

WORK AUTHORIZATION

WORK AUTHORIZATION NO. 1

PROJECT: REALIGNMENTS AT SH 21 (SCHEMATIC)

This Work Authorization is made pursuant to the terms and conditions of the Caldwell County Contract for Engineering Services, being dated _____, 2025 and entered into by and between Caldwell County, Texas, a political subdivision of the State of Texas, (the "County") and HDR Engineering, Inc. (the "Engineer").

Part 1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is \$1,164,069.18.

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on January 31, 2027. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

ENGINEER:

HDR Engineering, Inc.

By: 
Signature

Digitally signed by Word,
Justin
Date: 2025.10.20
14:19:00 -05'00'

Justin Word, P.E.
Printed Name

Sr. Vice President
Title

10/20/2025
Date

COUNTY:

Caldwell County, Texas

By: _____
Signature

Hoppy Haden
Printed Name

County Judge
Title

Date

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

APPROVED

By Maria Castanon at 8:29 am, Nov 03, 2025

ATTACHMENT A
SERVICES TO BE PROVIDED BY THE COUNTY
FOR REALIGNMENTS AT SH 21
(SCHEMATIC)

In general, Caldwell County and its representatives to their best efforts will render services as follows:

1. Name, business address and phone number of County's project manager.
2. Assistance to the Engineer, as necessary, with obtaining data and information from other local, regional, State and Federal agencies required for this project.
3. Obtain Rights of Entry from landowners that are unwilling to grant access to the Engineer after receiving two written requests
4. Provide Title Commitment documents to surveyor prior to completion of metes and bounds documents necessary for right of way acquisition.
5. Provide available appropriate County data on file, plans and specifications that are deemed pertinent to the completion of the work required by the scope of services (including previous hydraulic studies, models, previous reports and studies, available existing traffic counts, and design year traffic projections).
6. Provide available criteria and full information as to the client's requirements for the project. Provide examples of acceptable format for the required deliverables.
7. Provide information on any meetings/discussions held with adjoining property owners that may impact the project.
8. Provide timely reviews and decisions necessary for the Engineer to maintain the project work schedule. Review recommendations offered by the Engineer, progress of work, and final acceptance of all documents.
9. Submittal of documentation and permits to regulatory agencies for review and comment, when specified.
10. Support project development efforts with stakeholders, coordinate meetings and interface with stakeholders, as needed.
11. Provide a summary of prior communications with impacted landowners, related to this project.

12. Post and maintain project information for public consumption on the County website.
13. Assist with Coordination between the Engineer and the County's other Consultants.
14. Negotiate with all utility companies for any agreements and/or relocations required.
15. Provide an agent as necessary to secure proposed ROW/easements and relocate/remove improvements on proposed ROW.
16. Provide construction observation and review contractor pay applications and progress.
17. Provide Engineer with Contractor submittals, Requests for Information (RFI's), shop drawings, and correspondence.
18. Review Engineer's progress, submittals, and plan changes.

ATTACHMENT B
SERVICES TO BE PROVIDED BY THE ENGINEER
FOR REALIGNMENTS AT SH 21
(SCHEMATIC)

PROJECT DESCRIPTION

Project Type & Limits

Schematic: SH 21 to FM 2720 (0.87 miles) – FM 2720

Schematic: SH 21 to Misty Drive (0.25 miles) – Rocky Road

Schematic: SH 21 to Schuelke Road (0.27 miles) – Schuelke Road

Schematic: SH 21 to Holz Lane (0.13 miles) – Holz Lane

Existing Facility

FM 2720: FM 2720 is an existing 2 lane undivided, asphalt paved roadway connecting to SH 21 at a four-way signalized intersection. The roadway has drainage ditches and no shoulders with approximately 80 ft typical existing ROW. There are several driveways tying into FM 2720 on the east approach of the signalized intersection.

Rocky Road: Rocky Road is an existing 2 lane undivided, asphalt paved roadway connecting to a feeder road that ties to SH 21 at a stop sign. The roadway has drainage ditches and no shoulders with approximately 50 ft existing ROW. The current intersection configuration for the existing tie-in to SH 21 is at an angle.

