"E 4010.77'
(S45°E 1443 VRS)

LOT 86 LOT 85 LOT 84 LOT 83 LOT 82 LOT 81 LOT 80 LOT 79 LOT 78 LOT 77 LOT 76 LOT 75 LOT 74 LOT 73 LOT 72 LOT 71

2/337 PRHCT
QUAIL RIDGE SUBDIVISION

0 200 400

ADDRESS:	6605 E. POST ROAD KYLE, TX 78640
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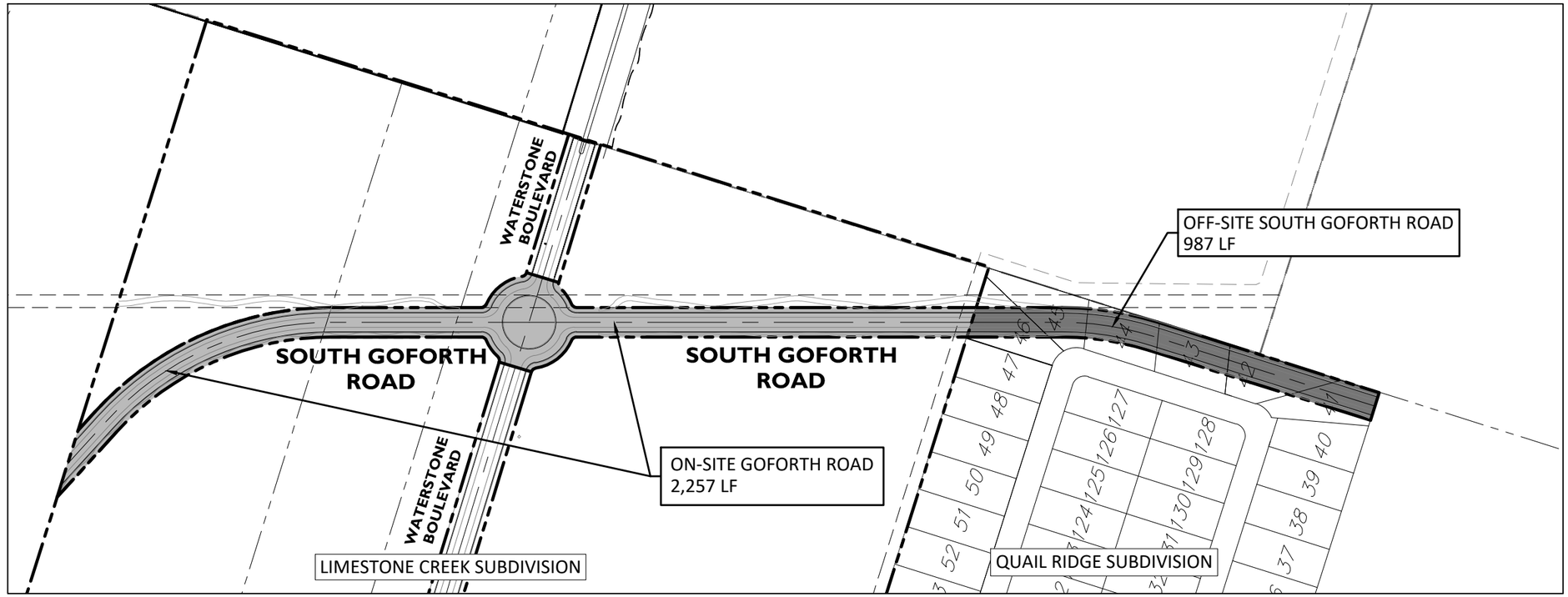
6/10/2021

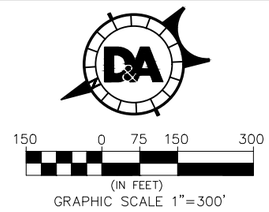
PHILLIP C. PAYNE, R.P.L.S. NO. 6064
FIRM NO. 10194453

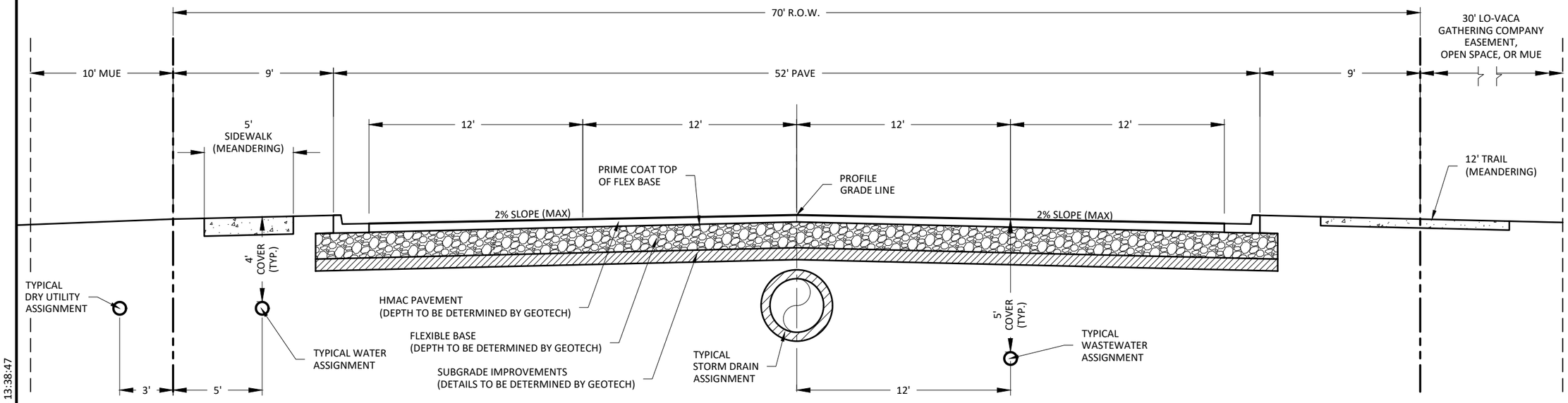
Item # 17

CITY OF KYLE,
HAYS COUNTY, TEXAS

PAYNE INDUSTRIES
302 W. Hopkins, Ste. 1A, San Marcos, TX 78666
(512) 663–0004 www.payne–llc.com







SOUTH GOFORTH ROAD
TYPICAL SECTION
SCALE: 1"=6'

Item # 17

DOUCET
Civil Engineering \ Entitlements \ Geospatial
7401 B. Highway 71 W, Ste. 160
Austin, TX 78735. Tel: (512)-583-2600
www.doucetengineers.com
TBPE Firm Number: 3937
TBPELS Firm Number: 10105800

DEVELOPMENT AGREEMENT
EXHIBIT C

LIMESTONE CREEK SUBDIVISION
KYLE, TEXAS

Scale: 1" = 6'
Date: 02/10/23
Project No.: 1691-009

Drawing: C:\pw_working\sean.crandon\dms98171\Development Agreement Exhibit C & D.dwg
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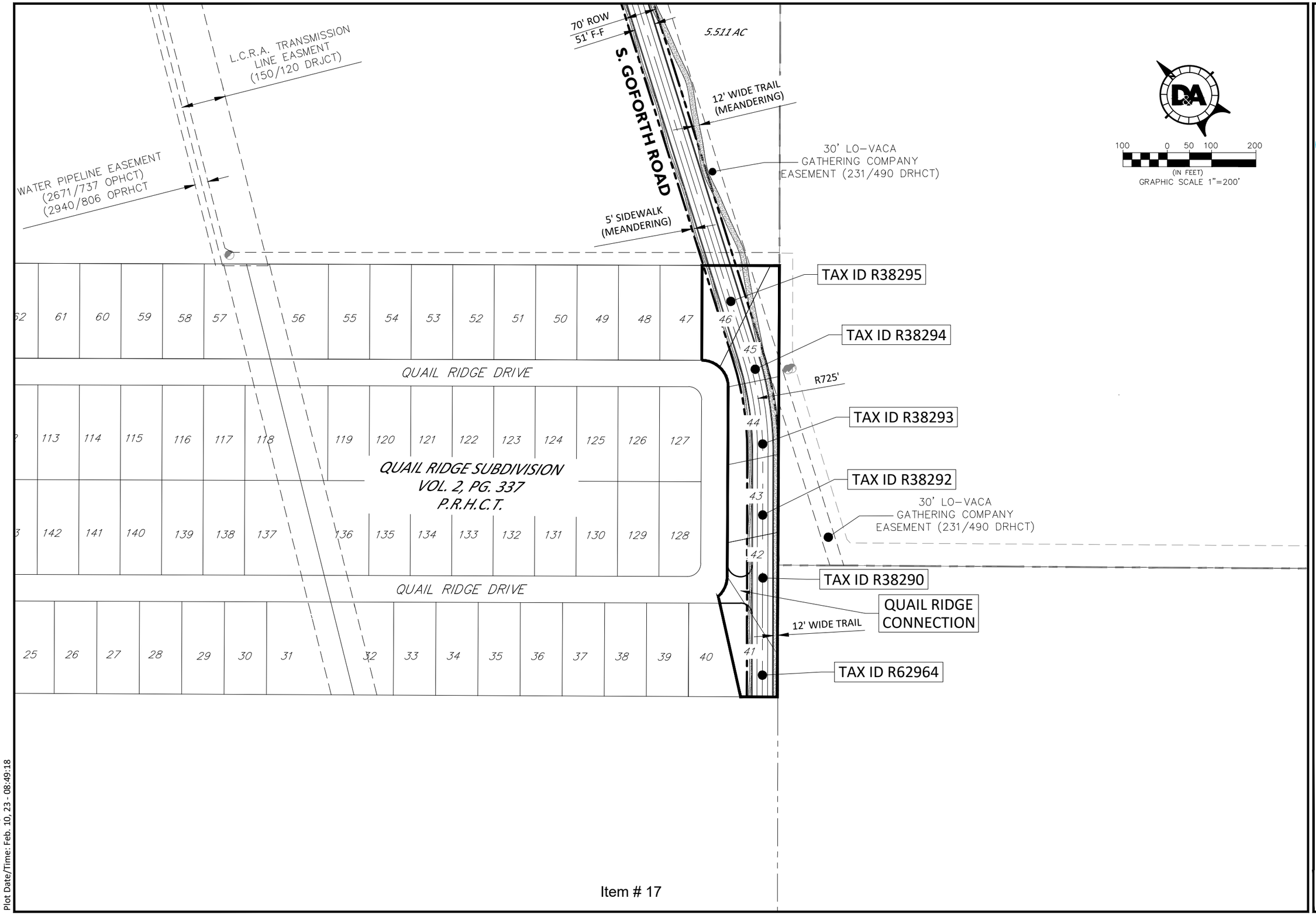
Last Modified: Feb. 10, 23 - 13:38
Plot Date/Time: Feb. 10, 23 - 13:38:47



Item # 17

DOUCET
Civil Engineering \ Entitlements \ Geospatial
7401 B. Highway 71 W, Ste. 160
Austin, TX 78735. Tel: (512)-583-2600
www.doucetengineers.com
TBPE Firm Number: 3937
TBPELS Firm Number: 10105800

DEVELOPMENT AGREEMENT
QUAIL RIDGE ACQUIRED LOTS
EXHIBIT D

LIMESTONE CREEK SUBDIVISION
KYLE, TEXAS

Scale: 1" = 200'
Date: 02/02/2023
Project No.: 1691-009

Drawing: C:\pw_working\sean.crandon\dms98171\Development Agreement Exhibit C & D.dwg
User: SCRANDON
Last Modified: Feb. 02, 23 - 11:50
Plot Date/Time: Feb. 10, 23 - 08:49:18

CITY OF KYLE, TEXAS

Southwest Kyle PID No. 1 -- Petition for Increased Costs

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Consideration and approval of a Resolution of the City of Kyle, Texas, accepting a Petition to Increase the Estimated Costs of the Improvements for Improvement Area #2 of the Southwest Kyle Public Improvement District No. 1 and calling for a Public Hearing pursuant to Chapter 372 of the Texas Local Government Code. ~ *Stephanie Leibe, Norton Rose Fulbright, City's Bond Counsel*

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

- Resolution

CITY OF KYLE

RESOLUTION NO. _____

RESOLUTION OF THE CITY OF KYLE, TEXAS, ACCEPTING A PETITION TO INCREASE THE ESTIMATED COSTS OF THE IMPROVEMENTS FOR IMPROVEMENT AREA #2 OF THE SOUTHWEST KYLE PUBLIC IMPROVEMENT DISTRICT NO. 1 AND CALLING FOR A PUBLIC HEARING PURSUANT TO CHAPTER 372 OF THE TEXAS LOCAL GOVERNMENT CODE.

WHEREAS, the City of Kyle, Texas (the "City") is authorized by Chapter 372, Texas Local Government Code, as amended (the "Act") to create a public improvement district and to levy special assessments against property within the district to pay the costs of public improvement projects that confer a special benefit on property within the district; and

WHEREAS, the City Council of the City of Kyle (the "City Council") has previously created the Southwest Kyle Public Improvement District No. 1 (the "District") pursuant to Resolution No. 1083 adopted on November 4, 2017 (the "Creation Resolution"); and

WHEREAS, on or about February 28, 2023, the City Secretary of the City received for filing that certain "Petition to Increase the Estimated Costs of the Improvements for Improvement Area #2 of the Southwest Kyle Public Improvement District No. 1" (the "Petition"), which is attached as Exhibit "A" meeting the requirements of the Act and indicating: (i) the owners of more than fifty percent (50%) of the appraised value of the taxable real property liable for assessment under the proposal, and more than fifty percent (50%) of all record owners of property liable for assessment within Improvement Area #2 (as defined in the Petition) of the District have executed the Petition requesting to increase the estimated costs of the improvements for Improvement Area #2 of the District; and

WHEREAS, the Act further requires that prior to the adoption of the resolution increasing the cost estimate for Improvement Area #2 of the District, the City Council must hold a public hearing on the advisability of the improvements, the nature of the improvements contemplated, the increased estimated costs of the improvements, the method of assessment, and the apportionment, if any, of the costs between the District and the City.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS:

SECTION 1. The findings set forth in the recitals of this Resolution are hereby found to be true and correct.

SECTION 2. City staff reviewed the Petition and determined that same complied with the requirements of the Act and the City Council accepts the Petition. The Petition is filed with the office of the City Secretary and is available for public inspection.

SECTION 3. The City Council calls a public hearing to be scheduled at or after 7:00 p.m. on April 4, 2023 to be held at Kyle City Hall City Council Chambers, 100 W. Center Street, Kyle,

Texas 78640 on the advisability of the improvements, the nature of the improvements contemplated, the estimated costs of the improvements, the boundaries of Improvement Area #2 of the District, the method of assessment, and the apportionment, if any, of the costs between Improvement Area #2 of the District and the City. All residents and property owners within Improvement Area #2 and all other persons, are hereby invited to appear in person, or by their attorney, and speak on the increase of estimated costs of the improvements for Improvement Area #2 of the District.

SECTION 4. The Public Hearing may be adjourned from time to time. Upon the closing of the Public Hearing, the City Council may consider the adoption of a resolution increasing the estimated costs for Improvement Area #2 of the District. The increase of estimated costs for Improvement Area #2 of the District is within the sole discretion of the City Council.

SECTION 5. The City Council hereby authorizes and directs the City Secretary, on or before March 15, 2023, in accordance with the Act, to: (a) publish notice of the public hearing in a newspaper of general circulation in the City; and (b) mail notice of the public hearing to the owners of property within Improvement Area #2 of the District as reflected on the tax rolls in the form attached hereto as Exhibit "B", the form and substance of which is hereby adopted and approved.

SECTION 6. If any section, article, paragraph, sentence, clause, phrase or word in this resolution or application thereof to any persons or circumstances is held invalid or unconstitutional by a court of competent jurisdiction, such holding shall not affect the validity of the remaining portions of this resolution; and the City Council hereby declares it would have passed such remaining portions of the resolution despite such invalidity, which remaining portions shall remain in full force and effect.

SECTION 7. This Resolution shall take effect immediately from and after its passage and it is accordingly so resolved.

[Signature page follows]

PASSED AND ADOPTED by the City Council of Kyle, Texas, at a regular meeting on the 7th day of March, 2023, at which a quorum was present, and for which due notice was given pursuant to Government Code, Chapter 551.

_____
Travis Mitchell, Mayor

ATTEST:

_____
Jennifer Kirkland, City Secretary, TRMC
City of Kyle, Texas

[CITY SEAL]

EXHIBIT A
PETITION FOR INCREASE IN ESTIMATED COSTS

PETITION TO INCREASE THE ESTIMATED COSTS OF THE IMPROVEMENTS FOR IMPROVEMENT AREA #2 OF THE SOUTHWEST KYLE PUBLIC IMPROVEMENT DISTRICT NO. 1

THE STATE OF TEXAS §
§
COUNTY OF HAYS §

TO: THE HONORABLE MAYOR AND CITY COUNCIL OF THE CITY OF KYLE

The undersigned petitioners, acting pursuant to the provisions of Chapter 372, Texas Local Government Code, as amended (the "*Act*"), requests that the City of Kyle, Texas (the "*City*") accept this Petition to Increase the Estimated Costs of the Improvements for Improvement Area #2 of the Southwest Kyle Public Improvement District No. 1 (this "*Petition to Increase Estimated Costs*") for the Southwest Kyle Public Improvement District No. 1 (the "*District*") in the territory described in Exhibit A attached hereto ("*Improvement Area #2*"), which Improvement Area #2 is located within the District created by the City, and pursuant to Resolution No. 1083 (the "*Original Creation Resolution*"). This Petition to Increase Estimated Costs is submitted by: (i) Paramount Park, Ltd., a Texas limited partnership, as successor in interest to Intermandeco GP LLC, a Texas limited liability company and Lovey N. Driskell, an individual and independent executrix of the Estate of Wyatt Ashley Driskell, the "Petitioner" defined in the Original Creation Resolution; (ii) Poco Loco Group, LLC, a Texas limited liability company; and (iii) Opal Point at Kyle, LLC, a Texas limited liability company (collectively, the "*Petitioner*"), for the sole purpose of modifying the estimated cost of the proposed construction of the Public Improvements, defined below in Section 2, that are allocable to Improvement Area #2. In support of this Petition to Increase Estimated Costs, the Petitioner would present the following:

Section 1. Standing of Petitioner. In compliance with the requirements of Section 372.005(b) of the Act, as determined by the current tax roll of the Hays Central Appraisal District, the Petitioner constitutes (i) the owner of taxable real property representing more than fifty percent (50%) of the appraised value of real property liable for assessment under the proposal described herein, and (ii) the record owner of taxable real property that constitutes more than fifty percent (50%) of the area of all taxable real property that is liable for assessment under such proposal. The Petitioner owns one hundred percent (100%) of Improvement Area #2 within the District and is liable for assessment. Although inapplicable to the Petitioner, as the sole owner of the Improvement Area #2 property located in the District and liable for assessment, it is noted that: With respect to community property, the City may accept the signature of a spouse as a representation of both spouses that they support the creation or renewal of the District absent a separate property agreement. *However, if City staff is made aware of any disagreement among owners of community property, those petitions will not be counted.*

Section 2. General Nature of the Proposed Public Improvements. The general nature of the proposed services and public improvements to be designed, acquired, improved or constructed within Improvement Area #2 of the District are the same type as the services and public improvements included in the Original Creation Resolution, are of the nature of services and public improvements described in Section 372.003 of the Act, as amended, and are advisable and desirable services and improvements for Improvement Area #2 of the District and are:

(i) acquisition, construction and improvement of wastewater or drainage facilities and improvements; and

(ii) acquiring, constructing, improving, widening, narrowing, closing or rerouting streets, roadways or their rights-of-way, including revegetation and enhancements; and

(iii) acquisition, construction, and improvement of mass transportation improvements, including silent railway crossings; and

(iv) acquisition, construction, and improvement of park improvements, including parking areas; and

(v) acquisition, construction, and improvement of entryway improvements and related landscape enhancements; and

(vi) acquisition, by purchase or otherwise, of real property or contract rights in connection with each authorized improvement; and

(vii) payment of expenses incurred in the establishment, administration and operation of the District and the costs of issuance, reserve funds or credit enhancement of any bonds issued by or on behalf of the District, if necessary (the public improvements set forth in subparagraphs (i) through (vii) being referred to collectively herein as the "*Public Improvements*").

Section 3. Boundaries. The boundaries of Improvement Area #2 within the District are described in Exhibit A, attached hereto, and such Improvement Area #2 was included within the Property (as defined in the Original Creation Resolution).

Section 4. Estimated Cost and Terms of the Proposed Construction of the Public Improvements. The estimated costs of the proposed construction of the Public Improvements in the Original Creation Resolution was approximately $5,000,000. $3,300,000 in assessments have previously been levied for costs of the Public Improvements for the District, and thus $1,700,000 in estimated costs remain available for Improvement Area #2 under the Original Creation Resolution. The Petitioner submits this Petition to Increase Estimated Costs to increase the estimated costs of the proposed construction of the Public Improvements by $3,700,000 such that the estimated costs of Public Improvements for Improvement Area #2 will be $5,400,000 (including issuance and other financing costs). The increase in estimated costs of the proposed Public Improvements are allocable solely to Improvement Area #2 within the District.

Section 5. Method of Assessment. An assessment methodology will be prepared that will address: (i) how the costs of the Public Improvements financed with the assessments are assessed against the property in Improvement Area #2 of the District, (ii) the assessments to be collected each year, and (iii) reduction of the assessments for costs savings (pursuant to the annual review of the service plan for the District). Additionally, a report will be prepared showing the special benefits accruing to property in Improvement Area #2 of the District and how the costs of

the Public Improvements are assessed to property on the basis of the special benefits. The result will be that equal shares of the costs will be imposed on property similarly benefited.

The assessment methodology will result in each parcel paying its fair share of the costs of the Public Improvements provided with the assessments based on the special benefits received by the property from the Public Improvements and property equally situated paying equal shares of the costs of the Public Improvements.

Section 6. Apportionment of Cost between the City and the District. Authorization of the increase in estimated costs for Improvement Area #2 and amendment of the Original Creation Resolution for the District will not obligate the City to provide any funds to finance the Public Improvements. The estimated costs of the Public Improvements for Improvement Area #2 shall be apportioned between the District and City such that all of the costs of the Public Improvements for Improvement Area #2 are paid from assessments levied on the property within Improvement Area #2 of the District and from other funds available to the District.

Section 7. Management of the District. The District shall be managed by the City. The City may contract with a consultant or third-party administrator, who shall, from time to time, advise the City regarding certain operations of the District.

Section 8. Advisory Board. An advisory board for the District ("*Advisory Board*") may be established by the City Council of the City (the "*City Council*") and such Advisory Board may recommend an improvement plan to the City Council. The Petitioner requests that if the City Council establishes an Advisory Board, that such Advisory Board should include representatives of the Petitioner or its designees.

This Petition to Increase Estimated Costs is hereby filed with the City Secretary of the City in support of the increase for the estimated costs of the Public Improvements allocable to Improvement Area #2 within the District by the City Council as herein provided. The undersigned request that the City Council grant its consent as above stated.

[Signatures on following page]

IN WITNESS WHEREOF, this Petition to Increase Estimated Costs has been executed by the Petitioner on the 27TH day of February, 2023.

PARAMOUNT PARK, LTD.,
a Texas limited partnership

By: Intermandeco GP LLC,
a Texas limited liability company,
its General Partner

By: _____
Name: Cary L. Cobb
Title: Vice President

STATE OF TEXAS §
§
COUNTY OF COLLIN §

This instrument was acknowledged before me on the 27 day of February, 2023 by Cary L. Cobb, Vice President of Intermandeco GP LLC, a Texas limited liability company, as General Partner of Paramount Park, Ltd., a Texas limited partnership, on behalf of said entity.

MARY P HUDSON
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 10/12/24
NOTARY ID 1211400-8

_____
Notary Public, State of Texas

POCO LOCO GROUP, LLC,
a Texas limited liability company

By: _____
Name: Asifali S. Karowalia
Title: Managing Member

STATE OF TEXAS §
§
COUNTY OF BEXAR §

This instrument was acknowledged before me on the 24 day of February, 2023 by Asifali S. Karowalia, Managing Member of Poco Loco Group, LLC, a Texas limited liability company, on behalf of said entity.

134057054
Notary Public, State of Texas

Anil Hirachan
My Commission Expires
11/9/2026
Notary ID134057054

Hirachan

OPAL POINT AT KYLE LLC,
a Texas limited liability company

By: Glenridge Stryker Opal Lane LLC,
a Texas limited liability company
Its: Managing Member

By: Stryker Opal Lane LLC,
a Texas limited liability company
Its: Manager

By: _____
Name: Sai Venkata Rao Avasarala,
Its: Manager

By: Glenridge Opal Land LLC,
a Texas limited liability company
Its: Manager

By: _____
Name: Mark Branigan
Its: Manager

STATE OF TEXAS §
§
COUNTY OF COLLIN §

This instrument was acknowledged before me on the 21th day of February, 2023 by Sai Venkata Rao Avasarala, Manager of Stryker Opal Lane LLC, a Texas limited liability company, Manager of Glenridge Stryker Opal Lane LLC, a Texas limited liability company, Managing Member of Opal Point at Kyle LLC, a Texas limited liability company, on behalf of said limited liability company.

_____
Notary Public, State of Texas

JESSENIA MAIETTA
Notary Public
STATE OF TEXAS
NOTARY ID # 133383088
My Comm. Expires 10-20-2025

STATE OF TEXAS §
§
COUNTY OF COLLIN §

This instrument was acknowledged before me on the _____ day of February, 2023 by Mark Branigan, Manager of Glenridge Opal Land LLC, a Texas limited liability company, Manager of Glenridge Stryker Opal Lane LLC, a Texas limited liability company, Managing Member of Opal Point at Kyle LLC, a Texas limited liability company, on behalf of said limited liability company.

_____
Notary Public, State of Texas

OPAL POINT AT KYLE LLC.
a Texas limited liability company

By: Glenridge Stryker Opal Lane LLC,
a Texas limited liability company
Its: Managing Member

By: Stryker Opal Lane LLC,
a Texas limited liability company
Its: Manager

By: _____
Name: Sai Venkata Rao Avasarala,
Its: Manager

By: Glenridge Opal Land LLC,
a Texas limited liability company
Its: Manager

By: _____
Name: Mark Branigan
Its: Manager

STATE OF TEXAS §
§
COUNTY OF COLLIN §

This instrument was acknowledged before me on the ____ day of February, 2023 by Sai Venkata Rao Avasarala, Manager of Stryker Opal Lane LLC, a Texas limited liability company, Manager of Glenridge Stryker Opal Lane LLC, a Texas limited liability company, Managing Member of Opal Point at Kyle LLC, a Texas limited liability company, on behalf of said limited liability company.

_____
Notary Public, State of Texas

STATE OF TEXAS §
§
COUNTY OF COLLIN §

This instrument was acknowledged before me on the 27th day of February, 2023 by Mark Branigan, Manager of Glenridge Opal Land LLC, a Texas limited liability company, Manager of Glenridge Stryker Opal Lane LLC, a Texas limited liability company, Managing Member of Opal Point at Kyle LLC, a Texas limited liability company, on behalf of said limited liability company.

_____
Notary Public, State of Texas

MARY JANE ORR
Notary Public, State of Texas
Comm. Expires 04-28-2027
Notary ID 124541905

EXHIBIT A
IMPROVEMENT AREA #2 PROPERTY DESCRIPTION

PARAMOUNT PARK, LTD.
Z. HINTON SURVEY NO. 12 AND JAMES W. WILLIAMS SURVEY NO. 11
85.335 ACRES

DESCRIPTION OF 85.335 ACRES OF LAND SITUATED IN HAYS COUNTY, TEXAS, OUT OF THE Z. HINTON SURVEY NO. 12, ABS. 220 AND THE JAMES W. WILLIAMS SURVEY NO. 11, ABS. 473, BEING A PORTION OF THAT CERTAIN 99.99 ACRE TRACT OF LAND, SAVE AND EXCEPT 10 ACRES, DESCRIBED IN A DEED OF RECORD TO WYATT A. DRISKELL, ET UX, IN VOLUME 749, PAGE 306, RECORDED SEPTEMBER 6, 1988 IN THE REAL PROPERTY RECORDS OF HAYS COUNTY, TEXAS, A PORTION OF THAT CERTAIN 10.0 ACRE TRACT OF LAND DESCRIBED IN A DEED OF RECORD TO WYATT A. DRISKELL, ET UX, IN VOLUME 372, PAGE 204, RECORDED MARCH 12, 1982 IN THE DEED RECORDS OF HAYS COUNTY, TEXAS AND A PORTION OF THAT CERTAIN 71.24 ACRE TRACT OF LAND DESCRIBED IN A DEED OF RECORD TO WYATT A. DRISKELL IN VOLUME 665, PAGE 409, RECORDED APRIL 8, 1987 IN THE REAL PROPERTY RECORDS OF HAYS COUNTY, TEXAS; SAID 85.335 ACRE TRACT BEING A PORTION OF THAT CERTAIN 170.876 ACRE TRACT OF LAND DESCRIBED IN A DEED OF RECORD TO PARAMOUNT PARK, LTD. IN DOCUMENT NO. 18013402, RECORDED APRIL 18, 2018 IN THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING at a railroad tie fence post at the intersection of the northeasterly margin of Roland Lane (County Road 137) (R.O.W varies) and the northwesterly line of I.G. & N. Railroad, for the most southerly corner of said 99.99 Acre Tract and the herein described tract;

THENCE with the northeasterly margin of said Roland Lane, same being the southwesterly line of said 99.99 Acre Tract, the following three (3) courses:

1. N46°43'35"W, a distance of 1462.10 feet to an iron rod with G&R cap set;
2. N46°31'58"W, a distance of 1481.80 feet to a cotton spindle set;
3. N46°27'09"W, a distance of 362.70 feet to an iron rod with G&R cap set for the most westerly corner of the herein described tract;

THENCE leaving the northeasterly margin of said Roland Lane and the southwesterly line of said 99.99 Acre Tract and continuing over and across said 99.99 Acre Tract, said 10.0 Acre Tract and said 71.24 Acre Tract the following thirty-four (34) courses:

1. N62°56'19"E, a distance of 153.38 feet to an iron rod with G&R cap set;
2. N46°27'09"W, a distance of 50.66 feet to an iron rod with G&R cap set;
3. N43°32'51"E, a distance of 44.98 feet to an iron rod with G&R cap set;
4. N62°52'34"E, a distance of 101.19 feet to an iron rod with G&R cap set;
5. N66°33'36"E, a distance of 58.90 feet to an iron rod with G&R cap set;
6. N58°21'42"E, a distance of 434.28 feet to an iron rod with G&R cap set at the point of curvature of a curve to the right;

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7. Along said curve to the right, having a radius of 850.00 feet, an arc length of 99.01 feet and a chord which bears S26°19'58"E, a distance of 98.95 feet to an iron rod with G&R cap set at the point of reverse curvature of a curve to the left;

8. Along said curve to the left, having a radius of 1130.00 feet, an arc length of 568.48 feet and a chord which bears S37°24'28"E, a distance of 562.50 feet to an iron rod with G&R cap set;

9. N29°23'38"E, a distance of 121.60 feet to an iron rod with G&R cap set at the point of curvature of a curve to the left;

10. Along said curve to the left, having a radius of 1010.00 feet, an arc length of 205.87 feet and a chord which bears S56°36'20"E, a distance of 205.52 feet to an iron rod with G&R cap set;

11. N29°15'25"E, a distance of 24.75 feet to an iron rod with G&R cap set;

12. S60°44'35"E, a distance of 145.00 feet to an iron rod with G&R cap set;

13. S29°15'25"W, a distance of 61.82 feet to an iron rod with G&R cap set;

14. S60°44'35"E, a distance of 170.00 feet to an iron rod with G&R cap set;

15. N29°15'25"E, a distance of 4.41 feet to an iron rod with G&R cap set;

16. S60°44'35"E, a distance of 110.00 feet to an iron rod with G&R cap set;

17. N29°15'25"E, a distance of 4.30 feet to an iron rod with G&R cap set at the point of curvature of a curve to the right;

18. Along said curve to the right, having a radius of 685.00 feet, an arc length of 312.38 feet and a chord which bears S60°04'07"E, a distance of 309.68 feet to an iron rod with G&R cap set;

19. S46°38'12"E, a distance of 100.82 feet to an iron rod with G&R cap set;

20. N33°45'25"E, a distance of 424.77 feet to an iron rod with G&R cap set;

21. N83°44'50"W, a distance of 103.05 feet to an iron rod with G&R cap set;

22. N59°32'46"W, a distance of 443.10 feet to an iron rod with G&R cap set at the point of curvature of a curve to the right;

23. Along said curve to the right, having a radius of 500.00 feet, an arc length of 12.31 feet and a chord which bears N43°00'28"E, a distance of 12.31 feet to an iron rod with G&R cap set;

24. N43°42'47"E, a distance of 128.39 feet to an iron rod with G&R cap set;

25. N46°44'30"W, a distance of 159.81 feet to an iron rod with G&R cap set at the point of curvature of a curve to the right;

26. Along said curve to the right, having a radius of 25.00 feet, an arc length of 39.47 feet and a chord which bears N01°30'52"W, a distance of 35.50 feet to an iron rod with G&R cap set;

27. N43°42'47"E, a distance of 487.17 feet to an iron rod with G&R cap set;

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28. N46°25'09"W, a distance of 112.96 feet to an iron rod with G&R cap set;

29. N60°50'53"E, a distance of 10.99 feet to an iron rod with G&R cap set at the point of curvature of a curve to the left;

30. Along said curve to the left, having a radius of 50.00 feet, an arc length of 14.95 feet and a chord which bears N52°16'51"E, a distance of 14.90 feet to an iron rod with G&R cap set;

31. N43°42'47"E, a distance of 195.48 feet to an iron rod with G&R cap set at the point of curvature of a curve to the left;

32. Along said curve to the left, having a radius of 50.00 feet, an arc length of 16.78 feet and a chord which bears N34°05'54"E, a distance of 16.70 feet to an iron rod with G&R cap set;

33. N24°29'01"E, a distance of 47.63 feet to an iron rod with G&R cap set;

34. S46°17'13"E, a distance of 694.64 feet to an iron rod with G&R cap set in the curving northwesterly line to the right of said I.G. & N. Railroad and the southeasterly line of said 71.24 Acre Tract, for the northeasterly corner of the herein described tract;

THENCE with the northwesterly line of I.G. & N. Railroad, same being in part the southeasterly line of said 71.24 Acre Tract and in part the southeasterly line of said 99.99 Acre Tract, the following two (2) courses:

1. Along said curve to the right, having a radius of 2840.80 feet, an arc length of 1315.52 feet and a chord which bears S02°12'00"E, a distance of 1303.80 feet to an iron rod with G&R cap set at the end of said curve;

2. S11°20'06"W, a distance of 1431.04 feet to the **POINT OF BEGINNING**, containing an area of 85.335 Acres of land, more or less.

STATE OF TEXAS
REGISTERED
PHILLIP L. MCLAUGHLIN
5300
PROFESSIONAL
LAND SURVEYOR

Phillip L. McLaughlin 01-09-23
Registered Professional Land Surveyor
State of Texas No. 5300

Bearings are based on the Texas Coordinate System, NAD 83, South Central Zone.
G&R Surveying Project No. 15324 Attachments: None

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EXHIBIT B
NOTICE OF PUBLIC HEARING

CITY OF KYLE, TEXAS
NOTICE OF PUBLIC HEARING REGARDING THE PETITION TO INCREASE THE ESTIMATED COSTS OF THE IMPROVEMENTS FOR IMPROVEMENT AREA #2 OF THE SOUTHWEST KYLE PUBLIC IMPROVEMENT DISTRICT NO. 1

Pursuant to Section 372.009(c) and (d) of the Texas Local Government Code, as amended (the "Act"), notice is hereby given that the City Council of the City of Kyle, Texas ("City"), will hold a public hearing to accept public comments and discuss the petition (the "Petition"), filed by (i) Paramount Park, Ltd., a Texas limited partnership, (ii) Poco Loco Group, LLC, a Texas limited liability company; and (iii) Opal Point at Kyle LLC, a Texas limited liability company (collectively, the "Petitioner"), requesting that the City increase the estimated costs of the Public Improvements (as defined below) related to Improvement Area #2 of the Southwest Kyle Public Improvement District No. 1 (the "District") which Improvement Area #2 includes approximately 85.335 acres of land within the District owned by the Petitioner and further described herein (the "Improvement Area #2").

Time and Place of the Hearing. The public hearing will start at or after 7:00 p.m. on April 4, 2023 to be held at Kyle City Hall City Council Chambers, 100 W. Center Street, Kyle, Texas 78640.

General Nature of the Proposed Public Improvements. The general nature of the proposed services and public improvements to be designed, acquired, improved or constructed within Improvement Area #2 of the District include, without limitation: (i) acquisition, construction and improvement of wastewater or drainage facilities and improvements; (ii) acquiring, constructing, improving, widening, narrowing, closing or rerouting streets, roadways or their rights-of-way, including revegetation and enhancements; (iii) acquisition, construction, and improvement of mass transportation improvements, including silent railway crossings; (iv) acquisition, construction, and improvement of park improvements, including parking areas; (v) acquisition, construction, and improvement of entryway improvements and related landscape enhancements; (vi) acquisition, by purchase or otherwise, of real property or contract rights in connection with each authorized improvement; and (vii) payment of expenses incurred in the establishment, administration and operation of the District and the costs of issuance, reserve funds or credit enhancement of any bonds issued by or on behalf of the District, if necessary (collectively, the "Public Improvements"); all of which shall promote the interests of the City and confer a special benefit on Improvement Area #2 of the District .

Estimated Cost and Terms of the Proposed Construction of the Public Improvements. The original estimated costs of the proposed construction of the public improvements pursuant to Resolution No. 1083 was approximately $5,000,000. $3,300,000 in assessments have previously been levied for costs of public improvements for the District, and thus $1,700,000 in estimated

costs remain available for costs of Public Improvements for Improvement Area #2. The estimated costs of the proposed construction of the Public Improvements will increase by $3,700,000 pursuant to the Petition such that the estimates costs of the Public Improvements will be approximately $5,400,000 (including issuance and other financing costs). The increase in estimated costs of the proposed public improvements are allocable solely to Improvement Area #2 (hereinafter defined) within the District.

Proposed District Boundaries. The District includes approximately 171.154 acres of land as set forth in Resolution No. 1083 (the "Creation Resolution") approved by the City Council of the City. Improvement Area #2 includes approximately 85.335 acres of land within the District, generally located south of Opal Lane, north of Roland Lane, and west of Union Pacific Railroad, located within the corporate limits of the City, and as more particularly described by a metes and bounds description available at Kyle City Hall located at 100 W. Center Street, Kyle, Texas 78640 and available for public inspection during regular business hours.

Method of Assessment. An assessment methodology will be prepared that will address: (i) how the costs of the Public Improvements financed with the assessments are assessed against the property in Improvement Area #2 of the District, (ii) the assessments to be collected each year, and (iii) reduction of the assessments for costs savings (pursuant to the annual review of the service plan for the District). Additionally, a report will be prepared showing the special benefits accruing to property in Improvement Area #2 of the District and how the costs of the Public Improvements are assessed to property on the basis of the special benefits. The result will be that equal shares of the costs will be imposed on property similarly benefited.

The assessment methodology will result in each parcel paying its fair share of the costs of the Public Improvements provided with the assessments based on the special benefits received by the property from the Public Improvements and property equally situated paying equal shares of the costs of the Public Improvements.

Proposed Apportionment of Cost between the District and the City. Authorization of the increase in estimated costs for Improvement Area #2 and amendment of the Creation Resolution will not obligate the City to provide any funds to finance the Public Improvements. The estimated costs of the Public Improvements shall be apportioned between the District and City such that all of the costs of the Public Improvements for Improvement Area #2 are paid from assessments levied on the property within Improvement Area #2 of the District and from other funds available to the District.

During the public hearing, any interested person may speak for or against the increased estimated costs of Improvement Area #2 of the District and the advisability of the improvements to be made for the benefit of the property within Improvement Area #2 of the District.

CITY OF KYLE, TEXAS

Approve Task Order No. 2 - BGE, Inc. for Bunton Creek Road from Lehman Road to Porter Cove $947,810.00

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Approve Task Order No. 2 to BGE, INC., Houston, Texas in the amount not to exceed $947,810.00 for engineering services and design of Bunton Creek Road from Lehman Road to Porter Cove. ~ *Joe Cantalupo, K Friese & Associates, City's 2022 Road Bond Program Manager*

Other Information: The work to be performed by the Engineer shall consist of providing preliminary engineering
services for the development of a final design schematic of Bunton Creek Road from east of Lehman
Drive (proposed roundabout designed by others) to Porter Cove. These services may include, but
are not limited to, preparing a design schematic based on the preferred alternative from the Task
Order No. 1 Preliminary Engineering Report, environmental documents/studies in support of the
schematic work, public involvement support, permit procurement, data collection analysis,
mitigation and remediation, monitoring, drainage, conceptual traffic control, traffic studies, 3-D
modeling, surveying and mapping, environmental clearance, utility coordination, storm drain design,
bridge design, and cross sections.

Legal Notes: N/A

Budget Information: Funding in the amount of $947,810.00 is available from the 2022 Road Bond Fund in the approved Capital Improvement Spending Plan for Fiscal Year 2022-2023 as follows:

- 1952-68818-573130 = $947,810.00 (2022 Road Bond Fund)

ATTACHMENTS:

Description

- Task Order No. 2
- Road Bond Program Update by K-Firiese & Associates 3-7-2023

TASK ORDER NO. 2

This Task Order is issued pursuant to that Professional Services Agreement (Agreement) between the City of KYLE, Texas (Owner) and BGE, Inc. (Professional) effective May 17, 2022, and constitutes authorization by Owner for Professional to proceed with the following described construction and engineering design services.

Construction and Engineering Design Services

A. PROJECT DESCRIPTION

The scope of the Agreement is to provide professional construction and engineering design services (Services) for the Owner based on the scope of services listed below in Item B. Professional services may include performing preliminary engineering and planning; generating plans, specifications and estimates; researching, analyzing, and providing technical recommendations; providing construction phase services; and providing general consulting services in the areas identified herein.

B. SCOPE OF SERVICES AND DELIVERABLES

Pursuant to the Agreement, this Task Order authorizes Professional to perform the Services shown in Attachment A.

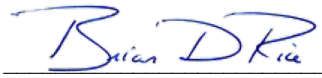
C. BASIS OF COMPENSATION

The total compensation for the Services shall be based on the hourly rates as defined in Compensation Table provided on page 3 of this document, and on the corresponding rates and hours in the Fee Estimate attached as Attachment B. Attachment B shall use the template provided by the Owner. Owner will make payments to Professional for performing the Services described on a monthly billing basis in accordance with monthly statements submitted by the Professional and approved by Owner. Final payment shall be due upon completion of the Services described.

D. TIME FOR COMPLETION

Professional will work expeditiously to complete the Services described herein by June 2024.

BGE, Inc. shall begin work as soon as authorized in this Task Order No. 2.

APPROVED:	**ACCEPTED:**
CITY OF KYLE, TEXAS	**BGE, INC.**
By _____	By 
Title: City Manager	Title Director
Attest _____	Attest
Date _____	Date 3/1/23

COMPENSATION

Compensation for the services provided pursuant to the Professional Services Agreement between the City of Kyle and BGE, Inc. executed the 17th day of May 2022 will be paid on a lump sum basis and calculated based on the amounts reflected below.

BGE

Professional Staff	Hourly Bill Rate
Engineering Tech	$138
Senior Engineering Tech	$195
Graduate Engineer	$140
Design Engineer	$175
Environmental Specialist	$125
Senior Environmental Specialist	$240
QC Manager	$285
Project Engineer	$215
Senior Engineer	$250
Project Manager	$255
Senior Project Manager	$275
Principal/Director	$310

BGE Survey

Professional Staff	Hourly Bill Rate
Senior Tech	$135
RPLS	$195
Crew Rate	$175

Corsair Consulting

Professional Staff	Hourly Bill Rate
Admin Clerical	$58.99
Engineering Tech	$64.24
Engineer in Training	$99.63
Design Engineer	$140.93
Project Engineer	$121.26
Senior Engineer	$186.81
Support Engineer	$203.20

CobbFendley

Professional Staff	Hourly Bill Rate
Senior Tech I	$135
Project Engineer I	$163
Senior Project Manager	$238

ATTACHMENT A

TASK ORDER NO. 2 (SCHEMATIC PHASE)

SERVICES TO BE PROVIDED BY THE ENGINEER

BGE, Inc. (Engineer) will provide staff to support the City of KYLE (Owner) with general construction and engineering support services. The Owner also includes the City's General Engineering Consultant (GEC), K Friese & Associates, Inc., which the Owner has secured to act on its behalf as an Owner's Representative. The Engineer is required to coordinate with the GEC for completion of this work. Specific tasks may include, but are not limited to, the following:

The work to be performed by the Engineer shall consist of providing preliminary engineering services for the development of a final design schematic of Bunton Creek Road from east of Lehman Drive (proposed roundabout designed by others) to Porter Cove. These services may include, but are not limited to, preparing a design schematic based on the preferred alternative from the Task Order No. 1 Preliminary Engineering Report, environmental documents/studies in support of the schematic work, public involvement support, permit procurement, data collection analysis, mitigation and remediation, monitoring, drainage, conceptual traffic control, traffic studies, 3-D modeling, surveying and mapping, environmental clearance, utility coordination, storm drain design, bridge design, and cross sections.

The Engineer shall complete the services to be provided by the Engineer according to the milestone work schedule established in the task order. The Engineer shall submit a written progress report to the Owner monthly indicating the actual work accomplished during the month, scheduled work to be accomplished for the month, and the estimated work to be accomplished for the coming month. The progress report will use a bar chart diagram to indicate the percentage complete of each task shown on the previous report and the percentage complete of each task. The Engineer is required to meet with the designated Owner project manager and environmental coordinator bi-weekly for progress tracking purposes unless prior agreement is made with Owner not to hold a scheduled meeting. The Engineer shall submit minutes of the meeting, summarizing the events of the meeting within seven calendar days after each meeting.

The Engineer shall prepare a project work schedule. The work schedule must incorporate an allocation of time for stage reviews of the design schematic, survey, ROW Mapping, and the environmental documents by Owner personnel. The Engineer shall present the work schedule to the Owner for review and acceptance and provide assistance in interpreting the proposed work schedule.

GENERAL REQUIREMENTS

1.1. Design Criteria.

Design Criteria. The Engineer shall prepare all work in accordance with the latest version of applicable Owner's procedures, specifications, manuals, guidelines, standard drawings, and standard specifications or previously approved special provisions and special specifications, which include:

- Kyle Connected 2040 Transportation Master Plan (2015)
- Kyle Transportation Master Plan Update (2021)
- The Vybe Kyle: Trail-Oriented Development (2021)

- Kyle Drainage Master Plan (2018)
- City of Kyle Roundabout Ordinance #1162 (2021)
- City of Kyle standard detail sheets and general construction notes
- Texas Department of Transportation (TxDOT) PS&E Preparation Manual
- TxDOT Roadway Design Manual
- TxDOT Hydraulic Design Manual
- Texas Manual on Uniform Traffic Control Devices (TMUTCD)
- Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (latest Edition)
- Other Owner approved manuals
- TxDOT ROW Acquisition Manual
- TxDOT Utilities Manual
- Texas Transportation Administrative Code – Utility Accommodation
- City of Austin Utility Criteria Manual
- City of Kyle utility standards
- Texas Commission on Environmental Quality (TCEQ)

When design criteria are not identified in Owner's manuals or TxDOT criteria, or if conflicting guidance is found, the Engineer shall notify the Owner and refer to City of Austin policies and the American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Street (latest Edition).

The Engineer shall use applicable standards and guidance to tailor the Design Summary Report (DSR) template (provided by the City) to their project. The Engineer shall obtain approval from the City on all information contained in the DSR prior to schematic development.

The Engineer shall identify, prepare exhibits and complete all necessary forms for each Design Exception and Waiver required within project limits prior to the 50% project completion submittal. The Engineer shall submit each exception and waiver to the Owner for coordination and processing of approvals. If subsequent changes require additional exceptions, the Engineer shall notify the Owner in writing as soon as possible after identification of each condition that may warrant a design exception or waiver.

The Engineer shall prepare a design time schedule and an estimated construction contract time schedule, using the latest version of MS Project, Primavera, or any Owner approved programs. The schedules shall indicate tasks, subtasks, critical dates, milestones, deliverables and review requirements in a format that depicts the interdependence of the various items. The Engineer shall provide assistance to Owner's personnel in interpreting the schedules. The Engineer shall schedule milestone submittals at 50%, 90% and final project completion phases unless directed by Owner otherwise. The Engineer shall advise the Owner in writing if the Engineer is not able to meet the scheduled milestone review date.

Once the schematic has been completed and accepted by the Owner, the Engineer shall deliver all electronic files to the Owner within 30 calendar days of Owner's written request.

Milestone submittals shall include, but shall not be limited to, the following to be considered complete:

1. 50%

- Design Summary Report (DSR)
- Draft Schematic of preferred alternative using border file provided by the Owner for the Kyle 2022 Road Bond Program
- Cross Sections on 11X17 sheets
- Draft Drainage Report
- Draft Traffic Study (or Studies) including roundabout
- Draft Traffic Control Layout
- Draft Geotechnical Report
- Draft Environmental Documents
- Construction Cost Estimate
- ROW Cost Estimate
- Utility Conflict Matrix
- Utility Relocation Cost Estimate including compensable and non-compensable subtotals

2. 90%
    - All 50% items with review comments addressed
    - Comment resolution matrix
    - Draft ROW Acquisition Documents
    - Final versions of 50% items
3. Final
    - All 90% items with review comments addressed
    - Comment resolution matrix
    - Final signed and sealed versions of 90% items

Submittals shall be provided electronically to the Owner using the Procore platform.

1.2. Right-of-Entry. The Engineer shall notify the Owner and secure permission to enter private property to perform any surveying, environmental, engineering, or geotechnical activities needed off Owner right-of-way. In pursuance of the Owner's policy with the general public, the Engineer shall not commit acts which would result in damages to private property, and the Engineer shall make every effort to comply with the wishes and address the concerns of affected private property owners. The Engineer shall contact each property owner prior to any entry onto the owner's property and shall request concurrence from the Owner prior to each entry.

1.3. Progress Reporting and Invoicing. The Engineer shall invoice according to Function Code breakdowns shown in Exhibit "A" of the Professional Services Agreement and Attachment "B" - Fee Schedule, of the Task Order. The Engineer shall submit each invoice in a format acceptable to the Owner.

The Engineer shall complete the services according to the milestone work schedule established in the task order. With each invoice the Engineer shall submit a monthly written progress report to the Owner's Project Manager regardless of whether the Engineer is invoicing for that month. Requirements for progress reports are included in Sections 145.2.b. and 145.2.c. of this scope of services.

The Engineer is required to meet with the designated Owner project manager or environmental

coordinator bi-weekly for progress tracking purposes unless prior written agreement is made with Owner not to hold a meeting in any given month. The Engineer shall submit minutes of the meeting summarizing the events of the meeting within five (5) business days after each meeting.

The Engineer shall prepare a project work schedule, using the latest version of Microsoft Project or Primavera software or another scheduling program approved by the Owner in writing. Requirements for schedules are included in Section 145.2.b. of this scope of services.

Condition precedents to final payment by the Owner are the Owner's receipt of all electronic files and confirmation by the Owner's Project Manager that (1) the electronic files can be opened and are usable by the Owner utilizing the Owner-owned version of the intended software, and (2) all of the Owner's review comments have been addressed.

The Engineer shall prepare a letter of transmittal to accompany each document submittal to the Owner. At a minimum, the letter of transmittal must include the project name, project limits, Owner's contract number, and Owner's task order number.

1.4. Traffic Control. The Engineer shall provide all planning, labor, and equipment to develop and to execute each Traffic Control Plan (TCP) needed by the Engineer to perform services under each task order. The Engineer shall comply with the requirements of the most recent edition of the TMUTCD. The Engineer shall submit a copy of each TCP to the Owner for approval prior commencing any work on any Owner roadway. The Engineer shall provide all signs, flags, and safety equipment needed to execute the approved TCP. The Engineer shall notify the Owner in writing five (5) days (in advance of executing each TCP requiring a lane closure and shall have received written concurrence from the Owner prior to beginning the lane closure. The Engineer's field crew shall always possess a copy of the approved TCP on the job site and shall make the TCP available to the Owner for inspection upon request. The Engineer shall assign charges for any required traffic control to the applicable function code. The Owner requires Public Notice of lane and Road closure 7 days in advance of closure through use of message boards, thus notice to Owner would need to be about 10 days prior of closure.

1.5. State-Controlled Waters. The placement of a new structure or modification of an existing structure(s) within State-Controlled waters will require confirmation that said structure(s) lie within the General Land Office (GLO) state owned land and whether the crossing is tidally influenced or not. Consequently, the Engineer shall request, as early in the design process as possible, that the State determine whether the proposed improvements are found within the tidal GLO, is a submerged GLO property or a non-tidal GLO property. The Owner may request assistance from the Engineer to prepare an exhibit demonstrating the location of the proposed improvements on the GLO State Owned Map for the project location.

1.6. Coordination. The Engineer shall coordinate issues and communications with Owner's internal departments through the Owner's Project Manager. The Owner will communicate the resolution of issues and provide the Engineer direction through the Owner's Project Manager.

Where applicable, the Engineer shall notify the Owner and coordinate with adjacent engineers and surveyors on all controls at project interfaces. The Engineer shall document the coordination effort, and each engineer must provide written concurrence regarding the agreed project controls and interfaces. In the event the Engineer and the other adjacent engineers are unable to agree, the Engineer shall meet jointly with the Owner and each adjacent engineer to resolve disagreements. If the engineers are unable to resolve an issue with the Owner as mediator, the Owner may decide the issue and the decision will be final.

The Engineer shall prepare each exhibit necessary for approval by each railroad, utility, and other governmental or regulatory agency in compliance with the applicable format and guidelines required by each entity and as approved by the Owner. The Engineer shall notify the Owner in writing prior to beginning any work on any outside agency's exhibit.

1.7. Level of Effort. For each task order, the Engineer shall base the level of effort at each phase on the prior work developed in earlier phases without unnecessary repetition or re-study. As directed by the Owner, the Engineer shall provide written justification regarding whether or not additional or repeated level of effort of earlier completed work is warranted, or if additional detail will be better addressed at a later stage in the project development.

1.8. Quality Assurance (QA) and Quality Control (QC). The Engineer shall provide peer review at all levels. For each deliverable, the Engineer shall have some evidence of their internal review and mark-up of that deliverable as preparation for submittal. A milestone submittal is not considered complete unless the required milestone documents and associated internal red-line mark-ups are submitted. The Owner's Project Manager may require the Engineer to submit the Engineer's internal mark-up (red-lines) or comments developed as part the Engineer's quality control step. When internal mark-ups are requested by the Owner in advance, the Owner, at its sole discretion, may reject the actual deliverable should the Engineer fail to provide the evidence of quality control. The Engineer shall clearly label each document submitted for quality assurance as an internal mark-up document.

The Engineer shall perform QA and QC on all survey procedures, field surveys, data, and products prior to delivery to the Owner. If, at any time, during the course of reviewing a survey submittal it becomes apparent to the Owner that the submittal contains errors, omissions, or inconsistencies, the Owner may cease its review and immediately return the submittal to the Engineer for appropriate action by the Engineer. A submittal returned to the Engineer for this reason is not a submittal for purposes of the submission schedule.

1.11. Organization of Design Project Folder and Files (Electronic Project Files). The Engineer shall organize the electronic project files in accordance with the Owner's File Management System (FMS) format. The Engineer shall maintain the project files in the Owner's file structure.

1.12. Personal Protective Equipment (PPE). The Engineer shall, and shall require its subcontractors to, (1) provide personal protective equipment (PPE) to their personnel, (2) provide business vehicles for their personnel, and (3) require their personnel to use PPE and drive only business vehicles while performing work on or near roadways. The PPE must meet all (1) current standards set by the Occupational Safety and Health Administration (OSHA) and (2) TxDOT requirements (e.g., safety glasses, Type 3 (TY 3) pants for night work). Each business vehicle must be clearly marked with the Engineer's business name, or the name of the appropriate subcontractor, such that the name can be identified from a distance.

1.13. Data Classification. Unless otherwise clearly labeled or otherwise specifically excepted through a provision of this contract or its attachments, all data provided to or generated by the Engineer under this contract is considered public data for the purposes of applying the Owner's data security standards. The Engineer shall manage all data and work products according to the terms of the contract, including specifically Attachment I, Information Resources and Security Requirements.

TASK DESCRIPTIONS AND FUNCTION CODES

The Engineer shall categorize each task performed to correspond with the Function Codes (FC) and Task Descriptions.

FUNCTION CODE 102(110) – FEASIBILITY STUDIES

ROUTE AND DESIGN STUDIES

The Engineer shall collect, review, and evaluate data described below. The Engineer shall notify the Owner in writing whenever the Engineer finds disagreement with the information or documents provided.

The Engineer shall finalize an alignment and proposed roadway schematic layout that includes projected traffic volumes, when available, and existing and proposed typical sections. The Engineer shall furnish Microsoft Office and MicroStation, and OpenRoads Designer computer generated media containing the roadway schematic layout to the Owner. All supporting attachments and exhibits must accompany the schematic layout. All MicroStation, and OpenRoads Designer computer generated files containing the roadway design schematic must be fully compatible with the software used by the Owner without further modification or conversion. The Engineer shall be required to convert files to AutoCAD if requested by the Owner.

The Engineer shall produce, obtain, review, and evaluate available existing and twenty-year projected traffic data for use in the preparation of the schematic design layout. The data must be utilized in accordance with the requirements for schematic development and consistent with the policies of the Owner.

The Engineer shall prepare preliminary drawings to identify any potential impacts and constraints within the project corridor, including impacts to the nature, cultural, and human environment. The potential impacts and constraints identified must include all existing and proposed utilities (both public and private), structures, burial grounds, neighborhood communities, historical landmarks, and undeveloped areas. Any potential utility conflicts and structural impediments must be identified as such. The Engineer shall propose alternative alignments that avoid or minimize displacements and damages and prepare any additional attachments or exhibits required to illustrate a preferred alternative alignment. The Engineer shall assist the Owner with agency meetings during the development of the schematic design as requested by the Owner. .

An itemization of the schematic design and engineering work activity to be performed under this contract is detailed below. The Engineer shall prepare all designs in accordance with the latest version of:

A. Kyle Connected 2040 Transportation Master Plan (2015)
B. Kyle Transportation Master Plan Update (2021)
C. The Vybe Kyle: Trail-Oriented Development (2021)
D. Kyle Drainage Master Plan (2018)
E. City of Kyle Roundabout Ordinance #1162 (2021)
F. City of Kyle standard detail sheets and general construction notes
G. Texas Department of Transportation (TxDOT) PS&E Preparation Manual
H. TxDOT Roadway Design Manual
I. TxDOT Hydraulic Design Manual

J. Texas Manual on Uniform Traffic Control Devices (TMUTCD)
K. Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (latest Edition)
L. Other Owner approved manuals and guides.

When design criteria are not identified in Owner manuals or TxDOT criteria, or when conflicts are found, the Engineer shall notify the Owner and refer to City of Austin policies and the American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Street, (latest Edition).

The design schematic horizontal layout must adhere to a design scale of 1 inch = 100 foot (or 1 inch = 200 foot, when directed by the Owner.) The Engineer shall develop the schematic layout, exhibits, and attachments in English units. All Microsoft Office, MicroStation, Keyhole Markup Language (KML), Keyhole Markup Language Zipped (KMZ), and Bentley OpenRoads computer graphic files furnished to the Owner must be uploaded to the Owner's file management system in their native format, which must be fully compatible with the programs currently used by the Owner. Schematics must follow TxDOT and Federal Highway Administration (FHWA) standards. The schematic must follow TxDOT's computer-aided design and drafting (CADD) standards. The Engineer shall submit the schematic as an original document, accompanied with an original MicroStation formatted graphics file. Final copies of the schematic design must be signed and sealed by a professional engineer licensed in the State of Texas.

110.1. Schematic Design Work Outline:

A. Develop Base Maps

The Engineer shall finalize the schematic for the preferred alternative from Task Order No. 1. The Engineer shall develop the base maps to be used for the analysis and proposed schematic layout from existing construction and right of way (ROW) plans as available. The Engineer shall re-establish the existing centerline horizontal alignments for all roadways, identify existing ROW and easements, property owners, and the approximate location of major utilities in the preparation of base maps.

B. Planimetrics and Aerial Mapping

The Engineer shall obtain planimetrics, digital terrain modeling (DTM), and aerial photographs from the Owner, if available.

C. Analyze Existing Conditions

Using collected data and base maps, the Engineer shall develop an overall analysis of the existing conditions to develop the schematic design. The schematic analysis must include the following:

2. ROW and easement determination
3. Horizontal alignment
4. Vertical alignment
5. Pavement cross slopes and pavement type
6. Soil exploration

7. Geotechnical testing
8. Highway-rail grade crossing studies, if applicable
9. Intersection design and analysis
10. Sight distance
11. Large guide signs and roadside signing
12. Level of service
13. Safety (i.e., crash data)
14. Locations of critical constraints
15. Drainage
16. Traffic control and construction phasing sequence

D. Schematic

The Engineer shall identify, analyze, and minimize potential adverse operational impacts, crash impacts, ROW impacts, environmental impacts, major utility conflicts, structural impediments, or exceptions to the Owner, State and FHWA design criteria. Schematics will be developed to the 50%, 90%, and 100% level of completion.

E. Deliverable Schematic

The Engineer shall evaluate and document the following in the analysis to optimize the design:

1. Efficient use of the allocated ROW
2. Control of access (COA) and driveway locations
3. Roadway and intersection geometry
4. Cross sections
5. Bicycle and pedestrian design
6. Drainage and hydraulic design
7. Stopping sight distance
8. Level of service
9. Safety
10. Traffic operations
11. Construction, ROW, easement, and utility costs
12. Construction sequencing
13. Traffic control during construction
14. Roadside safety appurtenances
15. Environmental mitigation (e.g., noise walls, storm water best management practices (BMPs))
16. Roundabout Analysis
17. Accommodation of ultimate corridor configuration.
18. Accommodation of future cross street expansion as described in local thoroughfare plan (if applicable)
19. Avoidance of utility lines (if feasible)
20. Impact of construction delays from utility relocations

F. Project Management and Coordination

1. The Engineer shall direct and coordinate the various elements and activities associated with developing the design schematic.
2. The Engineer shall prepare the detailed graphic project work schedule indicating tasks, critical dates, milestones, deliverables, and Owner review requirements. The project work schedule must depict the order of the various tasks, milestones, and deliverables. The Engineer shall review the schedule monthly and provide updates regarding its progress on the schedule to the Owner.
3. The Engineer shall submit written monthly progress reports to the Owner.
4. The Engineer shall provide ongoing quality assurance and quality control to ensure completeness of product and compliance with the Owner procedures.
5. The Engineer shall conduct site visits in both the AM and PM peak hour and develop a technical report that includes photographs outlining the findings and observations.

G. Data Collection and Field Reconnaissance

The Engineer shall collect, review, and evaluate data described below. The Engineer shall notify the Owner in writing whenever the Engineer finds disagreement with the information or documents:

1. Data, if available, from the Owner, including "as-built plans", existing schematics, right-of-way maps, Subsurface Utility Engineering (SUE) mapping, existing cross sections, existing planimetric mapping, environmental documents, existing channel and drainage easement data, existing traffic counts, accident data, Bridge Inspection records, identified endangered species, identified hazardous material sites, current unit bid price information, current special provisions, special specifications, and standard drawings.
2. Documents for existing and proposed development along proposed route from local municipalities and local ordinances related to project development.
3. Utility plans and documents from appropriate municipalities and agencies.
4. Flood plain information and studies from the Federal Emergency Management Agency (FEMA), the United States Army Corps of Engineers (USACE), local municipalities, and other governmental agencies.
5. Conduct field reconnaissance and collect data including a photographic record of notable existing features.

The Engineer shall conduct field reconnaissance and collect data as necessary to complete the schematic design. Data must include the following information. Items 1 through 5 must be obtained from the Owner, if available. Items 6 through 13 must be obtained from other agencies as required.

1. Local major thoroughfare plan
2. Plat research for adjacent properties (if available)
3. Available corridor major investment studies
4. Design data from record drawings of existing and proposed facilities
5. Previously prepared drainage studies
6. Public and private utility information (It is necessary for the Engineer's Surveyor to locate public and private utilities, even if the City has permits)
7. Existing and future design year traffic data

8. Historical crash data
9. Roadway inventory information, including the number of lanes, speed limits, pavement widths and rating, bridge widths and ratings, and ROW widths
10. Aerial photos, planimetric mapping, and DTM
11. Environmental data
12. Adopted land use maps and plans (if available)
13. Federal Emergency Management Agency (FEMA) flood boundary maps and flood insurance studies and models

H. Roadway Design Criteria

The Engineer shall develop the roadway design criteria based on the City of Kyle Transportation Master Plan Update (2021), TxDOT Roadway Design Manual and AASHTO Policy on Geometric Design of Highways and Streets guidelines. The design criteria must include the following roadway design elements: design speed, lane and shoulder widths, pavement structure and slopes, horizontal curvatures, horizontal and vertical clearances, range of vertical profile grades, and side slopes. If there is a discrepancy between the two sources, the Roadway Design Manual will govern unless otherwise directed by the Owner.

The Engineer shall prepare and submit preliminary design criteria to the Owner for review and approval and shall attend an initial kick-off meeting to establish and agree on fundamental aspects, basic features, concepts, and design criteria. This meeting will be coordinated with any adjacent roadway projects to ensure continuity with the design of the adjacent roadway projects.

110.2. Schematic Design – General Tasks

A. ROW Property Base Map

The Engineer shall obtain information on existing ROW, easements, and property information from as-built plans, ROW maps, and tax records. The Engineer shall prepare a base map depicting the information.

B. Typical Sections

The Engineer shall develop both existing and proposed typical sections that depict the number and type of lanes, shoulders, median width, curb offsets, cross slope, border width, clear zone widths, and ROW limits.

C. Environmental Constraints

The Engineer shall evaluate and document impacts to environmentally sensitive sites (as identified by the Engineer and verified by the Owner) during the schematic design process. Environmentally sensitive sites include natural, cultural, and the human environment. Examples are historic and archeological resources, burial grounds, neighborhood communities and residential areas, farmland, floodplains, wetlands, endangered species, rare habitats, wildlife corridors, wildlife crossings, parks and nature preserves, geologic features, undeveloped areas, and significant trees.

D. Drainage

The City of Kyle adopted the City of Austin DCM and ECM per the City of Kyle Code of Ordinances 41-134(a)(7). Distinctions from these codes are provided in the City of Kyle Drainage Design Criteria available on the City of Kyle website.

Engineer shall evaluate and refine design to make the proposed project compatible with anticipated drainage projects identified in the City of Kyle Drainage Master Plan.

Limits of drainage evaluation are from east of Lehman Drive (proposed roundabout designed by others) to Porter Cove. BGE's Preliminary Design Schematic proposed storm water outfalling into the tributary south of Lehman High School. This scope will not provide that evaluation and design, as Lehman Road design south of Bunton will be performed by others. As such, BGE will coordinate flows from Bunton Creek Road with the Lehman Road design team for them to include in their drainage design efforts.

The Engineer shall use data from as-built plans and FEMA maps to locate drainage outfalls and to determine existing storm sewer and culvert sizes, and design flows for use in the design of roadway geometry.

All hydrologic studies shall be based on Atlas 14 rainfall. City of Kyle Drainage Criteria Table 5 of Attachment 1– COK for Intensity Duration Frequency (IDF) curve coefficients shall be used to replace City of Austin DCM Table 2-2A (zone 1), IDF curve coefficients.

The Engineer shall conduct a preliminary drainage analysis to determine and evaluate the adequacy of the ROW needed to accommodate the proposed roadway and drainage system. The drainage analysis must (1) identify the impacts to abutting properties and the 100-year floodplain due to proposed highway improvements; (2) identify the water surface elevations for the 2, 10, 25, 50, and 100-year storm events; ; (3) identify, describe, and locate outfalls; (4) provide an overall drainage area map and sub-drainage area map, storm water detention facilities; and provide a drainage study report identifying the results of the study. The drainage analysis will be in accordance with one or more of the following: City of Kyle Drainage Criteria TxDOT Hydraulic Design Manual, local TxDOT district criteria, and any other specific guidance provided by the Owner.

The Drainage Report, which will be signed and sealed by a professional engineer licensed in Texas and will include applicable hydrologic and hydraulic models (e.g., HEC-HMS, Geopak Drainage, etc.). Within the Drainage Report, a hydrologic and hydraulic analysis, and models of the proposed storm sewer at the 50% design level will be provided. This includes the results of both localized and watershed "No Adverse Impact" (NAI) comparison analyses. It will also show existing data used to develop the parameters for the analysis such as field notes, photographs, and digital data. The Drainage Report will summarize the benefits and drawbacks of choosing each drainage alternative set forth in the preliminary engineering report through a prioritization scoring matrix and, with client feedback, will then recommend the preferred alternative. BGE will prioritize reducing flood risk and being able to incorporate the proposed design with future Bunton Creek Road improvements. An update to the Drainage Report will occur after each

milestone submittal after the 50% submittal. If requested by the Owner, the Engineer shall evaluate the adequacy of the existing drainage structures; otherwise, the Engineer shall not evaluate the adequacy of the existing drainage structures.

Water Quality: shall be provided in accordance with City of Kyle Code 41-134(a)(7). This water quality shall be designed in accordance with the latest version of the Texas Commission on Environmental Quality – Edwards Aquifer Technical Guidance Manual (TCEQ RG-348).

The Engineer shall design water quality Best Management Practices (BMP) in accordance with the latest editions of RG-348 – Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices (July 2005); RG-348 Addendum Sheet (July 2012), or latest edition. As part of this work, the Engineer shall perform the following:

1. BMP analysis: The Engineer shall locate all BMPs previously permitted under the TCEQ Edwards Aquifer rules that might be impacted by the project. The Engineer shall determine the amount of total suspended solids (TSS) being treated under these permitted BMPs.
2. TSS load calculations: The Engineer shall develop TSS load calculations to determine the TSS amount required to be treated under the Edwards Aquifer rules. This calculation is based on the increase in the amount of impervious cover within the project area. The Engineer will determine 80% of the increase in TSS load resulting from the development on the project.
3. TSS removal determination: The Engineer shall utilize the TCEQ calculation spreadsheet to determine the total amount of TSS removal required for the project.
4. Design coordination and water quality report: After the 30% submittal, the Engineer shall meet with the Owner to discuss the TSS removal required for the project and delineate the design approach for the water quality BMPs. As geometry allows, the Engineer shall first maximize treatment via features in the roadway section (vegetative filter strips and grassy swales). For all other permanent BMP treatment options, the Engineer shall coordinate with the Owner for preferred treatment options and determine any necessary drainage easements required for the water quality BMP. The Engineer shall identify and document BMPs in the schematic water quality report. The Engineer shall submit a draft schematic water quality report with the 60% submittal, and a final schematic water quality report with the 100% submittal. The Engineer shall provide cost estimates for the BMPs and necessary drainage easements.

E. ROW Requirements

The Engineer shall determine the ROW requirements based on the proposed alignment, typical sections, design cross sections, access control, terrain, construction requirements, drainage, clear zone, maintenance, intelligent transportation system (ITS), and environmental constraints and mitigation requirements.

F. Construction Sequence

The Engineer shall evaluate and document the requirements for construction staging and traffic control throughout the development of schematic design to ensure that the proposed design

can be constructed. The Engineer shall provide construction phasing assumptions to the Owner as requested and provide preliminary traffic control plan (TCP) layouts.

G. Design Exceptions

The Engineer will spend up to 40 hours identifying design exceptions and waivers. The Engineer shall determine the necessity for each design exception or waiver for approval. If the Owner agrees that design exception or waiver is necessary, the Engineer shall prepare the Owner's required design exception or design waiver documentation. The Engineer shall document the operational and safety analysis for comparison of the no-build, build with standard design, and build with proposed design alternatives.

H. Traffic Data and Projections

The Engineer shall obtain the base year traffic data from new counts and develop the opening-year, design-year (opening year +20), and pavement design year (opening year + 30) travel forecasts for the AM peak hour, PM peak hour, and 24-hour scenarios. The following traffic data locations shall be obtained on a Tuesday, Wednesday, or Thursday:

- 4-Hr Turning Movement Counts (7-9 AM and 4-6 PM)
    - Goforth Road at Bunton Creek Road
    - Lehman High School Driveway west of Lake Washington Drive
    - Lehman High School Driveway east of Lake Washington Drive
- 24-Hr Bidirectional Tube Count
    - Bunton Creek Road west of Brandi Circle
    - Bunton Lane east of Twin Estate Drive

The Owner shall provide information regarding proposed developments near the study area that have not yet been built. Traffic forecasts shall consider the traffic generated by these proposed developments.

The developed traffic projections must be utilized for design analysis. The Engineer shall develop traffic forecasts for the mainlanes and intersections listed in this section for no-build and build alternatives. Traffic projections for the AM peak hour, PM peak hour, and 24-hour shall be presented graphically.

I. Traffic and Operational Analysis

The Engineer shall develop and analyze traffic data (including percent trucks, peak hour factors, and traffic volumes), existing roadway features (number of lanes and intersection operation and geometry), traffic flow patterns, and traffic operations. The Engineer shall conduct the following operational and capacity analyses for the design year to make recommendations for improving traffic flow:

- Roadway Capacity Analysis
    - The Engineer shall conduct a roadway capacity analysis and make recommendations regarding the number of travel lanes within the project limits. The roadway capacity analysis will be performed based on the Highway Capacity Manual (HCM) methodology using Highway Capacity Software (HCS).

- Intersection Operational and Capacity Analysis
    - The Engineer shall analyze the operations and capacity of the following intersections using HCM methodology and Synchro 11 software:
        - Goforth Road at Bunton Creek Road
        - Lehman High School Driveway west of Lake Washington Drive
        - Lehman High School Driveway east of Lake Washington Drive

Roundabout analysis will be conducted using Sidra software for the Goforth Road at Bunton Creek Road intersection. Based on the operational and capacity analyses, recommendations will be made for improving traffic flow. Recommendations will consider intersection lane configuration (turn lanes), traffic control, and roundabouts. This analysis will include up to three (3) alternatives for each study intersection listed above.

The Engineer shall develop and submit to Owner a traffic and operational analysis report summarizing all analysis performed.

J. Safety Analysis

The Engineer shall review and analyze historical crash data for latest 5 full calendar years (i.e., January 1 to December 31, inclusive) with respect to crash characteristics such as severity, crash types, frequency, rates, patterns, clusters, and their relationship to crash contributing factors. The purpose of the historical crash analyses is to determine safety performance of the existing conditions to understand any safety issues within the study area.

Predictive, or quantitative safety analysis, involves using HSM-based methods that use safety performance functions (SPFs) and crash modification factors (CMFs) to estimate anticipated change in crashes from existing condition to the proposed design. The predictive safety analysis must be done for no-build and build conditions for design year. The purpose of the predictive safety analysis is to compare the safety performance of the no-build and build alternatives to help determine the preferred alternative and to determine the countermeasures, if necessary, to improve safety.

Predictive safety analysis must be performed using HSM based tools including Interactive Highway Safety Design Model (IHSDM), Enhanced Interchange Safety Analysis Tools (ISATe), HSS, or other tools acceptable to the Owner. The Engineer shall develop and submit to the Owner a safety analysis report summarizing all analysis performed.

K. Bicycle and Pedestrian Accommodations

The Engineer shall comply with City of Kyle design criteria and planned improvements for bicycle and pedestrian accommodations, including the 2015 and 2021 Transportation Master Plans and The Vybe Kyle: Trail Oriented Development, and the United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations.

L. Relocate Overhead Utilities Underground

Schematic level design and cost estimates to relocate overhead utilities underground on Bunton Creek Road from Lehman Road to Porter Cove in Kyle, TX.

M. Roundabout Analysis

Analyze and further refine the proposed roundabout at Bunton Creek Rd and existing Goforth Rd intersection.

110.4. Geometric Design Schematics

The Engineer shall develop geometric design schematics based on the conceptual schematics developed in Task Order No. 1, after the basic layout, lane arrangement, and anticipated ROW and easement impacts depicted on the conceptual schematics are approved. The Engineer shall use Bentley OpenRoads tools in performing this task. The geometric design schematics must include both a plan view and profile view.

A. The geometric schematic plan view must contain the following design elements:

1. Bentley OpenRoads calculated roadway alignments for mainlanes and cross streets at major intersections
2. Horizontal curve data shown in tabular format
3. Pavement edges, curb lines, sidewalks for all roadway improvements
4. Typical sections of existing and proposed roadways
5. Proposed retaining walls and sound walls
6. Proposed cross-drainage structures with outfall flow arrows and significant drainage features or waterways identified
7. Existing utilities and proposed utilities
8. Existing property lines and respective property ownership information
9. Existing ROW and easements
10. Proposed ROW and easements adequate for preparation of ROW maps
11. Waters of the US (WOTUS)
12. Control-of-access limits
13. Existing and projected traffic volumes
14. Lane lines, shoulder lines, and direction of traffic flow arrows indicating the number of lanes on all roadways

B. The geometric schematic profile view must contain the following design elements:

1. Calculated profile grade and vertical curve data including “K” values for all curves and sight distance values for crest vertical curves on the mainlanes
2. Existing ground line profiles along the mainlanes
3. Anticipated cross-drainage structures with approximate inlet and outfall elevations
4. Approximate locations of existing and proposed major utility crossings
5. The calculated profile grade for cross streets will be shown on separate Supplemental Profile rolls

110.5. Cross-Sections

The Engineer shall use a Bentley 3D OpenRoads model to generate preliminary cross-sections at 50 feet intervals (unless otherwise directed by the Owner) and at culvert locations in conjunction with the geometric schematic. The Engineer shall determine earthwork volumes for use in the cost estimate. The Engineer shall prepare 11inch x17inch sheets of the cross-sections.

110.6. Retaining Walls

The Engineer shall prepare preliminary retaining wall concepts to be shown on schematics, typical sections, and cross sections.

A. The Engineer shall determine if any additional walls are required and verify the need for and length of the retaining wall as shown on the ultimate schematic.
B. The Engineer shall compute and tabulate retaining wall quantities for preliminary design milestone plans submittal.

110.7. Renderings and Traffic Simulation

N/A

110.8. Preliminary Construction Sequence

The Engineer shall prepare preliminary construction sequence layouts in conjunction with the geometric design schematic depicting the phasing and traffic detours anticipated to safely convey traffic. The layouts must demonstrate that adequate horizontal and vertical alignments are maintained, sufficient lane widths and shoulder widths or barrier offsets are feasible, and construction zones are adequate for constructability of all proposed features. Proposed construction detours must ensure that adequate superelevation is provided. The layouts must indicate how existing pedestrian and bicycle facilities are accommodated for each phase.

Traffic control shall be shown as a Conceptual Phase Layout in roll plot format including, plan view traffic control phasing, traffic control typical sections, and a conceptual, high-level, traffic control narrative.

110.12. Agency Coordination and Public Involvement

A. The Engineer shall assist the Owner in conducting meetings with property owners, stakeholders, and various agencies to discuss and review the schematic design. The Engineer shall document and respond to issues related to the schematic design. BGE will assist the owner in conducting and attending up to 8 meetings with property owners, stakeholders, and various agencies and attend up to 2 public outreach efforts. City will be responsible for sourcing locations for public outreach as well as advertising prior to any public outreach efforts.
B. The Engineer shall prepare necessary exhibits and meeting materials to support stakeholder coordination and public outreach efforts. BGE will provide exhibits, meeting materials, and responses for up to 8 meetings with property owners, stakeholders, and various agencies and attend up to 2 public outreach efforts.

110.13. Schematic Design Project Deliverables

In conjunction with the performance of the services included under Function Code 110 of this exhibit, the Engineer shall provide the following draft and final documents and associated electronic files as applicable:

A. Draft and final copies of the traffic and operational analysis report
B. 50%, 90%, and Final copies of the geometric schematic layouts on roll plots, or as requested by the Owner
C. 50%, 90%, and Final copies of the geometric schematic layouts (1 inch = 100 feet)
D. 50%, 90%, and Final copies of the design schematic profile rolls
E. 50%, 90%, and Final copies of the design schematic cross-sections on 11-inch x 17-inch cut sheets, or as requested by the Owner
F. Electronic 3D model copy of the preliminary cross-sections created using OpenRoads software
G. Preliminary drainage study
H. Electronic submittal of the hydrologic and hydraulic model digital files from the drainage study
I. Copies of the preliminary construction sequence layouts in a roll plot format, or as requested by the Owner
J. Copies of the preliminary construction sequence typical sections in roll plot format, or as requested by the Owner
K. Electronic files shall be uploaded to the Owner's Procore file management system
L. Traffic projections methodology memo
M. Average daily corridor traffic projections report
N. Line schematics with traffic data shown (shown on geometric schematic)
O. Utility plan – electronic file in latest version of MicroStation fully compatible with OpenRoads civil design system
P. Design exception and design waiver documents
Q. Draft hydraulic report for review and comment
R. Culvert hydraulic data sheets and preliminary culvert layouts
S. Electronic copy of the entire drainage report in PDF format, and computer files of hydrologic and hydraulic modeling with appropriate labeling of location, and submittal date
T. Geotechnical report
U. Cost estimates for each milestone submittal
V. KMZ or KML file of conceptual design schematic created from applicable DGN files for reviewing in Google Earth
W. Final schematic 3D model created using OpenRoads software
X. Draft and final copies of traffic analysis report

110.14. Preliminary Cost Estimates. The Engineer shall update preliminary cost estimates using the Average Low Bid Unit Price. The Engineer shall estimate the total project cost including preliminary engineering, final engineering, right-of-way (ROW) acquisition, environmental compliance and mitigation, construction, utility relocation, and construction engineering inspection (CEI).

110.16. Geotechnical Borings and Investigations.

N/A

FUNCTION CODE 120(120) – SOCIAL/ECON/ENVIRON STUDIES

SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT

I. Environmental Permits, Issues and Commitments (EPIC)

BGE will complete the EPIC sheet to include all environmental issues requiring monitoring commitments throughout the life of the project.

II. Cultural Resources

A. Research Design and Texas Antiquities Permit Application

BGE will complete a background assessment to estimate the potential for cultural resources that may be impacted by the Project. In compliance with the National Historic Preservation Act and the ACT, BGE will use the assessment to a research design based on established THC/CTA field survey standards for the Project. BGE will include the research design in a TAP Application submitted to the THC. Coordination with the THC will be through the eTrac System.

B. Cultural Resources Investigation

BGE will perform an intensive terrestrial archeological survey under a TAP issued by the THC and signed by a professional archeologist who meets Secretary of the Interior Qualifications for Archaeology. The investigation will be performed in compliance with the ACT and the guidelines set forth by the THC/CTA. The survey will be completed in accordance with the field survey standards and will include an estimated 20 shovel tests and, if required, backhoe trenching of up to 10 trenches.

C. Archeological Survey Report

Based on the intensive archeological survey, BGE will prepare a survey report according to Secretary of the Interior Standards for Archeological Documentation, and the CTA's Guidelines for Cultural Resource Management for submittal to the THC for review and approval. Documents created during the investigation will be curated at a THC-approved facility, as required under a TAP.

Deliverables

BGE will complete a Draft and Final Archeological Survey Report for submittal to the THC.

Assumptions

This proposal is based upon the following assumptions:

A. Field survey will be limited to areas of proposed new right-of-way (ROW), comprising no more than 2 kilometers (1.2 miles).

B. Proposed new ROW will extend 30 meters (98.4 feet) or less from existing ROW.

C. THC/CTA minimum survey standards of one shovel test for every 100 meters (328.1 feet) will be sufficient to investigate the Project and require 20 shovel tests or fewer total.

D. If deep prospection is required, THC/CTA minimum requirements of one archaeological trench for every two shovel tests will be sufficient to investigate the entire Project and require 10 trenches or fewer total.

E. No specialized geoarchaeological analyses would be required or requested.

F. The entire proposed new ROW is accessible and landowner permission has been secured for field team entry;

G. Excavation machinery (e.g., excavator, backhoe) will be able to access trench locations without construction matting, modifications to the project area, or special equipment.

H. Archeological trenches will not be excavated more than 1.8 meters (6 feet) below ground surface.

Exclusions

This proposal is limited in scope and the fee and reflects the following exclusions:

1. More than 2 kilometers (1.2 miles) requiring cultural resources survey.

2. Backhoe Trenching exceeding 10 locations.

3. Shovel Testing exceeding 20 locations.

4. Delineation and reporting of an archeological site or cultural resource.

5. Survey methodology changes caused by field conditions or requested by the THC or other review agencies beyond this scope of services.

120.1. Environmental Documentation Standards

A. Each environmental service provided by the Engineer must have a deliverable. Deliverables must summarize the methods used for the environmental services and the results achieved. The summary of results must be sufficiently detailed to provide satisfactory basis for thorough review by the Owner and (where applicable) other agencies with regulatory oversight. Quality Assurance/Quality Control Review

For each deliverable, the Engineer shall perform quality assurance quality control (QA/QC) reviews of environmental documents and on all supporting environmental documentation to determine whether documents conform with:

1. Current state and federal laws, regulations, policies, guidance, agreements, and memoranda of understanding between the Owner and applicable state or federal agencies; and

Upon request by the Owner, the Engineer shall provide documentation that the QA/QC reviews were performed by qualified staff.

B. Deliverables must contain all data acquired during the environmental service and be written to be understood by the public. Electronic versions of each deliverable must be written in software that is fully compatible with the software currently used by the Owner and provided in the native format of the document for future use by the Owner. The Engineer shall supplement all hard copy deliverables with electronic copies in searchable Adobe Acrobat™ (.pdf) format unless another format is specified. Each deliverable must be a single, searchable *.pdf file that mirrors the layout and appearance of the physical deliverable. The Engineer shall upload the electronic files to the Owner's Procore file management system in both the document's native format and the PDF format.
C. When the environmental service is to apply for a permit (e.g., USCG permit or USACE permit), the Engineer shall submit all required documentation to the applicable regulatory agency and copy the Owner on all correspondence.
D. Submission of Deliverables
E. All deliverables must comply with all applicable state and federal environmental laws, regulations and procedures. The Engineer shall provide photographs and graphics that clearly depict details relevant to an evaluation of the project area. Comparable quality electronic photograph presentations must be at least 1200 x 1600-pixel resolution. The Owner can request images/graphics be provided in another format or quality.

120.5. Environmental Technical Analyses and Documentation

A. Definition of technical analyses and documentation for environmental services

In general, technical analyses and documentation for environmental services might include a report, checklist, form, or analysis detailing resource-specific studies identified during the process of gathering data to make an environmental decision.

1. The Owner may determine what technical reports and documentation are necessary for any given project. The Engineer shall prepare all technical reports and documentation for the Owner with sufficient detail and clarity to support environmental determinations. Stormwater Permits (Section 402 of the Clean Water Act)

The Engineer shall:

a. describe the need to use the TPDES General Permit, TX 150000. The text must describe how the project will comply with the terms of the TPDES, including the Stormwater Pollution Prevention Plan; and
b. describe the need for Municipal Separate Storm Sewer System (MS4) notification. List MS4 participating municipalities.

120.8. Environmental Permits Issues and Commitments (EPIC) Sheets. The Engineer shall complete the latest version of the EPIC sheets per information provided by the State. These sheets must be signed, sealed and dated by the Engineer as indicated in signature block.

FUNCTION CODE 130(130) – RIGHT-OF-WAY (ROW) DATA

For Function Codes 130 and 150, the term Surveyor means the firm (prime provider or subprovider) that is providing the surveying services shown in this scope.

The Engineer shall ensure that the following general standards for survey work are followed for Function Codes 130 and 150:

Unless otherwise indicated, any reference in this attachment to a manual, specification, policy, rule or regulation, or law means the version in effect at the time the work is performed. TxDOT manuals are available at: http://onlinemanuals.txdot.gov/manuals/. All surveys must meet or exceed all applicable requirements and standards provided by:(1) Professional Land Surveying Practices Act, (2) General Rules of Procedures and Practices promulgated by the Texas Board of Professional Engineers and Land Surveyors (TBPELS), and (3) the TxDOT Survey Manual. The Surveyor shall perform all work in an organized and professional manner. All surveys are subject to the approval of the Owner.

The Surveyor shall use TxDOT's ROW Preliminary Procedures for Authority to Proceed Manual and TxDOT Survey Manual as the basis for the format and preparation of all right of way (ROW) documents produced, including ROW maps, written parcel descriptions, parcel plats, and other ROW work products, unless otherwise specified by the Owner. Unless otherwise directed by the Owner, the Surveyor shall use (1) the North American Datum of 1983 (NAD83), Texas Coordinate System of 1983 (State Plane Coordinates) applicable to the zone or zones in which the work is performed, with values in U.S. survey feet, as the basis for all horizontal coordinates derived and (2) the datum adjustment currently in use by TxDOT.

Project or surface coordinates must be calculated by applying a combined adjustment factor (CAF) to State Plane Coordinate values. If provided by the Owner, the Surveyor shall use a project specific CAF.

Elevations must be based on the North American Vertical Datum 88 (NAVD88), unless otherwise specified by the Owner.

All work using the Global Positioning System (GPS), whether primary control surveys or other, must meet or exceed the requirements provided by the TxDOT Survey Manual to the order of accuracy specified in the categories listed below or in a task order. If the order of accuracy is not specified in this attachment or in a task order, the work must meet or exceed the order of accuracy specified in the publication listed in this paragraph.

All conventional horizontal and vertical control surveys must meet or exceed the order of accuracy specified in the TxDOT Survey Manual unless specified otherwise in the contract.

All boundary determination surveys, whether for ROW acquisition, ROW re-establishment, or other boundary needs, must meet or exceed the accuracy specified in the TxDOT Survey Manual unless specified otherwise in the contract.

The Owner may authorize the Surveyor to use an Unmanned Aircraft System (UAS) to perform services under this contract. The use of UAS is regulated by the Federal Aviation Administration (FAA). All UAS operators must comply with Federal Aviation Administration (FAA) regulations and the TxDOT Unmanned Aircraft System (UAS) Flight Operations and User's Manual.

The survey data must be fully compatible with the Owner's computer system and with programs in use by the Owner at the time of the submission, without further modification or conversion. The current programs used by TxDOT are Microsoft Word, Bentley MicroStation, Bentley OpenRoads civil design system, Bentley GEOPAK Survey, Excel, and ESRI ArcGIS. Data collection programs must be compatible with the current import formats allowed by GEOPAK Survey and be attributed with current feature codes. These programs may be replaced at the discretion of the Owner.

Drawing sizes are defined, based on American National Standards Institute (ANSI) standard paper sizes, as follows: A-size means 8.5 inches by 11.0 inches, B-size means 11.0 inches by 17.0 inches, C-size means 17.0 inches by 22.0 inches, and D-size means 22 inches by 34.0 inches.

Variations from these software applications or other requirements listed above shall only be allowed if requested in writing by the Surveyor and approved by the Owner.

The Surveyor shall perform quality control/quality assurance on all procedures, field surveys, right-of-way surveys, data, and products prior to delivery to the Owner. The Owner may also require the Surveyor to review the survey work performed by others. If, at any time, during the course of reviewing a submittal of any item it becomes apparent to the Owner that the submittal contains a substantial number of errors, omissions, and inconsistencies, the Owner may cease its review and return the submittal to the Surveyor immediately for appropriate corrective action. A submittal returned to the Surveyor for this reason is not a submittal for purposes of the submission schedule and is not a reason for additional compensation.

The standards for services that are not boundary-related but that relate to surveying for engineering projects may be determined by the construction specifications, design specifications, or as specified by the Owner.

130.1. RIGHT-OF-WAY SURVEYS (15.1.1)

The Engineer will pursue right of entries for up to 20 parcels to complete survey. This will be completed in 2 phases. Phase 1 will include BGE sending certified letters to property owners and placing letters on appropriate properties. Phase 2 will include BGE's subconsultant, Dianna Tinkler, pursuing right of entries for up to 12 of the unreached/unapproved parcels.

Titles will be run for up to 20 parcels to determine ownership, easements, and restrictions within the proposed ROW. These will not be certified / insured by a title company but will provide parcel encumbrances to use in preliminary design. Full titles will be developed in subsequent design phases.

Right-of-Way Surveys includes the performance of surveys to establish land boundaries, preparation of parcel descriptions and parcel plats, and the preparation of right-of-way (ROW) maps.

The Surveyor shall prepare:

A. boundary surveys and create Property Descriptions (metes and bounds plus plats);
B. traditional ROW map as requested by Owner

The standards and deliverables are detailed in Chapter 4, Section 8 of the TxDOT ROW Preliminary Procedures for the Authority to Proceed Manual.

130.2. RIGHT OF WAY MAPPING – TRADITIONAL ROW MAP

If requested in a task order, the Surveyor shall conduct traditional ROW mapping.

Traditional ROW mapping includes ground surveying and preparation of parcel maps, legal descriptions also known as metes and bounds descriptions, and ROW maps.

130.4. ROW Hearing Services

A. ROW Hearing Services

The Engineer shall prepare color exhibits for eminent domain hearing cases (assume 8 exhibits). The exhibits must depict the subject property boundaries and the proposed ROW acquisition shown on an aerial map background. The exhibits must also show the pavement edges, drainage or other structures, and driveways.

The Engineer shall prepare for the eminent domain hearings by reviewing the approved design schematic and associated reports, cross-sections, ROW maps, and pertinent plan sheets provided by others, including those showing roadway, bridge, grading, drainage, signals, signs, intelligent transportation systems (ITS), illumination, traffic control plan and other elements or data.

The Engineer shall attend by teleconference pre-hearings (assume 8 meetings) for eminent domain proceedings. The Engineer shall also attend, in person, pre-hearings (assume 8 meetings) for eminent domain proceedings near the project location.

Deliverables include all services and documents stated in this section.

B. Expert Witness Services

The Engineer shall prepare for and provide expert testimony in eminent domain trial cases (assume 8 trials) at the county courthouse near the project location. Preparation includes the developing color exhibits, reviewing material, and providing depositions.

Assume that depositions, on average, last no longer than four hours and that trial cases, on average, last no longer than two days.

Deliverables include all services and documents stated in this section.

130.5. Utility Engineering Investigation

N/A

130.6. Utility Adjustment Coordination. (18.3.1)

The Engineer will continue to further determine existing utility locations, refine utility relocations and coordinate with existing utilities within the proposed ROW. This will include:

- Coordination with City of Kyle related to utilities through the corridor, including with the Utility Department (2 meetings)
- Prepare alternatives for relocation of GBRA / Kyle meter station/ meter station. Including: prepare up to 3 alternatives for relocation of GBRA / Kyle meter station/

meter station and develop concept level design of the preferred location of GBRA / Kyle take point/ meter station
- Coordination Meeting with GBRA (2 meetings)
- Coordination Meeting with County Line SUD (1 meeting)
- Refinement of Utility Layout and Utility Conflict Matrix
- Refinement and adjustment of the roadway alignment near the PEC substation may require further evaluation of the PEC and communications utilities' undergrounding alternatives and locations. This will include design efforts, communications with providers and development of revised cost estimates.

Relocate Overhead Utilities Underground

Engineer will further refine and adjust the schematic level design and cost estimates to relocate overhead utilities underground on Bunton Creek Road from Lehman Road to Porter Cove.

- Coordinate meeting with Pedernales Electric Cooperative (PEC) (up to 1), the Lower Colorado River Authority (up to 1), and telecommunication attachment companies (1 with each provider) to discuss cost estimates.
- Refine existing 3D schematic design (one alternative to the PER Draft Schematic) to remove overhead utilities to underground. The design will be completed in MicroStation and be combined with the overall roll plot.
- Prepare overhead to underground utility construction cost estimates based on the schematic design.
- Attend project team meetings (up to 6)

Exclusions for the relocation of overhead utilities underground include:

- Electric and Telecommunication wire design
- Permitting
- Reimbursement Percentage
- Easement Research
- Landowner Coordination

130.7. Access Management.

N/A

FUNCTION CODE 145(145, 164) – MANAGING CONTRACTED/DONATED PE

CONTRACT MANAGEMENT AND ADMINISTRATION

145.1. Contract Management and Administration

The Engineer shall:

A. Act as an agent for the Owner when specified in a task order.

B. Notify the Owner of its schedule, in advance, for all field activities.
C. Notify the Owner as soon as practical, by phone and in writing, if performance of environmental services discloses the presence or likely presence of significant impacts (in accordance with 40 Code of Federal Regulations (CFR) 1500-1508). Inform the Owner of the basis for concluding there are significant impacts and the basis for concluding that the impacts might require mitigation.
D. Notify the Owner as soon as practical, by phone and in writing, if performance of environmental services results in identification of impacts or a level of controversy that might elevate the transportation activity's status from a categorical exclusion or environmental assessment. The Owner will reassess the appropriate level of documentation.

145.2. Project Management and Administration

The Engineer, in association with the Owner's Project Manager shall be responsible for directing and coordinating all activities associated with the project to comply with Owner policies and procedures, and to deliver that work on time.

Project Management and Coordination. The Engineer shall coordinate all subconsultant activity to include quality of and consistency of plans and administration of the invoices and monthly progress reports. The Engineer shall coordinate with necessary local entities.

The Engineer shall:

- Prepare monthly written progress reports for each project.
- Develop and maintain a detailed project schedule to track project conformance to Exhibit C, Work Schedule, for each task order. The schedule submittals shall be electronic format unless otherwise specified by the Owner.
- Meet on a scheduled basis (assumed weekly) with the Owner to review project progress.
- Prepare, distribute, and file both written and electronic correspondence.
- Prepare and distribute meeting minutes.
- Document phone calls and conference calls as required during the project to coordinate the work for various team members.
- Provide QC/QA documentation for all submittals, including the subconsultants.

a. **Perform Project Management tasks.** All firms participating in Kyle 2022 Road Bond Projects, either as a Prime Contractor or Subcontractor, must fully utilize Procore construction management software for full project implementation, as directed by the Owner. The Owner will provide Procore access to all firms. The Engineer shall:
   i. Meet on a scheduled basis with Owner to review Project progress. The Engineer will provide meeting summaries within five (5) working days of the meeting to all attendees.
   ii. Conduct internal meetings with the consultant design team on a monthly basis or as needed for the duration of the Project.
   iii. Provide Contract Administration
   iv. Provide Project Management
   v. Attend a kick-off meeting with the Owner.
   vi. Attend and direct 50%, 90%, and 100% design review meetings.

vii. Keep Project on track and on budget.
viii. Update Project design schedule on a monthly basis
ix. Prepare monthly invoice and monthly progress report including monthly updates to design schedule

b. **Baseline Schedule**. Develop and submit for approval a Critical Path Method (CPM) baseline schedule within fourteen (14) calendar days of the Notice to Proceed. Schedule shall be in MS Project or Primavera P6. Modifications to the approved schedule will require approval by the Owner.
   i. Submit both pdf and native (.mpp or .xer) copies of the files.
   ii. Include all planned work activities and sequences, major milestones, and show Contract completion
   iii. Include activities that are the responsibility of the Owner, and estimate the duration for these activities. This time will not count against the Contract time, but is important to track as the critical path may run through them.
   iv. Ensure that the activities are broken out to a level of detail that clearly explains the tasks associated with delivering the work product.
   v. Provide activity durations in whole calendar days.
   vi. Provide a legend for all abbreviations, run date, data date, project start date, and project completion date in the title block of each submittal.
   vii. Begin the project schedule on the Notice to Proceed date.
   viii. Show a predecessor and successor for each activity with the appropriate activity relationships.
   ix. Ensure that all work sequences are logical and can be explained to the Owner if questions arise for clarification or understanding.
   x. Do not use activities exceeding 28 calendar days, unless agreed upon with the Owner.

c. Progress Schedule
   i. Project schedule updates shall be submitted as part of all invoice approval packages. Invoices submitted without schedule updates will be incomplete and will not be processed until schedule update is submitted.
   ii. Submit both the pdf and electronic copy of the project schedule running through the end of each month, due no later than tenth (10^{th}) calendar day of the following month, as it will become a record of the progress achieved on the project.
   iii. Once established, the original duration and actual dates of all activities must remain unchanged.
   iv. Revisions to the schedule may be made, but must be listed in a monthly update narrative in the Progress Report with the purpose of explaining the purpose of the revision and description of the impact on the project schedule's critical path and project completion date.
   v. Monthly Progress Reports should include:
      1. Completed and planned work
      2. Budget status
      3. Schedule status

4. Actual start dates for activities started
5. Actual finish dates for activities completed
6. The percentage of work completed and remaining duration for each activity started, but not yet completed
7. Current delays and plans showing how they will be rectified
8. Potential delays and plans to rectify
9. Tracking schedule (pdf & mpp/xer)

d. Plan Development and Review Process

i. Engineer may not be compensated for any services performed without a written Notice-to-Proceed.

ii. Each deliverable must be submitted for review and approval by the Owner.

iii. The review process will take place electronically using a Bluebeam session to consolidate comments.

iv. Each submittal shall include a cover letter from the Engineer stating who from the design team performed a Quality Assurance/Quality Control ("QA/QC") check. The QA/QC certification letter must be co-signed by the QA/QC reviewer and the Project Manager. The QA/QC reviewer may not be one of the design team members.

v. Each submittal shall include a revisions log from the Engineer (exported from Bluebeam) that tracks each comment received during previous phases of work. For each comment, the log shall provide the original comment, the status, how it has been implemented into the plans, and approval by the Owner.

vi. Unless otherwise specified by Owner, allow two (2) weeks for the Owner to review and provide written comments and/or approval for each submittal. When comments are received by the Engineer, the Engineer shall schedule a Comment Resolution Meeting with Owner in order to review the comments and clarify understanding of them prior to making design changes. If the Owner requires a resubmittal, submit electronically in Procore for the Owner to review and provide written comments and/or approval.

FUNCTION CODE 160(150) – ROADWAY DESIGN

150.2. DESIGN SURVEY (15.2.1)

SURVEY

1. General

A. Surveys will be in accordance with the "Texas State Board of Land Surveying".

B. Survey field notes will be submitted if requested.

C. The Surveyor will Contact the One-Call System in advance of performing field surveys to ensure data collection includes ties to location of marked utilities. This task does not always allow for timing of markings with the survey activities. Reasonable attempts to coordinate with utility owners will be made to achieve efficiency in data collection.

D. The Surveyor shall conduct a QA/QC review of each task performed.

2. Topographic Surveys for Engineering Design and Hydraulic Analysis

A. Data for the horizontal control will be based on Texas State Plane, South Central Zone, NAD 83 (93).

B. Vertical Data will be based upon NAVD 88 Datum.

C. Data collection will consist of spot elevations for improvements, edge of roadway, driveways, visible or marked utilities, drainage features, centerline of roadway, and grade breaks. Individual roadway cross sections will be taken at intervals not to exceed 100 feet. Individual trees with diameter 12 inches and larger will be identified and located within the area of survey.

D. Profiles of intersecting driveways within the project limits will extend a sufficient distance beyond the existing right of way to ensure adequate data is available to determine tie-ins with proposed vertical alignment changes.

E. Field surveys will provide the locations of all small signs, mailboxes, and other visible surface features. Sign text, color, dimensions, and standard sign design will be provided in accordance with the TMUTCD.

F. Except for areas surveyed with LiDAR applications, survey shots will be assigned a unique point number which provides a positive identification of the point. Each point will be assigned a feature number or feature name using the TxDOT's standard feature table. An ASCII points file and a hard copy print out will be provided. Each line of the output data shall contain in this order: the point number, northing, easting, elevation, and the descriptive feature code.

G. Apparent Right-of-Way - Perform sufficient property records research to identify apparent existing right-of-way of Bunton Creek Road (including 100' of side streets) and incorporate into DTM.

H. Field surveys will locate horizontal crossings of power lines, telephone/cable lines, and visible above ground utilities and utility markings.

I. Location of existing utilities will be shown on the 2D files using field marked information designated by the utility companies and from surface evidence surveyed on the ground.

J. Surveyed data will be provided in a Microstation .dgn (V8) compatible two dimensional base map format. The survey shot point attributes will appear on separate levels.

K. A Digital Terrain Model (DTM) will be provided in a Microstation .dgn (V8) GEOPAK compatible three-dimensional format.

3. Boundary Survey / Right-of-Way Establishment

A. Title work will be completed by others on all properties adjacent to the subject right-of-way in areas that need the right-of-way defined within the project limits. Title work will include, at minimum, owner name, vesting deed information, record information of legal lot, and all easements that affect the tract. Additionally, all record documents referenced in the title work shall be provided to the Surveyor.

B. From record documents provided to the Surveyor, compile deed plots and create working map of parcels along right-of-way.

C. Conduct fieldwork and perform Boundary Surveying within project area, locating monumentation and other items showing lines of occupation.

D. Perform boundary analysis to determine the location of subject right-of-way.

E. Finalized right-of-way linework will be incorporated into survey basemap.

4. Right-of-Way Parcel Map Exhibits (Property Descriptions)

A. Title work will be completed by others on all properties adjacent to the subject right-of-way in areas that need the right-of-way defined within the project limits. Title work will include, at minimum, owner name, vesting deed information, record information of legal lot, and all easements that affect the tract. Additionally, all record documents referenced in the title work shall be provided to the Surveyor.

B. For each parcel of land to be acquired, an Exhibit (Property Description) shall be prepared for each parcel or tract consisting of two (2) parts: (1) a metes and bounds description of the property and (2) a parcel plat. Each part of a Property Description shall be signed and sealed by a RPLS.

C. Once finalized, boundary monumentation will be set to establish the new right-of-way

150.4. DELIVERABLES FOR DESIGN SURVEYS

The Surveyor shall prepare and submit the deliverables as specified in individual task orders for design surveys and construction surveys. The deliverables might be any combination of the following:

A. Digital terrain models (DTM) and the triangular irregular network (TIN) files in a format acceptable by the Owner.
B. Maps, plans, or sketches prepared by the Surveyor showing the results of field surveys.
C. Computer printouts or other tabulations summarizing the results of field surveys.
D. Digital files or media acceptable by the Owner containing field survey data (ASCII data files).
E. Maps, plats, plans, sketches, or other documents acquired from utility companies, private corporations, or other public agencies, the contents of which are relevant to the survey.
F. Field survey notes, as electronic copies.
G. TxDOT Form 2462 for each primary and secondary control point. This form must be submitted in printed format on letter (i.e., A-size) and submitted electronically in PDF format.
H. A digital copy of all computer printouts of horizontal and vertical conventional traverses, GPS analysis and results, and survey control data sheets.
I. All OpenRoads files.
J. Survey reports in a format requested by the Owner.

150.11. HORIZONTAL AND VERTICALCONTROL (15.3.5)

This includes the establishment of horizontal and vertical control for survey projects.

A. OVERVIEW OF HORIZONTAL AND VERTICAL CONTROL

A horizontal control survey is performed for the purpose of placing geographic coordinates of latitude and longitude on permanent monuments for referencing lower levels of surveys. A projection is used to place the coordinates on a plane of northing and easting values for simplified measurements. Scale and elevation factors are applied to make the distance

measurements applicable to the exact location on the working surface and the type of projection chosen is an “equal angle” type.

A vertical control survey is performed for accurately determining the orthometric height (elevation) of permanent monuments to be used as benchmarks for lower quality leveling. Spirit leveling is the usual method of carrying elevations across country from “sea level” tidal gauges. However, Global Positioning System (GPS) can be used indirectly but with less accuracy. Height measurements from the ellipsoid (as opposed to the “sea level” geoid) can be determined very accurately with GPS and only GPS. Trigonometric leveling, with a total station, is not acceptable for vertical control work.

B. DEFINITIONS

1. BM means benchmark, which is a relatively permanent object whose elevation above or below an adopted datum is known.
2. CORS means continuously operating reference station, which is a network of the highest quality horizontal stations, forming the National Spatial Reference System (NSRS).
3. Control Survey means a survey providing positions (horizontal or vertical) of points to which supplemental surveys are adjusted.
4. Datum means a mathematical model of the earth designed to fit part or all of the geoid.
5. Datum Point Rod or Deep Rod Monument means a monument driven to refusal by a power driver, used for major project control.
6. GPS means the Global Positioning System, which is based on a constellation of 24 satellites orbiting the earth at a very high altitude.
7. Horizontal Control Survey means placing geographic coordinates of latitude and longitude on permanent monuments.
8. Level 1 survey means RFP, CORS or major control densification.
9. Level 2 Survey means primary project control.
10. Level 3 Survey means secondary project control.
11. NGS – National Geodetic Survey
12. Type II Monument means a disk driven onto a length of 5/8-inch rebar with the hole filled flush with concrete.
13. Vertical Control Surveys means a survey performed for accurately determining the orthometric height (elevation) of permanent monuments to be used as benchmarks for lower quality leveling.

C. PROCEDURE FOR HORIZONTAL AND VERTICAL CONTROL

1. The Surveyor shall establish horizontal and vertical control points, including offsite points. The Surveyor shall prepare signed survey control data sheets, a survey control index sheet, and a composite layout of the horizontal and vertical controls, and as directed by the Owner.
2. The Surveyor shall update existing control information and prepare new survey control data sheets, as directed by the Owner, to be included in the construction plan set as described in Item 150.11, D.

D. TECHNICAL REQUIREMENTS FOR HORIZONTAL AND VERTICAL CONTROL

The Surveyor shall adhere to the following technical requirements.

1. Horizontal and vertical controls must be performed under the supervision of a RPLS currently registered with the TBPELS.
2. Horizontal ground control used for design surveys and construction surveys, furnished to the Surveyor by the Owner, or based on acceptable methods conducted by the Surveyor, must meet the standards of accuracy required by the Owner.
   The Surveyor shall comply with the standards of accuracy for horizontal control traverses, as described in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
3. Vertical ground control used for design surveys and construction surveys, furnished to the Surveyor by the Owner or based on acceptable methods conducted by the Surveyor, must meet the standards of accuracy required by the Owner.
   The Surveyor shall comply with the standards of accuracy for vertical control traverses, as described in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
4. Monuments
   The Surveyor shall install survey monuments for a horizontal and vertical control survey that are reasonably permanent and substantial. The monuments shall be easily identified and afforded reasonable protection against damage and or destruction.
   a. Offsite primary control points whether set by GPS or conventional survey methods must be set in pairs approximately 2000 feet apart outside of the project on side roads. Offsite points must be constructed approximately every 2 miles and set approximately 6 inches below natural ground and must be inter-visible between each pair of points.
   b. Secondary control points must be set approximately 6 inches below ground at a maximum distance of 1,500 feet apart.
5. Side shots or short traverse procedures for total stations used to determine horizontal and vertical locations must meet the following criteria:
   a. Short traverses and instrument setups for side shots must begin and end on horizontal and vertical ground control as described above.
   b. Standards, procedures, and equipment (e.g., GPS Equipment, LiDAR, Total Stations) used must be such that horizontal locations relative to the control can be reported within the specification to allow the engineer to accurately create the design to the following limits:
      i. Bridges and other roadway structures: less than 0.02 feet.
      ii. Utilities and improvements: less than 0.2 feet.
      iii. Cross-sections and profiles: less than 0.2 feet.
      iv. Bore holes: less than 0.5 feet.
   c. Standards, procedures, and equipment (e.g., GPS Equipment, LiDAR, Total Stations) used must be such that vertical locations relative to the control may be reported to within 0.02 feet.
6. The Surveyor shall update existing control information and prepare new survey control data sheets, as directed by the Owner, to be included in the construction plan set as described below:

a. The Surveyor shall prepare, sign, seal, and date a survey control index sheet and horizontal and vertical control sheets to be inserted into the plan set.
b. The Surveyor shall prepare a survey control index sheet that provides an overview of the primary project control and must include:
    i. An unscaled vicinity map showing the general location of the project in relation to nearby towns or other significant cultural features.
    ii. A scaled project map showing the extents of the project and the location of the primary control points. The map must show street networks, selected street names, control point identification, and significant culture features necessary to provide a general location of the primary control.
    iii. A table containing the primary control point values including the point number, northing, easting, elevation, stationing, and stationing offset values.
    iv. Map annotation including a graphic scale bar, north arrow, and standard TxDOT title block. The title block must contain a section for the district name, city, and highway name. The title block must also contain a section for a Texas registered engineer to sign, seal, and date the sheet to include the following statement, "The survey control information has been accepted and incorporated into this PS&E".
    The Surveyor shall download the required format of the survey control index sheet from the TxDOT website.
    v. In the title block under the heading "Notes", identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used, and unit of measure. The surveyor shall include a note stating that the coordinates are State Plane and a notation specifying either grid or surface adjusted coordinates.

E. DATA REQUIREMENTS

The Surveyor shall perform post processing of field data, which will be reviewed by the Owner. Data processed by standard calculators, computers, and other business hardware and software normally maintained and used by the Surveyor will be considered acceptable.

FUNCTION CODE 160(160) - ROADWAY DESIGN

ROADWAY DESIGN CONTROLS

160.10. Pavement Design.

The Engineer shall prepare pavement designs for this project in accordance with the latest edition of TxDOT's Pavement Manual. Proposed pavement designs include permanent pavement, interim condition transition pavement, and temporary detour pavement. The latest edition of TxDOT's Pavement Manual may be accessed at http://www.txdot.gov/business/resources.html.

The Engineer shall submit a signed and sealed pavement design report to the Owner. The pavement design report must be reviewed and approved by the Owner prior to its implementation. The

pavement design report must document assumptions and design considerations. The pavement design report must include the following:

- Cover sheet with roadway name, geographical limits, and signatures of persons involved in the preparation and approval
- Existing and proposed typical sections
- Soils map of the project area with a brief description of each type of soil located within the project area
- Design input values and output
- Conclusion consisting of recommended pavement design or designs based on the data, analyses, and procedures included in the report.
- Pavement design details specified for each location that includes structural layer materials, general specifications, and layer thicknesses
- Site conditions that might influence the design and performance of pavements
- May include if provided, relevant geotechnical data and drainage requirements including boring logs, laboratory soil test results, active or passive drainage system design, ground penetrating radar (GPR) data, falling weight deflectometer (FWD) data, dynamic cone penetrometer (DCP) data, pavement coring and report log (up to 15-foot depth), and soil classifications with Atterberg limits
- Results of the field explorations and testing of pavement sections
- Recommended pavement rehabilitation methods and designs for new pavements
- Design criteria used in determining pavement designs, including traffic loads, pavement material characterization, environmental conditions, and pavement design life
- Design summary from the program used to design (e.g., FPS 21, DARWin, TxCRCP - ME, MODULUS 6.1)
- Life-cycle cost analysis, as required by TxDOT's Pavement Manual, including the periods for resurfacing, reconstruction, and other rehabilitation measures and what these activities are likely to entail
    - Traffic control plans required for subsurface geotechnical and pavement investigations
- Other considerations used in developing the pavement designs, including subgrade preparations and stabilization procedures

160.11. Pedestrian and Bicycle Facilities.

The Engineer shall coordinate with the Owner to incorporate pedestrian and bicycle facilities as required or shown on the project's schematic. All pedestrian and bicycle facilities must be designed in accordance with the latest Americans with Disabilities Act Accessibility Guidelines (ADAAG), the Texas Accessibility Standards (TAS), and the AASHTO Guide for the Development of Bicycle Facilities. The Engineer shall design the Owner's Vybe Trail if within the project limits. Certain Vybe details will be provided by the Owner.

FUNCTION CODE 160(162) - ROADWAY DESIGN

N/A

FUNCTION CODE 160(163) - ROADWAY DESIGN

MISCELLANEOUS (ROADWAY)

The Engineer shall provide the following services:

163.1. Utility Engineering

Utility Engineering includes the identification of utility conflicts, coordination, compliance with the UAR, and resolution of utility conflicts. The Engineer shall coordinate all activities with the Owner to facilitate the orderly progress and timely completion of the project design phase.

A. Coordination of Engineering Activities

1. Utility Layout:

The Utility Engineer must maintain a utility layout in the current approved version of OpenRoads Civil Design system used by the Owner. This layout must include all existing utilities which are to remain in place or be abandoned, and all adjusted utilities. This layout must be utilized to monitor the necessity of relocation and evaluate alternatives. The Utility Engineer must utilize the layout of existing utilities as prepared, if available, and make a determination of the following:

a. Facilities in conflict with the proposed project that are to be relocated.
b. Facilities to be removed or abandoned in place.
c. Facilities that are going to be moved underground.
d. Facilities to remain in service and in place because of roadway design adjustments and meeting the current UAR.
e. If there are additional facilities which require relocation, the Engineer shall coordinate this information with the Owner immediately upon discovery.
f. For facilities with unknown owner that require utility accommodation, the Utility Engineer must coordinate with the Owner for possible hot tap and removal. Engineer shall furnish all documents and exhibits to the Owner. When construction sequence and adjustments will be included in the PS&E package; the Utility Engineer must coordinate with the PS&E design engineer for the construction sequence in regard to the utility adjustments. The Utility Engineer must include this in the PS&E package.

B. Public and Individual Meetings with Utility Companies

As required, to facilitate utility conflict identification and resolution, the Engineer shall:

1. Establish contact with all existing utilities within and adjacent to the project limits and set up utility coordination meetings to discuss concepts and options for construction.
2. Schedule all utility coordination meetings and ensure compatibility with the schedule of the Owner.
3. Set agenda for all coordination meetings as directed by the Owner.
4. Establish and promote the desired agenda and methodologies for utility construction within the project limits. Typical strategies include Avoid- Minimize-Accommodate (AMA). The agenda and methodologies may allow the construction of utilities as a part of the highway contract.

5. Orientation: Prepare and present, in collaboration with the Owner, instruction and orientation sessions as required. The instruction must introduce the SUE Plans, the proposed utility layout, processes, demonstrate the technology, and facilitate the preparation of work orders, billings, and contract related documentation as it pertains to utility adjustment work.
6. Initial Project Meeting following the Notice of Proposed Construction (NOPC): Attend an initial meeting and an on-site inspection (when appropriate) to ensure familiarity with existing conditions and project requirements and prepare a written report of the meeting.
7. Work Plan: Develop a work plan including a list of the tasks to be performed, a schedule, and an estimate. The work plan must satisfy the requirements of the project and must be approved by the Owner prior to commencing work.
8. Progress Meetings: Meet with the Owner and, if applicable, design consultants, periodically to coordinate the work effort and resolve problems. Prepare a written report of all progress meetings and provide the report to the Owner. During the progress meetings, the Utility Engineer must review:
    a. Activities completed since the last meeting
    b. Problems encountered.
    c. Late activities.
    d. Activities required by the next progress meeting.
    e. Solutions for unresolved and/or anticipated problems.
    f. Information or items required from other agencies/consultants.

C. Review of Utility's Proposed Adjustments

1. Evaluate alternatives: The Utility Engineer must evaluate alternatives in the adjustment of utilities balancing the needs of both the Owner and the Utility. The Utility Engineer must use the AMA strategy as part of evaluating the alternatives.
2. Review estimates and schedules: The Utility Engineer must review the utility adjustment estimates for reasonableness of cost and the timely scheduling of the adjustment.
3. The Utility Engineer must review plans for compliance with UAR, Buy America materials, and proposed location data.
4. The Utility Engineer must ensure that utility owners are receiving updates for project design development so that utility owners are reviewing the most current plans, quality and accuracy of utility adjustment data, as well as compliance of UAR, as it pertains to the plans. The responsibility for compliance, quality, and accuracy of utility adjustment plans will remain with the utility company.
5. The Utility Engineer must ensure compliance with the regulations of the most recent edition of the TMUTCD. The Utility Engineer must obtain approval from the Owner concerning the proposed method of handling traffic prior to allowing commencement of work.

D. The Engineer shall not provide services under this contract that are for the sole benefit of a party or parties other than the Owner. The Engineer shall not invoice the Owner for any such services.

The Utility Engineer must:

1. Identify potential conflicts using the AMA process and the design.
    a. Avoid – work with designers to avoid conflicts.
    b. Minimize – Cost analyzed of safe available options to minimize cost and project delay.
2. Document all activities.
3. Track all ROW acquisitions to assist with scheduling accommodations.

E. Deliverables:

The Engineer shall submit the following deliverables to the Owner:

1. Identification of utility conflicts.
2. Composite DGN file showing all utilities with abandoned, removed, and added utilities.

163.3. Geotechnical Borings and Investigations

The Engineer shall determine the location of proposed soil borings for retaining walls, slope stability and pavement design in accordance with the latest edition of TxDOT's Geotechnical Manual. The Owner will review and provide comments for a boring layout submitted by the Engineer showing the general location and depths of the proposed borings. Once the Engineer receives the Owner review comments they shall perform soil borings (field work), soil testing and prepare the boring logs in accordance with the latest edition of the State's Geotechnical Manual and State District's procedures and design guidelines.

A. The Engineer shall perform all geotechnical work in accordance with the latest version of TxDOT's Geotechnical Manual. All testing shall be performed in accordance with the latest version of TxDOT's Manual of Test Procedures. American Society for Testing Materials (ASTM) test procedures can be used only in the absence of Owner and TxDOT procedures. All soil classification shall be done in accordance with the Unified Soil Classification System.
B. If applicable, the Engineer shall perform any retaining wall analyses to include the settlement analysis. This analysis must include the computation of the factor of safety for bearing capacity, global stability, overturning and sliding. In addition, the Engineer shall include allowable bearing pressure, passive earth pressure, friction factor, settlement analysis (consolidation report) and lateral earth pressure for the retaining walls.
C. If applicable, the Engineer shall perform soil borings, rock coring, coring for pavement removal items, piezometric readings, testing and analysis to include slope stability analysis, settlement analysis, and foundation design recommendations for retaining walls,. Engineers shall call 811 and the City of Kyle Public Works Department (512-262-3024) for utility information prior to digging. Traffic control is required for any work that is performed for geotechnical borings and investigations within the right-of-way limits.
D. The Engineer shall provide a signed, sealed and dated geotechnical report which contains, but is not limited to, soil boring locations, boring logs, laboratory test results, generalized subsurface conditions, ground water conditions, piezometer data
E. If applicable, the Engineer shall perform scour analysis to include Grain Size distribution curves with D50 value.

F. The Engineer shall sign, seal and date soil boring sheets to be used in the PS&E package. The preparation of soil boring sheets must be in accordance with Owner and TxDOT standards.
G. Foundation Studies: The Engineer shall coordinate with the Owner to determine the location of soil borings to be drilled along the retaining wall alignments. The soil borings shall extend a minimum of 30 feet below the footing elevation or deeper as soil conditions warrant. Spacing of soil borings shall not exceed 200 feet. The Engineer shall provide a boring layout for the Owner's review and comment.
H. The Engineer shall incorporate soil boring data sheets prepared, signed, sealed, and dated by the Geotechnical Engineer. The soil boring sheets shall be in accordance with WINCORE software as can be found on the Texas Department of Transportation (TxDOT) website.

F. Deliverables

1. Geotechnical/Pavement Design Report
2. DGN flies containing drilling log data from Geotechnical analysis

163.13. Testimony for Right of Way Hearings.

N/A – Refer to Section 130.4A & 130.4B.

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

PROJECT NAME: Bunton Creek Rd

PROJECT LIMITS: Lehman Rd to Porter Cv

TASK DESCRIPTION	BGE, Inc.	BGE Survey	Dianna Tinkler	Corsair	CobbFendley	TOTAL COSTS BY FC
FEASIBILITY STUDIES (FC 102 (110))	$ 366,802.00		$ -		$ 27,154.00	$ 393,956.00
SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT (FC 120 (120))	$ 33,527.00		$ -		$ -	$ 33,527.00
RIGHT-OF-WAY DATA (FC 130 (130))	$ 118,975.00		$ -		$ -	$ 118,975.00
MANAGING CONTRACTED/DONATED PE (FC 145 (145,164))	$ 68,340.00		$ -		$ -	$ 68,340.00
ROADWAY DESIGN SURVEY (FC 160 (150))	$ -	$ 195,783.00	$ -	$ -	$ -	$ 195,783.00
MISCELLANEOUS (ROADWAY) (FC 160 (163))	$ -		$ -	$ 43,903.33	$ -	$ 43,903.33
						$ -
SUBTOTAL LABOR EXPENSES	$ 587,644.00	$ 195,783.00	$ -	$ 43,903.33	$ 27,154.00	**$ 854,484.33**
DIRECT EXPENSES (FC 164)	$ 7,137.00		$ -	$ 10,069.50	$ 237.50	**$ 17,444.00**
UNIT COST EXPENSES (FC 164)	$ 2,000.00		$ 26,800.00	$ 39,689.00	$ -	**$ 68,489.00**
TOTAL	$ 596,781.00	$ 195,783.00	$ 28,140.00	$ 98,344.92	$ 28,761.08	**$ 947,810.00**
	63.0%	20.7%	3.0%	10.4%	3.0%	100%

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

BGE, Inc.

PROJECT NAME: Bunton Creek Rd
PROJECT LIMITS: Lehman Rd to Porter Cv

	TASKS	SHTS	Principal/ Director	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	QC Manager	Senior Env Specialist	Env Specialist	Design Engineer	Graduate Engineer	Senior Engineering Tech	Engineering Tech	TOTAL HOURS	TOTAL COST
			$310.00	$275.00	$255.00	$250.00	$215.00	$285.00	$240.00	$125.00	$175.00	$140.00	$195.00	$138.00	**$0.00/Hr.**	
FC 102 (110)	**Feasibility Studies**														0	
110.2	**Schematic Design - General Tasks**															
	A. ROW Property Base Maps					2	4				4		8		18	$ 3,620.00
	B. Typical Sections			2		2	8				18	18	4		52	$ 9,220.00
	C. Environmental Constraints (see FC 120)															
	D. Drainage & Detention					5		8			24	120	16	32	205	$ 32,066.00
	Water Quality					8	16				42		42		108	$ 20,980.00
	E. ROW Requirements (90, 100%)			4		4	12				8		12		40	$ 8,420.00
	F. Construction Sequence (see FC 110.8)															
	G. Design Exceptions			2		2	12				24				40	$ 7,830.00
	H. Traffic Data and Projections						20					12			32	$ 5,980.00
	I. Traffic and Operational Analysis															
	Roadway Capacity Analysis						8								8	$ 1,720.00
	Intersection Operational and Capacity Analysis			1		2	36								39	$ 8,515.00
	Traffic Report			1		2	36					8			47	$ 9,635.00
	Traffic Site Visits, Photos for Report- AM/PM Peak Hour Observations (scope section 110.1.F.5)						12					12			24	$ 4,260.00
	J. Safety Analysis						28					24			52	$ 9,380.00
	K. Bicycle and Pedestrian Accommodations			4		4	8				16	16	4		52	$ 9,640.00
	L. Relocate Overhead Utilities Underground (See FC 130.6 and Cobb Fendley)															
	M. Roundabout Analysis					4	16				68	92			180	$ 29,220.00
110.4	**Geometric Design Schematic**															
	Geometric Design Updates (based on survey, updated utilities, title info., etc.) (50,90, 100%)			18		24	24				120	80	40		306	$ 56,110.00
110.5	**Cross Sections**															
	Update 3D model, cross sections, earthwork volumes (50, 90, 100%)			8		12	24				60	48	32		184	$ 33,820.00
110.6	**Retaining Walls**															
	Refine limits and location of proposed retaininin walls (50, 90, 100%)			2		2	6				18	12	8		48	$ 8,730.00
110.8	**Preliminary Construction Sequence**															
	Conceptual Phase Layouts (50, 90, 100%)			6		14	8				18		4		50	$ 111.00
	Construction Sequence Typical Sections (90, 100%)			10		18	22				54		10		114	$ 23,380.00
110.12	**Agency Coordination & Public Involvement**															
	A. Conduct/Attend up to 8 Property Owner, Stakeholder, and Agency Meetings & 2 Public Outreach Efforts			42			48				48	48			186	$ 36,990.00
	B. Prepare Exhibits for up to 8 Property Owner, Stakeholder, and Agency Meetings & 2 Public Outreach Efforts			42			48				48	48			186	$ 36,990.00
110.14	**Preliminary Construction Estimates**															
	Updated construction cost estimate (50, 90 and 100%)			3		6	8				14	18	6		55	$ 10,185.00
SUBTOTAL		0	0	145	0	111	404	8	0	0	584	556	186	32	2,026	**$ 366,802.00**

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

BGE, Inc.

PROJECT NAME: Bunton Creek Rd
PROJECT LIMITS: Lehman Rd to Porter Cv

	TASKS	SHTS	Principal/ Director	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	QC Manager	Senior Env Specialist	Env Specialist	Design Engineer	Graduate Engineer	Senior Engineering Tech	Engineering Tech	TOTAL HOURS	TOTAL COST
			$310.00	$275.00	$255.00	$250.00	$215.00	$285.00	$240.00	$125.00	$175.00	$140.00	$195.00	$138.00	$0.00/Hr.	
FC 120 (120)	**Social, Economic and Environmental Studies and Public Involvement**														0	
	Task 1- Environmental Permits, Issues and Commitments									32					32	$ 4,000.00
	Task 2 A.- Research Design and Texas Antiquities Permit Application							4		12				13	29	$ 4,434.00
	Task 2 B.- Cultural Resources Investigation							3		80				26	109	$ 14,443.00
	Task 2 C.- Archeological Survey Report							4		54				20	78	$ 10,650.00
															0	
SUBTOTAL		0	0	0	0	0	0	11	0	178	0	0	0	59	248	**$ 33,527.00**
FC 130 (130)	**Right-of-Way Data**														0	
130.1	Right of Entry Outreach 1 by BGE (20 parcels assumed) (See also, Subconsultant Tinkler Fee)						2					30			32	$ 4,630.00
	Title abstract information (See Subconsultant Tinkler Fee)															
130.4	ROW Hearing Services															
	A. ROW Hearing Services (8 parcels)			80			40				48				168	$ 39,000.00
	B. Expert Witness Services (8 parcels)			80											80	$ 22,000.00
130.6	Utility Adjustment Coordination														0	
	Coordination with City of Kyle related to utilities through the corridor, including with the Utility Department (2 meetings)			2		8	12	0	0	0	12	0	0		34	$ 7,230.00
	Coordination with GBRA (2 meetings)			4		4	8	0	0	0	8	0	0		24	$ 5,220.00
	Prepare alternatives for relocation of GBRA / Kyle meter station/ meter station			1		6	20	0	0	0	0	0	24		51	$ 10,755.00
	Develop schematic level location of GBRA / Kyle take point/ meter station			2		4	12	0	0	0	0	0	12		30	$ 6,470.00
	Coordination Meeting with County Line SUD (1 meeting)					4	4	0	0	0	0	0	0		8	$ 1,860.00
	Refinement of Utility Layout and Utility Conflict Matrix			2		8	16		0	0	40	0	24		90	$ 17,670.00
	Additional Undergrounding Evaluation/Alternatives				4		8		0	0	8	0			20	$ 4,140.00
															0	
SUBTOTAL		0	0	171	4	34	122	0			116	30	60	0	537	**$ 118,975.00**
FC 145 (145,164)	**Managing Contracted/Donated PE**															
145.2	Project Management and Administration														0	$ -
	Monthly progress reports (included with invoice below)														0	$ -
	Develop and maintain project schedule			4			12								16	$ 3,680.00
	GEC Weekly Meetings (Assumes 42 - 1/2 hr meetings) and documentation			42			42								84	$ 20,580.00
	Internal meetings, subconsultant coordination			8		24	16				16				64	$ 14,440.00
	Invoicing, Progress Reports, Project schedule			4		8	4								16	$ 3,960.00
	Perform QC / QA and provide documentation (reports, 50, 90 and 100% schematic)					48		48							96	$ 25,680.00
SUBTOTAL		0	0	58	0	80	74	48			16	0	0	0	276	**$ 68,340.00**
FC 160 (150)	**Roadway Design Survey**														0	
150.2	Design Surveys (Provided by BGE and shown in separate tab "BGE Survey"														0	**$ -**
															0	
SUBTOTAL		0	0	0	0	0	0	0			0	0	0	0	0	**$ -**
LABOR TOTALS		**0**	**0**	**374**	**4**	**225**	**600**	**67**	**0**	**178**	**716**	**586**	**246**	**91**	**3,087**	**$ 587,644.00**
			0.0%	12.1%	0.1%	7.3%	19.4%	2.2%	0.0%	5.8%	23.2%	19.0%	8.0%	2.9%		

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

BGE, Inc.

PROJECT NAME: Bunton Creek Rd
PROJECT LIMITS: Lehman Rd to Porter Cv

TASKS	SHTS	Principal/ Director	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	QC Manager	Senior Env Specialist	Env Specialist	Design Engineer	Graduate Engineer	Senior Engineering Tech	Engineering Tech	TOTAL HOURS	TOTAL COST
		$310.00	$275.00	$255.00	$250.00	$215.00	$285.00	$240.00	$125.00	$175.00	$140.00	$195.00	$138.00		
														$0.00/Hr.	

OTHER DIRECT EXPENSES		# OF UNITS	COST/UNIT	UNIT	UNIT			
	MILEAGE	150	$0.58	mile	mile			$ 87.00
	PHOTOCOPIES B/W (11" X 17")	100	$0.20	each	each			$ 20.00
	PHOTOCOPIES B/W (8 1/2" X 11")	100	$0.10	each	each			$ 10.00
	PHOTOCOPIES COLOR (11" X 17")	100	$1.25	each	each			$ 125.00
	PHOTOCOPIES COLOR (8 1/2" X 11")	100	$0.75	each	each			$ 75.00
	LARGE FORMAT PLOTTING		$1.25	per sq. ft.	per sq. ft.			$ -
	Mileage (per mile)	1,800	$0.63	mile				$ 1,134.00
	Meals/Per Diem	4	$59.00					$ 236.00
	Hotel	4	$130.00					$ 520.00
	GPS	3	$50.00					$ 150.00
	Backhoe - operator and equipment (if needed)	2	$2,200.00					$ 4,400.00
	Miscellaneous (field supplies, cell phones, etc.)	3	$15.00					$ 45.00
	Printing (B&W)	200	$0.10	each				$ 20.00
	Printing (Color)	200	$0.60	each				$ 120.00
	Curation (Documents)	1	$195.00	each				$ 195.00
								$ -
SUBTOTAL DIRECT EXPENSES (FC 164)								$ 7,137.00

UNIT COST EXPENSES		# OF UNITS	COST/UNIT	UNIT	UNIT			
	Traffic Count Data	1	2000					$ 2,000.00
								$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)								$ 2,000.00

SUMMARY

TOTAL COSTS FOR PRIME PROVIDER		$ 587,644.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME PROVIDER		$ 7,137.00
NON-SALARY (UNIT COST EXPENSES) FOR PRIME PROVIDER		$ 2,000.00
SUBCONTRACTS (includes labor costs, direct expenses, and unit costs)	$0.00	$ 351,029.00
GRAND TOTAL		**$ 947,810.00**

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Bunton Creek Road Design Survey, Kyle, TX 08/21/2022

TASKS	Crew Rate	RPLS	Senior Tech	Mobile Mapping Sub	Research Sub	Total
East of Lehman	$175	$195	$135	$18,000		
Design Survey (Apparent ROW-Apparent ROW)						
Prelim Research, Deed Plotting, Project Setup		2	40			$5,790
Establish Horizontal and vertical control	40	2	4			$7,930
One-Call locates, coordination with Mobile Mapping		2	6			$1,200
Obtain Design Survey data	128		4			$22,940
Mobile Mapping Effort				1		$18,000
Prepare DGN and DTM		4	63			$9,285
QA/QC and Final Deliverables		4	6			$1,590
			Design Survey Sub Total:			**$66,700**
Right-of-way/Parcel Descriptions (for 20 parcels)						
Deed Plotting, Working Deed ROW Map		8	40			$6,960
Obtain Boundary Monumentation data	220					$38,500
Boundary Anaylisis		40	60			$15,900
Prepare Parcel maps		15	100			$16,425
Prepare Parcel Descriptions		60	30			$15,750
Address Comments		20	30			$7,950
QA/QC		15	10			$4,275
Set Monumentation once finalized	80					$14,000
			Right-of-way/Parcels Total:			**$119,760**
			Per Parcel Description:			**$5,988**
Note: Does not included Right of Entry Coordination, or Easement Descriptions.						

Total Hours	468	172	393	1	0	
Total + 5% Adjustment	**$85,995**	**$35,217**	**$55,708**	**$18,900**		**$195,783**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Dianna Tinkler

PROJECT NAME: Bunton Creek Rd
PROJECT LIMITS: Lehman Rd to Porter Cv

TASKS	SHTS	Project Manager	Project Engineer II	Senior Tech I	Category	Category	Category	Category	Category	Category	Category	Category	Category	TOTAL HOURS	TOTAL COST
		Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)		
														$0.00/Hr.	
LABOR TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$ -**
		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		

OTHER DIRECT EXPENSES		# OF UNITS	COST/UNIT	UNIT		
	MILEAGE		0.58	mile		$ -
	RENTAL CAR (Includes taxes and fees; Insurance costs will notbe reimbursed)		$65.000	day		$ -
	RENTAL CAR FUEL		$100.00	day		$ -
	Air Travel - In State - Short Notice (Coach)		$420.00	Rd/Trip/perso		$ -
	Lodging/Hotel (Taxes/fees not included)		$96.000	day/person		$ -
	Lodging/Hotel (Taxes/fees)		$30.000	day/person		$ -
	Meals (Excluding alcohol & tips) (Overnight stay required)		$50.000	day/person		$ -
	OVERNIGHT MAIL - OVERSIZED BOX		$40.000	each		$ -
	PHOTOCOPIES B/W (11" X 17")		$0.200	each		$ -
	PHOTOCOPIES B/W (8 1/2" X 11")		$0.100	each		$ -
	PHOTOCOPIES COLOR (11" X 17")		$1.25	each		$ -
	PHOTOCOPIES COLOR (8 1/2" X 11")		$0.75	each		$ -
	PLOTS (COLOR ON BOND)		$1.25	per sq. ft.		$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL DIRECT EXPENSES (FC 164)						$ -

UNIT COST EXPENSES		# OF UNITS	COST/UNIT	UNIT		
						$ -
	Run Titles	20	$500.000	Each		$ 10,000.00
	Right of Entry	12	$1,400.00	Each		$ 16,800.00
						$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)						$ 26,800.00

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1		$ -
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1		$ -
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1		$ 26,800.00
GRAND TOTAL + 5% Adjustment	**$0.00**	**$ 28,140.00**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

CORSAIR CONSULTING LLC

PROJECT NAME: Bunton Creek Rd
PROJECT LIMITS: Lehman Rd to Porter Cv

	TASKS	SHTS	SUPPORT ENGINEER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER	ENGINEER IN TRAINING	ENGINEERING TECH	ADMIN CLERICAL	TOTAL HOURS	TOTAL COST
			$203.20	$186.81	$121.26	$140.93	$99.63	$64.24	$58.99		
										$0.00/Hr.	
FC 160 (163)	**Miscellaneous (Roadway)**									0	
										0	
	Coordinate Soil Bore Locations/Utility Call-ins				2		8	4		14	$ 1,296.52
	Field Personnel During Drilling					4	20			24	$ 2,556.32
	Sample Classification, Laboratory Coordination and Boring Log Generation			2	4		42			48	$ 5,043.12
	Preliminary Geotechnocal Report with Pavement and Retaining Wall Recommendations			15	25	45	90			175	$ 21,142.20
	Final Geotechnocal Report with Pavement and Retaining Wall Reccomendations			5	15	25	45			90	$ 10,759.55
	Prepare Boring Log Sheets, Stamp and Seal			2			4			6	$ 772.14
	Invoicing/Admin		8						12	20	$ 2,333.48
										0	$ -
										0	$ -
										0	$ -
										0	
SUBTOTAL		0	8	24	46	74	209	4	12	377	**$ 43,903.33**
LABOR TOTALS		**0**	**8**	**24**	**46**	**74**	**209**	**4**	**12**	**377**	**$ 43,903.33**
			2.1%	6.4%	12.2%	19.6%	55.4%	1.1%	3.2%		

OTHER DIRECT EXPENSES		**# OF UNITS**	**COST/UNIT**	**UNIT**		
	LODGING/HOTEL (TAXES/FEES NOT INCLUDED)	2	$96.000	day/person		**$ 192.00**
	LODGING/HOTEL - TAXES AND FEES	2	$45.00	day/person		**$ 90.00**
	MEALS (EXCLUDING ALCOHOL & TIPS) (OVERNIGHT STAY REQUIRED)	2	$50.00	day/person		**$ 100.00**
	Mileage	500	$0.575	mile		**$ 287.50**
	Mobilization and Demobilization of Drilling Rig (Trips over 100 miles from office to site)	500	$6.00	mile		**$ 3,000.00**
	Traffic Control Services, Arrow Boards and Attenuator trucks -(Includes labor, equipment and fuel)	2	$3,200.00	day		**$ 6,400.00**
SUBTOTAL DIRECT EXPENSES (FC 164)						**$ 10,069.50**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

CORSAIR CONSULTING LLC

PROJECT NAME: Bunton Creek Rd
PROJECT LIMITS: Lehman Rd to Porter Cv

TASKS	SHTS	SUPPORT ENGINEER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER	ENGINEER IN TRAINING	ENGINEERING TECH	ADMIN CLERICAL	TOTAL HOURS	TOTAL COST
		$203.20	$186.81	$121.26	$140.93	$99.63	$64.24	$58.99		
									$0.00/Hr.	

UNIT COST EXPENSES		# OF UNITS	COST/UNIT	UNIT		
	Soil Boring/Rock Coring with TCP (<60 feet)	70	$45.000	LF		**$ 3,150.00**
	Soil Boring/Rock Coring without TCP (<60 feet)	180	$35.000	LF		**$ 6,300.00**
	Determining Moisture Content in soil materials	126	$14.000	each		**$ 1,764.00**
	Atterberg Limits (Determining Moisture Content, Liquid Limit, Plastic Limit)	126	$95.000	each		**$ 11,970.00**
	Determining the amount of material in soils finer than No. 200	126	$65.000	each		**$ 8,190.00**
	Unconfined Compressive Strength (Soil)	6	$65.000	each		**$ 390.00**
	Borehole Bentonite Grouting	250	$10.00	LF		**$ 2,500.00**
	Determining Sulfate Content in Soils - Colorimetric Method	20	$95.00	each		**$ 1,900.00**
	Consolidated Undrained (CU) Triaxial Compression Test for undisturbed Soils - Single Stage	1	$1,500.000	set of 3		**$ 1,500.00**
	One Dimensional Consolidation Properties of Soils	1	$425.000	each		**$ 425.00**
	California Bearing Ratio (Single Sample without MD Curve)	2	$450.000	each		**$ 900.00**
	Modified Proctor Test	2	$350.000	each		**$ 700.00**
SUBTOTAL UNIT COST EXPENSES (FC 164)						**$ 39,689.00**

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$43,903.33
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1	$10,069.50
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1	$39,689.00
GRAND TOTAL + 5% Adjustment **$0.00**	**$98,344.92**

CobbFendley

PROJECT NAME: Bunton Creek Rd
PROJECT LIMITS: Lehman Rd to Porter Cv

TASKS		SHTS	Senior Project Manager	Project Engineer II	Senior Tech I	Category	Category	Category	Category	Category	Category	Category	Category	Category	TOTAL HOURS	TOTAL COST
			$238.00	$163.00	$135.00	Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)	Rate ($)	**$0.00/Hr.**	
FC 102 (102)	**Feasibility Studies**														0	
	OH to UG Relocation PER															
	Project Team Meetings (Assume 6)		6	6											12	$ 2,406.00
	Coordination with PEC (1 meeting)		2	2											4	$ 802.00
	Coordination with LCRA (1 meeting)		2	2											3	$ 601.50
	Coordination with 3 Telecom Attachers (1 meeting each)		5	5											9	$ 1,804.50
	Site Visit		4	4											8	$ 1,604.00
	Schematic		12	24	60										96	$ 14,868.00
	Quantities and Estimates		2	8	8										18	$ 2,860.00
	QAQC and Comment Responses		2	4	8										14	$ 2,208.00
															0	$ -
															0	
SUBTOTAL		0	34	54	76	0	0	0	0	0	0	0	0	0	164	**$ 27,154.00**
LABOR TOTALS		**0**	**34**	**54**	**76**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**164**	**$ 27,154.00**
			20.7%	32.9%	46.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		

OTHER DIRECT EXPENSES			# OF UNITS	COST/UNIT	UNIT		
		MILEAGE	250	0.58	mile		**$ 145.00**
		RENTAL CAR (Includes taxes and fees; Insurance costs will notbe reimbursed)		$65.000	day		**$ -**
		RENTAL CAR FUEL		$100.00	day		**$ -**
		Air Travel - In State - Short Notice (Coach)		$420.00	Rd/Trip/perso		**$ -**
		Lodging/Hotel (Taxes/fees not included)		$96.000	day/person		**$ -**
		Lodging/Hotel (Taxes/fees)		$30.00	day/person		**$ -**
		Meals (Excluding alcohol & tips) (Overnight stay required)		$50.00	day/person		**$ -**
		OVERNIGHT MAIL - OVERSIZED BOX		$40.00	each		**$ -**
		PHOTOCOPIES B/W (11" X 17")	100	$0.20	each		**$ 20.00**
		PHOTOCOPIES B/W (8 1/2" X 11")	100	$0.10	each		**$ 10.00**
		PHOTOCOPIES COLOR (11" X 17")	50	$1.25	each		**$ 62.50**
		PHOTOCOPIES COLOR (8 1/2" X 11")		$0.75	each		**$ -**
		PLOTS (COLOR ON BOND)		$1.25	per sq. ft.		
							$ -
SUBTOTAL DIRECT EXPENSES (FC 164)							**$ 237.50**

UNIT COST EXPENSES			# OF UNITS	COST/UNIT	UNIT		
							$ -
							$ -
							$ -
							$ -
							$ -
							$ -
							$ -
							$ -
							$ -
							$ -
							$ -
							$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)							**$ -**

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1		$27,154.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1		$237.50
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1		$0.00
GRAND TOTAL + 5% Adjustment	**$0.00**	**$28,761.08**

K·FRIESE
+ ASSOCIATES

KYLE BONDS 2022

COUNCIL MEETING | MARCH 7, 2023

Item # 19

BOND PROGRAM UPDATE

- Bond was approved by voters in Nov. 2022
- Council workshop was held in late January to provide an update
- Design scopes and fees for Kohlers, Bebee, and Bunton Creek projects are ready for review
- Finalizing negotiations for remaining projects, aiming for March 21 Council meeting
- Website and branding refresh in progress

KYLE BONDS 2022

COUNCIL MEETING | MARCH 7, 2023

K·FRIESE + ASSOCIATES

TASK ORDER BUDGETS

Project	From	To	Total Budgeted Project Cost	Current Phase	Current Task Order Budget	% of Total Budgeted Project Cost
Kohlers to Seton (off-system)	IH 35 NBFR	Seton Pkwy	$66,080,361	Schematic	**$ 1,101,207.34**	5%
Kohlers to Seton (IH 35 crossing)	IH 35 SBFR	IH 35 NBFR		Schematic	**$ 2,158,287.27**	
Bebee Rd (west)	IH 35 NBFR	Dacy Ln	$66,621,312	Schematic	**$ 436,194.96**	2%
Bebee Rd (east)	Dacy Ln	E. of Green Pastures Rd		Schematic	**$ 788,221.88**	
Bunton Creek Rd	Lehman Rd	Porter Cove	$28,444,399	Schematic	**$ 947,810.00**	3%

K·FRIESE + ASSOCIATES

CITY OF KYLE, TEXAS

Approve Task Order No. 2 - American Structurepoint, Inc. for Bebee Rd. from I35 NB Frontage Road to Dacy Lane $436,194.96

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Approve Task Order No. 2 to AMERICAN STRUCTUREPOINT, INC., Dallas, Texas in the amount not to exceed $436,194.96 for engineering services and design of Bebee Rd. from I35 NB Frontage Road to Dacy Lane. ~ *Joe Cantalupo, K Friese & Associates, City's 2022 Road Bond Program Manager*

Other Information: The work to be performed by the Engineer shall consist of providing engineering services,
development of a design schematic, environmental documents, and PS&E. These services may
include, but are not limited to, preparing a design schematic to an equivalent 30% PS&E level of
detail, environmental documents/studies in support of the schematic work, public involvement
support (exhibits for City Council), data collection analysis, drainage, conceptual traffic control, 3-D
modeling, surveying and mapping, Quality Levels D, B and A subsurface utility engineering (QLD,
QLB, QLA SUE), environmental clearance, utility coordination, storm drain and culvert design, traffic
control layout and cross sections.

Legal Notes: N/A

Budget Information: Funding in the amount of $436,194.96 is available from the 2022 Road Bond Fund in the approved Capital Improvement Spending Plan for Fiscal Year 2022-2023 as follows:

- 1952-68812-573130 = $436,194.96 (2022 Road Bond Fund)

ATTACHMENTS:

Description

- Task Order No. 2
- 2022 Road Bond Program Update by K-Friese & Associates 3-7-2023

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TASK ORDER NO. 2

This Task Order is issued pursuant to that Professional Services Agreement (Agreement) between the City of KYLE, Texas (Owner) and American Structurepoint, Inc. (Professional) effective May 17, 2022, and constitutes authorization by Owner for Professional to proceed with the following described construction and engineering design services.

Construction and Engineering Design Services

A. PROJECT DESCRIPTION

The scope of the Agreement is to provide professional construction and engineering design services (Services) for the Owner based on the scope of services listed below in Item B. Professional services may include performing preliminary engineering and planning; generating plans, specifications and estimates; researching, analyzing, and providing technical recommendations; providing construction phase services; and providing general consulting services in the areas identified herein.

B. SCOPE OF SERVICES AND DELIVERABLES

Pursuant to the Agreement, this Task Order authorizes Professional to perform the Services shown in Attachment A.

C. BASIS OF COMPENSATION

The total compensation for the Services shall be based on the hourly rates as defined in Compensation Table provided on pages 3 and 4 of this document, and on the corresponding rates and hours in the Fee Estimate attached as Attachment B. Attachment B shall use the template provided by the Owner. Owner will make payments to Professional for performing the Services described on a monthly billing basis in accordance with monthly statements submitted by the Professional and approved by Owner. Final payment shall be due upon completion of the Services described.

D. TIME FOR COMPLETION

Professional will work expeditiously to complete the Services described herein by March 2024.

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American Structurepoint, Inc. shall begin work as soon as authorized in this Task Order No. 2.

APPROVED:

CITY OF KYLE, TEXAS

By _____

Title: City Manager

Attest _____

Date _____

ACCEPTED:

AMERICAN STRUCTUREPOINT, INC.

By DocuSigned by: Cash C. Canfield F19A20CCE23A42D...

Title Chief Operating Officer

Attest DocuSigned by: Megan Adams 21AAC5D2FC67470...

Date 3/1/2023

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COMPENSATION

Compensation for the services provided pursuant to the Professional Services Agreement between the City of Kyle and American Structurepoint, Inc. executed the 17th day of May 2022 will be paid on a lump sum basis and calculated based on the amounts reflected below.

American Structurepoint

Professional Staff	Hourly Bill Rate
Engineering Technician	$100
EIT	$120
Design Engineer	$140
Project Engineer	$165
Senior Engineer	$190
Project Manager	$240
Senior Project Manager	$280
QAQC Manager	$280
Principal	$285

SAM

Professional Staff	Hourly Bill Rate
Lidar Extraction/Ortho Imagery	$98
Calibration/AT/Lidar/Imagery	$110
Project Lean/Senior Tech	$120
Geospatial PM	$215
Geospatial Senior PM	$225
Field Coordinator	$115
3 Person Survey Crew	$215
2 Person Survey Crew	$160
Survey Technician	$98
Senior Survey Technician	$110
Project Coordinator	$125
Project Manager	$165
Senior Project Manager	$210

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Cobb Fendley

Professional Staff	Hourly Bill Rate
Administrative/Clerical	$86
Utilities Coordinator	$103
Utilities Coordinator – Senior	$150
CADD Operator - Senior	$184
Engineering Technician	$108
Engineering Technician – Senior	$135
RPLS	$184
Survey Crew (2 man)	$184
SUE Designating Crew (2 man)	$156
Engineer-in-Training	$113
Engineer (Utilities)	$135
Engineer – Senior	$254
Support Manager	$238
Project Manager	$314

Raba Kistner

Professional Staff	Hourly Bill Rate
Admin	$61.20
CADD Tech	$76.50
Logger	$76.50
Field Coordinator	$112.20
EIT	$137.70
Project Engineer	$168.30
Project Manager	$188.70
Senior Project Manager	$198.90
Principal	$224.40

Doucet

Professional Staff	Hourly Bill Rate
Environmental Technician	$115
Environmental Specialist	$140
Environmental Manager	$180

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ATTACHMENT A

TASK ORDER NO. 2 (SCHEMATIC PHASE)

I35 NB Frontage Road to Dacy Lane

SERVICES TO BE PROVIDED BY THE ENGINEER

American Structurepoint, Inc. (Engineer) will provide staff to support the City of KYLE (Owner) with general construction and engineering support services. The Owner also includes the City's General Engineering Consultant (GEC), K Friese & Associates, which the Owner has secured to act on its behalf as an Owner's Representative. The Engineer is required to coordinate with the GEC for completion of this work. Specific tasks may include, but are not limited to, the following:

The work to be performed by the Engineer shall consist of providing engineering services, development of a design schematic, environmental documents, and PS&E. These services may include, but are not limited to, preparing a design schematic to an equivalent 30% PS&E level of detail, environmental documents/studies in support of the schematic work, public involvement support (exhibits for City Council), data collection analysis, drainage, conceptual traffic control, 3-D modeling, surveying and mapping, Quality Levels D, B and A subsurface utility engineering (QLD, QLB, QLA SUE), environmental clearance, utility coordination, storm drain and culvert design, traffic control layout and cross sections.

The Engineer shall complete the services to be provided by the Engineer according to the milestone work schedule established in the task order. The Engineer shall submit a written progress report to the Owner monthly indicating the actual work accomplished during the month, scheduled work to be accomplished for the month, and the estimated work to be accomplished for the coming month. The progress report will use a bar chart diagram to indicate the percentage complete of each task shown on the previous report and the percentage complete of each task. The Engineer is required to meet with the designated Owner project manager and environmental coordinator bi-weekly for progress tracking purposes unless prior agreement is made with Owner not to hold a scheduled meeting. The Engineer shall submit minutes of the meeting, summarizing the events of the meeting within seven calendar days after each meeting.

The Engineer shall prepare a project work schedule. The work schedule must incorporate an allocation of time for stage reviews of the design schematic and the environmental documents by Owner personnel. The Engineer shall present the work schedule to the Owner for review and acceptance and provide assistance in interpreting the proposed work schedule.

GENERAL REQUIREMENTS

1.1. Design Criteria.

Design Criteria. The Engineer shall prepare all work in accordance with the latest version of applicable Owner's procedures, specifications, manuals, guidelines, standard drawings, and standard specifications or previously approved special provisions and special specifications, which include:

- Kyle Connected 2040 Transportation Master Plan (2015)
- Kyle Transportation Master Plan Update (2021)
- The Vybe Kyle: Trail-Oriented Development (2021)
- Kyle Drainage Master Plan (2018)

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- City of Kyle Roundabout Ordinance #1162 (2021)
- City of Kyle standard detail sheets and general construction notes
- TxDOT Roadway Design Manual
- TxDOT Hydraulic Design Manual
- Texas Manual on Uniform Traffic Control Devices (TMUTCD)
- Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (latest Edition)
- Other Owner approved manuals
- TxDOT ROW Acquisition Manual
- TxDOT Utilities Manual
- Texas Transportation Administrative Code – Utility Accommodation
- City of Austin Utility Criteria Manual
- City of Kyle utility standards
- Texas Commission on Environmental Quality (TCEQ)

When design criteria are not identified in Owner's manuals or TxDOT criteria, or if conflicting guidance is found, the Engineer shall notify the Owner and refer to City of Austin policies and the American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Street, (latest Edition).

The Engineer shall use applicable standards and guidance to tailor the Design Summary Report (DSR) template (provided by the City) to their project. The Engineer shall obtain approval from the City on all information contained in the DSR prior to schematic development.

The Engineer shall identify, prepare exhibits and complete all necessary forms for each Design Exception and Waiver required within project limits prior to the 50% project completion submittal. The Engineer shall submit each exception and waiver to the Owner for coordination and processing of approvals. If subsequent changes require additional exceptions, the Engineer shall notify the Owner in writing as soon as possible after identification of each condition that may warrant a design exception or waiver.

The Engineer shall prepare a design time schedule and an estimated construction contract time schedule, using the latest version of MS Project, Primavera, or any Owner approved programs. The schedules shall indicate tasks, subtasks, critical dates, milestones, deliverables and review requirements in a format that depicts the interdependence of the various items. The Engineer shall provide assistance to Owner's personnel in interpreting the schedules. The Engineer shall schedule milestone submittals at 50%, 90% and final project completion phases unless directed by Owner otherwise. The Engineer shall advise the Owner in writing if the Engineer is not able to meet the scheduled milestone review date.

Once the schematic has been completed and accepted by the Owner, the Engineer shall deliver all electronic files to the Owner within 30 calendar days of Owner's written request.

Milestone submittals shall include, but shall not be limited to, the following to be considered complete:

1. 50%

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- Design Summary Report (DSR)
- Draft Schematic of preferred alternative using border file provided by the Owner for the Kyle 2022 Road Bond Program
- Cross Sections on 11X17 sheets
- Draft Drainage Report
- Draft Traffic Study (or Studies) including roundabout and/or traffic signal studies/warrants
- Draft Traffic Control Layout
- Draft Geotechnical Report
- Draft Environmental Documents
- Construction Cost Estimate
- ROW Cost Estimate
- Utility Conflict Matrix
- Utility Relocation Cost Estimate including compensable and non-compensable subtotals

2. 90%
   - All 50% items with review comments addressed
   - Comment resolution matrix
   - Draft ROW Acquisition Documents
   - Final versions of 50% items
3. Final
   - All 90% items with review comments addressed
   - Comment resolution matrix
   - Final signed and sealed versions of 90% items

Submittals shall be provided electronically to the Owner using the Procore platform.

1.2. Right-of-Entry. The Engineer shall notify the Owner and secure permission to enter private property to perform any surveying, environmental, engineering, or geotechnical activities needed off Owner right-of-way. In pursuance of the Owner's policy with the general public, the Engineer shall not commit acts which would result in damages to private property, and the Engineer shall make every effort to comply with the wishes and address the concerns of affected private property owners. The Engineer shall contact each property owner prior to any entry onto the owner's property and shall request concurrence from the Owner prior to each entry.

1.3. Progress Reporting and Invoicing. The Engineer shall invoice according to Function Code breakdowns shown in Exhibit "A" of the Professional Services Agreement and Attachment "B" - Fee Schedule, of the task order. The Engineer shall submit each invoice in a format acceptable to the Owner.

The Engineer shall complete the services according to the milestone work schedule established in the task order. With each invoice the Engineer shall submit a monthly written progress report to the Owner's Project Manager regardless of whether the Engineer is invoicing for that month. Requirements for progress reports are included in Sections 145.2.b. and 145.2.c. of this scope of services.

The Engineer is required to meet with the designated Owner project manager or environmental coordinator bi-weekly for progress tracking purposes unless prior written agreement is made with

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Owner not to hold a meeting in any given month. The Engineer shall submit minutes of the meeting summarizing the events of the meeting within five (5) business days after each meeting.

The Engineer shall prepare a project work schedule, using the latest version of Microsoft Project or Primavera software or another scheduling program approved by the Owner in writing. Requirements for schedules are included in Section 145.2.b of this scope of services.

Condition precedents to final payment by the Owner are the Owner's receipt of all electronic files and confirmation by the Owner's Project Manager that (1) the electronic files can be opened and are usable by the Owner utilizing the Owner-owned version of the intended software, and (2) all of the Owner's review comments have been addressed.

The Engineer shall prepare a letter of transmittal to accompany each document submittal to the Owner. At a minimum, the letter of transmittal must include the project name, project limits, Owner's contract number, and Owner's task order number.

1.4. Traffic Control. The Engineer shall provide all planning, labor, and equipment to develop and to execute each Traffic Control Plan (TCP) needed by the Engineer to perform services under each task order. The Engineer shall comply with the requirements of the most recent edition of the TMUTCD. The Engineer shall submit a copy of each TCP to the Owner for approval prior commencing any work on any Owner roadway. The Engineer shall provide all signs, flags, and safety equipment needed to execute the approved TCP. The Engineer shall notify the Owner in writing five (5) days (in advance of executing each TCP requiring a lane closure and shall have received written concurrence from the Owner prior to beginning the lane closure. The Engineer's field crew shall always possess a copy of the approved TCP on the job site and shall make the TCP available to the Owner for inspection upon request. The Engineer shall assign charges for any required traffic control to the applicable function code. The Owner requires Public Notice of lane and Road closure 7 days in advance of closure through use of message boards, thus notice to Owner would need to be about 10 days prior of closure.

1.5. State-Controlled Waters. The placement of a new structure or modification of an existing structure(s) within State-Controlled waters will require confirmation that said structure(s) lie within the General Land Office (GLO) state owned land and whether the crossing is tidally influenced or not. Consequently, the Engineer shall request, as early in the design process as possible, that the State determine whether the proposed improvements are found within the tidal GLO, is a submerged GLO property or a non-tidal GLO property. The Owner may request assistance from the Engineer to prepare an exhibit demonstrating the location of the proposed improvements on the GLO State Owned Map for the project location.

1.6. Coordination. The Engineer shall coordinate issues and communications with Owner's internal departments through the Owner's Project Manager. The Owner will communicate the resolution of issues and provide the Engineer direction through the Owner's Project Manager.

Where applicable, the Engineer shall notify the Owner and coordinate with adjacent engineers and surveyors on all controls at project interfaces. The Engineer shall document the coordination effort, and each engineer must provide written concurrence regarding the agreed project controls and interfaces. In the event the Engineer and the other adjacent engineers are unable to agree, the Engineer shall meet jointly with the Owner and each adjacent engineer to resolve disagreements. If the engineers are unable to resolve an issue with the Owner as mediator, the Owner may decide the issue and the decision will be final.

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The Engineer shall prepare each exhibit necessary for approval by each railroad, utility, and other governmental or regulatory agency in compliance with the applicable format and guidelines required by each entity and as approved by the Owner. The Engineer shall notify the Owner in writing prior to beginning any work on any outside agency's exhibit.

1.7. Level of Effort. For each task order, the Engineer shall base the level of effort at each phase on the prior work developed in earlier phases without unnecessary repetition or re-study. As directed by the Owner, the Engineer shall provide written justification regarding whether or not additional or repeated level of effort of earlier completed work is warranted, or if additional detail will be better addressed at a later stage in the project development.

1.8. Quality Assurance (QA) and Quality Control (QC). The Engineer shall provide peer review at all levels. For each deliverable, the Engineer shall have some evidence of their internal review and mark-up of that deliverable as preparation for submittal. A milestone submittal is not considered complete unless the required milestone documents and associated internal red-line mark-ups are submitted. The Owner's Project Manager may require the Engineer to submit the Engineer's internal mark-up (red-lines) or comments developed as part the Engineer's quality control step. When internal mark-ups are requested by the Owner in advance, the Owner, at its sole discretion, may reject the actual deliverable should the Engineer fail to provide the evidence of quality control. The Engineer shall clearly label each document submitted for quality assurance as an internal mark-up document.

The Engineer shall perform QA and QC on all survey procedures, field surveys, data, and products prior to delivery to the Owner. If, at any time, during the course of reviewing a survey submittal it becomes apparent to the Owner that the submittal contains errors, omissions, or inconsistencies, the Owner may cease its review and immediately return the submittal to the Engineer for appropriate action by the Engineer. A submittal returned to the Engineer for this reason is not a submittal for purposes of the submission schedule.

1.11. Organization of Design Project Folder and Files (Electronic Project Files). The Engineer shall organize the electronic project files in accordance with the Owner's File Management System (FMS) format. The Engineer shall maintain the project files in the Owner's file structure.

1.12. Personal Protective Equipment (PPE). The Engineer shall, and shall require its subcontractors to, (1) provide personal protective equipment (PPE) to their personnel, (2) provide business vehicles for their personnel, and (3) require their personnel to use PPE and drive only business vehicles while performing work on or near roadways. The PPE must meet all (1) current standards set by the Occupational Safety and Health Administration (OSHA) and (2) TxDOT requirements (e.g., safety glasses, Type 3 (TY 3) pants for night work). Each business vehicle must be clearly marked with the Engineer's business name, or the name of the appropriate subcontractor, such that the name can be identified from a distance.

1.13. Data Classification. Unless otherwise clearly labeled or otherwise specifically excepted through a provision of this contract or its attachments, all data provided to or generated by the Engineer under this contract is considered public data for the purposes of applying the Owner's data security standards. The Engineer shall manage all data and work products according to the terms of the contract, including specifically Attachment I, Information Resources and Security Requirements.

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TASK DESCRIPTIONS AND FUNCTION CODES

The Engineer shall categorize each task performed to correspond with the Function Codes (FC) and Task Descriptions.

FUNCTION CODE 102(110) – FEASIBILITY STUDIES

ROUTE AND DESIGN STUDIES

The Engineer shall collect, review, and evaluate data described below. The Engineer shall notify the Owner in writing whenever the Engineer finds disagreement with the information or documents provided.

The Engineer shall finalize an alignment and proposed roadway schematic layout for one alternative only that includes projected traffic (when available), volumes and existing and proposed typical sections. The Engineer shall furnish Microsoft Office and MicroStation, GEOPAK, and OpenRoads computer generated media containing the roadway schematic layout to the Owner. All supporting attachments and exhibits must accompany the schematic layout. All MicroStation, GEOPAK, and OpenRoads computer generated files containing the roadway design schematic must be fully compatible with the software used by the Owner without further modification or conversion. ~~The Engineer shall be required to convert files to AutoCAD if requested by the Owner.~~

The Engineer shall obtain, review, and evaluate available existing and twenty-year projected traffic data for use in the preparation of the schematic design layout. The data must be utilized in accordance with the requirements for schematic development and consistent with the policies of the Owner.

The Engineer shall prepare preliminary drawings to identify any potential impacts and constraints within the project corridor, including impacts to the nature, cultural, and human environment. The potential impacts and constraints identified must include all existing and proposed utilities (both public and private), structures, burial grounds, neighborhood communities, historical landmarks, and undeveloped areas. Any potential utility conflicts and structural impediments must be identified as such. The Engineer shall propose alternative alignments that avoid or minimize displacements and damages and prepare any additional attachments or exhibits required to illustrate a preferred alternative alignment.

An itemization of the schematic design and engineering work activity to be performed under this task order is detailed below. The Engineer shall prepare all designs in accordance with the latest version of:

A. Kyle Connected 2040 Transportation Master Plan (2015)
B. Kyle Transportation Master Plan Update (2021)
C. The Vybe Kyle: Trail-Oriented Development (2021)
D. Kyle Drainage Master Plan (2018)
E. City of Kyle Roundabout Ordinance #1162 (2021)
F. City of Kyle standard detail sheets and general construction notes
G. TxDOT Roadway Design Manual
H. TxDOT Hydraulic Design Manual
I. Texas Manual on Uniform Traffic Control Devices (TMUTCD)

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J. Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (latest Edition)
K. Other Owner approved manuals and guides.

L. TxDOT ROW Acquisition Manual
M. TxDOT Utilities Manual
N. Texas Transportation Administrative Code – Utility Accommodation
O. City of Austin Utility Criteria Manual
P. City of Kyle utility standards
Q. Texas Commission on Environmental Quality (TCEQ)

When design criteria are not identified in Owner manuals or TxDOT criteria, or when conflicts are found, the Engineer shall notify the Owner and refer to City of Austin policies and the American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Street, (latest Edition).

The design schematic horizontal layout must adhere to a design scale of 1 inch = 100 foot (or 1 inch = 200 foot, when directed by the Owner.) The Engineer shall develop the schematic layout, exhibits, and attachments in English units. All Microsoft Office, MicroStation, Keyhole Markup Language (KML), Keyhole Markup Language Zipped (KMZ), and Bentley OpenRoads computer graphic files furnished to the Owner must be uploaded to the Owner's file management system in their native format, which must be fully compatible with the programs currently used by the Owner. Schematics must follow TxDOT and Federal Highway Administration (FHWA) standards. The schematic must follow TxDOT's computer-aided design and drafting (CADD) standards. The Engineer shall submit the schematic as an original document, accompanied with an original MicroStation formatted graphics file. Final copies of the schematic design must be signed and sealed by a professional engineer licensed in the State of Texas.

110.1. Schematic Design Work Outline:

A. Develop Base Maps

The Engineer shall finalize the schematic for the preferred alternative from Task Order No. 1. The Engineer shall develop the base maps to be used for the analysis and proposed schematic layout from existing construction and right of way (ROW) plans as available. The Engineer shall re-establish the existing centerline horizontal alignments for all roadways, identify existing ROW and easements, property owners, and the approximate location of major utilities based on a Subsurface Utility Engineering (SUE) in the preparation of base maps.

B. Planimetrics and Aerial Mapping

The Engineer shall obtain planimetrics, digital terrain modeling (DTM), and aerial photographs from the Owner, if available

C. Analyze Existing Conditions

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1. Using collected data and base maps from the 10% schematic phase, the Engineer shall update overall analysis of the existing conditions to update the schematic design, including the following: ROW and easement determination
2. Horizontal alignment
3. Vertical alignment
4. Pavement cross slopes and pavement type
5. Soil exploration
6. Geotechnical testing
7. Intersection design and analysis
8. Drainage
9. Traffic control and construction phasing sequence

D. Schematic Alternatives

The Engineer shall update approved schematic (Alternate 2) to minimize potential adverse operational impacts, crash impacts, ROW impacts, environmental impacts, major utility conflicts, structural impediments, or exceptions to the Owner, State and FHWA design criteria. Schematic will be updated to the 50%, 90%, and 100% level of completion.

E. Deliverable Schematic

The Engineer shall evaluate and document, if/as applicable, the following in the analysis of the update of the schematic to optimize the design:

1. Efficient use of the allocated ROW
2. Control of access (COA) and driveway locations
3. Roadway and intersection geometry
4. Cross sections
5. Bicycle and pedestrian design
6. Drainage and hydraulic design
7. Stopping sight distance
8. Level of service
9. Safety
10. Traffic and signal operations
11. Construction, ROW, easement, and utility costs
12. Construction sequencing
13. Traffic control during construction
14. Roadside safety appurtenances
15. Environmental mitigation (e.g., noise walls, storm water best management practices (BMPs))
16. Bridge/box culvert layouts and clearance
17. Railroads (if applicable)
18. Roundabout Analysis, including roundabouts at the following intersections:
    Proposed Kohlers Crossing and proposed Bebee Road
    Dacy Lane and Bebee Road
19. Accommodation of ultimate corridor configuration.

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20. Accommodation of future cross street expansion as described in local thoroughfare plan (if applicable)
21. Avoidance of utility lines (if feasible)
22. Impact of construction delays from utility relocations

F. Project Management and Coordination

1. The Engineer shall direct and coordinate the various elements and activities associated with developing the design schematic.
2. The Engineer shall prepare the detailed graphic project work schedule indicating tasks, critical dates, milestones, deliverables, and Owner review requirements. The project work schedule must depict the order of the various tasks, milestones, and deliverables. The Engineer shall review the schedule monthly and provide updates regarding its progress on the schedule to the Owner.
3. The Engineer shall submit written monthly progress reports to the Owner.
4. The Engineer shall provide ongoing quality assurance and quality control to ensure completeness of product and compliance with the Owner procedures.

G. Data Collection and Field Reconnaissance

The Engineer shall collect, review, and evaluate data described below. The Engineer shall notify the Owner in writing whenever the Engineer finds disagreement with the information or documents:

1. Data, if available, from the Owner, including "as-built plans", existing schematics, right-of-way maps, Subsurface Utility Engineering (SUE) mapping, existing cross sections, existing planimetric mapping, environmental documents, existing channel and drainage easement data, existing traffic counts, accident data, Bridge Inspection records, identified endangered species, identified hazardous material sites, current unit bid price information, current special provisions, special specifications, and standard drawings.
2. Documents for existing and proposed development along proposed route from local municipalities and local ordinances related to project development.
3. Utility plans and documents from appropriate municipalities and agencies.
4. Flood plain information and studies from the Federal Emergency Management Agency (FEMA), the United States Army Corps of Engineers (USACE), local municipalities, and other governmental agencies.
5. Conduct field reconnaissance and collect data including a photographic record of notable existing features.

The Engineer shall conduct field reconnaissance and collect data as necessary to complete the schematic design. Data must include the following information. Items 1 through 5 must be obtained from the Owner, if available. Items 6 through 13 must be obtained from other agencies as required.

1. Local major thoroughfare plan
2. Plat research for adjacent properties (if available)
3. Available corridor major investment studies

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4. Design data from record drawings of existing and proposed facilities
5. Previously prepared drainage studies
6. Public and private utility information (It is necessary for the Engineer's Surveyor to locate public and private utilities, even if the City has permits)
7. Existing and future design year traffic data
8. Historical crash data
9. Roadway inventory information, including the number of lanes, speed limits, pavement widths and rating, bridge widths and ratings, and ROW widths
10. Aerial photos, planimetric mapping, and DTM
11. Environmental data
12. Adopted land use maps and plans (if available)
13. Federal Emergency Management Agency (FEMA) flood boundary maps and flood insurance studies and models

H. Roadway Design Criteria

The Engineer will update the schematic to a 30% design level using the criteria developed in the 10% schematic development phase.

110.2. Schematic Design – General Tasks

A. ROW Property Base Map

The Engineer shall use base map depicting the information developed in the 10% schematic development phase.

B. Typical Sections

The Engineer shall update any proposed typical sections modified by the updated schematic that depict the number and type of lanes, shoulders, median width, curb offsets, cross slope, border width, clear zone widths, and ROW limits.

C. Environmental Constraints

The Engineer shall evaluate and document impacts to environmentally sensitive sites (as identified by the Engineer and verified by the Owner) during the schematic design process. Environmentally sensitive sites include natural, cultural, and the human environment. Examples are historic and archeological resources, burial grounds, neighborhood communities and residential areas, farmland, floodplains, wetlands, endangered species, rare habitats, wildlife corridors, wildlife crossings, parks and nature preserves, geologic features, undeveloped areas, and significant trees.

D. Drainage

The City of Kyle adopted the City of Austin DCM and ECM per the City of Kyle Code of Ordinances 41-134(a)(7). Distinctions from these codes are provided in the City of Kyle Drainage Design Criteria available on the City of Kyle website.

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Engineer shall evaluate and refine design to make the proposed project compatible with anticipated drainage projects identified in the City of Kyle Drainage Master Plan.

The Engineer shall use data from as-built plans and FEMA maps to locate drainage out falls and to determine existing storm sewer and culvert sizes, design flows, and water surface elevations for use in the design of roadway geometry.

All hydrologic studies shall be based on Atlas 14 rainfall. City of Kyle Drainage Criteria Table 5 of Attachment 1– COK for Intensity Duration Frequency (IDF) curve coefficients shall be used to replace City of Austin DCM Table 2-2A (zone 1), IDF curve coefficients.

The Engineer shall conduct a preliminary drainage study to determine and evaluate the adequacy of the ROW needed to accommodate the proposed roadway and drainage system. The drainage study must (1) identify the impacts to abutting properties and the 100-year floodplain due to proposed highway improvements; (2) identify the water surface elevations for the 2, 10, 25, 50, and 100-year storm events; (3) identify and locate outfalls; (4) provide drainage outfall descriptions; (5) provide overall drainage area map, sub-drainage area map, and storm water detention facilities; and provide a drainage study report identifying the results of the study. The drainage report, which must be signed and sealed by a professional engineer licensed in Texas, must include applicable hydrologic and hydraulic models (e.g., HEC-1 and HEC-2, HEC-RAS, HEC-HMS, XP- SWMM). The Engineer shall prepare a final drainage study in accordance with one or more of the following: City of Kyle Drainage Criteria, TxDOT Hydraulic Design Manual, local TxDOT district criteria, and any other specific guidance provided by the Owner. If requested by the Owner, the Engineer shall evaluate the adequacy of the existing drainage structures; otherwise, the Engineer shall not evaluate the adequacy of the existing drainage structures.

Water Quality: shall be provided in accordance with City of Kyle Code 41-134(a)(7). This water quality shall be designed in accordance with the latest version of the Texas Commission on Environmental Quality – Edwards Aquifer Technical Guidance Manual (TCEQ RG-348).

For projects located over the Edwards Aquifer Recharge Zone or Contributing Zone, the Engineer shall follow the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer rules. The Engineer shall design water quality Best Management Practices (BMP) in accordance with the latest editions of RG-348 – Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices (July 2005); RG-348 Addendum Sheet (July 2012), or latest edition. As part of this work, the Engineer shall perform the following:

1. BMP analysis: The Engineer shall locate all BMPs previously permitted under the TCEQ Edwards Aquifer rules that might be impacted by the project. The Engineer shall determine the amount of total suspended solids (TSS) being treated under these permitted BMPs.
2. TSS load calculations: The Engineer shall develop TSS load calculations to determine the TSS amount required to be treated under the Edwards Aquifer rules. This calculation is based on the increase in the amount of impervious cover within the project area. The Engineer will determine 80% of the increase in TSS load resulting from the development on the project.

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3. TSS removal determination: The Engineer shall utilize the TCEQ calculation spreadsheet to determine the total amount of TSS removal required for the project.
4. Design coordination and water quality report: After the 30% submittal, the Engineer shall meet with the Owner to discuss the TSS removal required for the project and delineate the design approach for the water quality BMPs. As geometry allows, the Engineer shall first maximize treatment via features in the roadway section (vegetative filter strips and grassy swales). For all other permanent BMP treatment options, the Engineer shall coordinate with the Owner for preferred treatment options and determine any necessary drainage easements required for the water quality BMP. The Engineer shall identify and document BMP's in the schematic water quality report. The Engineer shall submit a draft schematic water quality report with the 60% submittal, and a final schematic water quality report with the 100% submittal. The Engineer shall provide cost estimates for the BMPs and necessary drainage easements.

E. ROW Requirements

The Engineer shall determine any updates based upon the updated schematic to the ROW requirements based on the proposed alignment, typical sections, design cross sections, access control, terrain, construction requirements, drainage, clear zone, maintenance, intelligent transportation system (ITS), and environmental constraints and mitigation requirements.

F. Design Exceptions

The Engineer shall identify any additional design exceptions and waivers. If applicable, the Engineer shall determine the necessity for each design exception or waiver for approval. If the Owner agrees that design exception or waiver is necessary, the Engineer shall prepare the Owner's required design exception or design waiver documentation. The Engineer shall document the operational and safety analysis for comparison of the no-build, build with standard design, and build with proposed design alternatives.

G. Traffic and Operational Analysis

The Engineer shall obtain opening year and design year (opening year +20) traffic volumes from City of Kyle from prior traffic studies that account for future Bebee Road, Kohlers Crossing and nearby land-use development. The engineer will coordinate with the City on traffic forecasting, and validation of assumptions.

The Engineer shall review traffic data, existing roadway features (including number of lanes, frontage road operations, and intersection operation and geometry) and traffic flow patterns. The Engineer shall conduct capacity analysis at the following study intersections and make recommendations for improving traffic flow. These may include determination of added turn lanes and required intersection lane configuration under roundabout control. The study intersections are listed below:

a. IH 35 NB Frontage Road & Bebee Road
b. Proposed Kohlers Crossing & Bebee Road
c. Dacy Lane & Bebee Road

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The Engineer shall use HCM methodology to analyze these intersections during opening year and design year (opening+20 year) based on future conditions. Results of this analysis must be incorporated into the 30% PS&E design. The Engineer shall develop and submit to Owner a traffic and operational analysis memo summarizing all analysis performed. The analysis must be performed using the latest versions of TxDOT-approved software (e.g., HCS, Synchro, SIDRA).

Exclusions:

1. Traffic data collection
2. Traffic projections including research of background growth rate, forecast of traffic generated by future land-use development and roadway connectivity
3. Safety analysis
4. 2D/3D micro-simulation modeling and video animation
5. Traffic projections and capacity analysis for additional intersections and scenarios other than those included in the scope above.

H. Bicycle and Pedestrian Accommodations

The Engineer shall comply with City of Kyle design criteria and planned improvements for bicycle and pedestrian accommodations, including the 2015 and 2021 Transportation Master Plans and The Vybe Kyle: Trail Oriented Development, and the United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations. The inclusion of bicycle and pedestrian facilities must be evaluated when the project is scoped.

110.4. Geometric Design Schematics

The Engineer shall update geometric design schematics based on the conceptual schematics developed in Task Order No. 1, after the basic layout, lane arrangement, and anticipated ROW and easement impacts depicted on the conceptual schematics are approved. The Engineer shall use Bentley OpenRoads tools in performing this task. The geometric design schematics must include both a plan view and profile view.

A. The geometric schematic plan view must contain the following design elements:

1. Bentley OpenRoads calculated roadway alignments for mainlanes, general purpose lanes, ramps, direct connectors, bridges, HOV lanes, managed lanes, express lanes, collector distributor roads, frontage roads and cross streets at major intersections and grade separations
2. Horizontal curve data shown in tabular format
3. Pavement edges, curb lines, sidewalks for all roadway improvements
4. Typical sections of existing and proposed roadways
5. Proposed bridge structures, including bridge deck, abutment, bent, and rail locations
6. Proposed retaining walls and sound walls
7. Proposed cross-drainage structures with outfall flow arrows and significant drainage features or waterways identified
8. Existing utilities and proposed utilities
9. Existing property lines and respective property ownership information
10. Existing ROW and easements

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11. Proposed ROW and easements adequate for preparation of ROW maps
12. Waters of the US (WOTUS)
13. Control-of-access limits
14. Existing and projected traffic volumes
15. Location and text of the existing and proposed guide signs and the preliminary locations for changeable message signs
16. Lane lines, shoulder lines, and direction of traffic flow arrows indicating the number of lanes on all roadways

B. The geometric schematic profile view must contain the following design elements:

1. Calculated profile grade and vertical curve data including "K" values for all curves and sight distance values for crest vertical curves on the mainlanes
2. Existing ground line profiles along the mainlanes
3. Grade separations and overpasses including preliminary abutment and bent locations, girder type, and span lengths
4. Calculated vertical clearances at grade separations and overpasses
5. Anticipated cross-drainage structures with approximate inlet and outfall elevations
6. Proposed ditch grading (special grading), if it does not follow the typical section.
7. Approximate locations of existing and proposed major utility crossings
8. The calculated profile grade for frontage roads, connectors, ramps and cross streets will be shown on separate Supplemental Profile rolls

110.5. Cross-Sections

The Engineer shall use a Bentley 3D OpenRoads model to update preliminary cross-sections at 50 feet intervals (unless otherwise directed by the Owner) and at culvert locations in conjunction with the updated geometric schematic. The Engineer shall determine earthwork volumes for use in the cost estimate. The Engineer shall prepare 11inch x17inch or roll plots of the cross-sections.

110.8. Preliminary Construction Sequence

The Engineer shall prepare preliminary construction sequence layouts in conjunction with the geometric conceptual design schematic depicting the phasing and traffic detours anticipated to safely convey traffic. The layouts must demonstrate that adequate horizontal and vertical alignments are maintained, sufficient lane widths and shoulder widths or barrier offsets are feasible, and construction zones are adequate for constructability of all proposed features. Proposed construction detours must ensure that adequate superelevation is provided. The layouts must indicate how existing pedestrian and bicycle facilities are accommodated for each phase.

110.12. Agency Coordination and Public Involvement

A. The Engineer shall assist the Owner in conducting meetings with property owners, stakeholders, and various agencies to discuss and review the schematic design. The Engineer shall document and respond to issues related to the schematic design.
B. The Engineer shall prepare necessary exhibits and meeting materials to support stakeholder coordination and public outreach efforts.

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110.13. Schematic Design Project Deliverables

In conjunction with the performance of the services included under Function Code 110 of this exhibit, the Engineer shall provide the following draft and final documents and associated electronic files as applicable:

A. Draft and final copies of the traffic and operational analysis report
B. 50%, 90%, and Final copies of the geometric schematic layouts on rolls, as requested by the Owner
C. Update of the conceptual design schematic roll plots
D. Draft and final copies of the design schematic cross-sections on 11-inch x 17-inch cut sheets or roll plot format, as requested by the Owner
E. Copy of the preliminary cross-sections in a roll plot format or 11-inch x 17-inch format, as requested by the Owner
F. Electronic 3D model copy of the preliminary cross-sections created using OpenRoads software
G. Six final copies of the preliminary drainage study
H. Electronic submittal of the hydrologic and hydraulic model digital files from the drainage study
I. Copies of the preliminary construction sequence layouts in a roll plot or 11-inch x 17-inch format, as requested by the Owner
J. Copies of the preliminary construction sequence typical sections in 11-inch x 17-inch format
K. Electronic files shall be uploaded to the Owner's Procore file management system
L. Traffic data schematics
M. Traffic projections methodology memo
N. Average daily corridor traffic projections report
O. Risk management plan
P. Draft project management plan
Q. Final project management plan
R. Line schematics with traffic data shown
S. Documentation of public involvement activities
T. Utility plan – electronic file in latest version of MicroStation fully compatible with OpenRoads civil design system
U. Design exception and design waiver documents
V. Hard copy of a draft hydraulic report for review and comment
W. EE. Culvert hydraulic data sheets and preliminary culvert layouts
X. Drainage report – one hard copy of final drainage report, one electronic copy of the entire drainage report in PDF format, and computer files of hydrologic and hydraulic modeling with appropriate labeling of location, and submittal date

FUNCTION CODE 120(120) – SOCIAL/ECON/ENVIRON STUDIES

SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT

120.1. Environmental Documentation Standards

Each environmental service provided by the Engineer must have a deliverable. Deliverables must summarize the methods used for the environmental services and the results achieved. The

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summary of results must be sufficiently detailed to provide satisfactory basis for thorough review by the Owner and (where applicable) other agencies with regulatory oversight. All deliverables must meet regulatory requirements for legal sufficiency and adhere to the requirements for reports enumerated in the State's National Environmental Policy Act of 1969 (NEPA) Memorandum of Understanding (MOU).

A. Quality Assurance/Quality Control Review

For each deliverable, the Engineer shall perform quality assurance quality control (QA/QC) reviews of environmental documents and on all supporting environmental documentation to determine whether documents conform with:

1. Current state and federal laws, regulations, policies, guidance, agreements, and memoranda of understanding between the Owner and applicable state or federal agencies; and
2. Guidelines contained in Improving the Quality of Environmental Documents, A Report of the Joint AASHTO/ACEC Committee in Cooperation with the Federal Highway Administration (May 2006) for:
    a. Readability, and
    b. Use of evidence and data in documents to support conclusions.

Upon request by the Owner, the Engineer shall provide documentation that the QA/QC reviews were performed by qualified staff.

B. Deliverables must contain all data acquired during the environmental service and be written to be understood by the public in accordance with TxDOT's Environmental Toolkit guidance, documentation standards, and current guidelines, policies, and procedures.
C. Electronic versions of each deliverable must be written in software that is fully compatible with the software currently used by the Owner and provided in the native format of the document for future use by the Owner. The Engineer shall supplement all hard copy deliverables with electronic copies in searchable Adobe Acrobat™ (.pdf) format unless another format is specified. Each deliverable must be a single, searchable *.pdf file that mirrors the layout and appearance of the physical deliverable. The Engineer shall upload the electronic files to the Owner's Procore file management system in both the document's native format and the PDF format.
D. The Engineer shall provide photographs and graphics that clearly depict details relevant to an evaluation of the project area. Comparable quality electronic photograph presentations must be at least 1200 x 1600-pixel resolution. The Owner can request images/graphics be provided in another format or quality.

120.5. Environmental Technical Analyses and Documentation

A. Definition of technical analyses and documentation for environmental services

In general, technical analyses and documentation for environmental services might include a report, checklist, form, or analysis detailing resource-specific studies identified during the process of gathering data to make an environmental decision.

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The Engineer shall prepare all technical reports and documentation for the Owner with sufficient detail and clarity to support environmental recommendations.

Environmental technical reports and documentation must include appropriate NEPA or federal regulatory language in addition to the purpose and methodology used in delivering the service. Technical reports and forms must use templates and documentation standards as applicable and include sufficient information to determine the significance of impacts.

B. Minimum Deliverables:

1. Draft Environmental Dashboard Investigation summary, including constraints map and documentation
2. Final Environmental Dashboard Investigation summary, including constraints map and documentation

C. Environmental Dashboard Investigation (Desktop Surveys) to support the schematic work will include:

1. Obtain publicly available information including but not limited to: locations of public buildings and facilities (schools, churches, parks, cemeteries, dams), aerial photography, National Wetland Inventory Maps, County Soil Survey Maps, Texas Commission on Environmental Quality (TCEQ) & Environmental Protection Agency (EPA) Hazardous Materials Database Information, Federal Emergency Management Agency (FEMA) Floodplain Information, Vegetation Information, Threatened & Endangered Species and Karst Information, and any other Environmental Information from the appropriate local, state, or federal agencies.

2. Conduct a regulatory records review to identify listed hazardous waste generators, treatment, storage and disposal facilities; solid waste landfills, unauthorized sites; documented spills; oil and gas exploration and production sites; and underground storage tank sites within the proposed site location. The review will also identify other environmental risks along the project corridor.

3. Conduct field reconnaissance to visually inspect the project site for additional risks and field verify any environmental risks identified by the regulatory records review. This field investigation will be limited to accessible areas within the existing right-of-way.

4. Review the City of Kyle's Long-Range Transportation Plan and other local and regional transportation plans to review and gather information of projects that could impact the project.

5. Develop a constraints map that includes environmental concerns, known constraints (structures, floodplain), aerial photography, contour information, know developments, other environmental features and utility information, based on research of public databases and sources.

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6. Develop Environmental Dashboard Investigation Summary including, but not limited to the following:
    a. Water Resources
        i. Waters of the US
        ii. Groundwater
        iii. Floodplains
    b. Threatened and Endangered Species
    c. Cultural Resources
        i. Archeological
        ii. Historic
        iii Cemeteries
        iv. Other
    d. Community Resources and Socioeconomics
        i. Community Resources
        ii. Socioeconomics
    e. Hazardous Materials
    f. References

120.8. Environmental Permits Issues and Commitments (EPIC) Sheets.

The Engineer shall complete the latest version of the EPIC sheets per information provided by the State. These sheets must be signed, sealed and dated by the Engineer as indicated in signature block.

FUNCTION CODE 130(130) – RIGHT-OF-WAY (ROW) DATA

For Function Codes 130 and 150, the term Surveyor means the firm (prime provider or subprovider) that is providing the surveying services shown in this scope.

130.1. RIGHT-OF-WAY SURVEYS (15.1.1)

Right-of-Way Surveys includes the performance of surveys to establish land boundaries, preparation of parcel descriptions and parcel plats, and the preparation of right-of-way (ROW) maps.

The Surveyor shall prepare:

A. boundary surveys and create Property Descriptions (metes and bounds plus plats);
B. create GIS files for ROWD/ Real Property Asset Map system; and
C. traditional ROW map as requested by Owner

The standards and deliverables are detailed in Chapter 4, Section 8 of the TxDOT ROW Preliminary Procedures for the Authority to Proceed Manual.

130.2. RIGHT OF WAY MAPPING – TRADITIONAL ROW MAP

If requested in a work authorization, the Surveyor shall conduct traditional ROW mapping.

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Traditional ROW mapping includes ground surveying and preparation of parcel maps, legal descriptions also known as metes and bounds descriptions, and ROW maps.

A. PURPOSE

The purpose of traditional ROW mapping is:

1. To prepare mapping documents suitable for use in the acquisition of real property and the issuance of a title policy.
2. To prepare a map of a resurvey of existing ROW where it is necessary to update or redefine ROW lines.

B. DEFINITIONS

In this attachment, the following definitions shall apply:

1. Abstract Map means a scale drawing prepared from record documents depicting proposed ROW lines, existing ROW lines, easement lines, and private property lines with relevant grantee names, recording data, and recording dates.
2. Closure/Area Calculation Sheet means a computer-generated print-out of the area and the perimeter bearings, distances, curve data, and coordinates of an individual parcel of land to be acquired, including the degree of angular and distance mis-closure for each individual parcel.
3. Denial of Access Line means a line that indicates specific location where access to the roadway is denied.
4. Owner means the current title holder of record as determined by the Real Property Records.
5. Parent Tract means a unit or contiguous units of land under single ownership, comprising a single marketable tract of land consistent with the principle of highest and best use. A parent tract may be described by a single instrument or several instruments. A single parent tract cannot be severed by a public ROW easement, or separate ownership which destroys unity of use.
6. Parent Tract Inset means a small map to an appropriate scale, of the parent tract perimeter placed upon the ROW map in the proximity of the respective parcel. Parent tract insets are used in cases where the parent tract cannot be shown to the same scale as the ROW map. Since parent tract insets are used to identify the limits and location of parent tracts, they must include public ROW, utility easements and fee strips, and identifiable water courses which bound the parent tract.
7. Point of Beginning or POB means a corner of the parcel of land to be acquired, located on the proposed ROW line and being the beginning terminus of the first course of the written property description or plat.
8. Point of Commencing or POC means a monumented property corner identifiable in the real property records that is located outside the proposed ROW corridor. For title purposes, the POC must be a monumented back corner of the parent tract. In the event a monumented back corner of the parent tract cannot be recovered, the nearest identifiable monumented property corner located outside the proposed ROW corridor may be used.

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9. Preliminary ROW Layout means a scaled drawing depicting proposed ROW lines, existing ROW lines, proposed pavement, access denial lines, the proposed centerline alignment, private property lines, easement lines, visible improvements, visible utilities, and the station and offset from the centerline alignment to each point of curvature (PC), point of tangency (PT), and angle point in the proposed ROW lines and to each PC, PT, and the angle point in the existing ROW lines in areas of no proposed acquisition.
10. Property Description means a document prepared as an exhibit for the conveyance of a property interest and issuance of a title policy, reflecting the results of a boundary survey, and signed and sealed by a registered professional land surveyor (RPLS), attached to an acquisition deed as Exhibit A, and consisting of the following two parts:
    a. Written metes and bounds description delineating the area and the boundary and describing the location of an individual parcel of land unique to all other parcels of land.
    b. Parcel plat, which is an ANSI A-size (8.5" x 11") scaled drawing depicting the information recited in the metes and bounds description in 10 a. above, which represents the parcel(s) of land to be acquired.
11. ROW Maps means a series of ANSI D-size (22" x 34") scaled drawings depicting the results of relevant elements of records research, field work, analysis, computation, and mapping required to determine title, delineate areas and boundaries, and locate and describe utilities and improvements to the extent necessary to appraise the value and negotiate the acquisition of individual parcels of private land for a proposed ROW project.

C. PROCEDURE

All standards, procedures, and equipment used by the Surveyor must be such that, at a minimum, the results of the survey is in compliance with the precision and accuracy requirements set forth by the Texas Board of professional Engineers and Land Surveyors (TBPELS) rules.

1. Abstract Map

The Surveyor shall prepare an Abstract Map sufficient to determine the following:

a. All interests of public record held in the land to be acquired.
b. The total record holdings to be acquired from an owner contiguous to a land.
c. All interests in land held in common to be acquired (shopping mall parking lots, subdivision reserves, etc.)
d. All improvements proposed by other agencies that might have a bearing on project development.
e. All called monuments, bearings, and distances in recorded information.

2. ROW Map

The Surveyor shall field locate items such as: property corners, existing ROW markers, improvements, and visible utilities. The Surveyor shall verify and update the planimetric file as directed by the Owner.

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Using the Owner's standard title, index, and plan sheets, the Surveyor shall prepare a ROW map for each proposed ROW project. A ROW map must include a title sheet, an index sheet, a survey control index sheet, a horizontal control data sheet, and sufficient plan sheets to cover the proposed project. If requested by the Owner, the Engineer shall prepare additional sheets.

Per the TBPELS and the State, ROW maps need not be signed and sealed by a RPLS.

Plan sheets must include the following:

a. Proposed ROW lines. Proposed ROW lines must be labeled with appropriate bearings, distances, and curve data. Curve data must include the radius, delta angle, arc length, and long chord bearing and distance.
b. Existing ROW lines. Existing ROW lines must be labeled with appropriate bearings, distances, and curve data to the extent necessary to describe the individual parcels of land to be acquired. Curve data must include the radius, delta angle, arc length, and long chord bearing and distance.
c. Proposed project baseline alignment. The proposed project baseline alignment must be labeled with appropriate bearings, distances, and curve data. Curve data must include the station of the curve, point of intersection (PI), radius, delta angle, arc length, tangent length, long chord bearing and distance, and the northing (N) and easting (E) coordinates of the curve PI. All alignment PCs, PTs, and even 500-foot stations must be labeled with its station value.
d. Proposed paving lines. Proposed paving lines combined with relevant existing paving lines must be shown to the extent necessary to compile a complete picture of proposed traffic movements. Proposed paving on the final map submitted to the Owner must be shaded with a dot pattern or highlighted by some other means acceptable to the Owner.
e. Denial of Access lines. Denial of Access lines must be drawn to clearly indicate areas where access is to be denied permitted.
f. Private property lines. Private property lines must be delineated with appropriate bearings, distances, and curve data to the extent necessary to describe the individual parcels of land to be acquired. Curve data must include the radius, delta angle, arc length, and long chord bearing and distance.
g. League lines and survey lines. League lines and survey lines must be shown and identified by name and abstract number.
h. County lines and city limit lines. County lines and city limit lines must be located and identified by name.
i. North arrow. A north arrow must be shown on each sheet, in the upper right corner of the sheet.
j. Monuments. Monumentation must be shown with a description of material and size and if the monument is found or set.
k. PC, PT, and angle points. Station and offset must be shown for each PC, PT, and angle point in the proposed ROW lines. Stations and offsets must be shown with respect to the proposed centerline alignment.
l. Intersecting and adjoining public ROW. Intersecting and adjoining public ROW must be shown and identified by name, ROW width, and recording data.

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m. Railroads. Railroads must be shown and identified by name, ROW width, and recording data.
n. Utility corridors. Utility corridors must be identified as to easement or fee.
o. Easements and fee strips. Easements and fee strips must be shown and identified by width, owner, and recording data.
p. Set-back lines. Set-back lines (e.g., building lines) must be shown and identified.
q. Improvements. Visible improvements located within the proposed ROW corridor or within 50 feet of a proposed ROW line must be shown and identified.
r. Structures
    i. Structures must be identified as commercial or residential, by number of stories, and as to construction material type (e.g., brick, wood frame).
    ii. Structures that are severed by a proposed ROW line must be dimensioned to the extent necessary to completely delineate the severed parts.
    iii. Parking areas, billboards, and other on-premise signs that are severed by a proposed ROW line must be dimensioned to the extent necessary to delineate that portion of the parking area, billboard, or sign that is located within the proposed ROW corridor.
    iv. For a structure outside of, but within ten feet of, the proposed ROW line, the distance of the structure to the proposed line must be shown. If the location of the structure is determined using a TxDOT supplied planimetric map, any structure within three feet of the proposed ROW line must be verified by field survey.
s. Utilities. Visible utilities located within the proposed ROW corridor or within 50 feet of a proposed ROW line must be shown and identified.
t. Underground fuel storage tanks. Visible location of vents and filler caps of underground fuel storage tanks situated within the proposed ROW corridor or within 50 feet of the corridor must be determined and shown.
u. Points of commencing and points of beginning. POCs and POBs must be shown and labeled. POBs must be shown with their respective N and E surface coordinates. As an exception, a POC will not be required in the case of a total taking without a remainder.
v. Parcels. Each parcel of land to be acquired must be identified by a parcel number, which must appear in the ownership tabulation and on the ROW map in the proximity of the respective parcel. If the Surveyor is unfamiliar with the criteria used by the Owner to assign parcel numbers, the Surveyor shall seek the assistance of the Owner at the time the Abstract Map is complete.
w. Ownership tabulation. An ownership tabulation must be shown that includes the parcel number, existing area of the parent tract, lots and blocks constituting the parent tract when applicable, owner's name, type of conveyance, film code, county clerk's file number, taking area, and remaining area of the parent tract located left or right of the centerline alignment or both. The Surveyor shall provide several blank lines in the tabulation block to facilitate future map additions.
x. Parent tract inset. A parent tract inset must be shown for each parent tract that cannot be shown to scale on the ROW map. When parent tract insets are used, the

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point of commencing with the appropriate bearing and distance to the point of beginning may be shown on the parent tract inset.

y. Data sources. A note must be included on the title sheet and each map sheet stating the source of bearings, coordinates, and datum used. The note must also include the National Geodetic Survey (NGS) or other basis monument(s) name or identification number, Texas Coordinate System Zone information, epoch information, grid or surface values and the combined adjustment factor or surface adjustment factor.

z. Notes. Appropriate notes must be included on the title sheet and each map sheet stating the following:
    i. Month (or months) and year of the abstracting upon which the map is based.
    ii. Month (or months) and year the field surveys were conducted upon which the map is based.
    iii. Month and year the map was completed by the Surveyor.

aa. Tick marks. The Surveyor shall place four tick marks, one in each quadrant of the map sheet, showing the latitude and longitude (Lat/Long) in decimal degrees and the surface coordinate of each mark. The tick marks may be placed on the match lines of each map sheet, if convenient. A foot note must also be placed on the sheet defining the tick marks as Lat/Long in decimal degrees.

D. ADHERENCE TO STANDARDS

For purposes of clarity, consistency, and ease of understanding, the Owner as an acquiring agency of private property for public use, has adopted TxDOT's standards and formats for a ROW map to facilitate the processes of negotiation, appraisal, relocation assistance, and condemnation. The Surveyor shall adhere to these standards and formats to every extent possible.

E. GENERAL SPECIFICATIONS

The following general specifications for 1) description, 2) plat, and 3) ROW mapping apply:

1. Completed ROW maps must be submitted to the Owner in both Bentley MicroStation Design File (DGN) and Adobe Portable Document Format (PDF) format. The maps must have a layout that will produce a D-size final print with a 0.5-inch border.
2. ROW maps must be drawn to a scale of 1 inch = 50 feet. Scales other than 1 inch = 50 feet may be used with prior approval by the Owner.
3. The minimum lettering size for ROW maps is 0.1 inches at print scale.

F. GENERAL REQUIREMENTS

The Surveyor shall adhere to the following general requirements:

1. Copies of instruments of record submitted to the Owner must be indexed by parcel number.

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2. Coordinates appearing on ROW maps, on parcel plats, and in written property descriptions must be surface coordinates based on the Texas State Plane Coordinate System. The appropriate combined adjustment factors (sea level factor multiplied by the scale factor) for each zone of the coordinate system, which have been developed by TxDOT, must be noted.
   To obtain surface coordinates, the Surveyor shall multiply grid coordinates by the appropriate combined adjustment factor for each zone, as provided by TxDOT.
3. Line and curve tables may be used when necessary.
4. The number of centerline alignment stations shown on a single plan sheet shall be limited to allow approximately four inches between match lines and sheet borders for future details and notes.
5. A minimum four-inch by four-inch space must be reserved at the bottom right corner of each map sheet for future revision notes.
6. If requested by the Owner, the Surveyor shall set a 5/8-inch rebar with a TxDOT aluminum ROW cap (or other appropriate monument) on the proposed ROW line and replace the rebar later with a TxDOT Type II ROW marker.

When the 5/8" rebar with a company rod cap is set for PCs, PTs, PIs, and 1500-foot stations, the double asterisk symbol (**) must be shown on the map sheets and written into and shown in the Property Description and must be accompanied by the following note:

**The monument described, and set may be replaced with a Type II ROW marker upon the completion of the construction project, under the supervision of a RPLS, either employed or retained by the Owner.

When new ROW lines intersect boundary lines of properties creating new boundary corners in the new ROW line, the Surveyor shall place a 5/8- inch rebar with the State's 2-inch aluminum property corner rod cap.

G. GIS SUBMISSION REQUIREMENTS AND STANDARDS

All ROW mapping project work authorizations are subject to the standards and required ArcGIS deliverables detailed in Chapter 4, Section 8 of TxDOT's ROW Preliminary Procedures for the Authority to Proceed Manual.

H. ELECTRONIC ROW MAP STANDARDS

The primary purpose of this section is to provide instructions on the graphics standards, file management structure, and naming conventions, for ROW mapping electronic deliverables submitted to the TxDOT Right of Way Division by surveying services providers, as part of the ROW package.

The Surveyor shall adhere to the following requirements for electronic map submittals:

1. Bentley MicroStation
   All graphic files for map sheets and parcel plats must be native Bentley MicroStation DGN files created using Bentley OpenRoads civil design system with TxDOT's current seed files, resource files, workspace environment, and settings.

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2. Level Library Files
   The Surveyor shall use the TxDOT's current MicroStation level library files for ROW mapping. The files contain all the predefined levels that are typically needed for ROW mapping and include levels for existing utilities.

3. Separate DGN Files for Each Map Sheet
   The Surveyor shall provide one DGN file for each map sheet. Each file must be spatially registered to the project coordinate system.
   The sheet file naming convention is "Highway Name Sheet Number.dgn(e.g., ROAD_S01.dgn).
4. Naming convention for the Master Design File or Master ROW Files and Map Sheet.

The recommended naming prefix for design files is MDF (for master design file). Therefore, the prefix must be different for the ROW files because the location of the existing and proposed ROW in the design files from the schematic will change to some degree after an on-the- ground survey is made for a ROW map. Therefore, the prefix might be MRF for master ROW file.

The Surveyor shall provide the corrected Master ROW Files to the design engineer to be used in the final plans, specifications, and estimate (PS&E) so that all features of construction and the relocation of utilities will be correctly placed in relation to the roadway ROW and the ROW of cross streets or roadways.

The master ROW file naming convention is: "MRF ROW Logical Name.dgn", with examples as follows:

MRF212104065_Schematic90.dgn (for schematic layout 90% submittal)

MRF212104065_Schematic100.dgn (for schematic layout 100% submittal)

MRF212104065_SchemApprov.dgn (for City projects on State ROW)

MRF212104065_PSEDesign.dgn (for final PS&E design)

MRF212104065_ExROW.dgn (for existing ROW determined by RPLS)

MRF212104065_PropROW.dgn (for proposed ROW of final design) MRF212104065_DeedPlot.dgn (for deed record) MRF212104065_Planimetric.dgn (for aerial mapping topography) MRF212104065_ROWTopo.dgn (for improvements data collection) MRF212104065_DesignTopo.dgn (for design level data collection topography)

MRF212104065_ExUtil.dgn (for existing utilities)

All sheet files with a plan view must have the MRF referenced to allow more than one sheet file to be worked on at the same time.

5. File Structure of Master and Reference DGN Files

If possible, the file structure should not contain subfolders.

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6. Lines Weights, Line Styles, Colors, Text Size, Text Fonts, Scale, and Annotations

Legibility is the primary concern when choosing the scale, line weights and text size. Sheets must be legible at full scale sheet size (i.e., D-size drawing) and when reduced to half scale sheet size (B-size drawing size). It is not sufficient that originals or first-generation plots are legible, reproductions (copies) must retain legibility.

The normal scales for a full-sized sheet (i.e., D-size) is 1 inch = 50 feet (urban) and 1 inch = 100 feet (rural). For a half-sized sheet (i.e., B-size) the scale is 1 inch = 100 feet (urban) and 1 inch = 200 feet (rural).

The standard cell library is: TxdotSurv_04.cel or current State cell files; The standard font is Leroy. The standard State color table is: V256COLR.ctb or Txgpk.ctb.