Schuelke Road: Schuelke Road is an existing 2 lane undivided, asphalt paved roadway connecting to SH 21 at a skew and is a stop-controlled T-intersection. The roadway has drainage ditches and no shoulders with approximately 50 ft existing ROW. Schuelke Road currently has a four-way intersection with SH 21.

Holz Lane: Holz Lane is an existing 2 lane undivided, asphalt paved roadway connecting to SH 21 at a skew and is a stop-controlled T-intersection. The roadway has drainage ditches and no shoulders with approximately 50 ft existing ROW.

Proposed Facility

FM 2720: The project proposes realigning FM 2720 to connect perpendicularly to SH 21 across from Grist Mill Road, spanning from SH 21 to FM 2720. The proposed roadway will feature 2 undivided lanes (with 4 lanes at the SH 21 intersection) with asphalt pavement and include drainage ditches and shoulders. The project is anticipated to stay within existing ROW for a portion of the alignment and will require ROW acquisition for the realigned portion. Special features planned for this realignment include a traffic signal at the SH 21 intersection.

Rocky Road: The project proposes realigning Rocky Road to connect perpendicularly to SH 21 across from an existing private driveway, spanning from SH 21 to Misty Drive. The proposed roadway will feature 2 undivided lanes (with 3 lanes at the SH 21 intersection) with asphalt pavement and include drainage ditches and shoulders. The project is anticipated to stay within existing ROW for a portion of the alignment and will require ROW acquisition for the realigned portion. Special features planned for this realignment include a traffic signal at the SH 21 intersection.

Schuelke Road: The project proposes realigning Schuelke Road to connect perpendicularly to SH 21, spanning from SH 21 to 0.27 miles east on Schuelke Road. The proposed roadway will feature 2 undivided lanes with asphalt pavement and include drainage ditches and shoulders. The project is anticipated to stay within existing ROW for a portion of the alignment and will require ROW acquisition for the realigned portion. Special features planned for this realignment include a three-way T-intersection tie-in with TxDOT's facility at SH 21.

Holz Lane: The project proposes realigning Holz Lane to connect perpendicularly to SH 21, spanning from SH 21 to Holz Lane. The proposed roadway will feature 2 undivided lanes with asphalt pavement and include drainage ditches and shoulders. The project will require ROW acquisition. Special features planned for this realignment include a three-way T-intersection tie-in with TxDOT's facility at SH 21.

Design Criteria

The proposed design criteria for the project will be developed from TxDOT design criteria manuals in association with Caldwell County Development Ordinances for Roadway and Drainage.

1. PROJECT MANAGEMENT

- a. Shall designate one Licensed Professional Engineer (Texas) to be responsible for the project management, and all communications with the County and its representatives.
- b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS (Fifteen [15] months assumed):
 - Submit monthly progress status reports to the GEC. Progress reports will include: deliverable table, tasks completed, tasks/objectives that are planned for the upcoming periods, lists or descriptions of items or decisions needed from the County and its representatives. Subconsultant progress will be incorporated

into the monthly progress report. A copy of the monthly progress report will be uploaded to the County's ProjectWise System.

- Prepare correspondence, invoices, and progress reports on a monthly basis in accordance with current County requirements.

c. QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PLAN:

- Prepare a project specific QA/QC plan and submit to the GEC within thirty (30) days of notice to proceed.
- For each deliverable, provide evidence of their internal review and mark-up of that deliverable as preparation for submittal and in accordance with submitted project specific QA/QC plan.
- Provide continuous QA/QC throughout the duration of the scheduled services included herein to appraise both technical and business performance and provide direction for project activities.

d. PROJECT COORDINATION & ADMINISTRATION:

- Prepare and maintain routine project record keeping including records of meetings and minutes.
- Correspondence and coordination will be handled through and with the concurrence of the GEC.
- Manage Project activities (including documenting emails, phone and conference calls, maintain project files for the length of the project, meeting agendas, meeting minutes, and schedule meetings), direct Engineer's team/staff, coordinate and review sub-consultant work, correspond with the County and its representatives, and assist the County and its representatives in preparing responses to Project-related inquiries.
- The Engineer shall utilize the County's document control system, ProjectWise, to maintain appropriate control of documentation and reporting. The Engineer shall maintain and upload complete and accurate records of design documents in County's File System, ProjectWise. This library will contain all pertinent Project documentation and will include, but is not limited to, copies of the following:
 - Agreements
 - Permits