The Surveyor shall use the TxDOT's current GEOPAK Survey SMD file that sets up new feature codes in SMD file for alignment chains, parcel chains and survey chains that can be drawn by GEOPAK Survey from the GPK file with the correct line styles, colors and weights to the designated levels loaded into the DGN by the TxDOT's current level library files.

The Surveyor shall use MicroStation Packager for the submission of electronic deliverables, which captures any non-State standard files (e.g., rsc, cel, text) that were used in the map that look and plot differently in the TxDOT's MicroStation workspace.

7. Text and Line Color considerations

Text and line colors must be legible when using background imagery.

8. Required Data in the GEOPAK ROW GPK File

Alignments, chains of proposed and existing ROW lines, parent tracts and taking parcels, and all other points collected in the field (start with schematic or design GPK file) are required.

If the design GPK file is too detailed for ROW use, the Engineer shall create input files for the information needed for the design GPK file to load into the ROW GPK file.

9. Surface Coordinate and the ROW GIS Geo-Database

Surface adjustment factors and basis of datum must be well documented in the electronic deliverables "file structure/deliverables read me" file.

10. Requirements for Electronic Deliverables
    a. Native MicroStation DGN files (reference files, sheets files, and parcel plats files);
    b. GEOPAK Survey GPK files.
    c. Separate comma delimited point files (ASCII file) in the following coordinate systems: Surface or Projected Coordinates, Grid Coordinates (Texas Coordinate System of 1983 in U.S. Survey feet) and Geographic Coordinates (WGS-84 in decimal degrees). The file will have the following format: point number, northing or latitude, easting or longitude, elevation, feature code, and point description.

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File naming convention is: Road Name Type of Coordinates.csv (e.g., Road_Surface.csv, 212101065_Grid.csv, and 212101065_WGS84.csv);

d. PDF files created in MicroStation of map sheets (both D-size and B-size sheets), one set in black and white and another set-in color if there is orthoimagery for the background.
e. PDF files and Microsoft Word documents of signed and sealed Surveyor's Reports.
f. Raw and processed GPS files including adjustment reports.

I. ROW MAPPING TASKS TO BE COMPLETED

The Surveyor shall perform the following tasks:

1. Abstracting

The Surveyor shall obtain copies of all existing ownership documents for the parent tracts along with all subdivision plats and recorded documents defining existing easements within, along or intersecting the existing ROW, and prepare an Abstract Map.

2. Field Surveys

The Surveyor shall locate and set additional horizontal and vertical control points, as necessary, at the maximum spacing distance of 1,500 feet; field locate property corners, existing ROW markers, improvements, and visible utilities; verify and update the planimetric file; and as directed by the Owner, perform the following:

a. Obtain right-of-entry to survey and/or perform other project tasks, such as environmental and geotechnical tasks on private property and prepare a spreadsheet of the information including right-of-entry obtained by others.
b. Locate existing horizontal and vertical control and verify the control information, locate property corners, and update the planimetric information with any missing visible improvements or visible utilities.

The Surveyor shall base all field work and calculations on the current controls and datum provided by the Owner.

3. Traditional ROW Map

The Surveyor shall prepare a traditional ROW map for the specific work location consisting of the existing and proposed ROW lines.

The Surveyor shall work closely with adjoining surveyors to incorporate all relevant information.

The Surveyor shall provide the following:

a. The Surveyor shall prepare a preliminary ROW map for review purposes.
b. The Surveyor shall prepare an initial ROW map for review purposes

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4. The Surveyor shall prepare a ROW project cover sheet using the Microsoft Word document template. The ROW project cover sheet must contain the roadway, project limits, county, length of project, equations and exceptions, begin and end project information, datum statement, utility table, and signature lines for acquisition.

5. Quality Assurance and Quality Control (QA/QC)

The Surveyor shall conduct a QA/QC review and prepare a check list for each task performed.

The Surveyor shall prepare a surveyor's report regarding their survey procedures, findings, and decisions made.

J. ROW MAPPING DELIVERABLES

The Surveyor shall provide the following:

6. Scanned copies of the ownership documents and one D-size paper copy of the Abstract Map and the associated MicroStation graphics files for review purposes.

7. Field Survey Data
    a. A spreadsheet of the property owners and right-of-entry information.
    b. Scanned copies of the field notes, control data sheets, and a graphics file of all field survey data.
8. ROW Map Submittals
    a. Preliminary ROW Map Submittals
    Two ANSI D-size (22" x 34") paper copies and one ANSI B-size (11" x 17") half-scale paper copy of the preliminary ROW map with the note "Preliminary – Not to be used for recording purposes", and the associated MicroStation graphics files.

    b. Initial ROW Map Submittals
    One D-size paper copy of the initial ROW map with the note "Preliminary – Not to be used for recording purposes", and the associated Bentley MicroStation and GIS graphics files.

9. Two ANSI A-size (8.5" x 11") paper copies of the ROW project cover sheet and the associated Word document file.

10. QA/QC

Documentation stating that the appropriate monuments were set on the proposed ROW lines at intersecting property lines, PC's, PT's, angle points, ROW lines of side streets and at 1,500-foot stations.

Documentation stating that the appropriate monuments were set on the existing ROW lines in areas of no acquisition at intersecting property lines, PC's, PT's, angle points, ROW lines of side streets and at 1,500- foot stations.

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A copy of TxDOT's ROW map checklist signed by the surveyor, if required.

A copy of the surveyor's report signed by the surveyor.

130.4. ROW Hearing Services

A. ROW Hearing Services

The Engineer shall prepare color exhibits for eminent domain hearing cases (assume 8 exhibits). The exhibits must depict the subject property boundaries and the proposed ROW acquisition shown on an aerial map background. The exhibits must also show the pavement edges, drainage or other structures, and driveways.

The Engineer shall prepare for the eminent domain hearings by reviewing the approved design schematic and associated reports, cross-sections, ROW maps, and pertinent plan sheets provided by others, including those showing roadway, bridge, grading, drainage, signals, signs, intelligent transportation systems (ITS), illumination, traffic control plan and other elements or data.

The Engineer shall attend by teleconference pre-hearings (assume 8 meetings) for eminent domain proceedings. The Engineer shall also attend, in person, pre-hearings (assume 8 meetings) for eminent domain proceedings near the project location.

Deliverables include all services and documents stated in this section.

B. Expert Witness Services

The Engineer shall attend and provide expert witness services for eminent domain hearings (assume 8 hearings) at the TxDOT Area Office near the project location. Assume that hearings, on average, last no longer than four hours.

The Engineer shall prepare for and provide expert testimony in eminent domain trial cases (assume 8 trials) at the county courthouse near the project location. Preparation includes the developing color exhibits, reviewing material, and providing depositions.

Assume that depositions, on average, last no longer than four hours and that trial cases, on average, last no longer than two days.

Deliverables include all services and documents stated in this section.

130.5. Utility Engineering Investigation

Utility engineering investigation includes utility investigations subsurface and above ground prepared in accordance with ASCE/CI Standard 38-02 [(http://www.fhwa.dot.gov/programadmin/asce.cfm)] and Utility Quality Levels.

A. Utility Quality Levels (QL)

Utility Quality Levels are defined in cumulative order (least to greatest) as follows:

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1. Quality Level D - Quality level value assigned to a utility segment or utility feature after a review and compilation of data sources such as existing records, oral recollections, One-Call markings, and data repositories.
2. Quality Level C - Quality level value assigned to a utility segment or utility feature after surveying aboveground (i.e., visible) utility features and using professional judgement to correlate the surveyed locations of these features with those from existing utility records.
3. Quality Level B - Designate: Quality level value assigned to a utility segment or subsurface utility feature whose existence and position is based upon appropriate surface geophysical methods combined with professional judgment and whose location is tied to the project survey datum. Horizontal accuracy of Designated Utilities is 18" (including survey tolerances) unless otherwise indicated for a specific segment of the deliverable. Quality Level B incorporates quality levels C and D information. A composite plot is created.
4. Quality Level A – Quality level value assigned to a portion (x, y, and z geometry) of a point of a subsurface utility feature that is directly exposed, measured, and whose location and dimensions are tied to the project survey datum. Other measurable, observable, and judged utility attributes are also recorded (per District Best Practices). The utility location must be tied to the project survey datum with an accuracy of 0.1 feet (30-mm) vertical and to 0.2 feet (60-mm) horizontal. As test holes may be requested up front or during the project, test holes done prior to completion of QL D, C, or B deliverables must be symbolized on the QL B deliverable with a call out indicating test holes number. This is in addition to and not in lieu of the test hole.

B. Utility Investigations Methodology

1. Utility Investigation Quality Level D The Engineer shall:
    a. Perform records research from all available resources. Sources include, but are not limited to: Texas811, Railroad Commission of Texas (Texas RRC), verbal recollection, as-built information from plans, plats, permits and any other applicable information provided by the utility owners or other stakeholders.
    b. Document utility owners and contact information.
    c. Create a utility drawing of information gathered.
2. Designate (Quality Level B)

Designate means to indicate the horizontal location of underground utilities by the application and interpretation of appropriate non- destructive surface geophysical techniques and reference to established survey control. Designating (Quality Level B) services are inclusive of Quality Levels C and D.

The Utility Engineer must:

a. As requested by the Owner, compile "as-built" information from plans, plats and other location data as provided by the utility owners.
b. Coordinate with utility owner when utility owner's policy is to designate their own facilities at no cost for preliminary survey purposes. The Engineer shall examine utility owner's work to ensure accuracy and completeness.

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c. Designate, record, and mark the horizontal location of the existing utility facilities using non-destructive surface geophysical techniques.
d. Using both active and passive scans to attempt to locate any additional utilities, including unrecorded and abandoned storm and sanitary sewer facilities, at the direction of the Owner, utilities maybe investigated using additional methods such as rodding that would then classify them as Quality Level B. A non-water based pink paint or pink pin flags must be used on all surface markings of underground utilities.
e. Correlate utility owner records with designating data and resolve discrepancies using professional judgment. The Utility Engineer must prepare and deliver to Owner a color-coded composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test hole) locations. The Utility Engineer and Owner acknowledge that the line sizes of designated utility facilities detailed on the deliverable will be from the best available records and that an actual line size is normally determined from a test hole vacuum excavation. A note must be placed on the designate deliverable only that states "lines sizes are from best available records". All above-ground utility feature locations must be included in the deliverable to the Owner. This information must be provided in the latest version of OpenRoads civil design system used by the Owner. The electronic file will be uploaded to the Owner's Procore file management system, as required by the Owner. A hard copy is required and must be signed, sealed, and dated by the Utility Engineer. When requested by the Owner, the designated utility information must be over laid on the Owner's design plans.
f. Determine and inform the Owner of the approximate electronic utility depths at critical locations as determined by the Owner. The limits of this additional information should be determined prior to the commencement of work. This depth indication is understood by both the Engineer and the Owner to be approximate only and is not intended to be used preparing the right of way and construction plans.
g. Provide a monthly summary, with weekly updates, of work completed and in process with adequate detail to verify compliance with agreed work schedule.
h. Provide documentation to show that permits have been closed out as required.
i. Clearly identify all utilities that were discovered from Quality Levels C and D investigation but cannot be depicted in Quality Level B standards. These utilities must have a unique line style and symbology in the designate (Quality Level B) deliverable.
j. Comply with all applicable TxDOT policy and procedural manuals.

3. Subsurface Utility Locate (Test Hole) Service (Quality Level A)

Locate is the process used to obtain precise horizontal and vertical position, material type, condition, size, and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques that ensures the integrity of the utility facility. Subsurface Utility Locate (Test Hole) Services (Quality Level A) are inclusive of Quality Levels B, C, and D.

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The Utility Engineer must:

a. Review requested test hole locations and advise the Owner in the development of an appropriate locate (test hole) work plan relative to the existing utility infrastructure and proposed roadway design elements.
b. Coordinate with utility owner inspectors as may be required by law or utility owner policy.
c. Place Texas 811 ticket 48 hours prior to excavation.
d. Neatly cut and remove existing pavement material, such that the cut does not exceed 0.10 square meters (1.076 square feet) unless unusual circumstances exist.
e. Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the Engineer:
    i. Elevation of top of utility tied to the datum of the furnished plan.
    ii. Minimum of two benchmarks utilized. Elevations must be within an accuracy of 15mm (.591 inches) of utilized benchmarks.
    iii. Elevation of existing grade over utility at test hole location.
    iv. Horizontal location referenced to project coordinate datum.
    v. Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
    vi. Utility facility material(s).
    vii. Utility facility condition.
    viii. Pavement thickness and type.
    ix. Coating/wrapping information and condition.
    x. Unusual circumstances or field conditions.
f. Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features. Water excavation can only be utilized with written approval from the Owner.
g. Be financially responsible for any damage to the utility during the locating process. In the event of damage, the Utility Engineer must stop work, notify the appropriate utility facility owner, the Owner and appropriate regulatory agencies. The regulatory agencies include: The Texas Railroad Commission and the Texas Commission on Environmental Quality. The Utility Engineer must not resume work until the utility facility owner has determined the corrective action to be taken. The Utility Engineer must be liable for all costs involved in the repair or replacement of the utility facility.
h. Back fill all excavations with appropriate material, compact backfill by appropriate mechanical means, and restore pavement and surface material. The Engineer is responsible for the integrity of the backfill and surface restoration for a period of three years.
i. Furnish and install a permanent above-ground marker (as specified by the Owner), directly above center line of the utility facility.
j. Provide complete restoration of work site and landscape to equal or better condition than before excavation. If a work site and landscape is not appropriately restored, the Utility Engineer must return to correct the condition at no extra charge to the Owner.

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k. Plot utility location position information to scale and provide a comprehensive utility plan signed and sealed by the responsible Engineer. This information must be provided in the latest version of MicroStation and be fully compatible with the OpenRoads civil design system used by the Owner. The electronic file will be uploaded to the Owner's Procore file management system as requested. When requested by the Owner, the locate information must be over laid on the Owner's design plans.
l. Return plans, profiles, and test hole data sheets to the Owner. If requested, conduct a review of the findings with the Owner.
m. Close-out permits as required.

130.6. Utility Adjustment Coordination. (18.3.1) Utility Adjustment Coordination shall include utility coordination meetings with individual utility companies, communication and coordination with utilities, and preparation of utility agreement assemblies including utility agreements, joint use agreements, and advanced funding agreements.

The Engineer is responsible for designating and providing the services of the following individuals or entities:

1. Utility Coordinator: individual or entity performing Utility-related Services that are not required to be performed by a licensed engineer under Texas law.
2. Utility Engineer: individual or entity performing Utility-related Services that are required to be performed by a licensed engineer under Texas law.

A. Utility Coordination

The Utility Coordinator shall perform utility coordination and liaison activities with involved utility owners, their consultants, and the Owner to achieve timely project notifications, formal coordination meetings, conflict analysis and resolution.

a. The Utility Coordinator shall coordinate all activities with the Owner, or their designee, to facilitate the orderly progress and timely completion of the project design phase. The Utility Coordinator shall be responsible for the following:
    i. Work Plan. Coordinate a work plan including a list of the proposed meetings and coordination activities, and related tasks to be performed, a schedule and an estimate. The work plan must satisfy the requirements of the project and must be approved by the Owner prior to commencing work.
    ii. Orientation. Prepare and present, in collaboration with Owner staff, instruction and orientation sessions as required by the Owner. The instruction shall introduce the subsurface utility engineering process, demonstrate the technology, and facilitate the preparation of work orders, billings, and contract related documentation.
    iii. Initial Project Meeting. Attend an initial meeting and an on-site inspection (when appropriate) to ensure familiarity with existing conditions, project requirements and prepare a written report of the meeting.

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iv. External Communications. The Utility Coordinator shall coordinate all activities with the Owner and its consultants or other contractors or representatives, as authorized by the Owner. Also, the Utility Coordinator shall provide the Owner copies of diaries, correspondence, and other documentation of work- related communications between the Utility Coordinator, utility owners and other outside entities when requested by the Owner.

v. Permits and rights of entry. Obtain all necessary permits from city, county, municipality, railroad, or other jurisdiction to allow the Engineer to work within existing streets, roads or private property for additional designating and/or subsurface utility locating.

vi. Progress Meetings. The Utility Coordinator shall implement a schedule of periodic meetings with each utility company and owner or owner's representatives for coordination purposes. Such meetings shall commence as early as possible in the design process and shall continue until completion of the project. The Utility Coordinator shall notify the Owner at least two (2) business days in advance of each meeting to allow the Owner the opportunity to participate in the meeting. The Utility Coordinator shall provide and produce meeting minutes of all meetings with said utility companies, owners or owners' representatives within seven (7) business days. The frequency of such meetings shall be appropriate to the matters under discussion with each utility owner.

b. As required by the Owner the Utility Coordinator shall coordinate with the local utilities committees to present a footprint of the Owner's projects with represented utility companies and owners. The Utility Coordinator shall also coordinate with any other utility committees which may include county, city, or other officials, if needed.

c. The Utility Coordinator shall provide initial project notification letters to all affected utility companies, owners, and other concerned parties.

d. The Utility Coordinator shall provide the Owner and all affected utility companies and owners a Utility Contact List for each project with the following information: (i) Owner's Name; (ii) Contact Person; (iii) Telephone Numbers; (iv) Emergency Contact Number; (v) E-mail addresses; (vi) as well as all pertinent information concerning their respective affected utilities and facilities, including but not limited to: size, number of poles, material, and other information which readily identifies the utilities companies' facilities.

e. The Utility Coordinator shall advise utility companies and owners of the general characteristics of the Project and provide an illustration of the project footprint for mark-up of the utility facility locations that occupy the project area.

130.7. Access Management.

The Engineer shall coordinate and evaluate access management within the project limits in accordance with the latest State Access Management Manual or as directed by the Owner.

FUNCTION CODE 145(145, 164) – MANAGING CONTRACTED/DONATED PE

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CONTRACT MANAGEMENT AND ADMINISTRATION

145.1. Contract Management and Administration

The Engineer shall:

A. Act as an agent for the Owner when specified in a task order.
B. Produce a complete and acceptable deliverable for each environmental service performed for environmental documentation.
C. Incorporate environmental data into identification of alternatives.
D. Notify the Owner of its schedule, in advance, for all field activities.
E. Notify the Owner as soon as practical, by phone and in writing, if performance of environmental services discloses the presence or likely presence of significant impacts (in accordance with 40 Code of Federal Regulations (CFR) 1500-1508). Inform the Owner of the basis for concluding there are significant impacts and the basis for concluding that the impacts might require mitigation.
F. Notify the Owner as soon as practical, by phone and in writing, if performance of environmental services results in identification of impacts or a level of controversy that might elevate the transportation activity's status from a categorical exclusion or environmental assessment. The Owner will reassess the appropriate level of documentation.

145.2. Project Management and Administration

The Engineer, in association with the Owner's Project Manager shall be responsible for directing and coordinating all activities associated with the project to comply with Owner policies and procedures, and to deliver that work on time.

Project Management and Coordination. The Engineer shall coordinate all subconsultant activity to include quality of and consistency of plans and administration of the invoices and monthly progress reports. The Engineer shall coordinate with necessary local entities.

The Engineer shall:

- Prepare weekly written progress reports for each project, using the template provided by the GEC.
- Develop and maintain a detailed project schedule to track project conformance to Exhibit C, Work Schedule, for each task order. The schedule submittals shall be hard copy and electronic format.
- Meet on a scheduled basis (weekly) with the Owner to review project progress. Prepare, distribute, and file both written and electronic correspondence.
- Prepare and distribute meeting minutes.
- Document phone calls and conference calls as required during the project to coordinate the work for various team members.
- Provide QC/QA documentation for all submittals, including the sub consultants.

a. **Perform Project Management tasks.** All firms participating in Kyle 2022 Road Bond Projects, either as a Prime Contractor or Subcontractor, must fully utilize Procore construction management software for full project implementation, as directed by the Owner. The Owner will provide Procore access to all firms. The Engineer shall:

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i. Meet on a scheduled basis with Owner to review Project progress. The Engineer will provide meeting summaries within five (5) working days of the meeting to all attendees.
ii. Conduct internal meetings with the consultant design team on a monthly basis or as needed for the duration of the Project.
iii. Provide Contract Administration
iv. Provide Project Management
v. Attend a kick-off meeting with the Owner.
vi. Attend and direct 50%, 90%, and 100% design review meetings.
vii. Update Project design schedule on a monthly basis
viii. Prepare monthly invoice and monthly progress report including monthly updates to design schedule

b. **Baseline Schedule**. Develop and submit for approval a Critical Path Method (CPM) baseline schedule within fourteen (14) calendar days of the Notice to Proceed. Schedule shall be in MS Project or Primavera P6. Modifications to the approved schedule will require approval by the Owner.
i. Submit both pdf and native (.mpp or .xer) copies of the files.
ii. Include all planned work activities and sequences, major milestones, and show Contract completion
iii. Include activities that are the responsibility of the Owner, and estimate the duration for these activities. This time will not count against the Contract time, but is important to track as the critical path may run through them.
iv. Ensure that the activities are broken out to a level of detail that clearly explains the tasks associated with delivering the work product.
v. Provide activity durations in whole calendar days.
vi. Provide a legend for all abbreviations, run date, data date, project start date, and project completion date in the title block of each submittal.
vii. Begin the project schedule on the Notice to Proceed date.
viii. Show a predecessor and successor for each activity with the appropriate activity relationships.
ix. Ensure that all work sequences are logical and can be explained to the Owner if questions arise for clarification or understanding.
x. Do not use activities exceeding 28 calendar days, unless agreed upon with the Owner.

c. Progress Schedule
i. Project schedule updates shall be submitted as part of all invoice approval packages. Invoices submitted without schedule updates will be incomplete and will not be processed until schedule update is submitted.
ii. Submit both the pdf and electronic copy of the project schedule running through the end of each month, due no later than tenth (10^{th}) calendar day of the following month, as it will become a record of the progress achieved on the project.
iii. Once established, the original duration and actual dates of all activities must remain unchanged.

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iv. Revisions to the schedule may be made, but must be listed in a monthly update narrative in the Progress Report with the purpose of explaining the purpose of the revision and description of the impact on the project schedule's critical path and project completion date.

v. Monthly Progress Reports should include:
   1. Completed and planned work
   2. Budget status
   3. Schedule status
   4. Actual start dates for activities started
   5. Actual finish dates for activities completed
   6. The percentage of work completed and remaining duration for each activity started, but not yet completed
   7. Current delays and plans showing how they will be rectified
   8. Potential delays and plans to rectify
   9. Tracking schedule (pdf & mpp/xer)

d. Plan Development and Review Process

i. Engineer may not be compensated for any services performed without a written Notice-to-Proceed.

ii. Each deliverable must be submitted for review and approval by the Owner.

iii. The review process will take place electronically using a Bluebeam session to consolidate comments.

iv. Each submittal shall include a cover letter from the Engineer stating who from the design team performed a Quality Assurance/Quality Control ("QA/QC") check. The QA/QC certification letter must be co-signed by the QA/QC reviewer and the Project Manager. The QA/QC reviewer may not be one of the design team members.

v. Each submittal shall include a revisions log from the Engineer (exported from Bluebeam) that tracks each comment received during previous phases of work. For each comment, the log shall provide the original comment, the status, how it has been implemented into the plans, and approval by the Owner.

vi. Unless otherwise specified by Owner, allow two (2) weeks for the Owner to review and provide written comments and/or approval for each submittal. When comments are received by the Engineer, the Engineer shall schedule a Comment Resolution Meeting with Owner in order to review the comments and clarify understanding of them prior to making design changes. If the Owner requires a resubmittal, submit electronically in Procore for the Owner to review and provide written comments and/or approval.

FUNCTION CODE 160(150) – ROADWAY DESIGN

150.1. DESIGN SURVEY

A. DEFINITIONS

1. Design Survey (15.2.1)

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A design survey gathers data in support of transportation systems design. A design survey includes the research, field work, analysis, computation, and documentation necessary to provide detailed topographic (3- dimensional) mapping of a project site (e.g., locating existing ROW, surveying cross-sections or developing data to create cross-sections and digital terrain models, horizontal and vertical location of utilities and improvements, collecting details of bridges and other structures, review of ROW maps, establishing control points).

B. TECHNICAL REQUIREMENTS FOR DESIGN AND CONSTRUCTION SURVEYS

1. Design surveys must be performed under the supervision of a RPLS currently registered with the TBPELS.
2. All control must meet the accuracy requirements of TxDOT.
3. The Surveyor shall comply with the standards of accuracy for control traverses provided in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
4. Short traverse procedures used to determine horizontal and vertical locations must meet the following criteria:
    a. Short traverses must begin and end on horizontal and vertical ground control as described above.
    b. Required horizontal accuracy (unless otherwise stated):
        i. Bridges and other roadway structures: less than 0.1 feet.
        ii. Utilities and improvements: less than 0.2 feet.
        iii. Cross-sections and profiles: less than 1 foot.
        iv. Bore holes: less than 3 feet.
    c. Required vertical accuracy:
        i. Bridges and other roadway structures: less than 0.02 feet.
        ii. Utilities and improvements: less than 0.1 feet.
        iii. Cross-sections and profiles: less than 0.2 feet.
        iv. Bore holes: less than 0.5 feet.

C. DATA REQUIREMENTS FOR DESIGN SURVEYS

1. Planimetric DGN files must be fully compatible with the version of the MicroStation graphics program currently used by TxDOT without further modification or conversion.
2. Electronically collected and processed field survey data files must be fully compatible with TxDOT's computer systems without further modification or conversion. All files must incorporate only those feature codes currently being used by TxDOT.
3. Digital terrain models (DTMs) must be fully compatible with the version of the Bentley OpenRoads civil design system currently used by TxDOT without further modification or conversion. All DTM must be fully edited to provide a complete digital terrain model with all necessary break lines.

150.2. DESIGN SURVEY (15.2.1)

A. TASKS TO BE COMPLETED

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Design Surveys

If requested by the Owner, the Surveyor shall perform one or more Design Surveys. Design Survey tasks include the following:

1. Collect data to create cross-sections and DTMs.
2. Locate existing utilities.
3. Locate existing improvements.
4. Provide details of existing bridge structures, including bridge limits, bents, columns, retaining walls, and natural ground elevations.
5. Locate details of existing drainage features including culverts, manholes, retention and detention ponds, flowlines, and associated features.
6. Locate all waters of the United States (WOTUS), including wetlands.
7. Review existing ROW maps and locate the existing ROW.

a. Review existing ROW maps

The Surveyor shall review ROW maps prepared by others for completeness using the current schematic and the checklist provided by the TxDOT district.

b. Locate existing ROW

The Surveyor shall resurvey the existing ROW where it is necessary to update or redefine ROW lines. All standard surveying procedures must be adhered to including record research, recovering existing monuments, and replacing monuments as appropriate. The Surveyor shall prepare an abstract map, preliminary map, final map, GIS graphics file, and a Surveyor's report. The final map must also include a monument table showing the property monuments that were found and set and certified by the Surveyor. The Surveyor shall prepare maps either in standard map sheets format or roll map format as requested by the Owner.

8. Locate boreholes.
9. Perform hydrographic surveys, according to details requested by the Owner
10. Verify the condition and usefulness of existing control points including verification of the values. Establish additional control as needed. Tie to other control points in the project vicinity including points established by the NGS, the Federal Emergency Management Agency (FEMA), and any other local entities as directed by the Owner.
11. Update existing control information and prepare new survey control data sheets, as directed by the Owner to be included in the construction plan set as described below:
    a. The Surveyor shall prepare, sign, seal, and date a survey control index sheet and horizontal and vertical control sheet(s) to be inserted into the plan set.
    b. The survey control index sheet provides an overview of the primary project control and must include:
        i. An unscaled vicinity map showing the general location of the project in relation to nearby towns or other significant cultural features.
        ii. A scaled project map showing the extents of the project and the location of the primary control points. The map must show street networks, selected street names, control point identification, and significant cultural features necessary to provide a general location of the primary control.
        iii. A table containing the primary control point values including the point number, northing, easting, elevation, stationing, and stationing offset values.

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iv. Map annotation including a graphic scale bar, north arrow, and standard title block. The title block shall contain a section for the OWNER, city, and roadway name. The title block shall also contain a section for a Texas registered engineer to sign, seal and date the sheet to include the following statement, "The survey control information has been accepted and incorporated into this PS&E." The required format of the survey control index sheet can be downloaded from the TxDOT website.

v. In the title block under the heading "Notes", identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used, and unit of measure. The Surveyor shall include a note stating that the coordinates re State Plane and a notation specifying either grid or surface adjusted coordinates.

c. The Surveyor shall prepare horizontal and vertical control sheets providing detailed information about the construction, location, and monumentation of the primary control, which must include:

i. An unscaled location map for each primary control point showing the location of the monument in relation to physical features located in the vicinity. The location map must include a north arrow, the monument designation, the monument northing, easting, and elevation.

ii. Directly below the location map a text description of the monument including size, material and construction followed by a description of the location of the monument starting with the county and state followed by a description suitable to locate the monument on the ground.

iii. Map annotation including a graphic scale bar, north arrow, and a standard title block. The title block must contain a section for the Owner, city, and roadway name and contain a section for a Texas registered engineer to sign, seal and date the sheet to include the following statement, "The survey control information has been accepted and incorporated into this PS&E." The required format of the survey control index sheet can be downloaded from the TxDOT website.

iv. In the title block under the heading "Notes", identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used, and unit of measure. The Surveyor shall include a note stating that the coordinates are either grid or surface adjusted coordinates.

150.4. DELIVERABLES FOR DESIGN AND CONSTRUCTION SURVEYS

The Surveyor shall prepare and submit the deliverables as specified in individual work authorizations for design surveys and construction surveys. The deliverables might be any combination of the following:

A. Digital terrain models (DTM) and the triangular irregular network (TIN) files in a format acceptable by the Owner.

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B. Maps, plans, or sketches prepared by the Surveyor showing the results of field surveys.
C. Computer printouts or other tabulations summarizing the results of field surveys.
D. Digital files or media acceptable by the Owner containing field survey data (ASCII data files).
E. Maps, plats, plans, sketches, or other documents acquired from utility companies, private corporations, or other public agencies, the contents of which are relevant to the survey.
F. Field survey notes, as electronic and hard copies.
G. TxDOT Form 2462 for each primary and secondary control point. This form must be submitted in printed format on letter (i.e., A-size) and submitted electronically in PDF format.
H. A digital and hard copy of all computer printouts of horizontal and vertical conventional traverses, GPS analysis and results, and survey control data sheets.
I. All GEOPAK files and OpenRoads files.
J. Survey reports in a format requested by the Owner.

150.5. MAPPING (15.3)

Mapping includes the geospatial data collection and mapping by means of aerial photogrammetry, terrestrial (close range) photogrammetry, terrestrial LiDAR, mobile LiDAR, and other remote sensing technologies.

A. PURPOSE

The purpose of mapping is to provide map and related data to support transportation projects including project design and other uses.

B. DEFINITIONS

1. Aerial Photogrammetry (15.3.1) – Aerial Photogrammetry means the collection and processing of photography acquired from an airborne platform to develop DGN and DTM files.
2. Terrestrial Photogrammetry (15.1.2) – Terrestrial Photogrammetry means the collection and processing of photography acquired at or near ground level to develop DGN and DTM files.
3. Airborne LiDAR (15.3.4) – Airborne LiDAR means laser scanning equipment mounted on a helicopter or other airborne platform to collect data to process for DGN and DTM files.
4. Terrestrial LiDAR (15.3.3) – Terrestrial LiDAR means laser scanning equipment operated from a stationary base on the earth's surface to collect data to process for DGN and DTM files.
5. Mobile LiDAR (15.3.4) – Mobile LiDAR means laser scanning equipment mounted on a moving vehicle operating on the earth's surface to collect data to process for DGN and DTM files.
6. UAS means Unmanned Aircraft Systems (e.g., drones).
7. UAS LiDAR means laser scanning equipment on an unmanned aerial vehicle (e.g., drones) to collect data to process for DGN and DTM files.

150.6. AERIAL MAPPING USING A METRIC CAMERA AND MANNED AIRCRAFT

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Aerial mapping using a metric camera and manned aircraft includes the collection of digital aerial imagery using a calibrated large-format metric aerial camera, performing relative orientation of the imagery through the collection of tie and pass points between adjacent aerial photo frames, performing a least- squares bundled absolute orientation adjustment using ground control points supplemented with airborne GPS and inertial measurement unit (IMU) data, and deriving data from the processed imagery including compilation of planimetric and topographic maps, creation of point cloud digital elevation model (DEM) and digital terrain model (DTM) data, and production of orthophotography.

The Surveyor shall provide the services of a certified Photogrammetrist to perform or oversee the tasks under function code 150.6. The Surveyor remains ultimately responsible and shall ensure that the work is performed as required.

A. PURPOSE

The purpose of aerial mapping using a metric camera and manned aircraft is to provide map and related data to support transportation projects including project design and other uses.

B. DEFINITIONS

In 150.6, 150.7, and 150.8 the following definitions apply:

1. Photogrammetrist means an American Society for Photogrammetry and Remote Sensing (ASPRS) Certified Photogrammetrist with a current certification.
2. Mapping Scientist means an American Society of Photogrammetry and Remote Sensing (ASPRS) Certified Scientist-UAS with a current certification.
3. Metric Aerial Photograph means a vertical photograph taken from a manned aircraft using a large format calibrated digital metric aerial mapping camera.
4. Non-Metric aerial photograph means a vertical or oblique photograph taken from a fixed- or rotary-wing unmanned aircraft system (UAS) aircraft using a non-metric small format consumer-grade digital camera.
5. Large-format digital metric camera means a camera using charge- coupled device (CCD) or complementary metal oxide semiconductor (CMOS) technology to capture an image with a minimum final image size of 11500 by 7500 pixels.
6. Analytical triangulation means the process of developing absolute orientation parameters for individual photogrammetric stereo models through the use of image tie and pass points combined with ground control in a fully weighted least-squares bundle adjustment. Airborne GPS and IMU data may be used to reduce the number of ground control points.
7. Ground control means points established on the ground by the Surveyor and for which the Northing, Easting, and Elevation coordinates have been determined sufficient in number and geospatial distribution to allow analytical triangulation and mapping to meet the required project accuracy. Ground control can be targeted using paint or other marker material or can be non-targeted.
8. Airborne GPS/IMU – An airborne GPS receiver on-board the aircraft recording GPS and orientation data to be included in the analytical triangulation with the purpose of reducing the number of ground control points required for a metric aerial mapping task. IMU data to

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supplement the analytical triangulation is optional and its use is at the discretion of the Certified Photogrammetrist or Mapping Scientist.

9. KML means an uncompressed Google Keyhole Markup Language file, which is a two- or three- dimensional map showing a location on the earth.

10. KMZ means a compressed Google Keyhole Markup Language file, which is a two- or three- dimensional map showing a location on the earth.

11. DEM means digital elevation model, which is a three-dimensional DGN and/or point cloud in ASPRS LAS 1.2 file format containing all features located in the project area including features both on and above the ground surface.

12. DTM means digital terrain model, which is a three-dimensional DGN and/or point cloud in ASPRS LAS 1.2 format containing only features located on the ground surface.

13. Field Check means a ground survey validation of the deliverable map product with the purpose of ensuring that the required mapping accuracy has been met.

14. Flight Map means a map depicting the flight line and ground control layout over the project area.

15. Low Altitude Metric Aerial Photography means a metric aerial photography with a nominal ground pixel size of 5 cm or less.

16. DGN means a two or three-dimensional graphics file produced using Bentley MicroStation. The file may contain features and improvements plotted in a horizontal plane along the N and E axes which correspond to the Texas Coordinate System. The file may contain 2D or 3D elements representing topographic, existing, proposed, schematic, and general layout features.

17. Medium Altitude Photography means aerial photography with a film photo scale of 1:12,000 or a digital image with ground pixel size of 20 cm.

18. Project Photo Length means the distance over which photographs are required to be taken.

C. PROCEDURE FOR AERIAL MAPPING USING A METRIC CAMERA AND MANNED AIRCRAFT

1. Ground Control

The positioning and density of ground control is at the discretion of the Photogrammetrist. Ground control is required to be sufficient to meet the accuracy standard required for the final mapping products. Chapter 3 of the TxDOT Survey Manual provides guidance for the location and density of the ground control. The Photogrammetrist must determine the approximate position for ground control points. The Surveyor shall locate and mark the ground control points in the field using surveying methods.

2. Metric Digital Aerial Photography

The Photogrammetrist must acquire metric digital aerial photography using a large format calibrated metric aerial mapping camera. Unless otherwise stated, the imagery will be low altitude with a maximum nominal ground sampling distance of 5.0 cm. The Photogrammetrist must ensure that all imagery acquisition requirements including all flight parameters are met such that the imagery is suitable for intended use.

3. Analytical Triangulation

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The Photogrammetrist must process the metric digital aerial photography, ground control, and airborne GPS/IMU data (if collected) to develop an absolute orientation of the imagery suitable for map compilation at the required accuracy.

4. Aerial Mapping

The Photogrammetrist must prepare the following:

a. A two-dimensional DGN file containing planimetric map features.
b. A three-dimensional DGN file containing DTM features.
c. Orthophotography

The Photogrammetrist must provide orthorectified aerial imagery covering the project area.

5. TECHNICAL REQUIREMENTS

Aerial mapping using a metric camera and manned aircraft must be performed under the direct supervision of an ASPRS Certified Photogrammetrist.

6. Unless otherwise stated, aerial mapping must meet or exceed the requirements for ASPRS Class 1 mapping at a 1 inch = 40 feet equivalent scale with a one-foot indicated contour interval.

D. DATA REQUIREMENTS

1. Planimetric DGN files must be fully compatible with the current Bentley MicroStation version graphics program used by the Owner without further modification or conversion.
2. Electronically collected and processed field survey data files must be fully compatible with the Owner's computer systems without further modification or conversion. All files must incorporate only those feature codes currently being used by the Owner.
3. DTM must be fully compatible with the current version of Bentley OpenRoads civil design system used by the Owner without further modification or conversion. All DTM must be fully edited to provide a complete digital terrain model with all necessary break lines.
4. File features and level structure must be in accordance with TxDOT's current photogrammetry mapping legend.
5. Minimum text size is 0.1 inches when plotted at a scale of 1 inch = 40 feet.

E. DELIVERABLES FOR AERIAL MAPPING USING A METRIC CAMERA AND MANNED AIRCRAFT

The Photogrammetrist must submit the following:

1. Digital orthophotography uploaded to Owner's Procore file management system in Tagged Image File format (TIF) compatible with Bentley MicroStation software and including georeferenced world files.
2. A photo index map in DGN and KMZ format showing the location of each digital image frame. The index map must be overlaid on a base map to provide general location information.
3. An orthophoto index map uploaded to Owner's Procore file management system showing the location of each orthophoto panel. The PDF format index map must be overlaid on a base map to provide general locational information.

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4. An analytical triangulation report signed and sealed by the Photogrammetrist providing a narrative of the aerial photography project and processing results. The report must include the number of flight strips, overall number of photo frames, the number of ground control points used, the use of airborne GPS and IMU data, and the results of the fully weighted least-squares bundled adjustment. The Photogrammetrist must include a description and results of the analytical triangulation.
5. DGN files for the planimetric and DTM mapping.

150.8. FIELD CHECK SURVEY FOR AERIAL MAPPING USING MANNED AIRCRAFT OR UAS

Field checking of aerial mapping projects involves surveying a statistical sampling of discreet features shown on the map. It is a collaborative effort between the Photogrammetrist or Mapping Scientist-UAS and the Surveyor to validate that the map derived photogrammetrically meets the required accuracy standard. Because not all features shown on the map are good candidates for checking, it is necessary for the Photogrammetrist or Mapping Scientist to select discreet and unambiguous points that can then be surveyed and effectively evaluated between both the photogrammetric and field survey data sets.

The Photogrammetrist or Mapping scientist-UAS will provide a minimum of twenty 20 check point locations randomly distributed throughout the mapping area. The descriptions of the points must be sufficient to eliminate any ambiguity of the exact point to be surveyed.

A. PURPOSE

The purpose of a field check for aerial mapping is to validate that map accuracy requirements have been met.

B. DEFINITIONS

In 150.8, the following definition applies:

Check Point – A randomly distributed point captured in the DGN mapping file selected by the Photogrammetrist or Mapping Scientist and provided to the Surveyor to be used to verify that the mapping accuracy requirement has been met.

C. PROCEDURE TO FIELD CHECK SURVEY FOR AERIAL MAPPING USING MANNED AIRCRAFT OR UAS

1. The Photogrammetrist or Mapping Scientist-UAS must prepare and provide the Surveyor a listing of points to be validated in the field. Sufficient detail and description of the point is required to eliminate the possibility of a misidentification of the point during the field survey. A minimum of 20 horizontal and 20 vertical check points are required. Any single point can be used for both horizontal and vertical data as appropriate. A check point must not be part of the analytical triangulation least-squares adjustment.
2. The Surveyor shall locate and measure the provided validation points on the ground using equipment and methodologies with a higher level of accuracy than the map being checked.
3. Using the results from the field survey, the Surveyor shall prepare a map accuracy assessment report detailing the results of the field check. The report must include the number

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of check points used, the field surveying technique used for validation, and the results of the root mean square error (RMSE) and 95% confidence computations.

4. Using the validation data provided by the Surveyor, the Photogrammetrist or Mapping Scientist must prepare a final report detailing the results of the map check. The report must include both the following Statements of Accuracy, if applicable:

a. "This map was compiled to meet the ASPRS Standard for Class 1 map accuracy."

b. "This map was checked and found to conform to the ASPRS Standard for Class 1 map accuracy."

D. TECHNICAL REQUIREMENTS The Surveyor shall:

1. Determine the northing, easting, and elevations of the check points provided by the Photogrammetrist or Mapping Scientist using a surveying method of greater accuracy than that used to produce the map being checked.

2. Perform RMSE and 95% confidence computations on the check points using the following methodology:

For each horizontal coordinate, the Surveyor shall subtract the Northing value of the map coordinate from the Northing value derived from the field survey and square the resulting value. The Surveyor shall perform the same operation for the Easting coordinate and then add the two squared values. The Surveyor shall repeat the procedure for each

check point. The Surveyor shall add up all the resulting squared values and divide the sum by the number of check points used (i.e., average the squares). Finally, the Surveyor shall calculate the square root of the average. The Surveyor shall report the resulting value as the RMSE value for the horizontal check point analysis. The Surveyor shall multiply the final RMSE value by 1.7308 and shall report the resulting value as the 95% confidence value for the horizontal check point analysis.

For each vertical coordinate, the Surveyor shall subtract the elevation value of the map coordinate from the elevation value derived from the field survey and square the resulting value. The Surveyor shall repeat the procedure for each check point. The Surveyor shall add up all the resulting squared values and divide the sum by the number of check point used (i.e., average the squares). Finally, the Surveyor shall calculate the square root of the average. The Surveyor shall report the resulting value as the RMSE value for the vertical check point analysis. The Surveyor shall multiply the final RMSE value by 1.96 and shall report the resulting values as the 95% confidence for the vertical check point analysis.

3. Provide the results of the RMSE and 95% confidence computations to the Photogrammetrist.

E. DATA RQUIREMENT

The Surveyor shall deliver the result of the field check as a report in PDF format.

F. DELIVERABLES

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The Photogrammetrist or Mapping Scientist must provide a map accuracy assessment report detailing the methodology used and results of the map accuracy assessment.

150.9. HORIZONTAL AND VERTICAL CONTROL FOR AERIAL MAPPING

Placement and survey of horizontal and vertical control for aerial mapping establishes ground control for aerial mapping projects.

A. PURPOSE

The purpose of an aerial photography control survey is to provide ground control for aerial mapping projects.

B. DEFINITIONS

In 150.9, Aerial Photography Control Survey means reconnaissance, field work, analysis, computation, and documentation necessary to provide horizontal and vertical position of specific ground points. The ground control points are used in photogrammetric processing.

C. PROCEDURE FOR HORIZONTAL AND VERTICAL CONTROL FOR AERIAL MAPPING

The Surveyor shall:

1. Prepare and submit for approval an aerial ground control layout in DGN and KML format based on the target positions selected by the Certified Photogrammetrist. The layout must show the location of the proposed primary project control and aerial ground control points.
2. Establish and determine the horizontal and vertical coordinates of the primary project control points and aerial ground control points.
3. Place aerial ground control targets at the point location and maintain the targets until the aerial flight has been completed.

D. TECHNICAL REQUIREMENTS

1. Aerial photography control surveys must be performed under the direct supervision of a RPLS currently registered with the TBPELS.
2. The horizontal and vertical coordinates of the aerial control points must be based on acceptable methods, conducted by the Surveyor, and must meet the standards of accuracy as set forth below:

Survey Level 3 accuracy, as described in the TxDOT Survey Manual, latest edition, or the equivalent level of accuracy described in the TSPS Manual of Practice for Land Surveying in the State of Texas.

E. DATA REQUIREMENT

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The Surveyor shall perform post processing of field data, which will be reviewed by the Owner. Data processed by standard calculators, computers, and other business hardware and software normally maintained and used by the Surveyor will be considered acceptable.

F. DELIVERABLES

The Surveyor shall submit the following:

1. A final aerial control point layout in DGN and KML format showing the location of the primary control and target points labeled with their respective alpha-numeric designation.
2. A plot and computer graphics of a B-size index map showing an overall view of the project and the relationship of primary monumentation, and control used in the preparation of the project, signed and sealed by a RPLS, and as directed by the Owner.
3. A plot and computer graphics of a B-size horizontal and vertical control sheet showing the primary survey control monumentation used in the preparation of the project, signed, and sealed by a RPLS, and as directed by the Owner.
4. An A-size data sheet for each aerial ground control point, which must include a location sketch, a physical description of the point, surface coordinates, elevation, and datums used.
5. Graphics files and scanned images of the control data sheets, uploaded to Owner's file management system.
6. A written statement describing the datum used along with copies of all relevant NGS and data sheets.
7. A written tabulation of all aerial control points with their respective alphanumeric designations and horizontal and vertical coordinates.

150.10. MAPPING SERVICES TO BE PROVIDED

The Surveyor shall provide the following mapping services as requested by the Owner:

A. AERIAL PHOTOGRAMMETRY

The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) MicroStation graphics files and orthophotography files covering the specific work location, meeting standards and specifications as required.

B. TERRESTRIAL PHOTOGRAMMETRY

The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) MicroStation graphics files covering the specific work location, meeting standards and specifications as required.

C. TERRESTRIAL LIDAR

The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) MicroStation graphics files covering the specific work location, meeting standards and specifications as required.

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D. MOBILE AND AERIAL LIDAR

The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) MicroStation graphics files covering the specific work location, meeting standards and specifications as required.

E. MAPPING TASKS TO BE COMPLETED

The Surveyor shall perform the following tasks as requested for each mapping service.

1. Horizontal and Vertical Control for Aerial Mapping

a. The Surveyor shall prepare and submit an aerial ground control layout showing the proposed aerial ground control points, for approval by the Owner.

b. The Surveyor shall establish and determine the coordinates of the aerial ground control points.

c. The Surveyor shall establish and determine the elevations of the aerial control points.

d. The Surveyor shall place aerial ground control target material at the established points and maintain until the photographs from the flight are approved.

e. The Surveyor shall prepare, to scale, a survey control index sheet for the aerial control points.

f. The Surveyor shall be prepared to locate additional points, as determined by the American Society for Photogrammetry and Remote Sensing (ASPRS) certified Photogrammetrist, if any panel points are not visible from the air.

2. Deliverables for Horizontal and Vertical Control for Aerial Mapping The Surveyor shall provide the following deliverables:

a. A final aerial control point layout showing the location of the points and labeled with their respective alpha-numeric designations.

b. A plot and computer graphics of a B-size index map showing an overall view of the project and the relationship of primary monumentation and control used in the preparation of the project, signed and sealed by a RPLS, and as directed by the Owner.

c. An A-size data sheet for each aerial ground control point, which must include a location sketch, a physical description of the point, surface coordinates, the elevation, and datums used.

d. Graphics files and scanned images of the control data sheets, uploaded to Owner's file management system.

e. A written statement describing the datum used along with copies of all relevant NGS and data sheets.

f. A written tabulation of all aerial control points with their respective alpha-numeric designations, surface coordinates (for center panel points only), and elevations.

3. Prepare Planimetric and DTM Data

The Surveyor shall perform the following tasks for each requested mapping service:

a. The Surveyor shall provide low altitude aerial mapping to cover an area 1,200 feet wide centered on the roadway unless otherwise specified, with cross flights as directed by the Owner.

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The Surveyor shall follow all standards and specifications in accordance with established guidelines and recommended or approved by the Owner.

b. The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) Bentley MicroStation graphics files and orthophotography files covering the specific work location, meeting standards and specifications as required.

i. The Surveyor shall collect supplemental planimetric and DTM survey data.
ii. The Surveyor shall update aerial 2D and 3D mapping with ground surveys.
iii. The Surveyor shall maintain the current DGN level structure and legend used by TxDOT.
iv. The Surveyor shall maintain the current DTM level structure and legend used by TxDOT.
v. The Surveyor shall use file features and level structures in compliance with TxDOT's current photogrammetry mapping legend.
vi. The Surveyor shall locate, and field check random points.

c. The Surveyor shall conduct quality assurance and quality control (QA/QC) for each task performed and prepare a Surveyor's Report.

Deliverables for Planimetric and DTMs The Surveyor shall provide the following:

Certification that the photographs or LiDAR imagery were taken on the date indicated, signed by the airplane pilot or aerial photographer.

The DGN, DTM, and TIN files on a medium and in a format acceptable to the Owner, uploaded to Owner's Procore file management system.

Orthophotography (created using the DTM) uploaded to Owner's Procore file management system in tiff format (3 banded) with world files.

TxDOT's photogrammetry mapping legend and supplements.

A tabulation showing the field-check points.

Quality Assurance and Quality Control (QA/QC) and Statement of Map Accuracy.

Statement of map accuracy.

A surveyor's report signed and sealed by an RPLS.

150.11. HORIZONTAL AND VERTICAL CONTROL (15.3.5)

This includes the establishment of horizontal and vertical control for survey projects.

A. OVERVIEW OF HORIZONTAL AND VERTICAL CONTROL

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A horizontal control survey is performed for the purpose of placing geographic coordinates of latitude and longitude on permanent monuments for referencing lower levels of surveys. A projection is used to place the coordinates on a plane of northing and easting values for simplified measurements. Scale and elevation factors are applied to make the distance measurements applicable to the exact location on the working surface and the type of projection chosen is an "equal angle" type.

A vertical control survey is performed for accurately determining the orthometric height (elevation) of permanent monuments to be used as benchmarks for lower quality leveling. Spirit leveling is the usual method of carrying elevations across country from "sea level" tidal gauges. However, Global Positioning System (GPS) can be used indirectly but with less accuracy. Height measurements from the ellipsoid (as opposed to the "sea level" geoid) can be determined very accurately with GPS and only GPS. Trigonometric leveling, with a total station, is not acceptable for vertical control work.

B. DEFINITIONS

1. BM means benchmark, which is a relatively permanent object whose elevation above or below an adopted datum is known.
2. CORS means continuously operating reference station, which is a network of the highest quality horizontal stations, forming the National Spatial Reference System (NSRS).
3. Control Survey means a survey providing positions (horizontal or vertical) of points to which supplemental surveys are adjusted.
4. Datum means a mathematical model of the earth designed to fit part or all of the geoid.
5. Datum Point Rod or Deep Rod Monument means a monument driven to refusal by a power driver, used for major project control.
6. GPS means the Global Positioning System, which is based on a constellation of 24 satellites orbiting the earth at a very high altitude.
7. Horizontal Control Survey means placing geographic coordinates of latitude and longitude on permanent monuments.
8. Level 1 survey means RFP, CORS or major control densification.
9. Level 2 Survey means primary project control.
10. Level 3 Survey means secondary project control.
11. NGS – National Geodetic Survey
12. Type II Monument means a disk driven onto a length of 5/8-inch rebar with the hole filled flush with concrete.
13. Vertical Control Surveys means a survey performed for accurately determining the orthometric height (elevation) of permanent monuments to be used as benchmarks for lower quality leveling.

C. PROCEDURE FOR HORIZONTAL AND VERTICAL CONTROL

1. The Surveyor shall establish horizontal and vertical control points, including offsite points. The Surveyor shall prepare signed survey control data sheets, a survey control index sheet, and a composite layout of the horizontal and vertical controls, and as directed by the Owner.

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2. The Surveyor shall update existing control information and prepare new survey control data sheets, as directed by the Owner, to be included in the construction plan set as described in Item 150.11, D.

D. TECHNICAL REQUIREMENTS FOR HORIZONTAL AND VERTICAL CONTROL

The Surveyor shall adhere to the following technical requirements.

1. Horizontal and vertical controls must be performed under the supervision of a RPLS currently registered with the TBPELS.
2. Horizontal ground control used for design surveys and construction surveys, furnished to the Surveyor by the Owner, or based on acceptable methods conducted by the Surveyor, must meet the standards of accuracy required by the Owner.
   The Surveyor shall comply with the standards of accuracy for horizontal control traverses, as described in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
3. Vertical ground control used for design surveys and construction surveys, furnished to the Surveyor by the Owner or based on acceptable methods conducted by the Surveyor, must meet the standards of accuracy required by the Owner.
   The Surveyor shall comply with the standards of accuracy for vertical control traverses, as described in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
4. Monuments
   The Surveyor shall install survey monuments for a horizontal and vertical control survey that are reasonably permanent and substantial. The monuments shall be easily identified and afforded reasonable protection against damage and or destruction.
   a. Offsite primary control points whether set by GPS or conventional survey methods must be set in pairs approximately 2000 feet apart outside of the project on side roads. Offsite points must be constructed approximately every 2 miles and set approximately 6 inches below natural ground and must be inter-visible between each pair of points.
   b. Secondary control points must be set approximately 6 inches below ground at a maximum distance of 1,500 feet apart.
5. Side shots or short traverse procedures for total stations used to determine horizontal and vertical locations must meet the following criteria:
   a. Short traverses and instrument setups for side shots must begin and end on horizontal and vertical ground control as described above.
   b. Standards, procedures, and equipment (e.g., GPS Equipment, LiDAR, Total Stations) used must be such that horizontal locations relative to the control can be reported within the specification to allow the engineer to accurately create the design to the following limits:
      i. Bridges and other roadway structures: less than 0.02 feet.
      ii. Utilities and improvements: less than 0.2 feet.
      iii. Cross-sections and profiles: less than 0.2 feet.
      iv. Bore holes: less than 0.5 feet.

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c. Standards, procedures, and equipment (e.g., GPS Equipment, LiDAR, Total Stations) used must be such that vertical locations relative to the control may be reported to within 0.02 feet.

6. The Surveyor shall update existing control information and prepare new survey control data sheets, as directed by the Owner, to be included in the construction plan set as described below:
    a. The Surveyor shall prepare, sign, seal, and date a survey control index sheet and horizontal and vertical control sheets to be inserted into the plan set.
    b. The Surveyor shall prepare a survey control index sheet that provides an overview of the primary project control and must include:
        i. An unscaled vicinity map showing the general location of the project in relation to nearby towns or other significant cultural features.
        ii. A scaled project map showing the extents of the project and the location of the primary control points. The map must show street networks, selected street names, control point identification, and significant culture features necessary to provide a general location of the primary control.
        iii. A table containing the primary control point values including the point number, northing, easting, elevation, stationing, and stationing offset values.
        iv. Map annotation including a graphic scale bar, north arrow, and standard TxDOT title block. The title block must contain a section for the district name, city, and roadway name. The title block must also contain a section for a Texas registered engineer to sign, seal, and date the sheet to include the following statement, “The survey control information has been accepted and incorporated into this PS&E”.
        The Surveyor shall download the required format of the survey control index sheet from the TxDOT website.
        v. In the title block under the heading “Notes”, identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used, and unit of measure. The surveyor shall include a note stating that the coordinates are State Plane and a notation specifying either grid or surface adjusted coordinates.

E. DATA REQUIREMENTS

The Surveyor shall perform post processing of field data, which will be reviewed by the Owner. Data processed by standard calculators, computers, and other business hardware and software normally maintained and used by the Surveyor will be considered acceptable.

F. TASKS TO BE COMPLETED

The Surveyor shall perform the following tasks:

1. The Surveyor shall establish horizontal and vertical control points, including offsite points. The Surveyor shall prepare signed survey control data sheets, a survey control

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index sheet, and a composite layout of the horizontal and vertical controls, or as directed by the Owner.

2. The Surveyor shall set primary offsite control points in pairs, approximately 2 miles apart outside of the project area.
3. The Surveyor shall set secondary control points approximately 6 inches below ground at a maximum distance of 1,500 feet apart.
4. The Surveyor shall establish horizontal and vertical control from the TxDOT Virtual Reference Station (VRS) Network, or as directed by the Owner.
5. The Surveyor shall tie and tabulate horizontal and vertical control to other control points and datums in the vicinity established by other sources such as the National Geodetic Survey (NGS), the Federal Emergency Management Agency (FEMA), TxDOT VRS Network, or as directed by the Owner.

G. DELIVERABLES

The Surveyor shall provide the following:

1. A B-size plot and MicroStation graphics files of the index map showing an overall view of the project and the relationship of the primary monuments and control points established for the project, signed and sealed by a registered professional land surveyor (RPLS), or as directed by the Owner.
2. One A-size data sheet for each control point which shall include, but need not be limited to, a location sketch, a physical description of the point, surface coordinates, the elevation, and the datum used.
3. Graphics files and scanned images of the control data sheets uploaded to Owner's file management system.
4. A written statement describing the datum used, signed and sealed by a RPLS, along with copies of all relevant NGS and TxDOT data sheets.

FUNCTION CODE 160(160) - ROADWAY DESIGN

ROADWAY DESIGN CONTROLS

160.10. Pavement Design.

The Engineer shall prepare pavement designs for this project in accordance with the latest edition of TxDOT's Pavement Manual. Proposed pavement designs include permanent pavement, interim condition transition pavement, and temporary detour pavement. The latest edition of TxDOT's Pavement Manual may be accessed at http://www.txdot.gov/business/resources.html.

The Engineer shall submit a signed and sealed pavement design report to the Owner. The pavement design report must be reviewed and approved by the Owner prior to its implementation. The pavement design report must document assumptions and design considerations. The pavement design report must include the following:

- Cover sheet with roadway name, geographical limits, and signatures of persons involved in the preparation and approval
- Existing and proposed typical sections

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- Soils map of the project area with a brief description of each type of soil located within the project area
- Design input values and output
- Conclusion consisting of recommended pavement design or designs based on the data, analyses, and procedures included in the report.
- Pavement design details specified for each location that includes structural layer materials, general specifications, and layer thicknesses
- Relevant pavement evaluation data (structural and functional) and condition information on adjacent roads
- Site conditions that might influence the design and performance of pavements
- Relevant geotechnical data and drainage requirements including boring logs, laboratory soil test results, active or passive drainage system design, ground penetrating radar (GPR) data, falling weight deflectometer (FWD) data, dynamic cone penetrometer (DCP) data, pavement coring and report log (up to 5-foot depth), and soil classifications with Atterberg limits
- Results of the field explorations and testing of pavement sections
- Recommended pavement rehabilitation methods and designs for new pavements
- Design criteria used in determining pavement designs, including traffic loads, pavement material characterization, environmental conditions, and pavement design life
- Design summary from the program used to design (e.g., FPS 21, DARWin, TxCRCP - ME, MODULUS 6.1)
- Life-cycle cost analysis, as required by TxDOT's Pavement Manual, including the periods for resurfacing, reconstruction, and other rehabilitation measures and what these activities are likely to entail
- Traffic control plans required for subsurface geotechnical and pavement investigations
- Other considerations used in developing the pavement designs, including subgrade preparations and stabilization procedures

FUNCTION CODE 160(163) - ROADWAY DESIGN

MISCELLANEOUS (ROADWAY)

The Engineer shall provide the following services:

163.1. Utility Engineering. Utility Engineering includes the identification of utility conflicts, coordination, compliance with the UAR, and resolution of utility conflicts. The Engineer shall coordinate all activities with the Owner to facilitate the orderly progress and timely completion of the project design phase.

A. Coordination of Engineering Activities

1. Utility Layout:

The Utility Engineer must maintain a utility layout in the current approved version of OpenRoads Civil Design system used by the Owner. This layout must include all existing utilities which are to remain in place or be abandoned, and all adjusted utilities. This layout must be utilized to monitor the necessity of relocation and evaluate alternatives. The Utility Engineer must utilize the layout of existing utilities as prepared, if available, and make a determination of the following:

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a. Facilities in conflict with the proposed project that are to be relocated.
b. Facilities to be removed or abandoned in place.
c. Facilities that are going to be moved underground.
d. Facilities to remain in service and in place because of roadway design adjustments and meeting the current UAR.
e. If there are additional facilities, not shown in the SUE documents, which require relocation, the Engineer shall coordinate this information with the Owner immediately upon discovery.
f. For facilities with unknown owner that require utility accommodation, the Utility Engineer must coordinate with the Owner for possible hot tap and removal. Engineer shall furnish all documents and exhibits to the Owner. When construction sequence and adjustments will be included in the PS&E package; the Utility Engineer must coordinate with the PS&E design engineer for the construction sequence in regard to the utility adjustments. The Utility Engineer must include this in the PS&E package.

B. Public and Individual Meetings with Utility Companies

As required, to facilitate utility conflict identification and resolution, the Engineer shall:

1. Establish contact with all existing utilities within and adjacent to the project limits and set up utility coordination meetings to discuss concepts and options for construction.
2. Schedule all utility coordination meetings and ensure compatibility with the schedule of the Owner.
3. Set agenda for all coordination meetings as directed by the Owner.

Establish and promote the desired agenda and methodologies for utility construction within the project limits. Typical strategies include Avoid- Minimize-Accommodate (AMA). The agenda and methodologies may allow the construction of utilities as a part of the roadway contract.

4. Work Plan: Develop a work plan including a list of the tasks to be performed, a schedule, and an estimate. The work plan must satisfy the requirements of the project and must be approved by the Owner prior to commencing work.
5. Progress Meetings: Meet with the Owner and, if applicable, design consultants, periodically to coordinate the work effort and resolve problems. Prepare a written report of all progress meetings and provide the report to the Owner. During the progress meetings, the Utility Engineer must review:

    a. Activities completed since the last meeting
    b. Problems encountered.
    c. Late activities.
    d. Activities required by the next progress meeting.
    e. Solutions for unresolved and/or anticipated problems.
    f. Information or items required from other agencies/consultants.

Review of Utility's Proposed Adjustments

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Evaluate alternatives: The Utility Engineer must evaluate alternatives in the adjustment of utilities balancing the needs of both the Owner and the Utility. The Utility Engineer must use the AMA strategy as part of evaluating the alternatives.

1. Review estimates and schedules: The Utility Engineer must review the utility adjustment estimates for reasonableness of cost and the timely scheduling of the adjustment.
2. The Utility Engineer must review plans for compliance with UAR, Buy America materials, and proposed location data.
3. The Utility Engineer must ensure that utility owners are receiving updates for project design development so that utility owners are reviewing the most current plans, quality and accuracy of utility adjustment data, as well as compliance of UAR, as it pertains to the plans. The responsibility for compliance, quality, and accuracy of utility adjustment plans will remain with the utility company.
4. The Utility Engineer must ensure compliance with the regulations of the most recent edition of the TMUTCD. The Utility Engineer must obtain approval from the Owner concerning the proposed method of handling traffic prior to allowing commencement of work.
5. The Engineer shall not provide services under this contract that are for the sole benefit of a party or parties other than the Owner. The Engineer shall not invoice the Owner for any such services.

C. Utility Engineering VFP-

End Result: Fully reviewed and approved engineering plans (done by utility owners) of constructible utility accommodations.

The Utility Engineer must:

Identify potential conflicts using the AMA process, the design, and SUE.

Avoid – work with designers to avoid conflicts.
Minimize – Cost analyzed of safe available options to minimize cost and project delay.

Notice of Required Accommodation (NORA) sent out and acknowledgement of receipt obtained.
Hold meetings with utilities requiring (NORA) to strategize and program the accommodation
Document all activities.
Track all ROW acquisitions to assist with scheduling accommodations.
Review documentation and justifications for Utility Exceptions.

Deliverables:

The Engineer shall submit the following deliverables to the Owner:

1. Identification of utility conflicts.
2. Composite DGN file showing all utilities with abandoned, removed, and added utilities.

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163.3. Geotechnical Borings and Investigations

The Engineer shall determine the location of proposed soil borings for bridge design, embankment settlement analysis, retaining walls, slope stability and along storm drain alignment in accordance with the latest edition of TxDOT's Geotechnical Manual. The Owner will review and provide comments for a boring layout submitted by the Engineer showing the general location and depths of the proposed borings. Once the Engineer receives the Owner's review comments, the Engineer shall perform soil borings (field work), soil testing, and prepare the boring logs in accordance with the latest edition of TxDOT's Geotechnical Manual and the local TxDOT district's procedures and design guidelines.

All geotechnical work must be performed in accordance with the latest version of TxDOT's Geotechnical Manual. All testing must be performed in accordance with TxDOT's Test Procedures, which are available at https://www.txdot.gov/business/resources/testing.html. American Society for Testing Materials (ASTM) test procedures may be used only in the absence of the TxDOT procedures. All soil classification must be done in accordance with the Unified Soil Classification System.

If applicable, the Engineer shall perform any retaining wall analyses including the settlement analysis. This analysis must include the computation of the factor of safety for bearing capacity, global stability, overturning and sliding. In addition, the Engineer shall include allowable bearing pressure, passive earth pressure, friction factor, settlement analysis (consolidation report), and lateral earth pressure for the retaining walls.

If applicable, the Engineer shall perform soil borings, coring for pavement removal items, piezometric readings, testing and analysis to include slope stability analysis, settlement analysis, and foundation design recommendations along storm drain alignment, retaining walls, overhead sign structures, bridges, embankments and any temporary soil retaining systems.

The Engineer shall provide a signed, sealed, and dated geotechnical report that contains soil boring locations, boring logs, laboratory test results, generalized subsurface conditions, ground water conditions, piezometer data, analyses and recommendations for settlement and slope stability of the earthen embankments, skin friction tables and design capacity curves including skin friction and point bearing. The skin friction tables and design capacity curves must be present for piling and drilled shaft foundation.

If applicable, the Engineer shall perform scour analysis to include Grain Size distribution curves with D50 value.

The Engineer shall sign, seal, and date soil boring sheets to be used in the PS&E package. The preparation of soil boring sheets must be in accordance with TxDOT's District standards.

Foundation Studies: The Engineer shall coordinate with the Owner to determine the location of soil borings to be drilled along the retaining wall alignments. The soil borings must extend a minimum of 35 feet below the footing elevation or deeper as soil conditions warrant. Spacing of soil borings shall not exceed 500 feet. The Engineer shall provide a boring layout for the Owner's review and comment.

The Engineer shall incorporate soil boring data sheets prepared, signed, sealed, and dated by the geotechnical engineer overseeing the work. The soil boring sheets shall be in accordance with the WINCORE software available on the TxDOT website.

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Pavement Design: If applicable, the Engineer shall incorporate the pavement design developed by the Owner. If the pavement design is not available, the Owner may request the Engineer perform pavement design and submit to Owner for review and approval.

Deliverables

Preliminary Pavement Design Report
Geotechnical Report
DGN flies containing drilling log data from Geotechnical analysis

163.9. Compute and Tabulate Quantities. The Engineer shall provide the summaries and quantities within all formal submittals.

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PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

PROJECT NAME: Bebee Road TO #2

PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASK DESCRIPTION	American Structurepoint Inc.	SAM	Cobbfendley	Raba Kistner	Doucet	Subconsultant 5	Subconsultant 6	TOTAL COSTS BY FC
FEASIBILITY STUDIES (FC 102 (110))	$ 64,540.00	$ -	$ -	$ 6,181.20	$ -	$ -	$ -	$ 70,721.20
SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT (FC 120 (120))	$ 9,240.00	$ -	$ -	$ -	$ 58,087.40	$ -	$ -	$ 67,327.40
RIGHT-OF-WAY DATA (FC 130 (130))	$ 3,580.00	$ 32,652.00	$ 26,302.00	$ -	$ -	$ -	$ -	$ 62,534.00
MANAGING CONTRACTED/DONATED PE (FC 145 (145,164))	$ 53,510.00	$ -	$ 10,766.00	$ -	$ -	$ -	$ -	$ 64,276.00
SURVEYS (FC 160 (150))	$ -	$ 31,208.00						$ 31,208.00
ROADWAY DESIGN CONTROLS (FC 160 (160))	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
(FC 160 (161))	$ -							
SIGNING, PAVEMENT MARKINGS AND SIGNALIZATION (PERMANENT) (FC 160 (162))	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
MISCELLANEOUS (ROADWAY) (FC 160 (163))	$ 3,665.22	$ -	$ 68,330.00	$ -	$ -	$ -	$ -	$ 71,995.22
TRAFFIC MANAGEMENT SYSTEMS (PERMANENT) (FC 160 (165))	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
BRIDGE DESIGN (FC 160 (170))	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SUBTOTAL LABOR EXPENSES	$ 134,535.22	$ 63,860.00	$ 105,398.00	$ 6,181.20	$ 58,087.40	$ -	$ -	**$ 368,061.82**
DIRECT EXPENSES (FC 102)	$ -	$ -	$ -	$ 4,200.00	$ -	$ -	$ -	**$ 4,200.00**
DIRECT EXPENSES (FC 130)			$ 928.30					**$ 928.30**
DIRECT EXPENSES (FC 145)	$ 8,253.07	$ 2,805.25	$ 163.50	$ -	$ -	$ -	$ -	**$ 11,221.82**
DIRECT EXPENSES (FC 163)	$ -	$ -	$ 4,398.50	$ -	$ -	$ -	$ -	**$ 4,398.50**
UNIT COST EXPENSES (FC 102)	$ -	$ -	$ -	$ 13,710.52	$ -	$ -	$ -	**$ 13,710.52**
UNIT COST EXPENSES (FC 164)	$ -	$ -	$ 33,674.00	$ -	$ -	$ -	$ -	**$ 33,674.00**
TOTAL	$ 142,788.29	$ 66,665.25	$ 144,562.30	$ 24,091.72	$ 58,087.40	$ -	$ -	**$ 436,194.96**
	32.7%	15.3%	33.1%	5.5%	13.3%			87%

SUMMARY

TOTAL LABOR COSTS FOR PRIME PROVIDER	$ 134,535.22
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME PROVIDER	$ 8,253.07
SUBCONTRACTS (includes labor costs, direct expenses and unit cost)	$ 293,406.67
GRAND TOTAL	**$ 436,194.96**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

American Structurepoint Inc.

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

	TASKS	SHTS	Principal	QAQC Manager	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Engineering Technician	TOTAL HOURS	TOTAL COST
			$285.00	$280.00	$280.00	$240.00	$190.00	$165.00	$140.00	$120.00	$100.00		
FC 102 (110)	**Feasibility Studies**												
110.1	**Schematic Design Work Outline: Update Design**			1		1	2	9	19	11	15	58	$ 7,865.00
110.2	**Schematic Design - General Tasks: Update Schematic**			1			1	15	22	15	15	69	$ 9,325.00
110.2.I	**Schematic Design - General Tasks: Update Schematic - Traffic/Operational Analysis**			1	2	1	9	16	19	7	4	59	$ 9,330.00
110.4	**Geometric Design Schematic**				1		4		16	8		29	$ 4,240.00
110.5	**Cross-Sections (365)**				2		6	3	15	15		41	$ 6,095.00
	Earthwork						1		8	6		15	$ 2,030.00
110.13	**Schematic Design Project Deliverables**						1		2	1		4	$ 590.00
	Design Summary Report (DSR) preparation				1		2	3	5	2		13	$ 2,095.00
	Draft Drainage Report						2	3	5			10	$ 1,575.00
	Draft Traffic Study (incl. RAB's)				3	5	3					11	$ 2,610.00
	Draft Traffic Control Layout				3	9	15	12	6	6		51	$ 9,390.00
	Construction Cost Estimate				1	2	3	6	3	2		17	$ 2,980.00
	90% Submittal - Address 50% Rvw. Cmts.				2	3	6	6	3	3		23	$ 4,190.00
	100% Submittal - Address 90% Rvw. Cmts.				1	2	3	3	2	1		12	$ 2,225.00
SUBTOTAL				3	16	23	58	76	125	77	34	412	**$ 64,540.00**
FC 120 (120)	**Social, Economic and Environmental Studies and Public Involvement**												
Attend Meetings (3 meetings)					5	5		5	2	1		18	$ 3,825.00
Prepare Exhibits					2	2		11	14	5		34	$ 5,415.00
SUBTOTAL					7	7		16	16	6		52	**$ 9,240.00**
FC 130 (130)	**Right-of-Way Data**												
Review Survey					3	1	4	4	6	2		20	$ 3,580.00
													$ -
SUBTOTAL					3	1	4	4	6	2		20	**$ 3,580.00**
FC 145 (145,164)	**Managing Contracted/Donated PE**												
145.1	**Contract Management and Administration**		1		2	1			1			5	$ 1,225.00
145.2	**Project Management and Administration**												$ -
	Project Management and Coordination		4		36	8	30	16	8	2		104	$ 22,840.00
	Prepare monthly invoices & written progress reports				2							2	$ 560.00
	Develop and maintain project schedule (monthly)				1		2	2				5	$ 990.00
	Client Meetings (assume 4 total)				4	1	5		3	3		16	$ 3,090.00
	QC/QA documentation, incl. subs (Schematic - 50%, 90% & 100% submittals)			9	1		1	1	1			13	$ 3,295.00
	Attend KO mtg. w/ Owner				1	1	1					3	$ 710.00
	Conduct internal meetings w/ design team				9	9	9			9		36	$ 7,470.00
	Attend/Direct Design Review Meetings (50%, 90& & 100%)				2	1	2		2			7	$ 1,460.00
	Weekly Mtgs. w/ Owner/GEC (30% phase - 6 months - 26 mtgs.; prep agenda & mins)				12	3	12	10				37	$ 8,010.00
	Weekly Progress Reports (30% phase - 26 reports)				5	1	3	10				19	$ 3,860.00

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

American Structurepoint Inc.

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Principal	QAQC Manager	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Engineering Technician	TOTAL HOURS	TOTAL COST
		$285.00	$280.00	$280.00	$240.00	$190.00	$165.00	$140.00	$120.00	$100.00		
SUBTOTAL		5	9	75	25	65	39	15	14		247	**$ 53,510.00**
FC 160 (150) Surveys												
SUBTOTAL												**$ -**
FC 160 (160) Roadway Design Controls												
Roadway Design (Profile refinement)												$ -
Roadway Design (Cross section Refinement) (180 cross section)												$ -
Removal Plan (1" =50) - EST. PURPOSES ONLY	35											$ -
Removal Plan (1" =50)(IH-35 Frontage) - EST. PURPOSES ONLY	4											$ -
Horizontal alignment Data	4											$ -
Horizontal alignment Data (IH-35 Frontage)	1											$ -
P and P sheets (1"=50 = 30 sheets + 8 sheets for RABs [4]) - ROLL PLOT ONLY	38											$ -
P and P sheets - Fountain Grove Dr. (1"=50 = 1 sheet) - ROLL PLOT ONLY	1											$ -
P and P sheets - IH-35 Accel/Decel (1"=50 = 4 sheets) - ROLL PLOT ONLY	4											$ -
Roundabout calculations (Fastest Path, Sight Distance, Turning Movements) (4 Roundabouts)	8											$ -
Roundabout details (7 sheets per roundabout = 28 sheets)	28											$ -
Pedestrian Facilities (ADAAG/TAS)												$ -
Bike Facilities/Vybe Trail Crossings P&P (AASHTO Guide Bike Facilities)	2											$ -
Driveway Design (98 driveways)	24											$ -
Roadway Details & Standards - N/A THIS PHASE	12											$ -
Earthwork Calculations												$ -
3D Corridor Model (ORD)												$ -
												$ -
SUBTOTAL	161											**$ -**
FC 160 (161) Drainage												
												$ -
Overall Layout Sheets (2 shts, dbl. bank)	2											$ -
Storm Drain Drainage Area Maps (Roadway + 2 for IH-35 FR)	33											$ -
Hydrologic Data Sheets (12 Storm Swr systems)	12											$ -
Hydraulic Data Sheets (Inlets)	12											$ -
Hydraulic Data Sheets (12 Storm Swr)	12											$ -
Storm Drain Plan & Profile Sheets (1"=50' = 27 shts + 4 shts for RABs + 2 for IH-35 FR) - ROLL PLOT ONLY	33											$ -
Storm Drain Laterals (est 12 sheets) - ROLL PLOT ONLY	12											$ -
Drainage Area Maps (Off site areas 2 sheets)	2											$ -
Culvert Hydrology sheets	7											$ -
Culvert Layout Sheets (8 culverts)	8											$ -
Culvert Cross Section (Profile) Sheets (8 culverts)	8											$ -
Off-site Drainage Swales - Plan & Profile Sheets (I-35 to Bunton Br)	5											$ -
Drainage Details & Standards - N/A THIS PHASE	10											$ -
Drainage Details & Standards (TxDOT Inlet/JB/SETs, etc. - N/A THIS PHASE	4											$ -
Scour Analysis (CC01 and 07) - N/A THIS PHASE												$ -
3D Model development of Culverts (2 - HEC-RAS Crossings) and Tailwater Analysis												$ -

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PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

American Structurepoint Inc.

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Principal	QAQC Manager	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Engineering Technician	TOTAL HOURS	TOTAL COST
		$285.00	$280.00	$280.00	$240.00	$190.00	$165.00	$140.00	$120.00	$100.00		
Prepare Quantities												$ -
Quantity Summary Sheets	2											$ -
Drainage Report Update (Draft and Final Submittal)												$ -
Coordinate Design w/ Utility Adjustments												$ -
SUBTOTAL	162											**$ -**
FC 160 (162) Signing, Pavement Markings and Signalization (Permanent)												
Layout sheets (1" = 100' = 14 sheets + 4 RAB Sheets) - N/A THIS PHASE	18											$ -
Layout sheets (1" = 100' = 3 sheets - IH-35 Frntg Rd.) - N/A THIS PHASE	2											$ -
Smr'y. of Small Signs (Est 4 Sheets incl. RABs) - N/A THIS PHASE	4											$ -
Sign Standards - N/A THIS PHASE	12											$ -
												$ -
SUBTOTAL	12											**$ -**
FC 160 (163) Miscellaneous (Roadway)												
Title Sheet - N/A THIS PHASE	1											$ -
Index of Sheets - N/A THIS PHASE	2											$ -
Project Layout	3											$ -
Typical Sections	9											$ -
General Notes Sheets - N/A THIS PHASE	4											$ -
												$ -
TCP Typical sections	5											$ -
TCP Narrative	3											$ -
TCP Plans (2 phases x 16 sheets = 32 sheets) - N/A THIS PHASE	32											$ -
TCP Plans (IH-35 Frntg. Rd. = 2 sheets) - N/A THIS PHASE	2											$ -
TCP Standards - N/A THIS PHASE	21											$ -
Illumination (1" =100 =17 sheets+ 3 sheets details) - N/A THIS PHASE	20											$ -
												$ -
SW3P (1" =100 =17 sheets + 4 sheets for RABs) - N/A THIS PHASE	21											$ -
SW3P (IH-35 Frntg. Rd.)(1" =100 =2 sheets) - N/A THIS PHASE	2											$ -
SW3P Standards - N/A THIS PHASE	2											$ -
Midblock Crossings HAWK System (3 Locations)	10											$ -
Quantities (50% SCHEMATIC)				1	0	2	8	7	5		23	$ 3,665.22
Quantity Summary Sheets - N/A THIS PHASE	6											$ -
Estimate (incl. updates at 60, 90 & 100)												$ -
Contract Time Determination	1											$ -
Constructability Review (DRAFT & FINAL SCHEMATIC)												$ -
Specs and Project Manual - N/A THIS PHASE												$ -
Submitals (DRAFT & FINAL SCHEMATIC)												$ -
TxDOT Coord & Submittals												$ -
Address Comments at Submittal Stages (DRAFT & FINAL SCHEMATIC)												$ -
SUBTOTAL	144			1	0	2	8	7	5		23	**$ 3,665.22**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

American Structurepoint Inc.

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Principal	QAQC Manager	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Engineering Technician	TOTAL HOURS	TOTAL COST
		$285.00	$280.00	$280.00	$240.00	$190.00	$165.00	$140.00	$120.00	$100.00		
FC 160 (165) Traffic Management Systems (Permanent)												
SUBTOTAL												**$ -**
FC 160 (170) Bridge Design												
SUBTOTAL												**$ -**
LABOR TOTALS	**491**	**5**	**12**	**102.11**	**56.444**	**128.776**	**143.436**	**168.66**	**103.884**	**34**	**754**	**$ 134,535.22**
		0.7%	1.6%	13.5%	7.5%	17.1%	19.0%	22.4%	13.8%	4.5%		

OTHER DIRECT EXPENSES		# OF UNITS	COST/UNIT	UNIT		
	Mileage	242	0.585	Miles		**$ 141.57**
	Printing (Roll Plot)	45	$1.100	SF		**$ 49.50**
	Presentation Boards (24" x 36")	2	$31.00	EA		**$ 62.00**
	Traffi counts Goforth and Bebee	4	$2,000.000	EA		**$ 8,000.00**
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL DIRECT EXPENSES (FC 164)						**$ 8,253.07**

UNIT COST EXPENSES		# OF UNITS	COST/UNIT	UNIT		
						$ -
						$ -
						$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)						**$ -**

SUMMARY

TOTAL COSTS FOR PRIME PROVIDER	$ 134,535.22
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME PROVIDER	$ 8,253.07
NON-SALARY (UNIT COST EXPENSES) FOR PRIME PROVIDER	$ -
SUBCONTRACTS (includes labor costs, direct expenses, and unit costs)	$ 293,406.67
GRAND TOTAL	**$ 436,194.96**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

SAM

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	SENIOR PROJECT MANAGER	PROJECT MANAGER	PROJECT COORDINATOR	SENIOR SURVEY TECHNICIAN	SURVEY TECHNICIAN	2-PERSON SURVEY CREW	3-PERSON SURVEY CREW	FIELD COORDINATOR	GEOSPATIAL SENIOR PM	GEOSPATIAL PM	PROJECT LEAN/SENOIR TECH	Calibration/AT/LIDAR/IMAGERY	LIDAR EXTRACTION/ORTHO IMAGERY	TOTAL HOURS	TOTAL COST
		$210.00	$165.00	$125.00	$110.00	$98.00	$160.00	$215.00	$115.00	$225.00	$215.00	$120.00	$110.00	$98.00		
FC 102 (110) Feasibility Studies																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																**$ -**
FC 120 (120) Social, Economic and Environmental Studies and Public Involvement																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																**$ -**
FC 130 (130) Right-of-Way Data																
Records Research and Deed Study for Existing ROW		1	6		18	24									49	$ 5,532.00
Right of Entry Coordination (Up to 20 parcel owners)(ROE tracking spreadsheet)		1	3		3	20	1								28	$ 3,155.00
Field Surveys		1	3		6	12	90		4						116	$ 17,401.00
Boundary Analysis/ROW Delineation		4	12		18	18									52	$ 6,564.00
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL		7	24		45	74	91		4						245	**$ 32,652.00**
FC 145 (145,164) Managing Contracted/Donated PE																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

SAM

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	SENIOR PROJECT MANAGER	PROJECT MANAGER	PROJECT COORDINATOR	SENIOR SURVEY TECHNICIAN	SURVEY TECHNICIAN	2-PERSON SURVEY CREW	3-PERSON SURVEY CREW	FIELD COORDINATOR	GEOSPATIAL SENIOR PM	GEOSPATIAL PM	PROJECT LEAN/SENIOR TECH	Calibration/AT/LIDAR/IMAGERY	LIDAR EXTRACTION/ORTHO IMAGERY	TOTAL HOURS	TOTAL COST
		$210.00	$165.00	$125.00	$110.00	$98.00	$160.00	$215.00	$115.00	$225.00	$215.00	$120.00	$110.00	$98.00		
SUBTOTAL																$ -
FC 160 (150) Surveys																
Establish Primary Control (Up to 2 primary points)		1	2		2	6	6	6	1						24	$ 3,713.00
Establish aerial control (6) & ground truthing			2		1	1	9		1						14	$ 2,093.00
Collect Design Survey (~1.12 miles) Drainage Structures/Utilities/Obscured Areas		2	3		9	18	66		3						101	$ 14,574.00
Collect Manhole Inverts			2		2	2	6	3	1						16	$ 2,466.00
Aerial Flight/Extraction		1	2							1	4	2	7	36	53	$ 6,163.00
Collect Trees (8-inches in diameter and larger within existing ROW)			2		1	1	3								7	$ 1,018.00
QA/QC Prepare Final Deliverables		1	2		3	2			1						9	$ 1,181.00
																$ -
																$ -
																$ -
SUBTOTAL		5	15		18	30	90	9	7	1	4	2	7	36	224	$ 31,208.00
FC 160 (160) Roadway Design Controls																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																$ -
FC 160 (161) Drainage																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																$ -
FC 160 (162) Signing, Pavement Markings and Signalization (Permanent)																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

SAM

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	SENIOR PROJECT MANAGER	PROJECT MANAGER	PROJECT COORDINATOR	SENIOR SURVEY TECHNICIAN	SURVEY TECHNICIAN	2-PERSON SURVEY CREW	3-PERSON SURVEY CREW	FIELD COORDINATOR	GEOSPATIAL SENIOR PM	GEOSPATIAL PM	PROJECT LEAN/SENIOR TECH	Calibration/AT/LIDAR/IMAGERY	LIDAR EXTRACTION/ORTHO IMAGERY	TOTAL HOURS	TOTAL COST
		$210.00	$165.00	$125.00	$110.00	$98.00	$160.00	$215.00	$115.00	$225.00	$215.00	$120.00	$110.00	$98.00		
SUBTOTAL																$ -
FC 160 (163) Miscellaneous (Roadway)																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																$ -
FC 160 (165) Traffic Management Systems (Permanent)																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																$ -
FC 160 (170) Bridge Design																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																$ -
LABOR TOTALS		**12**	**39**		**63**	**104**	**181**	**9**	**11**	**1**	**4**	**2**		**36**	**469**	**$ 63,860.00**
		2.6%	8.3%		13.4%	22.2%	38.6%	1.9%	2.3%	0.2%	0.9%	0.4%		7.7%		

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT	
				$ -
Mileage (number x current state rate)	1,050	$0.625	mile	$ 656.25

PRIME PROVIDER:

ATTACHMENT B
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Contract No. _____
Work Authorization No. _

SAM

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

	TASKS	SHTS	SENIOR PROJECT MANAGER	PROJECT MANAGER	PROJECT COORDINATOR	SENIOR SURVEY TECHNICIAN	SURVEY TECHNICIAN	2-PERSON SURVEY CREW	3-PERSON SURVEY CREW	FIELD COORDINATOR	GEOSPATIAL SENIOR PM	GEOSPATIAL PM	PROJECT LEAN/SENIOR TECH	Calibration/AT/LIDAR/IMAGERY	LIDAR EXTRACTION/ORTHO IMAGERY	TOTAL HOURS	TOTAL COST
			$210.00	$165.00	$125.00	$110.00	$98.00	$160.00	$215.00	$115.00	$225.00	$215.00	$120.00	$110.00	$98.00		
	GPS RTK		153	$10.00	hr												$ 1,530.00
	Aerial Control Targets		4	$30.00	each												$ 120.00
	Primary Control Monuments		1	$90.00	each												$ 90.00
	Deed Copies		120	$1.00	page												$ 120.00
	GPS/IMU (Aerial)			$750.00	per project												$ -
	Aerial Images		8	$28.00	per image												$ 224.00
	Aerial Flight Miles		1	$65.00	per mile												$ 65.00
	Aerial Acquisition/Mobilization			$4,000.00	per project												$ -
																	$ -
																	$ -
																	$ -
SUBTOTAL DIRECT EXPENSES (FC 145, FC164)																	**$ 2,805.25**

UNIT COST EXPENSES		# OF UNITS	COST/UNIT	UNIT	
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)					**$ -**

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$ 63,860.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1	$ 2,805.25
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1	$ -
GRAND TOTAL	**$ 66,665.25**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Cobbfendley

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Project Manager	Support Manager	Engineer - Senior	Engineer (Utilities)	Engineer-in-Training	SUE Designating Crew (2 man)	Survey Crew (2 man)	RPLS	Engineer Technician - Senior	Engineer Technician	CADD Operator - Senior	Utilities Coordinator - Senior	Utilities Coordinator	Administrative / Clerical	TOTAL HOURS	TOTAL COST
		$314.00	$238.00	$254.00	$135.00	$113.00	$156.00	$184.00	$184.00	$135.00	$108.00	$184.00	$150.00	$103.00	$86.00		
FC 102 (110) Feasibility Studies																	
SUBTOTAL																	$ -
FC 120 (120) Social, Economic and Environmental Studies and Public Involvement																	
SUBTOTAL																	$ -
FC 130 (130) Right-of-Way Data																	
UTILITY ADJUSTMENT COORDINATION																	$ -
Utility Coordination																	$ -
Work Plan		1			1									1		3	$ 552.00
Initial Project Meeting		2			2									2	2	8	$ 1,276.00
External Communications		2		2	6								3	12	3	28	$ 3,890.00
Progress Meetings with Utilities (up to 3 meetings)			3	3	3	9							3	9	3		$ 4,533.00
Notice Letters (NOPC/30%)		1			2	3								2	2		$ 1,301.00
Coordinate with Utility Companies (up to 11, 2/hrs per month, 5 months)				10	45								10	45		110	$ 14,750.00
																	$ -
																	$ -
SUBTOTAL		6	3	15	59	12									10	149	**$ 26,302.00**
FC 145 (145,164) Managing Contracted/Donated PE																	
PROJECT MANAGEMENT AND ADMINISTRATION																	$ -
Project Management																	$ -
Prepare monthly written progress reports (up to 5 months)		2	5												2	9	$ 1,990.00
Develop and maintain detailed project schedule		1	1												1	3	$ 638.00
Progress meetings with the State (up to 5)		10	5													15	$ 4,330.00
Documentation of project correspondence on coordination of team work		8	4												4	16	$ 3,808.00
																	$ -
SUBTOTAL		21	15												7	43	$ 10,766.00
FC 160 (160) Roadway Design Controls																	
																	$ -
SUBTOTAL																	**$ -**
FC 160 (161) Drainage																	
																	$ -
SUBTOTAL																	**$ -**
FC 160 (162) Signing, Pavement Markings and Signalization (Permanent)																	
																	$ -
SUBTOTAL																	**$ -**
FC 160 (163) Miscellaneous (Roadway)																	
UTILITY ENGINEERING INVESTIGATION (CURRENTLY SUBSURFACE UTILITY ENGINEERING)																	
QUALITY LEVEL D																	
Update Record Research			2		4								8		2	16	$ 2,388.00
Update CADD										5	5	10				20	$ 3,055.00

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Cobbfendley

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Project Manager	Support Manager	Engineer - Senior	Engineer (Utilities)	Engineer-in-Training	SUE Designating Crew (2 man)	Survey Crew (2 man)	RPLS	Engineer Technician - Senior	Engineer Technician	CADD Operator - Senior	Utilities Coordinator - Senior	Utilities Coordinator	Administrative / Clerical	TOTAL HOURS	TOTAL COST
		$314.00	$238.00	$254.00	$135.00	$113.00	$156.00	$184.00	$184.00	$135.00	$108.00	$184.00	$150.00	$103.00	$86.00		
QAQC			1		2							4	2			9	$ 1,544.00
DESIGNATE (QUALITY LEVEL B)																	$ -
Work plan , coordination traffic control and safety			6		6			2					10		2	26	$ 4,278.00
Designate, record, and mark horizontal locations			4				70	24								98	$ 16,288.00
Survey					2			32	8			12				54	$ 9,838.00
CADD, QAQC, prep submittal			4		4			1	1			12	2			24	$ 4,368.00
TEST HOLES (QUALITY LEVEL A) -see unit rates																	$ -
																	$ -
UTILITY ENGINEERING																	$ -
A. COORDINATION OF ENGINEERING ACTIVITIES																	$ -
Utility Layout for the 30%/Schematic design milestone				4	10	40				6	10					70	$ 8,776.00
B. PUBLIC AND INDIVIDUAL MEETINGS WITH UTILITY COMPANIES																	$ -
Initial Project Meeting		2			2											4	$ 898.00
Work Plan		1		2	2	4										9	$ 1,544.00
Progress Meetings with the State (up to 4)		4		8	12										4	28	$ 5,252.00
Design Milestone Group Utility Meetings (up to 4)		4			8	16				8					4	40	$ 5,568.00
Individual Utilty Meetings to Discuss/Mitigate Conflicts (up to 3 Meetings)			3	3	3	9							3	9	3	33	$ 4,533.00
SUBTOTAL		11	20	17	55	69	70	59	9	19	15	38	25	9	15	431	$ 68,330.00
FC 160 (165) Traffic Management Systems (Permanent)																	
SUBTOTAL																	**$ -**
FC 160 (170) Bridge Design																	
SUBTOTAL																	**$ -**
LABOR TOTALS		**38**	**38**	**32**	**114**	**81**	**70**	**59**	**9**	**19**	**15**	**38**			**32**	**623**	**$ 105,398.00**
		6.1%	6.1%	5.1%	18.3%	13.0%	11.2%	9.5%	1.4%	3.0%	2.4%	6.1%			5.1%		

OTHER DIRECT EXPENSES (FC130)	# OF UNITS	COST/UNIT	UNIT	
MILEAGE	100	0.585	mile	**$ 58.50**
Toll Charges	6	$4.000	each	**$ 24.00**
Standard postage	10	$0.55	day	**$ 5.50**
Couriier Service	1	$30.00	each	**$ 30.00**
Certified Letter Return reciept	9	$6.700	each	**$ 60.30**
PHOTOCOPIES B/W (8 1/2" X 11")	30	$0.10	each	**$ 3.00**
PHOTOCOPIES B/W (11" X 17")	30	$0.20	each	**$ 6.00**
PHOTOCOPIES COLOR (8 1/2" X 11")	30	$0.70	each	**$ 21.00**
PHOTOCOPIES COLOR (11" X 17")	30	$1.50	each	**$ 45.00**
Attenuator Truck - (Lane/Shoulder closure) (Includes labor Equipment and Fuel)	1	$375.00	day	**$ 375.00**
USB Flash Drive	30	$10.00	each	**$ 300.00**
SUBTOTAL DIRECT EXPENSES (FC 130)				**$ 928.30**

OTHER DIRECT EXPENSES (FC145, FC164)	# OF UNITS	COST/UNIT	UNIT	
MILEAGE	100	0.585	mile	**$ 58.50**
Toll Charges		$4.000	each	**$ -**
Standard postage		$0.55	day	**$ -**
Couriier Service	1	$30.00	each	**$ 30.00**
Certified Letter Return reciept		$6.700	each	**$ -**
PHOTOCOPIES B/W (8 1/2" X 11")	30	$0.10	each	**$ 3.00**
PHOTOCOPIES B/W (11" X 17")	30	$0.20	each	**$ 6.00**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Cobbfendley

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Project Manager	Support Manager	Engineer - Senior	Engineer (Utilities)	Engineer-in-Training	SUE Designating Crew (2 man)	Survey Crew (2 man)	RPLS	Engineer Technician - Senior	Engineer Technician	CADD Operator - Senior	Utilities Coordinator - Senior	Utilities Coordinator	Administrative / Clerical	TOTAL HOURS	TOTAL COST
		$314.00	$238.00	$254.00	$135.00	$113.00	$156.00	$184.00	$184.00	$135.00	$108.00	$184.00	$150.00	$103.00	$86.00		
PHOTOCOPIES COLOR (8 1/2" X 11")		30	$0.70	each													$ 21.00
PHOTOCOPIES COLOR (11" X 17")		30	$1.50	each													$ 45.00
Attenuator Truck - (Lane/Shoulder closure) (Includes labor Equipment and Fuel)			$375.00	day													$ -
USB Flash Drive			$10.00	each													$ -
SUBTOTAL DIRECT EXPENSES (FC 145, FC164)																	**$ 163.50**
OTHER DIRECT EXPENSES (FC163))		**# OF UNITS**	**COST/UNIT**	**UNIT**													
MILEAGE		100	0.585	mile													$ 58.50
Toll Charges			$4.000	each													$ -
Standard postage			$0.55	day													$ -
Couriier Service			$30.00	each													$ -
Certified Letter Return reciept			$6.700	each													$ -
PHOTOCOPIES B/W (8 1/2" X 11")		30	$0.10	each													$ 3.00
PHOTOCOPIES B/W (11" X 17")		30	$0.20	each													$ 6.00
PHOTOCOPIES COLOR (8 1/2" X 11")		30	$0.70	each													$ 21.00
PHOTOCOPIES COLOR (11" X 17")		30	$1.50	each													$ 45.00
PLOTS COLOR OR BOND		3	$5.00	SF													$ 15.00
TRAFFIC CONTROL SERVICES , ARROW BOARDS and Attenuator Trucks - Medium Project		1	$1,750.00	day													$ 1,750.00
TRAFFIC CONTROL SERVICES , ARROW BOARDS and Attenuator Trucks - Large Project		1	$2,500.00	day													$ 2,500.00
Attenuator Truck - (Lane/Shoulder closure) (Includes labor Equipment and Fuel)			$375.00	day													$ -
USB Flash Drive			$10.00	each													$ -
SUBTOTAL DIRECT EXPENSES (FC163)																	**$ 4,398.50**
UNIT COST EXPENSES		**# OF UNITS**	**COST/UNIT**	**UNIT**													
																	$ -
Subsurface Utility Engineering Services																	$ -
SUE Mobilization/Demobilization																	
This cost is intended to be a one-time expense compensation for mobilizing/demobilizing personnel and equipment portal to portal. Vacuum excavation truck (non-local)		510	$ 5.00	Mile													$ 2,550.00
SUE (Quality Level A - Utility Locate, Test Holes)																	$ -
Includes labor and equipment for vacuum excavation, engineering, CADD, and limited traffic control.																	$ -
Level A: 0 to 5 ft (Total)		5	$ 1,300.00	each													$ 6,500.00
Level A: > 5 to 8 ft (Total)		3	$ 1,500.00	each													$ 4,500.00
Level A: > 8 to 13 ft (Total)		2	$ 1,800.00	each													$ 3,600.00
Level A: > 13 to 20 ft (Total)		1	$ 2,500.00	each													$ 2,500.00
Level A: > 20 ft (Total)			$ 150.00	VF													$ -
																	$ -
Subsurface Utility Engineering (SUE) Field Services																	$ -
One (1) Designating Person with equipment		56	$ 119.00	Hour													$ 6,664.00
Two (2) Designating Person with equipment		40	$ 184.00	Hour													$ 7,360.00
																	$ -
																	$ -
																	$ -
																	$ -
																	$ -
																	$ -
																	$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)																	**$ 33,674.00**

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$105,398.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1	$5,490.30

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Cobbfendley

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Project Manager	Support Manager	Engineer - Senior	Engineer (Utilities)	Engineer-in-Training	SUE Designating Crew (2 man)	Survey Crew (2 man)	RPLS	Engineer Technician - Senior	Engineer Technician	CADD Operator - Senior	Utilities Coordinator - Senior	Utilities Coordinator	Administrative / Clerical	TOTAL HOURS	TOTAL COST
		$314.00	$238.00	$254.00	$135.00	$113.00	$156.00	$184.00	$184.00	$135.00	$108.00	$184.00	$150.00	$103.00	$86.00		
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1		$33,674.00															
GRAND TOTAL		**$144,562.30**															

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PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Raba Kistner

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Principal	Senior Project Manager	Project Manager	Project Engineer	EIT	Field Coordinator	Logger	CADD Tech	Admin	TOTAL HOURS	TOTAL COST
		$224.40	$198.90	$188.70	$168.30	$137.70	$112.20	$76.50	$76.50	$61.20		
FC 102 (102) Feasibility Studies												
Field Coordination & Geotech Drilling			1			3	9	24			37	$ 3,457.80
												$ -
Labortatory Testing				1	1	2					4	$ 632.40
												$ -
Geotech Engineering and Reportng				2	2	9			1	1	15	$ 2,091.00
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL			1	3	3	14	9	24	1	1	56	**$ 6,181.20**
FC 120 (120) Social, Economic and Environmental Studies and Public Involvement												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												**$ -**
FC 130 (130) Right-of-Way Data												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												**$ -**
FC 145 (145,164) Managing Contracted/Donated PE												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Raba Kistner

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Principal	Senior Project Manager	Project Manager	Project Engineer	EIT	Field Coordinator	Logger	CADD Tech	Admin	TOTAL HOURS	TOTAL COST
		$224.40	$198.90	$188.70	$168.30	$137.70	$112.20	$76.50	$76.50	$61.20		
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												$ -
FC 160 (160) Roadway Design Controls												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												$ -
FC 160 (161) Drainage												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												$ -
FC 160 (162) Signing, Pavement Markings and Signalization (Permanent)												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												$ -
FC 160 (163) Miscellaneous (Roadway)												

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Raba Kistner

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Principal	Senior Project Manager	Project Manager	Project Engineer	EIT	Field Coordinator	Logger	CADD Tech	Admin	TOTAL HOURS	TOTAL COST
		$224.40	$198.90	$188.70	$168.30	$137.70	$112.20	$76.50	$76.50	$61.20		
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												**$ -**
FC 160 (165) Traffic Management Systems (Permanent)												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												**$ -**
FC 160 (170) Bridge Design												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												**$ -**
LABOR TOTALS		**1**	**3**	**3**	**14**	**9**	**24**	**1**	**1**		**56**	**$ 6,181.20**
		1.8%	5.4%	5.4%	25.0%	16.1%	42.9%	1.8%	1.8%			

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT	
				$ -

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Raba Kistner

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Principal	Senior Project Manager	Project Manager	Project Engineer	EIT	Field Coordinator	Logger	CADD Tech	Admin	TOTAL HOURS	TOTAL COST
		$224.40	$198.90	$188.70	$168.30	$137.70	$112.20	$76.50	$76.50	$61.20		
TRAFFIC CONTROL		2	$2,100.000	day								$ 4,200.00
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL DIRECT EXPENSES (FC 102)												**$ 4,200.00**

UNIT COST EXPENSES	# OF UNITS	COST/UNIT	UNIT		
					$ -
DRILLING (1) 20 ft CULVERT & (10) 15 ft PAVEMENT BORINGS					$ -
MOBILIZATION	165	5.05	miles		$ 833.25
AUGER DRILLING W/O SAMPLING 0 - 50 FT (SOIL)	170	$19.00	ft		$ 3,230.00
SPT		$20.40	each		$ -
TCP		$25.50	each		$ -
BACKFILL BORING HOLE	170	$3.57	ft		$ 606.90
DRILLER STANDBY	5	$198.90	hr		$ 994.50
DRILLER CLEANUP	5	$234.60	hr		$ 1,173.00
CONCRETE/HMAC PATCH	11	$74.83	each		$ 823.13
VEHICLE TRIP CHARGE	330	$0.77	miles		$ 254.10
					$ -
LABORATORY TESTING					$ -
MOISTURE CONTENT	67	$15.30	per test		$ 1,025.10
ATTERBERG LIMITS DETERMINATION	10	$107.10	per test		$ 1,071.00
GRAIN SIZE ANALYSIS	1	$88.74	per test		$ 88.74
MATERIAL FINER THAN NO. 200 SIEVE	4	$59.16	per test		$ 236.64
UNCONFINED COMPRESSIVE STRENGTH	2	$49.98	per test		$ 99.96
SULFATE TESTING	5	$99.96	per test		$ 499.80
SCOUR ANALYSIS	1	$153.00	per test		$ 153.00
LIME SERIES CURVE	1	$484.50	per test		$ 484.50
MOISTURE DENSITY RELATIONSHIP CURVE	1	$300.90	per test		$ 300.90
RESILIENT MODULUS TESTING (OMC AND +2%)	1	$1,836.00	per test		$ 1,836.00
TEXAS TRIAXIAL TEST		$1,500.00	per test		$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)					**$ 13,710.52**

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$6,181.20
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1	$4,200.00
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1	$13,710.52
GRAND TOTAL	**$24,091.72**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Doucet

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Environmental Manager	Environmental Specialist	Environmental Technician	TOTAL HOURS	TOTAL COST
		$180.00	$140.00	$115.00		
FC 102 (102) Feasibility Studies						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 120 (120) Social, Economic and Environmental Studies and Public Involvement						
120.2 Environmental Dashboard Investigation (From Desk Top Review)		118	111	163	392	$ 55,507.40
Right of Entry coordination Time		2	6	12	20	$ 2,580.00
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL		120	117	175	412	**$ 58,087.40**
FC 130 (130) Right-of-Way Data						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 145 (145,164) Managing Contracted/Donated PE						
						$ -
						$ -

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Doucet

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Environmental Manager	Environmental Specialist	Environmental Technician	TOTAL HOURS	TOTAL COST
		$180.00	$140.00	$115.00		
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						$ -
FC 160 (160) Roadway Design Controls						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 160 (161) Drainage						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 160 (162) Signing, Pavement Markings and Signalization (Permanent)						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

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PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Doucet

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Environmental Manager	Environmental Specialist	Environmental Technician	TOTAL HOURS	TOTAL COST
		$180.00	$140.00	$115.00		
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 160 (163) Miscellaneous (Roadway)						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 160 (165) Traffic Management Systems (Permanent)						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 160 (170) Bridge Design						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Doucet

PROJECT NAME: Bebee Road TO #2
PROJECT LIMITS: I35 NB Frontage Road to Dacy Lane

TASKS	SHTS	Environmental Manager	Environmental Specialist	Environmental Technician	TOTAL HOURS	TOTAL COST
		$180.00	$140.00	$115.00		
SUBTOTAL						$ -
LABOR TOTALS		**120.03**	**117**	**174.8**	**412**	$ **58,087.40**
		29.1%	28.4%	42.4%		

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT		
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
SUBTOTAL DIRECT EXPENSES (FC 164)					$ -

UNIT COST EXPENSES	# OF UNITS	COST/UNIT	UNIT		
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)					$ -

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$58,087.40
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1	
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1	
GRAND TOTAL	**$58,087.40**

K·FRIESE
+ ASSOCIATES

KYLE BONDS 2022

COUNCIL MEETING | MARCH 7, 2023

BOND PROGRAM UPDATE

- Bond was approved by voters in Nov. 2022
- Council workshop was held in late January to provide an update
- Design scopes and fees for Kohlers, Bebee, and Bunton Creek projects are ready for review
- Finalizing negotiations for remaining projects, aiming for March 21 Council meeting
- Website and branding refresh in progress

KYLE BONDS 2022

COUNCIL MEETING | MARCH 7, 2023

K·FRIESE + ASSOCIATES

TASK ORDER BUDGETS

Project	From	To	Total Budgeted Project Cost	Current Phase	Current Task Order Budget	% of Total Budgeted Project Cost
Kohlers to Seton (off-system)	IH 35 NBFR	Seton Pkwy	$66,080,361	Schematic	**$ 1,101,207.34**	5%
Kohlers to Seton (IH 35 crossing)	IH 35 SBFR	IH 35 NBFR		Schematic	**$ 2,158,287.27**	
Bebee Rd (west)	IH 35 NBFR	Dacy Ln	$66,621,312	Schematic	**$ 436,194.96**	2%
Bebee Rd (east)	Dacy Ln	E. of Green Pastures Rd		Schematic	**$ 788,221.88**	
Bunton Creek Rd	Lehman Rd	Porter Cove	$28,444,399	Schematic	**$ 947,810.00**	3%

K·FRIESE + ASSOCIATES

CITY OF KYLE, TEXAS

Approve Task Order No. 3 - American Structurepoint, Inc. for Bebee Road from Dacy Lane to East of Green Pastures Road $788,221.88

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Approve Task Order No. 3 to AMERICAN STRUCTUREPOINT, INC., Dallas, Texas in the amount not to exceed $788,221.88 for engineering services and design of Bebee Rd. from Dacy Lane to East of Green Pastures Road. ~ *Joe Cantalupo, K Friese & Associates, City's 2022 Road Bond Program Manager*

Other Information: The work to be performed by the Engineer shall consist of providing engineering services,
development of a design schematic, environmental documents, and PS&E. These services may
include, but are not limited to, preparing a design schematic to an equivalent 30% PS&E level of
detail, environmental documents/studies in support of the schematic work, public involvement
support (exhibits for City Council), data collection analysis, drainage, conceptual traffic control, 3-D
modeling, surveying and mapping, Quality Levels D, B and A subsurface utility engineering (QLD,
QLB, QLA SUE), environmental clearance, utility coordination, storm drain and culvert design, traffic
control layout and cross sections.

Legal Notes: N/A

Budget Information: Funding in the amount of $788,221.88 is available from the 2022 Road Bond Fund in the approved Capital Improvement Spending Plan for Fiscal Year 2022-2023 as follows:

- 1952-68812-573130 = $788,221.88 (2022 Road Bond Fund)

ATTACHMENTS:

Description

- Task Order No. 3
- 2022 Road Bond Program Update by K-Friese & Associates 3-7-2023

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TASK ORDER NO. 3

This Task Order is issued pursuant to that Professional Services Agreement (Agreement) between the City of KYLE, Texas (Owner) and American Structurepoint, Inc. (Professional) effective May 17, 2022 and constitutes authorization by Owner for Professional to proceed with the following described construction and engineering design services.

Construction and Engineering Design Services

A. PROJECT DESCRIPTION

The scope of the Agreement is to provide professional construction and engineering design services (Services) for the Owner based on the scope of services listed below in Item B. Professional services may include performing preliminary engineering and planning; generating plans, specifications and estimates; researching, analyzing, and providing technical recommendations; providing construction phase services; and providing general consulting services in the areas identified herein.

B. SCOPE OF SERVICES AND DELIVERABLES

Pursuant to the Agreement, this Task Order authorizes Professional to perform the Services shown in Attachment A.

C. BASIS OF COMPENSATION

The total compensation for the Services shall be based on the hourly rates as defined in Compensation Table provided on pages 3 and 4 of this document, and on the corresponding rates and hours in the Fee Estimate attached as Attachment B. Attachment B shall use the template provided by the Owner. Owner will make payments to Professional for performing the Services described on a monthly billing basis in accordance with monthly statements submitted by the Professional and approved by Owner. Final payment shall be due upon completion of the Services described.

D. TIME FOR COMPLETION

Professional will work expeditiously to complete the Services described herein by March 2024.

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American Structurepoint, Inc. shall begin work as soon as authorized in this Task Order No. 3.

APPROVED:

CITY OF KYLE, TEXAS

By _____

Title: City Manager

Attest _____

Date _____

ACCEPTED:

AMERICAN STRUCTUREPOINT, INC.

By DocuSigned by: Cash E. Confield F19A20CCE23A42D...

Title Chief Operating Officer

Attest DocuSigned by: Megan Adams 21AAC5D2FC67470...

Date 3/1/2023

DocuSign Envelope ID: 5C3D1A38-B1D0-4B94-ACC1-074B5DF86F37

COMPENSATION

Compensation for the services provided pursuant to the Professional Services Agreement between the City of Kyle and American Structurepoint, Inc. executed the 17th day of May 2022 will be paid on a lump sum basis and calculated based on the amounts reflected below.

American Structurepoint

Professional Staff	Hourly Bill Rate
Engineering Technician	$100
EIT	$120
Design Engineer	$140
Project Engineer	$165
Senior Engineer	$190
Project Manager	$240
Senior Project Manager	$280
QAQC Manager	$280
Principal	$285

SAM

Professional Staff	Hourly Bill Rate
Lidar Extraction/Ortho Imagery	$98
Calibration/AT/Lidar/Imagery	$110
Project Lean/Senior Tech	$120
Geospatial PM	$215
Geospatial Senior PM	$225
Field Coordinator	$115
3 Person Survey Crew	$215
2 Person Survey Crew	$160
Survey Technician	$98
Senior Survey Technician	$110
Project Coordinator	$125
Project Manager	$165
Senior Project Manager	$210

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Cobb Fendley

Professional Staff	Hourly Bill Rate
Administrative/Clerical	$86
Utilities Coordinator	$103
Utilities Coordinator – Senior	$150
CADD Operator - Senior	$184
Engineering Technician	$108
Engineering Technician – Senior	$135
RPLS	$184
Survey Crew (2 man)	$184
SUE Designating Crew (2 man)	$156
Engineer-in-Training	$113
Engineer (Utilities)	$135
Engineer – Senior	$254
Support Manager	$238
Project Manager	$314

Raba Kistner

Professional Staff	Hourly Bill Rate
Admin	$61.20
CADD Tech	$76.50
Logger	$76.50
Field Coordinator	$112.20
EIT	$137.70
Project Engineer	$168.30
Project Manager	$188.70
Senior Project Manager	$198.90
Principal	$224.40

Doucet

Professional Staff	Hourly Bill Rate
Environmental Technician	$115
Environmental Specialist	$140
Environmental Manager	$180

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ATTACHMENT A

TASK ORDER NO. 3 (SCHEMATIC PHASE)

Dacy Lane to E of Green Pastures Road

SERVICES TO BE PROVIDED BY THE ENGINEER

American Structurepoint, Inc. (Engineer) will provide staff to support the City of KYLE (Owner) with general construction and engineering support services. The Owner also includes the City's General Engineering Consultant (GEC), K Friese & Associates, which the Owner has secured to act on its behalf as an Owner's Representative. The Engineer is required to coordinate with the GEC for completion of this work. Specific tasks may include, but are not limited to, the following:

The work to be performed by the Engineer shall consist of providing engineering services, development of a design schematic, environmental documents, and PS&E. These services may include, but are not limited to, preparing a design schematic to an equivalent 30% PS&E level of detail, environmental documents/studies in support of the schematic work, public involvement support (exhibits for City Council), data collection analysis, drainage, conceptual traffic control, 3-D modeling, surveying and mapping, Quality Levels D, B and A subsurface utility engineering (QLD, QLB, QLA SUE), environmental clearance, utility coordination, storm drain and culvert design, traffic control layout and cross sections.

The Engineer shall complete the services to be provided by the Engineer according to the milestone work schedule established in the task order. The Engineer shall submit a written progress report to the Owner monthly indicating the actual work accomplished during the month, scheduled work to be accomplished for the month, and the estimated work to be accomplished for the coming month. The progress report will use a bar chart diagram to indicate the percentage complete of each task shown on the previous report and the percentage complete of each task. The Engineer is required to meet with the designated Owner project manager and environmental coordinator bi-weekly for progress tracking purposes unless prior agreement is made with Owner not to hold a scheduled meeting. The Engineer shall submit minutes of the meeting, summarizing the events of the meeting within seven calendar days after each meeting.

The Engineer shall prepare a project work schedule. The work schedule must incorporate an allocation of time for stage reviews of the design schematic and the environmental documents by Owner personnel. The Engineer shall present the work schedule to the Owner for review and acceptance and provide assistance in interpreting the proposed work schedule.

GENERAL REQUIREMENTS

1.1. Design Criteria.

Design Criteria. The Engineer shall prepare all work in accordance with the latest version of applicable Owner's procedures, specifications, manuals, guidelines, standard drawings, and standard specifications or previously approved special provisions and special specifications, which include:

- Kyle Connected 2040 Transportation Master Plan (2015)
- Kyle Transportation Master Plan Update (2021)
- The Vybe Kyle: Trail-Oriented Development (2021)

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- Kyle Drainage Master Plan (2018)
- City of Kyle Roundabout Ordinance #1162 (2021)
- City of Kyle standard detail sheets and general construction notes
- TxDOT Roadway Design Manual
- TxDOT Hydraulic Design Manual
- Texas Manual on Uniform Traffic Control Devices (TMUTCD)
- Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (latest Edition)
- Other Owner approved manuals
- TxDOT ROW Acquisition Manual
- TxDOT Utilities Manual
- Texas Transportation Administrative Code – Utility Accommodation
- City of Austin Utility Criteria Manual
- City of Kyle utility standards
- Texas Commission on Environmental Quality (TCEQ)

When design criteria are not identified in Owner's manuals or TxDOT criteria, or if conflicting guidance is found, the Engineer shall notify the Owner and refer to City of Austin policies and the American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Street, (latest Edition).

The Engineer shall use applicable standards and guidance to tailor the Design Summary Report (DSR) template (provided by the City) to their project. The Engineer shall obtain approval from the City on all information contained in the DSR prior to schematic development.

The Engineer shall identify, prepare exhibits and complete all necessary forms for each Design Exception and Waiver required within project limits prior to the 50% project completion submittal. The Engineer shall submit each exception and waiver to the Owner for coordination and processing of approvals. If subsequent changes require additional exceptions, the Engineer shall notify the Owner in writing as soon as possible after identification of each condition that may warrant a design exception or waiver.

The Engineer shall prepare a design time schedule and an estimated construction contract time schedule, using the latest version of MS Project, Primavera, or any Owner approved programs. The schedules shall indicate tasks, subtasks, critical dates, milestones, deliverables and review requirements in a format that depicts the interdependence of the various items. The Engineer shall provide assistance to Owner's personnel in interpreting the schedules. The Engineer shall schedule milestone submittals at 50%, 90% and final project completion phases unless directed by Owner otherwise. The Engineer shall advise the Owner in writing if the Engineer is not able to meet the scheduled milestone review date.

Once the schematic has been completed and accepted by the Owner, the Engineer shall deliver all electronic files to the Owner within 30 calendar days of Owner's written request.

Milestone submittals shall include, but shall not be limited to, the following to be considered complete:

1. 50%

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- Design Summary Report (DSR)
- Draft Schematic of preferred alternative using border file provided by the Owner for the Kyle 2022 Road Bond Program
- Cross Sections on 11X17 sheets
- Draft Drainage Report
- Draft Traffic Study (or Studies) including roundabout and/or traffic signal studies/warrants
- Draft Traffic Control Layout
- Draft Geotechnical Report
- Draft Environmental Documents
- Construction Cost Estimate
- ROW Cost Estimate
- Utility Conflict Matrix
- Utility Relocation Cost Estimate including compensable and non-compensable subtotals

2. 90%
    - All 50% items with review comments addressed
    - Comment resolution matrix
    - Draft ROW Acquisition Documents
    - Final versions of 50% items
3. Final
    - All 90% items with review comments addressed
    - Comment resolution matrix
    - Final signed and sealed versions of 90% items

Submittals shall be provided electronically to the Owner using the Procore platform.

1.2. Right-of-Entry. The Engineer shall notify the Owner and secure permission to enter private property to perform any surveying, environmental, engineering, or geotechnical activities needed off Owner right-of-way. In pursuance of the Owner's policy with the general public, the Engineer shall not commit acts which would result in damages to private property, and the Engineer shall make every effort to comply with the wishes and address the concerns of affected private property owners. The Engineer shall contact each property owner prior to any entry onto the owner's property and shall request concurrence from the Owner prior to each entry.

1.3. Progress Reporting and Invoicing. The Engineer shall invoice according to Function Code breakdowns shown in Exhibit "A" of the Professional Services Agreement and Attachment "B" - Fee Schedule, of the task order. The Engineer shall submit each invoice in a format acceptable to the Owner.

The Engineer shall complete the services according to the milestone work schedule established in the task order. With each invoice the Engineer shall submit a monthly written progress report to the Owner's Project Manager regardless of whether the Engineer is invoicing for that month. Requirements for progress reports are included in Sections 145.2.b. and 145.2.c. of this scope of services.

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The Engineer is required to meet with the designated Owner project manager or environmental coordinator bi-weekly for progress tracking purposes unless prior written agreement is made with Owner not to hold a meeting in any given month. The Engineer shall submit minutes of the meeting summarizing the events of the meeting within five (5) business days after each meeting.

The Engineer shall prepare a project work schedule, using the latest version of Microsoft Project or Primavera software or another scheduling program approved by the Owner in writing. Requirements for schedules are included in Section 145.2.b of this scope of services.

Condition precedents to final payment by the Owner are the Owner's receipt of all electronic files and confirmation by the Owner's Project Manager that (1) the electronic files can be opened and are usable by the Owner utilizing the Owner-owned version of the intended software, and (2) all of the Owner's review comments have been addressed.

The Engineer shall prepare a letter of transmittal to accompany each document submittal to the Owner. At a minimum, the letter of transmittal must include the project name, project limits, Owner's contract number, and Owner's task order number.

1.4. Traffic Control. The Engineer shall provide all planning, labor, and equipment to develop and to execute each Traffic Control Plan (TCP) needed by the Engineer to perform services under each task order. The Engineer shall comply with the requirements of the most recent edition of the TMUTCD. The Engineer shall submit a copy of each TCP to the Owner for approval prior commencing any work on any Owner roadway. The Engineer shall provide all signs, flags, and safety equipment needed to execute the approved TCP. The Engineer shall notify the Owner in writing five (5) days (in advance of executing each TCP requiring a lane closure and shall have received written concurrence from the Owner prior to beginning the lane closure. The Engineer's field crew shall always possess a copy of the approved TCP on the job site and shall make the TCP available to the Owner for inspection upon request. The Engineer shall assign charges for any required traffic control to the applicable function code. The Owner requires Public Notice of lane and Road closure 7 days in advance of closure through use of message boards, thus notice to Owner would need to be about 10 days prior of closure.

1.5. State-Controlled Waters. The placement of a new structure or modification of an existing structure(s) within State-Controlled waters will require confirmation that said structure(s) lie within the General Land Office (GLO) state owned land and whether the crossing is tidally influenced or not. Consequently, the Engineer shall request, as early in the design process as possible, that the State determine whether the proposed improvements are found within the tidal GLO, is a submerged GLO property or a non-tidal GLO property. The Owner may request assistance from the Engineer to prepare an exhibit demonstrating the location of the proposed improvements on the GLO State Owned Map for the project location.

1.6. Coordination. The Engineer shall coordinate issues and communications with Owner's internal departments through the Owner's Project Manager. The Owner will communicate the resolution of issues and provide the Engineer direction through the Owner's Project Manager.

Where applicable, the Engineer shall notify the Owner and coordinate with adjacent engineers and surveyors on all controls at project interfaces. The Engineer shall document the coordination effort, and each engineer must provide written concurrence regarding the agreed project controls and interfaces. In the event the Engineer and the other adjacent engineers are unable to agree, the Engineer shall meet jointly with the Owner and each adjacent engineer to resolve disagreements. If the engineers are unable to resolve an issue with the Owner as mediator, the Owner may decide the

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issue and the decision will be final.

The Engineer shall prepare each exhibit necessary for approval by each railroad, utility, and other governmental or regulatory agency in compliance with the applicable format and guidelines required by each entity and as approved by the Owner. The Engineer shall notify the Owner in writing prior to beginning any work on any outside agency's exhibit.

1.7. Level of Effort. For each task order, the Engineer shall base the level of effort at each phase on the prior work developed in earlier phases without unnecessary repetition or re-study. As directed by the Owner, the Engineer shall provide written justification regarding whether or not additional or repeated level of effort of earlier completed work is warranted, or if additional detail will be better addressed at a later stage in the project development.

1.8. Quality Assurance (QA) and Quality Control (QC). The Engineer shall provide peer review at all levels. For each deliverable, the Engineer shall have some evidence of their internal review and mark-up of that deliverable as preparation for submittal. A milestone submittal is not considered complete unless the required milestone documents and associated internal red-line mark-ups are submitted. The Owner's Project Manager may require the Engineer to submit the Engineer's internal mark-up (red-lines) or comments developed as part the Engineer's quality control step. When internal mark-ups are requested by the Owner in advance, the Owner, at its sole discretion, may reject the actual deliverable should the Engineer fail to provide the evidence of quality control. The Engineer shall clearly label each document submitted for quality assurance as an internal mark-up document.

The Engineer shall perform QA and QC on all survey procedures, field surveys, data, and products prior to delivery to the Owner. If, at any time, during the course of reviewing a survey submittal it becomes apparent to the Owner that the submittal contains errors, omissions, or inconsistencies, the Owner may cease its review and immediately return the submittal to the Engineer for appropriate action by the Engineer. A submittal returned to the Engineer for this reason is not a submittal for purposes of the submission schedule.

1.11. Organization of Design Project Folder and Files (Electronic Project Files). The Engineer shall organize the electronic project files in accordance with the Owner's File Management System (FMS) format. The Engineer shall maintain the project files in the Owner's file structure.

1.12. Personal Protective Equipment (PPE). The Engineer shall, and shall require its subcontractors to, (1) provide personal protective equipment (PPE) to their personnel, (2) provide business vehicles for their personnel, and (3) require their personnel to use PPE and drive only business vehicles while performing work on or near roadways. The PPE must meet all (1) current standards set by the Occupational Safety and Health Administration (OSHA) and (2) TxDOT requirements (e.g., safety glasses, Type 3 (TY 3) pants for night work). Each business vehicle must be clearly marked with the Engineer's business name, or the name of the appropriate subcontractor, such that the name can be identified from a distance.

1.13. Data Classification. Unless otherwise clearly labeled or otherwise specifically excepted through a provision of this contract or its attachments, all data provided to or generated by the Engineer under this contract is considered public data for the purposes of applying the Owner's data security standards. The Engineer shall manage all data and work products according to the terms of the contract, including specifically Attachment I, Information Resources and Security Requirements.

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TASK DESCRIPTIONS AND FUNCTION CODES

The Engineer shall categorize each task performed to correspond with the Function Codes (FC) and Task Descriptions.

FUNCTION CODE 102(110) – FEASIBILITY STUDIES

ROUTE AND DESIGN STUDIES

The Engineer shall collect, review, and evaluate data described below. The Engineer shall notify the Owner in writing whenever the Engineer finds disagreement with the information or documents provided.

The Engineer shall finalize an alignment and proposed roadway schematic layout for one alternative only that includes projected traffic (when available), volumes and existing and proposed typical sections. The Engineer shall furnish Microsoft Office and MicroStation, GEOPAK, and OpenRoads computer generated media containing the roadway schematic layout to the Owner. All supporting attachments and exhibits must accompany the schematic layout. All MicroStation, GEOPAK, and OpenRoads computer generated files containing the roadway design schematic must be fully compatible with the software used by the Owner without further modification or conversion.

The Engineer shall obtain, review, and evaluate available existing and twenty-year projected traffic data for use in the preparation of the schematic design layout. The data must be utilized in accordance with the requirements for schematic development and consistent with the policies of the Owner.

The Engineer shall prepare preliminary drawings to identify any potential impacts and constraints within the project corridor, including impacts to the nature, cultural, and human environment. The potential impacts and constraints identified must include all existing and proposed utilities (both public and private), structures, burial grounds, neighborhood communities, historical landmarks, and undeveloped areas. Any potential utility conflicts and structural impediments must be identified as such. The Engineer shall propose alternative alignments that avoid or minimize displacements and damages and prepare any additional attachments or exhibits required to illustrate a preferred alternative alignment.

An itemization of the schematic design and engineering work activity to be performed under this task order is detailed below. The Engineer shall prepare all designs in accordance with the latest version of:

A. Kyle Connected 2040 Transportation Master Plan (2015)
B. Kyle Transportation Master Plan Update (2021)
C. The Vybe Kyle: Trail-Oriented Development (2021)
D. Kyle Drainage Master Plan (2018)
E. City of Kyle Roundabout Ordinance #1162 (2021)
F. City of Kyle standard detail sheets and general construction notes
G. TxDOT Roadway Design Manual
H. TxDOT Hydraulic Design Manual
I. Texas Manual on Uniform Traffic Control Devices (TMUTCD)

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J. Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (latest Edition)
K. Other Owner approved manuals and guides.

L. TxDOT ROW Acquisition Manual
M. TxDOT Utilities Manual
N. Texas Transportation Administrative Code – Utility Accommodation
O. City of Austin Utility Criteria Manual
P. City of Kyle utility standards
Q. Texas Commission on Environmental Quality (TCEQ)

When design criteria are not identified in Owner manuals or TxDOT criteria, or when conflicts are found, the Engineer shall notify the Owner and refer to City of Austin policies and the American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Street, (latest Edition).

The design schematic horizontal layout must adhere to a design scale of 1 inch = 100 foot (or 1 inch = 200 foot, when directed by the Owner.) The Engineer shall develop the schematic layout, exhibits, and attachments in English units. All Microsoft Office, MicroStation, Keyhole Markup Language (KML), Keyhole Markup Language Zipped (KMZ), and Bentley OpenRoads computer graphic files furnished to the Owner must be uploaded to the Owner's file management system in their native format, which must be fully compatible with the programs currently used by the Owner. Schematics must follow TxDOT and Federal Highway Administration (FHWA) standards. The schematic must follow TxDOT's computer-aided design and drafting (CADD) standards. The Engineer shall submit the schematic as an original document, accompanied with an original MicroStation formatted graphics file. Final copies of the schematic design must be signed and sealed by a professional engineer licensed in the State of Texas.

110.1. Schematic Design Work Outline:

A. Develop Base Maps

The Engineer shall finalize the schematic for the preferred alternative from Task Order No. 1. The Engineer shall develop the base maps to be used for the analysis and proposed schematic layout from existing construction and right of way (ROW) plans as available. The Engineer shall re-establish the existing centerline horizontal alignments for all roadways, identify existing ROW and easements, property owners, and the approximate location of major utilities based on a Subsurface Utility Engineering (SUE) in the preparation of base maps.

B. Planimetrics and Aerial Mapping

The Engineer shall obtain planimetrics, digital terrain modeling (DTM), and aerial photographs from the Owner, if available

C. Analyze Existing Conditions

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1. Using collected data and base maps from the 10% schematic phase, the Engineer shall update overall analysis of the existing conditions to update the schematic design, including the following: ROW and easement determination
2. Horizontal alignment
3. Vertical alignment
4. Pavement cross slopes and pavement type
5. Soil exploration
6. Geotechnical testing
7. Intersection design and analysis
8. Drainage
9. Traffic control and construction phasing sequence

D. Schematic Alternatives

The Engineer shall update approved schematic (Alternate 2) to minimize potential adverse operational impacts, crash impacts, ROW impacts, environmental impacts, major utility conflicts, structural impediments, or exceptions to the Owner, State and FHWA design criteria. Schematic will be updated to the 50%, 90%, and 100% level of completion.

E. Deliverable Schematic

The Engineer shall evaluate and document, if/as applicable, the following in the analysis of the update of the schematic to optimize the design:

1. Efficient use of the allocated ROW
2. Control of access (COA) and driveway locations
3. Roadway and intersection geometry
4. Cross sections
5. Bicycle and pedestrian design
6. Drainage and hydraulic design
7. Stopping sight distance
8. Level of service
9. Safety
10. Traffic and signal operations
11. Construction, ROW, easement, and utility costs
12. Construction sequencing
13. Traffic control during construction
14. Roadside safety appurtenances
15. Environmental mitigation (e.g., noise walls, storm water best management practices (BMPs))
16. Bridge/box culvert layouts and clearance
17. Railroads (if applicable)
18. Roundabout Analysis, including roundabouts at the following intersections:
    Goforth South and Bebee Road
    Goforth North and Bebee Road
19. Accommodation of ultimate corridor configuration.

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20. Accommodation of future cross street expansion as described in local thoroughfare plan (if applicable)
21. Avoidance of utility lines (if feasible)
22. Impact of construction delays from utility relocations

F. Project Management and Coordination

1. The Engineer shall direct and coordinate the various elements and activities associated with developing the design schematic.
2. The Engineer shall prepare the detailed graphic project work schedule indicating tasks, critical dates, milestones, deliverables, and Owner review requirements. The project work schedule must depict the order of the various tasks, milestones, and deliverables. The Engineer shall review the schedule monthly and provide updates regarding its progress on the schedule to the Owner.
3. The Engineer shall submit written monthly progress reports to the Owner.
4. The Engineer shall provide ongoing quality assurance and quality control to ensure completeness of product and compliance with the Owner procedures.

G. Data Collection and Field Reconnaissance

The Engineer shall collect, review, and evaluate data described below. The Engineer shall notify the Owner in writing whenever the Engineer finds disagreement with the information or documents:

1. Data, if available, from the Owner, including "as-built plans", existing schematics, right-of-way maps, Subsurface Utility Engineering (SUE) mapping, existing cross sections, existing planimetric mapping, environmental documents, existing channel and drainage easement data, existing traffic counts, accident data, Bridge Inspection records, identified endangered species, identified hazardous material sites, current unit bid price information, current special provisions, special specifications, and standard drawings.
2. Documents for existing and proposed development along proposed route from local municipalities and local ordinances related to project development.
3. Utility plans and documents from appropriate municipalities and agencies.
4. Flood plain information and studies from the Federal Emergency Management Agency (FEMA), the United States Army Corps of Engineers (USACE), local municipalities, and other governmental agencies.
5. Conduct field reconnaissance and collect data including a photographic record of notable existing features.

The Engineer shall conduct field reconnaissance and collect data as necessary to complete the schematic design. Data must include the following information. Items 1 through 5 must be obtained from the Owner, if available. Items 6 through 13 must be obtained from other agencies as required.

1. Local major thoroughfare plan
2. Plat research for adjacent properties (if available)
3. Available corridor major investment studies

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4. Design data from record drawings of existing and proposed facilities
5. Previously prepared drainage studies
6. Public and private utility information (It is necessary for the Engineer's Surveyor to locate public and private utilities, even if the City has permits)
7. Existing and future design year traffic data
8. Historical crash data
9. Roadway inventory information, including the number of lanes, speed limits, pavement widths and rating, bridge widths and ratings, and ROW widths
10. Aerial photos, planimetric mapping, and DTM
11. Environmental data
12. Adopted land use maps and plans (if available)
13. Federal Emergency Management Agency (FEMA) flood boundary maps and flood insurance studies and models

H. Roadway Design Criteria

The Engineer will update the schematic to a 30% design level using the criteria developed in the 10% schematic development phase.

110.2. Schematic Design – General Tasks

A. ROW Property Base Map

The Engineer shall use base map depicting the information developed in the 10% schematic development phase.

B. Typical Sections

The Engineer shall update any proposed typical sections modified by the updated schematic that depict the number and type of lanes, shoulders, median width, curb offsets, cross slope, border width, clear zone widths, and ROW limits.

C. Environmental Constraints

The Engineer shall evaluate and document impacts to environmentally sensitive sites (as identified by the Engineer and verified by the Owner) during the schematic design process. Environmentally sensitive sites include natural, cultural, and the human environment. Examples are historic and archeological resources, burial grounds, neighborhood communities and residential areas, farmland, floodplains, wetlands, endangered species, rare habitats, wildlife corridors, wildlife crossings, parks and nature preserves, geologic features, undeveloped areas, and significant trees.

D. Drainage

The City of Kyle adopted the City of Austin DCM and ECM per the City of Kyle Code of Ordinances 41-134(a)(7). Distinctions from these codes are provided in the City of Kyle Drainage Design Criteria available on the City of Kyle website.

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Engineer shall evaluate and refine design to make the proposed project compatible with anticipated drainage projects identified in the City of Kyle Drainage Master Plan.

The Engineer shall use data from as-built plans and FEMA maps to locate drainage out falls and to determine existing storm sewer and culvert sizes, design flows, and water surface elevations for use in the design of roadway geometry.

All hydrologic studies shall be based on Atlas 14 rainfall. City of Kyle Drainage Criteria Table 5 of Attachment 1– COK for Intensity Duration Frequency (IDF) curve coefficients shall be used to replace City of Austin DCM Table 2-2A (zone 1), IDF curve coefficients.

The Engineer shall conduct a preliminary drainage study to determine and evaluate the adequacy of the ROW needed to accommodate the proposed roadway and drainage system. The drainage study must (1) identify the impacts to abutting properties and the 100-year floodplain due to proposed highway improvements; (2) identify the water surface elevations for the 2, 10, 25, 50, and 100-year storm events; (3) identify and locate outfalls; (4) provide drainage outfall descriptions; (5) provide overall drainage area map, sub-drainage area map, and storm water detention facilities; and provide a drainage study report identifying the results of the study. The drainage report, which must be signed and sealed by a professional engineer licensed in Texas, must include applicable hydrologic and hydraulic models (e.g., HEC-1 and HEC-2, HEC-RAS, HEC-HMS, XP- SWMM). The Engineer shall prepare a final drainage study in accordance with one or more of the following: City of Kyle Drainage Criteria, TxDOT Hydraulic Design Manual, local TxDOT district criteria, and any other specific guidance provided by the Owner. If requested by the Owner, the Engineer shall evaluate the adequacy of the existing drainage structures; otherwise, the Engineer shall not evaluate the adequacy of the existing drainage structures.

Water Quality: shall be provided in accordance with City of Kyle Code 41-134(a)(7). This water quality shall be designed in accordance with the latest version of the Texas Commission on Environmental Quality – Edwards Aquifer Technical Guidance Manual (TCEQ RG-348).

For projects located over the Edwards Aquifer Recharge Zone or Contributing Zone, the Engineer shall follow the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer rules. The Engineer shall design water quality Best Management Practices (BMP) in accordance with the latest editions of RG-348 – Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices (July 2005); RG-348 Addendum Sheet (July 2012), or latest edition. As part of this work, the Engineer shall perform the following:

1. BMP analysis: The Engineer shall locate all BMPs previously permitted under the TCEQ Edwards Aquifer rules that might be impacted by the project. The Engineer shall determine the amount of total suspended solids (TSS) being treated under these permitted BMPs.
2. TSS load calculations: The Engineer shall develop TSS load calculations to determine the TSS amount required to be treated under the Edwards Aquifer rules. This calculation is based on the increase in the amount of impervious cover within the project area. The Engineer will determine 80% of the increase in TSS load resulting from the development on the project.

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3. TSS removal determination: The Engineer shall utilize the TCEQ calculation spreadsheet to determine the total amount of TSS removal required for the project.
4. Design coordination and water quality report: After the 30% submittal, the Engineer shall meet with the Owner to discuss the TSS removal required for the project and delineate the design approach for the water quality BMPs. As geometry allows, the Engineer shall first maximize treatment via features in the roadway section (vegetative filter strips and grassy swales). For all other permanent BMP treatment options, the Engineer shall coordinate with the Owner for preferred treatment options and determine any necessary drainage easements required for the water quality BMP. The Engineer shall identify and document BMP's in the schematic water quality report. The Engineer shall submit a draft schematic water quality report with the 60% submittal, and a final schematic water quality report with the 100% submittal. The Engineer shall provide cost estimates for the BMPs and necessary drainage easements.

E. ROW Requirements

The Engineer shall determine any updates based upon the updated schematic to the ROW requirements based on the proposed alignment, typical sections, design cross sections, access control, terrain, construction requirements, drainage, clear zone, maintenance, intelligent transportation system (ITS), and environmental constraints and mitigation requirements.

F. Design Exceptions

The Engineer shall identify any additional design exceptions and waivers. If applicable, the Engineer shall determine the necessity for each design exception or waiver for approval. If the Owner agrees that design exception or waiver is necessary, the Engineer shall prepare the Owner's required design exception or design waiver documentation. The Engineer shall document the operational and safety analysis for comparison of the no-build, build with standard design, and build with proposed design alternatives.

G. Traffic and Operational Analysis

The Engineer shall obtain opening year and design year (opening year +20) traffic volumes from City of Kyle from prior traffic studies that account for future Bebee Road, Kohlers Crossing and nearby land-use development. The engineer will coordinate with the City on traffic forecasting, and validation of assumptions.

The Engineer shall review traffic data, existing roadway features (including number of lanes, frontage road operations, and intersection operation and geometry) and traffic flow patterns. The Engineer shall conduct capacity analysis at the following study intersections and make recommendations for improving traffic flow. These may include determination of added turn lanes and required intersection lane configuration under roundabout control. The study intersections are listed below:

a. Goforth Road (N) & Bebee Road
b. Goforth Road (S) & Bebee Road

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The Engineer shall use HCM methodology to analyze these intersections during opening year and design year (opening+20 year) based on future conditions. Results of this analysis must be incorporated into the 30% PS&E design. The Engineer shall develop and submit to Owner a traffic and operational analysis memo summarizing all analysis performed. The analysis must be performed using the latest versions of TxDOT-approved software (e.g., HCS, Synchro, SIDRA).

Exclusions:

1. Traffic data collection
2. Traffic projections including research of background growth rate, forecast of traffic generated by future land-use development and roadway connectivity
3. Safety analysis
4. 2D/3D micro-simulation modeling and video animation
5. Traffic projections and capacity analysis for additional intersections and scenarios other than those included in the scope above.

H. Bicycle and Pedestrian Accommodations

The Engineer shall comply with City of Kyle design criteria and planned improvements for bicycle and pedestrian accommodations, including the 2015 and 2021 Transportation Master Plans and The Vybe Kyle: Trail Oriented Development, and the United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations. The inclusion of bicycle and pedestrian facilities must be evaluated when the project is scoped.

110.4. Geometric Design Schematics

The Engineer shall update geometric design schematics based on the conceptual schematics developed in Task Order No. 1, after the basic layout, lane arrangement, and anticipated ROW and easement impacts depicted on the conceptual schematics are approved. The Engineer shall use Bentley OpenRoads tools in performing this task. The geometric design schematics must include both a plan view and profile view.

A. The geometric schematic plan view must contain the following design elements:

1. Bentley OpenRoads calculated roadway alignments for mainlanes, general purpose lanes, ramps, direct connectors, bridges, HOV lanes, managed lanes, express lanes, collector distributor roads, frontage roads and cross streets at major intersections and grade separations
2. Horizontal curve data shown in tabular format
3. Pavement edges, curb lines, sidewalks for all roadway improvements
4. Typical sections of existing and proposed roadways
5. Proposed bridge structures, including bridge deck, abutment, bent, and rail locations
6. Proposed retaining walls and sound walls
7. Proposed cross-drainage structures with outfall flow arrows and significant drainage features or waterways identified
8. Existing utilities and proposed utilities
9. Existing property lines and respective property ownership information
10. Existing ROW and easements

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11. Proposed ROW and easements adequate for preparation of ROW maps
12. Waters of the US (WOTUS)
13. Control-of-access limits
14. Existing and projected traffic volumes
15. Location and text of the existing and proposed guide signs and the preliminary locations for changeable message signs
16. Lane lines, shoulder lines, and direction of traffic flow arrows indicating the number of lanes on all roadways

B. The geometric schematic profile view must contain the following design elements:

1. Calculated profile grade and vertical curve data including "K" values for all curves and sight distance values for crest vertical curves on the mainlanes
2. Existing ground line profiles along the mainlanes
3. Grade separations and overpasses including preliminary abutment and bent locations, girder type, and span lengths
4. Calculated vertical clearances at grade separations and overpasses
5. Anticipated cross-drainage structures with approximate inlet and outfall elevations
6. Proposed ditch grading (special grading), if it does not follow the typical section.
7. Approximate locations of existing and proposed major utility crossings
8. The calculated profile grade for frontage roads, connectors, ramps and cross streets will be shown on separate Supplemental Profile rolls

110.5. Cross-Sections

The Engineer shall use a Bentley 3D OpenRoads model to update preliminary cross-sections at 50 feet intervals (unless otherwise directed by the Owner) and at culvert locations in conjunction with the updated geometric schematic. The Engineer shall determine earthwork volumes for use in the cost estimate. The Engineer shall prepare 11inch x17inch or roll plots of the cross-sections.

110.8. Preliminary Construction Sequence

The Engineer shall prepare preliminary construction sequence layouts in conjunction with the geometric conceptual design schematic depicting the phasing and traffic detours anticipated to safely convey traffic. The layouts must demonstrate that adequate horizontal and vertical alignments are maintained, sufficient lane widths and shoulder widths or barrier offsets are feasible, and construction zones are adequate for constructability of all proposed features. Proposed construction detours must ensure that adequate superelevation is provided. The layouts must indicate how existing pedestrian and bicycle facilities are accommodated for each phase.

110.12. Agency Coordination and Public Involvement

A. The Engineer shall assist the Owner in conducting meetings with property owners, stakeholders, and various agencies to discuss and review the schematic design. The Engineer shall document and respond to issues related to the schematic design.
B. The Engineer shall prepare necessary exhibits and meeting materials to support stakeholder coordination and public outreach efforts.

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110.13. Schematic Design Project Deliverables

In conjunction with the performance of the services included under Function Code 110 of this exhibit, the Engineer shall provide the following draft and final documents and associated electronic files as applicable:

A. Draft and final copies of the traffic and operational analysis report
B. 50%, 90%, and Final copies of the geometric schematic layouts on rolls, as requested by the Owner
C. Update of the conceptual design schematic roll plots
D. Draft and final copies of the design schematic cross-sections on 11-inch x 17-inch cut sheets or roll plot format, as requested by the Owner
E. Copy of the preliminary cross-sections in a roll plot format or 11-inch x 17-inch format, as requested by the Owner
F. Electronic 3D model copy of the preliminary cross-sections created using OpenRoads software
G. Six final copies of the preliminary drainage study
H. Electronic submittal of the hydrologic and hydraulic model digital files from the drainage study
I. Copies of the preliminary construction sequence layouts in a roll plot or 11-inch x 17-inch format, as requested by the Owner
J. Copies of the preliminary construction sequence typical sections in 11-inch x 17-inch format
K. Electronic files shall be uploaded to the Owner's Procore file management system
L. Traffic data schematics
M. Traffic projections methodology memo
N. Average daily corridor traffic projections report
O. Risk management plan
P. Draft project management plan
Q. Final project management plan
R. Line schematics with traffic data shown
S. Documentation of public involvement activities
T. Utility plan – electronic file in latest version of MicroStation fully compatible with OpenRoads civil design system
U. Design exception and design waiver documents
V. Hard copy of a draft hydraulic report for review and comment
W. EE. Culvert hydraulic data sheets and preliminary culvert layouts
X. Drainage report – one hard copy of final drainage report, one electronic copy of the entire drainage report in PDF format, and computer files of hydrologic and hydraulic modeling with appropriate labeling of location, and submittal date

FUNCTION CODE 120(120) – SOCIAL/ECON/ENVIRON STUDIES

SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT

120.1. Environmental Documentation Standards

Each environmental service provided by the Engineer must have a deliverable. Deliverables must summarize the methods used for the environmental services and the results achieved. The

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summary of results must be sufficiently detailed to provide satisfactory basis for thorough review by the Owner and (where applicable) other agencies with regulatory oversight. All deliverables must meet regulatory requirements for legal sufficiency and adhere to the requirements for reports enumerated in the State's National Environmental Policy Act of 1969 (NEPA) Memorandum of Understanding (MOU).

A. Quality Assurance/Quality Control Review

For each deliverable, the Engineer shall perform quality assurance quality control (QA/QC) reviews of environmental documents and on all supporting environmental documentation to determine whether documents conform with:

1. Current state and federal laws, regulations, policies, guidance, agreements, and memoranda of understanding between the Owner and applicable state or federal agencies; and
2. Guidelines contained in Improving the Quality of Environmental Documents, A Report of the Joint AASHTO/ACEC Committee in Cooperation with the Federal Highway Administration (May 2006) for:
    a. Readability, and
    b. Use of evidence and data in documents to support conclusions.

Upon request by the Owner, the Engineer shall provide documentation that the QA/QC reviews were performed by qualified staff.

B. Deliverables must contain all data acquired during the environmental service and be written to be understood by the public in accordance with TxDOT's Environmental Toolkit guidance, documentation standards, and current guidelines, policies, and procedures.
C. Electronic versions of each deliverable must be written in software that is fully compatible with the software currently used by the Owner and provided in the native format of the document for future use by the Owner. The Engineer shall supplement all hard copy deliverables with electronic copies in searchable Adobe Acrobat™ (.pdf) format unless another format is specified. Each deliverable must be a single, searchable *.pdf file that mirrors the layout and appearance of the physical deliverable. The Engineer shall upload the electronic files to the Owner's Procore file management system in both the document's native format and the PDF format.
D. The Engineer shall provide photographs and graphics that clearly depict details relevant to an evaluation of the project area. Comparable quality electronic photograph presentations must be at least 1200 x 1600-pixel resolution. The Owner can request images/graphics be provided in another format or quality.

120.5. Environmental Technical Analyses and Documentation

A. Definition of technical analyses and documentation for environmental services

In general, technical analyses and documentation for environmental services might include a report, checklist, form, or analysis detailing resource-specific studies identified during the process of gathering data to make an environmental decision.

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The Engineer shall prepare all technical reports and documentation for the Owner with sufficient detail and clarity to support environmental recommendations.

Environmental technical reports and documentation must include appropriate NEPA or federal regulatory language in addition to the purpose and methodology used in delivering the service. Technical reports and forms must use templates and documentation standards as applicable and include sufficient information to determine the significance of impacts.

B. Minimum Deliverables:

1. Draft Environmental Dashboard Investigation summary, including constraints map and documentation
2. Final Environmental Dashboard Investigation summary, including constraints map and documentation

C. Environmental Dashboard Investigation (Desktop Surveys) to support the schematic work will include:

1. Obtain publicly available information including but not limited to: locations of public buildings and facilities (schools, churches, parks, cemeteries, dams), aerial photography, National Wetland Inventory Maps, County Soil Survey Maps, Texas Commission on Environmental Quality (TCEQ) & Environmental Protection Agency (EPA) Hazardous Materials Database Information, Federal Emergency Management Agency (FEMA) Floodplain Information, Vegetation Information, Threatened & Endangered Species and Karst Information, and any other Environmental Information from the appropriate local, state, or federal agencies.

2. Conduct a regulatory records review to identify listed hazardous waste generators, treatment, storage and disposal facilities; solid waste landfills, unauthorized sites; documented spills; oil and gas exploration and production sites; and underground storage tank sites within the proposed site location. The review will also identify other environmental risks along the project corridor.

3. Conduct field reconnaissance to visually inspect the project site for additional risks and field verify any environmental risks identified by the regulatory records review. This field investigation will be limited to accessible areas within the existing right-of-way.

4. Review the City of Kyle's Long-Range Transportation Plan and other local and regional transportation plans to review and gather information of projects that could impact the project.

5. Develop a constraints map that includes environmental concerns, known constraints (structures, floodplain), aerial photography, contour information, know developments, other environmental features and utility information, based on research of public databases and sources.

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6. Develop Environmental Dashboard Investigation Summary including, but not limited to the following:
    a. Water Resources
        i. Waters of the US
        ii. Groundwater
        iii. Floodplains
    b. Threatened and Endangered Species
    c. Cultural Resources
        i. Archeological
        ii. Historic
        iii Cemeteries
        iv. Other
    d. Community Resources and Socioeconomics
        i. Community Resources
        ii. Socioeconomics
    e. Hazardous Materials
    f. References

120.8. Environmental Permits Issues and Commitments (EPIC) Sheets.

The Engineer shall complete the latest version of the EPIC sheets per information provided by the State. These sheets must be signed, sealed and dated by the Engineer as indicated in signature block.

FUNCTION CODE 130(130) – RIGHT-OF-WAY (ROW) DATA

For Function Codes 130 and 150, the term Surveyor means the firm (prime provider or subprovider) that is providing the surveying services shown in this scope.

130.1. RIGHT-OF-WAY SURVEYS (15.1.1)

Right-of-Way Surveys includes the performance of surveys to establish land boundaries, preparation of parcel descriptions and parcel plats, and the preparation of right-of-way (ROW) maps.

The Surveyor shall prepare:

A. boundary surveys and create Property Descriptions (metes and bounds plus plats);
B. create GIS files for ROWD/ Real Property Asset Map system; and
C. traditional ROW map as requested by Owner

The standards and deliverables are detailed in Chapter 4, Section 8 of the TxDOT ROW Preliminary Procedures for the Authority to Proceed Manual.

130.2. RIGHT OF WAY MAPPING – TRADITIONAL ROW MAP

If requested in a work authorization, the Surveyor shall conduct traditional ROW mapping.

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Traditional ROW mapping includes ground surveying and preparation of parcel maps, legal descriptions also known as metes and bounds descriptions, and ROW maps.

A. PURPOSE

The purpose of traditional ROW mapping is:

1. To prepare mapping documents suitable for use in the acquisition of real property and the issuance of a title policy.
2. To prepare a map of a resurvey of existing ROW where it is necessary to update or redefine ROW lines.

B. DEFINITIONS

In this attachment, the following definitions shall apply:

1. Abstract Map means a scale drawing prepared from record documents depicting proposed ROW lines, existing ROW lines, easement lines, and private property lines with relevant grantee names, recording data, and recording dates.
2. Closure/Area Calculation Sheet means a computer-generated print-out of the area and the perimeter bearings, distances, curve data, and coordinates of an individual parcel of land to be acquired, including the degree of angular and distance mis-closure for each individual parcel.
3. Denial of Access Line means a line that indicates specific location where access to the roadway is denied.
4. Owner means the current title holder of record as determined by the Real Property Records.
5. Parent Tract means a unit or contiguous units of land under single ownership, comprising a single marketable tract of land consistent with the principle of highest and best use. A parent tract may be described by a single instrument or several instruments. A single parent tract cannot be severed by a public ROW easement, or separate ownership which destroys unity of use.
6. Parent Tract Inset means a small map to an appropriate scale, of the parent tract perimeter placed upon the ROW map in the proximity of the respective parcel. Parent tract insets are used in cases where the parent tract cannot be shown to the same scale as the ROW map. Since parent tract insets are used to identify the limits and location of parent tracts, they must include public ROW, utility easements and fee strips, and identifiable water courses which bound the parent tract.
7. Point of Beginning or POB means a corner of the parcel of land to be acquired, located on the proposed ROW line and being the beginning terminus of the first course of the written property description or plat.
8. Point of Commencing or POC means a monumented property corner identifiable in the real property records that is located outside the proposed ROW corridor. For title purposes, the POC must be a monumented back corner of the parent tract. In the event a monumented back corner of the parent tract cannot be recovered, the nearest identifiable monumented property corner located outside the proposed ROW corridor may be used.

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9. Preliminary ROW Layout means a scaled drawing depicting proposed ROW lines, existing ROW lines, proposed pavement, access denial lines, the proposed centerline alignment, private property lines, easement lines, visible improvements, visible utilities, and the station and offset from the centerline alignment to each point of curvature (PC), point of tangency (PT), and angle point in the proposed ROW lines and to each PC, PT, and the angle point in the existing ROW lines in areas of no proposed acquisition.
10. Property Description means a document prepared as an exhibit for the conveyance of a property interest and issuance of a title policy, reflecting the results of a boundary survey, and signed and sealed by a registered professional land surveyor (RPLS), attached to an acquisition deed as Exhibit A, and consisting of the following two parts:
    a. Written metes and bounds description delineating the area and the boundary and describing the location of an individual parcel of land unique to all other parcels of land.
    b. Parcel plat, which is an ANSI A-size (8.5" x 11") scaled drawing depicting the information recited in the metes and bounds description in 10 a. above, which represents the parcel(s) of land to be acquired.
11. ROW Maps means a series of ANSI D-size (22" x 34") scaled drawings depicting the results of relevant elements of records research, field work, analysis, computation, and mapping required to determine title, delineate areas and boundaries, and locate and describe utilities and improvements to the extent necessary to appraise the value and negotiate the acquisition of individual parcels of private land for a proposed ROW project.

C. PROCEDURE

All standards, procedures, and equipment used by the Surveyor must be such that, at a minimum, the results of the survey is in compliance with the precision and accuracy requirements set forth by the Texas Board of professional Engineers and Land Surveyors (TBPELS) rules.

1. Abstract Map

The Surveyor shall prepare an Abstract Map sufficient to determine the following:

a. All interests of public record held in the land to be acquired.
b. The total record holdings to be acquired from an owner contiguous to a land.
c. All interests in land held in common to be acquired (shopping mall parking lots, subdivision reserves, etc.)
d. All improvements proposed by other agencies that might have a bearing on project development.
e. All called monuments, bearings, and distances in recorded information.

2. ROW Map

The Surveyor shall field locate items such as: property corners, existing ROW markers, improvements, and visible utilities. The Surveyor shall verify and update the planimetric file as directed by the Owner.

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Using the Owner's standard title, index, and plan sheets, the Surveyor shall prepare a ROW map for each proposed ROW project. A ROW map must include a title sheet, an index sheet, a survey control index sheet, a horizontal control data sheet, and sufficient plan sheets to cover the proposed project. If requested by the Owner, the Engineer shall prepare additional sheets.

Per the TBPELS and the State, ROW maps need not be signed and sealed by a RPLS.

Plan sheets must include the following:

a. Proposed ROW lines. Proposed ROW lines must be labeled with appropriate bearings, distances, and curve data. Curve data must include the radius, delta angle, arc length, and long chord bearing and distance.
b. Existing ROW lines. Existing ROW lines must be labeled with appropriate bearings, distances, and curve data to the extent necessary to describe the individual parcels of land to be acquired. Curve data must include the radius, delta angle, arc length, and long chord bearing and distance.
c. Proposed project baseline alignment. The proposed project baseline alignment must be labeled with appropriate bearings, distances, and curve data. Curve data must include the station of the curve, point of intersection (PI), radius, delta angle, arc length, tangent length, long chord bearing and distance, and the northing (N) and easting (E) coordinates of the curve PI. All alignment PCs, PTs, and even 500-foot stations must be labeled with its station value.
d. Proposed paving lines. Proposed paving lines combined with relevant existing paving lines must be shown to the extent necessary to compile a complete picture of proposed traffic movements. Proposed paving on the final map submitted to the Owner must be shaded with a dot pattern or highlighted by some other means acceptable to the Owner.
e. Denial of Access lines. Denial of Access lines must be drawn to clearly indicate areas where access is to be denied permitted.
f. Private property lines. Private property lines must be delineated with appropriate bearings, distances, and curve data to the extent necessary to describe the individual parcels of land to be acquired. Curve data must include the radius, delta angle, arc length, and long chord bearing and distance.
g. League lines and survey lines. League lines and survey lines must be shown and identified by name and abstract number.
h. County lines and city limit lines. County lines and city limit lines must be located and identified by name.
i. North arrow. A north arrow must be shown on each sheet, in the upper right corner of the sheet.
j. Monuments. Monumentation must be shown with a description of material and size and if the monument is found or set.
k. PC, PT, and angle points. Station and offset must be shown for each PC, PT, and angle point in the proposed ROW lines. Stations and offsets must be shown with respect to the proposed centerline alignment.
l. Intersecting and adjoining public ROW. Intersecting and adjoining public ROW must be shown and identified by name, ROW width, and recording data.

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m. Railroads. Railroads must be shown and identified by name, ROW width, and recording data.
n. Utility corridors. Utility corridors must be identified as to easement or fee.
o. Easements and fee strips. Easements and fee strips must be shown and identified by width, owner, and recording data.
p. Set-back lines. Set-back lines (e.g., building lines) must be shown and identified.
q. Improvements. Visible improvements located within the proposed ROW corridor or within 50 feet of a proposed ROW line must be shown and identified.
r. Structures
    i. Structures must be identified as commercial or residential, by number of stories, and as to construction material type (e.g., brick, wood frame).
    ii. Structures that are severed by a proposed ROW line must be dimensioned to the extent necessary to completely delineate the severed parts.
    iii. Parking areas, billboards, and other on-premise signs that are severed by a proposed ROW line must be dimensioned to the extent necessary to delineate that portion of the parking area, billboard, or sign that is located within the proposed ROW corridor.
    iv. For a structure outside of, but within ten feet of, the proposed ROW line, the distance of the structure to the proposed line must be shown. If the location of the structure is determined using a TxDOT supplied planimetric map, any structure within three feet of the proposed ROW line must be verified by field survey.
s. Utilities. Visible utilities located within the proposed ROW corridor or within 50 feet of a proposed ROW line must be shown and identified.
t. Underground fuel storage tanks. Visible location of vents and filler caps of underground fuel storage tanks situated within the proposed ROW corridor or within 50 feet of the corridor must be determined and shown.
u. Points of commencing and points of beginning. POCs and POBs must be shown and labeled. POBs must be shown with their respective N and E surface coordinates. As an exception, a POC will not be required in the case of a total taking without a remainder.
v. Parcels. Each parcel of land to be acquired must be identified by a parcel number, which must appear in the ownership tabulation and on the ROW map in the proximity of the respective parcel. If the Surveyor is unfamiliar with the criteria used by the Owner to assign parcel numbers, the Surveyor shall seek the assistance of the Owner at the time the Abstract Map is complete.
w. Ownership tabulation. An ownership tabulation must be shown that includes the parcel number, existing area of the parent tract, lots and blocks constituting the parent tract when applicable, owner's name, type of conveyance, film code, county clerk's file number, taking area, and remaining area of the parent tract located left or right of the centerline alignment or both. The Surveyor shall provide several blank lines in the tabulation block to facilitate future map additions.
x. Parent tract inset. A parent tract inset must be shown for each parent tract that cannot be shown to scale on the ROW map. When parent tract insets are used, the

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point of commencing with the appropriate bearing and distance to the point of beginning may be shown on the parent tract inset.

y. Data sources. A note must be included on the title sheet and each map sheet stating the source of bearings, coordinates, and datum used. The note must also include the National Geodetic Survey (NGS) or other basis monument(s) name or identification number, Texas Coordinate System Zone information, epoch information, grid or surface values and the combined adjustment factor or surface adjustment factor.

z. Notes. Appropriate notes must be included on the title sheet and each map sheet stating the following:
    i. Month (or months) and year of the abstracting upon which the map is based.
    ii. Month (or months) and year the field surveys were conducted upon which the map is based.
    iii. Month and year the map was completed by the Surveyor.

aa. Tick marks. The Surveyor shall place four tick marks, one in each quadrant of the map sheet, showing the latitude and longitude (Lat/Long) in decimal degrees and the surface coordinate of each mark. The tick marks may be placed on the match lines of each map sheet, if convenient. A foot note must also be placed on the sheet defining the tick marks as Lat/Long in decimal degrees.

D. ADHERENCE TO STANDARDS

For purposes of clarity, consistency, and ease of understanding, the Owner as an acquiring agency of private property for public use, has adopted TxDOT's standards and formats for a ROW map to facilitate the processes of negotiation, appraisal, relocation assistance, and condemnation. The Surveyor shall adhere to these standards and formats to every extent possible.

E. GENERAL SPECIFICATIONS

The following general specifications for 1) description, 2) plat, and 3) ROW mapping apply:

1. Completed ROW maps must be submitted to the Owner in both Bentley MicroStation Design File (DGN) and Adobe Portable Document Format (PDF) format. The maps must have a layout that will produce a D-size final print with a 0.5-inch border.
2. ROW maps must be drawn to a scale of 1 inch = 50 feet. Scales other than 1 inch = 50 feet may be used with prior approval by the Owner.
3. The minimum lettering size for ROW maps is 0.1 inches at print scale.

F. GENERAL REQUIREMENTS

The Surveyor shall adhere to the following general requirements:

1. Copies of instruments of record submitted to the Owner must be indexed by parcel number.

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2. Coordinates appearing on ROW maps, on parcel plats, and in written property descriptions must be surface coordinates based on the Texas State Plane Coordinate System. The appropriate combined adjustment factors (sea level factor multiplied by the scale factor) for each zone of the coordinate system, which have been developed by TxDOT, must be noted.
   To obtain surface coordinates, the Surveyor shall multiply grid coordinates by the appropriate combined adjustment factor for each zone, as provided by TxDOT.
3. Line and curve tables may be used when necessary.
4. The number of centerline alignment stations shown on a single plan sheet shall be limited to allow approximately four inches between match lines and sheet borders for future details and notes.
5. A minimum four-inch by four-inch space must be reserved at the bottom right corner of each map sheet for future revision notes.
6. If requested by the Owner, the Surveyor shall set a 5/8-inch rebar with a TxDOT aluminum ROW cap (or other appropriate monument) on the proposed ROW line and replace the rebar later with a TxDOT Type II ROW marker.

When the 5/8" rebar with a company rod cap is set for PCs, PTs, PIs, and 1500-foot stations, the double asterisk symbol (**) must be shown on the map sheets and written into and shown in the Property Description and must be accompanied by the following note:

**The monument described, and set may be replaced with a Type II ROW marker upon the completion of the construction project, under the supervision of a RPLS, either employed or retained by the Owner.

When new ROW lines intersect boundary lines of properties creating new boundary corners in the new ROW line, the Surveyor shall place a 5/8- inch rebar with the State's 2-inch aluminum property corner rod cap.

G. GIS SUBMISSION REQUIREMENTS AND STANDARDS

All ROW mapping project work authorizations are subject to the standards and required ArcGIS deliverables detailed in Chapter 4, Section 8 of TxDOT's ROW Preliminary Procedures for the Authority to Proceed Manual.

H. ELECTRONIC ROW MAP STANDARDS

The primary purpose of this section is to provide instructions on the graphics standards, file management structure, and naming conventions, for ROW mapping electronic deliverables submitted to the TxDOT Right of Way Division by surveying services providers, as part of the ROW package.

The Surveyor shall adhere to the following requirements for electronic map submittals:

1. Bentley MicroStation
   All graphic files for map sheets and parcel plats must be native Bentley MicroStation DGN files created using Bentley OpenRoads civil design system with TxDOT's current seed files, resource files, workspace environment, and settings.

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2. Level Library Files
   The Surveyor shall use the TxDOT's current MicroStation level library files for ROW mapping. The files contain all the predefined levels that are typically needed for ROW mapping and include levels for existing utilities.

3. Separate DGN Files for Each Map Sheet
   The Surveyor shall provide one DGN file for each map sheet. Each file must be spatially registered to the project coordinate system.
   The sheet file naming convention is "Highway Name Sheet Number.dgn(e.g., ROAD_S01.dgn).
4. Naming convention for the Master Design File or Master ROW Files and Map Sheet.

The recommended naming prefix for design files is MDF (for master design file). Therefore, the prefix must be different for the ROW files because the location of the existing and proposed ROW in the design files from the schematic will change to some degree after an on-the- ground survey is made for a ROW map. Therefore, the prefix might be MRF for master ROW file.

The Surveyor shall provide the corrected Master ROW Files to the design engineer to be used in the final plans, specifications, and estimate (PS&E) so that all features of construction and the relocation of utilities will be correctly placed in relation to the roadway ROW and the ROW of cross streets or roadways.

The master ROW file naming convention is: "MRF ROW Logical Name.dgn", with examples as follows:

MRF212104065_Schematic90.dgn (for schematic layout 90% submittal)

MRF212104065_Schematic100.dgn (for schematic layout 100% submittal)

MRF212104065_SchemApprov.dgn (for City projects on State ROW)

MRF212104065_PSEDesign.dgn (for final PS&E design)

MRF212104065_ExROW.dgn (for existing ROW determined by RPLS)

MRF212104065_PropROW.dgn (for proposed ROW of final design) MRF212104065_DeedPlot.dgn (for deed record) MRF212104065_Planimetric.dgn (for aerial mapping topography) MRF212104065_ROWTopo.dgn (for improvements data collection) MRF212104065_DesignTopo.dgn (for design level data collection topography)

MRF212104065_ExUtil.dgn (for existing utilities)

All sheet files with a plan view must have the MRF referenced to allow more than one sheet file to be worked on at the same time.

5. File Structure of Master and Reference DGN Files

If possible, the file structure should not contain subfolders.

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6. Lines Weights, Line Styles, Colors, Text Size, Text Fonts, Scale, and Annotations

Legibility is the primary concern when choosing the scale, line weights and text size. Sheets must be legible at full scale sheet size (i.e., D-size drawing) and when reduced to half scale sheet size (B-size drawing size). It is not sufficient that originals or first-generation plots are legible, reproductions (copies) must retain legibility.

The normal scales for a full-sized sheet (i.e., D-size) is 1 inch = 50 feet (urban) and 1 inch = 100 feet (rural). For a half-sized sheet (i.e., B-size) the scale is 1 inch = 100 feet (urban) and 1 inch = 200 feet (rural).

The standard cell library is: TxdotSurv_04.cel or current State cell files; The standard font is Leroy. The standard State color table is: V256COLR.ctb or Txgpk.ctb.

The Surveyor shall use the TxDOT's current GEOPAK Survey SMD file that sets up new feature codes in SMD file for alignment chains, parcel chains and survey chains that can be drawn by GEOPAK Survey from the GPK file with the correct line styles, colors and weights to the designated levels loaded into the DGN by the TxDOT's current level library files.

The Surveyor shall use MicroStation Packager for the submission of electronic deliverables, which captures any non-State standard files (e.g., rsc, cel, text) that were used in the map that look and plot differently in the TxDOT's MicroStation workspace.

7. Text and Line Color considerations

Text and line colors must be legible when using background imagery.

8. Required Data in the GEOPAK ROW GPK File

Alignments, chains of proposed and existing ROW lines, parent tracts and taking parcels, and all other points collected in the field (start with schematic or design GPK file) are required.

If the design GPK file is too detailed for ROW use, the Engineer shall create input files for the information needed for the design GPK file to load into the ROW GPK file.

9. Surface Coordinate and the ROW GIS Geo-Database

Surface adjustment factors and basis of datum must be well documented in the electronic deliverables "file structure/deliverables read me" file.

10. Requirements for Electronic Deliverables
    a. Native MicroStation DGN files (reference files, sheets files, and parcel plats files);
    b. GEOPAK Survey GPK files.
    c. Separate comma delimited point files (ASCII file) in the following coordinate systems: Surface or Projected Coordinates, Grid Coordinates (Texas Coordinate System of 1983 in U.S. Survey feet) and Geographic Coordinates (WGS-84 in decimal degrees). The file will have the following format: point number, northing or latitude, easting or longitude, elevation, feature code, and point description.

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File naming convention is: Road Name Type of Coordinates.csv (e.g., Road_Surface.csv, 212101065_Grid.csv, and 212101065_WGS84.csv);

d. PDF files created in MicroStation of map sheets (both D-size and B-size sheets), one set in black and white and another set-in color if there is orthoimagery for the background.
e. PDF files and Microsoft Word documents of signed and sealed Surveyor's Reports.
f. Raw and processed GPS files including adjustment reports.

I. ROW MAPPING TASKS TO BE COMPLETED

The Surveyor shall perform the following tasks:

1. Abstracting

The Surveyor shall obtain copies of all existing ownership documents for the parent tracts along with all subdivision plats and recorded documents defining existing easements within, along or intersecting the existing ROW, and prepare an Abstract Map.

2. Field Surveys

The Surveyor shall locate and set additional horizontal and vertical control points, as necessary, at the maximum spacing distance of 1,500 feet; field locate property corners, existing ROW markers, improvements, and visible utilities; verify and update the planimetric file; and as directed by the Owner, perform the following:

a. Obtain right-of-entry to survey and/or perform other project tasks, such as environmental and geotechnical tasks on private property and prepare a spreadsheet of the information including right-of-entry obtained by others.
b. Locate existing horizontal and vertical control and verify the control information, locate property corners, and update the planimetric information with any missing visible improvements or visible utilities.

The Surveyor shall base all field work and calculations on the current controls and datum provided by the Owner.

3. Traditional ROW Map

The Surveyor shall prepare a traditional ROW map for the specific work location consisting of the existing and proposed ROW lines.

The Surveyor shall work closely with adjoining surveyors to incorporate all relevant information.

The Surveyor shall provide the following:

a. The Surveyor shall prepare a preliminary ROW map for review purposes.
b. The Surveyor shall prepare an initial ROW map for review purposes

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4. The Surveyor shall prepare a ROW project cover sheet using the Microsoft Word document template. The ROW project cover sheet must contain the roadway, project limits, county, length of project, equations and exceptions, begin and end project information, datum statement, utility table, and signature lines for acquisition.

5. Quality Assurance and Quality Control (QA/QC)

The Surveyor shall conduct a QA/QC review and prepare a check list for each task performed.

The Surveyor shall prepare a surveyor's report regarding their survey procedures, findings, and decisions made.

J. ROW MAPPING DELIVERABLES

The Surveyor shall provide the following:

6. Scanned copies of the ownership documents and one D-size paper copy of the Abstract Map and the associated MicroStation graphics files for review purposes.

7. Field Survey Data
    a. A spreadsheet of the property owners and right-of-entry information.
    b. Scanned copies of the field notes, control data sheets, and a graphics file of all field survey data.
8. ROW Map Submittals
    a. Preliminary ROW Map Submittals
    Two ANSI D-size (22" x 34") paper copies and one ANSI B-size (11" x 17") half-scale paper copy of the preliminary ROW map with the note "Preliminary – Not to be used for recording purposes", and the associated MicroStation graphics files.

    b. Initial ROW Map Submittals
    One D-size paper copy of the initial ROW map with the note "Preliminary – Not to be used for recording purposes", and the associated Bentley MicroStation and GIS graphics files.

9. Two ANSI A-size (8.5" x 11") paper copies of the ROW project cover sheet and the associated Word document file.

10. QA/QC

Documentation stating that the appropriate monuments were set on the proposed ROW lines at intersecting property lines, PC's, PT's, angle points, ROW lines of side streets and at 1,500-foot stations.

Documentation stating that the appropriate monuments were set on the existing ROW lines in areas of no acquisition at intersecting property lines, PC's, PT's, angle points, ROW lines of side streets and at 1,500- foot stations.

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A copy of TxDOT's ROW map checklist signed by the surveyor, if required.

A copy of the surveyor's report signed by the surveyor.

130.4. ROW Hearing Services

A. ROW Hearing Services

The Engineer shall prepare color exhibits for eminent domain hearing cases (assume 8 exhibits). The exhibits must depict the subject property boundaries and the proposed ROW acquisition shown on an aerial map background. The exhibits must also show the pavement edges, drainage or other structures, and driveways.

The Engineer shall prepare for the eminent domain hearings by reviewing the approved design schematic and associated reports, cross-sections, ROW maps, and pertinent plan sheets provided by others, including those showing roadway, bridge, grading, drainage, signals, signs, intelligent transportation systems (ITS), illumination, traffic control plan and other elements or data.

The Engineer shall attend by teleconference pre-hearings (assume 8 meetings) for eminent domain proceedings. The Engineer shall also attend, in person, pre-hearings (assume 8 meetings) for eminent domain proceedings near the project location.

Deliverables include all services and documents stated in this section.

B. Expert Witness Services

The Engineer shall attend and provide expert witness services for eminent domain hearings (assume 8 hearings) at the TxDOT Area Office near the project location. Assume that hearings, on average, last no longer than four hours.

The Engineer shall prepare for and provide expert testimony in eminent domain trial cases (assume 8 trials) at the county courthouse near the project location. Preparation includes the developing color exhibits, reviewing material, and providing depositions.

Assume that depositions, on average, last no longer than four hours and that trial cases, on average, last no longer than two days.

Deliverables include all services and documents stated in this section.

130.5. Utility Engineering Investigation

Utility engineering investigation includes utility investigations subsurface and above ground prepared in accordance with ASCE/CI Standard 38-02 [(http://www.fhwa.dot.gov/programadmin/asce.cfm)] and Utility Quality Levels.

A. Utility Quality Levels (QL)

Utility Quality Levels are defined in cumulative order (least to greatest) as follows:

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1. Quality Level D - Quality level value assigned to a utility segment or utility feature after a review and compilation of data sources such as existing records, oral recollections, One-Call markings, and data repositories.
2. Quality Level C - Quality level value assigned to a utility segment or utility feature after surveying aboveground (i.e., visible) utility features and using professional judgement to correlate the surveyed locations of these features with those from existing utility records.
3. Quality Level B - Designate: Quality level value assigned to a utility segment or subsurface utility feature whose existence and position is based upon appropriate surface geophysical methods combined with professional judgment and whose location is tied to the project survey datum. Horizontal accuracy of Designated Utilities is 18" (including survey tolerances) unless otherwise indicated for a specific segment of the deliverable. Quality Level B incorporates quality levels C and D information. A composite plot is created.
4. Quality Level A – Quality level value assigned to a portion (x, y, and z geometry) of a point of a subsurface utility feature that is directly exposed, measured, and whose location and dimensions are tied to the project survey datum. Other measurable, observable, and judged utility attributes are also recorded (per District Best Practices). The utility location must be tied to the project survey datum with an accuracy of 0.1 feet (30-mm) vertical and to 0.2 feet (60-mm) horizontal. As test holes may be requested up front or during the project, test holes done prior to completion of QL D, C, or B deliverables must be symbolized on the QL B deliverable with a call out indicating test holes number. This is in addition to and not in lieu of the test hole.

B. Utility Investigations Methodology

1. Utility Investigation Quality Level D The Engineer shall:
    a. Perform records research from all available resources. Sources include, but are not limited to: Texas811, Railroad Commission of Texas (Texas RRC), verbal recollection, as-built information from plans, plats, permits and any other applicable information provided by the utility owners or other stakeholders.
    b. Document utility owners and contact information.
    c. Create a utility drawing of information gathered.
2. Designate (Quality Level B)

Designate means to indicate the horizontal location of underground utilities by the application and interpretation of appropriate non- destructive surface geophysical techniques and reference to established survey control. Designating (Quality Level B) services are inclusive of Quality Levels C and D.

The Utility Engineer must:

a. As requested by the Owner, compile "as-built" information from plans, plats and other location data as provided by the utility owners.
b. Coordinate with utility owner when utility owner's policy is to designate their own facilities at no cost for preliminary survey purposes. The Engineer shall examine utility owner's work to ensure accuracy and completeness.

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c. Designate, record, and mark the horizontal location of the existing utility facilities using non-destructive surface geophysical techniques.
d. Using both active and passive scans to attempt to locate any additional utilities, including unrecorded and abandoned storm and sanitary sewer facilities, at the direction of the Owner, utilities maybe investigated using additional methods such as rodding that would then classify them as Quality Level B. A non-water based pink paint or pink pin flags must be used on all surface markings of underground utilities.
e. Correlate utility owner records with designating data and resolve discrepancies using professional judgment. The Utility Engineer must prepare and deliver to Owner a color-coded composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test hole) locations. The Utility Engineer and Owner acknowledge that the line sizes of designated utility facilities detailed on the deliverable will be from the best available records and that an actual line size is normally determined from a test hole vacuum excavation. A note must be placed on the designate deliverable only that states "lines sizes are from best available records". All above-ground utility feature locations must be included in the deliverable to the Owner. This information must be provided in the latest version of OpenRoads civil design system used by the Owner. The electronic file will be uploaded to the Owner's Procore file management system, as required by the Owner. A hard copy is required and must be signed, sealed, and dated by the Utility Engineer. When requested by the Owner, the designated utility information must be over laid on the Owner's design plans.
f. Determine and inform the Owner of the approximate electronic utility depths at critical locations as determined by the Owner. The limits of this additional information should be determined prior to the commencement of work. This depth indication is understood by both the Engineer and the Owner to be approximate only and is not intended to be used preparing the right of way and construction plans.
g. Provide a monthly summary, with weekly updates, of work completed and in process with adequate detail to verify compliance with agreed work schedule.
h. Provide documentation to show that permits have been closed out as required.
i. Clearly identify all utilities that were discovered from Quality Levels C and D investigation but cannot be depicted in Quality Level B standards. These utilities must have a unique line style and symbology in the designate (Quality Level B) deliverable.
j. Comply with all applicable TxDOT policy and procedural manuals.

3. Subsurface Utility Locate (Test Hole) Service (Quality Level A)

Locate is the process used to obtain precise horizontal and vertical position, material type, condition, size, and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques that ensures the integrity of the utility facility. Subsurface Utility Locate (Test Hole) Services (Quality Level A) are inclusive of Quality Levels B, C, and D.

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The Utility Engineer must:

a. Review requested test hole locations and advise the Owner in the development of an appropriate locate (test hole) work plan relative to the existing utility infrastructure and proposed roadway design elements.
b. Coordinate with utility owner inspectors as may be required by law or utility owner policy.
c. Place Texas 811 ticket 48 hours prior to excavation.
d. Neatly cut and remove existing pavement material, such that the cut does not exceed 0.10 square meters (1.076 square feet) unless unusual circumstances exist.
e. Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the Engineer:
    i. Elevation of top of utility tied to the datum of the furnished plan.
    ii. Minimum of two benchmarks utilized. Elevations must be within an accuracy of 15mm (.591 inches) of utilized benchmarks.
    iii. Elevation of existing grade over utility at test hole location.
    iv. Horizontal location referenced to project coordinate datum.
    v. Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
    vi. Utility facility material(s).
    vii. Utility facility condition.
    viii. Pavement thickness and type.
    ix. Coating/wrapping information and condition.
    x. Unusual circumstances or field conditions.
f. Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features. Water excavation can only be utilized with written approval from the Owner.
g. Be financially responsible for any damage to the utility during the locating process. In the event of damage, the Utility Engineer must stop work, notify the appropriate utility facility owner, the Owner and appropriate regulatory agencies. The regulatory agencies include: The Texas Railroad Commission and the Texas Commission on Environmental Quality. The Utility Engineer must not resume work until the utility facility owner has determined the corrective action to be taken. The Utility Engineer must be liable for all costs involved in the repair or replacement of the utility facility.
h. Back fill all excavations with appropriate material, compact backfill by appropriate mechanical means, and restore pavement and surface material. The Engineer is responsible for the integrity of the backfill and surface restoration for a period of three years.
i. Furnish and install a permanent above-ground marker (as specified by the Owner), directly above center line of the utility facility.
j. Provide complete restoration of work site and landscape to equal or better condition than before excavation. If a work site and landscape is not appropriately restored, the Utility Engineer must return to correct the condition at no extra charge to the Owner.

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k. Plot utility location position information to scale and provide a comprehensive utility plan signed and sealed by the responsible Engineer. This information must be provided in the latest version of MicroStation and be fully compatible with the OpenRoads civil design system used by the Owner. The electronic file will be uploaded to the Owner's Procore file management system as requested. When requested by the Owner, the locate information must be over laid on the Owner's design plans.
l. Return plans, profiles, and test hole data sheets to the Owner. If requested, conduct a review of the findings with the Owner.
m. Close-out permits as required.

130.6. Utility Adjustment Coordination. (18.3.1) Utility Adjustment Coordination shall include utility coordination meetings with individual utility companies, communication and coordination with utilities, and preparation of utility agreement assemblies including utility agreements, joint use agreements, and advanced funding agreements.

The Engineer is responsible for designating and providing the services of the following individuals or entities:

1. Utility Coordinator: individual or entity performing Utility-related Services that are not required to be performed by a licensed engineer under Texas law.
2. Utility Engineer: individual or entity performing Utility-related Services that are required to be performed by a licensed engineer under Texas law.

A. Utility Coordination

The Utility Coordinator shall perform utility coordination and liaison activities with involved utility owners, their consultants, and the Owner to achieve timely project notifications, formal coordination meetings, conflict analysis and resolution.

a. The Utility Coordinator shall coordinate all activities with the Owner, or their designee, to facilitate the orderly progress and timely completion of the project design phase. The Utility Coordinator shall be responsible for the following:
    i. Work Plan. Coordinate a work plan including a list of the proposed meetings and coordination activities, and related tasks to be performed, a schedule and an estimate. The work plan must satisfy the requirements of the project and must be approved by the Owner prior to commencing work.
    ii. Orientation. Prepare and present, in collaboration with Owner staff, instruction and orientation sessions as required by the Owner. The instruction shall introduce the subsurface utility engineering process, demonstrate the technology, and facilitate the preparation of work orders, billings, and contract related documentation.
    iii. Initial Project Meeting. Attend an initial meeting and an on-site inspection (when appropriate) to ensure familiarity with existing conditions, project requirements and prepare a written report of the meeting.

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iv. External Communications. The Utility Coordinator shall coordinate all activities with the Owner and its consultants or other contractors or representatives, as authorized by the Owner. Also, the Utility Coordinator shall provide the Owner copies of diaries, correspondence, and other documentation of work- related communications between the Utility Coordinator, utility owners and other outside entities when requested by the Owner.

v. Permits and rights of entry. Obtain all necessary permits from city, county, municipality, railroad, or other jurisdiction to allow the Engineer to work within existing streets, roads or private property for additional designating and/or subsurface utility locating.

vi. Progress Meetings. The Utility Coordinator shall implement a schedule of periodic meetings with each utility company and owner or owner's representatives for coordination purposes. Such meetings shall commence as early as possible in the design process and shall continue until completion of the project. The Utility Coordinator shall notify the Owner at least two (2) business days in advance of each meeting to allow the Owner the opportunity to participate in the meeting. The Utility Coordinator shall provide and produce meeting minutes of all meetings with said utility companies, owners or owners' representatives within seven (7) business days. The frequency of such meetings shall be appropriate to the matters under discussion with each utility owner.

b. As required by the Owner the Utility Coordinator shall coordinate with the local utilities committees to present a footprint of the Owner's projects with represented utility companies and owners. The Utility Coordinator shall also coordinate with any other utility committees which may include county, city, or other officials, if needed.

c. The Utility Coordinator shall provide initial project notification letters to all affected utility companies, owners, and other concerned parties.

d. The Utility Coordinator shall provide the Owner and all affected utility companies and owners a Utility Contact List for each project with the following information: (i) Owner's Name; (ii) Contact Person; (iii) Telephone Numbers; (iv) Emergency Contact Number; (v) E-mail addresses; (vi) as well as all pertinent information concerning their respective affected utilities and facilities, including but not limited to: size, number of poles, material, and other information which readily identifies the utilities companies' facilities.

e. The Utility Coordinator shall advise utility companies and owners of the general characteristics of the Project and provide an illustration of the project footprint for mark-up of the utility facility locations that occupy the project area.

130.7. Access Management.

The Engineer shall coordinate and evaluate access management within the project limits in accordance with the latest State Access Management Manual or as directed by the Owner.

FUNCTION CODE 145(145, 164) – MANAGING CONTRACTED/DONATED PE

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CONTRACT MANAGEMENT AND ADMINISTRATION

145.1. Contract Management and Administration

The Engineer shall:

A. Act as an agent for the Owner when specified in a task order.
B. Produce a complete and acceptable deliverable for each environmental service performed for environmental documentation.
C. Incorporate environmental data into identification of alternatives.
D. Notify the Owner of its schedule, in advance, for all field activities.
E. Notify the Owner as soon as practical, by phone and in writing, if performance of environmental services discloses the presence or likely presence of significant impacts (in accordance with 40 Code of Federal Regulations (CFR) 1500-1508). Inform the Owner of the basis for concluding there are significant impacts and the basis for concluding that the impacts might require mitigation.
F. Notify the Owner as soon as practical, by phone and in writing, if performance of environmental services results in identification of impacts or a level of controversy that might elevate the transportation activity's status from a categorical exclusion or environmental assessment. The Owner will reassess the appropriate level of documentation.

145.2. Project Management and Administration

The Engineer, in association with the Owner's Project Manager shall be responsible for directing and coordinating all activities associated with the project to comply with Owner policies and procedures, and to deliver that work on time.

Project Management and Coordination. The Engineer shall coordinate all subconsultant activity to include quality of and consistency of plans and administration of the invoices and monthly progress reports. The Engineer shall coordinate with necessary local entities.

The Engineer shall:

- Prepare weekly written progress reports for each project, using the template provided by the GEC.
- Develop and maintain a detailed project schedule to track project conformance to Exhibit C, Work Schedule, for each task order. The schedule submittals shall be hard copy and electronic format.
- Meet on a scheduled basis (weekly) with the Owner to review project progress. Prepare, distribute, and file both written and electronic correspondence.
- Prepare and distribute meeting minutes.
- Document phone calls and conference calls as required during the project to coordinate the work for various team members.
- Provide QC/QA documentation for all submittals, including the sub consultants.

a. **Perform Project Management tasks.** All firms participating in Kyle 2022 Road Bond Projects, either as a Prime Contractor or Subcontractor, must fully utilize Procore construction management software for full project implementation, as directed by the Owner. The Owner will provide Procore access to all firms. The Engineer shall:

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i. Meet on a scheduled basis with Owner to review Project progress. The Engineer will provide meeting summaries within five (5) working days of the meeting to all attendees.
ii. Conduct internal meetings with the consultant design team on a monthly basis or as needed for the duration of the Project.
iii. Provide Contract Administration
iv. Provide Project Management
v. Attend a kick-off meeting with the Owner.
vi. Attend and direct 50%, 90%, and 100% design review meetings.
vii. Update Project design schedule on a monthly basis
viii. Prepare monthly invoice and monthly progress report including monthly updates to design schedule

b. **Baseline Schedule**. Develop and submit for approval a Critical Path Method (CPM) baseline schedule within fourteen (14) calendar days of the Notice to Proceed. Schedule shall be in MS Project or Primavera P6. Modifications to the approved schedule will require approval by the Owner.
i. Submit both pdf and native (.mpp or .xer) copies of the files.
ii. Include all planned work activities and sequences, major milestones, and show Contract completion
iii. Include activities that are the responsibility of the Owner, and estimate the duration for these activities. This time will not count against the Contract time, but is important to track as the critical path may run through them.
iv. Ensure that the activities are broken out to a level of detail that clearly explains the tasks associated with delivering the work product.
v. Provide activity durations in whole calendar days.
vi. Provide a legend for all abbreviations, run date, data date, project start date, and project completion date in the title block of each submittal.
vii. Begin the project schedule on the Notice to Proceed date.
viii. Show a predecessor and successor for each activity with the appropriate activity relationships.
ix. Ensure that all work sequences are logical and can be explained to the Owner if questions arise for clarification or understanding.
x. Do not use activities exceeding 28 calendar days, unless agreed upon with the Owner.

c. Progress Schedule
i. Project schedule updates shall be submitted as part of all invoice approval packages. Invoices submitted without schedule updates will be incomplete and will not be processed until schedule update is submitted.
ii. Submit both the pdf and electronic copy of the project schedule running through the end of each month, due no later than tenth (10^{th}) calendar day of the following month, as it will become a record of the progress achieved on the project.
iii. Once established, the original duration and actual dates of all activities must remain unchanged.

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iv. Revisions to the schedule may be made, but must be listed in a monthly update narrative in the Progress Report with the purpose of explaining the purpose of the revision and description of the impact on the project schedule's critical path and project completion date.

v. Monthly Progress Reports should include:
   1. Completed and planned work
   2. Budget status
   3. Schedule status
   4. Actual start dates for activities started
   5. Actual finish dates for activities completed
   6. The percentage of work completed and remaining duration for each activity started, but not yet completed
   7. Current delays and plans showing how they will be rectified
   8. Potential delays and plans to rectify
   9. Tracking schedule (pdf & mpp/xer)

d. Plan Development and Review Process

i. Engineer may not be compensated for any services performed without a written Notice-to-Proceed.

ii. Each deliverable must be submitted for review and approval by the Owner.

iii. The review process will take place electronically using a Bluebeam session to consolidate comments.

iv. Each submittal shall include a cover letter from the Engineer stating who from the design team performed a Quality Assurance/Quality Control ("QA/QC") check. The QA/QC certification letter must be co-signed by the QA/QC reviewer and the Project Manager. The QA/QC reviewer may not be one of the design team members.

v. Each submittal shall include a revisions log from the Engineer (exported from Bluebeam) that tracks each comment received during previous phases of work. For each comment, the log shall provide the original comment, the status, how it has been implemented into the plans, and approval by the Owner.

vi. Unless otherwise specified by Owner, allow two (2) weeks for the Owner to review and provide written comments and/or approval for each submittal. When comments are received by the Engineer, the Engineer shall schedule a Comment Resolution Meeting with Owner in order to review the comments and clarify understanding of them prior to making design changes. If the Owner requires a resubmittal, submit electronically in Procore for the Owner to review and provide written comments and/or approval.

FUNCTION CODE 160(150) – ROADWAY DESIGN

150.1. DESIGN SURVEY

A. DEFINITIONS

1. Design Survey (15.2.1)

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A design survey gathers data in support of transportation systems design. A design survey includes the research, field work, analysis, computation, and documentation necessary to provide detailed topographic (3- dimensional) mapping of a project site (e.g., locating existing ROW, surveying cross-sections or developing data to create cross-sections and digital terrain models, horizontal and vertical location of utilities and improvements, collecting details of bridges and other structures, review of ROW maps, establishing control points).

B. TECHNICAL REQUIREMENTS FOR DESIGN AND CONSTRUCTION SURVEYS

1. Design surveys must be performed under the supervision of a RPLS currently registered with the TBPELS.
2. All control must meet the accuracy requirements of TxDOT.
3. The Surveyor shall comply with the standards of accuracy for control traverses provided in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
4. Short traverse procedures used to determine horizontal and vertical locations must meet the following criteria:
    a. Short traverses must begin and end on horizontal and vertical ground control as described above.
    b. Required horizontal accuracy (unless otherwise stated):
        i. Bridges and other roadway structures: less than 0.1 feet.
        ii. Utilities and improvements: less than 0.2 feet.
        iii. Cross-sections and profiles: less than 1 foot.
        iv. Bore holes: less than 3 feet.
    c. Required vertical accuracy:
        i. Bridges and other roadway structures: less than 0.02 feet.
        ii. Utilities and improvements: less than 0.1 feet.
        iii. Cross-sections and profiles: less than 0.2 feet.
        iv. Bore holes: less than 0.5 feet.

C. DATA REQUIREMENTS FOR DESIGN SURVEYS

1. Planimetric DGN files must be fully compatible with the version of the MicroStation graphics program currently used by TxDOT without further modification or conversion.
2. Electronically collected and processed field survey data files must be fully compatible with TxDOT's computer systems without further modification or conversion. All files must incorporate only those feature codes currently being used by TxDOT.
3. Digital terrain models (DTMs) must be fully compatible with the version of the Bentley OpenRoads civil design system currently used by TxDOT without further modification or conversion. All DTM must be fully edited to provide a complete digital terrain model with all necessary break lines.

150.2. DESIGN SURVEY (15.2.1)

A. TASKS TO BE COMPLETED

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Design Surveys

If requested by the Owner, the Surveyor shall perform one or more Design Surveys. Design Survey tasks include the following:

1. Collect data to create cross-sections and DTMs.
2. Locate existing utilities.
3. Locate existing improvements.
4. Provide details of existing bridge structures, including bridge limits, bents, columns, retaining walls, and natural ground elevations.
5. Locate details of existing drainage features including culverts, manholes, retention and detention ponds, flowlines, and associated features.
6. Locate all waters of the United States (WOTUS), including wetlands.
7. Review existing ROW maps and locate the existing ROW.

a. Review existing ROW maps

The Surveyor shall review ROW maps prepared by others for completeness using the current schematic and the checklist provided by the TxDOT district.

b. Locate existing ROW

The Surveyor shall resurvey the existing ROW where it is necessary to update or redefine ROW lines. All standard surveying procedures must be adhered to including record research, recovering existing monuments, and replacing monuments as appropriate. The Surveyor shall prepare an abstract map, preliminary map, final map, GIS graphics file, and a Surveyor's report. The final map must also include a monument table showing the property monuments that were found and set and certified by the Surveyor. The Surveyor shall prepare maps either in standard map sheets format or roll map format as requested by the Owner.

8. Locate boreholes.
9. Perform hydrographic surveys, according to details requested by the Owner
10. Verify the condition and usefulness of existing control points including verification of the values. Establish additional control as needed. Tie to other control points in the project vicinity including points established by the NGS, the Federal Emergency Management Agency (FEMA), and any other local entities as directed by the Owner.
11. Update existing control information and prepare new survey control data sheets, as directed by the Owner to be included in the construction plan set as described below:
    a. The Surveyor shall prepare, sign, seal, and date a survey control index sheet and horizontal and vertical control sheet(s) to be inserted into the plan set.
    b. The survey control index sheet provides an overview of the primary project control and must include:
        i. An unscaled vicinity map showing the general location of the project in relation to nearby towns or other significant cultural features.
        ii. A scaled project map showing the extents of the project and the location of the primary control points. The map must show street networks, selected street names, control point identification, and significant cultural features necessary to provide a general location of the primary control.
        iii. A table containing the primary control point values including the point number, northing, easting, elevation, stationing, and stationing offset values.

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iv. Map annotation including a graphic scale bar, north arrow, and standard title block. The title block shall contain a section for the OWNER, city, and roadway name. The title block shall also contain a section for a Texas registered engineer to sign, seal and date the sheet to include the following statement, "The survey control information has been accepted and incorporated into this PS&E." The required format of the survey control index sheet can be downloaded from the TxDOT website.

v. In the title block under the heading "Notes", identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used, and unit of measure. The Surveyor shall include a note stating that the coordinates re State Plane and a notation specifying either grid or surface adjusted coordinates.

c. The Surveyor shall prepare horizontal and vertical control sheets providing detailed information about the construction, location, and monumentation of the primary control, which must include:

i. An unscaled location map for each primary control point showing the location of the monument in relation to physical features located in the vicinity. The location map must include a north arrow, the monument designation, the monument northing, easting, and elevation.

ii. Directly below the location map a text description of the monument including size, material and construction followed by a description of the location of the monument starting with the county and state followed by a description suitable to locate the monument on the ground.

iii. Map annotation including a graphic scale bar, north arrow, and a standard title block. The title block must contain a section for the Owner, city, and roadway name and contain a section for a Texas registered engineer to sign, seal and date the sheet to include the following statement, "The survey control information has been accepted and incorporated into this PS&E." The required format of the survey control index sheet can be downloaded from the TxDOT website.

iv. In the title block under the heading "Notes", identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used, and unit of measure. The Surveyor shall include a note stating that the coordinates are either grid or surface adjusted coordinates.

150.4. DELIVERABLES FOR DESIGN AND CONSTRUCTION SURVEYS

The Surveyor shall prepare and submit the deliverables as specified in individual work authorizations for design surveys and construction surveys. The deliverables might be any combination of the following:

A. Digital terrain models (DTM) and the triangular irregular network (TIN) files in a format acceptable by the Owner.

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B. Maps, plans, or sketches prepared by the Surveyor showing the results of field surveys.
C. Computer printouts or other tabulations summarizing the results of field surveys.
D. Digital files or media acceptable by the Owner containing field survey data (ASCII data files).
E. Maps, plats, plans, sketches, or other documents acquired from utility companies, private corporations, or other public agencies, the contents of which are relevant to the survey.
F. Field survey notes, as electronic and hard copies.
G. TxDOT Form 2462 for each primary and secondary control point. This form must be submitted in printed format on letter (i.e., A-size) and submitted electronically in PDF format.
H. A digital and hard copy of all computer printouts of horizontal and vertical conventional traverses, GPS analysis and results, and survey control data sheets.
I. All GEOPAK files and OpenRoads files.
J. Survey reports in a format requested by the Owner.

150.5. MAPPING (15.3)

Mapping includes the geospatial data collection and mapping by means of aerial photogrammetry, terrestrial (close range) photogrammetry, terrestrial LiDAR, mobile LiDAR, and other remote sensing technologies.

A. PURPOSE

The purpose of mapping is to provide map and related data to support transportation projects including project design and other uses.

B. DEFINITIONS

1. Aerial Photogrammetry (15.3.1) – Aerial Photogrammetry means the collection and processing of photography acquired from an airborne platform to develop DGN and DTM files.
2. Terrestrial Photogrammetry (15.1.2) – Terrestrial Photogrammetry means the collection and processing of photography acquired at or near ground level to develop DGN and DTM files.
3. Airborne LiDAR (15.3.4) – Airborne LiDAR means laser scanning equipment mounted on a helicopter or other airborne platform to collect data to process for DGN and DTM files.
4. Terrestrial LiDAR (15.3.3) – Terrestrial LiDAR means laser scanning equipment operated from a stationary base on the earth's surface to collect data to process for DGN and DTM files.
5. Mobile LiDAR (15.3.4) – Mobile LiDAR means laser scanning equipment mounted on a moving vehicle operating on the earth's surface to collect data to process for DGN and DTM files.
6. UAS means Unmanned Aircraft Systems (e.g., drones).
7. UAS LiDAR means laser scanning equipment on an unmanned aerial vehicle (e.g., drones) to collect data to process for DGN and DTM files.

150.6. AERIAL MAPPING USING A METRIC CAMERA AND MANNED AIRCRAFT

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Aerial mapping using a metric camera and manned aircraft includes the collection of digital aerial imagery using a calibrated large-format metric aerial camera, performing relative orientation of the imagery through the collection of tie and pass points between adjacent aerial photo frames, performing a least- squares bundled absolute orientation adjustment using ground control points supplemented with airborne GPS and inertial measurement unit (IMU) data, and deriving data from the processed imagery including compilation of planimetric and topographic maps, creation of point cloud digital elevation model (DEM) and digital terrain model (DTM) data, and production of orthophotography.

The Surveyor shall provide the services of a certified Photogrammetrist to perform or oversee the tasks under function code 150.6. The Surveyor remains ultimately responsible and shall ensure that the work is performed as required.

A. PURPOSE

The purpose of aerial mapping using a metric camera and manned aircraft is to provide map and related data to support transportation projects including project design and other uses.

B. DEFINITIONS

In 150.6, 150.7, and 150.8 the following definitions apply:

1. Photogrammetrist means an American Society for Photogrammetry and Remote Sensing (ASPRS) Certified Photogrammetrist with a current certification.
2. Mapping Scientist means an American Society of Photogrammetry and Remote Sensing (ASPRS) Certified Scientist-UAS with a current certification.
3. Metric Aerial Photograph means a vertical photograph taken from a manned aircraft using a large format calibrated digital metric aerial mapping camera.
4. Non-Metric aerial photograph means a vertical or oblique photograph taken from a fixed- or rotary-wing unmanned aircraft system (UAS) aircraft using a non-metric small format consumer-grade digital camera.
5. Large-format digital metric camera means a camera using charge- coupled device (CCD) or complementary metal oxide semiconductor (CMOS) technology to capture an image with a minimum final image size of 11500 by 7500 pixels.
6. Analytical triangulation means the process of developing absolute orientation parameters for individual photogrammetric stereo models through the use of image tie and pass points combined with ground control in a fully weighted least-squares bundle adjustment. Airborne GPS and IMU data may be used to reduce the number of ground control points.
7. Ground control means points established on the ground by the Surveyor and for which the Northing, Easting, and Elevation coordinates have been determined sufficient in number and geospatial distribution to allow analytical triangulation and mapping to meet the required project accuracy. Ground control can be targeted using paint or other marker material or can be non-targeted.
8. Airborne GPS/IMU – An airborne GPS receiver on-board the aircraft recording GPS and orientation data to be included in the analytical triangulation with the purpose of reducing the number of ground control points required for a metric aerial mapping task. IMU data to

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supplement the analytical triangulation is optional and its use is at the discretion of the Certified Photogrammetrist or Mapping Scientist.

9. KML means an uncompressed Google Keyhole Markup Language file, which is a two- or three- dimensional map showing a location on the earth.

10. KMZ means a compressed Google Keyhole Markup Language file, which is a two- or three- dimensional map showing a location on the earth.

11. DEM means digital elevation model, which is a three-dimensional DGN and/or point cloud in ASPRS LAS 1.2 file format containing all features located in the project area including features both on and above the ground surface.

12. DTM means digital terrain model, which is a three-dimensional DGN and/or point cloud in ASPRS LAS 1.2 format containing only features located on the ground surface.

13. Field Check means a ground survey validation of the deliverable map product with the purpose of ensuring that the required mapping accuracy has been met.

14. Flight Map means a map depicting the flight line and ground control layout over the project area.

15. Low Altitude Metric Aerial Photography means a metric aerial photography with a nominal ground pixel size of 5 cm or less.

16. DGN means a two or three-dimensional graphics file produced using Bentley MicroStation. The file may contain features and improvements plotted in a horizontal plane along the N and E axes which correspond to the Texas Coordinate System. The file may contain 2D or 3D elements representing topographic, existing, proposed, schematic, and general layout features.

17. Medium Altitude Photography means aerial photography with a film photo scale of 1:12,000 or a digital image with ground pixel size of 20 cm.

18. Project Photo Length means the distance over which photographs are required to be taken.

C. PROCEDURE FOR AERIAL MAPPING USING A METRIC CAMERA AND MANNED AIRCRAFT

1. Ground Control

The positioning and density of ground control is at the discretion of the Photogrammetrist. Ground control is required to be sufficient to meet the accuracy standard required for the final mapping products. Chapter 3 of the TxDOT Survey Manual provides guidance for the location and density of the ground control. The Photogrammetrist must determine the approximate position for ground control points. The Surveyor shall locate and mark the ground control points in the field using surveying methods.

2. Metric Digital Aerial Photography

The Photogrammetrist must acquire metric digital aerial photography using a large format calibrated metric aerial mapping camera. Unless otherwise stated, the imagery will be low altitude with a maximum nominal ground sampling distance of 5.0 cm. The Photogrammetrist must ensure that all imagery acquisition requirements including all flight parameters are met such that the imagery is suitable for intended use.

3. Analytical Triangulation

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The Photogrammetrist must process the metric digital aerial photography, ground control, and airborne GPS/IMU data (if collected) to develop an absolute orientation of the imagery suitable for map compilation at the required accuracy.

4. Aerial Mapping

The Photogrammetrist must prepare the following:

a. A two-dimensional DGN file containing planimetric map features.
b. A three-dimensional DGN file containing DTM features.
c. Orthophotography

The Photogrammetrist must provide orthorectified aerial imagery covering the project area.

5. TECHNICAL REQUIREMENTS

Aerial mapping using a metric camera and manned aircraft must be performed under the direct supervision of an ASPRS Certified Photogrammetrist.

6. Unless otherwise stated, aerial mapping must meet or exceed the requirements for ASPRS Class 1 mapping at a 1 inch = 40 feet equivalent scale with a one-foot indicated contour interval.

D. DATA REQUIREMENTS

1. Planimetric DGN files must be fully compatible with the current Bentley MicroStation version graphics program used by the Owner without further modification or conversion.
2. Electronically collected and processed field survey data files must be fully compatible with the Owner's computer systems without further modification or conversion. All files must incorporate only those feature codes currently being used by the Owner.
3. DTM must be fully compatible with the current version of Bentley OpenRoads civil design system used by the Owner without further modification or conversion. All DTM must be fully edited to provide a complete digital terrain model with all necessary break lines.
4. File features and level structure must be in accordance with TxDOT's current photogrammetry mapping legend.
5. Minimum text size is 0.1 inches when plotted at a scale of 1 inch = 40 feet.

E. DELIVERABLES FOR AERIAL MAPPING USING A METRIC CAMERA AND MANNED AIRCRAFT

The Photogrammetrist must submit the following:

1. Digital orthophotography uploaded to Owner's Procore file management system in Tagged Image File format (TIF) compatible with Bentley MicroStation software and including georeferenced world files.
2. A photo index map in DGN and KMZ format showing the location of each digital image frame. The index map must be overlaid on a base map to provide general location information.
3. An orthophoto index map uploaded to Owner's Procore file management system showing the location of each orthophoto panel. The PDF format index map must be overlaid on a base map to provide general locational information.

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4. An analytical triangulation report signed and sealed by the Photogrammetrist providing a narrative of the aerial photography project and processing results. The report must include the number of flight strips, overall number of photo frames, the number of ground control points used, the use of airborne GPS and IMU data, and the results of the fully weighted least-squares bundled adjustment. The Photogrammetrist must include a description and results of the analytical triangulation.
5. DGN files for the planimetric and DTM mapping.

150.8. FIELD CHECK SURVEY FOR AERIAL MAPPING USING MANNED AIRCRAFT OR UAS

Field checking of aerial mapping projects involves surveying a statistical sampling of discreet features shown on the map. It is a collaborative effort between the Photogrammetrist or Mapping Scientist-UAS and the Surveyor to validate that the map derived photogrammetrically meets the required accuracy standard. Because not all features shown on the map are good candidates for checking, it is necessary for the Photogrammetrist or Mapping Scientist to select discreet and unambiguous points that can then be surveyed and effectively evaluated between both the photogrammetric and field survey data sets.

The Photogrammetrist or Mapping scientist-UAS will provide a minimum of twenty 20 check point locations randomly distributed throughout the mapping area. The descriptions of the points must be sufficient to eliminate any ambiguity of the exact point to be surveyed.

A. PURPOSE

The purpose of a field check for aerial mapping is to validate that map accuracy requirements have been met.

B. DEFINITIONS

In 150.8, the following definition applies:

Check Point – A randomly distributed point captured in the DGN mapping file selected by the Photogrammetrist or Mapping Scientist and provided to the Surveyor to be used to verify that the mapping accuracy requirement has been met.