- Reports
 - Design Submittals
 - Correspondence
 - Exhibits
 - Native Files
 - Meetings Minutes
 - Agendas
- All contract documents, including native files, shall be turned over to the County at each milestone and at the completion of the project or as requested. Documents shall be posted to the County's ProjectWise document control system.
- e. PROGRESS/COORDINATION MEETINGS (thirty-two [30] biweekly meetings assumed, two [2] external meetings assumed):
- Attend a kickoff meeting with the County and its representatives and stakeholders, as necessary to communicate development of the project and design issues.
 - Attend a biweekly meeting and coordination/progress meeting with the County and GEC, as necessary to communicate development of the project and design issues. Updates shall include activities completed, upcoming action items, activities required by next meeting, issues encountered, information or items required from other agencies/consultants, late activities, solutions for unresolved and/or anticipated problems with resolution timeframes, and any outstanding items needed to complete required deliverables.
 - Prepare agenda and sign-in sheets for external coordination/progress meetings.
 - Prepare meeting minutes for review via email within three (3) business days of the external coordination/progress meeting.
 - Conduct internal coordination meetings as required to advance the development of the project.
- f. PROJECT SCHEDULE:

- Baseline Schedule – Submit a CPM Baseline Schedule in calendar day (CD) format to the GEC for approval, using Microsoft Project in both pdf and native formats within 14 calendar days of the Work Authorization execution. This schedule should detail all work activities, including those by the County affecting the critical path. It shall outline the execution strategy, critical path, milestones, deliverables, and for each activity, its predecessors, successors, start and end dates, and float. Changes to schedule activities, durations, and dates require County consent, except for adjustments due to approved supplements or County-sanctioned project duration changes.
- Progress Schedule – Submit an updated Progress Schedule with each significant milestone and/or deliverable identified by the County, detailing actual work completion percentages, and incorporating all approved supplements. If the schedule deviates from the baseline, a recovery schedule approved by the County is required.

g. DELIVERABLES:

- Monthly Invoices and Progress Reports
- Project Specific QA/QC Plan
- QA/QC Documentation with Deliverables
- Project Files
- Meeting Minutes, Sign-In Sheets, and Agendas
- Baseline and Progress Schedules

2. ROUTE AND DESIGN STUDIES

a. DATA COLLECTION:

- Perform record research and obtaining existing information, including but not limited to: as-built plans, construction plans, right of way maps, existing planimetric maps, traffic data, crash data, environmental reports, studies, future land use maps, existing channel and drainage easement data, floodplain data, floodplain, bridge inspection records, existing utilities, available existing geotechnical data and reports, and drainage models and analyses. Obtain construction plans for projects within and adjoining the project limits and abutting TxDOT and County Roads. Obtain drainage studies, reports, and mapping for the project area, including reports for developments affecting the drainage area.

- Conduct a field investigation of the proposed roadway alignment and the surrounding area to determine field conditions including photographic record of notable existing features.
- Develop and maintain adjacent property ownership information (including owner's name, tenant name for leased property, mailing address, property address, property id number) spreadsheet to be used for disseminating project information.
- Review aerial photography and contours. Aerial photography and contours will be the basis for developing all constraints maps and route options.
- Obtain available existing traffic counts.
 - 24-hour turning movement counts, aggregated at 15-minute intervals, on a single work weekday, at the following intersections:
 - a. SH 21 at Grist Mill Rd
 - b. SH 21 at FM 2720
 - c. SH 21 at Old Spanish Trail
 - d. SH 21 at the Hays CISD Transportation driveway
 - e. SH 21 at Holz Ln
 - f. SH 21 at Schuelke Rd
 - 24-hour tube counts, aggregated at 15-minute intervals, on a single work weekday, at the following segments:
 - a. FM 2720, south of the realignment
 - b. Old Spanish Trail, southeast of SH 21
 - c. Holz Ln, south of the realignment
 - d. Schuelke Rd, south of the realignment
 - Up to two additional count locations as needed
- Obtain traffic impact analysis (TIA) reports from the County for upcoming developments (new school in Hays CISD along FM 2720, two data centers near FM 2720 at Bob White, and up to two other developments) to incorporate site traffic into the traffic analysis.