C. PROCEDURE TO FIELD CHECK SURVEY FOR AERIAL MAPPING USING MANNED AIRCRAFT OR UAS

1. The Photogrammetrist or Mapping Scientist-UAS must prepare and provide the Surveyor a listing of points to be validated in the field. Sufficient detail and description of the point is required to eliminate the possibility of a misidentification of the point during the field survey. A minimum of 20 horizontal and 20 vertical check points are required. Any single point can be used for both horizontal and vertical data as appropriate. A check point must not be part of the analytical triangulation least-squares adjustment.
2. The Surveyor shall locate and measure the provided validation points on the ground using equipment and methodologies with a higher level of accuracy than the map being checked.
3. Using the results from the field survey, the Surveyor shall prepare a map accuracy assessment report detailing the results of the field check. The report must include the number

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of check points used, the field surveying technique used for validation, and the results of the root mean square error (RMSE) and 95% confidence computations.

4. Using the validation data provided by the Surveyor, the Photogrammetrist or Mapping Scientist must prepare a final report detailing the results of the map check. The report must include both the following Statements of Accuracy, if applicable:

a. "This map was compiled to meet the ASPRS Standard for Class 1 map accuracy."

b. "This map was checked and found to conform to the ASPRS Standard for Class 1 map accuracy."

D. TECHNICAL REQUIREMENTS The Surveyor shall:

1. Determine the northing, easting, and elevations of the check points provided by the Photogrammetrist or Mapping Scientist using a surveying method of greater accuracy than that used to produce the map being checked.

2. Perform RMSE and 95% confidence computations on the check points using the following methodology:

For each horizontal coordinate, the Surveyor shall subtract the Northing value of the map coordinate from the Northing value derived from the field survey and square the resulting value. The Surveyor shall perform the same operation for the Easting coordinate and then add the two squared values. The Surveyor shall repeat the procedure for each

check point. The Surveyor shall add up all the resulting squared values and divide the sum by the number of check points used (i.e., average the squares). Finally, the Surveyor shall calculate the square root of the average. The Surveyor shall report the resulting value as the RMSE value for the horizontal check point analysis. The Surveyor shall multiply the final RMSE value by 1.7308 and shall report the resulting value as the 95% confidence value for the horizontal check point analysis.

For each vertical coordinate, the Surveyor shall subtract the elevation value of the map coordinate from the elevation value derived from the field survey and square the resulting value. The Surveyor shall repeat the procedure for each check point. The Surveyor shall add up all the resulting squared values and divide the sum by the number of check point used (i.e., average the squares). Finally, the Surveyor shall calculate the square root of the average. The Surveyor shall report the resulting value as the RMSE value for the vertical check point analysis. The Surveyor shall multiply the final RMSE value by 1.96 and shall report the resulting values as the 95% confidence for the vertical check point analysis.

3. Provide the results of the RMSE and 95% confidence computations to the Photogrammetrist.

E. DATA RQUIREMENT

The Surveyor shall deliver the result of the field check as a report in PDF format.

F. DELIVERABLES

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The Photogrammetrist or Mapping Scientist must provide a map accuracy assessment report detailing the methodology used and results of the map accuracy assessment.

150.9. HORIZONTAL AND VERTICAL CONTROL FOR AERIAL MAPPING

Placement and survey of horizontal and vertical control for aerial mapping establishes ground control for aerial mapping projects.

A. PURPOSE

The purpose of an aerial photography control survey is to provide ground control for aerial mapping projects.

B. DEFINITIONS

In 150.9, Aerial Photography Control Survey means reconnaissance, field work, analysis, computation, and documentation necessary to provide horizontal and vertical position of specific ground points. The ground control points are used in photogrammetric processing.

C. PROCEDURE FOR HORIZONTAL AND VERTICAL CONTROL FOR AERIAL MAPPING

The Surveyor shall:

1. Prepare and submit for approval an aerial ground control layout in DGN and KML format based on the target positions selected by the Certified Photogrammetrist. The layout must show the location of the proposed primary project control and aerial ground control points.
2. Establish and determine the horizontal and vertical coordinates of the primary project control points and aerial ground control points.
3. Place aerial ground control targets at the point location and maintain the targets until the aerial flight has been completed.

D. TECHNICAL REQUIREMENTS

1. Aerial photography control surveys must be performed under the direct supervision of a RPLS currently registered with the TBPELS.
2. The horizontal and vertical coordinates of the aerial control points must be based on acceptable methods, conducted by the Surveyor, and must meet the standards of accuracy as set forth below:

Survey Level 3 accuracy, as described in the TxDOT Survey Manual, latest edition, or the equivalent level of accuracy described in the TSPS Manual of Practice for Land Surveying in the State of Texas.

E. DATA REQUIREMENT

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The Surveyor shall perform post processing of field data, which will be reviewed by the Owner. Data processed by standard calculators, computers, and other business hardware and software normally maintained and used by the Surveyor will be considered acceptable.

F. DELIVERABLES

The Surveyor shall submit the following:

1. A final aerial control point layout in DGN and KML format showing the location of the primary control and target points labeled with their respective alpha-numeric designation.
2. A plot and computer graphics of a B-size index map showing an overall view of the project and the relationship of primary monumentation, and control used in the preparation of the project, signed and sealed by a RPLS, and as directed by the Owner.
3. A plot and computer graphics of a B-size horizontal and vertical control sheet showing the primary survey control monumentation used in the preparation of the project, signed, and sealed by a RPLS, and as directed by the Owner.
4. An A-size data sheet for each aerial ground control point, which must include a location sketch, a physical description of the point, surface coordinates, elevation, and datums used.
5. Graphics files and scanned images of the control data sheets, uploaded to Owner's file management system.
6. A written statement describing the datum used along with copies of all relevant NGS and data sheets.
7. A written tabulation of all aerial control points with their respective alphanumeric designations and horizontal and vertical coordinates.

150.10. MAPPING SERVICES TO BE PROVIDED

The Surveyor shall provide the following mapping services as requested by the Owner:

A. AERIAL PHOTOGRAMMETRY

The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) MicroStation graphics files and orthophotography files covering the specific work location, meeting standards and specifications as required.

B. TERRESTRIAL PHOTOGRAMMETRY

The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) MicroStation graphics files covering the specific work location, meeting standards and specifications as required.

C. TERRESTRIAL LIDAR

The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) MicroStation graphics files covering the specific work location, meeting standards and specifications as required.

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D. MOBILE AND AERIAL LIDAR

The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) MicroStation graphics files covering the specific work location, meeting standards and specifications as required.

E. MAPPING TASKS TO BE COMPLETED

The Surveyor shall perform the following tasks as requested for each mapping service.

1. Horizontal and Vertical Control for Aerial Mapping

a. The Surveyor shall prepare and submit an aerial ground control layout showing the proposed aerial ground control points, for approval by the Owner.

b. The Surveyor shall establish and determine the coordinates of the aerial ground control points.

c. The Surveyor shall establish and determine the elevations of the aerial control points.

d. The Surveyor shall place aerial ground control target material at the established points and maintain until the photographs from the flight are approved.

e. The Surveyor shall prepare, to scale, a survey control index sheet for the aerial control points.

f. The Surveyor shall be prepared to locate additional points, as determined by the American Society for Photogrammetry and Remote Sensing (ASPRS) certified Photogrammetrist, if any panel points are not visible from the air.

2. Deliverables for Horizontal and Vertical Control for Aerial Mapping The Surveyor shall provide the following deliverables:

a. A final aerial control point layout showing the location of the points and labeled with their respective alpha-numeric designations.

b. A plot and computer graphics of a B-size index map showing an overall view of the project and the relationship of primary monumentation and control used in the preparation of the project, signed and sealed by a RPLS, and as directed by the Owner.

c. An A-size data sheet for each aerial ground control point, which must include a location sketch, a physical description of the point, surface coordinates, the elevation, and datums used.

d. Graphics files and scanned images of the control data sheets, uploaded to Owner's file management system.

e. A written statement describing the datum used along with copies of all relevant NGS and data sheets.

f. A written tabulation of all aerial control points with their respective alpha-numeric designations, surface coordinates (for center panel points only), and elevations.

3. Prepare Planimetric and DTM Data

The Surveyor shall perform the following tasks for each requested mapping service:

a. The Surveyor shall provide low altitude aerial mapping to cover an area 1,200 feet wide centered on the roadway unless otherwise specified, with cross flights as directed by the Owner.

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The Surveyor shall follow all standards and specifications in accordance with established guidelines and recommended or approved by the Owner.

b. The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) Bentley MicroStation graphics files and orthophotography files covering the specific work location, meeting standards and specifications as required.

i. The Surveyor shall collect supplemental planimetric and DTM survey data.
ii. The Surveyor shall update aerial 2D and 3D mapping with ground surveys.
iii. The Surveyor shall maintain the current DGN level structure and legend used by TxDOT.
iv. The Surveyor shall maintain the current DTM level structure and legend used by TxDOT.
v. The Surveyor shall use file features and level structures in compliance with TxDOT's current photogrammetry mapping legend.
vi. The Surveyor shall locate, and field check random points.

c. The Surveyor shall conduct quality assurance and quality control (QA/QC) for each task performed and prepare a Surveyor's Report.

Deliverables for Planimetric and DTMs The Surveyor shall provide the following:

Certification that the photographs or LiDAR imagery were taken on the date indicated, signed by the airplane pilot or aerial photographer.

The DGN, DTM, and TIN files on a medium and in a format acceptable to the Owner, uploaded to Owner's Procore file management system.

Orthophotography (created using the DTM) uploaded to Owner's Procore file management system in tiff format (3 banded) with world files.

TxDOT's photogrammetry mapping legend and supplements.

A tabulation showing the field-check points.

Quality Assurance and Quality Control (QA/QC) and Statement of Map Accuracy.

Statement of map accuracy.

A surveyor's report signed and sealed by an RPLS.

150.11. HORIZONTAL AND VERTICAL CONTROL (15.3.5)

This includes the establishment of horizontal and vertical control for survey projects.

A. OVERVIEW OF HORIZONTAL AND VERTICAL CONTROL

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A horizontal control survey is performed for the purpose of placing geographic coordinates of latitude and longitude on permanent monuments for referencing lower levels of surveys. A projection is used to place the coordinates on a plane of northing and easting values for simplified measurements. Scale and elevation factors are applied to make the distance measurements applicable to the exact location on the working surface and the type of projection chosen is an "equal angle" type.

A vertical control survey is performed for accurately determining the orthometric height (elevation) of permanent monuments to be used as benchmarks for lower quality leveling. Spirit leveling is the usual method of carrying elevations across country from "sea level" tidal gauges. However, Global Positioning System (GPS) can be used indirectly but with less accuracy. Height measurements from the ellipsoid (as opposed to the "sea level" geoid) can be determined very accurately with GPS and only GPS. Trigonometric leveling, with a total station, is not acceptable for vertical control work.

B. DEFINITIONS

1. BM means benchmark, which is a relatively permanent object whose elevation above or below an adopted datum is known.
2. CORS means continuously operating reference station, which is a network of the highest quality horizontal stations, forming the National Spatial Reference System (NSRS).
3. Control Survey means a survey providing positions (horizontal or vertical) of points to which supplemental surveys are adjusted.
4. Datum means a mathematical model of the earth designed to fit part or all of the geoid.
5. Datum Point Rod or Deep Rod Monument means a monument driven to refusal by a power driver, used for major project control.
6. GPS means the Global Positioning System, which is based on a constellation of 24 satellites orbiting the earth at a very high altitude.
7. Horizontal Control Survey means placing geographic coordinates of latitude and longitude on permanent monuments.
8. Level 1 survey means RFP, CORS or major control densification.
9. Level 2 Survey means primary project control.
10. Level 3 Survey means secondary project control.
11. NGS – National Geodetic Survey
12. Type II Monument means a disk driven onto a length of 5/8-inch rebar with the hole filled flush with concrete.
13. Vertical Control Surveys means a survey performed for accurately determining the orthometric height (elevation) of permanent monuments to be used as benchmarks for lower quality leveling.

C. PROCEDURE FOR HORIZONTAL AND VERTICAL CONTROL

1. The Surveyor shall establish horizontal and vertical control points, including offsite points. The Surveyor shall prepare signed survey control data sheets, a survey control index sheet, and a composite layout of the horizontal and vertical controls, and as directed by the Owner.

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2. The Surveyor shall update existing control information and prepare new survey control data sheets, as directed by the Owner, to be included in the construction plan set as described in Item 150.11, D.

D. TECHNICAL REQUIREMENTS FOR HORIZONTAL AND VERTICAL CONTROL

The Surveyor shall adhere to the following technical requirements.

1. Horizontal and vertical controls must be performed under the supervision of a RPLS currently registered with the TBPELS.
2. Horizontal ground control used for design surveys and construction surveys, furnished to the Surveyor by the Owner, or based on acceptable methods conducted by the Surveyor, must meet the standards of accuracy required by the Owner.
   The Surveyor shall comply with the standards of accuracy for horizontal control traverses, as described in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
3. Vertical ground control used for design surveys and construction surveys, furnished to the Surveyor by the Owner or based on acceptable methods conducted by the Surveyor, must meet the standards of accuracy required by the Owner.
   The Surveyor shall comply with the standards of accuracy for vertical control traverses, as described in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
4. Monuments
   The Surveyor shall install survey monuments for a horizontal and vertical control survey that are reasonably permanent and substantial. The monuments shall be easily identified and afforded reasonable protection against damage and or destruction.
   a. Offsite primary control points whether set by GPS or conventional survey methods must be set in pairs approximately 2000 feet apart outside of the project on side roads. Offsite points must be constructed approximately every 2 miles and set approximately 6 inches below natural ground and must be inter-visible between each pair of points.
   b. Secondary control points must be set approximately 6 inches below ground at a maximum distance of 1,500 feet apart.
5. Side shots or short traverse procedures for total stations used to determine horizontal and vertical locations must meet the following criteria:
   a. Short traverses and instrument setups for side shots must begin and end on horizontal and vertical ground control as described above.
   b. Standards, procedures, and equipment (e.g., GPS Equipment, LiDAR, Total Stations) used must be such that horizontal locations relative to the control can be reported within the specification to allow the engineer to accurately create the design to the following limits:
      i. Bridges and other roadway structures: less than 0.02 feet.
      ii. Utilities and improvements: less than 0.2 feet.
      iii. Cross-sections and profiles: less than 0.2 feet.
      iv. Bore holes: less than 0.5 feet.

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c. Standards, procedures, and equipment (e.g., GPS Equipment, LiDAR, Total Stations) used must be such that vertical locations relative to the control may be reported to within 0.02 feet.

6. The Surveyor shall update existing control information and prepare new survey control data sheets, as directed by the Owner, to be included in the construction plan set as described below:
    a. The Surveyor shall prepare, sign, seal, and date a survey control index sheet and horizontal and vertical control sheets to be inserted into the plan set.
    b. The Surveyor shall prepare a survey control index sheet that provides an overview of the primary project control and must include:
        i. An unscaled vicinity map showing the general location of the project in relation to nearby towns or other significant cultural features.
        ii. A scaled project map showing the extents of the project and the location of the primary control points. The map must show street networks, selected street names, control point identification, and significant culture features necessary to provide a general location of the primary control.
        iii. A table containing the primary control point values including the point number, northing, easting, elevation, stationing, and stationing offset values.
        iv. Map annotation including a graphic scale bar, north arrow, and standard TxDOT title block. The title block must contain a section for the district name, city, and roadway name. The title block must also contain a section for a Texas registered engineer to sign, seal, and date the sheet to include the following statement, “The survey control information has been accepted and incorporated into this PS&E”.
        The Surveyor shall download the required format of the survey control index sheet from the TxDOT website.
        v. In the title block under the heading “Notes”, identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used, and unit of measure. The surveyor shall include a note stating that the coordinates are State Plane and a notation specifying either grid or surface adjusted coordinates.

E. DATA REQUIREMENTS

The Surveyor shall perform post processing of field data, which will be reviewed by the Owner. Data processed by standard calculators, computers, and other business hardware and software normally maintained and used by the Surveyor will be considered acceptable.

F. TASKS TO BE COMPLETED

The Surveyor shall perform the following tasks:

1. The Surveyor shall establish horizontal and vertical control points, including offsite points. The Surveyor shall prepare signed survey control data sheets, a survey control

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index sheet, and a composite layout of the horizontal and vertical controls, or as directed by the Owner.

2. The Surveyor shall set primary offsite control points in pairs, approximately 2 miles apart outside of the project area.
3. The Surveyor shall set secondary control points approximately 6 inches below ground at a maximum distance of 1,500 feet apart.
4. The Surveyor shall establish horizontal and vertical control from the TxDOT Virtual Reference Station (VRS) Network, or as directed by the Owner.
5. The Surveyor shall tie and tabulate horizontal and vertical control to other control points and datums in the vicinity established by other sources such as the National Geodetic Survey (NGS), the Federal Emergency Management Agency (FEMA), TxDOT VRS Network, or as directed by the Owner.

G. DELIVERABLES

The Surveyor shall provide the following:

1. A B-size plot and MicroStation graphics files of the index map showing an overall view of the project and the relationship of the primary monuments and control points established for the project, signed and sealed by a registered professional land surveyor (RPLS), or as directed by the Owner.
2. One A-size data sheet for each control point which shall include, but need not be limited to, a location sketch, a physical description of the point, surface coordinates, the elevation, and the datum used.
3. Graphics files and scanned images of the control data sheets uploaded to Owner's file management system.
4. A written statement describing the datum used, signed and sealed by a RPLS, along with copies of all relevant NGS and TxDOT data sheets.

FUNCTION CODE 160(160) - ROADWAY DESIGN

ROADWAY DESIGN CONTROLS

160.10. Pavement Design.

The Engineer shall prepare pavement designs for this project in accordance with the latest edition of TxDOT's Pavement Manual. Proposed pavement designs include permanent pavement, interim condition transition pavement, and temporary detour pavement. The latest edition of TxDOT's Pavement Manual may be accessed at http://www.txdot.gov/business/resources.html.

The Engineer shall submit a signed and sealed pavement design report to the Owner. The pavement design report must be reviewed and approved by the Owner prior to its implementation. The pavement design report must document assumptions and design considerations. The pavement design report must include the following:

- Cover sheet with roadway name, geographical limits, and signatures of persons involved in the preparation and approval
- Existing and proposed typical sections

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- Soils map of the project area with a brief description of each type of soil located within the project area
- Design input values and output
- Conclusion consisting of recommended pavement design or designs based on the data, analyses, and procedures included in the report.
- Pavement design details specified for each location that includes structural layer materials, general specifications, and layer thicknesses
- Relevant pavement evaluation data (structural and functional) and condition information on adjacent roads
- Site conditions that might influence the design and performance of pavements
- Relevant geotechnical data and drainage requirements including boring logs, laboratory soil test results, active or passive drainage system design, ground penetrating radar (GPR) data, falling weight deflectometer (FWD) data, dynamic cone penetrometer (DCP) data, pavement coring and report log (up to 5-foot depth), and soil classifications with Atterberg limits
- Results of the field explorations and testing of pavement sections
- Recommended pavement rehabilitation methods and designs for new pavements
- Design criteria used in determining pavement designs, including traffic loads, pavement material characterization, environmental conditions, and pavement design life
- Design summary from the program used to design (e.g., FPS 21, DARWin, TxCRCP - ME, MODULUS 6.1)
- Life-cycle cost analysis, as required by TxDOT's Pavement Manual, including the periods for resurfacing, reconstruction, and other rehabilitation measures and what these activities are likely to entail
- Traffic control plans required for subsurface geotechnical and pavement investigations
- Other considerations used in developing the pavement designs, including subgrade preparations and stabilization procedures

FUNCTION CODE 160(163) - ROADWAY DESIGN

MISCELLANEOUS (ROADWAY)

The Engineer shall provide the following services:

163.1. Utility Engineering. Utility Engineering includes the identification of utility conflicts, coordination, compliance with the UAR, and resolution of utility conflicts. The Engineer shall coordinate all activities with the Owner to facilitate the orderly progress and timely completion of the project design phase.

A. Coordination of Engineering Activities

1. Utility Layout:

The Utility Engineer must maintain a utility layout in the current approved version of OpenRoads Civil Design system used by the Owner. This layout must include all existing utilities which are to remain in place or be abandoned, and all adjusted utilities. This layout must be utilized to monitor the necessity of relocation and evaluate alternatives. The Utility Engineer must utilize the layout of existing utilities as prepared, if available, and make a determination of the following:

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a. Facilities in conflict with the proposed project that are to be relocated.
b. Facilities to be removed or abandoned in place.
c. Facilities that are going to be moved underground.
d. Facilities to remain in service and in place because of roadway design adjustments and meeting the current UAR.
e. If there are additional facilities, not shown in the SUE documents, which require relocation, the Engineer shall coordinate this information with the Owner immediately upon discovery.
f. For facilities with unknown owner that require utility accommodation, the Utility Engineer must coordinate with the Owner for possible hot tap and removal. Engineer shall furnish all documents and exhibits to the Owner. When construction sequence and adjustments will be included in the PS&E package; the Utility Engineer must coordinate with the PS&E design engineer for the construction sequence in regard to the utility adjustments. The Utility Engineer must include this in the PS&E package.

B. Public and Individual Meetings with Utility Companies

As required, to facilitate utility conflict identification and resolution, the Engineer shall:

1. Establish contact with all existing utilities within and adjacent to the project limits and set up utility coordination meetings to discuss concepts and options for construction.
2. Schedule all utility coordination meetings and ensure compatibility with the schedule of the Owner.
3. Set agenda for all coordination meetings as directed by the Owner.

Establish and promote the desired agenda and methodologies for utility construction within the project limits. Typical strategies include Avoid- Minimize-Accommodate (AMA). The agenda and methodologies may allow the construction of utilities as a part of the roadway contract.

4. Work Plan: Develop a work plan including a list of the tasks to be performed, a schedule, and an estimate. The work plan must satisfy the requirements of the project and must be approved by the Owner prior to commencing work.
5. Progress Meetings: Meet with the Owner and, if applicable, design consultants, periodically to coordinate the work effort and resolve problems. Prepare a written report of all progress meetings and provide the report to the Owner. During the progress meetings, the Utility Engineer must review:

    a. Activities completed since the last meeting
    b. Problems encountered.
    c. Late activities.
    d. Activities required by the next progress meeting.
    e. Solutions for unresolved and/or anticipated problems.
    f. Information or items required from other agencies/consultants.

Review of Utility's Proposed Adjustments

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Evaluate alternatives: The Utility Engineer must evaluate alternatives in the adjustment of utilities balancing the needs of both the Owner and the Utility. The Utility Engineer must use the AMA strategy as part of evaluating the alternatives.

1. Review estimates and schedules: The Utility Engineer must review the utility adjustment estimates for reasonableness of cost and the timely scheduling of the adjustment.
2. The Utility Engineer must review plans for compliance with UAR, Buy America materials, and proposed location data.
3. The Utility Engineer must ensure that utility owners are receiving updates for project design development so that utility owners are reviewing the most current plans, quality and accuracy of utility adjustment data, as well as compliance of UAR, as it pertains to the plans. The responsibility for compliance, quality, and accuracy of utility adjustment plans will remain with the utility company.
4. The Utility Engineer must ensure compliance with the regulations of the most recent edition of the TMUTCD. The Utility Engineer must obtain approval from the Owner concerning the proposed method of handling traffic prior to allowing commencement of work.
5. The Engineer shall not provide services under this contract that are for the sole benefit of a party or parties other than the Owner. The Engineer shall not invoice the Owner for any such services.

C. Utility Engineering VFP-

End Result: Fully reviewed and approved engineering plans (done by utility owners) of constructible utility accommodations.

The Utility Engineer must:

Identify potential conflicts using the AMA process, the design, and SUE.

Avoid – work with designers to avoid conflicts.
Minimize – Cost analyzed of safe available options to minimize cost and project delay.

Notice of Required Accommodation (NORA) sent out and acknowledgement of receipt obtained.
Hold meetings with utilities requiring (NORA) to strategize and program the accommodation
Document all activities.
Track all ROW acquisitions to assist with scheduling accommodations.
Review documentation and justifications for Utility Exceptions.

Deliverables:

The Engineer shall submit the following deliverables to the Owner:

1. Identification of utility conflicts.
2. Composite DGN file showing all utilities with abandoned, removed, and added utilities.

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163.3. Geotechnical Borings and Investigations

The Engineer shall determine the location of proposed soil borings for bridge design, embankment settlement analysis, retaining walls, slope stability and along storm drain alignment in accordance with the latest edition of TxDOT's Geotechnical Manual. The Owner will review and provide comments for a boring layout submitted by the Engineer showing the general location and depths of the proposed borings. Once the Engineer receives the Owner's review comments, the Engineer shall perform soil borings (field work), soil testing, and prepare the boring logs in accordance with the latest edition of TxDOT's Geotechnical Manual and the local TxDOT district's procedures and design guidelines.

All geotechnical work must be performed in accordance with the latest version of TxDOT's Geotechnical Manual. All testing must be performed in accordance with TxDOT's Test Procedures, which are available at https://www.txdot.gov/business/resources/testing.html. American Society for Testing Materials (ASTM) test procedures may be used only in the absence of the TxDOT procedures. All soil classification must be done in accordance with the Unified Soil Classification System.

If applicable, the Engineer shall perform any retaining wall analyses including the settlement analysis. This analysis must include the computation of the factor of safety for bearing capacity, global stability, overturning and sliding. In addition, the Engineer shall include allowable bearing pressure, passive earth pressure, friction factor, settlement analysis (consolidation report), and lateral earth pressure for the retaining walls.

If applicable, the Engineer shall perform soil borings, coring for pavement removal items, piezometric readings, testing and analysis to include slope stability analysis, settlement analysis, and foundation design recommendations along storm drain alignment, retaining walls, overhead sign structures, bridges, embankments and any temporary soil retaining systems.

The Engineer shall provide a signed, sealed, and dated geotechnical report that contains soil boring locations, boring logs, laboratory test results, generalized subsurface conditions, ground water conditions, piezometer data, analyses and recommendations for settlement and slope stability of the earthen embankments, skin friction tables and design capacity curves including skin friction and point bearing. The skin friction tables and design capacity curves must be present for piling and drilled shaft foundation.

If applicable, the Engineer shall perform scour analysis to include Grain Size distribution curves with D50 value.

The Engineer shall sign, seal, and date soil boring sheets to be used in the PS&E package. The preparation of soil boring sheets must be in accordance with TxDOT's District standards.

Foundation Studies: The Engineer shall coordinate with the Owner to determine the location of soil borings to be drilled along the retaining wall alignments. The soil borings must extend a minimum of 35 feet below the footing elevation or deeper as soil conditions warrant. Spacing of soil borings shall not exceed 500 feet. The Engineer shall provide a boring layout for the Owner's review and comment.

The Engineer shall incorporate soil boring data sheets prepared, signed, sealed, and dated by the geotechnical engineer overseeing the work. The soil boring sheets shall be in accordance with the WINCORE software available on the TxDOT website.

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Pavement Design: If applicable, the Engineer shall incorporate the pavement design developed by the Owner. If the pavement design is not available, the Owner may request the Engineer perform pavement design and submit to Owner for review and approval.

Deliverables

Preliminary Pavement Design Report
Geotechnical Report
DGN flies containing drilling log data from Geotechnical analysis

163.9. Compute and Tabulate Quantities. The Engineer shall provide the summaries and quantities within all formal submittals.

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

PROJECT NAME: Bebee Road TO #3

PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASK DESCRIPTION	American Structurepoint Inc.	SAM	Cobbfendley	Raba Kistner	Doucet	Subconsultant 5	Subconsultant 6	TOTAL COSTS BY FC
FEASIBILITY STUDIES (FC 102 (110))	$ 106,015.00	$ -	$ -	$ 12,173.70	$ -	$ -	$ -	$ 118,188.70
SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT (FC 120 (120))	$ 15,385.00	$ -	$ -	$ -	$ 100,115.00	$ -	$ -	$ 115,500.00
RIGHT-OF-WAY DATA (FC 130 (130))	$ 5,980.00	$ 78,303.00	$ 45,679.00	$ -	$ -	$ -	$ -	$ 129,962.00
MANAGING CONTRACTED/DONATED PE (FC 145 (145,164))	$ 92,275.00	$ -	$ 19,162.00	$ -	$ -	$ -	$ -	$ 111,437.00
SURVEYS (FC 160 (150))	$ -	$ 72,469.00						$ 72,469.00
ROADWAY DESIGN CONTROLS (FC 160 (160))	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
(FC 160 (161))	$ -							
SIGNING, PAVEMENT MARKINGS AND SIGNALIZATION (PERMANENT) (FC 160 (162))	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
MISCELLANEOUS (ROADWAY) (FC 160 (163))	$ 6,240.78	$ -	$ 120,352.00	$ -	$ -	$ -	$ -	$ 126,592.78
TRAFFIC MANAGEMENT SYSTEMS (PERMANENT) (FC 160 (165))	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
BRIDGE DESIGN (FC 160 (170))	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SUBTOTAL LABOR EXPENSES	$ 225,895.78	$ 150,772.00	$ 185,193.00	$ 12,173.70	$ 100,115.00	$ -	$ -	**$ 674,149.48**
DIRECT EXPENSES (FC 102)	$ -	$ -	$ -	$ 8,400.00	$ -	$ -	$ -	**$ 8,400.00**
DIRECT EXPENSES (FC 130)			$ 1,856.60					**$ 1,856.60**
DIRECT EXPENSES (FC 145)	$ 690.67	$ 11,461.25	$ 327.00	$ -	$ -	$ -	$ -	**$ 12,478.92**
DIRECT EXPENSES (FC 163)	$ -	$ -	$ 8,797.00	$ -	$ -	$ -	$ -	**$ 8,797.00**
UNIT COST EXPENSES (FC 102)	$ -	$ -	$ -	$ 23,791.88	$ -	$ -	$ -	**$ 23,791.88**
UNIT COST EXPENSES (FC 164)	$ -	$ -	$ 58,748.00	$ -	$ -	$ -	$ -	**$ 58,748.00**
TOTAL	$ 226,586.45	$ 162,233.25	$ 254,921.60	$ 44,365.58	$ 100,115.00	$ -	$ -	**$ 788,221.88**
	28.7%	20.6%	32.3%	5.6%	12.7%			87%

SUMMARY

TOTAL LABOR COSTS FOR PRIME PROVIDER	$ 225,895.78
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME PROVIDER	$ 690.67
SUBCONTRACTS (includes labor costs, direct expenses and unit cost)	$ 561,635.43
GRAND TOTAL	**$ 788,221.88**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

American Structurepoint Inc.

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

	TASKS	SHTS	Principal	QAQC Manager	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Engineering Technician	TOTAL HOURS	TOTAL COST
			$285.00	$280.00	$280.00	$240.00	$190.00	$165.00	$140.00	$120.00	$100.00		
FC 102 (110)	**Feasibility Studies**												
110.1	**Schematic Design Work Outline: Update Design**				1		2	15	31	19	25	93	$ 12,255.00
110.2	**Schematic Design - General Tasks: Update Schematic**				1	1	3	25	38	25	25	118	$ 16,035.00
110.2.I	**Schematic Design - General Tasks: Update Schematic - Traffic/Operational Analysis**					1	15	28	33	13	8	98	$ 14,690.00
110.4	**Geometric Design Schematic**			1	2		6		28	16		53	$ 7,820.00
110.5	**Cross-Sections (365)**				2		10	5	25	25		67	$ 9,785.00
	Earthwork			1	1		2		16	10		30	$ 4,380.00
110.13	**Schematic Design Project Deliverables**			2	1		3		4	1		11	$ 2,090.00
	Design Summary Report (DSR) preparation				1		2	5	7	2		17	$ 2,705.00
	Draft Drainage Report						4	6	7			17	$ 2,730.00
	Draft Traffic Study (incl. RAB's)				5	7	5					17	$ 4,030.00
	Draft Traffic Control Layout				5	15	25	20	10	10		85	$ 15,650.00
	Construction Cost Estimate				1	2	5	10	5	2		25	$ 4,300.00
	90% Submittal - Address 50% Rvw. Cmts.				2	5	10	10	5	5		37	$ 6,610.00
	100% Submittal - Address 90% Rvw. Cmts.				1	2	5	5	2	1		16	$ 2,935.00
SUBTOTAL				4	23	33	97	129	211	129	58	684	**$ 106,015.00**
FC 120 (120)	**Social, Economic and Environmental Studies and Public Involvement**												
Attend Meetings (3 meetings)					8	8		9	4	1		30	$ 6,325.00
Prepare Exhibits					3	3		20	24	7		57	$ 9,060.00
SUBTOTAL					11	11		29	28	8		87	**$ 15,385.00**
FC 130 (130)	**Right-of-Way Data**												
Review Survey					5	1	6	8	10	4		34	$ 5,980.00
													$ -
SUBTOTAL					5	1	6	8	10	4		34	**$ 5,980.00**
FC 145 (145,164)	**Managing Contracted/Donated PE**												
145.1	**Contract Management and Administration**		2		3	1			1	1		8	$ 1,910.00
145.2	**Project Management and Administration**												$ -
	Project Management and Coordination		7		62	8	52	22	20	11		182	$ 38,905.00
	Prepare monthly written progress reports				3							3	$ 840.00
	Develop and maintain project schedule				2		3	4				9	$ 1,790.00
	Meetings (assume 4 total)				7	1	10		8	1		27	$ 5,340.00
	QC/QA documentation (Schematic - Draft and Final submittals)			15	2		2	2	1	1		23	$ 5,730.00
	Attend KO mtg. w/ Owner				2	2	2					6	$ 1,420.00
	Conduct internal meetings w/ design team				17	17	17			17		68	$ 14,110.00
	Submittal Review Meeting (30%)				4	1	4		2			11	$ 2,400.00
	Weekly Mtgs. w/ Owner/GEC (30% phase - 6 months - 26 mtgs.; prep agenda & mins)				21	5	21	16				63	$ 13,710.00
	Weekly Progress Reports (30% phase - 26 reports)				8	2	4	16				30	$ 6,120.00
SUBTOTAL			9	15	131	37	115	60	32	31		430	**$ 92,275.00**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

American Structurepoint Inc.

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Principal	QAQC Manager	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Engineering Technician	TOTAL HOURS	TOTAL COST
		$285.00	$280.00	$280.00	$240.00	$190.00	$165.00	$140.00	$120.00	$100.00		
FC 160 (150) Surveys												
SUBTOTAL												$ -
FC 160 (160) Roadway Design Controls												
Roadway Design (Profile refinement)												$ -
Roadway Design (Cross section Refinement) (180 cross section)												$ -
Removal Plan (1" =50) - EST. PURPOSES ONLY	35											$ -
Removal Plan (1" =50)(IH-35 Frontage) - EST. PURPOSES ONLY	4											$ -
Horizontal alignment Data	4											$ -
Horizontal alignment Data (IH-35 Frontage)	1											$ -
P and P sheets (1"=50 = 30 sheets + 8 sheets for RABs [4]) - ROLL PLOT ONLY	38											$ -
P and P sheets - Fountain Grove Dr. (1"=50 = 1 sheet) - ROLL PLOT ONLY	1											$ -
P and P sheets - IH-35 Accel/Decel (1"=50 = 4 sheets) - ROLL PLOT ONLY	4											$ -
Roundabout calculations (Fastest Path, Sight Distance, Turning Movements) (4 Roundabouts)	8											$ -
Roundabout details (7 sheets per roundabout = 28 sheets)	28											$ -
Pedestrian Facilities (ADAAG/TAS)												$ -
Bike Facilities/Vybe Trail Crossings P&P (AASHTO Guide Bike Facilities)	2											$ -
Driveway Design (98 driveways)	24											$ -
Roadway Details & Standards	12											$ -
Earthwork Calculations												$ -
3D Corridor Model (ORD)	98											$ -
												$ -
SUBTOTAL	259											$ -
FC 160 (161) Drainage												
												$ -
Overall Layout Sheets (2 shts, dbl. bank)	2											$ -
Storm Drain Drainage Area Maps (Roadway + 2 for IH-35 FR)	33											$ -
Hydrologic Data Sheets (12 Storm Swr systems)	12											$ -
Hydraulic Data Sheets (Inlets)	12											$ -
Hydraulic Data Sheets (12 Storm Swr)	12											$ -
Storm Drain Plan & Profile Sheets (1"=50' = 27 shts + 4 shts for RABs + 2 for IH-35 FR) - ROLL PLOT ONLY	33											$ -
Storm Drain Laterals (est 12 sheets) - ROLL PLOT ONLY	12											$ -
Drainage Area Maps (Off site areas 2 sheets)	2											$ -
Culvert Hydrology sheets	7											$ -
Culvert Layout Sheets (8 culverts)	8											$ -
Culvert Cross Section (Profile) Sheets (8 culverts)	8											$ -
Off-site Drainage Swales - Plan & Profile Sheets (I-35 to Bunton Br)	5											$ -
Drainage Details & Standards	10											$ -
Drainage Details & Standards (TxDOT Inlet/JB/SETs, etc.	4											$ -
Scour Analysis (CC01 and 07)												$ -
3D Model development of Culverts (2 - HEC-RAS Crossings) and Tailwater Analysis												$ -
Prepare Quantities												$ -
Quantity Summary Sheets	2											$ -

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

American Structurepoint Inc.

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Principal	QAQC Manager	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Engineering Technician	TOTAL HOURS	TOTAL COST
		$285.00	$280.00	$280.00	$240.00	$190.00	$165.00	$140.00	$120.00	$100.00		
Drainage Report Update (Draft and Final Submittal)												$ -
Coordinate Design w/ Utility Adjustments												$ -
SUBTOTAL	162											**$ -**
FC 160 (162) Signing, Pavement Markings and Signalization (Permanent)												
Layout sheets (1" = 100' = 14 sheets + 8 RAB Sheets)	22											$ -
Layout sheets (1" = 100' = 3 sheets - IH-35 Frntg Rd.)	2											$ -
Smr'y. of Small Signs (Est 4 Sheets incl. RABs)	4											$ -
Sign Standards	12											$ -
												$ -
SUBTOTAL	40											**$ -**
FC 160 (163) Miscellaneous (Roadway)												
Title Sheet - N/A THIS PHASE	1											$ -
Index of Sheets - N/A THIS PHASE	2											$ -
Project Layout	3											$ -
Typical Sections	9											$ -
General Notes Sheets - N/A THIS PHASE	4											$ -
TCP Typical sections	5											$ -
TCP Narrative	3											$ -
TCP Plans (2 phases x 16 sheets = 32 sheets) - N/A THIS PHASE	32											$ -
TCP Plans (IH-35 Frntg. Rd. = 2 sheets) - N/A THIS PHASE	2											$ -
TCP Standards - N/A THIS PHASE	21											$ -
Illumination (1" =100 =17 sheets+ 3 sheets details) - N/A THIS PHASE	20											$ -
SW3P (1" =100 =17 sheets + 4 sheets for RABs) - N/A THIS PHASE	21											$ -
SW3P (IH-35 Frntg. Rd.)(1" =100 =2 sheets) - N/A THIS PHASE	2											$ -
SW3P Standards - N/A THIS PHASE	2											$ -
Midblock Crossings HAWK System (3 Locations)	10											$ -
Quantities (50% SCHEMATIC)				2	1	3	14	11	8		40	$ 6,240.78
Quantity Summary Sheets - N/A THIS PHASE	6											$ -
Estimate (incl. updates at 60, 90 & 100)												$ -
Contract Time Determination	1											$ -
Constructability Review (DRAFT & FINAL SCHEMATIC)												$ -
Specs and Project Manual - N/A THIS PHASE												$ -
Submitals (DRAFT & FINAL SCHEMATIC)												$ -
TxDOT Coord & Submittals												$ -
Address Comments at Submittal Stages (DRAFT & FINAL SCHEMATIC)												$ -
SUBTOTAL	144			2	1	3	14	11	8		40	**$ 6,240.78**
FC 160 (165) Traffic Management Systems (Permanent)												

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

American Structurepoint Inc.

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Principal	QAQC Manager	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Engineering Technician	TOTAL HOURS	TOTAL COST
		$285.00	$280.00	$280.00	$240.00	$190.00	$165.00	$140.00	$120.00	$100.00		
SUBTOTAL												$ -
FC 160 (170) Bridge Design												
SUBTOTAL												$ -
LABOR TOTALS	**605**	**9**	**19**	**171.89**	**82.756**	**221.024**	**240.364**	**292.34**	**180.316**	**58**	**1,275**	**$ 225,895.78**
		0.7%	1.5%	13.5%	6.5%	17.3%	18.9%	22.9%	14.1%	4.6%		

OTHER DIRECT EXPENSES		# OF UNITS	COST/UNIT	UNIT		
	Mileage	402	0.585	Miles		$ 235.17
	Printing (Roll Plot)	245	$1.100	SF		$ 269.50
	Presentation Boards (24" x 36")	6	$31.00	EA		$ 186.00
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL DIRECT EXPENSES (FC 164)						**$ 690.67**

UNIT COST EXPENSES		# OF UNITS	COST/UNIT	UNIT		
						$ -
						$ -
						$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)						$ -

SUMMARY

TOTAL COSTS FOR PRIME PROVIDER	$ 225,895.78
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME PROVIDER	$ 690.67
NON-SALARY (UNIT COST EXPENSES) FOR PRIME PROVIDER	$ -
SUBCONTRACTS (includes labor costs, direct expenses, and unit costs)	$ 561,635.43
GRAND TOTAL	**$ 788,221.88**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

SAM

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	SENIOR PROJECT MANAGER	PROJECT MANAGER	PROJECT COORDINATOR	SENIOR SURVEY TECHNICIAN	SURVEY TECHNICIAN	2-PERSON SURVEY CREW	3-PERSON SURVEY CREW	FIELD COORDINATOR	GEOSPATIAL SENIOR PM	GEOSPATIAL PM	PROJECT LEAN/SENOIR TECH	Calibration/AT/LIDAR/IMAGERY	LIDAR EXTRACTION/ORTHO IMAGERY	TOTAL HOURS	TOTAL COST
		$210.00	$165.00	$125.00	$110.00	$98.00	$160.00	$215.00	$115.00	$225.00	$215.00	$120.00	$110.00	$98.00		
FC 102 (110) Feasibility Studies																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																**$ -**
FC 120 (120) Social, Economic and Environmental Studies and Public Involvement																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																**$ -**
FC 130 (130) Right-of-Way Data																
Records Research and Deed Study for Existing ROW		3	14		42	56									115	$ 13,048.00
Right of Entry Coordination (Up to 60 parcel owners)(ROE tracking spreadsheet)		2	7		7	60	4								80	$ 8,865.00
Field Surveys		2	7		14	28	210		11						272	$ 40,724.00
Boundary Analysis/ROW Delineation		11	28		42	42									123	$ 15,666.00
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL		18	56		105	186	214		11						590	**$ 78,303.00**
FC 145 (145,164) Managing Contracted/Donated PE																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

SAM

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	SENIOR PROJECT MANAGER	PROJECT MANAGER	PROJECT COORDINATOR	SENIOR SURVEY TECHNICIAN	SURVEY TECHNICIAN	2-PERSON SURVEY CREW	3-PERSON SURVEY CREW	FIELD COORDINATOR	GEOSPATIAL SENIOR PM	GEOSPATIAL PM	PROJECT LEAN/SENIOR TECH	Calibration/AT/LIDAR/IMAGERY	LIDAR EXTRACTION/ORTHO IMAGERY	TOTAL HOURS	TOTAL COST
		$210.00	$165.00	$125.00	$110.00	$98.00	$160.00	$215.00	$115.00	$225.00	$215.00	$120.00	$110.00	$98.00		
SUBTOTAL																$ -
FC 160 (150) Surveys																
Establish Primary Control (Up to 2 primary points)		2	4		6	14	14	14	2						56	$ 8,592.00
Establish aerial control (6) & ground truthing			4		2	3	21		2						32	$ 4,764.00
Collect Design Survey (~1.12 miles) Drainage Structures/Utilities/Obscured Areas		4	7		21	42	154		7						235	$ 33,866.00
Collect Manhole Inverts			4		6	6	14	7	2						39	$ 5,883.00
Aerial Flight/Extraction		2	4							2	8	6	17	84	123	$ 14,072.00
Collect Trees (8-inches in diameter and larger within existing ROW)			4		2	3	7		2						18	$ 2,524.00
QA/QC Prepare Final Deliverables		2	6		7	6									21	$ 2,768.00
																$ -
																$ -
																$ -
SUBTOTAL		10	33		44	74	210	21	15	2	8	6	17	84	524	$ 72,469.00
FC 160 (160) Roadway Design Controls																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																$ -
FC 160 (161) Drainage																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																$ -
FC 160 (162) Signing, Pavement Markings and Signalization (Permanent)																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

SAM

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	SENIOR PROJECT MANAGER	PROJECT MANAGER	PROJECT COORDINATOR	SENIOR SURVEY TECHNICIAN	SURVEY TECHNICIAN	2-PERSON SURVEY CREW	3-PERSON SURVEY CREW	FIELD COORDINATOR	GEOSPATIAL SENIOR PM	GEOSPATIAL PM	PROJECT LEAN/SENIOR TECH	Calibration/AT/LIDAR/IMAGERY	LIDAR EXTRACTION/ORTHO IMAGERY	TOTAL HOURS	TOTAL COST
		$210.00	$165.00	$125.00	$110.00	$98.00	$160.00	$215.00	$115.00	$225.00	$215.00	$120.00	$110.00	$98.00		
SUBTOTAL																**$ -**
FC 160 (163) Miscellaneous (Roadway)																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																**$ -**
FC 160 (165) Traffic Management Systems (Permanent)																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																**$ -**
FC 160 (170) Bridge Design																
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
																$ -
SUBTOTAL																**$ -**
LABOR TOTALS		**28**	**89**		**149**	**260**	**424**	**21**	**26**	**2**	**8**	**6**		**84**	**1,114**	**$ 150,772.00**
		2.5%	8.0%		13.4%	23.3%	38.1%	1.9%	2.3%	0.2%	0.7%	0.5%		7.5%		

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT	
				$ -
Mileage (number x current state rate)	2450	$0.625	mile	**$ 1,531.25**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

SAM

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	SENIOR PROJECT MANAGER	PROJECT MANAGER	PROJECT COORDINATOR	SENIOR SURVEY TECHNICIAN	SURVEY TECHNICIAN	2-PERSON SURVEY CREW	3-PERSON SURVEY CREW	FIELD COORDINATOR	GEOSPATIAL SENIOR PM	GEOSPATIAL PM	PROJECT LEAN/SENOIR TECH	Calibration/AT/LIDAR/IMAGERY	LIDAR EXTRACTION/ORTHO IMAGERY	TOTAL HOURS	TOTAL COST
		$210.00	$165.00	$125.00	$110.00	$98.00	$160.00	$215.00	$115.00	$225.00	$215.00	$120.00	$110.00	$98.00		
GPS RTK		357	$10.00	hr												$ 3,570.00
Aerial Control Targets		8	$30.00	each												$ 240.00
Primary Control Monuments		3	$90.00	each												$ 270.00
Deed Copies		280	$1.00	page												$ 280.00
GPS/IMU (Aerial)		1	$750.00	per project												$ 750.00
Aerial Images		20	$28.00	per image												$ 560.00
Aerial Flight Miles		4	$65.00	per mile												$ 260.00
Aerial Acquisition/Mobilization		1	$4,000.00	per project												$ 4,000.00
																$ -
																$ -
																$ -
SUBTOTAL DIRECT EXPENSES (FC 145, FC164)																**$ 11,461.25**

UNIT COST EXPENSES	# OF UNITS	COST/UNIT	UNIT	
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)				$ -

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$ 150,772.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1	$ 11,461.25
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1	$ -
GRAND TOTAL	**$ 162,233.25**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Cobbfendley

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Project Manager	Support Manager	Engineer - Senior	Engineer (Utilities)	Engineer-in-Training	SUE Designating Crew (2 man)	Survey Crew (2 man)	RPLS	Engineer Technician - Senior	Engineer Technician	CADD Operator - Senior	Utilities Coordinator - Senior	Utilities Coordinator	Administrative / Clerical	TOTAL HOURS	TOTAL COST
		$314.00	$238.00	$254.00	$135.00	$113.00	$156.00	$184.00	$184.00	$135.00	$108.00	$184.00	$150.00	$103.00	$86.00		
FC 102 (110) Feasibility Studies																	
SUBTOTAL																	**$ -**
FC 120 (120) Social, Economic and Environmental Studies and Public Involvement																	
SUBTOTAL																	**$ -**
FC 130 (130) Right-of-Way Data																	
UTILITY ADJUSTMENT COORDINATION																	$ -
Utility Coordination																	$ -
Work Plan		2			2									2		6	$ 1,104.00
Initial Project Meeting		4			4									4	4	16	$ 2,552.00
External Communications		4		4	4								6	16	6	40	$ 5,876.00
Progress Meetings with Utilities (up to 3 meetings)			5	5	5	13							5	13	5	51	$ 7,123.00
Notice Letters (NOPC/30%)		2			4	6								4	4	20	$ 2,602.00
Coordinate with Utility Companies (up to 11, 2/hrs per month, 5 months)				18	77								18	85		198	$ 26,422.00
																	$ -
																	$ -
SUBTOTAL		12	5	27	96	19							29	124	19	331	**$ 45,679.00**
FC 145 (145,164) Managing Contracted/Donated PE																	
PROJECT MANAGEMENT AND ADMINISTRATION																	$ -
Project Management																	$ -
Prepare monthly written progress reports (up to 5 months)		3	9												3	15	$ 3,342.00
Develop and maintain detailed project schedule		2	2												2	6	$ 1,276.00
Progress meetings with the State (up to 5)		18	9													27	$ 7,794.00
Documentation of project correspondence on coordination of team work		14	7												8	29	$ 6,750.00
																	$ -
SUBTOTAL		37	27												13	77	**$ 19,162.00**
FC 160 (160) Roadway Design Controls																	
																	$ -
SUBTOTAL																	**$ -**
FC 160 (161) Drainage																	
																	$ -
SUBTOTAL																	**$ -**
FC 160 (162) Signing, Pavement Markings and Signalization (Permanent)																	
																	$ -
SUBTOTAL																	**$ -**
FC 160 (163) Miscellaneous (Roadway)																	
UTILITY ENGINEERING INVESTIGATION (CURRENTLY SUBSURFACE UTILITY ENGINEERING)																	
QUALITY LEVEL D																	
Update Record Research			4		8								16		4	32	$ 4,776.00
Update CADD										10	10	20				40	$ 6,110.00

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Cobbfendley

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Project Manager	Support Manager	Engineer - Senior	Engineer (Utilities)	Engineer-in-Training	SUE Designating Crew (2 man)	Survey Crew (2 man)	RPLS	Engineer Technician - Senior	Engineer Technician	CADD Operator - Senior	Utilities Coordinator - Senior	Utilities Coordinator	Administrative / Clerical	TOTAL HOURS	TOTAL COST
		$314.00	$238.00	$254.00	$135.00	$113.00	$156.00	$184.00	$184.00	$135.00	$108.00	$184.00	$150.00	$103.00	$86.00		
QAQC			2		4							8	4			18	$ 3,088.00
DESIGNATE (QUALITY LEVEL B)																	$ -
Work plan , coordination traffic control and safety			10		10			4					18		4	46	$ 7,510.00
Designate, record, and mark horizontal locations			8				120	40								168	$ 27,984.00
Survey					4			54	16			22				96	$ 17,468.00
CADD, QAQC, prep submittal			8		8			2	2			20	4			44	$ 8,000.00
TEST HOLES (QUALITY LEVEL A) -see unit rates																	$ -
																	$ -
UTILITY ENGINEERING																	$ -
A. COORDINATION OF ENGINEERING ACTIVITIES																	$ -
Utility Layout for the 30%/Schematic design milestone				8	18	68				12	18					124	$ 15,710.00
B. PUBLIC AND INDIVIDUAL MEETINGS WITH UTILITY COMPANIES																	$ -
Initial Project Meeting		4			4											8	$ 1,796.00
Work Plan		2		4	4	8										18	$ 3,088.00
Progress Meetings with the State (up to 4)		7		11	21										7	46	$ 8,429.00
Design Milestone Group Utility Meetings (up to 4)		7			11	25				16					7	66	$ 9,270.00
Individual Utilty Meetings to Discuss/Mitigate Conflicts (up to 3 Meetings)			5	5	5	13							5	13	5	51	$ 7,123.00
SUBTOTAL		20	37	28	97	114	120	100	18	38	28	70	47	13	27	757	**$ 120,352.00**
FC 160 (165) Traffic Management Systems (Permanent)																	
SUBTOTAL																	**$ -**
FC 160 (170) Bridge Design																	
SUBTOTAL																	**$ -**
LABOR TOTALS		**69**	**69**	**55**	**193**	**133**	**120**	**100**	**18**	**38**	**28**	**70**			**59**	**1,165**	**$ 185,193.00**
		5.9%	5.9%	4.7%	16.6%	11.4%	10.3%	8.6%	1.5%	3.3%	2.4%	6.0%			5.1%		

OTHER DIRECT EXPENSES (FC130)	# OF UNITS	COST/UNIT	UNIT	
MILEAGE	200	0.585	mile	**$ 117.00**
Toll Charges	12	$4.000	each	**$ 48.00**
Standard postage	20	$0.55	day	**$ 11.00**
Couriier Service	2	$30.00	each	**$ 60.00**
Certified Letter Return reciept	18	$6.700	each	**$ 120.60**
PHOTOCOPIES B/W (8 1/2" X 11")	60	$0.10	each	**$ 6.00**
PHOTOCOPIES B/W (11" X 17")	60	$0.20	each	**$ 12.00**
PHOTOCOPIES COLOR (8 1/2" X 11")	60	$0.70	each	**$ 42.00**
PHOTOCOPIES COLOR (11" X 17")	60	$1.50	each	**$ 90.00**
Attenuator Truck - (Lane/Shoulder closure) (Includes labor Equipment and Fuel)	2	$375.00	day	**$ 750.00**
USB Flash Drive	60	$10.00	each	**$ 600.00**
SUBTOTAL DIRECT EXPENSES (FC 130)				**$ 1,856.60**

OTHER DIRECT EXPENSES (FC145, FC164)	# OF UNITS	COST/UNIT	UNIT	
MILEAGE	200	0.585	mile	**$ 117.00**
Toll Charges		$4.000	each	**$ -**
Standard postage		$0.55	day	**$ -**
Couriier Service	2	$30.00	each	**$ 60.00**
Certified Letter Return reciept		$6.700	each	**$ -**
PHOTOCOPIES B/W (8 1/2" X 11")	60	$0.10	each	**$ 6.00**
PHOTOCOPIES B/W (11" X 17")	60	$0.20	each	**$ 12.00**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Cobbfendley

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Project Manager	Support Manager	Engineer - Senior	Engineer (Utilities)	Engineer-in-Training	SUE Designating Crew (2 man)	Survey Crew (2 man)	RPLS	Engineer Technician - Senior	Engineer Technician	CADD Operator - Senior	Utilities Coordinator - Senior	Utilities Coordinator	Administrative / Clerical	TOTAL HOURS	TOTAL COST
		$314.00	$238.00	$254.00	$135.00	$113.00	$156.00	$184.00	$184.00	$135.00	$108.00	$184.00	$150.00	$103.00	$86.00		
PHOTOCOPIES COLOR (8 1/2" X 11")		60	$0.70	each													$ 42.00
PHOTOCOPIES COLOR (11" X 17")		60	$1.50	each													$ 90.00
Attenuator Truck - (Lane/Shoulder closure) (Includes labor Equipment and Fuel)			$375.00	day													$ -
USB Flash Drive			$10.00	each													$ -
SUBTOTAL DIRECT EXPENSES (FC 145, FC164)																	$ 327.00
OTHER DIRECT EXPENSES (FC163))		**# OF UNITS**	**COST/UNIT**	**UNIT**													
MILEAGE		200	0.585	mile													$ 117.00
Toll Charges			$4.000	each													$ -
Standard postage			$0.55	day													$ -
Couriier Service			$30.00	each													$ -
Certified Letter Return reciept			$6.700	each													$ -
PHOTOCOPIES B/W (8 1/2" X 11")		60	$0.10	each													$ 6.00
PHOTOCOPIES B/W (11" X 17")		60	$0.20	each													$ 12.00
PHOTOCOPIES COLOR (8 1/2" X 11")		60	$0.70	each													$ 42.00
PHOTOCOPIES COLOR (11" X 17")		60	$1.50	each													$ 90.00
PLOTS COLOR OR BOND		6	$5.00	SF													$ 30.00
TRAFFIC CONTROL SERVICES , ARROW BOARDS and Attenuator Trucks - Medium Project		2	$1,750.00	day													$ 3,500.00
TRAFFIC CONTROL SERVICES , ARROW BOARDS and Attenuator Trucks - Large Project		2	$2,500.00	day													$ 5,000.00
Attenuator Truck - (Lane/Shoulder closure) (Includes labor Equipment and Fuel)			$375.00	day													$ -
USB Flash Drive			$10.00	each													$ -
SUBTOTAL DIRECT EXPENSES (FC163)																	$ 8,797.00
UNIT COST EXPENSES		**# OF UNITS**	**COST/UNIT**	**UNIT**													
																	$ -
Subsurface Utility Engineering Services																	$ -
SUE Mobilization/Demobilization																	
This cost is intended to be a one-time expense compensation for mobilizing/demobilizing personnel and equipment portal to portal. Vacuum excavation truck (non-local)		1,020	$ 5.00	Mile													$ 5,100.00
SUE (Quality Level A - Utility Locate, Test Holes)																	$ -
Includes labor and equipment for vacuum excavation, engineering, CADD, and limited traffic control.																	$ -
Level A: 0 to 5 ft (Total)		10	$ 1,300.00	each													$ 13,000.00
Level A: > 5 to 8 ft (Total)		6	$ 1,500.00	each													$ 9,000.00
Level A: > 8 to 13 ft (Total)		2	$ 1,800.00	each													$ 3,600.00
Level A: > 13 to 20 ft (Total)			$ 2,500.00	each													$ -
Level A: > 20 ft (Total)			$ 150.00	VF													$ -
																	$ -
Subsurface Utility Engineering (SUE) Field Services																	$ -
One (1) Designating Person with equipment		112	$ 119.00	Hour													$ 13,328.00
Two (2) Designating Person with equipment		80	$ 184.00	Hour													$ 14,720.00
																	$ -
																	$ -
																	$ -
																	$ -
																	$ -
																	$ -
																	$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)																	$ 58,748.00

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$185,193.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1	$10,980.60

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Cobbfendley

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Project Manager	Support Manager	Engineer - Senior	Engineer (Utilities)	Engineer-in-Training	SUE Designating Crew (2 man)	Survey Crew (2 man)	RPLS	Engineer Technician - Senior	Engineer Technician	CADD Operator - Senior	Utilities Coordinator - Senior	Utilities Coordinator	Administrative / Clerical	TOTAL HOURS	TOTAL COST
		$314.00	$238.00	$254.00	$135.00	$113.00	$156.00	$184.00	$184.00	$135.00	$108.00	$184.00	$150.00	$103.00	$86.00		
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1		$58,748.00															
GRAND TOTAL		**$254,921.60**															

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Raba Kistner

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Principal	Senior Project Manager	Project Manager	Project Engineer	EIT	Field Coordinator	Logger	CADD Tech	Admin	TOTAL HOURS	TOTAL COST
		$224.40	$198.90	$188.70	$168.30	$137.70	$112.20	$76.50	$76.50	$61.20		
FC 102 (102) Feasibility Studies												
Field Coordination & Geotech Drilling			1			5	16	50			72	$ 6,507.60
												$ -
Labortatory Testing				1	2	3					6	$ 938.40
												$ -
Geotech Engineering and Reportng			2	3	6	18			2	2	33	$ 4,727.70
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL			3	4	8	26	16	50	2	2	111	**$ 12,173.70**
FC 120 (120) Social, Economic and Environmental Studies and Public Involvement												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												**$ -**
FC 130 (130) Right-of-Way Data												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												**$ -**
FC 145 (145,164) Managing Contracted/Donated PE												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Raba Kistner

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Principal	Senior Project Manager	Project Manager	Project Engineer	EIT	Field Coordinator	Logger	CADD Tech	Admin	TOTAL HOURS	TOTAL COST
		$224.40	$198.90	$188.70	$168.30	$137.70	$112.20	$76.50	$76.50	$61.20		
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												$ -
FC 160 (160) Roadway Design Controls												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												$ -
FC 160 (161) Drainage												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												$ -
FC 160 (162) Signing, Pavement Markings and Signalization (Permanent)												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												$ -
FC 160 (163) Miscellaneous (Roadway)												

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Raba Kistner

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Principal	Senior Project Manager	Project Manager	Project Engineer	EIT	Field Coordinator	Logger	CADD Tech	Admin	TOTAL HOURS	TOTAL COST
		$224.40	$198.90	$188.70	$168.30	$137.70	$112.20	$76.50	$76.50	$61.20		
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												**$ -**
FC 160 (165) Traffic Management Systems (Permanent)												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												**$ -**
FC 160 (170) Bridge Design												
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL												**$ -**
LABOR TOTALS		**3**	**4**	**8**	**26**	**16**	**50**	**2**	**2**		**111**	**$ 12,173.70**
		2.7%	3.6%	7.2%	23.4%	14.4%	45.0%	1.8%	1.8%			

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT	
				$ -

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Raba Kistner

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Principal	Senior Project Manager	Project Manager	Project Engineer	EIT	Field Coordinator	Logger	CADD Tech	Admin	TOTAL HOURS	TOTAL COST
		$224.40	$198.90	$188.70	$168.30	$137.70	$112.20	$76.50	$76.50	$61.20		
TRAFFIC CONTROL		4	$2,100.000	day								$ 8,400.00
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
												$ -
SUBTOTAL DIRECT EXPENSES (FC 102)												**$ 8,400.00**

UNIT COST EXPENSES	# OF UNITS	COST/UNIT	UNIT		
					$ -
DRILLING (1) 20 ft CULVERT & (10) 15 ft PAVEMENT BORINGS					$ -
MOBILIZATION	330	5.05	miles		$ 1,666.50
AUGER DRILLING W/O SAMPLING 0 - 50 FT (SOIL)	345	$19.00	ft		$ 6,555.00
SPT		$20.40	each		$ -
TCP		$25.50	each		$ -
BACKFILL BORING HOLE	345	$3.57	ft		$ 1,231.65
DRILLER STANDBY	10	$198.90	hr		$ 1,989.00
DRILLER CLEANUP	10	$234.60	hr		$ 2,346.00
CONCRETE/HMAC PATCH	23	$74.83	each		$ 1,721.09
VEHICLE TRIP CHARGE	660	$0.77	miles		$ 508.20
					$ -
LABORATORY TESTING					$ -
MOISTURE CONTENT	138	$15.30	per test		$ 2,111.40
ATTERBERG LIMITS DETERMINATION	22	$107.10	per test		$ 2,356.20
GRAIN SIZE ANALYSIS	2	$88.74	per test		$ 177.48
MATERIAL FINER THAN NO. 200 SIEVE	10	$59.16	per test		$ 591.60
UNCONFINED COMPRESSIVE STRENGTH	4	$49.98	per test		$ 199.92
SULFATE TESTING	14	$99.96	per test		$ 1,399.44
SCOUR ANALYSIS	1	$153.00	per test		$ 153.00
LIME SERIES CURVE	1	$484.50	per test		$ 484.50
MOISTURE DENSITY RELATIONSHIP CURVE	1	$300.90	per test		$ 300.90
RESILIENT MODULUS TESTING (OMC AND +2%)		$1,836.00	per test		$ -
TEXAS TRIAXIAL TEST		$1,500.00	per test		$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)					**$ 23,791.88**

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$12,173.70
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1	$8,400.00
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1	$23,791.88
GRAND TOTAL	**$44,365.58**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Doucet

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Environmental Manager	Environmental Specialist	Environmental Technician	TOTAL HOURS	TOTAL COST
		$180.00	$140.00	$115.00		
FC 102 (102) Feasibility Studies						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 120 (120) Social, Economic and Environmental Studies and Public Involvement						
120.2 Environmental Dashboard Investigation (From Desk Top Review)		201	189	277	667	$ 94,495.00
Right of Entry coordination Time		4	12	28	44	$ 5,620.00
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL		205	201	305	711	**$ 100,115.00**
FC 130 (130) Right-of-Way Data						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 145 (145,164) Managing Contracted/Donated PE						
						$ -
						$ -

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Doucet

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Environmental Manager	Environmental Specialist	Environmental Technician	TOTAL HOURS	TOTAL COST
		$180.00	$140.00	$115.00		
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						$ -
FC 160 (160) Roadway Design Controls						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 160 (161) Drainage						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 160 (162) Signing, Pavement Markings and Signalization (Permanent)						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

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PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Doucet

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Environmental Manager	Environmental Specialist	Environmental Technician	TOTAL HOURS	TOTAL COST
		$180.00	$140.00	$115.00		
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 160 (163) Miscellaneous (Roadway)						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 160 (165) Traffic Management Systems (Permanent)						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
SUBTOTAL						**$ -**
FC 160 (170) Bridge Design						
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

PRIME PROVIDER:

Contract No. _____
Work Authorization No. _

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Doucet

PROJECT NAME: Bebee Road TO #3
PROJECT LIMITS: Dacy Lane to E. of Green Pastures Road

TASKS	SHTS	Environmental Manager	Environmental Specialist	Environmental Technician	TOTAL HOURS	TOTAL COST
		$180.00	$140.00	$115.00		
SUBTOTAL						$ -
LABOR TOTALS		**205**	**201**	**305**	**711**	**$ 100,115.00**
		28.8%	28.3%	42.9%		

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT		
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
SUBTOTAL DIRECT EXPENSES (FC 164)					$ -

UNIT COST EXPENSES	# OF UNITS	COST/UNIT	UNIT		
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)					$ -

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$100,115.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1	
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1	
GRAND TOTAL	**$100,115.00**

K·FRIESE
+ ASSOCIATES

KYLE BONDS 2022

COUNCIL MEETING | MARCH 7, 2023

BOND PROGRAM UPDATE

- Bond was approved by voters in Nov. 2022
- Council workshop was held in late January to provide an update
- Design scopes and fees for Kohlers, Bebee, and Bunton Creek projects are ready for review
- Finalizing negotiations for remaining projects, aiming for March 21 Council meeting
- Website and branding refresh in progress

KYLE BONDS 2022

COUNCIL MEETING | MARCH 7, 2023

K·FRIESE + ASSOCIATES

TASK ORDER BUDGETS

Project	From	To	Total Budgeted Project Cost	Current Phase	Current Task Order Budget	% of Total Budgeted Project Cost
Kohlers to Seton (off-system)	IH 35 NBFR	Seton Pkwy	$66,080,361	Schematic	**$ 1,101,207.34**	5%
Kohlers to Seton (IH 35 crossing)	IH 35 SBFR	IH 35 NBFR		Schematic	**$ 2,158,287.27**	
Bebee Rd (west)	IH 35 NBFR	Dacy Ln	$66,621,312	Schematic	**$ 436,194.96**	2%
Bebee Rd (east)	Dacy Ln	E. of Green Pastures Rd		Schematic	**$ 788,221.88**	
Bunton Creek Rd	Lehman Rd	Porter Cove	$28,444,399	Schematic	**$ 947,810.00**	3%

K·FRIESE + ASSOCIATES

CITY OF KYLE, TEXAS

Approve Task Order No. 16 - LJA Engineering, Inc. for Kohlers Crossing from IH 35 NBFR to Seton Pkwy $1,101,207.34

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Approve Task Order No. 16 to LJA ENGINEERING, INC., Austin, Texas in the amount not to exceed $1,101,207.34 for engineering services and design of Kohlers Crossing from IH 35 NBFR to Seton Parkway. ~ *Joe Cantalupo, K Friese & Associates, City's 2022 Road Bond Program Manager*

Other Information: The work to be performed by the Engineer shall consist of providing preliminary engineering
services for the development of a final design schematic. These services may include, but are not
limited to, preparing a design schematic based on the preferred alternative from the Task Order No.
13 Preliminary Engineering Report, environmental documents/studies in support of the schematic
work, public involvement support, permit procurement, data collection analysis, mitigation and
remediation, monitoring, drainage, conceptual traffic control, traffic signal warrants, 3-D modeling,
surveying and mapping, subsurface utility engineering (SUE), environmental clearance, utility
coordination, storm drain design, bridge design, and cross sections.

Legal Notes: N/A

Budget Information: Funding in the amount of $1,101,207.34 is available from the 2022 Road Bond Fund in the approved Capital Improvement Spending Plan for Fiscal Year 2022-2023 as follows:

- 1952-68819-573130 = $1,101,207.34 (2022 Road Bond Fund)

ATTACHMENTS:

Description

- Task Order No. 16
- 2022 Road Bond Program Update by K-Friese & Associates 3-7-2023

TASK ORDER NO. 16

This Task Order is issued pursuant to that Professional Services Agreement (Agreement) between the City of KYLE, Texas (Owner) and LJA Engineering, Inc. (Professional) effective March 17, 2021 and constitutes authorization by Owner for Professional to proceed with the following described construction and engineering design services.

Construction and Engineering Design Services

A. PROJECT DESCRIPTION

The scope of the Agreement is to provide professional construction and engineering design services (Services) for the Owner based on the scope of services listed below in Item B. Professional services may include performing preliminary engineering and planning; generating plans, specifications and estimates; researching, analyzing, and providing technical recommendations; providing construction phase services; and providing general consulting services in the areas identified herein.

B. SCOPE OF SERVICES AND DELIVERABLES

Pursuant to the Agreement, this Task Order authorizes Professional to perform the Services shown in Attachment A.

C. BASIS OF COMPENSATION

The total compensation for the Services shall be based on the hourly rates as defined in Compensation Table provided on pages 3 and 4 of this document, and on the corresponding rates and hours in the Fee Estimate attached as Attachment B. Attachment B shall use the template provided by the Owner. Owner will make payments to Professional for performing the Services described on a monthly billing basis in accordance with monthly statements submitted by the Professional and approved by Owner. Final payment shall be due upon completion of the Services described.

D. TIME FOR COMPLETION

Professional will work expeditiously to complete the Services described herein by May 2024.

LJA Engineering, Inc. shall begin work as soon as authorized in this Task Order No. 16.

APPROVED:	**ACCEPTED:**
CITY OF KYLE, TEXAS	**LJA ENGINEERING, INC.**
By _____	By Kenneth G Schrock
Title: City Manager	Title Senior Vice President
Attest _____	Attest _____
Date _____	Date 3/1/2023

COMPENSATION

Compensation for the services provided pursuant to the Professional Services Agreement between the City of Kyle and LJA Engineering, Inc. executed the 17 day of March, 2021 will be paid on a lump sum basis and calculated based on the amounts reflected below.

LJA

Professional Staff	**Hourly Bill Rate**
Admin/ Clerical	$85
Utility Coordinator	$140
Senior Utility Coordinator	$170
Senior Bridge Engineer	$235
Senior CADD Operator	$135
Senior Engineer Tech	$155
EIT	$145
Design Engineer	$170
Project Engineer	$185
Senior Engineer	$235
Sr Project Manager	$270

LJA ES

Professional Staff	**Hourly Bill Rate**
Admin I	$75
Project Support Officer II	$135
GIS Analyst II	$165
Field Tech II	$105
Project Coordinator II	$160
Project Coordinator III	$170
Project Manager	$180
Sr. Project Manager	$200
Vice President	$240

McGray & McGray

Professional Staff	**Hourly Bill Rate**
Field Coordinator	$101.07
Mapping Editor	$86.63
Lidar Processing Tech	$103.95
Lidar Mapping Tech	$86.63
Survey Tech	$95.29
Survey Tech - Senior	$109.73
Survey - RPLS (Project Manager)	$170.37

The Rios Group

Professional Staff	**Hourly Bill Rate**
Field Manager	$127.23
Engineering Technician	$74.67
CADD Technician	$74.84
Engineer in Training	$110.49
Assistant Project Manager	$118.30
Professional Engineer	$165.19
SUE Project Manager	$169.71
Supervisory Engineer	$190.86
Principal	$316.28

Raba Kistner

Professional Staff	**Hourly Bill Rate**
Admin	$70
Engineering Technician	$85
Senior Engineering Technician	$100
EIT	$135
Project Engineer	$175
Senior Engineer	$205
Project Manager	$205
Principal	$220

ATTACHMENT A

TASK ORDER NO. 16 (SCHEMATIC PHASE)

SERVICES TO BE PROVIDED BY THE ENGINEER

LJA Engineering, Inc. (Engineer) will provide staff to support the City of KYLE (Owner) with general construction and engineering support services. The Owner also includes the City's General Engineering Consultant (GEC), K Friese & Associates, Inc., which the Owner has secured to act on its behalf as an Owner's Representative. The Engineer is required to coordinate with the GEC for completion of this work. Specific tasks may include, but are not limited to, the following:

The work to be performed by the Engineer shall consist of providing preliminary engineering services for the development of a final design schematic. These services may include, but are not limited to, preparing a design schematic based on the preferred alternative from the Task Order No. 13 Preliminary Engineering Report, environmental documents/studies in support of the schematic work, public involvement support, permit procurement, data collection analysis, mitigation and remediation, monitoring, drainage, conceptual traffic control, traffic signal warrants, 3-D modeling, surveying and mapping, subsurface utility engineering (SUE), environmental clearance, utility coordination, storm drain design, bridge design, and cross sections.

The Engineer shall complete the services to be provided by the Engineer according to the milestone work schedule established in the task order. The Engineer shall submit a written progress report to the Owner monthly indicating the actual work accomplished during the month, scheduled work to be accomplished for the month, and the estimated work to be accomplished for the coming month. The Engineer is required to meet with the designated Owner project manager and environmental coordinator bi-weekly for progress tracking purposes unless prior agreement is made with Owner not to hold a scheduled meeting. The Engineer shall submit minutes of the meeting, summarizing the events of the meeting within seven calendar days after each meeting.

The Engineer shall prepare a project work schedule. The work schedule must incorporate an allocation of time for stage reviews of the design schematic, survey, ROW Mapping, and the environmental documents by Owner personnel. The Engineer shall present the work schedule to the Owner for review and acceptance and provide assistance in interpreting the proposed work schedule.

GENERAL REQUIREMENTS

1.1. Design Criteria.

Design Criteria. The Engineer shall prepare all work in accordance with the latest version of applicable Owner's procedures, specifications, manuals, guidelines, standard drawings, and standard specifications or previously approved special provisions and special specifications, which include:

- Kyle Connected 2040 Transportation Master Plan (2015)
- Kyle Transportation Master Plan Update (2021)
- The Vybe Kyle: Trail-Oriented Development (2021)
- Kyle Drainage Master Plan (2018)

- City of Kyle Roundabout Ordinance #1162 (2021)
- City of Kyle standard detail sheets and general construction notes
- Texas Department of Transportation (TxDOT) PS&E Preparation Manual
- TxDOT Roadway Design Manual
- TxDOT Hydraulic Design Manual
- Texas Manual on Uniform Traffic Control Devices (TMUTCD)
- Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (latest Edition)
- Other Owner approved manuals
- TxDOT ROW Acquisition Manual
- TxDOT Utilities Manual
- Texas Transportation Administrative Code – Utility Accommodation
- City of Austin Utility Criteria Manual
- City of Kyle utility standards
- Texas Commission on Environmental Quality (TCEQ)

When design criteria are not identified in Owner's manuals or TxDOT criteria, or if conflicting guidance is found, the Engineer shall notify the Owner and refer to the American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Street (latest Edition).

The Engineer shall use applicable standards and guidance to tailor the Design Summary Report (DSR) template (provided by the City) to their project. The Engineer shall obtain approval from the City on all information contained in the DSR prior to schematic development.

The Engineer shall prepare a design time schedule and an estimated construction contract time schedule, using the latest version of MS Project, Primavera, or any Owner approved programs. The schedules shall indicate tasks, subtasks, critical dates, milestones, deliverables and review requirements in a format that depicts the interdependence of the various items. The Engineer shall provide assistance to Owner's personnel in interpreting the schedules. The Engineer shall schedule milestone submittals at 50%, 90% and final project completion phases unless directed by Owner otherwise. The Engineer shall advise the Owner in writing if the Engineer is not able to meet the scheduled milestone review date.

Once the schematic has been completed and accepted by the Owner, the Engineer shall deliver all electronic files to the Owner within 30 calendar days of Owner's written request.

Milestone submittals shall include, but shall not be limited to, the following to be considered complete:

1. 50%
    - Design Summary Report (DSR)
    - Draft Schematic of preferred alternative using border file provided by the Owner for the Kyle 2022 Road Bond Program
    - Cross Sections on 11X17 sheets
    - Draft Drainage Report
    - Draft Traffic Study (or Studies) including roundabout and/or traffic signal studies/warrants

- Draft Traffic Control Narrative
- Draft Geotechnical Report
- Draft Environmental Documents
- Construction Cost Estimate
- ROW Cost Estimate
- Utility Conflict Matrix
- Utility Relocation Cost Estimate including compensable and non-compensable subtotals

2. 90%
    - All 50% items with review comments addressed
    - Comment resolution matrix
    - Draft ROW Acquisition Documents
    - Final versions of 50% items
3. Final
    - All 90% items with review comments addressed
    - Comment resolution matrix
    - Final signed and sealed versions of 90% items

Submittals shall be provided electronically to the Owner using the Procore platform.

1.2. Right-of-Entry. The Engineer shall notify the Owner and secure permission to enter private property to perform any surveying, environmental, engineering, or geotechnical activities needed off Owner right-of-way. In pursuance of the Owner's policy with the general public, the Engineer shall not commit acts which would result in damages to private property, and the Engineer shall make every effort to comply with the wishes and address the concerns of affected private property owners. The Engineer shall contact each property owner prior to any entry onto the owner's property and shall request concurrence from the Owner prior to each entry.

1.3. Progress Reporting and Invoicing. The Engineer shall invoice according to Function Code breakdowns shown in Exhibit "A" of the Professional Services Agreement and Attachment "B" - Fee Schedule, of the Task Order. The Engineer shall submit each invoice in a format acceptable to the Owner.

The Engineer shall complete the services according to the milestone work schedule established in the task order. With each invoice the Engineer shall submit a monthly written progress report to the Owner's Project Manager regardless of whether the Engineer is invoicing for that month. Requirements for progress reports are included in Sections 145.2.b. and 145.2.c. of this scope of services.

The Engineer is required to meet with the designated Owner project manager or environmental coordinator bi-weekly for progress tracking purposes unless prior written agreement is made with Owner not to hold a meeting in any given month. The Engineer shall submit minutes of the meeting summarizing the events of the meeting within five (5) business days after each meeting.

The Engineer shall prepare a project work schedule, using the latest version of Microsoft Project or Primavera software or another scheduling program approved by the Owner in writing. Requirements for schedules are included in Section 145.2.b. of this scope of services.

Condition precedents to final payment by the Owner are the Owner's receipt of all electronic files and confirmation by the Owner's Project Manager that (1) the electronic files can be opened and are usable by the Owner utilizing the Owner-owned version of the intended software, and (2) all of the Owner's review comments have been addressed.

The Engineer shall prepare a letter of transmittal to accompany each document submittal to the Owner. At a minimum, the letter of transmittal must include the project name, project limits, Owner's contract number, and Owner's task order number.

1.4. Traffic Control. The Engineer shall provide all planning, labor, and equipment to develop and to execute each Traffic Control Plan (TCP) needed by the Engineer to perform services under each task order. The Engineer shall comply with the requirements of the most recent edition of the TMUTCD. The Engineer shall submit a copy of each TCP to the Owner for approval prior commencing any work on any Owner roadway. The Engineer shall provide all signs, flags, and safety equipment needed to execute the approved TCP. The Engineer shall notify the Owner in writing five (5) days (in advance of executing each TCP requiring a lane closure and shall have received written concurrence from the Owner prior to beginning the lane closure. The Engineer's field crew shall always possess a copy of the approved TCP on the job site and shall make the TCP available to the Owner for inspection upon request. The Engineer shall assign charges for any required traffic control to the applicable function code. The Owner requires Public Notice of lane and Road closure 7 days in advance of closure through use of message boards, thus notice to Owner would need to be about 10 days prior of closure.

1.5. State-Controlled Waters. The placement of a new structure or modification of an existing structure(s) within State-Controlled waters will require confirmation that said structure(s) lie within the General Land Office (GLO) state owned land and whether the crossing is tidally influenced or not. Consequently, the Engineer shall request, as early in the design process as possible, that the State determine whether the proposed improvements are found within the tidal GLO, is a submerged GLO property or a non-tidal GLO property. The Owner may request assistance from the Engineer to prepare an exhibit demonstrating the location of the proposed improvements on the GLO State Owned Map for the project location.

1.6. Coordination. The Engineer shall coordinate issues and communications with Owner's internal departments through the Owner's Project Manager. The Owner will communicate the resolution of issues and provide the Engineer direction through the Owner's Project Manager.

Where applicable, the Engineer shall notify the Owner and coordinate with adjacent engineers and surveyors on all controls at project interfaces. The Engineer shall document the coordination effort, and each engineer must provide written concurrence regarding the agreed project controls and interfaces. In the event the Engineer and the other adjacent engineers are unable to agree, the Engineer shall meet jointly with the Owner and each adjacent engineer to resolve disagreements. If the engineers are unable to resolve an issue with the Owner as mediator, the Owner may decide the issue and the decision will be final.

The Engineer shall prepare each exhibit necessary for approval by each railroad, utility, and other governmental or regulatory agency in compliance with the applicable format and guidelines required by each entity and as approved by the Owner. The Engineer shall notify the Owner in writing prior to beginning any work on any outside agency's exhibit.

1.7. Level of Effort. For each task order, the Engineer shall base the level of effort at each phase

on the prior work developed in earlier phases without unnecessary repetition or re-study. As directed by the Owner, the Engineer shall provide written justification regarding whether or not additional or repeated level of effort of earlier completed work is warranted, or if additional detail will be better addressed at a later stage in the project development.

1.8. Quality Assurance (QA) and Quality Control (QC). The Engineer shall provide peer review at all levels. For each deliverable, the Engineer shall have some evidence of their internal review and mark-up of that deliverable as preparation for submittal. A milestone submittal is not considered complete unless the required milestone documents and associated internal red-line mark-ups are submitted. The Owner's Project Manager may require the Engineer to submit the Engineer's internal mark-up (red-lines) or comments developed as part the Engineer's quality control step. When internal mark-ups are requested by the Owner in advance, the Owner, at its sole discretion, may reject the actual deliverable should the Engineer fail to provide the evidence of quality control. The Engineer shall clearly label each document submitted for quality assurance as an internal mark-up document.

The Engineer shall perform QA and QC on all survey procedures, field surveys, data, and products prior to delivery to the Owner. If, at any time, during the course of reviewing a survey submittal it becomes apparent to the Owner that the submittal contains errors, omissions, or inconsistencies, the Owner may cease its review and immediately return the submittal to the Engineer for appropriate action by the Engineer. A submittal returned to the Engineer for this reason is not a submittal for purposes of the submission schedule.

1.11. Organization of Design Project Folder and Files (Electronic Project Files). The Engineer shall organize the electronic project files in accordance with the Owner's File Management System (FMS) format. The Engineer shall maintain the project files in the Owner's file structure.

1.12. Personal Protective Equipment (PPE). The Engineer shall, and shall require its subcontractors to, (1) provide personal protective equipment (PPE) to their personnel, (2) provide business vehicles for their personnel, and (3) require their personnel to use PPE and drive only business vehicles while performing work on or near roadways. The PPE must meet all (1) current standards set by the Occupational Safety and Health Administration (OSHA) and (2) TxDOT requirements (e.g., safety glasses, Type 3 (TY 3) pants for night work). Each business vehicle must be clearly marked with the Engineer's business name, or the name of the appropriate subcontractor, such that the name can be identified from a distance.

1.13. Data Classification. Unless otherwise clearly labeled or otherwise specifically excepted through a provision of this contract or its attachments, all data provided to or generated by the Engineer under this contract is considered public data for the purposes of applying the Owner's data security standards. The Engineer shall manage all data and work products according to the terms of the contract, including specifically Attachment I, Information Resources and Security Requirements.

TASK DESCRIPTIONS AND FUNCTION CODES

The Engineer shall categorize each task performed to correspond with the Function Codes (FC) and Task Descriptions.

FUNCTION CODE 102(110) – FEASIBILITY STUDIES

ROUTE AND DESIGN STUDIES

The Engineer shall collect, review, and evaluate data described below. The Engineer shall notify the Owner in writing whenever the Engineer finds disagreement with the information or documents provided.

The Engineer shall finalize an alignment and proposed roadway schematic layout that includes projected traffic volumes, when available, and existing and proposed typical sections. The Engineer shall furnish Microsoft Office and MicroStation, GEOPAK, and OpenRoads computer generated media containing the roadway schematic layout to the Owner. All supporting attachments and exhibits must accompany the schematic layout. All MicroStation, GEOPAK, and OpenRoads computer generated files containing the roadway design schematic must be fully compatible with the software used by the Owner without further modification or conversion. The Engineer shall be required to convert files to AutoCAD if requested by the Owner.

The Engineer shall produce, obtain, review, and evaluate available existing and twenty-year projected traffic data for use in the preparation of the schematic design layout. The data must be utilized in accordance with the requirements for schematic development and consistent with the policies of the Owner.

The Engineer shall prepare preliminary drawings to identify any potential impacts and constraints within the project corridor, including impacts to the nature, cultural, and human environment. The potential impacts and constraints identified must include all existing and proposed utilities (both public and private), structures, burial grounds, neighborhood communities, historical landmarks, and undeveloped areas. Any potential utility conflicts and structural impediments must be identified as such. The Engineer shall propose alternative alignments that avoid or minimize displacements and damages and prepare any additional attachments or exhibits required to illustrate a preferred alternative alignment. The Engineer shall assist the Owner with agency meetings during the development of the schematic design as requested by the Owner. If requested by the Owner, the Engineer shall assist the Owner with stakeholder meetings, public meetings, and a public hearing.

An itemization of the schematic design and engineering work activity to be performed under this contract is detailed below. The Engineer shall prepare all designs in accordance with the latest version of:

A. Kyle Connected 2040 Transportation Master Plan (2015)
B. Kyle Transportation Master Plan Update (2021)
C. The Vybe Kyle: Trail-Oriented Development (2021)
D. Kyle Drainage Master Plan (2018)
E. City of Kyle Roundabout Ordinance #1162 (2021)
F. City of Kyle standard detail sheets and general construction notes
G. Texas Department of Transportation (TxDOT) PS&E Preparation Manual

H. TxDOT Roadway Design Manual
I. TxDOT Hydraulic Design Manual
J. Texas Manual on Uniform Traffic Control Devices (TMUTCD)
K. Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (latest Edition)
L. TxDOT Access Management Manual
M. Highway Capacity Manual
N. Other Owner approved manuals and guides.

When design criteria are not identified in Owner manuals or TxDOT criteria, or when conflicts are found, the Engineer shall notify the Owner and refer to City of Austin policies and the American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Street, (latest Edition).

The design schematic horizontal layout must adhere to a design scale of 1 inch = 100 foot (or 1 inch = 200 foot, when directed by the Owner.) The Engineer shall develop the schematic layout, exhibits, and attachments in English units. All Microsoft Office, MicroStation, Keyhole Markup Language (KML), Keyhole Markup Language Zipped (KMZ), and Bentley OpenRoads computer graphic files furnished to the Owner must be uploaded to the Owner's file management system in their native format, which must be fully compatible with the programs currently used by the Owner. Schematics must follow TxDOT and Federal Highway Administration (FHWA) standards. The schematic must follow TxDOT's computer-aided design and drafting (CADD) standards. The Engineer shall submit the schematic as an original document, accompanied with an original MicroStation formatted graphics file. Final copies of the schematic design must be signed and sealed by a professional engineer licensed in the State of Texas.

110.1. Schematic Design Work Outline:

A. Develop Base Maps

The Engineer shall finalize the schematic for the preferred alternative from Task Order No. 1. The Engineer shall develop the base maps to be used for the analysis and proposed schematic layout from existing construction and right of way (ROW) plans as available. The Engineer shall re-establish the existing centerline horizontal alignments for all roadways, identify existing ROW and easements, property owners, and the approximate location of major utilities based on a Subsurface Utility Engineering (SUE) in the preparation of base maps.

B. Planimetrics and Aerial Mapping

The Engineer shall obtain planimetrics, digital terrain modeling (DTM), and aerial photographs from the Owner, if available.

C. Analyze Existing Conditions

Using collected data and base maps, the Engineer shall develop an overall analysis of the existing conditions to develop the schematic design. The written analysis must include the following:

2. ROW and easement determination

3. Horizontal alignment
4. Vertical alignment
5. Pavement cross slopes and pavement type
6. Soil exploration
7. Geotechnical testing
8. Highway-rail grade crossing studies, if applicable
9. Intersection design and analysis
10. Sight distance
11. Large guide signs and roadside signing
12. Level of service
13. Safety (i.e., crash data)
14. Locations of critical constraints
15. Drainage
16. Traffic control and construction phasing sequence

D. Deliverable Schematic

The Engineer shall evaluate and document the following in the analysis to optimize the design:

1. Efficient use of the allocated ROW
2. Control of access (COA) and driveway locations
3. Roadway and intersection geometry
4. Cross sections
5. Bicycle and pedestrian design
6. Drainage and hydraulic design
7. Stopping sight distance
8. Level of service
9. Safety
10. Traffic and signal operations
11. Construction, ROW, easement, and utility costs
12. Construction sequencing
13. Traffic control during construction
14. Roadside safety appurtenances
15. Environmental mitigation (e.g., noise walls, storm water best management practices (BMPs))
16. Bridge layouts and clearance
17. Roundabout Analysis – to be provided by American Structure Point or City of Kyle
18. Accommodation of future cross street expansion as described in local thoroughfare plan (if applicable)
19. Avoidance of utility lines (if feasible)
20. Impact of construction delays from utility relocations

E. Project Management and Coordination

1. The Engineer shall direct and coordinate the various elements and activities associated with developing the design schematic.

2. The Engineer shall prepare the detailed graphic project work schedule indicating tasks, critical dates, milestones, deliverables, and Owner review requirements. The project work schedule must depict the order of the various tasks, milestones, and deliverables. The Engineer shall review the schedule monthly and provide updates regarding its progress on the schedule to the Owner.
3. The Engineer shall submit written monthly progress reports to the Owner.
4. The Engineer shall provide ongoing quality assurance and quality control to ensure completeness of product and compliance with the Owner procedures.
5. The Engineer shall conduct site visits in both the AM and PM peak hour and develop a technical report that includes photographs outlining the findings and observations.

F. Data Collection and Field Reconnaissance

The Engineer shall collect, review, and evaluate data described below. The Engineer shall notify the Owner in writing whenever the Engineer finds disagreement with the information or documents:

1. Data, if available, from the Owner, including "as-built plans", existing schematics, right-of-way maps, Subsurface Utility Engineering (SUE) mapping, existing cross sections, existing planimetric mapping, environmental documents, existing channel and drainage easement data, existing traffic counts, accident data, Bridge Inspection records, identified endangered species, identified hazardous material sites, current unit bid price information, current special provisions, special specifications, and standard drawings.
2. Documents for existing and proposed development along proposed route from local municipalities and local ordinances related to project development.
3. Utility plans and documents from appropriate municipalities and agencies.
4. Flood plain information and studies from the Federal Emergency Management Agency (FEMA), the United States Army Corps of Engineers (USACE), local municipalities, and other governmental agencies.
5. Conduct field reconnaissance and collect data including a photographic record of notable existing features.

The Engineer shall conduct field reconnaissance and collect data as necessary to complete the schematic design. Data must include the following information. Items 1 through 5 must be obtained from the Owner, if available. Items 6 through 13 must be obtained from other agencies as required.

1. Local major thoroughfare plan
2. Plat research for adjacent properties (if available)
3. Available corridor major investment studies
4. Design data from record drawings of existing and proposed facilities
5. Previously prepared drainage studies
6. Public and private utility information (It is necessary for the Engineer's Surveyor to locate public and private utilities, even if the City has permits)
7. Existing and future design year traffic data
8. Historical crash data

9. Roadway inventory information, including the number of lanes, speed limits, pavement widths and rating, bridge widths and ratings, and ROW widths
10. Aerial photos, planimetric mapping, and DTM
11. Environmental data
12. Adopted land use maps and plans (if available)
13. Federal Emergency Management Agency (FEMA) flood boundary maps and flood insurance studies and models

G. Roadway Design Criteria

The Engineer shall develop the roadway design criteria based on the City of Kyle Transportation Master Plan Update (2021), TxDOT Roadway Design Manual and AASHTO Policy on Geometric Design of Highways and Streets guidelines. The design criteria must include the following roadway design elements: design speed, lane and shoulder widths, pavement structure and slopes, horizontal curvatures, horizontal and vertical clearances, range of vertical profile grades, and side slopes. If there is a discrepancy between the two sources, the Roadway Design Manual will govern unless otherwise directed by the Owner.

The Engineer shall prepare and submit preliminary design criteria to the Owner for review and approval and shall attend an initial kick-off meeting to establish and agree on fundamental aspects, basic features, concepts, and design criteria. This meeting will be coordinated with any adjacent roadway projects to ensure continuity with the design of the adjacent roadway projects.

110.2. Schematic Design – General Tasks

A. ROW Property Base Map

The Engineer shall obtain information on existing ROW, easements, and property information from as-built plans, ROW maps, and tax records. The Engineer shall prepare a base map depicting the information.

B. Typical Sections

The Engineer shall develop both existing and proposed typical sections that depict the number and type of lanes, shoulders, median width, curb offsets, cross slope, border width, clear zone widths, and ROW limits.

C. Environmental Constraints

The Engineer shall evaluate and document impacts to environmentally sensitive sites (as identified by the Engineer and verified by the Owner) during the schematic design process. Environmentally sensitive sites include natural, cultural, and the human environment. Examples are historic and archeological resources, burial grounds, neighborhood communities and residential areas, farmland, floodplains, wetlands, endangered species, rare habitats, wildlife corridors, wildlife crossings, parks and nature preserves, geologic features, undeveloped areas, and significant trees.

D. Drainage

The Engineer shall use data from as-built plans and FEMA maps to locate drainage outfalls and to determine existing storm sewer and culvert sizes, design flows, and water surface elevations for use in the design of roadway geometry. Atlas 14 rainfall data shall be used in accordance with City of Kyle ordinances, which reference the City of Austin Drainage Criteria Manual. The Engineer shall conduct a preliminary drainage study to determine and evaluate the adequacy of the ROW needed to accommodate the proposed roadway and drainage system. The drainage study must (1) identify the impacts to abutting properties and the 100-year floodplain due to proposed highway improvements; (2) identify the water surface elevations for the 2, 5, 10, 25, 50, and 100-year storm events; (3) identify and locate outfalls; (4) provide drainage outfall descriptions; (5) provide overall drainage area map, sub-drainage area map, and storm water detention facilities; and provide a drainage study report identifying the results of the study. The drainage report, which must be signed and sealed by a professional engineer licensed in Texas, must include applicable hydrologic and hydraulic models (e.g., HEC-RAS, HEC-HMS, XP- SWMM, HY-8). The models must be approved by the City of Kyle prior to generating any reports. If requested, the Engineer shall prepare a final drainage study in accordance with one or more of the following: City of Kyle Drainage Master Plan, TxDOT Hydraulic Design Manual, local TxDOT district criteria, and any other specific guidance provided by the Owner. If requested by the Owner, the Engineer shall evaluate the adequacy of the existing drainage structures; otherwise, the Engineer shall not evaluate the adequacy of the existing drainage structures.

Water Quality: shall be provided in accordance with City of Kyle Code 41-134(a)(7). This water quality shall be designed in accordance with the latest version of the Texas Commission on Environmental Quality – Edwards Aquifer Technical Guidance Manual (TCEQ RG-348).

The Engineer shall design water quality Best Management Practices (BMP) in accordance with the latest editions of RG-348 – Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices (July 2005); RG-348 Addendum Sheet (July 2012), or latest edition. As part of this work, the Engineer shall perform the following:

1. BMP analysis: The Engineer shall locate all BMPs previously permitted under the TCEQ Edwards Aquifer rules that might be impacted by the project. The Engineer shall determine the amount of total suspended solids (TSS) being treated under these permitted BMPs.
2. TSS load calculations: The Engineer shall develop TSS load calculations to determine the TSS amount required to be treated under the Edwards Aquifer rules. This calculation is based on the increase in the amount of impervious cover within the project area. The Engineer will determine 80% of the increase in TSS load resulting from the development on the project.
3. TSS removal determination: The Engineer shall utilize the TCEQ calculation spreadsheet to determine the total amount of TSS removal required for the project.
4. Design coordination and water quality report: After the 30% submittal, the Engineer shall meet with the Owner to discuss the TSS removal required for the project and delineate the design approach for the water quality BMPs. As geometry allows, the Engineer shall first maximize treatment via features in the roadway section (vegetative filter strips and grassy swales). For all other permanent BMP treatment options, the Engineer shall coordinate with the Owner for preferred treatment options and determine any necessary drainage easements required for the water quality BMP. The

Engineer shall identify and document BMP'sBMPs in the schematic water quality report. The Engineer shall submit a draft schematic water quality report with the 60% submittal, and a final schematic water quality report with the 100% submittal. The Engineer shall provide cost estimates for the BMPs and necessary drainage easements.

E. ROW Requirements

The Engineer shall determine the ROW requirements based on the proposed alignment, typical sections, design cross sections, access control, terrain, construction requirements, drainage, clear zone, maintenance, intelligent transportation system (ITS), and environmental constraints and mitigation requirements.

F. Construction Sequence

The Engineer shall evaluate and document the requirements for construction staging and traffic control throughout the development of schematic design to ensure that the proposed design can be constructed. The Engineer shall provide construction phasing assumptions to the Owner as requested and provide preliminary traffic control plan (TCP) layouts.

G. Design Exceptions

The Engineer shall identify design exceptions and waivers. The Engineer shall determine the necessity for each design exception or waiver for approval. If the Owner agrees that design exception or waiver is necessary, the Engineer shall prepare the Owner's required design exception or design waiver documentation. The Engineer shall document the operational and safety analysis for comparison of the no-build, build with standard design, and build with proposed design alternatives.

H. Traffic Data and Projections

The Engineer shall obtain the base year traffic data from available traffic data available or new counts and develop the opening-year, design-year (opening year +20) and pavement design year (opening year + 30) travel forecasts, and related traffic analysis. The developed traffic projections must be utilized for design and environmental analysis. The Engineer shall develop traffic forecasts for the mainlanes, ramps, cross streets, interchanges, intersections, and frontage roads for no-build and build alternatives. These projections must include graphic representations of the anticipated daily movements along the corridor (suitable for inclusion in the design schematic and environmental document) and the traffic analysis for highway design table. The Engineer shall review the proposed methodology with the Owner and refine it based on these discussions. The Engineer shall submit the traffic volumes developed by the Engineer to the Owner for review and approval. The Engineer shall revise the traffic volumes based on the Owner's comments.

I. Bicycle and Pedestrian Accommodations

The Engineer shall comply with City of Kyle design criteria and planned improvements for bicycle and pedestrian accommodations, including the 2015 and 2021 Transportation Master Plans and The Vybe Kyle: Trail Oriented Development, and the United States Department of

Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations. The inclusion of bicycle and pedestrian facilities must be evaluated when the project is scoped.

J. Utility Base Map

The Engineer shall obtain information on existing utilities from utility owners and shall conduct investigations to identify and evaluate all known existing and proposed public and private utilities. The Engineer shall identify potential conflicts and minimize the potential adverse utility impacts in the schematic design. The Engineer shall prepare a base map depicting the utility locations.

110.3. Update Conceptual Design Schematics

The Engineer shall update conceptual design schematics developed in task order 1 in MicroStation format to evaluate various methods of handling traffic while providing access in key areas. The Engineer shall develop a single recommended design alternative that optimizes traffic flow and access. The conceptual schematics are to be plan view only. Profile work must be done only to the extent necessary to lay out the proper horizontal geometry.

The schematics must contain the following design elements:

A. Mainlane roadway alignment
B. Pavement edges, face of curbs, and shoulder lines of mainlanes, intersections, interchanges, and connecting highways or streets
C. Typical sections of existing and proposed roadways
D. Anticipated structure locations (including wildlife crossings and fencing structures)
E. Anticipated retaining wall and sound wall locations
F. Anticipated conveyance of major drainage elements
G. Preliminary ROW and easement requirements and control-of-access locations
H. Direction of traffic flow and the number of lanes on all roadways
I. Existing and projected traffic volumes
J. Existing utilities
K. Waters of the United States (WOTUS)

110.4. Geometric Design Schematics

The Engineer shall develop geometric design schematics based on the conceptual schematics after the basic layout, lane arrangement, and anticipated ROW and easement impacts depicted on the conceptual schematics are approved. The Engineer shall use Bentley OpenRoads tools in performing this task. The geometric design schematics must include both a plan view and profile view.

A. The geometric schematic plan view must contain the following design elements:

    1. Bentley OpenRoads calculated roadway alignments for mainlanes, general purpose lanes, ramps, direct connectors, bridges, HOV lanes, managed lanes, express lanes,

collector distributor roads, frontage roads and cross streets at major intersections and grade separations
2. Horizontal curve data shown in tabular format
3. Pavement edges, curb lines, sidewalks for all roadway improvements
4. Typical sections of existing and proposed roadways
5. Proposed bridge structures, including bridge deck, abutment, bent, and rail locations
6. Proposed retaining walls and sound walls
7. Proposed cross-drainage structures with outfall flow arrows and significant drainage features or waterways identified
8. Existing utilities and proposed utilities
9. Existing property lines and respective property ownership information
10. Existing ROW and easements
11. Proposed ROW and easements adequate for preparation of ROW maps
12. Waters of the US (WOTUS)
13. Control-of-access limits
14. Existing and projected traffic volumes
15. Location and text of the existing and proposed guide signs and the preliminary locations for changeable message signs
16. Lane lines, shoulder lines, and direction of traffic flow arrows indicating the number of lanes on all roadways

B. The geometric schematic profile view must contain the following design elements:

1. Calculated profile grade and vertical curve data including "K" values for all curves and sight distance values for crest vertical curves on the mainlanes
2. Existing ground line profiles along the mainlanes
3. Grade separations and overpasses including preliminary abutment and bent locations, girder type, and span lengths
4. Calculated vertical clearances at grade separations and overpasses
5. Anticipated cross-drainage structures with approximate inlet and outfall elevations
6. Proposed ditch grading (special grading), if it does not follow the typical section.
7. Approximate locations of existing and proposed major utility crossings
8. The calculated profile grade for frontage roads, connectors, ramps and cross streets will be shown on separate Supplemental Profile rolls

110.5. Cross-Sections

The Engineer shall use a Bentley 3D OpenRoads model to generate preliminary cross-sections at 50 feet intervals (unless otherwise directed by the Owner) and at culvert locations in conjunction with the geometric schematic. The Engineer shall determine earthwork volumes for use in the cost estimate. The Engineer shall prepare 11inch x17inch or roll plots of the cross-sections.

110.6. Retaining Walls

The Engineer shall prepare preliminary retaining wall concepts to be shown on schematics, typical sections, and cross sections.

A. The Engineer shall determine if any additional walls are required and verify the need for and length of the retaining wall as shown on the ultimate schematic.
B. The Engineer shall compute and tabulate retaining wall quantities for preliminary design milestone plans submittal.

110.7. Renderings and Traffic Simulation

The Engineer shall develop exhibits as a means of expression and understanding for what the owner of the project envisions and what the public perceives. In support of the public outreach effort, the Owner will choose reasonable build alternatives, which the Engineer shall carry forward into creating exhibits for each of the various alternatives. The Engineer shall create a 3D model shall for the reasonable build alternatives from: horizontal and vertical alignments, existing and proposed DTMs, proposed typical sections, traffic counts, and ground photography.

The exhibits must give the public and stakeholders a clear awareness and appreciation for the reduction of traffic congestion and how traffic is to flow into and out of the project area.

110.8. Preliminary Construction Sequence

The Engineer shall prepare preliminary construction sequence layouts in conjunction with the geometric design schematic depicting the phasing and traffic detours anticipated to safely convey traffic. The layouts must demonstrate that adequate horizontal and vertical alignments are maintained, sufficient lane widths and shoulder widths or barrier offsets are feasible, and construction zones are adequate for constructability of all proposed features. Proposed construction detours must ensure that adequate superelevation is provided. The layouts must indicate how existing pedestrian and bicycle facilities are accommodated for each phase.

110.12. Agency Coordination and Public Involvement

A. The Engineer shall assist the Owner in conducting meetings with property owners, stakeholders, and various agencies to discuss and review the schematic design. The Engineer shall document and respond to issues related to the schematic design.
B. The Engineer shall prepare necessary exhibits and meeting materials to support stakeholder coordination and public outreach efforts.

110.13. Schematic Design Project Deliverables

In conjunction with the performance of the services included under Function Code 110 of this exhibit, the Engineer shall provide the following draft and final documents and associated electronic files as applicable:

A. Draft and final copies of the agreed upon design criteria
B. Draft copies of the preliminary drainage study
C. Draft and final copies of the conceptual design schematics roll plots
D. Draft and final copies of the geometric schematic layouts (1 inch = 100 feet)
E. Draft and final copies of the design schematic profile rolls
F. Draft and final copies of the design schematic cross-sections on 11-inch x 17-inch cut sheets or roll plot format, as requested by the Owner

G. Copy of the preliminary cross-sections in a roll plot format or 11-inch x 17-inch format, as requested by the Owner
H. Electronic 3D model copy of the preliminary cross-sections created using OpenRoads software
I. Preliminary drainage study
J. Electronic submittal of the hydrologic and hydraulic model digital files from the drainage study
K. preliminary construction narrative
L. Electronic files shall be uploaded to the Owner's Procore file management system
M. Line schematics with traffic data shown
N. Documentation of public involvement activities
O. Utility plan – electronic file in latest version of MicroStation fully compatible with OpenRoads civil design system
P. Design exception and design waiver documents
Q. Draft hydraulic report for review and comment EE. Culvert hydraulic data sheets and preliminary culvert layouts
R. Electronic copy of the entire drainage report in PDF format, and computer files of hydrologic and hydraulic modeling with appropriate labeling of location, and submittal date
S. Geotechnical report
T. Cost estimates for each milestone submittal
U. KMZ or KML file of conceptual design schematic created from applicable DGN files for reviewing in Google Earth
V. Final schematic 3D model created using OpenRoads software

110.14. Preliminary Cost Estimates. The Engineer shall develop a preliminary cost estimate using the Average Low Bid Unit Price. The Engineer shall estimate the total project cost including preliminary engineering, final engineering, right-of-way (ROW) acquisition, environmental compliance and mitigation, construction, utility relocation, and construction engineering inspection (CEI).

110.16. Geotechnical Borings and Investigations. The Engineer shall determine the location of proposed soil borings for bridge design, embankment settlement analysis, retaining walls, slope stability and along storm drain alignment in accordance with the latest edition of TxDOT's Geotechnical Manual. The Owner will review and provide comments for a boring layout submitted by the Engineer showing the general location and depths of the proposed borings. Once the Engineer receives the Owner review comments they shall perform soil borings (field work), soil testing and prepare the boring logs in accordance with the latest edition of the State's Geotechnical Manual and State District's procedures and design guidelines.

A. The Engineer shall perform all geotechnical work in accordance with the latest version of TxDOT's Geotechnical Manual. All testing shall be performed in accordance with the latest version of TxDOT's Manual of Test Procedures. American Society for Testing Materials (ASTM) test procedures can be used only in the absence of Owner and TxDOT procedures. All soil classification shall be done in accordance with the Unified Soil Classification System.
B. If applicable, the Engineer shall perform any retaining wall analyses to include the settlement analysis. This analysis must include the computation of the factor of safety for bearing capacity, global stability, overturning and sliding. In addition, the Engineer shall

include allowable bearing pressure, passive earth pressure, friction factor, settlement analysis (consolidation report) and lateral earth pressure for the retaining walls.

C. If applicable, the Engineer shall perform soil borings, rock coring, coring for pavement removal items, piezometric readings, testing and analysis to include slope stability analysis, settlement analysis, and foundation design recommendations for retaining walls, overhead sign structures, along proposed storm sewer alignments, bridges, embankments, and any temporary soil retaining systems. Engineers shall call 811 and the City of Kyle Public Works Department (512-262-3024) for utility information prior to digging. Traffic control is required for any work that is performed for geotechnical borings and investigations within the right-of-way limits.
D. The Engineer shall provide a signed, sealed and dated geotechnical report which contains, but is not limited to, soil boring locations, boring logs, laboratory test results, generalized subsurface conditions, ground water conditions, piezometer data, analyses and recommendations for settlement and slope stability of the earthen embankments, skin friction tables and design capacity curves including skin friction and point bearing. The skin friction tables, and design capacity curves must be present for piling and drilled shaft foundation.
E. If applicable, the Engineer shall perform scour analysis to include Grain Size distribution curves with D50 value.
F. The Engineer shall sign, seal and date soil boring sheets to be used in the PS&E package. The preparation of soil boring sheets must be in accordance with Owner and TxDOT standards.
G. Foundation Studies: The Engineer shall coordinate with the Owner to determine the location of soil borings to be drilled along the retaining wall alignments. The soil borings shall extend a minimum of 35 feet below the footing elevation or deeper as soil conditions warrant. Spacing of soil borings shall not exceed 500 feet. The Engineer shall provide a boring layout for the Owner's review and comment.
H. The Engineer shall incorporate soil boring data sheets prepared, signed, sealed, and dated by the Geotechnical Engineer. The soil boring sheets shall be in accordance with WINCORE software as can be found on the Texas Department of Transportation (TxDOT) website.

FUNCTION CODE 120(120) – SOCIAL/ECON/ENVIRON STUDIES

SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT

120.1. Environmental Documentation Standards

A. Quality Assurance/Quality Control Review

For each deliverable, the Engineer shall perform quality assurance quality control (QA/QC) reviews of environmental documents and on all supporting environmental documentation to determine whether documents conform with:

9. Current state and federal laws, regulations, policies, guidance, agreements, and memoranda of understanding between the Owner and applicable state or federal agencies; and

Upon request by the Owner, the Engineer shall provide documentation that the QA/QC reviews were performed by qualified staff.

B. Deliverables must contain all data acquired during the environmental service and be written to be understood by the public.
C. Electronic versions of each deliverable must be written in software that is fully compatible with the software currently used by the Owner and provided in the native format of the document for future use by the Owner. The Engineer shall supplement all hard copy deliverables with electronic copies in searchable Adobe Acrobat™ (.pdf) format unless another format is specified. Each deliverable must be a single, searchable *.pdf file that mirrors the layout and appearance of the physical deliverable. The Engineer shall upload the electronic files to the Owner's Procore file management system in both the document's native format and the PDF format.
D. When the environmental service is to apply for a permit (e.g., USCG permit or USACE permit), the Engineer shall submit all required documentation to the applicable regulatory agency and copy the Owner on all correspondence.
E. The Owner will provide the Owner's and other agency comments on draft deliverables to the Engineer. The Engineer shall revise the deliverable:

    1. To include any Owner commitments, findings, agreements, or determinations (e.g., wetlands, endangered species consultation, Section 106, or Section 4(f)), required for the transportation activity as specified by the State.
    2. To incorporate the results of public involvement and agency coordination.
    3. To reflect mitigation measures resulting from comments received or changes in the transportation activity; and
    4. To include with the revised document a comment response form (matrix) in the format requested by the Owner.

F. The Engineer shall provide photographs and graphics that clearly depict details relevant to an evaluation of the project area. Comparable quality electronic photograph presentations must be at least 1200 x 1600-pixel resolution. The Owner can request images/graphics be provided in another format or quality.

120.5. Environmental Technical Analyses and Documentation

A. Definition of technical analyses and documentation for environmental services

In general, technical analyses and documentation for environmental services might include a report, checklist, form, or analysis detailing resource-specific studies identified during the process of gathering data to make an environmental decision.

The Owner may determine what technical reports and documentation are necessary for any given project. The Engineer shall prepare all technical reports and documentation for the Owner with sufficient detail and clarity to support environmental determinations.

Environmental technical reports and documentation must include appropriate NEPA or federal regulatory language in addition to the purpose and methodology used in delivering the service. Technical reports and forms must use templates and documentation standards as applicable and include sufficient information to determine the significance of impacts.

B. Minimum Deliverables:

1. Draft technical analyses and documentation
2. Final technical analyses documentation

C. The exact environmental technical analyses and documentation must be determined at the task order level, but can include:

1. Project Management & Right-of-Entry

The Engineer's Environmental Project Manager will be responsible for oversight and daily management of this project. Frequent and appropriate communications will be maintained between the Engineer and the City of Kyle - and its GEC - in an effort to expedite completion of the project. The Engineer has incorporated internal quality assurance/quality control QA/QC procedures, which will be used to validate the data collected, conclusion drawn, and information presented in the draft and final written reports. The following items are included in the project management task:

- Coordinate the daily environmental study activities of the project;
- Provide monthly status reports to the GEC / City, if requested;
- Coordinate and meet with design teams and team members, as necessary;
- Attend up to two (2) in-person miscellaneous meetings and six (6) virtual meetings, as requested by the City and/or its GEC; and
- Provide QA/QC for environmental services throughout project duration.

Right-of-Entry: It is understood that a portion of the proposed project may lie within property owned by others. Any right-of-entry (ROE) coordination for applicable adjacent property owners will be coordinated by The Engineer. A draft of the letters will be provided to the GEC and City of Kyle for approval. The Engineer, upon approval, will be responsible for preparation, mailing, and coordinating ROE in order to perform the site reconnaissance activities identified under Tasks 2 through 5. It is anticipated that engineering site activities will also be covered by this ROE effort.

2. Cultural Resources Investigation & Survey

For purposes of the Cultural Resources Investigation & Survey, the project area is assumed to consist of approximately 1.1 miles of linear project corridor measuring no more than 100.0 feet in width.

Regulatory Jurisdiction

The proposed undertaking would be sponsored by the City of Kyle, a political subdivision of the state of Texas; as such, the project would fall under the regulatory jurisdiction of the Antiquities Code of Texas. In addition, the project may utilize federal funding provided by an as-yet-unidentified federal agency. In this case, the project would also fall under the regulatory jurisdiction of Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. As the proposed

project represents a publicly sponsored undertaking, the project sponsor is required to provide the applicable federal agencies and the Texas Historical Commission (THC), which serves as the State Historic Preservation Office (SHPO) for the state of Texas, with an opportunity to review and comment on the project's potential to adversely affect historic properties listed on or considered eligible for listing on the National Register of Historic Places (NRHP) and/or for designation as State Antiquities Landmarks (SAL). At this time, no other federal or state jurisdiction has been identified for the project. In the event that any additional regulatory triggers are identified as the project moves forward, the Engineer will evaluate whether or not any additional, out-of-scope cultural studies or agency coordination may be required.

Scope of Services

The cultural resources study would consist of desktop archival research, an intensive archeological field survey, and production of a report suitable for review by the SHPO in accordance with the THC's Rules of Practice and Procedure, Chapter 26, Section 26, and the Council of Texas Archeologists' (CTA) Guidelines for Cultural Resources Management Reports.

Subtask 1—Archival Research and Agency Coordination

Prior to initiating fieldwork, the Engineer will:

- Perform basic archival research at the THC, the General Land Office (GLO), the National Park Service's (NPS) online National Register Information System (NRIS), and/or other relevant archives for information on previous cultural resources investigations conducted in the vicinity of the project area and previously recorded archeological sites and historic properties within and in the vicinity of the project area. Desktop archival studies will examine a 1.0-mile radius surrounding the project area.

- Review the abovementioned archives; historical, geological, topographic, and soil maps; and aerial photographs prior to initiating fieldwork to evaluate the potential for encountering significant cultural resources within the project area.

- Define the Area of Potential Effect (APE) of the proposed project based on applicable federal and state agency guidelines, taking into account the horizontal extent of the construction footprint, the vertical depth of ground-disturbing impacts, and potential indirect (e.g., viewshed) effects beyond the construction footprint.

Subtask 2—Archeological Survey Fieldwork

The Engineer will:

- Apply for and obtain a Texas Antiquities Permit from the THC (required for any project that falls under the jurisdiction of the Antiquities Code of Texas). The application for a Texas Antiquities Permit requires the signature of the project sponsor and/or landowner, as appropriate, as well as the archeological Principal Investigator. The

Texas Antiquities Permit must be issued by the THC prior to the initiation of any cultural resources field activities.

- Perform an intensive archeological survey, consisting of pedestrian walkover with surface inspection and systematic shovel testing at a level of intensity sufficient to meet or exceed the Texas State Minimum Archeological Survey Standards (TSMASS) and guidelines established by the CTA unless field conditions warrant excavation of more or fewer shovel tests.

- Document any cultural resources encountered to a sufficient degree to make preliminary recommendations of the significance of the resources in terms of their eligibility for inclusion in the NRHP and/or for designation as SALs, as appropriate.

- Inspect the locales of any previously recorded archeological sites within the project area, assess their current condition, and document the sites to a sufficient degree to make preliminary recommendations of the significance of the resources in terms of their eligibility for inclusion in the NRHP and/or for designation as SALs, as appropriate.

Subtask 3—Technical Report

The Engineer will:

- Complete and submit *State of Texas Archeological Site Data Forms* (for new archeological sites) or *State of Texas Archeological Site Update Forms* (for previously recorded archeological sites) to TARL. Permanent site trinomials will be obtained from TARL for any new archeological sites documented within the project area during the survey.

- Assess the significance of any cultural resources within the project area in terms of their potential eligibility for inclusion in the NRHP and/or for designation as SALs, as appropriate.

- Develop a draft technical report detailing the project background, environmental and cultural setting of the project area, research goals and survey methods, survey results, recommendations for any cultural resources documented during the survey, and a bibliography of references cited suitable for review by the THC and any other applicable regulatory agencies.

- Submit a preliminary review copy of the archeological draft report describing the results of the survey in electronic (PDF) format to the client or review. Following approval of the draft report by the client, the Engineer will submit an electronic copy of the report to the THC and any other applicable regulatory agencies for review and comment. The Engineer will coordinate review with the regulatory agencies unless the client would prefer to coordinate agency review directly.

- Respond to any comments on the draft report offered by the THC and any other applicable regulatory agencies and produce a final report.

- Submit the final report to the client and the THC.

Subtask 4—Records Curation

The Engineer will:

- Prepare project records for curation at TARL per the requirements of the Antiquities Code of Texas and TARL's *Stipulations and Procedures for the Preparation of Archeological Records and Photographs, Curation Supplies, and Sources* and/or *Stipulations and Procedures for the Preparation of Archeological Material Collections*, as appropriate.

Services Not Covered

The cost estimate assumes that the cultural resources survey will be negative for cultural resources. In the event that archeological sites are encountered within the project area, an additional fee not to exceed **$3,500** per prehistoric/protohistoric site or **$4,500** per historic-age site will be incurred, which is inclusive of additional site recording time in the field, site form filing fees, and additional mapping and reporting requirements. In addition, for historic-age sites, the extra fee covers historical/archival research required under the state's survey guidelines. Note that these estimated fees apply to small to moderate-sized sites that can be recorded in approximately a half day or less. Large, deep, or unusually complex sites may require additional time to record and incur additional charges. As the Engineer is required to record any archeological sites encountered during fieldwork, this is not considered an out-of-scope cost and will be incurred automatically if archeological sites are found. Depending on the number, type, and specific characteristics of the sites, the full fee may not be required for each site. The Engineer will notify the client within 48 hours of completion of the archeological field survey as to how many archeological sites were recorded and the scale of additional fees anticipated to be necessary.

This cost estimate does not include provisions for mechanical excavations, such as backhoe trenching in areas of deep alluvium or Gradall stripping adjacent to cemeteries, if such are encountered during the survey fieldwork. Mechanical operations are required by the state's survey guidelines in areas with a moderate to high probability to contain cultural resources buried more deeply than standard shovel testing is capable of reaching (i.e., about 1.0 meter [3 .3 feet] below ground surface depending on soil type). Due to the physiographic setting of the project area, backhoe trenching is anticipated to be unnecessary for this project, though it is possible that any stream crossings or areas of intact alluvium may require mechanical excavations. In the event that mechanical excavations are determined to be necessary based on the results of the pedestrian survey, a supplemental work authorization may need to be executed to cover any additional fieldwork.

3. Waters of the U.S. Delineation and Documentation

The objective of the delineation is to evaluate and document any portion of the site to be classified as a "Jurisdictional Water of the United States" as defined in 33 CFR 328 and subject to U.S. Army Corps of Engineers (USACE) jurisdiction. The delineation will be conducted according to the 2010 Regional Supplement to the Corps of Engineers (USACE) Wetland

Delineation Manual: Atlantic and Gulf Coastal Plain Region (v.2). The recent guidance and supplemental criteria have altered the primary determining factors for identifying waters of the United States. However, compliance with these criteria requires a significant increase in the documentation and scientific evaluation.

Delineation work will consist of the following subtasks:

Subtask 1—Review of NRCS Soil Surveys: Subtask 1 will include a review of previously published soil data published by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), to determine the types of surface soils expected to be confirmed by on-site soil analysis.

Subtask 2—Review of Aerial Photographs: Subtask 2 will include a review of historical aerial color and black/white photographic enlargements for selected years. Infrared color photographs will be analyzed for the presence of wetland signature color distortions. Information for all photographic interpretation will be compared to locate recurring sites where wetland signatures are present.

Subtask 3—Site Reconnaissance for Wetland Indicators: Subtask 3 will include inspecting the property under the field procedures outlined in the Corps of Engineers Wetland Delineation Manual – Technical Report Y-87-1 by the USACE.

Transects are required for tracts greater than 5 acres in size, unless negotiated with the USACE to forego transects based on the homogeneous landscape and habitat type. If necessary, transects will be performed across the property, perpendicular to the nearest watercourse. Samples of vegetation, soils, and hydrology indicators will be taken at each change in topography or vegetation. Vegetation samples will be evaluated and recorded at each sample area. Upland vegetation will be verified, for it is as significant as wetland vegetation in the determination process. Inspection of the property for evidence or lack of wetland hydrology will be performed at each sample area. Soil samples will be evaluated at each test site for their hydric and non-hydric characteristics. Non-hydric soils verify upland status and are as significant as hydric soils in the determination process.

Subtask 4—Demarcation of Wetland Areas: Subtask 4 will include the flagging of the jurisdictional wetland areas and/or the ordinary high-water mark for location by a Registered Professional Land Survey (RPLS) or Global Positioning System (GPS). Location of the areas by RPLS or GPS survey using the USACE October 2003 Standard Operating Procedures is required for USACE verification/permitting and is recommended for project planning.

Subtask 5—Preparation of a Map Representing Wetland Areas: Upon receipt of the RPLS or GPS wetland areas and the limits of the Jurisdictional Waters, information regarding the field location of the boundaries of all Section 10 and 404 waters/wetland limits within the property boundaries will be plotted on a scaled map. Each Jurisdictional area will be depicted with the following information: 1) size and shape; (2) surface area calculation (acres); and (3) combined total wetland and Jurisdictional Water area

calculations for the entire subject tract. The final report submitted to the client from Berg♦Oliver will reflect the surveyed data from the RPLS or GPS survey showing the location of the wetlands.

Subtask 6—Report Preparation: Subtask 6 will include the preparation of a final report. Upon completion of the site reconnaissance, data translation, and map preparation, a report will be completed, two copies of which will be given to the client. The report will include a discussion of methodology used to delineate the tract, site findings, copies of all historical information reviewed, such as U.S. Geological Survey topographical maps, NRCS soil survey maps, aerial photographs, site photographs, USACE routine data sheets, a wetland delineation map, and Approved Jurisdictional Determination Forms or Preliminary Jurisdictional Determination Forms.

Assistance will be provided to the client with submission of Approved Jurisdictional Determination Forms or Preliminary Jurisdictional Determination Forms to the USACE, if instructed by the client. Engineer will attend a site visit with the USACE to verify the findings of the wetland delineation and provide any map revisions as necessary according to the USACE requirements.

4. Threatened and Endangered Species Assessment

The objective of the Threatened and Endangered Species Assessment is to evaluate the potential for the existence of critical or irreplaceable habitats, which are considered protected under the Endangered Species Act of 1973 and subsequent amendments and listings. The following selected tasks will be considered for the tract.

Subtask 1—Review of Agency Listing for Estimated Habitat Boundaries: The listings currently maintained by U.S. Fish and Wildlife Service (USFWS) and Texas Parks & Wildlife Department (TPWD) will be evaluated to determine if any of the listed species may be shown to potentially inhabit the area which will include a USFWS Information for Planning and Consultation (IPaC) report for the subject site.

Subtask 2—Consultation with Appropriate Agencies: Subtask 1 results may reveal the need for additional current information. If indicated, several private sources and agencies will be interviewed for information regarding specific species having potential for habitation of the subject site.

Subtask 3—Site Reconnaissance and Biological Impact Assessment: The biological aspects of the potential habitat will be physically reviewed and documented to determine if the habitat is desirable or reproductively useful to the specific species. The site will be reviewed for biological indicators of presence. If marginal or suspicious habitats are encountered, a specialist on the specific study species will be consulted and included in the site impact assessment.

Subtask 4—Preparation of Letter of Findings and Recommendations: Following the completion of all research and site reconnaissance, a letter of findings and recommendations will be completed and forwarded to the client.

5. Phase I Environmental Site Assessment (ESA)

The Phase I Environmental Site Assessment (Phase I ESA) will be performed in accordance with ASTM standard practice E 1527-2013, Environmental Site Assessments: Phase I Environmental Site Assessments.

This practice is intended to permit you to satisfy one of the requirements to qualify for the innocent landowner defense to CERCLA (Comprehensive Environmental Response, Compensation and Liability Act) liability: that is, the practices that constitute "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined in 42 USC '9601§(35)(B).

The Client will need to furnish the Engineer with the following items in order to begin the Phase I ESA process:

- **A survey map of the site;**
- **Metes and bounds or legal description; and**
- **Contact name of the current owner or owner's representative to complete an owner/occupant inquiry.**

These items should show or describe the exact location of the subject property to be assessed.

The Phase I will have four subtasks, described as follows:

Subtask 1—Records Review: Obtain and review records that will help identify recognized environmental conditions in connection with the property. Some records will pertain to properties within an additional approximate search distance in order to help assess the likelihood of potential problems from migrating substances.

Subtask 2—Site Reconnaissance: Visually and physically inspect the property and adjoining properties, to the extent not obstructed by bodies of water, adjacent buildings, or other obstacles, for evidence of hazardous substances or petroleum products.

Subtask 3—Interviews and Agency Inquiries: a) Interview owners and occupants, or their designated representatives, to obtain information regarding current and historical uses of the property that may be related to environmental conditions. b) Conduct inquiries of local agency (e.g. fire department, health department) officials or staff members that may have knowledge or records of environmental conditions or incidents related to the property or the surrounding area. Interviews may in the form of personal contact, telephone contact, or written correspondence.

Subtask 4—Evaluation and Report Preparation: The information gathered from the previous tasks will be evaluated, and the findings will be presented in a report that describes, at minimum, site and vicinity descriptions, current and past uses of the property and

adjoining properties, information from records reviews, information from site reconnaissance and interviews, conclusions and opinions of impacts, if any, of recognized environmental conditions. The report will also describe the methodologies used and will include appropriate documentation and exhibits of information used to conduct the assessment. Recommendations for further study, if any, will be provided in a separate document.

INVESTIGATIVE WORK

Phase I ESA investigative work includes, but may not be limited to, four basic tasks which are each comprised of several components. The details of these tasks are set forth below, listing the standard components of each. The ASTM E 1527-2013 standard prescribes a review of *reasonably ascertainable* information; that is, information that is publicly available, obtainable from its source within reasonable time and cost restraints, and practically reviewable. The availability of information will vary based on the location of a given site. Berg♦Oliver will attempt to review as much of the following information as is reasonably ascertainable for this project.

Subtask 1— Records Review

Standard Environmental Record Sources

Review documented environmental site listings from Federal and State regulatory agency database sources, including the following:

Sources	Minimum Search Distance
1. Federal NPL Facilities/Sites Lists	1.0 Mile Radius
2. Federal NPL-Delisted Sites List	0.5 Mile Radius
3. Federal CERCLIS List	0.5 Mile Radius
4. Federal NFRAP List	0.5 Mile Radius
5. Federal RCRA Corracts List	1.0 Mile Radius
6. Federal RCRA TSD List	0.5 Mile Radius
7. Federal RCRA Generator List	Adjoining
8. Federal Finds List	0.5 Mile Radius
9. Federal ERNS List	Site Specific
10. State Priority List	1 Mile Radius
11. State IOP List	0.5 Mile Radius
12. State SWLF/CLI List	0.5 Mile Radius
13. State CLI List	0.5 Mile Radius
14. State LPST List	0.5 Mile Radius
15. State Registered UST/AST List	Adjoining
16. State PST List	0.5 Mile Radius
17. State TCEQ VCP List	0.5 Mile Radius
18. State Brownfield List	0.5 Mile Radius
19. Dry Cleaner List	0.5 Mile Radius
20. IHW List	Adjoining

21. Local Hazmat Spills Site Specific

Documented regulatory agency sites located within the ASTM prescribed minimum search distance will be identified and plotted on a composite site map.

Physical Setting Sources

USGS Topographic Map(s) will be reviewed to determine site topography and surface drainage patterns of the site and the surrounding area. Current and past structures, roads, well installations, and other improvements will be evaluated, as well as other pertinent physical features such as streams or water bodies. **Federal Emergency Management Agency** floodplain map(s) will be evaluated to determine if the subject property lies within a known floodplain. The appropriate **Soil Survey** from the **USDA Natural Resource Conservation Service** will be reviewed to determine the site's soil conditions and general surface geology of the area. General descriptions will be made of the subsurface hydrogeology based on information from **USGS Groundwater Maps** or other sources.

Historical Use Information

Historical Aerial Photographs will be obtained from aerial photography firms having inventory of the subject area. The photographs will be reviewed to evaluate previous land use characteristics for the property and adjacent parcels. The photographs will also be checked for possible oil and gas exploration activities, surficial anomalies associated with waste ponds or dumps, and previous commercial and/or industrial activities. A **Chain of Title** will be reviewed from the County Clerk's records to identify site ownership from 1940 forward. The records will be reviewed to evaluate the potential for industrial or environmentally significant land use activities onsite, based on the identities of previous owners. This task will be subcontracted to a title search company.

Local **City Directories** and **Sanborn Fire Insurance Maps**, if available, will be reviewed for listings of the types of past structures or business operations that may have existed on the property. In addition, **Texas Railroad Commission Records** will be reviewed to determine if oil and/or gas exploration or production has occurred on the site. This information will be obtained from a **Regional Oil and Gas Survey Map** prepared by Tobin Research, Inc.

Subtask 2—Site Reconnaissance

General Site Setting

Site reconnaissance will be conducted to physically and visually inspect the property for indications of environmental conditions. Observations will be made of the **Current Site Usage**, **Adjacent Site Usage**, **Topography and Landscape**, **Structures**, **Roads**, **Improvements** and, to the extent practicable, **Potable Water Supply**, **Sewage Disposal System**, and other **Utility Installations**.

Interior and Exterior Observations

The property and any buildings or structures will be inspected for visual or physical evidence of hazardous substances or petroleum products. Exterior observations include, but are not limited to, pits, ponds, lagoons, stained soil or pavement, pools of liquid, strong odors, stressed vegetation, solid waste, waste water and associated discharge(s), above or below ground storage tanks, drums or containers, unidentified substances, wells, or septic systems. If interior inspection is required, observations will include those listed above, if applicable, as well as heating/cooling sources and fuels, stains or corrosion, drains and sumps, storage or treatment areas, and construction materials. Any listed, or non-listed, indicator of hazardous substances or petroleum products will be identified in the findings of the report.

Subtask 3—Interviews and Agency Inquiries

Owner/Occupant Inquiry

Inquiries will be made of person(s) who may have knowledge of current or historical conditions associated with the subject property. One or more of the following individuals may be contacted for an interview: 1) **Current Owner** 2) **Owner's Representative** 3) **Occupants** or **Tenants** 4) **Adjacent Property Owners/Occupants**. Interviews may be conducted in person, by telephone, or by written correspondence in the form of an **Owner/Occupant Questionnaire**.

Local Agencies and/or Officials

Inquiries will be made of local agencies or officials that may have records of environmental conditions or incidents related to the subject property or adjacent properties. Such agencies may include the **Local Fire Department**, **Hazardous Materials Response**, **City/County Health Department**, **Local Pollution Control Agency**, or others deemed appropriate for the property, its location, or specific conditions.

Additional Records Sources

In the event that site-specific conditions or standard information sources indicate a potential environmental condition(s) associated with the property, other selective files or records may be reviewed for additional information regarding such conditions. This information will be obtained at the discretion of Berg♦Oliver based on the findings of the investigation. Other typical sources include specific files from the **Texas Railroad Commission**, the **Texas Commission on Environmental Quality**, and the **Environmental Protection Agency**.

6. Clean Water Act Section 404 Nationwide Permit (NWP)

Scope of work for the preparation of a Clean Water Act Section 404 Permit and submission to the USACE will follow the criteria set forth in 33 CFR 330 (Nationwide). A conceptual development plan including profiles must be provided by the client or the client's consulting

engineer. The Engineer will utilize these plans to create the required permit submittal drawings in the USACE's preferred format. The USACE may request an alternatives analysis and best management practice information that must be provided to the Engineer from the client or consulting engineer.

The Engineer will perform the following under this task:

Subtask 1—Draft and submit the Nationwide Permit application and support documents to the applicant/client for review prior to submittal to the USACE. (The Engineer must have written approval from the client authorizing Engineer to submit the permit application to the USACE.)

Subtask 2—Prepare the necessary data sheets and determination forms for verification by the USACE. It is suggested that a Preliminary Jurisdictional Determination be requested.

Subtask 3—Attend four (4) on-site meetings with USACE, and resource protection agencies.

Subtask 4—Attend four (4) additional meetings with the USACE District in Fort Worth.

Subtask 5—Consult with the client, engineer, and land planner regarding the site development plan and alternatives.

Subtask 6—Consult with the applicant regarding the Wetland Mitigation Plan and design, if deemed necessary. (If client chooses, Engineer can prepare the mitigation plan and design under a separate proposal.)

Subtask 7—Assist the applicant/client in providing the USACE site specific requested information and/or Revised Site Development Plan, if necessary.

7. Public Involvement Assistance

The Engineer shall provide public involvement assistance, as requested, which might include:

a. Assisting with preparation of any environmentally related exhibits.
b. Assisting with response letters to commenters regarding environmentally related comments at public meetings or hearings.
c. Assisting with environmental information in materials for the transportation activity to the Owner to be posted on the Owner's website, fact sheets, or other public engagement materials.

FUNCTION CODE 130(130) – RIGHT-OF-WAY (ROW) DATA

For Function Codes 130 and 150, the term Surveyor means the firm (prime provider or subprovider) that is providing the surveying services shown in this scope.

The Engineer shall ensure that the following general standards for survey work are followed for Function Codes 130 and 150:

Unless otherwise indicated, any reference in this attachment to a manual, specification, policy, rule or regulation, or law means the version in effect at the time the work is performed. TxDOT manuals

are available at: http://onlinemanuals.txdot.gov/manuals/. All surveys must meet or exceed all applicable requirements and standards provided by:(1) Professional Land Surveying Practices Act, (2) General Rules of Procedures and Practices promulgated by the Texas Board of Professional Engineers and Land Surveyors (TBPELS), and (3) the TxDOT Survey Manual. The Surveyor shall perform all work in an organized and professional manner. All surveys are subject to the approval of the Owner.

The Surveyor shall use TxDOT's ROW Preliminary Procedures for Authority to Proceed Manual and TxDOT Survey Manual as the basis for the format and preparation of all right of way (ROW) documents produced, including ROW maps, written parcel descriptions, parcel plats, and other ROW work products, unless otherwise specified by the Owner. Unless otherwise directed by the Owner, the Surveyor shall use (1) the North American Datum of 1983 (NAD83), Texas Coordinate System of 1983 (State Plane Coordinates) applicable to the zone or zones in which the work is performed, with values in U.S. survey feet, as the basis for all horizontal coordinates derived and (2) the datum adjustment currently in use by TxDOT.

Project or surface coordinates must be calculated by applying a combined adjustment factor (CAF) to State Plane Coordinate values. If provided by the Owner, the Surveyor shall use a project specific CAF.

Elevations must be based on the North American Vertical Datum 88 (NAVD88), unless otherwise specified by the Owner.

All work using the Global Positioning System (GPS), whether primary control surveys or other, must meet or exceed the requirements provided by the TxDOT Survey Manual to the order of accuracy specified in the categories listed below or in a task order. If the order of accuracy is not specified in this attachment or in a task order, the work must meet or exceed the order of accuracy specified in the publication listed in this paragraph.

All conventional horizontal and vertical control surveys must meet or exceed the order of accuracy specified in the TxDOT Survey Manual unless specified otherwise in the contract.

All boundary determination surveys, whether for ROW acquisition, ROW re-establishment, or other boundary needs, must meet or exceed the accuracy specified in the TxDOT Survey Manual unless specified otherwise in the contract.

The Owner may authorize the Surveyor to use an Unmanned Aircraft System (UAS) to perform services under this contract. The use of UAS is regulated by the Federal Aviation Administration (FAA). All UAS operators must comply with Federal Aviation Administration (FAA) regulations and the TxDOT Unmanned Aircraft System (UAS) Flight Operations and User's Manual.

The survey data must be fully compatible with the Owner's computer system and with programs in use by the Owner at the time of the submission, without further modification or conversion. The current programs used by TxDOT are Microsoft Word, Bentley MicroStation, Bentley OpenRoads civil design system, Bentley GEOPAK Survey, Excel, and ESRI ArcGIS. Data collection programs must be compatible with the current import formats allowed by GEOPAK Survey and be attributed with current feature codes. These programs may be replaced at the discretion of the Owner.

Drawing sizes are defined, based on American National Standards Institute (ANSI) standard paper sizes, as follows: A-size means 8.5 inches by 11.0 inches, B-size means 11.0 inches by 17.0 inches, C-size means 17.0 inches by 22.0 inches, and D-size means 22 inches by 34.0 inches.

Variations from these software applications or other requirements listed above shall only be allowed if requested in writing by the Surveyor and approved by the Owner.

The Surveyor shall perform quality control/quality assurance on all procedures, field surveys, right-of-way surveys, data, and products prior to delivery to the Owner. The Owner may also require the Surveyor to review the survey work performed by others. If, at any time, during the course of reviewing a submittal of any item it becomes apparent to the Owner that the submittal contains a substantial number of errors, omissions, and inconsistencies, the Owner may cease its review and return the submittal to the Surveyor immediately for appropriate corrective action. A submittal returned to the Surveyor for this reason is not a submittal for purposes of the submission schedule and is not a reason for additional compensation.

The standards for services that are not boundary-related but that relate to surveying for engineering projects may be determined by the construction specifications, design specifications, or as specified by the Owner.

130.5. Utility Engineering Investigation

The Engineer will complete QL “A” and QL "B" services within the proposed Kohlers Crossing ROW from the eastern IH 35 ROW line to Seton Parkway in Kyle, Texas. TRG will attempt to designate the following utilities within this area: potable water, reclaimed water, chilled water, natural gas/crude oil/refined product pipelines, communication duct banks, fiber optic, cable television, telephone, and electric. Wastewater and storm drain facilities will be inverted at manholes and will be depicted as QL”C” information. TRG will obtain an inventory of overhead utilities, which will be depicted as QL“C” information. Additionally, TRG will attempt to designate utility service lines, however, because these lines are often non-conductive and not shown on records TRG cannot guarantee all service lines will be included in the final deliverables. Irrigation lines are excluded from this scope of work. The Engineer will complete up to ten (10) QL “A” test holes at potential utility conflict locations approved by the City.

Utility engineering investigation includes utility investigations subsurface and above ground prepared in accordance with ASCE/CI Standard 38-02 [(http://www.fhwa.dot.gov/programadmin/asce.cfm)] and Utility Quality Levels.

A. Utility Quality Levels (QL)

Utility Quality Levels are defined in cumulative order (least to greatest) as follows:

1. Quality Level D - Quality level value assigned to a utility segment or utility feature after a review and compilation of data sources such as existing records, oral recollections, One-Call markings, and data repositories.
2. Quality Level C - Quality level value assigned to a utility segment or utility feature after surveying aboveground (i.e., visible) utility features and using professional judgement to correlate the surveyed locations of these features with those from existing utility records.

3. Quality Level B - Designate: Quality level value assigned to a utility segment or subsurface utility feature whose existence and position is based upon appropriate surface geophysical methods combined with professional judgment and whose location is tied to the project survey datum. Horizontal accuracy of Designated Utilities is 18" (including survey tolerances) unless otherwise indicated for a specific segment of the deliverable. Quality Level B incorporates quality levels C and D information. A composite plot is created.
4. Quality Level A – Quality level value assigned to a portion (x, y, and z geometry) of a point of a subsurface utility feature that is directly exposed, measured, and whose location and dimensions are tied to the project survey datum. Other measurable, observable, and judged utility attributes are also recorded (per District Best Practices). The utility location must be tied to the project survey datum with an accuracy of 0.1 feet (30-mm) vertical and to 0.2 feet (60-mm) horizontal. As test holes may be requested up front or during the project, test holes done prior to completion of QL D, C, or B deliverables must be symbolized on the QL B deliverable with a call out indicating test holes number. This is in addition to and not in lieu of the test hole.

B. Utility Investigations Methodology

1. Utility Investigation Quality Level D The Engineer shall:
    a. Perform records research from all available resources. Sources include, but are not limited to: Texas811, Railroad Commission of Texas (Texas RRC), verbal recollection, as-built information from plans, plats, permits and any other applicable information provided by the utility owners or other stakeholders.
    b. Document utility owners and contact information.
    c. Create a utility drawing of information gathered.

2. Utility Investigation Quality Level C

The Engineer shall:

    a. In combination with existing Quality Level D information, utilize surveyed above-ground utility features and professional judgement to upgrade Quality Level D information to Quality Level C. For those utilities unable to be upgraded, retain as Quality Level D.
    b. Overhead utilities information must be gathered and depicted. Sag elevations of lowest utility must be documented at road crossings, per best practices document.
    c. Storm and sanitary sewer information must be gathered from Level D and upgraded to Level C as possible, unless otherwise directed by the Owner.
    d. Mapping of underground vaults may be requested by the Owner.
    e. Create composite utility drawing of information gathered.

3. Designate (Quality Level B)

Designate means to indicate the horizontal location of underground utilities by the application and interpretation of appropriate non- destructive surface geophysical

techniques and reference to established survey control. Designating (Quality Level B) services are inclusive of Quality Levels C and D.

The Utility Engineer must:

a. As requested by the Owner, compile "as-built" information from plans, plats and other location data as provided by the utility owners.
b. Coordinate with utility owner when utility owner's policy is to designate their own facilities at no cost for preliminary survey purposes. The Engineer shall examine utility owner's work to ensure accuracy and completeness.
c. Designate, record, and mark the horizontal location of the existing utility facilities using non-destructive surface geophysical techniques.
d. Using both active and passive scans to attempt to locate any additional utilities, including unrecorded and abandoned storm and sanitary sewer facilities, at the direction of the Owner, utilities maybe investigated using additional methods such as rodding that would then classify them as Quality Level B. A non-water based pink paint or pink pin flags must be used on all surface markings of underground utilities.
e. Correlate utility owner records with designating data and resolve discrepancies using professional judgment. The Utility Engineer must prepare and deliver to Owner a color-coded composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test hole) locations. The Utility Engineer and Owner acknowledge that the line sizes of designated utility facilities detailed on the deliverable will be from the best available records and that an actual line size is normally determined from a test hole vacuum excavation. A note must be placed on the designate deliverable only that states "lines sizes are from best available records". All above-ground utility feature locations must be included in the deliverable to the Owner. This information must be provided in the latest version of OpenRoads civil design system used by the Owner. The electronic file will be uploaded to the Owner’s Procore file management system, as required by the Owner. When requested by the Owner, the designated utility information must be overlaid on the Owner’s design plans.
f. Determine and inform the Owner of the approximate electronic utility depths at critical locations as determined by the Owner. The limits of this additional information should be determined prior to the commencement of work. This depth indication is understood by both the Engineer and the Owner to be approximate only and is not intended to be used preparing the right of way and construction plans.
g. Provide a monthly summary, with weekly updates, of work completed and in process with adequate detail to verify compliance with agreed work schedule.
h. Provide documentation to show that permits have been closed out as required.
i. Clearly identify all utilities that were discovered from Quality Levels C and D investigation but cannot be depicted in Quality Level B standards. These utilities must have a unique line style and symbology in the designate (Quality Level B) deliverable.
j. Comply with all applicable TxDOT policy and procedural manuals.

4. Subsurface Utility Locate (Test Hole) Service (Quality Level A)

Locate is the process used to obtain precise horizontal and vertical position, material type, condition, size, and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques that ensures the integrity of the utility facility. Subsurface Utility Locate (Test Hole) Services (Quality Level A) are inclusive of Quality Levels B, C, and D.

The Utility Engineer must:

a. Review requested test hole locations and advise the Owner in the development of an appropriate locate (test hole) work plan relative to the existing utility infrastructure and proposed highway design elements.
b. Coordinate with utility owner inspectors as may be required by law or utility owner policy.
c. Place Texas 811 ticket 48 hours prior to excavation.
d. Neatly cut and remove existing pavement material, such that the cut does not exceed 0.10 square meters (1.076 square feet) unless unusual circumstances exist.
e. Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the Engineer:
    i. Elevation of top of utility tied to the datum of the furnished plan.
    ii. Minimum of two benchmarks utilized. Elevations must be within an accuracy of 15mm (.591 inches) of utilized benchmarks.
    iii. Elevation of existing grade over utility at test hole location.
    iv. Horizontal location referenced to project coordinate datum.
    v. Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
    vi. Utility facility material(s).
    vii. Utility facility condition.
    viii. Pavement thickness and type.
    ix. Coating/wrapping information and condition.
    x. Unusual circumstances or field conditions.
f. Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features. Water excavation can only be utilized with written approval from the Owner.
g. Be financially responsible for any damage to the utility during the locating process. In the event of damage, the Utility Engineer must stop work, notify the appropriate utility facility owner, the Owner and appropriate regulatory agencies. The regulatory agencies include: The Texas Railroad Commission and the Texas Commission on Environmental Quality. The Utility Engineer must not resume work until the utility facility owner has determined the corrective action to be taken. The Utility Engineer must be liable for all costs involved in the repair or replacement of the utility facility.
h. Back fill all excavations with appropriate material, compact backfill by appropriate mechanical means, and restore pavement and surface material. The

Engineer is responsible for the integrity of the backfill and surface restoration for a period of three years.

i. Furnish and install a permanent above-ground marker (as specified by the Owner), directly above center line of the utility facility.
j. Provide complete restoration of work site and landscape to equal or better condition than before excavation. If a work site and landscape is not appropriately restored, the Utility Engineer must return to correct the condition at no extra charge to the Owner.
k. Plot utility location position information to scale and provide a comprehensive utility plan signed and sealed by the responsible Engineer. This information must be provided in the latest version of MicroStation and be fully compatible with the OpenRoads civil design system used by the Owner. The electronic file will be uploaded to the Owner's Procore file management system as requested. When requested by the Owner, the locate information must be over laid on the Owner's design plans.
l. Return plans, profiles, and test hole data sheets to the Owner. If requested, conduct a review of the findings with the Owner.
m. Close-out permits as required.

Utility Engineering Investigation Deliverables:

1. A utility file in Microstation format depicting all designated and located utilities. The Client will provide TRG with any necessary background files for use in completing the final deliverables.
2. A summary sheet of all test hole coordinate data and depth information.
3. 8.5" x 11" Test Hole Data Forms for all test hole locations completed. These plans will be signed and sealed by a Professional Engineer and delivered to the Client in electronic PDF form.
4. 11" x 17" SUE Plan Sheets depicting all designated and located utilities. These plans will be signed and sealed by a Professional Engineer and delivered to the Client in electronic PDF form.
    a.

130.6. Utility Adjustment Coordination. (18.3.1)

Utility Adjustment Coordination shall include utility coordination meetings with individual utility companies, communication and coordination with utilities, and preparation of utility agreement assemblies including utility agreements, joint use agreements, and advanced funding agreements.

The Engineer is responsible for designating and providing the services of the following individuals or entities:

1. Utility Coordinator: individual or entity performing Utility-related Services that are not required to be performed by a licensed engineer under Texas law.
2. Utility Engineer: individual or entity performing Utility-related Services that are required to be performed by a licensed engineer under Texas law.

A. Utility Coordination

The Utility Coordinator shall perform utility coordination and liaison activities with involved utility owners, their consultants, and the Owner to achieve timely project notifications, formal coordination meetings, and conflict analysis.

a. The Utility Coordinator shall coordinate all activities with the Owner, or their designee, to facilitate the orderly progress and timely completion of the project design phase. The Utility Coordinator shall be responsible for the following:
    i. Initial Project Meeting. Attend an initial meeting and an on-site inspection (when appropriate) to ensure familiarity with existing conditions, project requirements and prepare a written report of the meeting.
    ii. External Communications. The Utility Coordinator shall coordinate all activities with the Owner and its consultants or other contractors or representatives, as authorized by the Owner. Also, the Utility Coordinator shall provide the Owner copies of diaries, correspondence, and other documentation of work- related communications between the Utility Coordinator, utility owners and other outside entities when requested by the Owner.
    iii. Progress Meetings. The Utility Coordinator shall implement a schedule of periodic meetings with each utility company and owner or owner's representatives for coordination purposes. Such meetings shall commence as early as possible in the design process and shall continue until completion of the project. The Utility Coordinator shall notify the Owner at least two (2) business days in advance of each meeting to allow the Owner the opportunity to participate in the meeting. The Utility Coordinator shall provide and produce meeting minutes of all meetings with said utility companies, owners or owners' representatives within seven (7) business days. The frequency of such meetings shall be appropriate to the matters under discussion with each utility owner.
    iv. At a minimum provide monthly updates to owner.
b. As required by the Owner the Utility Coordinator shall coordinate with the local utilities committees to present a footprint of the Owner's projects with represented utility companies and owners. The Utility Coordinator shall also coordinate with any other utility committees which may include county, city, or other officials, if needed.
c. The Utility Coordinator shall provide initial project notification letters to all affected utility companies, owners, and other concerned parties.
d. The Utility Coordinator shall provide the Owner and all affected utility companies and owners a Utility Contact List for each project with the following information: (i) Owner's Name; (ii) Contact Person; (iii) Telephone Numbers; (iv) Emergency Contact Number; (v) E-mail addresses; (vi) as well as all pertinent information concerning their respective affected utilities and facilities, including but not limited to: size, number of poles, material, and other information which readily identifies the utilities companies' facilities.
e. The Utility Coordinator shall advise utility companies and owners of the general characteristics of the Project and provide an illustration of the project footprint for mark-up of the utility facility locations that occupy the project area.

130.7. Access Management.

The Engineer shall coordinate and evaluate access management within the project limits in accordance with the latest State Access Management Manual or as directed by the Owner.

FUNCTION CODE 145(145, 164) – MANAGING CONTRACTED/DONATED PE

CONTRACT MANAGEMENT AND ADMINISTRATION

145.1. Contract Management and Administration

The Engineer shall:

A. Act as an agent for the Owner when specified in a task order.
B. Produce a complete and acceptable deliverable for each environmental service performed for environmental documentation.
C. Incorporate environmental data into identification of alternatives.
D. Notify the Owner of its schedule, in advance, for all field activities.
E. Notify the Owner as soon as practical, by phone and in writing, if performance of environmental services discloses the presence or likely presence of significant impacts (in accordance with 40 Code of Federal Regulations (CFR) 1500-1508). Inform the Owner of the basis for concluding there are significant impacts and the basis for concluding that the impacts might require mitigation.
F. Notify the Owner as soon as practical, by phone and in writing, if performance of environmental services results in identification of impacts or a level of controversy that might elevate the transportation activity's status from a categorical exclusion or environmental assessment. The Owner will reassess the appropriate level of documentation.

145.2. Project Management and Administration

The Engineer, in association with the Owner's Project Manager shall be responsible for directing and coordinating all activities associated with the project to comply with Owner policies and procedures, and to deliver that work on time.

Project Management and Coordination. The Engineer shall coordinate all subconsultant activity to include quality of and consistency of plans and administration of the invoices and monthly progress reports. The Engineer shall coordinate with necessary local entities.

The Engineer shall:

- Prepare monthly written progress reports for each project.
- Develop and maintain a detailed project schedule to track project conformance to Exhibit C, Work Schedule, for each task order. The schedule submittals shall be electronic format unless otherwise specified by the Owner.
- Meet on a scheduled basis with the Owner to review project progress.
- Prepare, distribute, and file both written and electronic correspondence.
- Prepare and distribute meeting minutes.

- Document phone calls and conference calls as required during the project to coordinate the work for various team members.
- Provide QC/QA documentation for all submittals, including the subconsultants.

a. **Perform Project Management tasks.** All firms participating in Kyle 2022 Road Bond Projects, either as a Prime Contractor or Subcontractor, must fully utilize Procore construction management software for full project implementation, as directed by the Owner. The Owner will provide Procore access to all firms. The Engineer shall:
   i. Meet on a scheduled basis with Owner to review Project progress. The Engineer will provide meeting summaries within five (5) working days of the meeting to all attendees.
   ii. Conduct internal meetings with the consultant design team on a monthly basis or as needed for the duration of the Project.
   iii. Provide Contract Administration
   iv. Provide Project Management
   v. Attend a kick-off meeting with the Owner.
   vi. Attend and direct 50%, 90%, and 100% design review meetings.
   vii. Keep Project on track and on budget.
   viii. Update Project design schedule on a monthly basis
   ix. Prepare monthly invoice and monthly progress report including monthly updates to design schedule

b. **Baseline Schedule**. Develop and submit for approval a Critical Path Method (CPM) baseline schedule within fourteen (14) calendar days of the Notice to Proceed. Schedule shall be in MS Project or Primavera P6. Modifications to the approved schedule will require approval by the Owner.
   i. Submit both pdf and native (.mpp or .xer) copies of the files.
   ii. Include all planned work activities and sequences, major milestones, and show Contract completion
   iii. Include activities that are the responsibility of the Owner, and estimate the duration for these activities. This time will not count against the Contract time, but is important to track as the critical path may run through them.
   iv. Ensure that the activities are broken out to a level of detail that clearly explains the tasks associated with delivering the work product.
   v. Provide activity durations in whole calendar days.
   vi. Provide a legend for all abbreviations, run date, data date, project start date, and project completion date in the title block of each submittal.
   vii. Begin the project schedule on the Notice to Proceed date.
   viii. Show a predecessor and successor for each activity with the appropriate activity relationships.
   ix. Ensure that all work sequences are logical and can be explained to the Owner if questions arise for clarification or understanding.
   x. Do not use activities exceeding 28 calendar days, unless agreed upon with the Owner.

c. Progress Schedule

i. Project schedule updates shall be submitted as part of all invoice approval packages. Invoices submitted without schedule updates will be incomplete and will not be processed until schedule update is submitted.

ii. Submit both the pdf and electronic copy of the project schedule running through the end of each month, due no later than tenth (10^{th}) calendar day of the following month, as it will become a record of the progress achieved on the project.

iii. Once established, the original duration and actual dates of all activities must remain unchanged.

iv. Revisions to the schedule may be made, but must be listed in a monthly update narrative in the Progress Report with the purpose of explaining the purpose of the revision and description of the impact on the project schedule's critical path and project completion date.

v. Monthly Progress Reports should include:

1. Completed and planned work
2. Budget status
3. Schedule status
4. Actual start dates for activities started
5. Actual finish dates for activities completed
6. The percentage of work completed and remaining duration for each activity started, but not yet completed
7. Current delays and plans showing how they will be rectified
8. Potential delays and plans to rectify
9. Tracking schedule (pdf & mpp/xer)

d. Plan Development and Review Process

i. Engineer may not be compensated for any services performed without a written Notice-to-Proceed.

ii. Each deliverable must be submitted for review and approval by the Owner.

iii. The review process will take place electronically using a Bluebeam session to consolidate comments.

iv. Each submittal shall include a cover letter from the Engineer stating who from the design team performed a Quality Assurance/Quality Control ("QA/QC") check. The QA/QC certification letter must be co-signed by the QA/QC reviewer and the Project Manager. The QA/QC reviewer may not be one of the design team members.

v. Each submittal shall include a revisions log from the Engineer (exported from Bluebeam) that tracks each comment received during previous phases of work. For each comment, the log shall provide the original comment, the status, how it has been implemented into the plans, and approval by the Owner.

vi. Unless otherwise specified by Owner, allow two (2) weeks for the Owner to review and provide written comments and/or approval for each submittal. When comments are received by the Engineer, the Engineer shall schedule a Comment Resolution Meeting with Owner in order to review the comments and clarify understanding of them prior to making design changes. If the Owner requires a resubmittal, submit electronically in Procore for the Owner to review and provide

written comments and/or approval.

FUNCTION CODE 160(150) – ROADWAY DESIGN

150.1. DESIGN SURVEY

A. DEFINITIONS

1. Design Survey (15.2.1)

A design survey gathers data in support of transportation systems design. A design survey includes the research, field work, analysis, computation, and documentation necessary to provide detailed topographic (3- dimensional) mapping of a project site (e.g., locating existing ROW, surveying cross-sections or developing data to create cross-sections and digital terrain models, horizontal and vertical location of utilities and improvements, collecting details of bridges and other structures, review of ROW maps, establishing control points).

B. TECHNICAL REQUIREMENTS FOR DESIGN SURVEYS

1. Design surveys must be performed under the supervision of a RPLS currently registered with the TBPELS.

2. All control must meet the of accuracy requirements of TxDOT.

   The Surveyor shall comply with the standards of accuracy for control traverses provided in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

3. Short traverse procedures used to determine horizontal and vertical locations must meet the following criteria:
   a. Short traverses must begin and end on horizontal and vertical ground control as described above.
   b. Required horizontal accuracy (unless otherwise stated):
      i. Bridges and other roadway structures: less than 0.1 feet.
      ii. Utilities and improvements: less than 0.2 feet.
      iii. Cross-sections and profiles: less than 1 foot.
      iv. Bore holes: less than 3 feet.
   c. Required vertical accuracy:
      i. Bridges and other roadway structures: less than 0.02 feet.
      ii. Utilities and improvements: less than 0.1 feet.
      iii. Cross-sections and profiles: less than 0.2 feet.
      iv. Bore holes: less than 0.5 feet.

C. DATA REQUIREMENTS FOR DESIGN SURVEYS

1. Planimetric DGN files must be fully compatible with the version of the MicroStation graphics program currently used by TxDOT without further modification or conversion.
2. Electronically collected and processed field survey data files must be fully compatible with TxDOT's computer systems without further modification or conversion. All files must incorporate only those feature codes currently being used by TxDOT.
3. Digital terrain models (DTMs) must be fully compatible with the version of the Bentley OpenRoads civil design system currently used by TxDOT without further modification or conversion. All DTM must be fully edited to provide a complete digital terrain model with all necessary break lines.

150.2. DESIGN SURVEY (15.2.1) in support of Aerial Mapping

A. TASKS TO BE COMPLETED

Design Surveys

If requested by the Owner, the Surveyor shall perform one or more Design Surveys. Design Survey tasks include the following:

1. Collect data to create cross-sections and DTMs.
2. Locate existing utilities.
3. Locate existing improvements.
4. Provide details of existing bridge structures, including bridge limits, bents, columns, retaining walls, and natural ground elevations.
5. Locate details of existing drainage features including culverts, manholes, retention and detention ponds, flowlines, and associated features.
6. Locate all waters of the United States (WOTUS), including wetlands.
7. Review existing ROW maps and locate the existing ROW.
    a. Review existing ROW maps

        The Surveyor shall review ROW maps prepared by others for completeness using the current schematic and the checklist provided by the TxDOT district.
    b. Locate existing ROW

        The Surveyor shall resurvey the existing ROW where it is necessary to update or redefine ROW lines. All standard surveying procedures must be adhered to including record research, recovering existing monuments, and replacing monuments as appropriate. The Surveyor shall prepare an abstract map, preliminary map, final map, GIS graphics file, and a Surveyor's report. The final map must also include a monument table showing the property monuments that were found and set and certified by the Surveyor. The Surveyor shall prepare maps either in standard map sheets format or roll map format as requested by the Owner.
8. Locate boreholes.
9. Perform hydrographic surveys, according to details requested by the Owner
10. Verify the condition and usefulness of existing control points including verification of the values. Establish additional control as needed. Tie to other control points in the

project vicinity including points established by the NGS, the Federal Emergency Management Agency (FEMA), and any other local entities as directed by the Owner.

11. Update existing control information and prepare new survey control data sheets, as directed by the Owner to be included in the construction plan set as described below:
    a. a. The Surveyor shall prepare, sign, seal, and date a survey control index sheet and horizontal and vertical control sheet(s) to be inserted into the plan set.
    b. b. The survey control index sheet provides an overview of the primary project control and must include:
        i. An unscaled vicinity map showing the general location of the project in relation to nearby towns or other significant cultural features.
        ii. A scaled project map showing the extents of the project and the location of the primary control points. The map must show street networks, selected street names, control point identification, and significant cultural features necessary to provide a general location of the primary control.
        iii. A table containing the primary control point values including the point number, northing, easting, elevation, stationing, and stationing offset values.
        iv. Map annotation including a graphic scale bar, north arrow, and standard title block. The title block shall contain a section for the OWNER, city, and highway name. The title block shall also contain a section for a Texas registered engineer to sign, seal and date the sheet to include the following statement, “The survey control information has been accepted and incorporated into this PS&E.” The required format of the survey control index sheet can be downloaded from the TxDOT website.
        v. In the title block under the heading “Notes”, identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used, and unit of measure. The Surveyor shall include a note stating that the coordinates re State Plane and a notation specifying either grid or surface adjusted coordinates.
    c. The Surveyor shall prepare horizontal and vertical control sheets providing detailed information about the construction, location, and monumentation of the primary control, which must include:
        i. An unscaled location map for each primary control point showing the location of the monument in relation to physical features located in the vicinity. The location map must include a north arrow, the monument designation, the monument northing, easting, and elevation.
        ii. Directly below the location map a text description of the monument including size, material and construction followed by a description of the location of the monument starting with the county and state followed by a description suitable to locate the monument on the ground.
        iii. Map annotation including a graphic scale bar, north arrow, and a standard title block. The title block must contain a section for the Owner, city, and highway name and contain a section for a Texas registered engineer to sign, seal and date the sheet to include the following statement, “The survey control information has been accepted and

incorporated into this PS&E." The required format of the survey control index sheet can be downloaded from the TxDOT website.

iv. In the title block under the heading "Notes", identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used, and unit of measure. The Surveyor shall include a note stating that the coordinates are either grid or surface adjusted coordinates.

150.4. DELIVERABLES FOR DESIGN SURVEYS

The Surveyor shall prepare and submit the deliverables as specified in individual task orders for design surveys and construction surveys. The deliverables might be any combination of the following:

A. Digital terrain models (DTM) and the triangular irregular network (TIN) files in a format acceptable by the Owner.
B. Maps, plans, or sketches prepared by the Surveyor showing the results of field surveys.
C. Computer printouts or other tabulations summarizing the results of field surveys.
D. Digital files or media acceptable by the Owner containing field survey data (ASCII data files).
E. Maps, plats, plans, sketches, or other documents acquired from utility companies, private corporations, or other public agencies, the contents of which are relevant to the survey.
F. Field survey notes, as electronic copies.
G. TxDOT Form 2462 for each primary and secondary control point. This form must be submitted in printed format on letter (i.e., A-size) and submitted electronically in PDF format.
H. A digital copy of all computer printouts of horizontal and vertical conventional traverses, GPS analysis and results, and survey control data sheets.
I. All GEOPAK files and OpenRoads files.
J. Survey reports in a format requested by the Owner.

150.5. MAPPING (15.3)

Mapping includes the geospatial data collection and mapping by means of aerial photogrammetry, terrestrial (close range) photogrammetry, terrestrial LiDAR, mobile LiDAR, and other remote sensing technologies.

A. PURPOSE

The purpose of mapping is to provide map and related data to support transportation projects including project design and other uses.

B. DEFINITIONS

1. Aerial Photogrammetry (15.3.1) – Aerial Photogrammetry means the collection and processing of photography acquired from an airborne platform to develop DGN and DTM files.

2. Terrestrial Photogrammetry (15.1.2) – Terrestrial Photogrammetry means the collection and processing of photography acquired at or near ground level to develop DGN and DTM files.
3. Airborne LiDAR (15.3.4) – Airborne LiDAR means laser scanning equipment mounted on a helicopter or other airborne platform to collect data to process for DGN and DTM files.
4. Terrestrial LiDAR (15.3.3) – Terrestrial LiDAR means laser scanning equipment operated from a stationary base on the earth's surface to collect data to process for DGN and DTM files.
5. Mobile LiDAR (15.3.4) – Mobile LiDAR means laser scanning equipment mounted on a moving vehicle operating on the earth's surface to collect data to process for DGN and DTM files.
6. UAS means Unmanned Aircraft Systems (e.g., drones).
7. UAS LiDAR means laser scanning equipment on an unmanned aerial vehicle (e.g., drones) to collect data to process for DGN and DTM files.

150.10. MAPPING SERVICES TO BE PROVIDED

The Surveyor shall provide the following mapping services as requested by the Owner:

C. MOBILE AND AERIAL LIDAR

The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) MicroStation graphics files covering the specific work location, meeting standards and specifications as required.

D. MAPPING TASKS TO BE COMPLETED

The Surveyor shall perform the following tasks as requested for each mapping service.

1. Horizontal and Vertical Control for Aerial Mapping
    a. The Surveyor shall prepare and submit an aerial ground control layout showing the proposed aerial ground control points, for approval by the Owner.
    b. The Surveyor shall establish and determine the coordinates of the aerial ground control points.
    c. The Surveyor shall establish and determine the elevations of the aerial control points.
    d. The Surveyor shall place aerial ground control target material at the established points and maintain until the photographs from the flight are approved.
    e. The Surveyor shall prepare, to scale, a survey control index sheet for the aerial control points.
    f. The Surveyor shall be prepared to locate additional points, as determined by the American Society for Photogrammetry and Remote Sensing (ASPRS) certified Photogrammetrist, if any panel points are not visible from the air.

2. Deliverables for Horizontal and Vertical Control for Aerial Mapping The Surveyor shall provide the following deliverables:
    a. A final aerial control point layout showing the location of the points and labeled with their respective alpha-numeric designations.
    b. A plot and computer graphics of a B-size index map showing an overall view of the project and the relationship of primary monumentation and control used in the preparation of the project, signed and sealed by a RPLS, and as directed by the Owner.
    c. An A-size data sheet for each aerial ground control point, which must include a location sketch, a physical description of the point, surface coordinates, the elevation, and datums used.
    d. Graphics files and scanned images of the control data sheets, uploaded to Owner's file management system.
    e. A written statement describing the datum used along with copies of all relevant NGS and data sheets.
    f. A written tabulation of all aerial control points with their respective alpha-numeric designations, surface coordinates (for center panel points only), and elevations.

3. Prepare Planimetric and DTM Data
   The Surveyor shall perform the following tasks for each requested mapping service:
    a. The Surveyor shall provide low altitude aerial mapping to cover an area 500 feet wide centered on the roadway unless otherwise specified, with cross flights as directed by the Owner.
       The Surveyor shall follow all standards and specifications in accordance with established guidelines and recommended or approved by the Owner.
    b. The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) Bentley MicroStation graphics files and orthophotography files covering the specific work location, meeting standards and specifications as required.
        i. The Surveyor shall collect supplemental planimetric and DTM survey data.
        ii. The Surveyor shall update aerial 2D and 3D mapping with ground surveys.
        iii. The Surveyor shall maintain the current DGN level structure and legend used by TxDOT.
        iv. The Surveyor shall maintain the current DTM level structure and legend used by TxDOT.
        v. The Surveyor shall use file features and level structures in compliance with TxDOT's current photogrammetry mapping legend.
        vi. The Surveyor shall locate, and field check random points.
    c. The Surveyor shall conduct quality assurance and quality control (QA/QC) for each task performed and prepare a Surveyor's Report.

4. Deliverables for Planimetric and DTMs The Surveyor shall provide the following:

a. Certification that the photographs or LiDAR imagery were taken on the date indicated, signed by the airplane pilot or aerial photographer.
b. The DGN, DTM, and TIN files on a medium and in a format acceptable to the Owner, uploaded to Owner's Procore file management system .
    i. Orthophotography (created using the DTM) uploaded to Owner's Procore file management system in tiff format (3 banded) with world files.
    ii. TxDOT's photogrammetry mapping legend and supplements.
c. A tabulation showing the field-check points.
d. Quality Assurance and Quality Control (QA/QC) and Statement of Map Accuracy.
    i. Statement of map accuracy.
    ii. A surveyor's report signed and sealed by an RPLS.

150.11. HORIZONTAL AND VERTICALCONTROL (15.3.5)

This includes the establishment of horizontal and vertical control for survey projects.

A. OVERVIEW OF HORIZONTAL AND VERTICAL CONTROL

A horizontal control survey is performed for the purpose of placing geographic coordinates of latitude and longitude on permanent monuments for referencing lower levels of surveys. A projection is used to place the coordinates on a plane of northing and easting values for simplified measurements. Scale and elevation factors are applied to make the distance measurements applicable to the exact location on the working surface and the type of projection chosen is an "equal angle" type.

A vertical control survey is performed for accurately determining the orthometric height (elevation) of permanent monuments to be used as benchmarks for lower quality leveling. Spirit leveling is the usual method of carrying elevations across country from "sea level" tidal gauges. However, Global Positioning System (GPS) can be used indirectly but with less accuracy. Height measurements from the ellipsoid (as opposed to the "sea level" geoid) can be determined very accurately with GPS and only GPS. Trigonometric leveling, with a total station, is not acceptable for vertical control work.

B. DEFINITIONS

1. BM means benchmark, which is a relatively permanent object whose elevation above or below an adopted datum is known.
2. CORS means continuously operating reference station, which is a network of the highest quality horizontal stations, forming the National Spatial Reference System (NSRS).
3. Control Survey means a survey providing positions (horizontal or vertical) of points to which supplemental surveys are adjusted.
4. Datum means a mathematical model of the earth designed to fit part or all of the geoid.
5. Datum Point Rod or Deep Rod Monument means a monument driven to refusal by a power driver, used for major project control.
6. GPS means the Global Positioning System, which is based on a constellation of 24 satellites orbiting the earth at a very high altitude.

7. Horizontal Control Survey means placing geographic coordinates of latitude and longitude on permanent monuments.
8. Level 1 survey means RFP, CORS or major control densification.
9. Level 2 Survey means primary project control.
10. Level 3 Survey means secondary project control.
11. NGS – National Geodetic Survey
12. Type II Monument means a disk driven onto a length of 5/8-inch rebar with the hole filled flush with concrete.
13. Vertical Control Surveys means a survey performed for accurately determining the orthometric height (elevation) of permanent monuments to be used as benchmarks for lower quality leveling.

C. PROCEDURE FOR HORIZONTAL AND VERTICAL CONTROL

1. The Surveyor shall establish horizontal and vertical control points, including offsite points. The Surveyor shall prepare signed survey control data sheets, a survey control index sheet, and a composite layout of the horizontal and vertical controls, and as directed by the Owner.
2. The Surveyor shall update existing control information and prepare new survey control data sheets, as directed by the Owner, to be included in the construction plan set as described in Item 150.11, D.

D. TECHNICAL REQUIREMENTS FOR HORIZONTAL AND VERTICAL CONTROL

The Surveyor shall adhere to the following technical requirements.

1. Horizontal and vertical controls must be performed under the supervision of a RPLS currently registered with the TBPELS.
2. Horizontal ground control used for design surveys and construction surveys, furnished to the Surveyor by the Owner, or based on acceptable methods conducted by the Surveyor, must meet the standards of accuracy required by the Owner.
   The Surveyor shall comply with the standards of accuracy for horizontal control traverses, as described in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
3. Vertical ground control used for design surveys and construction surveys, furnished to the Surveyor by the Owner or based on acceptable methods conducted by the Surveyor, must meet the standards of accuracy required by the Owner.
   The Surveyor shall comply with the standards of accuracy for vertical control traverses, as described in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
4. Monuments
   The Surveyor shall install survey monuments for a horizontal and vertical control survey that are reasonably permanent and substantial. The monuments shall be easily identified and afforded reasonable protection against damage and or destruction.
   a. Offsite primary control points whether set by GPS or conventional survey methods must be set in pairs approximately 2000 feet apart outside of the project on side roads. Offsite points must be constructed approximately every 2

miles and set approximately 6 inches below natural ground and must be inter-visible between each pair of points.

b. Secondary control points must be set approximately 6 inches below ground at a maximum distance of 1,500 feet apart.

5. Side shots or short traverse procedures for total stations used to determine horizontal and vertical locations must meet the following criteria:
    a. Short traverses and instrument setups for side shots must begin and end on horizontal and vertical ground control as described above.
    b. Standards, procedures, and equipment (e.g., GPS Equipment, LiDAR, Total Stations) used must be such that horizontal locations relative to the control can be reported within the specification to allow the engineer to accurately create the design to the following limits:
        i. Bridges and other roadway structures: less than 0.02 feet.
        ii. Utilities and improvements: less than 0.2 feet.
        iii. Cross-sections and profiles: less than 0.2 feet.
        iv. Bore holes: less than 0.5 feet.
    c. Standards, procedures, and equipment (e.g., GPS Equipment, LiDAR, Total Stations) used must be such that vertical locations relative to the control may be reported to within 0.02 feet.
6. The Surveyor shall update existing control information and prepare new survey control data sheets, as directed by the Owner, to be included in the construction plan set as described below:
    a. The Surveyor shall prepare, sign, seal, and date a survey control index sheet and horizontal and vertical control sheets to be inserted into the plan set.
    b. The Surveyor shall prepare a survey control index sheet that provides an overview of the primary project control and must include:
        i. An unscaled vicinity map showing the general location of the project in relation to nearby towns or other significant cultural features.
        ii. A scaled project map showing the extents of the project and the location of the primary control points. The map must show street networks, selected street names, control point identification, and significant culture features necessary to provide a general location of the primary control.
        iii. A table containing the primary control point values including the point number, northing, easting, elevation, stationing, and stationing offset values.
        iv. Map annotation including a graphic scale bar, north arrow, and standard TxDOT title block. The title block must contain a section for the district name, city, and highway name. The title block must also contain a section for a Texas registered engineer to sign, seal, and date the sheet to include the following statement, “The survey control information has been accepted and incorporated into this PS&E”.

            The Surveyor shall download the required format of the survey control index sheet from the TxDOT website.
        v. In the title block under the heading “Notes”, identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used,

and unit of measure. The surveyor shall include a note stating that the coordinates are State Plane and a notation specifying either grid or surface adjusted coordinates.

E. DATA REQUIREMENTS

The Surveyor shall perform post processing of field data, which will be reviewed by the Owner. Data processed by standard calculators, computers, and other business hardware and software normally maintained and used by the Surveyor will be considered acceptable.

F. TASKS TO BE COMPLETED

The Surveyor shall perform the following tasks:

1. The Surveyor shall establish horizontal and vertical control points, including offsite points. The Surveyor shall prepare signed survey control data sheets, a survey control index sheet, and a composite layout of the horizontal and vertical controls, or as directed by the Owner.
2. The Surveyor shall set primary offsite control points in pairs, approximately 2 miles apart outside of the project area.
3. The Surveyor shall set secondary control points approximately 6 inches below ground at a maximum distance of 1,500 feet apart.
4. The Surveyor shall establish horizontal and vertical control from the TxDOT Virtual Reference Station (VRS) Network, or as directed by the Owner.
5. The Surveyor shall tie and tabulate horizontal and vertical control to other control points and datums in the vicinity established by other sources such as the National Geodetic Survey (NGS), the Federal Emergency Management Agency (FEMA), TxDOT VRS Network, or as directed by the Owner.

G. DELIVERABLES

The Surveyor shall provide the following:

1. A B-size plot and MicroStation graphics files of the index map showing an overall view of the project and the relationship of the primary monuments and control points established for the project, signed and sealed by a registered professional land surveyor (RPLS), or as directed by the Owner.
2. One A-size data sheet for each control point which shall include, but need not be limited to, a location sketch, a physical description of the point, surface coordinates, the elevation, and the datum used.
3. Graphics files and scanned images of the control data sheets uploaded to Owner's file management system.
4. A written statement describing the datum used, signed and sealed by a RPLS, along with copies of all relevant NGS and TxDOT data sheets.

FUNCTION CODE 160(160) - ROADWAY DESIGN

160.10. Pavement Design.

The Engineer shall prepare pavement designs for this project in accordance with the latest edition of TxDOT's Pavement Manual. Proposed pavement designs include permanent pavement, interim condition transition pavement, and temporary detour pavement. The latest edition of TxDOT's Pavement Manual may be accessed at http://www.txdot.gov/business/resources.html.

The Engineer shall submit a signed and sealed pavement design report to the Owner. The pavement design report must be reviewed and approved by the Owner prior to its implementation. The pavement design report must document assumptions and design considerations. The pavement design report must include the following:

- Cover sheet with roadway name, geographical limits, and signatures of persons involved in the preparation and approval
- Existing and proposed typical sections
- Soils map of the project area with a brief description of each type of soil located within the project area
- Design input values and output
- Conclusion consisting of recommended pavement design or designs based on the data, analyses, and procedures included in the report.
- Pavement design details specified for each location that includes structural layer materials, general specifications, and layer thicknesses
- Relevant pavement evaluation data (structural and functional) and condition information on adjacent roads
- Site conditions that might influence the design and performance of pavements
- Relevant geotechnical data and drainage requirements including boring logs, laboratory soil test results, active or passive drainage system design, ground penetrating radar (GPR) data, falling weight deflectometer (FWD) data, dynamic cone penetrometer (DCP) data, pavement coring and report log (up to 5-foot depth), and soil classifications with Atterberg limits
- Results of the field explorations and testing of pavement sections
- Recommended pavement rehabilitation methods and designs for new pavements
- Design criteria used in determining pavement designs, including traffic loads, pavement material characterization, environmental conditions, and pavement design life
- Design summary from the program used to design (e.g., FPS 21, DARWin, TxCRCP - ME, MODULUS 6.1)
- Life-cycle cost analysis, as required by TxDOT's Pavement Manual, including the periods for resurfacing, reconstruction, and other rehabilitation measures and what these activities are likely to entail
    - Traffic control plans required for subsurface geotechnical and pavement investigations
- Other considerations used in developing the pavement designs, including subgrade preparations and stabilization procedures

MISCELLANEOUS (ROADWAY)

The Engineer shall provide the following services:

163.1. Utility Engineering

Utility Engineering includes the identification of utility conflicts, coordination, compliance with the UAR, and resolution of utility conflicts. The Engineer shall coordinate all activities with the Owner to facilitate the orderly progress and timely completion of the project design phase.

A. Coordination of Engineering Activities

1. Utility Layout:

The Utility Engineer must maintain a utility layout in the current approved version of OpenRoads Civil Design system used by the Owner. This layout must include all existing utilities which are to remain in place or be abandoned, and all adjusted utilities. This layout must be utilized to monitor the necessity of relocation and evaluate alternatives. The Utility Engineer must utilize the layout of existing utilities as prepared, if available, and make a determination of the following:

a. Facilities in conflict with the proposed project that are to be relocated.
b. Facilities to be removed or abandoned in place.
c. Facilities that are going to be moved underground.
d. Facilities to remain in service and in place because of roadway design adjustments and meeting the current UAR.
e. If there are additional facilities, not shown in the SUE documents, which require relocation, the Engineer shall coordinate this information with the Owner immediately upon discovery.

The Engineer shall submit the following deliverables to the Owner:

1. Identification of utility conflicts.

163.3. Geotechnical Borings and Investigations

A. The Engineer shall determine the location of proposed soil borings for pavement and bridge design along alignment in accordance with the latest edition of TxDOT's Geotechnical Manual. The Owner will review and provide comments for a boring layout submitted by the Engineer showing the general location and depths of the proposed borings. Once the Engineer receives the Owner's review comments, the Engineer shall perform soil borings (field work), soil testing, and prepare the boring logs in accordance with the latest edition of TxDOT's Geotechnical Manual and the local TxDOT district's procedures and design guidelines.
B. All geotechnical work must be performed in accordance with the latest version of TxDOT's Geotechnical Manual. All testing must be performed in accordance with TxDOT's Test Procedures, which are available at https://www.txdot.gov/business/resources/testing.html. American Society for Testing

Materials (ASTM) test procedures may be used only in the absence of the TxDOT procedures. All soil classification must be done in accordance with the Unified Soil Classification System.

C. The Engineer shall provide a signed, sealed, and dated geotechnical report that contains soil boring locations, boring logs, laboratory test results, generalized subsurface conditions, ground water conditions, analyses and recommendations for new pavements and skin friction tables and design capacity curves including skin friction and point bearing. The skin friction tables and design capacity curves must be present for piling and drilled shaft foundation for the bridge structure.
D. If applicable, the Engineer shall perform scour analysis to include Grain Size distribution curves with D50 value.
E. The Engineer shall sign, seal, and date soil boring sheets to be used in the PS&E package. The preparation of soil boring sheets must be in accordance with TxDOT's District standards.
F. Foundation Studies: The Engineer shall coordinate with the Owner to determine the location of soil borings to be drilled along the bridge structure. Spacing of soil borings shall not exceed 500 feet. The Engineer shall provide a boring layout for the Owner's review and comment.
G. The Engineer shall incorporate soil boring data sheets prepared, signed, sealed, and dated by the geotechnical engineer overseeing the work. The soil boring sheets shall be in accordance with the WINCORE software available on the TxDOT website.
H. Deliverables

    1. Preliminary Pavement Design Report
    2. Geotechnical Report
    3. DGN flies containing drilling log data from Geotechnical analysis

PRIME PROVIDER:

Contract No. _____
Work Authorization No. _

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

PROJECT NAME: Kohlers Seton

PROJECT LIMITS: IH 35 NBFR to Seton Parkway

TASK DESCRIPTION	LJA	LJA ES	McGray & McGray	The Rios Group	Raba Kistner	TOTAL COSTS BY FC
FEASIBILITY STUDIES (FC 102 (110))	$ 664,830.00	$ -	$ -	$ -	$ -	$ 664,830.00
SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT (FC 120 (120))	$ 31,160.00	$ 54,595.00	$ -	$ -	$ -	$ 85,755.00
RIGHT-OF-WAY DATA (FC 130 (130))	$ 28,820.00	$ -	$ 19,092.76	$ 8,163.54	$ -	$ 56,076.30
MANAGING CONTRACTED/DONATED PE (FC 145 (145,164))	$ 90,780.00	$ -	$ -	$ -	$ -	$ 90,780.00
DESIGN SURVEYING (FC 160 (150))	$ -	$ -	$ 27,550.79	$ -	$ -	$ 27,550.79
ROADWAY DESIGN CONTROLS (FC 160 (160))	$ 42,920.00	$ -	$ -	$ -	$ -	$ 42,920.00
DRAINAGE (FC 160 (161))	$ -	$ -	$ -	$ -	$ -	$ -
SIGNING, PAVEMENT MARKINGS AND SIGNALIZATION (PERMANENT) (FC 160 (162))	$ -	$ -	$ -	$ -	$ -	$ -
MISCELLANEOUS (ROADWAY) (FC 160 (163))	$ -	$ -	$ -	$ -	$ 14,255.00	$ 14,255.00
TRAFFIC MANAGEMENT SYSTEMS (PERMANENT) (FC 160 (165))	$ -	$ -	$ -	$ -	$ -	$ -
BRIDGE DESIGN (FC 160 (170))	$ -	$ -	$ -	$ -	$ -	$ -
SUBTOTAL LABOR EXPENSES	$ 858,510.00	$ 54,595.00	$ 46,643.55	$ 8,163.54	$ 14,255.00	**$ 982,167.09**
DIRECT EXPENSES (FC 164)	$ 6,387.50	$ 3,297.75	$ 80.00	$ 3,000.00	$ 50,215.00	**$ 62,980.25**
UNIT COST EXPENSES (FC 164)	$ -	$ -	$ 24,050.00	$ 26,410.00	$ 5,600.00	**$ 56,060.00**
TOTAL	$ 864,897.50	$ 57,892.75	$ 70,773.55	$ 37,573.54	$ 70,070.00	**$ 1,101,207.34**
	78.5%	5.3%	6.4%	3.4%	6.4%	100%

SUMMARY

TOTAL LABOR COSTS FOR PRIME PROVIDER	$ 858,510.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME PROVIDER	$ 6,387.50
SUBCONTRACTS (includes labor costs, direct expenses and unit cost)	$ 236,309.84
Lump Sum GRAND TOTAL	**$ 1,101,207.34**

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

LJA

PROJECT NAME: Kohlers Seton
PROJECT LIMITS: IH 35 NBFR to Seton Parkway

TASKS	SHTS	Sr Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Senior CADD Operator	Senior Bridge Engineer	Senior Utility Coordinator	Utility Coordinator	Admin/ Clerical	Category	TOTAL HOURS	TOTAL COST
		$270.00	$235.00	$185.00	$170.00	$145.00	$155.00	$135.00	$235.00	$170.00	$140.00	$85.00	Rate ($)		
FC 102 (110) Feasibility Studies															
110.1 Schematic Work Outline															
Collect available as-built plans, studies, BRINSAP reports and other data		1		4		8								13	$ 2,170.00
Review/ incorporate aerial mapping		8	4				16							28	$ 5,580.00
Analyze existing conditions (des speeds, section, clearances, etc)		2	4	16		8			8					38	$ 7,480.00
Field reconnaissance		4	4	4		4								16	$ 3,340.00
Roadway Design Criteria															$ -
Develop Preliminary DSR		1	4			8								13	$ 2,370.00
DCC Meeting		2	2			2								6	$ 1,300.00
Final DSR		1	2			4								7	$ 1,320.00
110.2 Schematic Design - General Tasks															$ -
ROW and property mapping (Coord with M&M)		2	4				8							14	$ 2,720.00
Typical Section															$ -
Prepare typ sections (inc in 110.3 and 110.4)															$ -
Env constraints mapping (assist ENV)		4	4				8	8						24	$ 4,340.00
Drainage															$ -
Drainage data collection/ agency coordination			2	4		16								22	$ 3,530.00
Drainage Area Maps			8	8		16	16							48	$ 8,160.00
Hydrologic Analysis			16	24		16								56	$ 10,520.00
HEC-RAS Analysis		2	16	16	16	40								90	$ 15,780.00
HY-8 Analysis - Culvert Design			16	16	16	16								64	$ 11,760.00
Impact Analysis (Existing vs. Proposed)			16	16	16	16								64	$ 11,760.00
Detention Analysis		2	8	32	32	40								114	$ 19,580.00
Water Quality Plan		2	8	24	24	40								98	$ 16,740.00
Preliminary Storm & Ditch Analysis		2	8	16	40	40								106	$ 17,980.00
Drainage Report		4	32	32	16	16								100	$ 19,560.00
Drainage Analysis Kick-off (4 hrs) inc prep and Minutes		4	4	4										12	$ 2,760.00
Coordination with District Hyd Eng (4 mtgs @ 4 hrs) inc prep and Minutes		4	16	16										36	$ 7,800.00
Internal Drainage Area Maps			4	4	8	16	8							40	$ 6,600.00
Preliminary Culvert Layouts			4	4	8	24	24							64	$ 10,240.00
Determine ROW requirements (inc in 110.3 and 110.4)															$ -
Construction Sequence		2	4			8								14	$ 2,640.00
Identify/ review design exceptions		4	8				8							20	$ 4,200.00
Traffic Data and Projections															$ -
Identify/Obtain corridor Issues		2	4	4		16								26	$ 4,540.00
Develop Initial Project Data			2	4		8								14	$ 2,370.00
Existing count data		2	2	4		4	4							16	$ 2,950.00
Prepare Existing traffic line diagrams (ADTs, AM and PM peak)		2	6	4		16	24	8						60	$ 9,810.00
Coordinate with TxDOT, City and obtain proposed area developments		1	4			8								13	$ 2,370.00
Coordinate with TPP, Area Office, School District, City, County		1	4			8								13	$ 2,370.00
Prepare Opening year and Design year daily traffic projections		1	4	8	16	40								69	$ 11,210.00
Balance projections and prepare traffic diagrams (5 analysis years)		1	4			16	8							29	$ 4,770.00
Bicycle and Pedestrian Accommodations (Coord with Vybe/TxDOT)		4	16	16	8	40	20	40						144	$ 23,460.00
Utility base map (Incorporate RIOS mapping)		2						40		8	16			66	$ 9,540.00
110.3 Conceptual Design Schematics															$ -
Update Conceptual Schematics		4	8	8		40	40							100	$ 16,440.00
Typical sections		1	4			16	8							29	$ 4,770.00
Prelim alternative cost estimates		2	4			8								14	$ 2,640.00
110.4 Geometric Design Schematics															$ -
Horizontal geometry		1	4		8		16							29	$ 5,050.00
Roadway and intersection layout		2	40	20		40								102	$ 19,440.00
Typical sections			8			24	24							56	$ 9,080.00
Bridge location/ span layout			16	24			8		40					88	$ 18,840.00
ROW data		2	8				16							26	$ 4,900.00
Incorporate bicycle and pedestrian design		1	4	16			40							61	$ 10,370.00
Incorporate drainage and hydraulic design		1	4	16		40	40							101	$ 16,170.00
Access management/ control		2	8				16							26	$ 4,900.00
Vertical geometry			16	40		40	40							136	$ 23,160.00

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

LJA

PROJECT NAME: Kohlers Seton
PROJECT LIMITS: IH 35 NBFR to Seton Parkway

TASKS	SHTS	Sr Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Senior CADD Operator	Senior Bridge Engineer	Senior Utility Coordinator	Utility Coordinator	Admin/ Clerical	Category	TOTAL HOURS	TOTAL COST
		$270.00	$235.00	$185.00	$170.00	$145.00	$155.00	$135.00	$235.00	$170.00	$140.00	$85.00	Rate ($)		
Retaining walls			20		40	40	20		8					128	$ 22,280.00
Prepare phased Project Implementation schematic layouts		4	16	24			40	40						124	$ 20,880.00
Prelim TCP Narrative		1	2	4		16								23	$ 3,800.00
Prepare geometric schematic layouts (50, 90, 100%)		8	40	32		40	80	80						280	$ 46,480.00
110.5 Cross-Sections															$ -
Develop proposed 3D OpenRoads model (30% PSE)		2	24	40	40	80	80							266	$ 44,380.00
Develop/ review cross sections		2	24	40	40									106	$ 20,380.00
Produce 11x17 sheets				4			40	40						84	$ 12,340.00
110.6 Retaining walls (inc in 110.4)															$ -
110.7 3D Renderings/ Animation		4	16			40	40							100	$ 16,840.00
110.8 Preliminary Construction Sequence		4	8	16			40							68	$ 12,120.00
110.12 Agency Coordination															$ -
Agency Coordination and Meeting Preparation		40	16	40			40					8		144	$ 28,840.00
Agency Meetings (4 mtgs @ 3 hrs) and Minutes		16	16	16			16					8		72	$ 14,200.00
110.14 Preliminary Cost Estimates															$ -
Cost Estimates		1	4	4		16								25	$ 4,270.00
ROW Cost Estimates		4	16			8								28	$ 6,000.00
110.16 Geotech Borings (assist Raba)		1	2	4		8								15	$ 2,640.00
SUBTOTAL		170	572	628	328	950	788	256	56	8	16	16		3,788	**$ 664,830.00**
FC 120 (120) Social, Economic and Environmental Studies and Public Involvement															
Env coord (assist Berg)		16	16											32	$ 8,080.00
120.12 Informal Meetings		2	4			16								22	$ 3,800.00
120.7 Public Involvment (support Kyle)		16	16			40		40						112	$ 19,280.00
SUBTOTAL		34	36			56		40						166	**$ 31,160.00**
FC 130 (130) Right-of-Way Data															
130.5 Utility Engineering Investigation															
Determine Bore Hole Locations and Exhibits						8				4	8			20	$ 2,960.00
130.6 Utility Adjustment Coordination															$ -
Initial Project Meeting		4				8				8	8			28	$ 4,720.00
External Communication						20				8	20			48	$ 7,060.00
Kickoff & Progress Meeting		4								8	16			28	$ 4,680.00
130.6 Access Management		8	16			24								48	$ 9,400.00
SUBTOTAL		16	16			60				28	52			172	**$ 28,820.00**
FC 145 (145,164) Managing Contracted/Donated PE															
Project Administration (Correspondence, Progress Reports, etc)(12 Month)		48		24								24		96	$ 19,440.00
Coordination with Subconsultants (Contracts, Billing, Schedule, etc)		20										20		40	$ 7,100.00
Coordination with Subconsultants (Tasks, Deliverables, etc)		20												20	$ 5,400.00
Project Scheduling		20												20	$ 5,400.00
Kick-off Meeting (prepare for and attend)		4	4	4		4									
Progress/ Coordination Meetings with CIty (12 by Teams)		24	24	24		24								96	$ 20,040.00
QA/QC of Subconsutant Deliverables		40	40	40		40								160	$ 33,400.00
SUBTOTAL		176	68	92		68						44		432	$ 90,780.00
FC 160 (160) Roadway Design Controls															
163.1 Utility Engineering															**$ -**
Utility Layout (Strip Maps)		8				40				40	80			168	**$ 25,960.00**
Conflcit Assesment		8				40				20	40			108	**$ 16,960.00**
SUBTOTAL		16				80				60	120			276	**$ 42,920.00**
LABOR TOTALS		**412**	**692**	**720**	**328**	**1214**	**788**	**296**	**56**	**96**	**188**	**60**		**4,834**	**$ 858,510.00**
		8.5%	14.3%	14.9%	6.8%	25.1%	16.3%	6.1%	1.2%	2.0%	3.9%	1.2%			

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

LJA

PROJECT NAME: Kohlers Seton
PROJECT LIMITS: IH 35 NBFR to Seton Parkway

TASKS	SHTS	Sr Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Senior CADD Operator	Senior Bridge Engineer	Senior Utility Coordinator	Utility Coordinator	Admin/ Clerical	Category	TOTAL HOURS	TOTAL COST
		$270.00	$235.00	$185.00	$170.00	$145.00	$155.00	$135.00	$235.00	$170.00	$140.00	$85.00	Rate ($)		

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT		
Mileage	2,500	0.655	Mile		$ 1,637.50
Traffic Counts Intersections	3	$1,000.000	EA		$ 3,000.00
Plots (Color on Bond)	1,000	$1.75	SF		$ 1,750.00
					$ -
					$ -
SUBTOTAL DIRECT EXPENSES (FC 164)					**$ 6,387.50**

UNIT COST EXPENSES	# OF UNITS	COST/UNIT	UNIT		
					$ -
					$ -
					$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)					**$ -**

SUMMARY

TOTAL COSTS FOR PRIME PROVIDER	$ 858,510.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME PROVIDER	$ 6,387.50
NON-SALARY (UNIT COST EXPENSES) FOR PRIME PROVIDER	$ -
SUBCONTRACTS (includes labor costs, direct expenses, and unit costs)	$ 236,309.84
GRAND TOTAL	**$ 1,101,207.34**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

LJA ES

PROJECT NAME: Kohlers Seton
PROJECT LIMITS: IH 35 NBFR to Seton Parkway

TASKS	SHTS	Vice President	Sr. Project Manager	Project Manager	Project Coordinator III	Project Coordinator II	Field Tech II	GIS Analyst II	Project Support Officer II	Admin I	TOTAL HOURS	TOTAL COST
		$240.00	$200.00	$180.00	$170.00	$160.00	$105.00	$165.00	$135.00	$75.00		
FC 120 (120) Social, Economic and Environmental Studies and Public Involvement												
Project Mgmt & Right-of-Entry		10		16		2				2	30	$ 5,750.00
Cultural Resources Investigation & Survey		18		2		38	10	4			72	$ 12,470.00
Wetland Delineation & Jurisdictional Determination		2		4	26	18		12			62	$ 10,480.00
Threatened & Endangered Species Assessment		1		2	14	12					29	$ 4,900.00
HazMat Phase I Environmental Site Assessment		2	2	16	4			3	4		31	$ 5,475.00
CWA Section 404 Nationwide Permit (if required)		8	2	8	8	32		24			82	$ 14,200.00
Public Involvement Assistance				2		6					8	$ 1,320.00
												$ -
SUBTOTAL		41	4	50	52	108	10	43	4	2	314	**$ 54,595.00**
LABOR TOTALS		**41**	**4**	**50**	**52**	**108**	**10**	**43**	**4**	**2**	**314**	**$ 54,595.00**
		13.1%	1.3%	15.9%	16.6%	34.4%	3.2%	13.7%	1.3%	0.6%		

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

LJA ES

PROJECT NAME: Kohlers Seton
PROJECT LIMITS: IH 35 NBFR to Seton Parkway

TASKS	SHTS	Vice President	Sr. Project Manager	Project Manager	Project Coordinator III	Project Coordinator II	Field Tech II	GIS Analyst II	Project Support Officer II	Admin I	TOTAL HOURS	TOTAL COST
		$240.00	$200.00	$180.00	$170.00	$160.00	$105.00	$165.00	$135.00	$75.00		

OTHER DIRECT EXPENSES		# OF UNITS	COST/UNIT	UNIT		
						$ -
	Mileage	1,250	$0.655	mile		$ 818.75
	Toll Charges	10	$7.00	each		$ 70.00
	Equipment Rental	1	$200.00	each		$ 200.00
	Tx Parks & Wildlife Data Request Fees	1	$50.00	each		$ 50.00
	Hazardous Materials Database Search	1	$800.00	per search		$ 800.00
	Aerial Photographs (1" = 500' scale)	2	$100.00	each		$ 200.00
	Lodging/Hotel - Taxes and Fees	2	$30.00	day/person		$ 60.00
	Lodging/Hotel (Taxes/fees not included)	2	$94.00	day/person		$ 188.00
	Meals (Excluding alcohol & tips) (Overnight stay required)	4	$50.00	day/person		$ 200.00
	Overnight Mail - letter size	2	$25.50	each		$ 51.00
	Overnight Mail - oversize box		$45.000	each		$ -
	Environmental Database Search (e.g., Census Data - Cubit)		$600.00	per search		$ -
	TARL Record Curation Fee	1	$460.00	per project		$ 460.00
	Photocopies	2,000	$0.10	each		$ 200.00
						$ -
SUBTOTAL DIRECT EXPENSES (FC 164)						$ 3,297.75

UNIT COST EXPENSES		# OF UNITS	COST/UNIT	UNIT		
						$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)						$ -

SUMMARY

TOTAL COSTS FOR LJA ES	$ 54,595.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR LJA ES	$ 3,297.75
NON-SALARY (UNIT COST EXPENSES) FOR LJA ES	$ -
GRAND TOTAL	**$ 57,892.75**

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

McGray & McGray

PROJECT NAME: Kohlers Seton
PROJECT LIMITS: IH 35 NBFR to Seton Parkway

TASKS	SHTS	Survey - RPLS (Project Manager)	Survey Tech - Senior	Survey Tech	Lidar Mapping Tech	Lidar Processing Tech	Mapping Editor	Field Coordinator	TOTAL HOURS	TOTAL COST
		$170.37	$109.73	$95.29	$86.63	$103.95	$86.63	$101.07		
FC 130 (130) Right-of-Way Data										
PREPARE 5 PARCEL PLATS AND DESCRIPTIONS FOR PROPOSED ROW		8	40	140					188	$ 19,092.76
SUBTOTAL		8	40	140					188	**$ 19,092.76**
FC 160 (150) Design Surveying										
ESTABLISH HORIZONTAL AND VERTICAL CONTROL		2	10	20					32	**$ 3,343.84**
ESTABLISH PANEL POINTS		1	4	14					19	**$ 1,943.35**
PROVIDE LOW ALTITUDE AERIAL MAPPING										**$ -**
PREPARE DGN, DTM, TIN, ORTHOPHOTOGRAPHY FILES					50	16	8		74	**$ 6,687.74**
QA/QC, STATEMENT OF MAP (PLANIMETRIC) ACCURACY		4			12		6		22	**$ 2,240.82**
OBTAIN DESIGN SURVEY DATA		1		7	14				22	**$ 2,050.22**
REVIEW AND UPDATE DTM AND TIN FILES		2		6	14				22	**$ 2,125.30**
REVIEW AND UPDATE PLANIMETRIC (DGN) FILES		2		8	14				24	**$ 2,315.88**
OBTAIN SURVEY DETAILS INCLUDING DRAINAGE FEATURES, VISIBLE UTILITIES, IMPROVEMENTS, CROSS SECTIONS			6	16					22	**$ 2,183.02**
ADDITIONAL SURVEYS AS REQUESTED BY THE ENGINEER										**$ -**
REVIEW RIGHT-OF-WAY MAPS		8							8	**$ 1,362.96**
SURVEY TOP OF RAILROAD TRACKS, MILEPOST MARKERS		12							12	**$ 2,044.44**
LOCATE BOREHOLES				6					6	**$ 571.74**
LOCATE EXISTING DRIVEWAYS										**$ -**
LOCATE OVERHEAD UTILITY LINES										**$ -**
HYDROGRAPHIC SURVEY OF WATERWAYS										**$ -**
QA/QC, SURVEYORS REPORT, CHECKLISTS		4							4	**$ 681.48**
SUBTOTAL		36	20	77	104	16	14		267	**$ 27,550.79**
LABOR TOTALS		**44**	**60**	**217**	**104**	**16**	**14**		**455**	**$ 46,643.55**
		9.7%	13.2%	47.7%	22.9%	3.5%	3.1%			

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

McGray & McGray

PROJECT NAME: Kohlers Seton
PROJECT LIMITS: IH 35 NBFR to Seton Parkway

TASKS	SHTS	Survey - RPLS (Project Manager)	Survey Tech - Senior	Survey Tech	Lidar Mapping Tech	Lidar Processing Tech	Mapping Editor	Field Coordinator	TOTAL HOURS	TOTAL COST
		$170.37	$109.73	$95.29	$86.63	$103.95	$86.63	$101.07		

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT		
Deed Copies	40	$ 2.00	EA		**$ 80.00**
					$ -
SUBTOTAL DIRECT EXPENSES (FC 164)					**$ 80.00**

UNIT COST EXPENSES	# OF UNITS	COST/UNIT	UNIT		
2-Person Crew	130	$ 185.00	HR		**$ 24,050.00**
					$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)					**$ 24,050.00**

SUMMARY

TOTAL COSTS FOR M&M	$46,643.55
NON-SALARY (OTHER DIRECT EXPENSES) FOR M&M	$80.00
NON-SALARY (UNIT COST EXPENSES) FOR M&M	$24,050.00
GRAND TOTAL	**$70,773.55**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

The Rios Group

PROJECT NAME: Kohlers Seton
PROJECT LIMITS: IH 35 NBFR to Seton Parkway

TASKS	SHTS	Principal	Supervisory Engineer	SUE Project Manager	Professional Engineer	Assistant Project Manager	Engineer In Training	CADD Technician	Engineering Technician	Field Manager	TOTAL HOURS	TOTAL COST
		$316.28	$190.86	$169.71	$165.19	$118.30	$110.49	$74.84	$74.67	$127.23		
FC 130 (130) Right-of-Way Data												
130.5 UTILITY ENGINEERING INVESTIGATION (SUBSURFACE UTILITY ENGINEERING)		2	2	4	4	8		40	8	10	78	$ 8,163.54
SUBTOTAL		2	2	4	4	8		40	8	10	78	**$ 8,163.54**
LABOR TOTALS		**2**	**2**	**4**	**4**	**8**		**40**	**8**	**10**	**78**	**$ 8,163.54**
		2.6%	2.6%	5.1%	5.1%	10.3%		51.3%	10.3%	12.8%		

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

The Rios Group

PROJECT NAME: Kohlers Seton
PROJECT LIMITS: IH 35 NBFR to Seton Parkway

TASKS	SHTS	Principal	Supervisory Engineer	SUE Project Manager	Professional Engineer	Assistant Project Manager	Engineer In Training	CADD Technician	Engineering Technician	Field Manager	TOTAL HOURS	TOTAL COST
		$316.28	$190.86	$169.71	$165.19	$118.30	$110.49	$74.84	$74.67	$127.23		

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT		
TRAFFIC CONTROL (STANDARD)	3	$1,000.000	DAY		$ 3,000.00
TRAFFIC CONTROL (TMA)		$1,500.000	DAY		$ -
SUBTOTAL DIRECT EXPENSES (FC 164)					**$ 3,000.00**

UNIT COST EXPENSES	# OF UNITS	COST/UNIT	UNIT		
					$ -
QL"B" SUE DESIGNATING - ONE DESIGNATING PERSON	20	$160.000	HR		$ 3,200.00
QL"B" SUE DESIGNATING - TWO PERSON DESIGNATING CREW	30	$250.000	HR		$ 7,500.00
QL"A" SUE TEST HOLE 0-5 FT	5	$1,315.000	EA		$ 6,575.00
QL"A" SUE TEST HOLE 5-8 FT	4	$1,600.00	EA		$ 6,400.00
QL"A" SUE TEST HOLE 8-13 FT	1	$1,995.00	EA		$ 1,995.00
QL"A" SUE TEST HOLE 13-20 FT		$2,575.000	EA		$ -
PAVEMENT CORING	2	$370.00	EA		$ 740.00
SUBTOTAL UNIT COST EXPENSES (FC 164)					**$ 26,410.00**

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$8,163.54
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1	$3,000.00
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1	$26,410.00
GRAND TOTAL	**$37,573.54**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Raba Kistner

PROJECT NAME: Kohlers Seton
PROJECT LIMITS: IH 35 NBFR to Seton Parkway

TASKS	SHTS	PRINCIPAL	PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	EIT	SR. ENGR. TECH.	ENGR. TECH.	ADMIN	TOTAL HOURS	TOTAL COST
		$220.00	$205.00	$205.00	$175.00	$135.00	$100.00	$85.00	$70.00		
FC 160 (163) Miscellaneous (Roadway)											
GEOTECHNICAL INVESTIGATION AND RECOMMENDATIONS											
STAKE BORINGS AND UTILITY LOCATE			1		1	2	8			12	$ 1,450.00
FIELD EXPLORATION (INCLUDING DYNAMIC ONE PENETROMETER)							16			16	$ 1,600.00
LABORATORY ASSIGNMENT					1	3				4	$ 580.00
SOIL BORING LOGS					2	6				8	$ 1,160.00
SITE PLAN					1	2		2		5	$ 615.00
PAVEMENT DESIGN ANALYSES (PROVIDE FLEXIBLE AND RIGID PAVEMENT OPTION)			1		6	18				25	$ 3,685.00
DRAFT GEOTECHNICAL REPORT PREPARATION		1	2		6	14			2	25	$ 3,710.00
GEOTECHNICAL REPORT REVIEW & FINALIZATION		1	1		2	4			2	10	$ 1,455.00
											$ -
											$ -
SUBTOTAL		2	5		19	49	24	2	4	105	**$ 14,255.00**
LABOR TOTALS		**2**	**5**		**19**	**49**	**24**	**2**	**4**	**105**	**$ 14,255.00**
		1.9%	4.8%		18.1%	46.7%	22.9%	1.9%	3.8%		

OTHER DIRECT EXPENSES		# OF UNITS	COST/UNIT	UNIT		
	FIELD OPERATIONS					
	Mobilization of Drill Rig	5	$600.00	each		**$ 3,000.00**
	3" Thin-Wall Continuous Sampling	145	$28.000	ft		**$ 4,060.00**
	TCP with Intermittent Sampling	240	$45.00	ft		**$ 10,800.00**
	Bentonite Backfill	385	$13.00	ft		**$ 5,005.00**
	Standby (relocation and setup time)	12	$250.000	hr		**$ 3,000.00**
	Driller Cleanup	12	$250.00	hr		**$ 3,000.00**
						$ -
	LABORATORY TESTING					**$ -**
	Atterberg Limits	27	$125.00	each		**$ 3,375.00**
	Moisture Content	70	$25.00	each		**$ 1,750.00**
	Sieve Analysis (passing No. 4, 40, 200)	27	$120.00	each		**$ 3,240.00**
	Sulfate Testing	9	$125.00	each		**$ 1,125.00**
	Unconfined Compression (Soil)	6	$60.00	each		**$ 360.00**
	Unconfined Compression (Rock)	6	$75.00	each		**$ 450.00**
	Direct Shear	2	$650.00	each		**$ 1,300.00**
	Consolidated Undrained (CU) Triaxial Compression Test for Undisturbed Soils- Multiple Change	2	$1,900.00	each		**$ 3,800.00**
	Lime Series (Tex-121-E Part III)	2	$425.00	each		**$ 850.00**
	Moisture Denisty Relationship (TEX-114-E)	2	$350.00	each		**$ 700.00**
	Texas Triaxial Compression (TEX-117-E)	2	$2,200.00	each		**$ 4,400.00**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Raba Kistner

PROJECT NAME: Kohlers Seton
PROJECT LIMITS: IH 35 NBFR to Seton Parkway

TASKS	SHTS	PRINCIPAL	PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	EIT	SR. ENGR. TECH.	ENGR. TECH.	ADMIN	TOTAL HOURS	TOTAL COST
		$220.00	$205.00	$205.00	$175.00	$135.00	$100.00	$85.00	$70.00		
											$ -
											$ -
SUBTOTAL DIRECT EXPENSES (FC 164)											**$ 50,215.00**

UNIT COST EXPENSES		# OF UNITS	COST/UNIT	UNIT		
	Traffic Control Services		$4,000.00	day		$ -
	Brush Clearing	2	$2,800.000	day		**$ 5,600.00**
						$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)						**$ 5,600.00**

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$14,255.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1	$50,215.00
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1	$5,600.00
GRAND TOTAL	**$70,070.00**

K·FRIESE
+ ASSOCIATES

KYLE BONDS 2022

COUNCIL MEETING | MARCH 7, 2023

Item # 22

BOND PROGRAM UPDATE

- Bond was approved by voters in Nov. 2022
- Council workshop was held in late January to provide an update
- Design scopes and fees for Kohlers, Bebee, and Bunton Creek projects are ready for review
- Finalizing negotiations for remaining projects, aiming for March 21 Council meeting
- Website and branding refresh in progress

KYLE BONDS 2022

COUNCIL MEETING | MARCH 7, 2023

K·FRIESE + ASSOCIATES

TASK ORDER BUDGETS

Project	From	To	Total Budgeted Project Cost	Current Phase	Current Task Order Budget	% of Total Budgeted Project Cost
Kohlers to Seton (off-system)	IH 35 NBFR	Seton Pkwy	$66,080,361	Schematic	**$ 1,101,207.34**	5%
Kohlers to Seton (IH 35 crossing)	IH 35 SBFR	IH 35 NBFR		Schematic	**$ 2,158,287.27**	
Bebee Rd (west)	IH 35 NBFR	Dacy Ln	$66,621,312	Schematic	**$ 436,194.96**	2%
Bebee Rd (east)	Dacy Ln	E. of Green Pastures Rd		Schematic	**$ 788,221.88**	
Bunton Creek Rd	Lehman Rd	Porter Cove	$28,444,399	Schematic	**$ 947,810.00**	3%

K·FRIESE + ASSOCIATES

CITY OF KYLE, TEXAS

Approve Task Order No. 17 - LJA Engineering, Inc. for Kohlers Crossing from IH 35 SBFR to IH 35 NBFR $2,158,287.27

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Approve Task Order No. 17 to LJA ENGINEERING, INC., Austin, Texas in the amount not to exceed $2,158,287.27 for engineering services and design of Kohlers Crossing from the IH 35 SBFR to the IH 35 NBFR. ~ *Joe Cantalupo, K Friese & Associates, City's 2022 Road Bond Program Manager*

Other Information: The work to be performed by the Engineer shall consist of providing preliminary engineering
services for the development of a final design schematic. These services may include, but are not
limited to, preparing a design schematic based on the preferred alternative from the Task Order No.
13 Preliminary Engineering Report, environmental documents/studies in support of the schematic
work, public involvement support, permit procurement, data collection analysis, mitigation and
remediation, monitoring, drainage, conceptual traffic control, traffic signal warrants, 3-D modeling,
surveying and mapping, subsurface utility engineering (SUE), environmental clearance, utility
coordination, storm drain design, bridge design, and cross sections.

Legal Notes: N/A

Budget Information: Funding in the amount of $2,158,287.27 is available from the 2022 Road Bond Fund in the approved Capital Improvement Spending Plan for Fiscal Year 2022-2023 as follows:

- 1952-68819-573130 = $2,158,287.27 (2022 Road Bond Fund)

ATTACHMENTS:

Description

- Task Order No. 17
- 2022 Road Bond Program Update by K-Friese & Associates 3-7-2023

TASK ORDER NO. 17

This Task Order is issued pursuant to that Professional Services Agreement (Agreement) between the City of KYLE, Texas (Owner) and LJA Engineering, Inc. (Professional) effective March 17, 2021 and constitutes authorization by Owner for Professional to proceed with the following described construction and engineering design services.

Construction and Engineering Design Services

A. PROJECT DESCRIPTION

The scope of the Agreement is to provide professional construction and engineering design services (Services) for the Owner based on the scope of services listed below in Item B. Professional services may include performing preliminary engineering and planning; generating plans, specifications and estimates; researching, analyzing, and providing technical recommendations; providing construction phase services; and providing general consulting services in the areas identified herein.

B. SCOPE OF SERVICES AND DELIVERABLES

Pursuant to the Agreement, this Task Order authorizes Professional to perform the Services shown in Attachment A.

C. BASIS OF COMPENSATION

The total compensation for the Services shall be based on the hourly rates as defined in Compensation Table provided on pages 3 and 4 of this document, and on the corresponding rates and hours in the Fee Estimate attached as Attachment B. Attachment B shall use the template provided by the Owner. Owner will make payments to Professional for performing the Services described on a monthly billing basis in accordance with monthly statements submitted by the Professional and approved by Owner. Final payment shall be due upon completion of the Services described.

D. TIME FOR COMPLETION

Professional will work expeditiously to complete the Services described herein by July 2025.

LJA Engineering, Inc. shall begin work as soon as authorized in this Task Order No. 17.

APPROVED:	**ACCEPTED:**
CITY OF KYLE, TEXAS	**LJA ENGINEERING, INC.**
By _____	By Kenneth G Schroeder
Title: City Manager	Title Senior Vice President
Attest _____	Attest _____
Date _____	Date 3/1/2023

COMPENSATION

Compensation for the services provided pursuant to the Professional Services Agreement between the City of Kyle and LJA Engineering, Inc. executed the 17 day of March, 2021 will be paid on a lump sum basis and calculated based on the amounts reflected below.

LJA

Professional Staff	Hourly Bill Rate
Admin/ Clerical	$85
Utility Coordinator	$140
Senior Utility Coordinator	$170
Senior Bridge Engineer	$235
Senior CADD Operator	$135
Senior Engineer Tech	$155
EIT	$145
Design Engineer	$170
Project Engineer	$185
Senior Engineer	$235
Sr Project Manager	$270

LJA ES

Professional Staff	Hourly Bill Rate
GIS Analyst I	$116
GIS Analyst II	$165
Field Tech II	$105
Project Coordinator II	$160
Asst. Project Manager (NEPA) / Project Coord'r III	$170
Project Manager	$180
Sr. Project Manager	$200
Vice President	$240

McGray & McGray

Professional Staff	Hourly Bill Rate
Field Coordinator	$101.07
Mapping Editor	$86.63
Lidar Processing Tech	$103.95
Lidar Mapping Tech	$86.63
Survey Tech	$95.29
Survey Tech - Senior	$109.73
Survey - RPLS (Project Manager)	$170.37

The Rios Group

Professional Staff	Hourly Bill Rate
Field Manager	$127.23
Engineering Technician	$74.67
CADD Technician	$74.84
Engineer in Training	$110.49
Assistant Project Manager	$118.30
Professional Engineer	$165.19
SUE Project Manager	$169.71
Supervisory Engineer	$190.86
Principal	$316.28

Raba Kistner

Professional Staff	Hourly Bill Rate
Admin	$70
Engineering Technician	$85
Senior Engineering Technician	$100
EIT	$135
Engineer	$165
Senior Engineer	$185
Project Manager	$195
Principal	$220

ATTACHMENT A

TASK ORDER NO. 17 (SCHEMATIC PHASE)

SERVICES TO BE PROVIDED BY THE ENGINEER

LJA Engineering, Inc. (Engineer) will provide staff to support the City of KYLE (Owner) with general construction and engineering support services. The Owner also includes the City's General Engineering Consultant (GEC), K Friese & Associates, Inc., which the Owner has secured to act on its behalf as an Owner's Representative. The Engineer is required to coordinate with the GEC for completion of this work. Specific tasks may include, but are not limited to, the following:

The work to be performed by the Engineer shall consist of providing preliminary engineering services for the development of a final design schematic. These services may include, but are not limited to, preparing a design schematic based on the preferred alternative from the Task Order No. 13 Preliminary Engineering Report, environmental documents/studies in support of the schematic work, public involvement support, permit procurement, data collection analysis, mitigation and remediation, monitoring, drainage, conceptual traffic control, traffic signal warrants, 3-D modeling, surveying and mapping, subsurface utility engineering (SUE), environmental clearance, utility coordination, storm drain design, bridge design, and cross sections.

The Engineer shall complete the services to be provided by the Engineer according to the milestone work schedule established in the task order. The Engineer shall submit a written progress report to the Owner monthly indicating the actual work accomplished during the month, scheduled work to be accomplished for the month, and the estimated work to be accomplished for the coming month. The Engineer is required to meet with the designated Owner project manager and environmental coordinator bi-weekly for progress tracking purposes unless prior agreement is made with Owner not to hold a scheduled meeting. The Engineer shall submit minutes of the meeting, summarizing the events of the meeting within seven calendar days after each meeting.

The Engineer shall prepare a project work schedule. The work schedule must incorporate an allocation of time for stage reviews of the design schematic, survey, ROW Mapping, and the environmental documents by Owner personnel. The Engineer shall present the work schedule to the Owner for review and acceptance and provide assistance in interpreting the proposed work schedule.

GENERAL REQUIREMENTS

1.1. Design Criteria.

Design Criteria. The Engineer shall prepare all work in accordance with the latest version of applicable Owner's procedures, specifications, manuals, guidelines, standard drawings, and standard specifications or previously approved special provisions and special specifications, which include:

- Texas Department of Transportation (TxDOT) PS&E Preparation Manual
- TxDOT Roadway Design Manual
- TxDOT Hydraulic Design Manual
- Texas Manual on Uniform Traffic Control Devices (TMUTCD)

- Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (latest Edition)
- Other Owner approved manuals
- TxDOT ROW Acquisition Manual
- TxDOT Utilities Manual
- Texas Transportation Administrative Code – Utility Accommodation
- Texas Commission on Environmental Quality (TCEQ)

When design criteria are not identified in Owner's manuals or TxDOT criteria, or if conflicting guidance is found, the Engineer shall notify the Owner and refer to the American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Street (latest Edition).

The Engineer shall use applicable standards and guidance to tailor the Design Summary Report (DSR) template (provided by the City) to their project. The Engineer shall obtain approval from the City on all information contained in the DSR prior to schematic development.

The Engineer shall identify, prepare exhibits and complete all necessary forms for each Design Exception and Waiver required within project limits prior to the 50% project completion submittal. The Engineer shall submit each exception and waiver to the Owner for coordination and processing of approvals. If subsequent changes require additional exceptions, the Engineer shall notify the Owner in writing as soon as possible after identification of each condition that may warrant a design exception or waiver.

The Engineer shall prepare a design time schedule and an estimated construction contract time schedule, using the latest version of MS Project, Primavera, or any Owner approved programs. The schedules shall indicate tasks, subtasks, critical dates, milestones, deliverables and review requirements in a format that depicts the interdependence of the various items. The Engineer shall provide assistance to Owner's personnel in interpreting the schedules. The Engineer shall schedule milestone submittals at 50%, 90% and final project completion phases unless directed by Owner otherwise. The Engineer shall advise the Owner in writing if the Engineer is not able to meet the scheduled milestone review date.

Once the schematic has been completed and accepted by the Owner, the Engineer shall deliver all electronic files to the Owner within 30 calendar days of Owner's written request.

Milestone submittals shall include, but shall not be limited to, the following to be considered complete:

1. 50%
    - Design Summary Report (DSR)
    - Draft Schematic of preferred alternative using border file provided by the Owner for the Kyle 2022 Road Bond Program
    - Cross Sections on 11X17 sheets
    - Draft Drainage Report
    - Draft Traffic Study (or Studies) including roundabout and/or traffic signal studies/warrants
    - Draft Traffic Control Layout
    - Draft Geotechnical Report

- Draft Environmental Documents
- Construction Cost Estimate
- ROW Cost Estimate
- Utility Conflict Matrix
- Utility Relocation Cost Estimate including compensable and non-compensable subtotals

2. 90%
   - All 50% items with review comments addressed
   - Comment resolution matrix
   - Draft ROW Acquisition Documents
   - Final versions of 50% items
3. Final
   - All 90% items with review comments addressed
   - Comment resolution matrix
   - Final signed and sealed versions of 90% items

Submittals shall be provided electronically to the Owner using the Procore platform.

1.2. Right-of-Entry. The Engineer shall notify the Owner and secure permission to enter private property to perform any surveying, environmental, engineering, or geotechnical activities needed off Owner right-of-way. In pursuance of the Owner's policy with the general public, the Engineer shall not commit acts which would result in damages to private property, and the Engineer shall make every effort to comply with the wishes and address the concerns of affected private property owners. The Engineer shall contact each property owner prior to any entry onto the owner's property and shall request concurrence from the Owner prior to each entry.

1.3. Progress Reporting and Invoicing. The Engineer shall invoice according to Function Code breakdowns shown in Exhibit "A" of the Professional Services Agreement and Attachment "B" - Fee Schedule, of the Task Order. The Engineer shall submit each invoice in a format acceptable to the Owner.

The Engineer shall complete the services according to the milestone work schedule established in the task order. With each invoice the Engineer shall submit a monthly written progress report to the Owner's Project Manager regardless of whether the Engineer is invoicing for that month. Requirements for progress reports are included in Sections 145.2.b. and 145.2.c. of this scope of services.

The Engineer is required to meet with the designated Owner project manager or environmental coordinator bi-weekly for progress tracking purposes unless prior written agreement is made with Owner not to hold a meeting in any given month. The Engineer shall submit minutes of the meeting summarizing the events of the meeting within five (5) business days after each meeting.

The Engineer shall prepare a project work schedule, using the latest version of Microsoft Project or Primavera software or another scheduling program approved by the Owner in writing. Requirements for schedules are included in Section 145.2.b. of this scope of services.

Condition precedents to final payment by the Owner are the Owner's receipt of all electronic files and confirmation by the Owner's Project Manager that (1) the electronic files can be opened and are usable by the Owner utilizing the Owner-owned version of the intended software, and (2) all of the

Owner's review comments have been addressed.

The Engineer shall prepare a letter of transmittal to accompany each document submittal to the Owner. At a minimum, the letter of transmittal must include the project name, project limits, Owner's contract number, and Owner's task order number.

1.4. Traffic Control. The Engineer shall provide all planning, labor, and equipment to develop and to execute each Traffic Control Plan (TCP) needed by the Engineer to perform services under each task order. The Engineer shall comply with the requirements of the most recent edition of the TMUTCD. The Engineer shall submit a copy of each TCP to the Owner for approval prior commencing any work on any Owner roadway. The Engineer shall provide all signs, flags, and safety equipment needed to execute the approved TCP. The Engineer shall notify the Owner in writing five (5) days (in advance of executing each TCP requiring a lane closure and shall have received written concurrence from the Owner prior to beginning the lane closure. The Engineer's field crew shall always possess a copy of the approved TCP on the job site and shall make the TCP available to the Owner for inspection upon request. The Engineer shall assign charges for any required traffic control to the applicable function code. The Owner requires Public Notice of lane and Road closure 7 days in advance of closure through use of message boards, thus notice to Owner would need to be about 10 days prior of closure.

1.5. State-Controlled Waters. The placement of a new structure or modification of an existing structure(s) within State-Controlled waters will require confirmation that said structure(s) lie within the General Land Office (GLO) state owned land and whether the crossing is tidally influenced or not. Consequently, the Engineer shall request, as early in the design process as possible, that the State determine whether the proposed improvements are found within the tidal GLO, is a submerged GLO property or a non-tidal GLO property. The Owner may request assistance from the Engineer to prepare an exhibit demonstrating the location of the proposed improvements on the GLO State Owned Map for the project location.

1.6. Coordination. The Engineer shall coordinate issues and communications with Owner's internal departments through the Owner's Project Manager. The Owner will communicate the resolution of issues and provide the Engineer direction through the Owner's Project Manager.

Where applicable, the Engineer shall notify the Owner and coordinate with adjacent engineers and surveyors on all controls at project interfaces. The Engineer shall document the coordination effort, and each engineer must provide written concurrence regarding the agreed project controls and interfaces. In the event the Engineer and the other adjacent engineers are unable to agree, the Engineer shall meet jointly with the Owner and each adjacent engineer to resolve disagreements. If the engineers are unable to resolve an issue with the Owner as mediator, the Owner may decide the issue and the decision will be final.

The Engineer shall prepare each exhibit necessary for approval by each railroad, utility, and other governmental or regulatory agency in compliance with the applicable format and guidelines required by each entity and as approved by the Owner. The Engineer shall notify the Owner in writing prior to beginning any work on any outside agency's exhibit.

1.7. Level of Effort. For each task order, the Engineer shall base the level of effort at each phase on the prior work developed in earlier phases without unnecessary repetition or re-study. As directed by the Owner, the Engineer shall provide written justification regarding whether or not additional or repeated level of effort of earlier completed work is warranted, or if additional detail will be better addressed at a later stage in the project development.

1.8. Quality Assurance (QA) and Quality Control (QC). The Engineer shall provide peer review at all levels. For each deliverable, the Engineer shall have some evidence of their internal review and mark-up of that deliverable as preparation for submittal. A milestone submittal is not considered complete unless the required milestone documents and associated internal red-line mark-ups are submitted. The Owner's Project Manager may require the Engineer to submit the Engineer's internal mark-up (red-lines) or comments developed as part the Engineer's quality control step. When internal mark-ups are requested by the Owner in advance, the Owner, at its sole discretion, may reject the actual deliverable should the Engineer fail to provide the evidence of quality control. The Engineer shall clearly label each document submitted for quality assurance as an internal mark-up document.

The Engineer shall perform QA and QC on all survey procedures, field surveys, data, and products prior to delivery to the Owner. If, at any time, during the course of reviewing a survey submittal it becomes apparent to the Owner that the submittal contains errors, omissions, or inconsistencies, the Owner may cease its review and immediately return the submittal to the Engineer for appropriate action by the Engineer. A submittal returned to the Engineer for this reason is not a submittal for purposes of the submission schedule.

1.11. Organization of Design Project Folder and Files (Electronic Project Files). The Engineer shall organize the electronic project files in accordance with the Owner's File Management System (FMS) format. The Engineer shall maintain the project files in the Owner's file structure.

1.12. Personal Protective Equipment (PPE). The Engineer shall, and shall require its subcontractors to, (1) provide personal protective equipment (PPE) to their personnel, (2) provide business vehicles for their personnel, and (3) require their personnel to use PPE and drive only business vehicles while performing work on or near roadways. The PPE must meet all (1) current standards set by the Occupational Safety and Health Administration (OSHA) and (2) TxDOT requirements (e.g., safety glasses, Type 3 (TY 3) pants for night work). Each business vehicle must be clearly marked with the Engineer's business name, or the name of the appropriate subcontractor, such that the name can be identified from a distance.

1.13. Data Classification. Unless otherwise clearly labeled or otherwise specifically excepted through a provision of this contract or its attachments, all data provided to or generated by the Engineer under this contract is considered public data for the purposes of applying the Owner's data security standards. The Engineer shall manage all data and work products according to the terms of the contract, including specifically Attachment I, Information Resources and Security Requirements.

TASK DESCRIPTIONS AND FUNCTION CODES

The Engineer shall categorize each task performed to correspond with the Function Codes (FC) and Task Descriptions.

FUNCTION CODE 102(110) – FEASIBILITY STUDIES

ROUTE AND DESIGN STUDIES

The Engineer shall collect, review, and evaluate data described below. The Engineer shall notify the Owner in writing whenever the Engineer finds disagreement with the information or documents provided.

The Engineer shall finalize an alignment and proposed roadway schematic layout that includes projected traffic volumes, when available, and existing and proposed typical sections. The Engineer shall furnish Microsoft Office and MicroStation, GEOPAK, and OpenRoads computer generated media containing the roadway schematic layout to the Owner. All supporting attachments and exhibits must accompany the schematic layout. All MicroStation, GEOPAK, and OpenRoads computer generated files containing the roadway design schematic must be fully compatible with the software used by the Owner without further modification or conversion. The Engineer shall be required to convert files to AutoCAD if requested by the Owner.

The Engineer shall produce, obtain, review, and evaluate available existing and twenty-year projected traffic data for use in the preparation of the schematic design layout. The data must be utilized in accordance with the requirements for schematic development and consistent with the policies of the Owner.

The Engineer shall prepare preliminary drawings to identify any potential impacts and constraints within the project corridor, including impacts to the nature, cultural, and human environment. The potential impacts and constraints identified must include all existing and proposed utilities (both public and private), structures, burial grounds, neighborhood communities, historical landmarks, and undeveloped areas. Any potential utility conflicts and structural impediments must be identified as such. The Engineer shall propose alternative alignments that avoid or minimize displacements and damages and prepare any additional attachments or exhibits required to illustrate a preferred alternative alignment. The Engineer shall assist the Owner with agency meetings during the development of the schematic design as requested by the Owner. If requested by the Owner, the Engineer shall assist the Owner with stakeholder meetings, public meetings, and a public hearing.

An itemization of the schematic design and engineering work activity to be performed under this contract is detailed below. The Engineer shall prepare all designs in accordance with the latest version of:

A. Texas Department of Transportation (TxDOT) PS&E Preparation Manual
B. TxDOT Roadway Design Manual
C. TxDOT Hydraulic Design Manual
D. Texas Manual on Uniform Traffic Control Devices (TMUTCD)
E. Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (latest Edition)
F. TxDOT Access Management Manual

G. Highway Capacity Manual
H. Other Owner approved manuals and guides.

When design criteria are not identified in Owner manuals or TxDOT criteria, or when conflicts are found, the Engineer shall notify the Owner and refer to American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Street, (latest Edition).

The design schematic horizontal layout must adhere to a design scale of 1 inch = 100 foot (or 1 inch = 200 foot, when directed by the Owner.) The Engineer shall develop the schematic layout, exhibits, and attachments in English units. All Microsoft Office, MicroStation, Keyhole Markup Language (KML), Keyhole Markup Language Zipped (KMZ), and Bentley OpenRoads computer graphic files furnished to the Owner must be uploaded to the Owner's file management system in their native format, which must be fully compatible with the programs currently used by the Owner. Schematics must follow TxDOT and Federal Highway Administration (FHWA) standards. The schematic must follow TxDOT's computer-aided design and drafting (CADD) standards. The Engineer shall submit the schematic as an original document, accompanied with an original MicroStation formatted graphics file. Final copies of the schematic design must be signed and sealed by a professional engineer licensed in the State of Texas.

110.1. Schematic Design Work Outline:

A. Develop Base Maps

The Engineer shall finalize the schematic for the preferred alternative from Task Order No. 1. The Engineer shall develop the base maps to be used for the analysis and proposed schematic layout from existing construction and right of way (ROW) plans as available. The Engineer shall re-establish the existing centerline horizontal alignments for all roadways, identify existing ROW and easements, property owners, and the approximate location of major utilities based on a Subsurface Utility Engineering (SUE) in the preparation of base maps.

B. Planimetrics and Aerial Mapping

The Engineer shall obtain planimetrics, digital terrain modeling (DTM), and aerial photographs from the Owner, if available.

C. Analyze Existing Conditions

Using collected data and base maps, the Engineer shall develop an overall analysis of the existing conditions to develop the schematic design. The written analysis must include the following:

1. ROW and easement determination
2. Horizontal alignment
3. Vertical alignment
4. Pavement cross slopes and pavement type
5. Soil exploration
6. Geotechnical testing
7. Highway-rail grade crossing studies, if applicable

8. Intersection design and analysis
9. Sight distance
10. Large guide signs and roadside signing
11. Level of service
12. Safety (i.e., crash data)
13. Locations of critical constraints
14. Drainage
15. Traffic control and construction phasing sequence

D. Schematic Alternatives

The Engineer shall identify, analyze, and minimize potential adverse operational impacts, crash impacts, ROW impacts, environmental impacts, major utility conflicts, structural impediments, or exceptions to the Owner, State and FHWA design criteria.

E. Deliverable Schematic

The Engineer shall evaluate and document the following in the analysis to optimize the design:

1. Efficient use of the allocated ROW
2. Control of access (COA) and driveway locations
3. Roadway and intersection geometry
4. Cross sections
5. Bicycle and pedestrian design
6. Drainage and hydraulic design
7. Stopping sight distance
8. Level of service
9. Safety
10. Traffic and signal operations
11. Construction, ROW, easement, and utility costs
12. Construction sequencing
13. Traffic control during construction
14. Roadside safety appurtenances
15. Large guide signage
16. Environmental mitigation (e.g., noise walls, storm water best management practices (BMPs))
17. Bridge layouts and clearance
18. Accommodation of ultimate corridor configuration.
19. Accommodation of future cross street expansion as described in local thoroughfare plan (if applicable)
20. Avoidance of utility lines (if feasible)
21. Impact of construction delays from utility relocations

F. Project Management and Coordination

1. The Engineer shall direct and coordinate the various elements and activities associated with developing the design schematic.

2. The Engineer shall prepare the detailed graphic project work schedule indicating tasks, critical dates, milestones, deliverables, and Owner review requirements. The project work schedule must depict the order of the various tasks, milestones, and deliverables. The Engineer shall review the schedule monthly and provide updates regarding its progress on the schedule to the Owner.
3. The Engineer shall submit written monthly progress reports to the Owner.
4. The Engineer shall provide ongoing quality assurance and quality control to ensure completeness of product and compliance with the Owner procedures.
5. The Engineer shall conduct site visits in both the AM and PM peak hour and develop a technical report that includes photographs outlining the findings and observations.

G. Data Collection and Field Reconnaissance

The Engineer shall collect, review, and evaluate data described below. The Engineer shall notify the Owner in writing whenever the Engineer finds disagreement with the information or documents:

1. Data, if available, from the Owner, including "as-built plans", existing schematics, right-of-way maps, Subsurface Utility Engineering (SUE) mapping, existing cross sections, existing planimetric mapping, environmental documents, existing channel and drainage easement data, existing traffic counts, accident data, Bridge Inspection records, identified endangered species, identified hazardous material sites, current unit bid price information, current special provisions, special specifications, and standard drawings.
2. Documents for existing and proposed development along proposed route from local municipalities and local ordinances related to project development.
3. Utility plans and documents from appropriate municipalities and agencies.
4. Flood plain information and studies from the Federal Emergency Management Agency (FEMA), the United States Army Corps of Engineers (USACE), local municipalities, and other governmental agencies.
5. Conduct field reconnaissance and collect data including a photographic record of notable existing features.

The Engineer shall conduct field reconnaissance and collect data as necessary to complete the schematic design. Data must include the following information. Items 1 through 5 must be obtained from the Owner, if available. Items 6 through 13 must be obtained from other agencies as required.

1. Local major thoroughfare plan
2. Plat research for adjacent properties (if available)
3. Available corridor major investment studies
4. Design data from record drawings of existing and proposed facilities
5. Previously prepared drainage studies
6. Public and private utility information (It is necessary for the Engineer's Surveyor to locate public and private utilities, even if the City has permits)
7. Existing and future design year traffic data
8. Historical crash data

9. Roadway inventory information, including the number of lanes, speed limits, pavement widths and rating, bridge widths and ratings, and ROW widths
10. Aerial photos, planimetric mapping, and DTM
11. Environmental data
12. Adopted land use maps and plans (if available)
13. Federal Emergency Management Agency (FEMA) flood boundary maps and flood insurance studies and models

H. Roadway Design Criteria

The Engineer shall develop the roadway design criteria based on the TxDOT Roadway Design Manual and AASHTO Policy on Geometric Design of Highways and Streets guidelines. The design criteria must include the following roadway design elements: design speed, lane and shoulder widths, pavement structure and slopes, horizontal curvatures, horizontal and vertical clearances, range of vertical profile grades, and side slopes. If there is a discrepancy between the two sources, the Roadway Design Manual will govern unless otherwise directed by the Owner.

The Engineer shall prepare and submit preliminary design criteria to the Owner for review and approval and shall attend an initial kick-off meeting to establish and agree on fundamental aspects, basic features, concepts, and design criteria. This meeting will be coordinated with any adjacent roadway projects to ensure continuity with the design of the adjacent roadway projects.

110.2. Schematic Design – General Tasks

A. ROW Property Base Map

The Engineer shall obtain information on existing ROW, easements, and property information from as-built plans, ROW maps, and tax records. The Engineer shall prepare a base map depicting the information.

B. Typical Sections

The Engineer shall develop both existing and proposed typical sections that depict the number and type of lanes, shoulders, median width, curb offsets, cross slope, border width, clear zone widths, and ROW limits.

C. Environmental Constraints

The Engineer shall evaluate and document impacts to environmentally sensitive sites (as identified by the Engineer and verified by the Owner) during the schematic design process. Environmentally sensitive sites include natural, cultural, and the human environment. Examples are historic and archeological resources, burial grounds, neighborhood communities and residential areas, farmland, floodplains, wetlands, endangered species, rare habitats, wildlife corridors, wildlife crossings, parks and nature preserves, geologic features, undeveloped areas, and significant trees.

D. Drainage

The Engineer shall use data from as-built plans and FEMA maps to locate drainage outfalls and to determine existing storm sewer and culvert sizes, design flows, and water surface elevations for use in the design of roadway geometry. Atlas 14 rainfall data shall be used in accordance with TxDOT rainfall values in Hays County. The Engineer shall conduct a preliminary drainage study to determine and evaluate the adequacy of the ROW needed to accommodate the proposed roadway and drainage system. The drainage study must (1) identify the impacts to abutting properties and the 100-year floodplain due to proposed highway improvements; (2) identify the water surface elevations for the 2, 5, 10, 25, 50, and 100-year storm events; (3) identify and locate outfalls; (4) provide drainage outfall descriptions; (5) provide overall drainage area map, sub-drainage area map, and storm water detention facilities; and provide a drainage study report identifying the results of the study. The drainage report, which must be signed and sealed by a professional engineer licensed in Texas, must include applicable hydrologic and hydraulic models (e.g., HEC-1 and HEC-2, HEC-RAS, HEC-HMS, XP- SWMM, HY-8). The models must be approved by the local TxDOT district hydraulic engineer prior to generating any reports. If requested, the Engineer shall prepare a final drainage study in accordance with one or more of the following: TxDOT Hydraulic Design Manual, local TxDOT district criteria, and any other specific guidance provided by the Owner. If requested by the Owner, the Engineer shall evaluate the adequacy of the existing drainage structures; otherwise, the Engineer shall not evaluate the adequacy of the existing drainage structures.

E. ROW Requirements

The Engineer shall determine the ROW requirements based on the proposed alignment, typical sections, design cross sections, access control, terrain, construction requirements, drainage, clear zone, maintenance, intelligent transportation system (ITS), and environmental constraints and mitigation requirements.

F. Construction Sequence

The Engineer shall evaluate and document the requirements for construction staging and traffic control throughout the development of schematic design to ensure that the proposed design can be constructed. The Engineer shall provide construction phasing assumptions to the Owner as requested and provide preliminary traffic control plan (TCP) layouts.

G. Design Exceptions

The Engineer shall identify design exceptions and waivers. The Engineer shall determine the necessity for each design exception or waiver for approval. If the Owner agrees that design exception or waiver is necessary, the Engineer shall prepare the Owner's required design exception or design waiver documentation. The Engineer shall document the operational and safety analysis for comparison of the no-build, build with standard design, and build with proposed design alternatives.

H. Traffic Data and Projections

The Engineer shall obtain the base year traffic data from available traffic data available or new counts and develop the opening-year, design-year (opening year +20) and pavement design year (opening year + 30) travel forecasts, and related traffic analysis. The developed traffic

projections must be utilized for design and environmental analysis. The Engineer shall develop traffic forecasts for the mainlanes, ramps, cross streets, interchanges, intersections, and frontage roads for no-build and build alternatives. These projections must include graphic representations of the anticipated daily movements along the corridor (suitable for inclusion in the design schematic and environmental document) and the traffic analysis for highway design table. The Engineer shall prepare a traffic projections methodology memo, based on the information provided in the traffic analysis package. The Engineer shall review the proposed methodology with the Owner and refine it based on these discussions. The Engineer shall submit the traffic volumes developed by the Engineer to the Owner for review and approval. The Engineer shall revise the traffic volumes based on the Owner's comments.

Existing traffic volume, travel time, and crash data will be collected and included in the memo. Collected data will be used to identify existing transportation problems, issues and concerns and proposed improvements to address such problems. LJA will make sure to Utilize whatever data available for the purpose of cost saving. LJA will utilize TxDOT's Statewide Traffic Analysis and Reporting System (STARS) for traffic data and TxDOT's Crash Records Information System (CRIS) for crash data.

I. Traffic and Operational Analysis

The Engineer shall develop and analyze traffic data (including percent trucks, design hourly volume, and directional distribution), existing roadway features (including ramp locations, weaving sections, number of lanes, offset to obstructions, lane widths, frontage road operations, and intersection operation and geometry), traffic flow patterns, and transit and traffic operations. The Engineer shall conduct capacity analysis studies for designated locations and sections of roadway and make recommendations for improving traffic flow.

The Engineer shall use the HCM to analyze and make appropriate recommendations. The analysis must be done for existing/base year, opening year, design year (opening+20 year), and interim year (if needed) for existing and future conditions. Results of this analysis must be incorporated into the schematic design. The Engineer shall develop and submit to Owner a traffic and operational analysis report summarizing all analysis performed. If microsimulation is used, the Engineer shall develop and calibrate an existing condition traffic model. The calibration memo must be included in the traffic analysis report. The analysis must be performed using the latest versions of TxDOT-approved software (e.g., HCS, Synchro, VISSIM, CORSIM, SIDRA).

J. Safety Analysis

The Engineer shall review and analyze historical crash data for latest 3 to 5 full calendar years (i.e., January 1 to December 31, inclusive) with respect to crash characteristics such as severity, crash types, frequency, rates, patterns, clusters, and their relationship to crash contributing factors. The purpose of the historical crash analyses is to determine safety performance of the existing conditions to understand any safety issues within the study area.

Predictive, or quantitative safety analysis, involves using HSM-based methods that use safety performance functions (SPFs) and crash modification factors (CMFs) to estimate anticipated change in crashes from existing condition to the proposed design. The predictive safety analysis

must be done for no-build and build conditions for design year. The purpose of the predictive safety analysis is to compare the safety performance of the no-build and build alternatives to help determine the preferred alternative and to determine the countermeasures, if necessary, to improve safety.

Predictive safety analysis must be performed using HSM based tools including Interactive Highway Safety Design Model (IHSDM), Enhanced Interchange Safety Analysis Tools (ISATe), HSS, or other tools acceptable to the Owner. The Engineer shall develop and submit to the Owner a safety analysis report summarizing all analysis performed.

K. Bicycle and Pedestrian Accommodations

The Engineer shall comply with City of Kyle design criteria and planned improvements for bicycle and pedestrian accommodations, including the 2015 and 2021 Transportation Master Plans and The Vybe Kyle: Trail Oriented Development, and the United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations. The inclusion of bicycle and pedestrian facilities must be evaluated when the project is scoped.

L. Interstate Access Justification

The Engineer shall prepare an IAJR in accordance with established FHWA procedures to document proposed changes in access and/or impacts to IH 35. The request shall include an introduction that describes the proposed project along with a statement of need. The request shall address at a minimum, the eight policy requirements outlined in the FHWA policy. The access request shall provide an explanation of how the request satisfies each of the eight points in the policy requirements. Supporting analysis to illustrate how those requirements are met shall be included.

M. Utility Base Map

The Engineer shall obtain information on existing utilities from utility owners and shall conduct investigations to identify and evaluate all known existing and proposed public and private utilities. The Engineer shall identify potential conflicts and minimize the potential adverse utility impacts in the schematic design. The Engineer shall prepare a base map depicting the utility locations.

110.3. Update Conceptual Design Schematics

The Engineer shall update conceptual design schematics developed in task order 1 in MicroStation format to evaluate various methods of handling traffic while providing access in key areas. The Engineer shall develop a single recommended design alternative that optimizes traffic flow and access. The conceptual schematics are to be plan view only. Profile work must be done only to the extent necessary to lay out the proper horizontal geometry.

The schematics must contain the following design elements:

A. Mainlane roadway alignment

B. Pavement edges, face of curbs, and shoulder lines of mainlanes, intersections, interchanges, and connecting highways or streets
C. Typical sections of existing and proposed roadways
D. Anticipated structure locations (including wildlife crossings and fencing structures)
E. Anticipated retaining wall and sound wall locations
F. Anticipated conveyance of major drainage elements
G. Preliminary ROW and easement requirements and control-of-access locations
H. Direction of traffic flow and the number of lanes on all roadways
I. Existing and projected traffic volumes
J. Existing utilities
K. Waters of the United States (WOTUS)

110.4. Geometric Design Schematics

The Engineer shall develop geometric design schematics based on the conceptual schematics after the basic layout, lane arrangement, and anticipated ROW and easement impacts depicted on the conceptual schematics are approved. The Engineer shall use Bentley OpenRoads tools in performing this task. The geometric design schematics must include both a plan view and profile view.

A. The geometric schematic plan view must contain the following design elements:

1. Bentley OpenRoads calculated roadway alignments for mainlanes, general purpose lanes, ramps, direct connectors, bridges, HOV lanes, managed lanes, express lanes, collector distributor roads, frontage roads and cross streets at major intersections and grade separations
2. Horizontal curve data shown in tabular format
3. Pavement edges, curb lines, sidewalks for all roadway improvements
4. Typical sections of existing and proposed roadways
5. Proposed bridge structures, including bridge deck, abutment, bent, and rail locations
6. Proposed retaining walls and sound walls
7. Proposed cross-drainage structures with outfall flow arrows and significant drainage features or waterways identified
8. Existing utilities and proposed utilities
9. Existing property lines and respective property ownership information
10. Existing ROW and easements
11. Proposed ROW and easements adequate for preparation of ROW maps
12. Waters of the US (WOTUS)
13. Control-of-access limits
14. Existing and projected traffic volumes
15. Location and text of the existing and proposed guide signs and the preliminary locations for changeable message signs
16. Lane lines, shoulder lines, and direction of traffic flow arrows indicating the number of lanes on all roadways
17. Proposed Illumination Layout (assume High Mast)
18. Proposed Aesthetics Designs
19. Proposed ITS layout

20. Proposed Large Guide signs

B. The geometric schematic profile view must contain the following design elements:

1. Calculated profile grade and vertical curve data including "K" values for all curves and sight distance values for crest vertical curves on the mainlanes
2. Existing ground line profiles along the mainlanes
3. Grade separations and overpasses including preliminary abutment and bent locations, girder type, and span lengths
4. Calculated vertical clearances at grade separations and overpasses
5. Anticipated cross-drainage structures with approximate inlet and outfall elevations
6. Proposed ditch grading (special grading), if it does not follow the typical section.
7. Approximate locations of existing and proposed major utility crossings
8. The calculated profile grade for frontage roads, connectors, ramps and cross streets will be shown on separate Supplemental Profile rolls

110.5. Cross-Sections

The Engineer shall use a Bentley 3D OpenRoads model to generate preliminary cross-sections at 50 feet intervals (unless otherwise directed by the Owner) and at culvert locations in conjunction with the geometric schematic. The Engineer shall determine earthwork volumes for use in the cost estimate. The Engineer shall prepare 11inch x17inch or roll plots of the cross-sections.

110.6. Retaining Walls

The Engineer shall prepare preliminary retaining wall concepts to be shown on schematics, typical sections, and cross sections.

A. The Engineer shall determine if any additional walls are required and verify the need for and length of the retaining wall as shown on the ultimate schematic.
B. The Engineer shall compute and tabulate retaining wall quantities for preliminary design milestone plans submittal.

110.7. Renderings and Traffic Simulation

The Engineer shall develop exhibits as a means of expression and understanding for what the owner of the project envisions and what the public perceives. In support of the public outreach effort, the Owner will choose reasonable build alternatives, which the Engineer shall carry forward into creating exhibits for each of the various alternatives. The Engineer shall create a 3D model shall for the reasonable build alternatives from: horizontal and vertical alignments, existing and proposed DTMs, proposed typical sections, traffic counts, and ground photography.

The exhibits must give the public and stakeholders a clear awareness and appreciation for the reduction of traffic congestion and how traffic is to flow into and out of the project area.

110.8. Preliminary Construction Sequence

The Engineer shall prepare preliminary construction sequence layouts in conjunction with the geometric design schematic depicting the phasing and traffic detours anticipated to safely convey traffic. The layouts must demonstrate that adequate horizontal and vertical alignments are

maintained, sufficient lane widths and shoulder widths or barrier offsets are feasible, and construction zones are adequate for constructability of all proposed features. Proposed construction detours must ensure that adequate superelevation is provided. The layouts must indicate how existing pedestrian and bicycle facilities are accommodated for each phase.

110.10. Engineering Summary Report

The Engineer shall prepare an engineering summary report to summarize the design criteria, traffic analysis, preliminary cost estimate and basis of estimate, construction sequence description, and utility conflict issues.

110.12. Agency Coordination and Public Involvement

A. The Engineer shall assist the Owner in conducting meetings with property owners, stakeholders, and various agencies to discuss and review the schematic design. The Engineer shall document and respond to issues related to the schematic design.
B. The Engineer shall prepare necessary exhibits and meeting materials to support stakeholder coordination and public outreach efforts.

110.13. Schematic Design Project Deliverables

In conjunction with the performance of the services included under Function Code 110 of this exhibit, the Engineer shall provide the following draft and final documents and associated electronic files as applicable:

A. Draft and final copies of the agreed upon design criteria
B. Draft and final copies of the traffic and operational analysis report and safety analysis report
C. Draft copies of the preliminary drainage study
D. Draft and final copies of the geometric schematic layouts on 11-inch x 17- inch cut sheets or rolls, as requested by the Owner
E. Draft and final copies of the conceptual design schematics roll plots
F. Draft and final copies of the geometric schematic layouts (1 inch = 100 feet)
G. Draft and final copies of the design schematic profile rolls
H. Draft and final copies of the design schematic cross-sections on 11-inch x 17-inch cut sheets or roll plot format, as requested by the Owner
I. Copy of the preliminary cross-sections in a roll plot format or 11-inch x 17-inch format, as requested by the Owner
J. Electronic 3D model copy of the preliminary cross-sections created using OpenRoads software
K. Preliminary drainage study
L. Electronic submittal of the hydrologic and hydraulic model digital files from the drainage study
M. Copies of the preliminary construction sequence layouts in a roll plot or 11-inch x 17-inch format, as requested by the Owner
N. Copies of the preliminary construction sequence typical sections in 11-inch x 17-inch format
O. Electronic files shall be uploaded to the Owner's Procore file management system
P. Traffic projections methodology memo
Q. Average daily corridor traffic projections report

R. Line schematics with traffic data shown
S. Documentation of public involvement activities
T. Utility plan – electronic file in latest version of MicroStation fully compatible with OpenRoads civil design system
U. Design exception and design waiver documents
V. Draft hydraulic report for review and comment EE. Culvert hydraulic data sheets and preliminary culvert layouts
W. Electronic copy of the entire drainage report in PDF format, and computer files of hydrologic and hydraulic modeling with appropriate labeling of location, and submittal date
X. Geotechnical report
Y. Cost estimates for each milestone submittal
Z. KMZ or KML file of conceptual design schematic created from applicable DGN files for reviewing in Google Earth
AA. Final schematic 3D model created using OpenRoads software

110.14. Preliminary Cost Estimates. The Engineer shall develop a preliminary cost estimate using the Average Low Bid Unit Price. The Engineer shall estimate the total project cost including preliminary engineering, final engineering, right-of-way (ROW) acquisition, environmental compliance and mitigation, construction, utility relocation, and construction engineering inspection (CEI).

110.16. Geotechnical Borings and Investigations. The Engineer shall determine the location of proposed soil borings for bridge design, embankment settlement analysis, retaining walls, slope stability and along storm drain alignment in accordance with the latest edition of TxDOT's Geotechnical Manual. The Owner will review and provide comments for a boring layout submitted by the Engineer showing the general location and depths of the proposed borings. Once the Engineer receives the Owner review comments they shall perform soil borings (field work), soil testing and prepare the boring logs in accordance with the latest edition of the State's Geotechnical Manual and State District's procedures and design guidelines.

A. The Engineer shall perform all geotechnical work in accordance with the latest version of TxDOT's Geotechnical Manual. All testing shall be performed in accordance with the latest version of TxDOT's Manual of Test Procedures. American Society for Testing Materials (ASTM) test procedures can be used only in the absence of Owner and TxDOT procedures. All soil classification shall be done in accordance with the Unified Soil Classification System.
B. If applicable, the Engineer shall perform any retaining wall analyses to include the settlement analysis. This analysis must include the computation of the factor of safety for bearing capacity, global stability, overturning and sliding. In addition, the Engineer shall include allowable bearing pressure, passive earth pressure, friction factor, settlement analysis (consolidation report) and lateral earth pressure for the retaining walls.
C. If applicable, the Engineer shall perform soil borings, rock coring, coring for pavement removal items, piezometric readings, testing and analysis to include slope stability analysis, settlement analysis, and foundation design recommendations for retaining walls, overhead sign structures, along proposed storm sewer alignments, bridges, embankments, and any temporary soil retaining systems. Engineers shall call 811 and the City of Kyle Public Works Department (512-262-3024) for utility information prior to digging. Traffic control is

required for any work that is performed for geotechnical borings and investigations within the right-of-way limits.

D. The Engineer shall provide a signed, sealed and dated geotechnical report which contains, but is not limited to, soil boring locations, boring logs, laboratory test results, generalized subsurface conditions, ground water conditions, piezometer data, analyses and recommendations for settlement and slope stability of the earthen embankments, skin friction tables and design capacity curves including skin friction and point bearing. The skin friction tables, and design capacity curves must be present for piling and drilled shaft foundation.
E. If applicable, the Engineer shall perform scour analysis to include Grain Size distribution curves with D50 value.
F. The Engineer shall sign, seal and date soil boring sheets to be used in the PS&E package. The preparation of soil boring sheets must be in accordance with Owner and TxDOT standards.
G. Foundation Studies: The Engineer shall coordinate with the Owner to determine the location of soil borings to be drilled along the retaining wall alignments. The soil borings shall extend a minimum of 35 feet below the footing elevation or deeper as soil conditions warrant. Spacing of soil borings shall not exceed 500 feet. The Engineer shall provide a boring layout for the Owner's review and comment.
H. The Engineer shall incorporate soil boring data sheets prepared, signed, sealed, and dated by the Geotechnical Engineer. The soil boring sheets shall be in accordance with WINCORE software as can be found on the Texas Department of Transportation (TxDOT) website.

FUNCTION CODE 120(120) – SOCIAL/ECON/ENVIRON STUDIES

SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT

120.1. Environmental Documentation Standards

Each environmental service provided by the Engineer must have a deliverable. Deliverables must summarize the methods used for the environmental services and the results achieved. The summary of results must be sufficiently detailed to provide satisfactory basis for thorough review by the Owner and (where applicable) other agencies with regulatory oversight. All deliverables must meet regulatory requirements for legal sufficiency and adhere to the requirements for reports enumerated in the State's National Environmental Policy Act of 1969 (NEPA) Memorandum of Understanding (MOU).

A. Quality Assurance/Quality Control Review

For each deliverable, the Engineer shall perform quality assurance quality control (QA/QC) reviews of environmental documents and on all supporting environmental documentation to determine whether documents conform with:

1. Current Environmental Compliance Toolkit guidance, documentation requirements, and templates published by TxDOT's Environmental Affairs Division (ENV) and in effect as of the date of receipt of the documents or documentation to be reviewed.
2. Current state and federal laws, regulations, policies, guidance, agreements, and memoranda of understanding between the Owner and applicable state or federal agencies; and

3. Guidelines contained in Improving the Quality of Environmental Documents, A Report of the Joint AASHTO/ACEC Committee in Cooperation with the Federal Highway Administration (May 2006) for:
    a. Readability, and
    b. Use of evidence and data in documents to support conclusions.

Upon request by the Owner, the Engineer shall provide documentation that the QA/QC reviews were performed by qualified staff.

B. The Engineer shall maintain the project environmental record in TxDOT's Environmental Compliance Oversight System (ECOS), including project review, completing the work development plan screens, uploading documents, and completing activities as assigned by the District.
C. Deliverables must contain all data acquired during the environmental service and be written to be understood by the public in accordance with TxDOT's Environmental Toolkit guidance, documentation standards, and current guidelines, policies, and procedures.
D. Electronic versions of each deliverable must be written in software that is fully compatible with the software currently used by the Owner and provided in the native format of the document for future use by the Owner. The Engineer shall supplement all hard copy deliverables with electronic copies in searchable Adobe Acrobat™ (.pdf) format unless another format is specified. Each deliverable must be a single, searchable *.pdf file that mirrors the layout and appearance of the physical deliverable. The Engineer shall upload the electronic files to the Owner's Procore file management system in both the document's native format and the PDF format.
E. When the environmental service is to apply for a permit (e.g., USCG permit or USACE permit), the Engineer shall submit all required documentation to the applicable regulatory agency and copy the Owner on all correspondence.
F. Submission of Deliverables

    1. Deliverables shall consist of documentation to support a categorical exclusion (CE) determination. Technical reports and documentation must be prepared to support the applicable environmental classification (e.g. CE). Additionally, an Open-Ended list Categorical Exclusion Classification Request Form shall be prepared to classify the project as an Open-Ended list CE, if needed.
    2. All deliverables must comply with all applicable state and federal environmental laws, regulations, procedures, and TxDOT's Environmental Compliance Toolkits, documentation requirements, and templates.
    3. On the cover page of any environmental documentation, the Engineer shall insert the following language in a way that is conspicuous to the reader or include it in a CE project record:
    "The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by the City pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 9, 2019, and executed by FHWA and TxDOT."

G. The Owner will provide the Owner's and other agency comments on draft deliverables to the Engineer. The Engineer shall revise the deliverable:

1. To include any Owner commitments, findings, agreements, or determinations (e.g., wetlands, endangered species consultation, Section 106, or Section 4(f)), required for the transportation activity as specified by the State.
2. To incorporate the results of public involvement and agency coordination.
3. To reflect mitigation measures resulting from comments received or changes in the transportation activity; and
4. To include with the revised document a comment response form (matrix) in the format requested by the Owner.

H. The Engineer shall provide photographs and graphics that clearly depict details relevant to an evaluation of the project area. Comparable quality electronic photograph presentations must be at least 1200 x 1600-pixel resolution. The Owner can request images/graphics be provided in another format or quality.

120.5. Environmental Technical Analyses and Documentation

A. Definition of technical analyses and documentation for environmental services

In general, technical analyses and documentation for environmental services might include a report, checklist, form, or analysis detailing resource-specific studies identified during the process of gathering data to make an environmental decision.

The Owner may determine what technical reports and documentation are necessary for any given project. The Engineer shall prepare all technical reports and documentation for the Owner with sufficient detail and clarity to support environmental determinations. All technical reports must be compliant with TxDOT's Environmental Compliance Toolkits, documentation requirements, and templates. The environmental document must reference the technical reports.

Environmental technical reports and documentation must include appropriate NEPA or federal regulatory language in addition to the purpose and methodology used in delivering the service. Technical reports and forms must use templates and documentation standards as applicable and include sufficient information to determine the significance of impacts.

B. Minimum Deliverables:

1. Draft technical analyses and documentation
2. Final technical analyses documentation

C. The exact environmental technical analyses and documentation must be determined at the task order level, but can include:

3. Environmental Public Involvement (23 CFR §771.111)

The Engineer shall provide public involvement activities, which might include:

a. Assisting, as requested, with preparation of any environmentally related exhibits.
b. Assisting with response letters to commenters regarding environmentally related comments at public meetings or hearings.

c. Providing assistance with environmental information in materials for the transportation activity to the Owner to be posted on the Owner's website.

4. Community Impacts Analysis

The Engineer shall provide community impact analyses. Community impacts includes environmental justice, limited English proficiency, and other issues as addressed in TxDOT environmental guidance. The Engineer shall perform community impact assessments including environmental justice analysis in accordance with Attachment A, Article 38, Sections J and K of the contract. Community impact analyses might include:

a. Community Impacts Assessment Technical Report Form; or
b. Community Technical Report. The report must follow guidance provided in TxDOT's Community Impacts Assessment Toolkit. The assessment may include:
    i. Identification of environmental justice communities within the study area.
    ii. A community profile.
    iii. An access and travel pattern analysis.
    iv. A community cohesion analysis.
    v. Determination if the project would have disproportionately high and adverse impacts on environmental justice communities. All impacts identified in the Community Impact Assessment and other relevant studies (i.e., noise analysis) must be considered to determine if the impacts disproportionately affect environmental justice communities.
    vi. Identification possible mitigation measures to avoid or minimize any adverse impacts to the environmental justice population within the project area.
    vii. Summary of public involvement process including methods used to accommodate persons with limited English proficiency; and
    viii. Identification of possible mitigation measures including those to avoid and minimize any adverse impacts to the environmental justice population within the project area.

5. Noise Analysis Technical Reporting

The Engineer shall prepare all necessary noise analyses and technical reporting.

a. Noise Analysis Technical Reporting Requirements. At the task order level, the noise analysis technical reporting might include:
    i. Computer modeling of existing and predicted noise levels.
    ii. Field measurements of existing noise levels and validation of existing model.
    iii. Determining predicted noise impact contours for undeveloped property.
    iv. Barrier analysis for impacted receivers.
b. Noise Analysis General Requirements.

i. The Engineer shall use TxDOT's .DGN file coordinate system for all traffic noise modeling, so that all design files and traffic noise modeling software coordinate systems are the same.
ii. The Engineer shall provide Owner with all .DXF files used for the traffic noise model.
iii. The Engineer shall review all proposed noise barrier locations as part of the traffic noise modeling process.
iv. The Engineer shall not begin identification of noise sensitive land uses unless Owner has approved a Project Coordination Request (PCR).

6. Water Resources Analysis and Documentation

The Engineer shall provide environmental documentation, conduct field surveys, and provide analysis of water resources for compliance with state and federal regulations as described in the Environmental Guide: Volume 2 Activity Instructions, http://ftp.dot.state.tx.us/pub/txdot-info/env/toolkit/060-06-gui.pdf, and the associated forms, templates, and guidance found in the Water Resources section of the Natural Resources Toolkit, https://www.txdot.gov/inside-txdot/division/environmental/compliance- toolkits/natural-resources.html. The applicable water resource studies must be determined at the task order level. In the case that field surveys are required, then the Engineer shall contact Owner for clearance prior to starting fieldwork. ENV-NRM will verify that approved methods and appropriately permitted and experienced staff will be used.

At the request of the Owner, the Engineer shall provide the following water analysis:

a. Surface Water Analysis Form, including analysis of:
   i. Section 404 of the Clean Water Act
   ii. Section 303(d) of the Clean Water Act
   iii. General Bridge Act/Section 9 of the Rivers and Harbors Act
   iv. Section 10 of the Rivers and Harbors Act
   v. Section 401 of the Clean Water Act
   vi. Executive Order 11990, Protection of Wetlands

b. WOTUS Delineation report prepared in accordance with ENV's Documentation Standard for Waters of the U.S. Delineation Report using ENV's Template: Waters of the U.S. Delineation Report including all supporting forms and exhibits
c. Section 404/10 Impacts Table prepared in accordance with TxDOT ENV's Section 404/10 Impacts Table and Instructions – Preparing a Section 404/10 Impacts Table
d. For all WOTUS surveys, the Engineer shall:
   i. Provide the results of the land survey in electronic DGN file format to be incorporated into the schematic and plans. GIS and KMZ files of the land survey must also be provided.
   ii. Determine the acres of permanent and temporary impacts and linear feet of impacts at each WOTUS, and provide figures of the WOTUS and associated impacts overlaying the schematic and plan sheets.

7. Biological/Natural Resources Management Analysis and Documentation.

The Engineer shall provide environmental documentation, conduct field surveys, and provide analysis of biological natural resources for compliance with state and federal regulations as described in the Environmental Guide: Volume 2 Activity Instructions, http://ftp.dot.state.tx.us/pub/txdot-info/env/toolkit/060-06-gui.pdf, and the associated forms, templates, and guidance found in the Natural Resources Toolkit, https://www.txdot.gov/inside-txdot/division/environmental/compliance-toolkits/natural-resources.html. The applicable natural resource studies must be determined at the task order level. In the case that field surveys are required, then the Engineer must contact ENV-NRM for clearance prior to starting work.

ENV-NRM will verify that approved methods and appropriately permitted and experienced staff will be used. At the request of the Owner, the Engineer shall provide the following biological/natural resource analysis:

a. Species Analysis Form, including:
    i. Species Analysis Spreadsheet, which can include a habitat analysis for the entire project area, field surveys for protected species, and presence/absence surveys.
    ii. Tier 1 Site Assessment, which can include early coordination or administrative coordination with TPWD.
    iii. Bald and Golden Eagle Protection Act (BGEPA) analysis and coordination assistance.
b. For all projects within a USFWS Designated Karst Zone or Critical Habitat:
    i. A USFWS permitted biologist must perform the habitat assessment for listed karst invertebrates per USFWS protocols.
    ii. A Texas licensed Professional Geoscientist (P.G.) must perform, sign, and seal the karst features survey. The Texas licensed P.G. must have experience in central Texas karst geology.

8. Initial Site Assessment (ISA) with Hazardous Materials Project Impact Evaluation Report

The Engineer shall provide an ISA with Hazardous Materials Project Impact Evaluation Report for the limits of the proposed project in accordance with Statement of Work for Hazardous Materials Processes related to NEPA in the TxDOT Hazardous Materials Management Toolkit (http://www.txdot.gov/inside-txdot/division/environmental/compliance-toolkits/haz-mat.html).

9. Archeological Documentation Services

The Engineer shall provide archeological studies and documentation. All archeological studies must be sufficient to satisfy the current TxDOT Archeological Sites and Cemeteries Toolkit. An archeological background study must be performed prior to field work. If the Engineer was provided with a background study by the State, a new background study is not required.

The Engineer shall provide archeological resource identification, evaluation, and documentation services. In compliance with TxDOT's Environmental Compliance Toolkits, the Engineer shall provide the following archeological services/deliverables:

a. Archeological background study

10. Historic Resource Identification, Evaluation, and Documentation Services

The Engineer shall provide historic resource identification, evaluation, and documentation services. In compliance with TxDOT's Environmental Compliance Toolkits, the Engineer shall provide the following historic resource services/deliverables:

a. Historic Resources PCR,
b. Historic Resources Research Design, and
c. Historic Resource Survey Report, including windshield, reconnaissance, or intensive level documentation.

All services, except the historic resource PCR, must have prior approval by Owner to be performed. The historic resource PCR must be accepted by ENV-HIST prior to survey field work.

120.8. Environmental Permits Issues and Commitments (EPIC) Sheets. The Engineer shall complete the latest version of the EPIC sheets per information provided by the State. These sheets must be signed, sealed and dated by the Engineer as indicated in signature block.

FUNCTION CODE 130(130) – RIGHT-OF-WAY (ROW) DATA

For Function Codes 130 and 150, the term Surveyor means the firm (prime provider or subprovider) that is providing the surveying services shown in this scope.

The Engineer shall ensure that the following general standards for survey work are followed for Function Codes 130 and 150:

Unless otherwise indicated, any reference in this attachment to a manual, specification, policy, rule or regulation, or law means the version in effect at the time the work is performed. TxDOT manuals are available at: http://onlinemanuals.txdot.gov/manuals/. All surveys must meet or exceed all applicable requirements and standards provided by:(1) Professional Land Surveying Practices Act, (2) General Rules of Procedures and Practices promulgated by the Texas Board of Professional Engineers and Land Surveyors (TBPELS), and (3) the TxDOT Survey Manual. The Surveyor shall perform all work in an organized and professional manner. All surveys are subject to the approval of the Owner.

The Surveyor shall use TxDOT's ROW Preliminary Procedures for Authority to Proceed Manual and TxDOT Survey Manual as the basis for the format and preparation of all right of way (ROW) documents produced, including ROW maps, written parcel descriptions, parcel plats, and other ROW work products, unless otherwise specified by the Owner. Unless otherwise directed by the Owner, the Surveyor shall use (1) the North American Datum of 1983 (NAD83), Texas Coordinate System of 1983 (State Plane Coordinates) applicable to the zone or zones in which the work is

performed, with values in U.S. survey feet, as the basis for all horizontal coordinates derived and (2) the datum adjustment currently in use by TxDOT.

Project or surface coordinates must be calculated by applying a combined adjustment factor (CAF) to State Plane Coordinate values. If provided by the Owner, the Surveyor shall use a project specific CAF.

Elevations must be based on the North American Vertical Datum 88 (NAVD88), unless otherwise specified by the Owner.

All work using the Global Positioning System (GPS), whether primary control surveys or other, must meet or exceed the requirements provided by the TxDOT Survey Manual to the order of accuracy specified in the categories listed below or in a task order. If the order of accuracy is not specified in this attachment or in a task order, the work must meet or exceed the order of accuracy specified in the publication listed in this paragraph.

All conventional horizontal and vertical control surveys must meet or exceed the order of accuracy specified in the TxDOT Survey Manual unless specified otherwise in the contract.

All boundary determination surveys, whether for ROW acquisition, ROW re-establishment, or other boundary needs, must meet or exceed the accuracy specified in the TxDOT Survey Manual unless specified otherwise in the contract.

The Owner may authorize the Surveyor to use an Unmanned Aircraft System (UAS) to perform services under this contract. The use of UAS is regulated by the Federal Aviation Administration (FAA). All UAS operators must comply with Federal Aviation Administration (FAA) regulations and the TxDOT Unmanned Aircraft System (UAS) Flight Operations and User's Manual.

The survey data must be fully compatible with the Owner's computer system and with programs in use by the Owner at the time of the submission, without further modification or conversion. The current programs used by TxDOT are Microsoft Word, Bentley MicroStation, Bentley OpenRoads civil design system, Bentley GEOPAK Survey, Excel, and ESRI ArcGIS. Data collection programs must be compatible with the current import formats allowed by GEOPAK Survey and be attributed with current feature codes. These programs may be replaced at the discretion of the Owner.

Drawing sizes are defined, based on American National Standards Institute (ANSI) standard paper sizes, as follows: A-size means 8.5 inches by 11.0 inches, B-size means 11.0 inches by 17.0 inches, C-size means 17.0 inches by 22.0 inches, and D-size means 22 inches by 34.0 inches.

Variations from these software applications or other requirements listed above shall only be allowed if requested in writing by the Surveyor and approved by the Owner.

The Surveyor shall perform quality control/quality assurance on all procedures, field surveys, right-of-way surveys, data, and products prior to delivery to the Owner. The Owner may also require the Surveyor to review the survey work performed by others. If, at any time, during the course of reviewing a submittal of any item it becomes apparent to the Owner that the submittal contains a substantial number of errors, omissions, and inconsistencies, the Owner may cease its review and return the submittal to the Surveyor immediately for appropriate corrective action. A submittal returned to the Surveyor for this reason is not a submittal for purposes of the submission schedule and is not a reason for additional compensation.

The standards for services that are not boundary-related but that relate to surveying for engineering projects may be determined by the construction specifications, design specifications, or as specified by the Owner.

130.5. Utility Engineering Investigation

The Engineer will complete QL “A” and QL "B" services within the existing IH 35 ROW for the proposed IH 35 overpass at Kohlers Crossing from Kyle Parkway to Chula Hill Drive in Kyle, Texas. TRG will attempt to designate the following utilities within this area: potable water, reclaimed water, chilled water, natural gas/crude oil/refined product pipelines, communication duct banks, fiber optic, cable television, telephone, and electric. Wastewater and storm drain facilities will be inverted at manholes and will be depicted as QL”C” information. TRG will obtain an inventory of overhead utilities, which will be depicted as QL“C” information. Additionally, TRG will attempt to designate utility service lines, however, because these lines are often non-conductive and not shown on records TRG cannot guarantee all service lines will be included in the final deliverables. Irrigation lines are excluded from this scope of work. The Engineer will complete up to twenty (20) QL “A” test holes at potential utility conflict locations approved by the City.

Utility engineering investigation includes utility investigations subsurface and above ground prepared in accordance with ASCE/CI Standard 38-02 [(http://www.fhwa.dot.gov/programadmin/asce.cfm)] and Utility Quality Levels.

A. Utility Quality Levels (QL)

Utility Quality Levels are defined in cumulative order (least to greatest) as follows:

1. Quality Level D - Quality level value assigned to a utility segment or utility feature after a review and compilation of data sources such as existing records, oral recollections, One-Call markings, and data repositories.
2. Quality Level C - Quality level value assigned to a utility segment or utility feature after surveying aboveground (i.e., visible) utility features and using professional judgement to correlate the surveyed locations of these features with those from existing utility records.
3. Quality Level B - Designate: Quality level value assigned to a utility segment or subsurface utility feature whose existence and position is based upon appropriate surface geophysical methods combined with professional judgment and whose location is tied to the project survey datum. Horizontal accuracy of Designated Utilities is 18” (including survey tolerances) unless otherwise indicated for a specific segment of the deliverable. Quality Level B incorporates quality levels C and D information. A composite plot is created.
4. Quality Level A – Quality level value assigned to a portion (x, y, and z geometry) of a point of a subsurface utility feature that is directly exposed, measured, and whose location and dimensions are tied to the project survey datum. Other measurable, observable, and judged utility attributes are also recorded (per District Best Practices). The utility location must be tied to the project survey datum with an accuracy of 0.1 feet (30-mm) vertical and to 0.2 feet (60-mm) horizontal. As test holes may be requested up front or during the project, test holes done prior to completion of QL D, C, or B deliverables must be symbolized on the QL B deliverable with a call out indicating test holes number. This is in addition to and not in lieu of the test hole.

B. Utility Investigations Methodology

1. Utility Investigation Quality Level D The Engineer shall:
    a. Perform records research from all available resources. Sources include, but are not limited to: Texas811, Railroad Commission of Texas (Texas RRC), verbal recollection, as-built information from plans, plats, permits and any other applicable information provided by the utility owners or other stakeholders.
    b. Document utility owners and contact information.
    c. Create a utility drawing of information gathered.

2. Utility Investigation Quality Level C

The Engineer shall:

    a. In combination with existing Quality Level D information, utilize surveyed above-ground utility features and professional judgement to upgrade Quality Level D information to Quality Level C. For those utilities unable to be upgraded, retain as Quality Level D.
    b. Overhead utilities information must be gathered and depicted. Sag elevations of lowest utility must be documented at road crossings, per best practices document.
    c. Storm and sanitary sewer information must be gathered from Level D and upgraded to Level C as possible, unless otherwise directed by the Owner.
    d. Mapping of underground vaults may be requested by the Owner.
    e. Create composite utility drawing of information gathered.

3. Designate (Quality Level B)

Designate means to indicate the horizontal location of underground utilities by the application and interpretation of appropriate non- destructive surface geophysical techniques and reference to established survey control. Designating (Quality Level B) services are inclusive of Quality Levels C and D.

The Utility Engineer must:

    a. As requested by the Owner, compile "as-built" information from plans, plats and other location data as provided by the utility owners.
    b. Coordinate with utility owner when utility owner's policy is to designate their own facilities at no cost for preliminary survey purposes. The Engineer shall examine utility owner's work to ensure accuracy and completeness.
    c. Designate, record, and mark the horizontal location of the existing utility facilities using non-destructive surface geophysical techniques.
    d. Using both active and passive scans to attempt to locate any additional utilities, including unrecorded and abandoned storm and sanitary sewer facilities, at the direction of the Owner, utilities maybe investigated using additional methods such as rodding that would then classify them as Quality Level B. A non-water

based pink paint or pink pin flags must be used on all surface markings of underground utilities.

e. Correlate utility owner records with designating data and resolve discrepancies using professional judgment. The Utility Engineer must prepare and deliver to Owner a color-coded composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test hole) locations. The Utility Engineer and Owner acknowledge that the line sizes of designated utility facilities detailed on the deliverable will be from the best available records and that an actual line size is normally determined from a test hole vacuum excavation. A note must be placed on the designate deliverable only that states "lines sizes are from best available records". All above-ground utility feature locations must be included in the deliverable to the Owner. This information must be provided in the latest version of OpenRoads civil design system used by the Owner. The electronic file will be uploaded to the Owner's Procore file management system, as required by the Owner. When requested by the Owner, the designated utility information must be overlaid on the Owner's design plans.
f. Determine and inform the Owner of the approximate electronic utility depths at critical locations as determined by the Owner. The limits of this additional information should be determined prior to the commencement of work. This depth indication is understood by both the Engineer and the Owner to be approximate only and is not intended to be used preparing the right of way and construction plans.
g. Provide a monthly summary, with weekly updates, of work completed and in process with adequate detail to verify compliance with agreed work schedule.
h. Provide documentation to show that permits have been closed out as required.
i. Clearly identify all utilities that were discovered from Quality Levels C and D investigation but cannot be depicted in Quality Level B standards. These utilities must have a unique line style and symbology in the designate (Quality Level B) deliverable.
j. Comply with all applicable TxDOT policy and procedural manuals.

4. Subsurface Utility Locate (Test Hole) Service (Quality Level A)

Locate is the process used to obtain precise horizontal and vertical position, material type, condition, size, and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques that ensures the integrity of the utility facility. Subsurface Utility Locate (Test Hole) Services (Quality Level A) are inclusive of Quality Levels B, C, and D.

The Utility Engineer must:

a. Review requested test hole locations and advise the Owner in the development of an appropriate locate (test hole) work plan relative to the existing utility infrastructure and proposed highway design elements.
b. Coordinate with utility owner inspectors as may be required by law or utility owner policy.
c. Place Texas 811 ticket 48 hours prior to excavation.

d. Neatly cut and remove existing pavement material, such that the cut does not exceed 0.10 square meters (1.076 square feet) unless unusual circumstances exist.
e. Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the Engineer:
    i. Elevation of top of utility tied to the datum of the furnished plan.
    ii. Minimum of two benchmarks utilized. Elevations must be within an accuracy of 15mm (.591 inches) of utilized benchmarks.
    iii. Elevation of existing grade over utility at test hole location.
    iv. Horizontal location referenced to project coordinate datum.
    v. Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
    vi. Utility facility material(s).
    vii. Utility facility condition.
    viii. Pavement thickness and type.
    ix. Coating/wrapping information and condition.
    x. Unusual circumstances or field conditions.
f. Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features. Water excavation can only be utilized with written approval from the Owner.
g. Be financially responsible for any damage to the utility during the locating process. In the event of damage, the Utility Engineer must stop work, notify the appropriate utility facility owner, the Owner and appropriate regulatory agencies. The regulatory agencies include: The Texas Railroad Commission and the Texas Commission on Environmental Quality. The Utility Engineer must not resume work until the utility facility owner has determined the corrective action to be taken. The Utility Engineer must be liable for all costs involved in the repair or replacement of the utility facility.
h. Back fill all excavations with appropriate material, compact backfill by appropriate mechanical means, and restore pavement and surface material. The Engineer is responsible for the integrity of the backfill and surface restoration for a period of three years.
i. Furnish and install a permanent above-ground marker (as specified by the Owner), directly above center line of the utility facility.
j. Provide complete restoration of work site and landscape to equal or better condition than before excavation. If a work site and landscape is not appropriately restored, the Utility Engineer must return to correct the condition at no extra charge to the Owner.
k. Plot utility location position information to scale and provide a comprehensive utility plan signed and sealed by the responsible Engineer. This information must be provided in the latest version of MicroStation and be fully compatible with the OpenRoads civil design system used by the Owner. The electronic file will be uploaded to the Owner's Procore file management system as requested. When requested by the Owner, the locate information must be over laid on the Owner's design plans.

l. Return plans, profiles, and test hole data sheets to the Owner. If requested, conduct a review of the findings with the Owner.
m. Close-out permits as required.

Utility Engineering Investigation Deliverables:

1. A utility file in Microstation format depicting all designated and located utilities. The Client will provide TRG with any necessary background files for use in completing the final deliverables.
2. A summary sheet of all test hole coordinate data and depth information.
3. 8.5" x 11" Test Hole Data Forms for all test hole locations completed. These plans will be signed and sealed by a Professional Engineer and delivered to the Client in electronic PDF form.
4. 11" x 17" SUE Plan Sheets depicting all designated and located utilities. These plans will be signed and sealed by a Professional Engineer and delivered to the Client in electronic PDF form.
    a.

130.6. Utility Adjustment Coordination. (18.3.1)

Utility Adjustment Coordination shall include utility coordination meetings with individual utility companies, communication and coordination with utilities, and preparation of utility agreement assemblies including utility agreements, joint use agreements, and advanced funding agreements.

The Engineer is responsible for designating and providing the services of the following individuals or entities:

1. Utility Coordinator: individual or entity performing Utility-related Services that are not required to be performed by a licensed engineer under Texas law.
2. Utility Engineer: individual or entity performing Utility-related Services that are required to be performed by a licensed engineer under Texas law.

A. Utility Coordination

The Utility Coordinator shall perform utility coordination and liaison activities with involved utility owners, their consultants, and the Owner to achieve timely project notifications, formal coordination meetings, and conflict analysis.

a. The Utility Coordinator shall coordinate all activities with the Owner, or their designee, to facilitate the orderly progress and timely completion of the project design phase. The Utility Coordinator shall be responsible for the following:
    i. Initial Project Meeting. Attend an initial meeting and an on-site inspection (when appropriate) to ensure familiarity with existing conditions, project requirements and prepare a written report of the meeting.
    ii. External Communications. The Utility Coordinator shall coordinate all activities with the Owner and its consultants or other contractors or representatives, as authorized by the Owner. Also, the Utility Coordinator shall provide the Owner copies of diaries, correspondence, and other documentation of work- related communications between the Utility

Coordinator, utility owners and other outside entities when requested by the Owner.

iii. Progress Meetings. The Utility Coordinator shall implement a schedule of periodic meetings with each utility company and owner or owner's representatives for coordination purposes. Such meetings shall commence as early as possible in the design process and shall continue until completion of the project. The Utility Coordinator shall notify the Owner at least two (2) business days in advance of each meeting to allow the Owner the opportunity to participate in the meeting. The Utility Coordinator shall provide and produce meeting minutes of all meetings with said utility companies, owners or owners' representatives within seven (7) business days. The frequency of such meetings shall be appropriate to the matters under discussion with each utility owner.

iv. At a minimum provide monthly updates to owner.

b. As required by the Owner the Utility Coordinator shall coordinate with the local utilities committees to present a footprint of the Owner's projects with represented utility companies and owners. The Utility Coordinator shall also coordinate with any other utility committees which may include county, city, or other officials, if needed.

c. The Utility Coordinator shall provide initial project notification letters to all affected utility companies, owners, and other concerned parties.

d. The Utility Coordinator shall provide the Owner and all affected utility companies and owners a Utility Contact List for each project with the following information: (i) Owner's Name; (ii) Contact Person; (iii) Telephone Numbers; (iv) Emergency Contact Number; (v) E-mail addresses; (vi) as well as all pertinent information concerning their respective affected utilities and facilities, including but not limited to: size, number of poles, material, and other information which readily identifies the utilities companies' facilities.

e. The Utility Coordinator shall advise utility companies and owners of the general characteristics of the Project and provide an illustration of the project footprint for mark-up of the utility facility locations that occupy the project area.

130.7. Access Management.

The Engineer shall coordinate and evaluate access management within the project limits in accordance with the latest State Access Management Manual or as directed by the Owner.

FUNCTION CODE 145(145, 164) – MANAGING CONTRACTED/DONATED PE

CONTRACT MANAGEMENT AND ADMINISTRATION

145.1. Contract Management and Administration

The Engineer shall:

A. Act as an agent for the Owner when specified in a task order.

B. Produce a complete and acceptable deliverable for each environmental service performed for environmental documentation.
C. Incorporate environmental data into identification of alternatives.
D. Notify the Owner of its schedule, in advance, for all field activities.
E. Notify the Owner as soon as practical, by phone and in writing, if performance of environmental services discloses the presence or likely presence of significant impacts (in accordance with 40 Code of Federal Regulations (CFR) 1500-1508). Inform the Owner of the basis for concluding there are significant impacts and the basis for concluding that the impacts might require mitigation.
F. Notify the Owner as soon as practical, by phone and in writing, if performance of environmental services results in identification of impacts or a level of controversy that might elevate the transportation activity's status from a categorical exclusion or environmental assessment. The Owner will reassess the appropriate level of documentation.

145.2. Project Management and Administration

The Engineer, in association with the Owner's Project Manager shall be responsible for directing and coordinating all activities associated with the project to comply with Owner policies and procedures, and to deliver that work on time.

Project Management and Coordination. The Engineer shall coordinate all subconsultant activity to include quality of and consistency of plans and administration of the invoices and monthly progress reports. The Engineer shall coordinate with necessary local entities.

The Engineer shall:

- Prepare monthly written progress reports for each project.
- Develop and maintain a detailed project schedule to track project conformance to Exhibit C, Work Schedule, for each task order. The schedule submittals shall be electronic format unless otherwise specified by the Owner.
- Meet on a scheduled basis with the Owner to review project progress.
- Prepare, distribute, and file both written and electronic correspondence.
- Prepare and distribute meeting minutes.
- Document phone calls and conference calls as required during the project to coordinate the work for various team members.
- Provide QC/QA documentation for all submittals, including the subconsultants.

a. **Perform Project Management tasks.** All firms participating in Kyle 2022 Road Bond Projects, either as a Prime Contractor or Subcontractor, must fully utilize Procore construction management software for full project implementation, as directed by the Owner. The Owner will provide Procore access to all firms. The Engineer shall:
   i. Meet on a scheduled basis with Owner to review Project progress. The Engineer will provide meeting summaries within five (5) working days of the meeting to all attendees.
   ii. Conduct internal meetings with the consultant design team on a monthly basis or as needed for the duration of the Project.
   iii. Provide Contract Administration
   iv. Provide Project Management

v. Attend a kick-off meeting with the Owner.
vi. Attend and direct 50%, 90%, and 100% design review meetings.
vii. Keep Project on track and on budget.
viii. Update Project design schedule on a monthly basis
ix. Prepare monthly invoice and monthly progress report including monthly updates to design schedule

b. **Baseline Schedule**. Develop and submit for approval a Critical Path Method (CPM) baseline schedule within fourteen (14) calendar days of the Notice to Proceed. Schedule shall be in MS Project or Primavera P6. Modifications to the approved schedule will require approval by the Owner.
i. Submit both pdf and native (.mpp or .xer) copies of the files.
ii. Include all planned work activities and sequences, major milestones, and show Contract completion
iii. Include activities that are the responsibility of the Owner, and estimate the duration for these activities. This time will not count against the Contract time, but is important to track as the critical path may run through them.
iv. Ensure that the activities are broken out to a level of detail that clearly explains the tasks associated with delivering the work product.
v. Provide activity durations in whole calendar days.
vi. Provide a legend for all abbreviations, run date, data date, project start date, and project completion date in the title block of each submittal.
vii. Begin the project schedule on the Notice to Proceed date.
viii. Show a predecessor and successor for each activity with the appropriate activity relationships.
ix. Ensure that all work sequences are logical and can be explained to the Owner if questions arise for clarification or understanding.
x. Do not use activities exceeding 28 calendar days, unless agreed upon with the Owner.

c. Progress Schedule
i. Project schedule updates shall be submitted as part of all invoice approval packages. Invoices submitted without schedule updates will be incomplete and will not be processed until schedule update is submitted.
ii. Submit both the pdf and electronic copy of the project schedule running through the end of each month, due no later than tenth (10^{th}) calendar day of the following month, as it will become a record of the progress achieved on the project.
iii. Once established, the original duration and actual dates of all activities must remain unchanged.
iv. Revisions to the schedule may be made, but must be listed in a monthly update narrative in the Progress Report with the purpose of explaining the purpose of the revision and description of the impact on the project schedule's critical path and project completion date.
v. Monthly Progress Reports should include:
1. Completed and planned work

2. Budget status
3. Schedule status
4. Actual start dates for activities started
5. Actual finish dates for activities completed
6. The percentage of work completed and remaining duration for each activity started, but not yet completed
7. Current delays and plans showing how they will be rectified
8. Potential delays and plans to rectify
9. Tracking schedule (pdf & mpp/xer)

d. Plan Development and Review Process

i. Engineer may not be compensated for any services performed without a written Notice-to-Proceed.

ii. Each deliverable must be submitted for review and approval by the Owner.

iii. The review process will take place electronically using a Bluebeam session to consolidate comments.

iv. Each submittal shall include a cover letter from the Engineer stating who from the design team performed a Quality Assurance/Quality Control ("QA/QC") check. The QA/QC certification letter must be co-signed by the QA/QC reviewer and the Project Manager. The QA/QC reviewer may not be one of the design team members.

v. Each submittal shall include a revisions log from the Engineer (exported from Bluebeam) that tracks each comment received during previous phases of work. For each comment, the log shall provide the original comment, the status, how it has been implemented into the plans, and approval by the Owner.

vi. Unless otherwise specified by Owner, allow two (2) weeks for the Owner to review and provide written comments and/or approval for each submittal. When comments are received by the Engineer, the Engineer shall schedule a Comment Resolution Meeting with Owner in order to review the comments and clarify understanding of them prior to making design changes. If the Owner requires a resubmittal, submit electronically in Procore for the Owner to review and provide written comments and/or approval.

FUNCTION CODE 160(150) – ROADWAY DESIGN

150.1. DESIGN SURVEY

A. DEFINITIONS

1. Design Survey (15.2.1)

A design survey gathers data in support of transportation systems design. A design survey includes the research, field work, analysis, computation, and documentation necessary to provide detailed topographic (3- dimensional) mapping of a project site (e.g., locating existing ROW, surveying cross-sections or developing data to create cross-sections and digital terrain models, horizontal and vertical location of utilities and improvements,

collecting details of bridges and other structures, review of ROW maps, establishing control points).

B. TECHNICAL REQUIREMENTS FOR DESIGN SURVEYS

1. Design surveys must be performed under the supervision of a RPLS currently registered with the TBPELS.

2. All control must meet the of accuracy requirements of TxDOT.

   The Surveyor shall comply with the standards of accuracy for control traverses provided in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

3. Short traverse procedures used to determine horizontal and vertical locations must meet the following criteria:
   a. Short traverses must begin and end on horizontal and vertical ground control as described above.
   b. Required horizontal accuracy (unless otherwise stated):
      i. Bridges and other roadway structures: less than 0.1 feet.
      ii. Utilities and improvements: less than 0.2 feet.
      iii. Cross-sections and profiles: less than 1 foot.
      iv. Bore holes: less than 3 feet.
   c. Required vertical accuracy:
      i. Bridges and other roadway structures: less than 0.02 feet.
      ii. Utilities and improvements: less than 0.1 feet.
      iii. Cross-sections and profiles: less than 0.2 feet.
      iv. Bore holes: less than 0.5 feet.

C. DATA REQUIREMENTS FOR DESIGN SURVEYS

1. Planimetric DGN files must be fully compatible with the version of the MicroStation graphics program currently used by TxDOT without further modification or conversion.
2. Electronically collected and processed field survey data files must be fully compatible with TxDOT's computer systems without further modification or conversion. All files must incorporate only those feature codes currently being used by TxDOT.
3. Digital terrain models (DTMs) must be fully compatible with the version of the Bentley OpenRoads civil design system currently used by TxDOT without further modification or conversion. All DTM must be fully edited to provide a complete digital terrain model with all necessary break lines.

150.2. DESIGN SURVEY (15.2.1) in support of Aerial Mapping

A. TASKS TO BE COMPLETED

Design Surveys

If requested by the Owner, the Surveyor shall perform one or more Design Surveys. Design Survey tasks include the following:

1. Collect data to create cross-sections and DTMs.
2. Locate existing utilities.
3. Locate existing improvements.
4. Provide details of existing bridge structures, including bridge limits, bents, columns, retaining walls, and natural ground elevations.
5. Locate details of existing drainage features including culverts, manholes, retention and detention ponds, flowlines, and associated features.
6. Locate all waters of the United States (WOTUS), including wetlands.
7. Review existing ROW maps and locate the existing ROW.
    a. Review existing ROW maps
    The Surveyor shall review ROW maps prepared by others for completeness using the current schematic and the checklist provided by the TxDOT district.
    b. Locate existing ROW
    The Surveyor shall resurvey the existing ROW where it is necessary to update or redefine ROW lines. All standard surveying procedures must be adhered to including record research, recovering existing monuments, and replacing monuments as appropriate. The Surveyor shall prepare an abstract map, preliminary map, final map, GIS graphics file, and a Surveyor's report. The final map must also include a monument table showing the property monuments that were found and set and certified by the Surveyor. The Surveyor shall prepare maps either in standard map sheets format or roll map format as requested by the Owner.
8. Locate boreholes.
9. Perform hydrographic surveys, according to details requested by the Owner
10. Verify the condition and usefulness of existing control points including verification of the values. Establish additional control as needed. Tie to other control points in the project vicinity including points established by the NGS, the Federal Emergency Management Agency (FEMA), and any other local entities as directed by the Owner.
11. Update existing control information and prepare new survey control data sheets, as directed by the Owner to be included in the construction plan set as described below:
    a. a. The Surveyor shall prepare, sign, seal, and date a survey control index sheet and horizontal and vertical control sheet(s) to be inserted into the plan set.
    b. b. The survey control index sheet provides an overview of the primary project control and must include:
        i. An unscaled vicinity map showing the general location of the project in relation to nearby towns or other significant cultural features.
        ii. A scaled project map showing the extents of the project and the location of the primary control points. The map must show street networks, selected street names, control point identification, and significant cultural features necessary to provide a general location of the primary control.
        iii. A table containing the primary control point values including the point number, northing, easting, elevation, stationing, and stationing offset values.

iv. Map annotation including a graphic scale bar, north arrow, and standard title block. The title block shall contain a section for the OWNER, city, and highway name. The title block shall also contain a section for a Texas registered engineer to sign, seal and date the sheet to include the following statement, "The survey control information has been accepted and incorporated into this PS&E." The required format of the survey control index sheet can be downloaded from the TxDOT website.

v. In the title block under the heading "Notes", identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used, and unit of measure. The Surveyor shall include a note stating that the coordinates re State Plane and a notation specifying either grid or surface adjusted coordinates.

c. The Surveyor shall prepare horizontal and vertical control sheets providing detailed information about the construction, location, and monumentation of the primary control, which must include:

i. An unscaled location map for each primary control point showing the location of the monument in relation to physical features located in the vicinity. The location map must include a north arrow, the monument designation, the monument northing, easting, and elevation.

ii. Directly below the location map a text description of the monument including size, material and construction followed by a description of the location of the monument starting with the county and state followed by a description suitable to locate the monument on the ground.

iii. Map annotation including a graphic scale bar, north arrow, and a standard title block. The title block must contain a section for the Owner, city, and highway name and contain a section for a Texas registered engineer to sign, seal and date the sheet to include the following statement, "The survey control information has been accepted and incorporated into this PS&E." The required format of the survey control index sheet can be downloaded from the TxDOT website.

iv. In the title block under the heading "Notes", identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used, and unit of measure. The Surveyor shall include a note stating that the coordinates are either grid or surface adjusted coordinates.

150.4. DELIVERABLES FOR DESIGN SURVEYS

The Surveyor shall prepare and submit the deliverables as specified in individual task orders for design surveys and construction surveys. The deliverables might be any combination of the following:

A. Digital terrain models (DTM) and the triangular irregular network (TIN) files in a format acceptable by the Owner.
B. Maps, plans, or sketches prepared by the Surveyor showing the results of field surveys.
C. Computer printouts or other tabulations summarizing the results of field surveys.

D. Digital files or media acceptable by the Owner containing field survey data (ASCII data files).
E. Maps, plats, plans, sketches, or other documents acquired from utility companies, private corporations, or other public agencies, the contents of which are relevant to the survey.
F. Field survey notes, as electronic copies.
G. TxDOT Form 2462 for each primary and secondary control point. This form must be submitted in printed format on letter (i.e., A-size) and submitted electronically in PDF format.
H. A digital copy of all computer printouts of horizontal and vertical conventional traverses, GPS analysis and results, and survey control data sheets.
I. All GEOPAK files and OpenRoads files.
J. Survey reports in a format requested by the Owner.

150.5. MAPPING (15.3)

Mapping includes the geospatial data collection and mapping by means of aerial photogrammetry, terrestrial (close range) photogrammetry, terrestrial LiDAR, mobile LiDAR, and other remote sensing technologies.

A. PURPOSE

The purpose of mapping is to provide map and related data to support transportation projects including project design and other uses.

B. DEFINITIONS

1. Aerial Photogrammetry (15.3.1) – Aerial Photogrammetry means the collection and processing of photography acquired from an airborne platform to develop DGN and DTM files.
2. Terrestrial Photogrammetry (15.1.2) – Terrestrial Photogrammetry means the collection and processing of photography acquired at or near ground level to develop DGN and DTM files.
3. Airborne LiDAR (15.3.4) – Airborne LiDAR means laser scanning equipment mounted on a helicopter or other airborne platform to collect data to process for DGN and DTM files.
4. Terrestrial LiDAR (15.3.3) – Terrestrial LiDAR means laser scanning equipment operated from a stationary base on the earth's surface to collect data to process for DGN and DTM files.
5. Mobile LiDAR (15.3.4) – Mobile LiDAR means laser scanning equipment mounted on a moving vehicle operating on the earth's surface to collect data to process for DGN and DTM files.
6. UAS means Unmanned Aircraft Systems (e.g., drones).
7. UAS LiDAR means laser scanning equipment on an unmanned aerial vehicle (e.g., drones) to collect data to process for DGN and DTM files.

150.10. MAPPING SERVICES TO BE PROVIDED

The Surveyor shall provide the following mapping services as requested by the Owner:

C. MOBILE AND AERIAL LIDAR

The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) MicroStation graphics files covering the specific work location, meeting standards and specifications as required.

D. MAPPING TASKS TO BE COMPLETED

The Surveyor shall perform the following tasks as requested for each mapping service.

1. Horizontal and Vertical Control for Aerial Mapping
    a. The Surveyor shall prepare and submit an aerial ground control layout showing the proposed aerial ground control points, for approval by the Owner.
    b. The Surveyor shall establish and determine the coordinates of the aerial ground control points.
    c. The Surveyor shall establish and determine the elevations of the aerial control points.
    d. The Surveyor shall place aerial ground control target material at the established points and maintain until the photographs from the flight are approved.
    e. The Surveyor shall prepare, to scale, a survey control index sheet for the aerial control points.
    f. The Surveyor shall be prepared to locate additional points, as determined by the American Society for Photogrammetry and Remote Sensing (ASPRS) certified Photogrammetrist, if any panel points are not visible from the air.

2. Deliverables for Horizontal and Vertical Control for Aerial Mapping The Surveyor shall provide the following deliverables:
    a. A final aerial control point layout showing the location of the points and labeled with their respective alpha-numeric designations.
    b. A plot and computer graphics of a B-size index map showing an overall view of the project and the relationship of primary monumentation and control used in the preparation of the project, signed and sealed by a RPLS, and as directed by the Owner.
    c. An A-size data sheet for each aerial ground control point, which must include a location sketch, a physical description of the point, surface coordinates, the elevation, and datums used.
    d. Graphics files and scanned images of the control data sheets, uploaded to Owner's file management system.
    e. A written statement describing the datum used along with copies of all relevant NGS and data sheets.
    f. A written tabulation of all aerial control points with their respective alpha-numeric designations, surface coordinates (for center panel points only), and elevations.

3. Prepare Planimetric and DTM Data
    The Surveyor shall perform the following tasks for each requested mapping service:

a. The Surveyor shall provide low altitude aerial mapping to cover an area 500 feet wide centered on the roadway unless otherwise specified, with cross flights as directed by the Owner.
   The Surveyor shall follow all standards and specifications in accordance with established guidelines and recommended or approved by the Owner.
b. The Surveyor shall prepare planimetric design (DGN), digital terrain model (DTM), and triangulated irregular network (TIN) Bentley MicroStation graphics files and orthophotography files covering the specific work location, meeting standards and specifications as required.
   i. The Surveyor shall collect supplemental planimetric and DTM survey data.
   ii. The Surveyor shall update aerial 2D and 3D mapping with ground surveys.
   iii. The Surveyor shall maintain the current DGN level structure and legend used by TxDOT.
   iv. The Surveyor shall maintain the current DTM level structure and legend used by TxDOT.
   v. The Surveyor shall use file features and level structures in compliance with TxDOT's current photogrammetry mapping legend.
   vi. The Surveyor shall locate, and field check random points.
c. The Surveyor shall conduct quality assurance and quality control (QA/QC) for each task performed and prepare a Surveyor's Report.

4. Deliverables for Planimetric and DTMs The Surveyor shall provide the following:
   a. Certification that the photographs or LiDAR imagery were taken on the date indicated, signed by the airplane pilot or aerial photographer.
   b. The DGN, DTM, and TIN files on a medium and in a format acceptable to the Owner, uploaded to Owner's Procore file management system .
      i. Orthophotography (created using the DTM) uploaded to Owner's Procore file management system in tiff format (3 banded) with world files.
      ii. TxDOT's photogrammetry mapping legend and supplements.
   c. A tabulation showing the field-check points.
   d. Quality Assurance and Quality Control (QA/QC) and Statement of Map Accuracy.
      i. Statement of map accuracy.
      ii. A surveyor's report signed and sealed by an RPLS.

150.11. HORIZONTAL AND VERTICALCONTROL (15.3.5)

This includes the establishment of horizontal and vertical control for survey projects.

A. OVERVIEW OF HORIZONTAL AND VERTICAL CONTROL

A horizontal control survey is performed for the purpose of placing geographic coordinates of latitude and longitude on permanent monuments for referencing lower levels of surveys. A projection is used to place the coordinates on a plane of northing and easting values for

simplified measurements. Scale and elevation factors are applied to make the distance measurements applicable to the exact location on the working surface and the type of projection chosen is an “equal angle” type.

A vertical control survey is performed for accurately determining the orthometric height (elevation) of permanent monuments to be used as benchmarks for lower quality leveling. Spirit leveling is the usual method of carrying elevations across country from “sea level” tidal gauges. However, Global Positioning System (GPS) can be used indirectly but with less accuracy. Height measurements from the ellipsoid (as opposed to the “sea level” geoid) can be determined very accurately with GPS and only GPS. Trigonometric leveling, with a total station, is not acceptable for vertical control work.

B. DEFINITIONS

1. BM means benchmark, which is a relatively permanent object whose elevation above or below an adopted datum is known.
2. CORS means continuously operating reference station, which is a network of the highest quality horizontal stations, forming the National Spatial Reference System (NSRS).
3. Control Survey means a survey providing positions (horizontal or vertical) of points to which supplemental surveys are adjusted.
4. Datum means a mathematical model of the earth designed to fit part or all of the geoid.
5. Datum Point Rod or Deep Rod Monument means a monument driven to refusal by a power driver, used for major project control.
6. GPS means the Global Positioning System, which is based on a constellation of 24 satellites orbiting the earth at a very high altitude.
7. Horizontal Control Survey means placing geographic coordinates of latitude and longitude on permanent monuments.
8. Level 1 survey means RFP, CORS or major control densification.
9. Level 2 Survey means primary project control.
10. Level 3 Survey means secondary project control.
11. NGS – National Geodetic Survey
12. Type II Monument means a disk driven onto a length of 5/8-inch rebar with the hole filled flush with concrete.
13. Vertical Control Surveys means a survey performed for accurately determining the orthometric height (elevation) of permanent monuments to be used as benchmarks for lower quality leveling.

C. PROCEDURE FOR HORIZONTAL AND VERTICAL CONTROL

1. The Surveyor shall establish horizontal and vertical control points, including offsite points. The Surveyor shall prepare signed survey control data sheets, a survey control index sheet, and a composite layout of the horizontal and vertical controls, and as directed by the Owner.
2. The Surveyor shall update existing control information and prepare new survey control data sheets, as directed by the Owner, to be included in the construction plan set as described in Item 150.11, D.

D. TECHNICAL REQUIREMENTS FOR HORIZONTAL AND VERTICAL CONTROL

The Surveyor shall adhere to the following technical requirements.

1. Horizontal and vertical controls must be performed under the supervision of a RPLS currently registered with the TBPELS.
2. Horizontal ground control used for design surveys and construction surveys, furnished to the Surveyor by the Owner, or based on acceptable methods conducted by the Surveyor, must meet the standards of accuracy required by the Owner.
   The Surveyor shall comply with the standards of accuracy for horizontal control traverses, as described in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
3. Vertical ground control used for design surveys and construction surveys, furnished to the Surveyor by the Owner or based on acceptable methods conducted by the Surveyor, must meet the standards of accuracy required by the Owner.
   The Surveyor shall comply with the standards of accuracy for vertical control traverses, as described in the TxDOT Survey Manual or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
4. Monuments
   The Surveyor shall install survey monuments for a horizontal and vertical control survey that are reasonably permanent and substantial. The monuments shall be easily identified and afforded reasonable protection against damage and or destruction.
   a. Offsite primary control points whether set by GPS or conventional survey methods must be set in pairs approximately 2000 feet apart outside of the project on side roads. Offsite points must be constructed approximately every 2 miles and set approximately 6 inches below natural ground and must be inter-visible between each pair of points.
   b. Secondary control points must be set approximately 6 inches below ground at a maximum distance of 1,500 feet apart.
5. Side shots or short traverse procedures for total stations used to determine horizontal and vertical locations must meet the following criteria:
   a. Short traverses and instrument setups for side shots must begin and end on horizontal and vertical ground control as described above.
   b. Standards, procedures, and equipment (e.g., GPS Equipment, LiDAR, Total Stations) used must be such that horizontal locations relative to the control can be reported within the specification to allow the engineer to accurately create the design to the following limits:
      i. Bridges and other roadway structures: less than 0.02 feet.
      ii. Utilities and improvements: less than 0.2 feet.
      iii. Cross-sections and profiles: less than 0.2 feet.
      iv. Bore holes: less than 0.5 feet.
   c. Standards, procedures, and equipment (e.g., GPS Equipment, LiDAR, Total Stations) used must be such that vertical locations relative to the control may be reported to within 0.02 feet.

6. The Surveyor shall update existing control information and prepare new survey control data sheets, as directed by the Owner, to be included in the construction plan set as described below:
    a. The Surveyor shall prepare, sign, seal, and date a survey control index sheet and horizontal and vertical control sheets to be inserted into the plan set.
    b. The Surveyor shall prepare a survey control index sheet that provides an overview of the primary project control and must include:
        i. An unscaled vicinity map showing the general location of the project in relation to nearby towns or other significant cultural features.
        ii. A scaled project map showing the extents of the project and the location of the primary control points. The map must show street networks, selected street names, control point identification, and significant culture features necessary to provide a general location of the primary control.
        iii. A table containing the primary control point values including the point number, northing, easting, elevation, stationing, and stationing offset values.
        iv. Map annotation including a graphic scale bar, north arrow, and standard TxDOT title block. The title block must contain a section for the district name, city, and highway name. The title block must also contain a section for a Texas registered engineer to sign, seal, and date the sheet to include the following statement, "The survey control information has been accepted and incorporated into this PS&E".
        The Surveyor shall download the required format of the survey control index sheet from the TxDOT website.
        v. In the title block under the heading "Notes", identification of the horizontal and vertical datum on which the primary control is based with the date of the current adjustment, the surface adjustment factor used, and unit of measure. The surveyor shall include a note stating that the coordinates are State Plane and a notation specifying either grid or surface adjusted coordinates.

E. DATA REQUIREMENTS

The Surveyor shall perform post processing of field data, which will be reviewed by the Owner. Data processed by standard calculators, computers, and other business hardware and software normally maintained and used by the Surveyor will be considered acceptable.

F. TASKS TO BE COMPLETED

The Surveyor shall perform the following tasks:

1. The Surveyor shall establish horizontal and vertical control points, including offsite points. The Surveyor shall prepare signed survey control data sheets, a survey control index sheet, and a composite layout of the horizontal and vertical controls, or as directed by the Owner.
2. The Surveyor shall set primary offsite control points in pairs, approximately 2 miles apart outside of the project area.

3. The Surveyor shall set secondary control points approximately 6 inches below ground at a maximum distance of 1,500 feet apart.
4. The Surveyor shall establish horizontal and vertical control from the TxDOT Virtual Reference Station (VRS) Network, or as directed by the Owner.
5. The Surveyor shall tie and tabulate horizontal and vertical control to other control points and datums in the vicinity established by other sources such as the National Geodetic Survey (NGS), the Federal Emergency Management Agency (FEMA), TxDOT VRS Network, or as directed by the Owner.

G. DELIVERABLES

The Surveyor shall provide the following:

1. A B-size plot and MicroStation graphics files of the index map showing an overall view of the project and the relationship of the primary monuments and control points established for the project, signed and sealed by a registered professional land surveyor (RPLS), or as directed by the Owner.
2. One A-size data sheet for each control point which shall include, but need not be limited to, a location sketch, a physical description of the point, surface coordinates, the elevation, and the datum used.
3. Graphics files and scanned images of the control data sheets uploaded to Owner's file management system.
4. A written statement describing the datum used, signed and sealed by a RPLS, along with copies of all relevant NGS and TxDOT data sheets.

FUNCTION CODE 160(160) - ROADWAY DESIGN

ROADWAY DESIGN CONTROLS

160.10. Pavement Design.

The Engineer shall prepare pavement designs for this project in accordance with the latest edition of TxDOT's Pavement Manual. Proposed pavement designs include permanent pavement, interim condition transition pavement, and temporary detour pavement. The latest edition of TxDOT's Pavement Manual may be accessed at http://www.txdot.gov/business/resources.html.

The Engineer shall submit a signed and sealed pavement design report to the Owner. The pavement design report must be reviewed and approved by the Owner prior to its implementation. The pavement design report must document assumptions and design considerations. The pavement design report must include the following:

- Cover sheet with roadway name, geographical limits, and signatures of persons involved in the preparation and approval
- Existing and proposed typical sections
- Soils map of the project area with a brief description of each type of soil located within the project area
- Design input values and output

- Conclusion consisting of recommended pavement design or designs based on the data, analyses, and procedures included in the report.
- Pavement design details specified for each location that includes structural layer materials, general specifications, and layer thicknesses
- Relevant pavement evaluation data (structural and functional) and condition information on adjacent roads
- Site conditions that might influence the design and performance of pavements
- Relevant geotechnical data and drainage requirements including boring logs, laboratory soil test results, active or passive drainage system design, ground penetrating radar (GPR) data, falling weight deflectometer (FWD) data, dynamic cone penetrometer (DCP) data, pavement coring and report log (up to 5-foot depth), and soil classifications with Atterberg limits
- Results of the field explorations and testing of pavement sections
- Recommended pavement rehabilitation methods and designs for new pavements
- Design criteria used in determining pavement designs, including traffic loads, pavement material characterization, environmental conditions, and pavement design life
- Design summary from the program used to design (e.g., FPS 21, DARWin, TxCRCP - ME, MODULUS 6.1)
- Life-cycle cost analysis, as required by TxDOT's Pavement Manual, including the periods for resurfacing, reconstruction, and other rehabilitation measures and what these activities are likely to entail
    - Traffic control plans required for subsurface geotechnical and pavement investigations
- Other considerations used in developing the pavement designs, including subgrade preparations and stabilization procedures

FUNCTION CODE 160(162) - ROADWAY DESIGN

162.3. Traffic Warrant Studies. The Engineer shall prepare a traffic signal warrant study to support their recommendation for the continuous activation of an existing traffic signal or a proposed traffic signal based on projected volumes. Each warrant study must include addressing pedestrian signals along with obtaining both traffic and pedestrian counts.

The Engineer shall implement each proposed traffic signal improvement within existing Owner ROW unless otherwise approved by the Owner. The Engineer shall refer to latest version of the TMUTCD, Traffic Signal Manual, and the Owner and TxDOT's roadway and traffic standards for work performed for either temporary or permanent traffic signals. The Engineer shall develop and include a timing plan for each signal improvement.

FUNCTION CODE 160(163) - ROADWAY DESIGN

MISCELLANEOUS (ROADWAY)

The Engineer shall provide the following services:

163.1. Utility Engineering

Utility Engineering includes the identification of utility conflicts, coordination, compliance with the UAR, and resolution of utility conflicts. The Engineer shall coordinate all activities with the Owner to facilitate the orderly progress and timely completion of the project design phase.

A. Coordination of Engineering Activities

1. Utility Layout:

The Utility Engineer must maintain a utility layout in the current approved version of OpenRoads Civil Design system used by the Owner. This layout must include all existing utilities which are to remain in place or be abandoned, and all adjusted utilities. This layout must be utilized to monitor the necessity of relocation and evaluate alternatives. The Utility Engineer must utilize the layout of existing utilities as prepared, if available, and make a determination of the following:

a. Facilities in conflict with the proposed project that are to be relocated.
b. Facilities to be removed or abandoned in place.
c. Facilities that are going to be moved underground.
d. Facilities to remain in service and in place because of roadway design adjustments and meeting the current UAR.
e. If there are additional facilities, not shown in the SUE documents, which require relocation, the Engineer shall coordinate this information with the Owner immediately upon discovery.

The Engineer shall submit the following deliverables to the Owner:

1. Identification of utility conflicts.

163.3. Geotechnical Borings and Investigations

A. The Engineer shall determine the location of proposed soil borings for bridge design, embankment settlement analysis, retaining walls, slope stability and along storm drain alignment in accordance with the latest edition of TxDOT's Geotechnical Manual. The Owner will review and provide comments for a boring layout submitted by the Engineer showing the general location and depths of the proposed borings. Once the Engineer receives the Owner's review comments, the Engineer shall perform soil borings (field work), soil testing, and prepare the boring logs in accordance with the latest edition of TxDOT's Geotechnical Manual and the local TxDOT district's procedures and design guidelines.
B. All geotechnical work must be performed in accordance with the latest version of TxDOT's Geotechnical Manual. All testing must be performed in accordance with TxDOT's Test Procedures, which are available at https://www.txdot.gov/business/resources/testing.html. American Society for Testing Materials (ASTM) test procedures may be used only in the absence of the TxDOT procedures. All soil classification must be done in accordance with the Unified Soil Classification System.
C. If applicable, the Engineer shall perform any retaining wall analyses including the settlement analysis. This analysis must include the computation of the factor of safety for bearing capacity, global stability, overturning and sliding. In addition, the Engineer shall include

allowable bearing pressure, passive earth pressure, friction factor, settlement analysis (consolidation report), and lateral earth pressure for the retaining walls.

D. If applicable, the Engineer shall perform soil borings, coring for pavement removal items, testing and analysis to include slope stability analysis, settlement analysis, and foundation design recommendations along storm drain alignment, retaining walls, overhead sign structures, bridges, embankments and any temporary soil retaining systems.
E. The Engineer shall provide a signed, sealed, and dated geotechnical report that contains soil boring locations, boring logs, laboratory test results, generalized subsurface conditions, ground water conditions, piezometer data, analyses and recommendations for settlement and slope stability of the earthen embankments, skin friction tables and design capacity curves including skin friction and point bearing. The skin friction tables and design capacity curves must be present for piling and drilled shaft foundation.
F. If applicable, the Engineer shall perform scour analysis to include Grain Size distribution curves with D50 value.
G. The Engineer shall sign, seal, and date soil boring sheets to be used in the PS&E package. The preparation of soil boring sheets must be in accordance with TxDOT's District standards.
H. Foundation Studies: The Engineer shall coordinate with the Owner to determine the location of soil borings to be drilled along the retaining wall alignments. Spacing of soil borings shall not exceed 500 feet. The Engineer shall provide a boring layout for the Owner's review and comment.
I. The Engineer shall incorporate soil boring data sheets prepared, signed, sealed, and dated by the geotechnical engineer overseeing the work. The soil boring sheets shall be in accordance with the WINCORE software available on the TxDOT website.
J. Deliverables

    1. Preliminary Geotech Design Report
    2. Geotechnical Report
    3. DGN flies containing drilling log data from Geotechnical analysis

PRIME PROVIDER: LJA Engineering, INC.

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

PROJECT NAME: IH 35 Kohlers Crossing

PROJECT LIMITS: IH 35 SBFR to IH 35 NBFR

TASK DESCRIPTION	LJA	LJA ES	McGray & McGray	The Rios Group, Inc.	Raba Kistner	TOTAL COSTS BY FC
FEASIBILITY STUDIES (FC 102 (110))	$ 1,281,300.00	$ -	$ -	$ -	$ -	$ 1,281,300.00
SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT (FC 120 (120))	$ 31,160.00	$ 77,026.00	$ -	$ -	$ -	$ 108,186.00
RIGHT-OF-WAY DATA (FC 130 (130))	$ 37,540.00	$ -	$ -	$ 19,306.10	$ -	$ 56,846.10
MANAGING CONTRACTED/DONATED PE (FC 145 (145,164))	$ 152,720.00	$ -	$ -	$ -	$ -	$ 152,720.00
DESIGN SURVEYING (FC 160 (150))	$ -	$ -	$ 71,041.17	$ -	$ -	$ 71,041.17
ROADWAY DESIGN CONTROLS (FC 160 (160))	$ 48,280.00	$ -	$ -	$ -	$ -	$ 48,280.00
DRAINAGE (FC 160 (161))	$ -	$ -	$ -	$ -	$ -	$ -
SIGNING, PAVEMENT MARKINGS AND SIGNALIZATION (PERMANENT) (FC 160 (162))	$ -	$ -	$ -	$ -	$ -	$ -
MISCELLANEOUS (ROADWAY) (FC 160 (163))	$ -	$ -	$ -	$ -	$ 47,640.00	$ 47,640.00
TRAFFIC MANAGEMENT SYSTEMS (PERMANENT) (FC 160 (165))	$ -	$ -	$ -	$ -	$ -	$ -
BRIDGE DESIGN (FC 160 (170))	$ -	$ -	$ -	$ -	$ -	$ -
SUBTOTAL LABOR EXPENSES	$ 1,551,000.00	$ 77,026.00	$ 71,041.17	$ 19,306.10	$ 47,640.00	**$ 1,766,013.27**
DIRECT EXPENSES (FC 164)	$ 33,932.50	$ 4,851.50	$ 25,720.00	$ 7,000.00	$ 115,540.00	**$ 187,044.00**
UNIT COST EXPENSES (FC 164)	$ -	$ -	$ 53,370.00	$ 70,390.00	$ 81,470.00	**$ 205,230.00**
TOTAL	$ 1,584,932.50	$ 81,877.50	$ 150,131.17	$ 96,696.10	$ 244,650.00	**$ 2,158,287.27**
	73.4%	3.8%	7.0%	4.5%	11.3%	100%

SUMMARY

TOTAL LABOR COSTS FOR PRIME PROVIDER	$ 1,551,000.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME PROVIDER	$ 33,932.50
SUBCONTRACTS (includes labor costs, direct expenses and unit cost)	$ 573,354.77
GRAND TOTAL	**$ 2,158,287.27**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

LJA

PROJECT NAME: IH 35 Kohlers Crossing
PROJECT LIMITS: IH 35 SBFR to IH 35 NBFR

TASKS	SHTS	Sr Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Senior CADD Operator	Senior Bridge Engineer	Senior Utility Coordinator	Utility Coordinator	Admin/ Clerical	Category	TOTAL HOURS	TOTAL COST
		$270.00	$235.00	$185.00	$170.00	$145.00	$155.00	$135.00	$235.00	$170.00	$140.00	$85.00	Rate ($)		
FC 102 (110) Feasibility Studies															
110.1 Schematic Work Outline															
Collect available as-built plans, studies, BRINSAP reports and other data		2	8	8		16	16		2					52	$ 9,170.00
Review/ incorporate aerial mapping		8	4				16							28	$ 5,580.00
Analyze existing conditions (des speeds, section, clearances, etc)		2	4	16		8			8					38	$ 7,480.00
Schematic Alternatives		8	8			40	40							96	$ 16,040.00
Field reconnaissance		8	8	8		8	8		8					48	$ 9,800.00
Roadway Design Criteria															$ -
Develop Preliminary DSR		2	8	4		8								22	$ 4,320.00
DCC Meeting		4	4	4		4								16	$ 3,340.00
Final DSR		2	4	2		4								12	$ 2,430.00
110.2 Schematic Design - General Tasks															$ -
ROW and property mapping (Coord with M&M)		4	8				16							28	$ 5,440.00
Typical Section															$ -
Analysis of traffic demand, lane balance, etc		2	8	8			16							34	$ 6,380.00
Analysis of adjacent projects		2	8	8			16							34	$ 6,380.00
Prepare typ sections (inc in 110.3 and 110.4)															$ -
Env constraints mapping (incorperate Berg)		4	8	8			8	8						36	$ 6,760.00
Drainage															$ -
Drainage data collection/ agency coordination			2	4		16								22	$ 3,530.00
Drainage Area Maps			8	8		16	16							48	$ 8,160.00
Hydrologic Analysis			16	24		16								56	$ 10,520.00
HEC-RAS Analysis		2	16	16	16	40								90	$ 15,780.00
HY-8 Analysis - Culvert Design			8	8	16	16								48	$ 8,400.00
Impact Analysis (Existing vs. Proposed)			16	16	16	16								64	$ 11,760.00
Preliminary Storm & Ditch Analysis			8	16	24	24								72	$ 12,400.00
Detention Analysis		2	8	24	24	8									$ 12,100.00
Drainage Report		4	32	32	16	16								100	$ 19,560.00
Drainage Analysis Kick-off (4 hrs) inc prep and Minutes		4	4	4										12	$ 2,760.00
Coordination with District Hyd Eng (4 mtgs @ 4 hrs) inc prep and Minutes		4	16	16										36	$ 7,800.00
Prelimanry Culvert Layouts		2	8	8										18	$ 3,900.00
Existing Culvert Assesment Report			2	4	4	16	8							34	$ 5,450.00
Determine ROW requirements (inc in 110.3 and 110.4)															$ -
Construction Sequence		2	4	8		16								30	$ 5,280.00
Identify / review design exceptions		4	16				8							28	$ 6,080.00
Traffic Data and Projections															$ -
Identify/Obtain corridor Issues		2	4	4		16								26	$ 4,540.00
Develop Initial Project Data			2	4		8								14	$ 2,370.00
Existing count data		2	2	4		4	4							16	$ 2,950.00
Existing Crash Data Colletion and Analysis		2	2	32		32	4							72	$ 12,190.00
Prepare Existing traffic line diagrams (ADTs, AM and PM peak)		2	6	4		8	8							28	$ 5,090.00
Obtain and review MPO model			4	8	10	20								42	$ 7,020.00
Review socio economic data, build roadway network			4	8	16	24								52	$ 8,620.00
Conduct a subarea validation to evaluate model's forecasts			2	4	16	32								54	$ 8,570.00
Coordinate with TxDOT, City and obtain proposed area developments		2	4	8	16	16	8							54	$ 9,240.00
Coordinate with TPP, Area Office, School District, City, County		2	4	6	8	8	5							33	$ 5,885.00
Prepare Traffic Methodology Memo (Draft and Final)		2	4	8	16	16	8							54	$ 9,240.00
Prepare Opening year and Design year daily traffic projections		2	8	16	16	24								66	$ 11,580.00
Prepare Interim year (+5,+10,+15 yr) daily traffic projections		2	12	24	16	40								94	$ 16,320.00
Prepare Build and no-Build AM and PM DDHVs (5 analysis years)			4	8	16	24								52	$ 8,620.00
Balance projections and prepare traffic diagrams (5 analysis years)		4	4	8	16	16	8							56	$ 9,780.00
Develop rebalanced traffic forecasts for various Build scenarios		2	4	8	16	16	8							54	$ 9,240.00

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

LJA

PROJECT NAME: IH 35 Kohlers Crossing
PROJECT LIMITS: IH 35 SBFR to IH 35 NBFR

TASKS	SHTS	Sr Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Senior CADD Operator	Senior Bridge Engineer	Senior Utility Coordinator	Utility Coordinator	Admin/ Clerical	Category	TOTAL HOURS	TOTAL COST
		$270.00	$235.00	$185.00	$170.00	$145.00	$155.00	$135.00	$235.00	$170.00	$140.00	$85.00	Rate ($)		
Crash Analysis and Safety Memo															$ -
Obtain Detailed Crash Data and summarize		1	1	2	2	8								14	$ 2,375.00
Prepare IHSDM Predictive Crash Existing Model using IHSDM			6	12	12	16	16							62	$ 10,470.00
Conduct Predictive Future Crash Analysis and prepare Safety Memo		1	2	4	8	16	16							47	$ 7,640.00
Traffic and Operational Analysis															$ -
Coord traffic models		4	8	16		16	16							60	$ 10,720.00
Traffic model: 2045 Build		4	16	24		24	16							84	$ 15,240.00
Intersection optimization: 2045 Build		4	16	24	24	24	16							108	$ 19,320.00
Bicycle and Pedestrian Accommodations (Coord with Vybe/TxDOT)		8	24	40	8	80	20	80						260	$ 42,060.00
IAJR															$ -
M&A Documentation		16	16	40	20	20	20							132	$ 24,880.00
Traffic Forecasting Methodology Memorandum		16	40	80	40	60	10							246	$ 45,570.00
IAJR Coordination		16	80	80	40	60	30							306	$ 58,070.00
Draft IAJR		32	48	100	60	40	40							320	$ 60,620.00
Finalize IAJR		16	32	40	40	40	10							178	$ 33,390.00
QA/QC		4	32	32	16	16	16							116	$ 22,040.00
Utility base map (Incorporate RIOS mapping)		2						40		8	16			66	$ 9,540.00
110.3 Conceptual Design Schematics															$ -
Update Conceptual Schematics		8	20	20		80	80							208	$ 34,560.00
Typical sections		1	4			24	8							37	$ 5,930.00
Prelim vertical geometry checks			8			16	16							40	$ 6,680.00
Structure locations (bridges and retaining walls)			8				8		24					40	$ 8,760.00
Prelim ROW requirements/ Access control		4	8			24	8							44	$ 7,680.00
Prelim bicycle and pedestrian design (incorporate PDE data)															$ -
Prelim alternative cost estimates		2	4	4		8	8							26	$ 4,620.00
110.4 Geometric Design Schematic															$ -
Horizontal geometry		1	8	16	16		24							65	$ 11,550.00
Horizontal curve data (inc SE data)			8	8	8	16	16							56	$ 9,520.00
Roadway and intersection layout		2	40	20		40								102	$ 19,440.00
Typical sections			8			24	24							56	$ 9,080.00
Bridge location/ span layout			8				8		24					40	$ 8,760.00
ROW data		2	8				16							26	$ 4,900.00
Incorporate bicycle and pedestrian design		1	4	16			40							61	$ 10,370.00
Incorporate drainage and hydraulic design		1	4	16		40	40							101	$ 16,170.00
Access management/ control		2	8				16							26	$ 4,900.00
Vertical geometry			16	40		40	40							136	$ 23,160.00
Retaining walls			20		40	40	20		8					128	$ 22,280.00
Illumination		2	8	24		40								74	$ 12,660.00
Aesthetics		8	24	40		80								152	$ 26,800.00
ITS		8	24	40		80								152	$ 26,800.00
Large Guide Signs		4	8	16	20	40		16						104	$ 17,280.00
Prepare phased Project Implementation schematic layouts		4	16	24			40	40						124	$ 20,880.00
Prepare geometric schematic layouts (50, 90, 100%)		8	40	32		40	80	80						280	$ 46,480.00
110.5 Cross-Sections															$ -
Develop proposed 3D OpenRoads model (30% PSE)		2	24	40	40	80	80							266	$ 44,380.00
Develop/ review cross sections		2	24	40	40									106	$ 20,380.00
Produce 11x17 sheets				4			40	40						84	$ 12,340.00
110.6 Retaining walls (inc in 110.4)															$ -
110.7 3D Renderings		4	16			40	40							100	$ 16,840.00
110.8 Preliminary Construction Sequence		4	8	40		60	40							152	$ 25,260.00
110.10 Engineering Summary Report															$ -
Draft ESR		2	16	16		16	16					4		70	$ 12,400.00

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

LJA

PROJECT NAME: IH 35 Kohlers Crossing
PROJECT LIMITS: IH 35 SBFR to IH 35 NBFR

TASKS	SHTS	Sr Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Senior CADD Operator	Senior Bridge Engineer	Senior Utility Coordinator	Utility Coordinator	Admin/ Clerical	Category	TOTAL HOURS	TOTAL COST
		$270.00	$235.00	$185.00	$170.00	$145.00	$155.00	$135.00	$235.00	$170.00	$140.00	$85.00	Rate ($)		
Final ESR		1	8	8		8	8					4		37	$ 6,370.00
Geometric Schematic Cost Estimates (50, 90, 100%)		4	16	16		24	24							84	$ 15,000.00
110.12 Agency Coordination															$ -
Agency Coordination and Meeting Preparation		40	16	40			40					8		144	$ 28,840.00
Agency Meetings (4 mtgs @ 3 hrs) and Minutes		16	16	16			16					8		72	$ 14,200.00
110.14 Preliminary Cost Estimates															$ -
Cost Estimates		8	24			40								72	$ 13,600.00
110.16 Geotech Borings (assist Raba)		1	2	4		8								15	$ 2,640.00
SUBTOTAL		362	1,109	1,442	712	1,920	1,243	304	74	8	16	24		7,148	**$ 1,281,300.00**
FC 120 (120) Social, Economic and Environmental Studies and Public Involvement															
Env coord (assist Berg)		16	16											32	$ 8,080.00
120.12 Informal Meetings		2	4			16								22	$ 3,800.00
120.7 Public Involvment (support Kyle)		16	16			40		40						112	$ 19,280.00
SUBTOTAL		34	36			56		40						134	**$ 31,160.00**
FC 130 (130) Right-of-Way Data															
130.5 Utility Engineering Investigation															
Determine Test Hole Locations and Exhibits						8				4	8			20	$ 2,960.00
130.6 Utility Adjustment Coordination															$ -
Initial Project Meeting		4				8				8	8			28	$ 4,720.00
External Communication						20				8	20			48	$ 7,060.00
Kickoff & Progress Meeting		4								8	16			28	$ 4,680.00
NOPC Letters						40				4	16			60	$ 8,720.00
130.6 Access Management		8	16			24								48	$ 9,400.00
SUBTOTAL		16	16			100				32	68			232	**$ 37,540.00**
FC 145 (145,164) Managing Contracted/Donated PE															
Project Administration (Correspondence, Progress Reports, etc)(24 Month)		72			48							48		168	$ 31,680.00
Coordination with Subconsultants (Contracts, Billing, Schedule, etc)		40										40		80	$ 14,200.00
Coordination with Subconsultants (Tasks, Deliverables, etc)		40												40	$ 10,800.00
Project Scheduling		48												48	$ 12,960.00
Kick-off Meeting (prepare for and attend)		8	4	8			8								
Progress/ Coordination Meetings with CIty (24 by Teams)		48	48	48		48								192	$ 40,080.00
Coordination Meetings with TxDOT for PI (4)		16		16		16								48	$ 9,600.00
QA/QC of Subconsutant Deliverables		40	40	40		40								160	$ 33,400.00
SUBTOTAL		312	92	112	48	104	8					88		736	$ 152,720.00
FC 160 (160) Roadway Design Controls															
162.3 Traffic Warrant Studies															
Traffic Warrant (kholers)			8			24								32	**$ 5,360.00**
163.1 Utility Engineering															**$ -**
Utility Layout (Strip Maps)		8				40				40	80			168	**$ 25,960.00**
Conflcit Assesment		8				40				20	40			108	**$ 16,960.00**
SUBTOTAL		16	8			104				60	120			308	**$ 48,280.00**
LABOR TOTALS		**740**	**1261**	**1554**	**760**	**2284**	**1251**	**344**	**74**	**100**	**204**	**112**		**8,574**	**$ 1,551,000.00**
		8.6%	14.7%	18.1%	8.9%	26.6%	14.6%	4.0%	0.9%	1.2%	2.4%	1.3%			

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT	

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

LJA

PROJECT NAME: IH 35 Kohlers Crossing
PROJECT LIMITS: IH 35 SBFR to IH 35 NBFR

TASKS	SHTS	Sr Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Senior CADD Operator	Senior Bridge Engineer	Senior Utility Coordinator	Utility Coordinator	Admin/ Clerical	Category	TOTAL HOURS	TOTAL COST
		$270.00	$235.00	$185.00	$170.00	$145.00	$155.00	$135.00	$235.00	$170.00	$140.00	$85.00	Rate ($)		
Mileage		1,500	0.655	Mile											$ 982.50
Traffic Counts Intersections		6	$1,000.000	EA											$ 6,000.00
Traffic Counts Ramps		12	$600.000	EA											$ 7,200.00
48 Hours Vehicle Clasification (per lane/ perday)		24	$500.00	EA											$ 12,000.00
Travel Time Measurement		24	$250.00	Hour											$ 6,000.00
Plots (Color on Bond)		1,000	$1.75	SF											$ 1,750.00
															$ -
SUBTOTAL DIRECT EXPENSES (FC 164)															**$ 33,932.50**

UNIT COST EXPENSES	# OF UNITS	COST/UNIT	UNIT	
				$ -
				$ -
				$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)				$ -

SUMMARY

TOTAL COSTS FOR PRIME PROVIDER	$ 1,551,000.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME PROVIDER	$ 33,932.50
NON-SALARY (UNIT COST EXPENSES) FOR PRIME PROVIDER	$ -
SUBCONTRACTS (includes labor costs, direct expenses, and unit costs)	$ 573,354.77
GRAND TOTAL	**$ 2,158,287.27**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

LJA ES

PROJECT NAME: IH 35 Kohlers Crossing
PROJECT LIMITS: IH 35 SBFR to IH 35 NBFR

TASKS	SHTS	Vice President	Sr. Project Manager	Project Manager	Asst. Project Manager (NEPA) / Project Coord'r III	Project Coordinator II	Field Tech II	GIS Analyst II	GIS Analyst I	Category	Category	Category	Category	TOTAL HOURS	TOTAL COST
		$240.00	$200.00	$180.00	$170.00	$160.00	$105.00	$165.00	$116.00	Rate ($)	Rate ($)	Rate ($)	Rate ($)		
FC 120 (120) Social, Economic and Environmental Studies and Public Involvement															
120.2 Technical Reports and Documentation															
Environmental Public Involvement				2	6									8	$ 1,380.00
Community Impacts Analysis (CIA) (*abbreviated)		3		2	24			2						31	$ 5,490.00
Project Coordination Request for Historical Resources (PCR)				14					4					18	$ 2,984.00
Archeological Background Study (ABS)				8					8					16	$ 2,368.00
Traffic Noise Studies															$ -
Traffic Noise Analysis		2	2	120	58									182	$ 32,340.00
Traffic Noise Technical Report (TNTR)		2	2	40										44	$ 8,080.00
Surface Water Analysis (SWA)		1		2	4									7	$ 1,280.00
Wetland Delineation (WDTR)		2		4	26	18		12						62	$ 10,480.00
Species Analysis (Biological Studies)		2		2	26				4					34	$ 5,724.00
Hazardous Materials Initial Site Assessment (ISA)		2	2	2	30									36	$ 6,340.00
EPIC Sheets Assistance			1	2										3	$ 560.00
															$ -
															$ -
															$ -
SUBTOTAL		14	7	198	174	18		14	16					441	**$ 77,026.00**
LABOR TOTALS		**14**	**7**	**198**	**174**	**18**		**14**	**16**					**441**	**$ 77,026.00**
		3.2%	1.6%	44.9%	39.5%	4.1%		3.2%	3.6%						

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT		
Mileage	1,300	0.625	mile		**$ 812.50**
Parking	4	$20.000	day		**$ 80.00**
Toll Charges	10	$7.00	each		**$ 70.00**
Equipment Rental	1	$200.00	each		**$ 200.00**
Tx Parks & Wildlife Data Request Fees	2	$50.00	each		**$ 100.00**
Hazardous Materials Database Search	2	$800.00	per search		**$ 1,600.00**
Aerial Photographs (1" = 500' scale)	2	$100.00	each		**$ 200.00**
Lodging/Hotel - Taxes and Fees	2	$30.00	day/person		**$ 60.00**
Lodging/Hotel (Taxes/fees not included)	2	$94.00	day/person		**$ 188.00**
Meals (Excluding alcohol & tips) (Overnight stay required)	4	$50.000	day/person		**$ 200.00**
Overnight Mail - letter size	2	$25.50	each		**$ 51.00**
Overnight Mail - oversize box	2	$45.00	each		**$ 90.00**
Environmental Database Search (e.g., Census Data - Cubit)	1	$600.00	per search		**$ 600.00**
Noise Meter Rental	2	$300.00	per week		**$ 600.00**
					$ -
SUBTOTAL DIRECT EXPENSES (FC 164)					**$ 4,851.50**

UNIT COST EXPENSES	# OF UNITS	COST/UNIT	UNIT		
					$ -
					$ -
SUBTOTAL UNIT COST EXPENSES (FC 120)					**$ -**

SUMMARY

TOTAL COSTS FOR LJA ES	$ 77,026.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR LJA ES	$ 4,851.50
NON-SALARY (UNIT COST EXPENSES) FOR LJA ES	$ -
GRAND TOTAL	**$ 81,877.50**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

McGray & McGray

PROJECT NAME: IH 35 Kohlers Crossing
PROJECT LIMITS: IH 35 SBFR to IH 35 NBFR

TASKS	SHTS	Survey - RPLS (Project Manager)	Survey Tech - Senior	Survey Tech	Lidar Mapping Tech	Lidar Processing Tech	Mapping Editor	Field Coordinator	TOTAL HOURS	TOTAL COST
		$170.37	$109.73	$95.29	$86.63	$103.95	$86.63	$101.07		
FC 160 (150) Design Surveying										
ESTABLISH HORIZONTAL AND VERTICAL CONTROL		8	30	60					98	$ 10,372.26
ESTABLISH PANEL POINTS		2	10	20					32	$ 3,343.84
PROVIDE LOW ALTITUDE AERIAL MAPPING										$ -
PREPARE DGN, DTM, TIN, ORTHOPHOTOGRAPHY FILES					140	40	20		200	$ 18,018.80
QA/QC, STATEMENT OF MAP (PLANIMETRIC) ACCURACY		6			12		40		58	$ 5,526.98
OBTAIN DESIGN SURVEY DATA		4	30	60					94	$ 9,690.78
REVIEW AND UPDATE DTM AND TIN FILES		2		20	40				62	$ 5,711.74
REVIEW AND UPDATE PLANIMETRIC (DGN) FILES		2		20	30				52	$ 4,845.44
OBTAIN SURVEY DETAILS INCLUDING DRAINAGE FEATURES, VISIBLE UTILITIES, IMPROVEMENTS, CROSS SECTIONS			15	30					45	$ 4,504.65
ADDITIONAL SURVEYS AS REQUESTED BY THE ENGINEER										$ -
REVIEW RIGHT-OF-WAY MAPS		8	10	20					38	$ 4,366.06
SURVEY TOP OF RAILROAD TRACKS, MILEPOST MARKERS		12							12	$ 2,044.44
LOCATE BOREHOLES				6					6	$ 571.74
LOCATE EXISTING DRIVEWAYS										$ -
LOCATE OVERHEAD UTILITY LINES										$ -
HYDROGRAPHIC SURVEY OF WATERWAYS										$ -
QA/QC, SURVEYORS REPORT, CHECKLISTS		12							12	$ 2,044.44
										$ -
										$ -
SUBTOTAL		56	95	236	222	40	60		709	$ 71,041.17
LABOR TOTALS		**56**	**95**	**236**	**222**	**40**	**60**		**709**	$ 71,041.17
		7.9%	13.4%	33.3%	31.3%	5.6%	8.5%			

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT		
Mobilization for Helicopter Aerial Imagery/Lidar (includes helicopter, pilot, sensor/lidar operator, fuel and transportation cost	1	$ 25,000.00	EA		$ 25,000.00
Ground Targets	16	$ 30.00	EA		$ 480.00
Deed Copies	120	$ 2.00	EA		$ 240.00
					$ -
SUBTOTAL DIRECT EXPENSES (FC 160)					$ 25,720.00

UNIT COST EXPENSES	# OF UNITS	COST/UNIT	UNIT		
2-Person Crew	282	$ 185.00	HR		$ 52,170.00
Helicopter Flight Crew	6	$ 200.00	HR		$ 1,200.00
					$ -
SUBTOTAL UNIT COST EXPENSES (FC 160)					$ 53,370.00

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

McGray & McGray

PROJECT NAME: IH 35 Kohlers Crossing
PROJECT LIMITS: IH 35 SBFR to IH 35 NBFR

TASKS	SHTS	Survey - RPLS (Project Manager)	Survey Tech - Senior	Survey Tech	Lidar Mapping Tech	Lidar Processing Tech	Mapping Editor	Field Coordinator	TOTAL HOURS	TOTAL COST
		$170.37	$109.73	$95.29	$86.63	$103.95	$86.63	$101.07		

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$71,041.17
NON-SALARY (OTHER DIRECT EXPENSES) FOR M&M	$25,720.00
NON-SALARY (UNIT COST EXPENSES) FOR M&M	$53,370.00
GRAND TOTAL	**$150,131.17**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

The Rios Group, Inc.

PROJECT NAME: IH 35 Kohlers Crossing
PROJECT LIMITS: IH 35 SBFR to IH 35 NBFR

TASKS	SHTS	Principal	Supervisory Engineer	SUE Project Manager	Professional Engineer	Assistant Project Manager	Engineer In Training	CADD Technician	Engineering Technician	Field Manager	Category	Category	Category	TOTAL HOURS	TOTAL COST
		$316.28	$190.86	$169.71	$165.19	$118.30	$110.49	$74.84	$74.67	$127.23	Rate ($)	Rate ($)	Rate ($)		
FC 130 (130) Right-of-Way Data															
130.5 UTILITY ENGINEERING INVESTIGATION (SUBSURFACE UTILITY ENGINEERING)		4	4	16	8	24		80	8	30				174	$ 19,306.10
															$ -
															$ -
															$ -
															$ -
															$ -
															$ -
															$ -
															$ -
															$ -
SUBTOTAL		4	4	16	8	24		80	8	30				174	**$ 19,306.10**
LABOR TOTALS		**4**	**4**	**16**	**8**	**24**		**80**	**8**	**30**				**174**	**$ 19,306.10**
		2.3%	2.3%	9.2%	4.6%	13.8%		46.0%	4.6%	17.2%					

OTHER DIRECT EXPENSES		# OF UNITS	COST/UNIT	UNIT		
	TRAFFIC CONTROL (STANDARD)	4	$1,000.000	DAY		**$ 4,000.00**
	TRAFFIC CONTROL (TMA)	2	$1,500.000	DAY		**$ 3,000.00**
SUBTOTAL DIRECT EXPENSES (FC 130)						**$ 7,000.00**

UNIT COST EXPENSES		# OF UNITS	COST/UNIT	UNIT		
						$ -
	QL"B" SUE DESIGNATING - ONE DESIGNATING PERSON	180	$160.000	HR		**$ 28,800.00**
	QL"B" SUE DESIGNATING - TWO PERSON DESIGNATING CREW	40	$250.000	HR		**$ 10,000.00**
	QL"A" SUE TEST HOLE 0-5 FT	12	$1,315.000	EA		**$ 15,780.00**
	QL"A" SUE TEST HOLE 5-8 FT	6	$1,600.00	EA		**$ 9,600.00**
	QL"A" SUE TEST HOLE 8-13 FT	2	$1,995.00	EA		**$ 3,990.00**
	QL"A" SUE TEST HOLE 13-20 FT		$2,575.000	EA		**$ -**
	PAVEMENT CORING	6	$370.00	EA		**$ 2,220.00**
SUBTOTAL UNIT COST EXPENSES (FC 130)						**$ 70,390.00**

SUMMARY

TOTAL COSTS FOR SUBCONSULTANT 1	$19,306.10
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBCONSULTANT 1	$7,000.00
NON-SALARY (UNIT COST EXPENSES) FOR SUBCONSULTANT 1	$70,390.00
GRAND TOTAL	**$96,696.10**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Raba Kistner

PROJECT NAME: IH 35 Kohlers Crossing
PROJECT LIMITS: IH 35 SBFR to IH 35 NBFR

TASKS	SHTS	PRINCIPAL	PROJECT MANAGER	SENIOR ENGINEER	ENGINEER	EIT	SR. ENGR. TECH.	ENGR. TECH.	ADMIN	TOTAL HOURS	TOTAL COST
		$220.00	$195.00	$185.00	$165.00	$135.00	$100.00	$85.00	$70.00		
FC 160 (163) Miscellaneous (Roadway)											
GEOTECHNICAL INVESTIGATION AND RECOMMENDATIONS											$ -
STAKE BORINGS AND UTILITY LOCATE			1		2	12	50				$ 7,145.00
FIELD EXPLORATION/ LOGGING							121			121	$ 12,100.00
LABORATORY ASSIGNMENT			1		4	6				11	$ 1,665.00
WINCORE BORING LOGS					10	28				38	$ 5,430.00
ENGINEERING ANALYSES (PIER CAPACITY CURVES, GLOBAL STABILITY, ETC.)			5		17	42				64	$ 9,450.00
SITE PLAN					3	6		8		17	$ 1,985.00
ADDITIONAL DRAFT GEOTECHNICAL REPORT PREPARATION		2	7		12	22			3	46	$ 6,965.00
ADDITIONAL GEOTECHNICAL REPORT REVIEW & FINALIZATION		2	4		4	6			3	19	$ 2,900.00
											$ -
											$ -
											$ -
SUBTOTAL		4	18		52	122	171	8	6	316	**$ 47,640.00**
LABOR TOTALS		**4**	**18**		**52**	**122**	**171**	**8**	**6**	**316**	**$ 47,640.00**
		1.3%	5.7%		16.5%	38.6%	54.1%	2.5%	1.9%		

OTHER DIRECT EXPENSES		# OF UNITS	COST/UNIT	UNIT		
	FIELD OPERATIONS	10	$600.00	each		**$ 6,000.00**
	Mobilization of Drill Rig	200	$28.000	ft		**$ 5,600.00**
	3" Thin-Wall Continuous Sampling	720	$45.000	ft		**$ 32,400.00**
	TCP with Intermittent Sampling	920	$13.000	ft		**$ 11,960.00**
	Bentonite Backfill	31	$250.000	hr		**$ 7,750.00**
	Standby (relocation and setup time)	31	$250.000	hr		**$ 7,750.00**
	Driller Cleanup					**$ -**
						$ -
	LABORATORY TESTING					**$ -**
	Atterberg Limits	60	$125.000	each		**$ 7,500.00**
	Moisture Content	170	$25.000	each		**$ 4,250.00**
	Sieve Analysis (passing No. 4, 40, 200)	74	$120.000	each		**$ 8,880.00**
	Sulfate Testing	12	$125.000	each		**$ 1,500.00**
	Unconfined Compression (Soil)	25	$60.000	each		**$ 1,500.00**
	Unconfined Compression (Rock)	32	$75.000	each		**$ 2,400.00**
	Direct Shear	4	$650.000	each		**$ 2,600.00**
	Consolidated Undrained (CU) Triaxial Compression Test for Undisturbed Soils- Multiple Change	5	$1,900.000	each		**$ 9,500.00**
	Lime Series (Tex-121-E Part III)	2	$425.000	each		**$ 850.00**
	Moisture Denisty Relationship (TEX-114-E)	2	$350.000	each		**$ 700.00**

PRIME PROVIDER:

ATTACHMENT B
FEE SCHEDULE
Method of Payment:
LUMP SUM AND UNIT COSTS

Contract No. _____
Work Authorization No. _

Raba Kistner

PROJECT NAME: IH 35 Kohlers Crossing
PROJECT LIMITS: IH 35 SBFR to IH 35 NBFR

	TASKS	SHTS	PRINCIPAL	PROJECT MANAGER	SENIOR ENGINEER	ENGINEER	EIT	SR. ENGR. TECH.	ENGR. TECH.	ADMIN	TOTAL HOURS	TOTAL COST
			$220.00	$195.00	$185.00	$165.00	$135.00	$100.00	$85.00	$70.00		
	Texas Triaxial Compression (TEX-117-E)		2	$2,200.000	each							$ 4,400.00
												$ -
SUBTOTAL DIRECT EXPENSES (FC 164)												**$ 115,540.00**

	UNIT COST EXPENSES	# OF UNITS	COST/UNIT	UNIT		
	Traffic Control Services (night work)	12	$5,500.00			$ 66,000.00
	Police Officer	119	$130.00			$ 15,470.00
	Brush Clearing		$2,500.00			$ -
						$ -
SUBTOTAL UNIT COST EXPENSES (FC 164)						**$ 81,470.00**

SUMMARY

TOTAL COSTS FOR Raba	$47,640.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR Raba	$115,540.00
NON-SALARY (UNIT COST EXPENSES) FOR Raba	$81,470.00
GRAND TOTAL	**$244,650.00**

K·FRIESE
+ ASSOCIATES

KYLE BONDS 2022

COUNCIL MEETING | MARCH 7, 2023

BOND PROGRAM UPDATE

- Bond was approved by voters in Nov. 2022
- Council workshop was held in late January to provide an update
- Design scopes and fees for Kohlers, Bebee, and Bunton Creek projects are ready for review
- Finalizing negotiations for remaining projects, aiming for March 21 Council meeting
- Website and branding refresh in progress

KYLE BONDS 2022

COUNCIL MEETING | MARCH 7, 2023

K·FRIESE + ASSOCIATES

TASK ORDER BUDGETS

Project	From	To	Total Budgeted Project Cost	Current Phase	Current Task Order Budget	% of Total Budgeted Project Cost
Kohlers to Seton (off-system)	IH 35 NBFR	Seton Pkwy	$66,080,361	Schematic	**$ 1,101,207.34**	5%
Kohlers to Seton (IH 35 crossing)	IH 35 SBFR	IH 35 NBFR		Schematic	**$ 2,158,287.27**	
Bebee Rd (west)	IH 35 NBFR	Dacy Ln	$66,621,312	Schematic	**$ 436,194.96**	2%
Bebee Rd (east)	Dacy Ln	E. of Green Pastures Rd		Schematic	**$ 788,221.88**	
Bunton Creek Rd	Lehman Rd	Porter Cove	$28,444,399	Schematic	**$ 947,810.00**	3%

K·FRIESE + ASSOCIATES

CITY OF KYLE, TEXAS

Maruti Amendment

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Consider and possible action to approve a Resolution of the City of Kyle, Texas, Amending the Contract for Kyle Texas 3.14 ADA Transportation Program with Maruti Transportation Group Executed April 5, 2022; Making Findings of Fact; and Providing for Related Matters. ~ *Jerry Hendrix, Interim City Manager*

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

- Resolution to Amend the Maruti Kyle Contract
- Kyle 3.14 Program Contract

RESOLUTION NO. _____

A RESOLUTION OF THE CITY OF KYLE, TEXAS, AMENDING THE CONTRACT FOR KYLE TEXAS 3.14 ADA TRANSPORTATION PROGRAM WITH MARUTI TRANSPORTATION GROUP EXECUTED APRIL 5, 2022; MAKING FINDINGS OF FACT; AND PROVIDING FOR RELATED MATTERS.

WHEREAS, the City of Kyle is the first city in America to adopt a public transit program with Uber and Maruti; and,

WHEREAS, per the Settlement Agreement Under The Americans With Disabilities Act Between The United States Of America And The City Of Kyle, Texas USAO # 2020V00958 DJ # 204-76-226, "the City shall maintain a program or third-party contract with a vendor to supplement the Program with additional WAV vehicles which will be incorporated into the Uber platform"; and,

WHEREAS, Maruti Transportation Group has developed the MT Connect program which integrates into the Uber platform; and,

WHEREAS, ridership with both Uber and Maruti continues to climb in Kyle with a very high satisfaction rating; and,

WHEREAS, the original agreement with Maruti Transportation Group was for a period of one year; and,

WHEREAS, an initial slate and cost of services was provided to the City of Kyle by Maruti to immediately respond to the Department of Justice lawsuit; and,

WHEREAS, a true cost of the full WAV service is now understood between the parties; and,

WHEREAS, amending the original contract will ensure that the 3.14 ADA Transportation Program remains in compliance with the Americans with Disabilities Act.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS, THAT

Section 1. The recitals herein are found to be true and correct and are hereby adopted by the City Council and made a part hereof for all purposes as findings of fact.

Section 2. The original contract for Kyle Texas 3.14 ADA transportation program is amended as follows**:**

Article 1 – Term. C. The Terms of this Agreement shall be automatically renewed each year unless specifically indicated in writing by the City.

Article 2 – Services. F. Contractor shall provide services during the hours of 6:00am – 9:00pm, Monday through Friday, unless otherwise mutually agreed upon in writing.

Article 3 – Compensation. B. Contractor shall be paid by City a $30.00 (thirty dollars and no cents) trip load fee per trip. This amount shall increase annually at the same percentage as the Consumer Price Index for the US Bureau of Labor Statistics for the Southwest Information Office.

Article 3 – Compensation. C. Contractor shall be paid by City a per mile fee of $3.75 (three dollars and seventy-five cents) per mile driven on any given trip. This price is subject to change based on fuel and maintenance rates. Contractor shall also be paid an after-hours fee of $50.00 (fifty dollars) per hour. These amounts shall increase annually at the same percentage as the Consumer Price Index for the US Bureau of Labor Statistics for the Southwest Information Office.

Article 5 – Business Associates. Any reference to Florida shall be changed to Texas.

Article 8 – Verification of Employees. Any reference to FDOT shall be changed to TxDOT.

Article 10 – Insurance Requirements. Any reference to Florida shall be changed to Texas.

Article 11 – Successors and Assigns. Contractor binds itself and its partners, successors, executors, administrators and assigns to the other party to this Contract and to the partners, successors, executors, administrators and assigns of such other party, in respect to all covenants of this Contract. Neither the City or the Contractor shall assign, sublet, convey, or transfer its interest in this Contract, without the prior written consent of the other. Consent to the assignment may be withheld for any reason or no reason at all. In the event the City renegotiates its agreement with Uber or a third party for continuation of the Kyle 3.14 program, this agreement shall automatically append and become subservient to said agreement. Maruti shall then become a subcontracted party to the master rideshare agreement, and this Contract for Kyle, Texas 3.14 ADA program shall become an exhibit to said agreement. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of the City, nor shall it be construed as giving any rights or benefits hereunder to anyone other than the City and the Contractor.

Article 18 – No intended Third Party Beneficiary is struck in its entirety.

Exhibit B shall be added as follows.

Section 3. Effective Date. This Resolution shall take effect from and after the date of its passage as authorized by the Charter of the City of Kyle.

Section 4. Open Meetings. That it is hereby found and determined that the meeting at which this Resolution is passed was open to the public as required and that public notice of the time, place, and purpose of said meeting was given as required by the Open Meetings Act, Chapter 551, Texas Local Government Code.

FINALLY PASSED AND APPROVED on this the ___ day of March, 2023.

ATTEST:	**THE CITY OF KYLE, TEXAS**
_____	_____
Jennifer Kirkland, City Secretary	Travis Mitchell, Mayor

Exhibit "B"

SCOPE OF SERVICES

Current Program	Program Additions
Service hours 6 AM – 7 PM	Service hours 6 AM – 9 PM 24/7 Access with After Hours Service
No weekends	Weekend Transportation Provided
No project management team	Provide Customer Service Management for Uber For Business Dashboard and Kyle 3.14 Maintenance
Compliance management	Ensure program reporting, integration, and voucher distribution meets all Title II ADA Act compliance standards
No vehicle branding	Provide City of Kyle with Kyle 3.14 branding options for vehicles
Vehicle Program Scalability	Provide additional paratransit vehicles to fleet with increased demand to meet all compliance standards, including response times.
Transportation Scheduling	Expand dispatching capability to allow for after hours and weekend scheduling

CONTRACT FOR KYLE TEXAS 3.14 ADA TRANSPORTATION PROGRAM

THIS AGREEMENT ("Agreement") is made as of this _____ day of _____, 2023, by and between the City of Kyle Texas (*hereinafter referred to as City)*, and Maruti Transportation Group, Inc., (*hereinafter referred to as Contractor)* authorized to do business in the State of Texas and whose principal address is 2301 South Division Avenue, Orlando, Florida 32805.

WHEREAS the City requires the implementation of Kyle Texas 3.14 ADA Transportation Program ("3.14 Program");

WHEREAS, the City currently contracts with Uber for regular and WAV vehicles which address most of the City's ADA-required vehicles but desires to expand its services by locating another entity that can supplement the ADA portion of the 3.14 Program.

WHEREAS the Contractor is able to provide the ADA services required by Kyle Texas 3.14 Program;

WHEREAS the City and the Contractor desire to enter into a contract for the purposes addressed herein;

NOW THEREFORE, in consideration of the mutual promises contained herein, the City and the Contractor hereby agree as follows:

Article I – Term.

A. The commencement date for the provisions of this Agreement shall be upon full execution of same by both City and Contractor.

B. This agreement shall be valid for the term of one (1) calendar year from the date of the full execution of this agreement by both City and Contractor.

C. .The Terms of this Agreement shall be automatically renewed each year unless specifically indicated in writing by the City.

Article II – Services.

A. The Contractor shall provide an ADA transportation solution to the City. Specifically, Contractor shall provide a service that works alongside the 3.14 Program. Contractor will utilize its MT Connect service to provide a transportation service to address adherence to the Americans with Disabilities Act (ADA).

B. MT Connect service will be accessible to Kyle Residents through the Uber app.

C. The Contractor shall offer its MT Connect service to the residents of Kyle, Texas through the utilization of the Uber application. This service includes the ability of the resident requestor of transportation to track and communicate with the driver.

D. Contractor shall provide a scheduled transportation service to the residents of Kyle Texas, whereby residents may schedule transportation service up to two (2) weeks in advance by calling the Contractor's call center at (210)-227-1900 ex 3. Residents must call during regular office hours from 9:00 AM to 5:00 PM Monday thru Friday. Leaving a voice message during off hours will not guarantee a scheduled trip.

E. Residents of Kyle will be able to preschedule tips outside of the office hours and service hours through the Uber app.

F. Contractor shall provide services during the hours of 6:00am – 9:00pm, Monday through Friday, unless otherwise mutually agreed upon in writing.

G. The City's representative/liaison during the term of this agreement and any subsequent renewal of this agreement shall be Jerry Hendrix, Assistant City Manager, City of Kyle, unless otherwise designated in writing by City.

H. The Contractor's representative/liaison during the term of this agreement and any subsequent renewal of this agreement shall be Parth Parikh, Director of Operations, Maruti Transportation Group, telephone number (407)412-5613, unless otherwise designated in writing by Contractor.

Article III – Compensation.

A. Contractor shall be paid by City a one-time implementation fee of $35,000.00 (thirty-five thousand dollars and no cents).

B. Contractor shall be paid by City a $30.00 (thirty dollars and no cents) trip load fee per trip. This amount shall increase annually at the same percentage as the Consumer Price Index for the US Bureau of Labor Statistics for the Southwest Information Office.

C. Contractor shall be paid by City a per mile fee of $3.75 (three dollars and seventy-five cents) per mile driven on any given trip. This price is subject to change based on fuel and maintenance rates. Contractor shall also be paid an after-hours fee of $50.00 (fifty dollars) per hour. These amounts shall increase annually at the same percentage as the Consumer Price Index for the US Bureau of Labor Statistics for the Southwest Information Office.

D. Contractor shall be paid by City a trip cancellation fee of $3.00 (three dollars and no cents) per any trip cancelled. This applies to prescheduled trips and trips booked directly from the Uber app.

E. Contractor shall be paid by City a no-show fee of $5.00 (five dollars and no cents) per any trip wherein the requestor did not appear to the scheduled pick up.

F. Contractor shall be paid by City a wait time fee of $.50 (zero dollars and fifty cents) per minute of wait time by the driver towards the service requestor. This fee is charged after the 10 minute wait time threshold is passed.

G. A $3.14 per rider fee is charged per each trip. This fee is paid by the rider to Maruti. The fee is deducted from the final invoice per each trip billed to Kyle.

H. Contractor shall provide a monthly invoice to City for all services rendered as described herein. Contractor shall also provide Uber reporting data to support the invoice.

I. City shall provide payment to contractor no later than ten (10) days following the receipt of the invoice.

J. All invoices submitted by the Contractor to the City shall be submitted in detail sufficient for proper pre-audit and post-audit thereof to insure that work performed, expense incurred, or service rendered actually took place, was properly authorized and that the correct amount has been charged.

K. It shall be the City's responsibility to verify the information on the Contractor's invoice within the timeframe allotted for payment.

Article IV – Business Associates.

To the extent applicable, Contractor, including its agents, servants, subcontractors and employees shall appropriately safeguard protected health information ("PHI") that may be created, received, maintained, or transmitted on behalf of the City, in compliance with the applicable provisions of Public Law 104-191 of August 21, 1996, known as the Health Insurance Portability and Accountability Act of 1996, Subtitle F – Administrative Simplification, Sections 261, *et seq.*, as amended and any related regulations ("HIPAA"), and with Public Law 111-5 of February 17, 2009, known as the American Recovery and Reinvestment Act of 2009, Title XII, Subtitle D – Privacy, Sections 13400, *et seq.*, the Health Information Technology and Clinical Health Act, as amended and any related regulations (the "HITECH Act"), to the extent the acts and implementing regulations are applicable to the services provided by Contractor. Notwithstanding that HIPAA and its implementing may not prevent the disclosure of PHI, or other health or personal information acquired by Contractor in its performance of this Contract, Contractor shall not volunteer or disclose health or personal information to third parties, unless such disclosure is required by Texas's Public Records or other law applicable to the records created, possessed or maintained by Contractor.

A. General Provisions

1. **Meaning of Terms.** The terms used in this Contract shall have the same meaning as those terms defined in HIPAA.

2. **Regulatory References**. Any reference in this Contract to a regulatory section means the section currently in effect or as amended.

3. **Interpretation**. Any ambiguity in this Contract shall be interpreted to permit compliance with HIPAA.

B. Obligations of Contractor

To the extent required by law, Contractor agrees that it will:

1. Not use or further disclose PHI other than as permitted or required by this Contract or as required by law;

2. Use appropriate safeguards and comply, where applicable, with the HIPAA Security Rule with respect to electronic protected health information ("e-PHI") and implement appropriate physical, technical and administrative safeguards to prevent use or disclosure of PHI other than as provided for by this Contract;

3. Report in writing to the City any use or disclosure of PHI not provided for by this Contract of which Contractor becomes aware, including any security incident (as defined in the HIPAA Security Rule) and any breach of unsecured PHI (as defined in the HIPAA Breach Notification Rule) within three (3) business days of Contractor's discovery of the security incident or breach. Contractor will comply with all applicable provisions of the HIPAA Breach Notification Regulations found at 45 CFR §164.400 et seq. when making breach notification to the City. The City shall have sole control over the timing and method of breach notification to affected individual(s), the Department of Health and Human Services, and, if applicable, the media. Contractor agrees that, if requested by the City to do so, it will provide breach notification to affected individuals of any breach of unsecured PHI discovered by Business Associate. If requested by the City to make breach notification to affected individuals, Contractor shall comply with all applicable provisions of the HIPAA Breach Notification Regulations found at 45 CFR §164.400 et seq., and any direction from the City;

4. In accordance with 45 CFR §164.502(e)(1)(ii) and §164.308(b)(2), ensure that any subcontractors that create, receive, maintain, or transmit PHI on behalf of Contractor agree to the same restrictions, conditions, and requirements that apply to Contractor with respect to such information by requiring such subcontractors to sign an agreement with Contractor that contains, at a minimum, the same provisions as this Contract;

5. Make PHI in a designated record set available to the City and to an individual who has a right of access in a manner that satisfies the City's obligations to provide access to PHI in accordance with 45 CFR §164.524 within 30 days of a request;

6. Make any amendment(s) to PHI in a designated record set as directed by the City, or take other measures necessary to satisfy the City's obligations under 45 CFR §164.526;

7. Maintain and make available information required to provide an accounting of disclosures to the City or an individual who has a right to an accounting within 60 days and as necessary to satisfy the City's obligations under 45 CFR §164.528;

8. To the extent that Contractor is to carry out any of the City's obligations under the HIPAA Privacy Rule, Contractor shall comply with the requirements of the Privacy Rule that apply to the City when it carries out that obligation;

9. Make its internal practices, books, and records relating to the use and disclosure of PHI received from, or created or received by Contractor on behalf of the City, available to the Secretary of the Department of Health and Human Services for purposes of determining Business Associate's and the City's compliance with HIPAA and the HITECH Act;

10. Restrict the use or disclosure of PHI if the City notifies Contractor of any restriction on the use or disclosure of PHI that the City has agreed to or is required to abide by under 45 CFR §164.522; and

11. Assist the City in complying with its Red Flags Rule obligations, if the City is subject to the Red Flags Rule (found at 16 CFR §681.1 et seq.), by: (a) implementing policies and procedures to detect relevant Red Flags (as defined under 16 C.F.R. §681.2); (b) taking all steps necessary to comply with the policies and procedures of the City's Identity Theft Prevention Program (if the City is required to have a Program); (c) ensuring that any agent or third party who performs services on its behalf in connection with covered accounts of the City agrees to implement reasonable policies and procedures designed to detect, prevent, and mitigate the risk of identity theft; and (d) alerting the City of any Red Flag incident (as defined by the Red Flag Rules) of which it becomes aware, the steps it has taken to mitigate any potential harm that may have occurred, and provide a report to the City of any threat of identity theft as a result of the incident.

12. Protect, defend, reimburse, indemnify and hold the City. and their respective agents, employees and elected officers harmless from and against all claims, liability, expense, loss, cost, damages or causes of action of every kind or character, including attorney's fees and costs, whether at trial or appellate levels or otherwise, arising as a result of a breach of unsecured PHI caused by any act or omission of Contractor or arising from any other violation of HIPAA or the HITECH Act caused by any act or omission of Contractor.

Article V – Termination.

A. In the event of a default by either party, the non-defaulting party may terminate the contract by providing the defaulting party with thirty (30) day notice of termination due to default. Said notice must specify the default and if applicable, provide the defaulting party the opportunity to cure the default. If the default is such that cannot be cured, this Agreement shall be terminated thirty (30) days after providing the appropriate notice as described herein.

B. The Contractor shall not be considered in default by reason of any failure in performance if such failure arises out of causes beyond the control of the Contractor, or its subcontractor(s), and without their fault or negligence. Such causes shall be limited to: acts of God or of the public enemy; fires; floods; epidemics; quarantine restrictions; and/or inclement weather.

C. Upon the Contractor's request, the City shall consider the facts and extent of any failure to perform the work; and, if the Contractor's failure to perform was for a cause beyond the Contractor's control, and without it or its subcontractors' fault or negligence, the Contract Schedule and/or any other affected provision of this Contract may be revised accordingly, subject to the City's rights to modify, terminate, or stop any part or all of the work at any time.

D. Any opportunity to cure any default under the terms of this Agreement shall be for a period of ten (10) days following the notice of termination. If said default is not cured within ten (10) days of the required notice, this Agreement shall be deemed terminated on the date specified in the notice of termination.

E. In the event that this Agreement is terminated, Contractor reserves the right to compensation for the services provided up through the date of termination of this Agreement.

F. Any attorney fees, suit money and costs incurred by the non-defaulting party relating to this Agreement as a result of the default shall be paid or reimbursed by the defaulting party.

Article VI – Verification of employees.

The CITY has agreements with Texas's Department of Transportation (TxDOT) which require the CITY to agree and assure TxDOT that the U.S. Department of Homeland Security's E-Verify System (System) will be used to verify the employment eligibility of CONTRACTOR's employees and the employees of CONTRACTOR's subcontractors. Accordingly, CONTRACTOR agrees that it will utilize the System to verify the employment eligibility of its employees, and that it will require any subcontractor used in the performance of the Contract to verify the employment eligibility of its employees. CONTRACTOR shall provide evidence that it and its subcontractors have so verified the employment eligibility of all employees to CITY and TxDOT on forms and in the manner required by the CITY.

CONTRACTOR acknowledges that the CITY has received and will seek funds from TXDOT, and that such funds may be used to pay CONTRACTOR for the services it provides under this Contract. CONTRACTOR further acknowledges that TxDOT has advised recipients of TxDOT funds that it will consider a contractor's employment of unauthorized aliens to be a violation of the Immigration and Nationality Act. CONTRACTOR affirms to the CITY that it will not employ unauthorized aliens or take any other act, including acts related to the use of independent contractors, which may cause the CITY to be in violation of any law, or term or condition of any agreement between the CITY and TxDOT.

Article VII – Federal and State Taxes.

The City is exempt from payment of Texas State Sales and Use Taxes. The City will provide an exemption certificate to the Contractor. The Contractor shall not be exempted from paying sales tax to its suppliers for materials used to fulfill contractual obligations with the City, nor shall the Contractor use the City's Tax Exemption Number in securing such materials.

The Contractor shall be responsible for payment of its own and its share of its employees' payroll, payroll taxes, and benefits with respect to this Contract.

Article VIII – Insurance Requirements.

A. Contractor shall carry at least the following minimum insurance coverage limits and upon request of the City, shall provide proof of same.

1. Commercial General Liability: CONTRACTOR shall maintain Commercial General Liability at a limit of liability not less than $1,000,000 Each Occurrence. Coverage shall not contain any endorsement(s) excluding nor limiting Premises/Operations, Personal Injury, Product/Completed Operations, Contractual Liability, Severability of Interests or Cross Liability.

2. Business Automobile Liability: Contractor shall maintain Business Automobile Liability at a limit of liability not less than $1,000,000 Each Occurrence. Coverage shall include Liability and Physical Damage coverage (comprehensive and collision coverage) for all automobiles in the care custody and control of Contractor and being utilized for the fulfillment of this Agreement.

3. Worker's Compensation Insurance & Employers Liability: Contractor agrees to maintain Worker's Compensation Insurance & Employers Liability in accordance with Texas Statute Chapter 406

B. Contractor shall make sure that all subcontractors or third parties utilized for the fulfillment of this Agreement shall carry the equivalent insurance limits.

Article IX – Successors and Assigns.

Contractor binds itself and its partners, successors, executors, administrators and assigns to the other party to this Contract and to the partners, successors, executors, administrators and assigns of such other party, in respect to all covenants of this Contract. Neither the City or the Contractor shall assign, sublet, convey, or transfer its interest in this Contract, without the prior written consent of the other. Consent to the assignment may be withheld for any reason or no reason at all. In the event the City renegotiates its agreement with Uber or a third party for continuation of the Kyle 3.14 program, this agreement shall automatically append and become subservient to said agreement. Maruti shall then become a subcontracted party to the master rideshare agreement, and this Contract for Kyle, Texas 3.14 ADA program shall become an exhibit to said agreement. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of the City, nor shall it be construed as giving any rights or benefits hereunder to anyone other than the City and the Contractor.

Article X - Remedies.

This Contract shall be governed by the laws of the State of Texas. Any and all legal action necessary to enforce the Contract will be held in Hays County, Texas or any other jurisdiction or venue chosen by Contractor. No remedy herein conferred upon any party is intended to be exclusive of any other remedy, and each and every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder now or hereafter existing at law, or in equity, by statute or otherwise. No single or partial exercise by any party of any right, power, or remedy hereunder shall preclude any other or further exercise thereof.

Article XI – Conflict of Interest.

The Contractor represents that it presently has no interest and shall acquire no interest, either direct or indirect, which would conflict in any manner with the performance or services required hereunder,. The Contractor further represents that no person having any known conflict of interest shall be employed for said performance or services.

The Contractor shall promptly notify the City's representative, in writing, by certified mail, of all potential conflicts of interest for any prospective business association, interest or other

circumstance which may influence, or appear to influence, the Contractor's judgment or quality of services being provided hereunder. Such written notification shall identify the prospective business association, interest or circumstance, the nature of work that the Contractor may undertake and request an opinion of the City as to whether the association, interest or circumstance would, in the opinion of the City, constitute a conflict of interest if entered into by the Contractor. The City agrees to notify the Contractor of its opinion by certified mail within thirty (30) days of receipt of notification by the Contractor. If, in the opinion of the City, the prospective business association, interest or circumstance would not constitute a conflict of interest by the Contractor the City shall so state in the notification and the Contractor shall, at its option, enter into said association, interest or circumstance and it shall be deemed not in conflict of interest with respect to services provided to the City by the Contractor under the terms of this Contract.

ARTICLE XII – Independent Contractor Relationship.

A. The Contractor is, and shall be, in the performance of all work, services, and activities under this Agreement, an Independent Contractor and not an employee, agent, or servant of the City. All persons engaged in any of the work or services performed pursuant to this Agreement shall at all times, and in all places, be subject to the Contractor's sole and full direction, supervision, and control. The Contractor shall exercise control over the means and manner in which it and its employees perform the work, and in all respects the Contractor's relationship, and the relationship of its employees, to the City shall be that of an Independent Contractor and not as employees or agents of the City.

B. The Contractor does not have the power or authority to bind the City in any promise, agreement, or representation other than specifically provided for in this Contract.

C. Contractor affirmatively acknowledges and represents that it, in the performance of this Agreement and consistent with its terms and conditions will select, hire, train, place, supervise, discipline, terminate, compensate and reward its employees; that it has determined the manner and materials by which it will perform the work, including the site from which the work will be performed; and that the facility and materials that it will utilize to perform the work will be owned, leased and controlled by it and under its care and control.

Article XIII – Nondiscrimination.

Contractor warrants and represents that all of its employees are treated equally during employment without regard to race, color, religion, disability, gender, age, national origin, ancestry, marital status, familial status, sexual orientation, gender identity and expression or genetic information.

Article XIV – Severability.

If any term or provision under this Agreement or application thereof to any person or circumstances shall, to any extent, be held invalid or unenforceable, the remainder of this Agreement, or the application of such terms or provision to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected, to every extent permitted by law.

Article XV– Modifications.

Any modifications to the terms of this Agreement shall only be made upon mutual agreement of Contractor and City and shall only be valid if made in writing with the same formalities as in this Agreement.

Article XVI – Notice.

All notices required pursuant to this Agreement shall be sent by certified mail return receipt requested to the representative/liaisons herein identified or identified in any subsequent writing.

Article XVII – Entirety of Contractual Agreement.

The City and the Contractor agree that this Agreement sets forth the entire agreement between the parties, and that there are no promises or understandings other than those stated herein. None of the provisions, terms, and conditions contained in this Agreement may be added to, modified, superseded, or otherwise altered, except by written instrument executed by the parties hereto in accordance with Article 17 herein.

Article XVIII – Regulations.

The Contractor shall comply with all laws, ordinances and regulations applicable to the services contemplated herein, to include those applicable to conflict of interest and collusion. Contractor is presumed to be familiar with all federal, state and local laws, ordinances, codes and regulations that may in any way affect the services offered.

A. Additional terms to be complied with are on Exhibit "A" attached hereto and incorporated herein for all purposes.

B. Scope of Services to be complied with are on Exhibit "B" attached hereto and incorporated herein for all purposes.

IN WITNESS WHEREOF, the City and the Contractor have executed this Contract Amendment on the day and year herein written.

WITNESS MARUTI TRANSPORTATION GROUP, INC.	WITNESS CITY OF KYLE, TEXAS
_____	_____
Signature	Signature
_____	_____
Name (type or print)	Name (type or print)
_____	_____
Title	Title

EXHIBIT "A"

ADDITIONAL PROVISIONS

A. *No Prohibited Countries.* To the extent the Agreement or this Addendum constitute a governmental contract for. Critical infrastructure, and solely for purposes of compliance with Chapter 2274 of the Texas Government Code, and except to the extent otherwise required by applicable federal law, Contractor represents that Contractor is not owned or controlled by citizens, or Governments of Prohibited Countries, and is not headquartered in Prohibited Countries. The Term "Prohibited Countries" includes China, Iran, North Korea, Russia and another company designated by the Governor of Texas a threat to critical infrastructure

B. *Iran, Sudan and Foreign Terrorist Organizations.* To the extent the Agreement or this Addendum constitute a governmental contract within the meaning of Section 2252.151 of the Texas Government Code, as amended, solely for purposes of compliance with Chapter 2252 of the Texas Government Code, and except to the extent otherwise required by applicable federal law, Contractor represents that Contractor nor any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of Contractor is a company listed by the Texas Comptroller of Public Accounts under Sections 2270.0201, or 2252.153 of the Texas Government Code

C. *Anti-Boycott Verification*. To the extent this Agreement constitutes a contract for goods or services within the meaning of Section 2270.002 of the Texas Government Code, as amended, solely for purposes of compliance with Chapter 2270 of the Texas Government Code, and subject to applicable Federal law, Owner represents that neither Owner nor any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of Owner (i) boycotts Israel or (ii) will boycott Israel through the term of this Agreement. The terms "boycotts Israel" and "boycott Israel" as used in this paragraph have the meanings assigned to the term "boycott Israel" in Section 808.001 of the Texas Government Code, as amended.

D. *Verification under Chapter 2252, Texas Government Code*. To the extent this Agreement constitute a governmental contract within the meaning of Section 2252.151 of the Texas Government Code, as amended, solely for purposes of compliance with Chapter 2252 of the Texas Government Code, and except to the extent otherwise required by applicable federal law, Owner represents that Owner nor any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of Owner is a company listed by the Texas Comptroller of Public Accounts under Sections 2270.0201, or 2252.153 of the Texas Government Code.

E. *No Discrimination Against Fossil-Fuel Companies*. To the extent this Agreement constitutes a contract for goods or services for which a written verification is required under Section 2274.002 (as added by Senate Bill 13 in the 87th Texas Legislature, Regular Session), Texas Government Code, as amended, the Owner hereby verifies that it and its parent company, wholly- or majority-owned subsidiaries, and other affiliates, if any, do

not boycott energy companies and will not boycott energy companies during the term of this Agreement. The foregoing verification is made solely to enable the City to comply with such Section and to the extent such Section does not contravene applicable Texas or federal law. As used in the foregoing verification, "boycott energy companies" shall mean, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company (a) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or (b) does business with a company described by (a) above.

F. *No Discrimination Against Firearm Entities and Firearm Trade Associations*. To the extent this Agreement constitutes a contract for goods or services for which a written verification is required under Section 2274.002 (as added by Senate Bill 19 in the 87th Texas Legislature, Regular Session), Texas Government Code, as amended, the Owner hereby verifies that it and its parent company, wholly- or majority-owned subsidiaries, and other affiliates, if any, do not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of this Agreement against a firearm entity or firearm trade association. The foregoing verification is made solely to enable the City to comply with such Section and to the extent such Section does not contravene applicable Texas or federal law. As used in the foregoing verification, (a) 'discriminate against a firearm entity or firearm trade association' means, with respect to the firearm entity or firearm trade association, to: (i) refuse to engage in the trade of any goods or services with the firearm entity or firearm trade association based solely on its status as a firearm entity or firearm trade association, (ii) refrain from continuing an existing business relationship with the firearm entity or firearm trade association based solely on its status as a firearm entity or firearm trade association, or (iii) terminate an existing business relationship with the firearm entity or firearm trade association based solely on its status as a firearm entity or firearm trade association; and (b) does not include (i) the established policies of a merchant, retail seller, or platform that restrict or prohibit the listing or selling of ammunition, firearms, or firearm accessories and (ii) a company's refusal to engage in the trade of any goods or services, decision to refrain from continuing an existing business relationship, or decision to terminate an existing business relationship (A) to comply with federal, state, or local law, policy, or regulations or a directive by a regulatory agency or (B) for any traditional business reason that is specific to the customer or potential customer and not based solely on an entity's or association's status as a firearm entity or firearm trade association. As used in the foregoing verification, (a) 'firearm entity' means a manufacturer, distributor, wholesaler, supplier, or retailer of firearms (i.e., weapons that expel projectiles by the action of explosive or expanding gases), firearm accessories (i.e., devices specifically designed or adapted to enable an individual to wear, carry, store, or mount a firearm on the individual or on a conveyance and items used in conjunction with or mounted on a firearm that are not essential to the basic function of the firearm, including detachable firearm

magazines), or ammunition (i.e., a loaded cartridge case, primer, bullet, or propellant powder with or without a projectile) or a sport shooting range (as defined by Section 250.001, Texas Local Government Code); and (b) 'firearm trade association' means a person, corporation, unincorporated association, federation, business league, or business organization that: (i) is not organized or operated for profit (and none of the net earnings of which insures to the benefit of any private shareholder or individual), (ii) has two or more firearm entities as members, and (iii) is exempt from federal income taxation under Section 501(a), Internal Revenue Code of 1986, as an organization described by Section 501(c) of that code.

EXHIBIT "B"

SCOPE OF SERVICES

Current Program	Program Additions
Service hours 6 AM – 7 PM	Service hours 6 AM – 9 PM 24/7 Access with After Hours Service
No weekends	Weekend Transportation Provided
No project management team	Provide Customer Service Management for Uber For Business Dashboard and Kyle 3.14 Maintenance
Compliance management	Ensure program reporting, integration, and voucher distribution meets all Title II ADA Act compliance standards
No vehicle branding	Provide City of Kyle with Kyle 3.14 branding options for vehicles
Vehicle Program Scalability	Provide additional paratransit vehicles to fleet with increased demand to meet all compliance standards, including response times.
Transportation Scheduling	Expand dispatching capability to allow for after hours and weekend scheduling

CITY OF KYLE, TEXAS

Amending Alcoholic Beverage Fees and Penalties

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: *(First Reading)* An Ordinance of the City of Kyle, Texas Repealing Article II. Alcoholic Beverages Division 2. Permits and Licenses Sections 11-42 License and Permit Fees, 11-43 Payment of Fees, and 11-44 Review and Recommendation; Amending 11-47 Violations and Penalties; Repealing 11-53; Providing Open Meeting Clauses; Providing an Effective Date; and Providing for Related Matters. ~ *Paige Saenz, City Attorney*

City Council voted 5-2 to deny fees associated with Alcoholic Beverage Permits and Applications on 2/7/2023.

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description
Ordinance Repealing Alcoholic Beverage Permit Fees

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF KYLE, TEXAS REPEALING ARTICLE II. ALCOHOLIC BEVERAGES DIVISION 2. PERMITS AND LICENSES SECTIONS 11-42 LICENSE AND PERMIT FEES, 11-43 PAYMENT OF FEES, AND 11-44 REVIEW AND RECOMMENDATION; AMENDING 11-47 VIOLATIONS AND PENALTIES; REPEALING 11-53; PROVIDING OPEN MEETING CLAUSES; PROVIDING AN EFFECTIVE DATE; AND PROVIDING FOR RELATED MATTERS.

WHEREAS, the City Council finds it in the best interest of the City to refrain from charging TABC Permit and License fees; and

WHEREAS, the City's Police Chief does not make recommendations regarding TABC Permitting and Licensing to TABC on behalf of the City of Kyle;

NOW, THEREFORE BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS, THAT:

Section 1. Findings of Fact. The above and foregoing recitals are hereby found to be true and correct and are incorporated herein as findings of fact.

Section 2. Repealed. Article II. Alcoholic Beverages Division. 2. Permits and Licenses. Sections 11-42 License and Permit Fees, 11-43 Payment of Fees, and 11-44 Review and Recommendation, and 11-53 Permit Fees are repealed and can be listed as Reserved.

Section 3. Amendment to Section 11-47 Violations and Penalties. Section 11-47 Violations and Penalties is hereby amended in its entirety to read as follows:

> A violation of this division is a violation of the Texas Alcoholic Beverage Code and subject to the penalties provided for thereunder.

Section 4. Severability. If any provision of this ordinance or the application of any provision to any person or circumstance is held invalid, the invalidity shall not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end the provisions of this ordinance are declared to be severable.

Section 5. Repeal of Conflicting Ordinances. All ordinances or parts thereof conflicting or inconsistent with the provisions of this ordinance as adopted and amended herein, are hereby amended to the extent of such conflict. In the event of a conflict or inconsistency between this ordinance and any other code or ordinance of the City, the terms and provisions of this ordinance shall govern.

Section 6. Effective Date. This ordinance shall take effect immediately from and after its passage and publication in the manner set forth in and required by the Local Gov't Code.

Section 7. Open Meetings. That it is hereby officially found and determined that the meeting at which this ordinance is passed was open to the public as required and that public notice of the time, place, and purpose of said meeting was given as required by the Open Meetings Act, Chapt. 551, Loc. Gov't. Code.

PASSED AND APPROVED on this the _____ day of _____, 2023.

FINALLY PASSED AND APPROVED on this the ____ day of _____, 2023.

The City of Kyle, Texas

ATTEST:

_____
Travis Mitchell, Mayor

_____
Jennifer Kirkland, City Secretary

CITY OF KYLE, TEXAS

Proposition F Police Department Oversight

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Discussion and possible action regarding the 2020 Prop F Ordinance presented to Council on June 15, 2021, referencing the 2020 Prop F bond language, to include but not limited to, creating a committee name, requirements for a committee seat selection and committee mission statement. ~ *Yvonne Flores-Cale, Council Member and Michael Tobias, Mayor Pro Tem*

Other Information: 2020 Prop F- "Shall Article VII, Section 7.06 of the City Charter be amended to provide that police department procedures and policies shall be subject to review and modification by the City Council, to require the Police Chief to provide the City Council with an annual report about police department operations, and to provide for the City Council to establish a committee with oversight over standard operating policies and strategies, data sharing, and use of resources of the police department for the purpose of promoting public safety, transparency, and crime reduction through community policing models?"

City Of Kyle Charter Section 7.06:
https://library.municode.com/tx/kyle/codes/code_of_ordinances?nodeId=PTICH_ARTVIIADSE_S7.06PODE

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

No Attachments Available

CITY OF KYLE, TEXAS

Trails Committee

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Resolution for Establishing a City of Kyle Trails Committee. ~ *Mariana Espinoza, Director of Parks & Recreation*

Parks and Recreation Board voted 7-0 to recommend this committee.

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

- Trails Resolution 2023

RESOLUTION NO. _____

A RESOLUTION ESTABLISHING A TRAILS COMMITTEE

WHEREAS, The City of Kyle currently has over 10 miles of nature trail; and

WHEREAS, the City Wide Trails Master Plan was revised in 2021 to include the VYBE trail; and

WHEREAS, the City of Kyle 2020 Park Bond that passed includes $2 M in improvements to the Plum Creek recreational trail east of I-35.

WHEREAS, the City of Kyle entered into an interlocal agreement with Hays County July 10, 2022 that includes $2 M matching funds for the Plum Creek recreational trail east of I-35; and

WHEREAS, the Parks and Recreation Board voted 7-0 to recommend reforming a trails committee that includes citizens; and

WHEREAS, the trails committee's purpose is to provide input on trail improvements and trail planning; and

WHEREAS, the trails committee will meet monthly March 2023-March 2024; and

WHEREAS, the trails committee duties include providing recommendations and input regarding the City of Kyle trail system:

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS, THAT:

The City of Kyle hereby recognizes the Keep Kyle Beautiful Committee and directs that the official committee reports to the City of Kyle.

This resolution shall be in full force and effect from and after its adoption.

PASSED AND ADOPTED this _____ day of _____, 2023.

THE CITY OF KYLE, TEXAS

_____
Travis Mitchell, Mayor

ATTEST:

_____
Jennifer Kirkland, City Secretary

CITY OF KYLE, TEXAS

Keep Kyle Beautiful Committee

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Resolution for Establishing a City of Kyle Keep Kyle Beautiful Committee. ~ *Mariana Espinoza, Director of Parks & Recreation*

Parks and Recreation Board voted 7-0 to recommend this committee.

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

- Keep Kyle Beautiful Resolution
- Keep Texas Beautiful Program Results

RESOLUTION NO. _____

A RESOLUTION SUPPORTING THE KEEP TEXAS BEAUTIFUL, INC. ORGANIZATION IN THE CITY OF KYLE AND ESTABLISHING A KEEP KYLE BEAUTIFUL COMMITTEE.

WHEREAS, the City of Kyle desires to improve the physical and mental health as well as the health of our communities; and

WHEREAS, there are many wellness benefits associated with being outside in natural green spaces.

WHEREAS, greenspaces including parks and trails offer significant benefits to conservation and improve air and water quality as well as protect plants and animal species, and

WHEREAS, being outdoors serves as a venue to come together with friends and family and connect with the larger community.

WHEREAS, a clean environment contributes to the emotional, physical, and economic well-being of our citizens; and

WHEREAS, studies haves shown that being in nature can restore and strengthen our mental capacities, increasing focus and attention.

WHEREAS, cleaning and greening have been shown to reduce overall neighborhood crime and feelings of depression; and

WHEREAS, research has shown that within neighborhoods with greening initiatives people tend to have better positive attitudes and relationships with neighbors; and

WHEREAS, the Affiliate Program, developed by Keep Texas Beautiful, Inc. will assist greatly in reducing the improper handling of waste, and thereby reduce litter and increase solid waste management activities; and

WHEREAS, the Keep Kyle Beautiful program is a goal of the city's overall beautification efforts:

WHEREAS, the Parks and Recreation Board voted 7-0 to recommend approval of a Keep Texas Beautiful Committee; and

WHEREAS, the purpose of the Keep Kyle Beautiful Committee is provide recommendation regarding the operations of the Keep Kyle Beautiful program; and

WHEREAS, the Keep Kyle Beautiful Committee will meet monthly beginning April 2023; and

WHEREAS, the duties of the Keep Kyle Beautiful Committee include assisting with coordinating and leading Keep Kyle Beautiful events, and meeting all program requirements of the Keep Texas Beautiful Program.

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS, THAT:

The City of Kyle fully endorses the Keep Texas Beautiful organization and supports the City's participation with Keep Texas Beautiful, Inc., and

The City of Kyle hereby recognizes the Keep Kyle Beautiful Committee and directs that the official committee is the City of Kyle's Parks and Recreation Board.

This resolution shall be in full force and effect from and after its adoption.

PASSED AND ADOPTED this _____ day of _____, 2023.

THE CITY OF KYLE, TEXAS

_____
Travis Mitchell, Mayor

ATTEST:

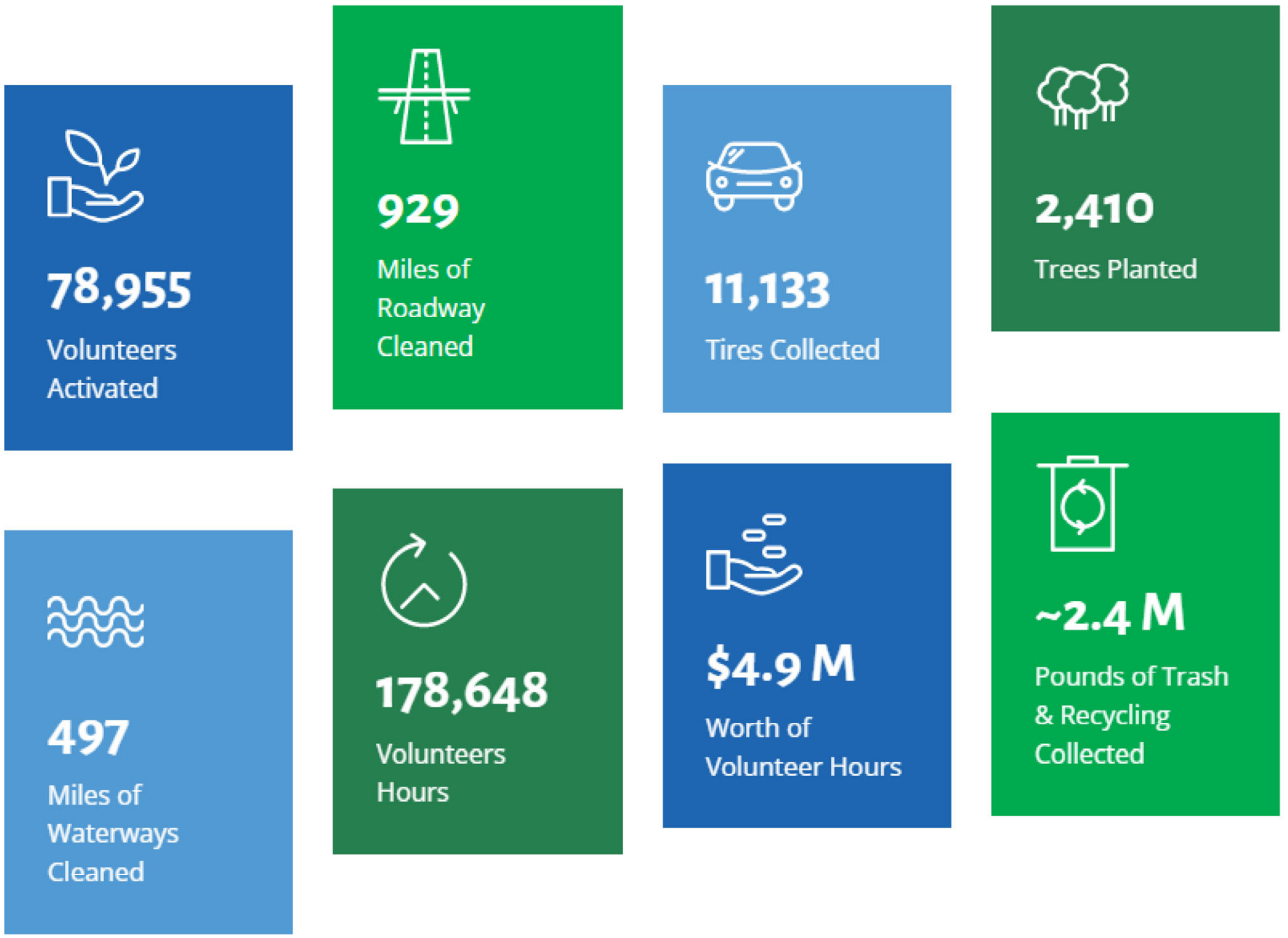
_____
Jennifer Kirkland, City Secretary

2022 RESULTS

Great American Cleanup & Fall Sweep

Our programs address beautification, litter prevention, waste reduction, recycling and more. There are many ways to volunteer and make an impact. With the support of our community we can make a real difference for generations to come.

OUR PROGRAMS



CITY OF KYLE, TEXAS

Community Gardens Committee

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Resolution for Establishing a City of Kyle Community Gardens Committee. ~ *Mariana Espinoza, Director of Parks & Recreation*

Parks and Recreation Board voted 5-0 to recommend this committee.

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

	Description
🗋	Community Gardens Committee Resolution

RESOLUTION NO. _____

A RESOLUTION ESTABLISHING A COMMUNITY GARDENS COMMITTEE

WHEREAS, The City of Kyle desires to install a community garden at Post Oak Park; and

WHEREAS, community gardens are a valuable resource to the City of Kyle and its residents; and

WHEREAS, community gardens are a great way for residents to become involved in the community; and

WHEREAS, the community garden committee's purpose is to organize the planning, implementation, and maintenance of the City of Kyle's Community Gardens.

WHEREAS, the duties of the community garden committee include participating in meetings to provide input regarding the operations of the gardens including establishing garden rules, securing volunteers and donations, and providing input on garden design.

WHEREAS, the community garden committee will meet monthly July 2023-July 2024.

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF KYLE, TEXAS, THAT:

The City of Kyle hereby recognizes the Community Gardens Committee and directs that the official committee reports to the City of Kyle.

This resolution shall be in full force and effect from and after its adoption.

PASSED AND ADOPTED this _____ day of _____, 2023.

THE CITY OF KYLE, TEXAS

_____
Travis Mitchell, Mayor

ATTEST:

_____
Jennifer Kirkland, City Secretary

CITY OF KYLE, TEXAS

Hays Caldwell Women's Center Funding

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Consider and possible action to direct staff to work with Hays Caldwell Women's Center to negotiate a contract for services provided to residents of Kyle on a yearly basis, and to identify funding sources that does not exceed $15,000 to fund services for the remainder of the Fiscal Year 2022-2023. ~ *Daniela Parsley and Bear Heiser, Council Members*

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

	Description
🗋	Kyle Stats FY22

In 2022, HCWC provided support to

460 Kyle Community Members face-to-face

ACCOUNTING FOR 20% OF ALL CLIENTS SERVED AT HCWC

157
Victims of Domestic Violence Served

80
Victims of Sexual Assault Served

299*
Victims of Child Abuse Served

*The most from any city in our two-county service area

24 Hour Hotline: 512.396.4357
www.HCWC.org
www.StopTheHurt.org

@hcwcenter

STOP THE HURT

HCWC
HAYS-CALDWELL WOMEN'S CENTER
Empowering Survivors Together

Number of clients served from Kyle in last 5 years:

FY'18 - **389** (18% of total)

FY'19 - **354** (18% of total)

FY'20 - **390** (19% of total)

FY'21 - **446** (23% of total)

FY'22 - **460** (20% of total)

Funding Received from Kyle

FY'11 - **$6,000**

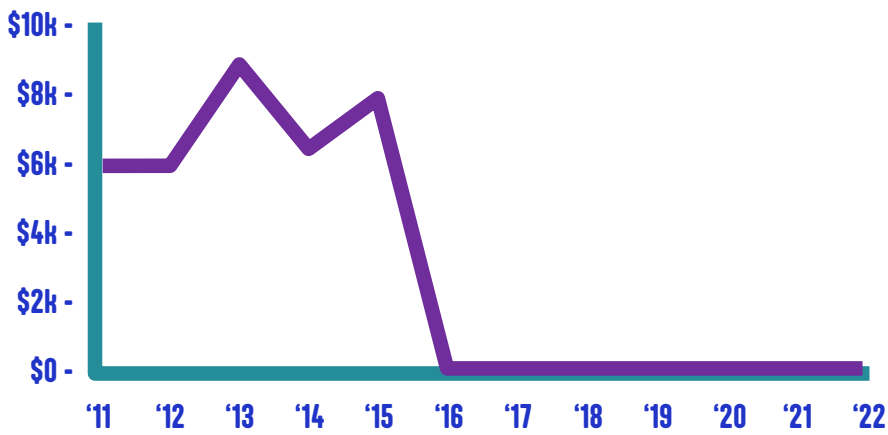
FY'12 - **$6,000**

FY'13 - **$9,000**

FY'14 - **$6,500**

FY'15 - **$8,000**

Since FY'16: $0



FY'22 City / County Funding and Number of Residents Served at HCWC

City of Buda: **$5000 / 198 residents served**

City of Dripping Springs: **$7200 / 58 residents served**

City of Kyle: **$0 / 460 residents served**

City of Lockhart: **$5102 / 178 residents served**

City of San Marcos: **$168,510 / 697 residents served**

City of Wimberley: **$2000 / 42 residents served**

Caldwell County: **$1000 / 388 residents served**

Hays County: **$80,000 / 1526 residents served**

CITY OF KYLE, TEXAS

Police Take-Home Vehicle Program

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Consider and possible action to approve a Take-Home Vehicle Program and related policy for the Police Department and to direct the Interim City Manager to implement the take-home vehicle program for all sworn police officers in phases as part of the future budgets of the Police Department. *~ Bear Heiser and Daniela Parsley, Council Members*

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description
7.18 KPD Take Home Vehicle Policy Revised 28Feb23

GENERAL ORDER Kyle Police Department	Effective: 02-01-13	**Chapter 7.18**
	Section: Field Operations Issues	Subject: **Take Home Vehicles**
	Approved: ___DRAFT VERSION___ Chief of Police	
	Revised: 02-28-23	

I. PURPOSE

The take home vehicle program serves to maintain the effectiveness and efficiency of the Department by allowing personnel to rapidly respond to situations involving the health, safety, or welfare of the community. This program also stands to create a sense of ownership and increased responsibility to offset the cost of fleet maintenance as well as an increase in a public sense of law enforcement presence for criminal deterrence.

The take home vehicle program is a privilege intended for responsible officers and is not a right for all officers.

II. POLICY

It is the policy of the Kyle Police Department to base the distribution, assignment and use of vehicles on the needs of each function.

Take home vehicle assignments may be on a permanent or on-call basis. Only personnel approved through the guidelines of this General Order may utilize take home vehicles.

III. ASSIGNMENT AND USE OF DEPARTMENT TAKE HOME VEHICLES

A. Take home vehicle assignments will be determined by the Chief of Police or his designee. The Department will maintain a list of assignments authorized to have permanent and on-call take home vehicles.

B. **Eligibility** – Police officers of any rank who reside within the city limits of Kyle or within a ~~ten~~ twenty-mile radius of the city limits of Kyle are eligible for consideration to have a unit assigned to him/her as a take home vehicle. Police Officers living outside of the ~~ten~~ twenty-mile radius may be considered for a take home vehicle upon the recommendation from the Chief of Police and approval of the City Manager, in accordance with City policy.

The Chief of Police or his designee will consider the officer's current assignment, the needs of that assignment as well as the following the following factors:

1. Availability of marked units - The primary mission of responding to calls for service and other department functions take precedence.

2. Seniority/Rank of the Officer - More senior/ranking officers will be given precedence unless the other factors in this section dictate a need to deviate.

3. Officer's driving record, work performance, and discipline history.

4. Officer's willingness to participate in the vehicle take home program, as this is not a mandatory program.

DRAFT

5. Sergeants may recall an officer's assignment/usage of a take home vehicle at any time for violations of Policy concerning the assignment/usage or due to a pressing need to return the vehicle to general use in the fleet.

    a. If a Sergeant suspends an assignment, he/she will immediately report this to the Captain. Captain will make a determination on the matter and report this to the Chief of Police. The Fleet Manager will also be notified of outcome/action.

C. **Vehicle Repair and Maintenance** – It is the responsibility of the officer assigned to a unit to keep up with vehicle maintenance and repairs.

1. The Fleet Manager or a supervisor may recall the vehicle at any time.

    a. The assigned officer shall make arrangements to leave the vehicle at the Police Station upon this instruction, either by the officer's next shift immediately following the instruction or sooner if the assigned officer is called in to make the vehicle available.

2. Assigned officers will be responsible for the safe keeping of all equipment in the vehicle. Vehicle and/or equipment damage must be reported immediately to the officer's supervisor and the Fleet Manager.

3. When possible, the officer will perform maintenance tasks (oil change, car wash, etc) during his/her normal scheduled shift.

4. When the officer is not able to perform the needed task, he/she shall submit a Repair Request form to the Fleet Manager along with an email notifying him/her of the situation. (Not required but suggested to also send an email to the Fleet Manager advising of the situation)

5. If the vehicle needs to be left at the Police Station or other designated location, the officer shall make their own arrangements to get a ride from the Police Department. The vehicle shall be left at the Police Department at the time of a serious problem or at the end of their shift if a minor issue, with keys available and personal belongings removed from the vehicle.

6. Vehicles shall be kept clean and presentable. The officer should perform needed tasks during their shift.

7. Submissions for time spent maintaining an assigned vehicle outside of the officer's regular duty hours, must be preapproved in advance by the subjects direct supervisor and included in the current pay period.

D. Employees who have been assigned a take home vehicle will complete an initial Take Home Vehicle Authorization form before the employee utilizes the take home vehicle and then complete an updated form in December of each subsequent year.

1. Employees will submit the form to their immediate supervisor for chain-of-command review and assessment.

2. The chain-of-command will forward the form to Fleet Management upon completion of the review.

E. **Parking** – When a department vehicle is unattended or out of sight of the operator:

1. The vehicle should be turned off, when practical, and property secured by locking all doors and ensuring the windows are rolled up; and

2. The vehicle should be legally parked in a secure area, such as a garage or driveway. An apartment complex parking lot will be an exception where a garage or driveway is not available.

3. The vehicle may be legally parked on a public street, in front of or in close proximity of the Officer's residence for a temporary/short period of time.

4. When the officer is off duty, the patrol rifle/shotgun may be left in the vehicle permitting the guns are locked in a device designed for specific gun lock use and permanently attached to the vehicle; otherwise they must be secured inside the officer's residence.

5. If an officer will not be at work for more than seven consecutive calendar days, the vehicle must be left at the Police Station parking lot on the officer's last shift, keys made available and personal items removed.

F. Use of vehicle

1. While off duty and/or traveling to/from work, an officer shall assist another officer, from any agency, or person in need of immediate assistance. An officer shall also intervene, on an appropriate level, in the witness of a felony offense. If an officer observes a situation that requires assistance of a non emergency situation, the officer shall, at a minimum, contact the appropriate agency dispatch center to summon the needed assistance.

2. No possession or transportation of alcoholic beverages, using a police vehicle, will be permitted unless in the performance of official duties.

3. While a vehicle is running, the in car radio must be on the Kyle Police Dispatch 1 channel for the officer to monitor.

4. While off duty, the take home vehicle may not be used for any personal purpose without prior approval.

    a. Stops made in direct travel to and from work will be permissible (for example stopping at the dry cleaners to pick up uniforms or stopping for food on your route).

5. The vehicle appearance may not be modified by stickers, decals, objects hanging from rearview mirror or any other items on the interior or exterior of the vehicle without prior approval from the Chief of Police or his designee.

6. The vehicle may be retrieved for use by another officer at any time. Anything left in the vehicle over night is subject to be left inside the Police Station. The officer taking the vehicle shall call the assigned officer on their work cell phone and leave a voicemail notifying the officer that they took the vehicle. (It is not mandatory but suggested to follow up with a email to you officer and the officer's supervisor as a courtesy)

7. The vehicle may be used to travel to and from an off duty assignment that is within the police department's jurisdiction. Approval for an assignment outside of the jurisdiction may be made on a case by case basis by the Chief of Police or his designee. If an officer is summoned on duty they must leave the secondary employment and travel straight to the police department in their take home vehicle.

CITY OF KYLE, TEXAS

Citizen and Volunteer of the Year Award

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Consider and Possible Action to Bring back the Citizen and Volunteer of the Year Award for City of Kyle. ~ *Miguel A. Zuniga PhD, Council Member*

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

No Attachments Available

CITY OF KYLE, TEXAS

Urban Tree Canopy

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Consider and Possible Action to increase Urban Tree Canopy "Green Infrastructure" throughout the City of Kyle. ~ *Miguel A. Zuniga PhD, Council Member*

Other Information:

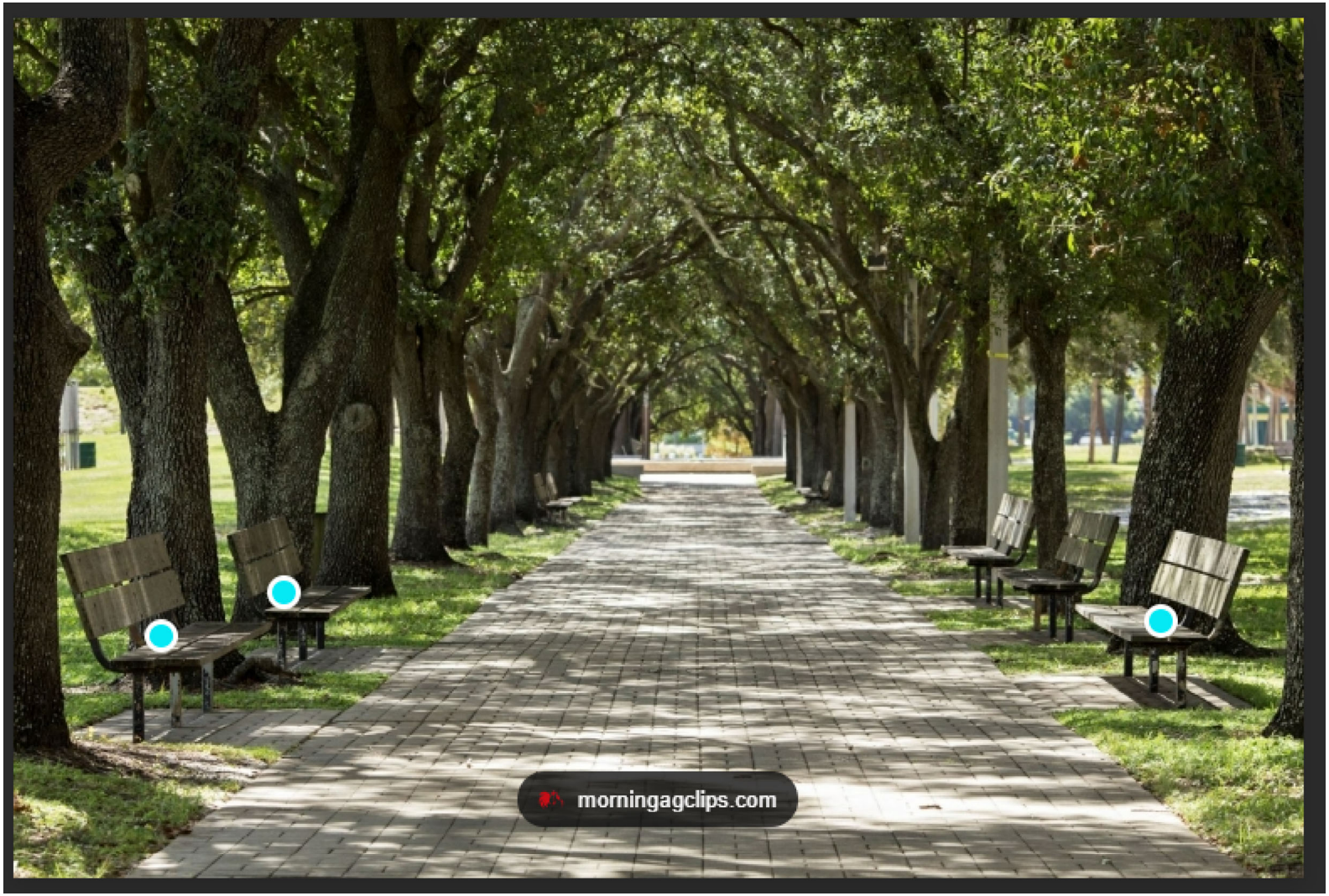
Legal Notes:

Budget Information:

ATTACHMENTS:

Description

- Urban tree canopy
- Tree canopy 2
- Tree Canopy Voucher Program



Item # 33

Item # 33

Root for Trees Application

CITY OF IOWA CITY
UNESCO CITY OF LITERATURE

Tree Voucher Details | Recommended Trees | Planting Trees in the Right-of-Way | Application

Tree vouchers are valid for 50% off the retail purchase price of one tree, up to a total cost savings of $125 (a $250 tree.) The purchaser will be responsible for any cost that exceeds this amount.
Delivery and installation costs may not be included in the 50% calculation of purchase price.

Trees obtained through this voucher program must be planted on the purchaser's private property. For residents wishing to plant their tree in the Right-of-Way, a no-fee permit will require City approval before purchasing the tree.

Vouchers are valid for Iowa City residents, only redeemable for one tree purchase, and limited to one tree per residential property.

Vouchers are valid from September 15, 2022 to May 15, 2023, while supplies last.

Maple and pear trees are not eligible for discount.

Contact Iowa One Call at least 72 hours prior to digging so that any utilities can be properly located. Call 811 or visit iowaonecall.com.

Voucher Redemption
Vouchers may be redeemed at these participating locations:

Earl May Garden Center
1901 Lower Muscatine Rd.
Iowa City, IA 52240

Iowa City Landscaping and Garden Center
520 Highway 1 W
Iowa City, IA 52246

Previous | Next

Save as Draft

The City is working to grow and expand our tree canopy coverage, as well as tree diversity. You can help by participating in the Root for Trees program. Fill out an application to receive a tree voucher and save on the purchase of a tree at participating Iowa City locations. Applicants are eligible to receive one tree voucher per property.

First Name *

Last Name *

Contact Information

Phone Number *

Email *

Address where the tree will be planted *

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country

USA

Do you rent or own this property? *

○ Rent ○ Own

Would you prefer to be considered for the income-eligible discount? *

If yes, your income eligibility will be verified for approval in order to receive a 90% discount.

○ Yes ○ No

Where do you intend to plant the new tree? *

○ Front yard
○ Side yard
○ Back yard
○ Right Of Way

Guidelines

- Must be a registered property owner in the City of Nanaimo;
- Property owners are limited to 2 vouchers per year;
- Not redeemable for cash;
- Redemption value not to exceed $90.00;
- Vouchers are not to be used to fulfill Tree Removal or Building Permit Requirements.
- All sales are final once vouchers are redeemed.

Voucher Tree Parameters

1. The trees can be either deciduous, evergreen, coniferous or fruit and nut trees and are required to achieve a diameter of 6cm or greater and height of 4.5m or greater at maturity.
2. Non-accepted Trees / Other: Hedges, palm tree varieties, invasive tree species (e.g. English holly or English hawthorn), dwarf trees, shrubs, annuals, perennials, standards, weeping varieties or other garden products are not accepted.
3. Western red cedar is not recommended (unless there is a good irrigation system in place) as this species does not do well over extended drought conditions. Leyland cypress can be utilized as an alternative to cedar as it is a hardy species tolerant to a range of environmental conditions (just not in hedge form). Arbutus trees are also not recommended as they have a notoriously high mortality rate when planted from a pot.
4. The nursery would have the best idea as to species suitability for your specific site conditions.

CITY OF KYLE, TEXAS

Offices to be located in the Public Safety Center

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Discussion and possible action regarding offices to be located in the Public Safety Center, including but not limited to Staff, City administration and City Council. ~ *Yvonne Flores-Cale, Council Member*

Other Information: 2020 Proposition A verbiage- **FOR or AGAINST:** The issuance of general obligation bonds in the principal amount not to exceed $37,000,000 for the purpose of planning, designing, constructing, improving and equipping of a public safety facility, specifically a new police station and emergency operations center; and the levy of a tax in payment thereof.

https://www.cityofkyle.com/bond

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

No Attachments Available

CITY OF KYLE, TEXAS

Executive Session - Convene

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Pursuant to Chapter 551, Texas Government Code, the City Council reserves the right to convene into Executive Session(s) from time to time as deemed necessary during this meeting. The City Council may convene into Executive Session pursuant to any lawful exception contained in Chapter 551 of the Texas Government Code including any or all of the following topics.

1. Pending or contemplated litigation or to seek the advice of the City Attorney and Attorneys concerning legal issues pursuant to Section 551.071, Texas Government Code, and Section 1.05, Texas Disciplinary Rules of Professional Conduct for the following matters:
    - Opioid Settlements Negotiated by the Texas Attorney General
    - Reinvestment Zone Number Four (TIRZ #4)
2. Possible purchase, exchange, lease, or value of real estate pursuant to Section 551.072 to deliberate the purchase of real property for public purpose.
3. Personnel matters pursuant to Section 551.074.
4. Convene into executive session pursuant to Section 551.087, Texas Government Code, to deliberate regarding the offer of economic incentives to one or more business prospects that the City seeks to have locate, stay, or expand in or near the City.
    - Project Midnight Blue
    - Project Sendero

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

No Attachments Available

CITY OF KYLE, TEXAS

Reconvene

Meeting Date: 3/7/2023
Date time:7:00 PM

Subject/Recommendation: Take action on items discussed in Executive Session.

Other Information:

Legal Notes:

Budget Information:

ATTACHMENTS:

Description

No Attachments Available