- Determine a growth rate as approved by the State, reroute and balance traffic at the realigned roadways to determine opening year and design year traffic volumes, and develop line diagrams with traffic projections for Build and No Build conditions. This does not include time for coordination and review with Transportation Planning and Programming (TPP).
- Review the data collected and organize the information.
- Perform a safety analysis utilizing State approved tools (Texas-specific safety performance functions spreadsheet tool) to ensure safety-driven decisions are taken into account during the project development and design process (Required for On-System and State or Federally funded projects). Safety analysis will be performed for up to six new/modified intersections along SH 21 and for roadway segments (SH 21 and the four realigned roadways) under opening and design year conditions.
- Evaluate and document traffic operations and safety for up to six new/modified intersections per TxDOT requirements, including but not limited to an intersection control evaluation (Cap-X/SPICE) for the opening year and design year and a historical intersection crash data analysis for the previous three years.
- Evaluate and document traffic signal warrant study (peak hour only) for up to five intersections along SH 21 under opening year and design year conditions.
- Analyze level-of-service at up to six intersections along SH 21. AM and PM peak hour analysis shall be done for the existing year, and the opening year and design year No-Build and Build scenarios. Conduct Synchro modeling of select intersection control types identified through the ICE analysis and signal warrant study to evaluate capacity, delay, and queue length concerns. Synchro models will be used to determine if additional turn lanes are needed at any of the approaches. Models will utilize optimized signal timings as needed to handle detoured traffic.
- Analysis of additional upcoming developments, phases of construction, intersections, or segments shall be covered with a supplemental.
- Review available published literature from the USDA NRCS Web Soil Survey and USGS Geologic Maps to obtain preliminary information regarding subsurface conditions in the area.

b. DESIGN CRITERIA:

- Submit a Design Summary Report (DSR) per TxDOT Roadway Design Manual and typical sections.
- c. CONSTRAINTS MAP (four [4] preliminary alignments assumed. One per location.):
- Develop evaluation criteria to assist in evaluating route alignment alternatives.
 - Develop a constraints map and technical memorandum that includes environmental concerns, known constraints (structures, floodplain, karst features), aerial photography, contour information, utility information, based on research of public databases and sources and details screening measures and decision practices for eliminating non-viable corridors.
 - Evaluate traffic growth patterns and generate traffic projections for the ultimate roadways for the opening year and design year.
 - Develop preliminary alignments and preliminary costs for use in soliciting input during coordination meetings with stakeholders.
 - Refine preliminary alignment based on stakeholder input, design criteria, existing structures, potential displacements, right of way limits and requirements, known developments, FEMA floodplain areas, existing and proposed drainage structures, and environmental constraints.
- d. DELIVERABLES:
- Results of Records Research
 - Property Owner Spreadsheets
 - Design Summary Report and Typical Sections
 - Traffic Analysis Technical Memorandum including:
 - Line Diagrams
 - Historical crash data analysis
 - Safety Analysis for intersections and roadway segments using Highway Safety Manual predictive methods
 - Intersection Control Evaluation (ICE) Report. One intersection alternative per intersection to be performed as part of this work authorization.
 - Traffic Signal Warrant Study

- Synchro results
- Responses to comments: Engineer shall address up to one (1) round of comments on the traffic analysis technical memorandum.
- Constraints Map with Preliminary Alignments, and right-of-way; and cost estimates and Technical Memorandums
- Constraints Map with Refined Alignment, and right-of-way; and cost estimate and Technical Memorandum Recommendation
- Preliminary flexible pavement sections.

3. PUBLIC INVOLVEMENT

- a. The Engineer will provide support to the County's public involvement provider effort. A database will be developed and maintained in Excel format which includes property owners directly impacted by right-of-way acquisitions.
- b. STAKEHOLDER COORDINATION (four [4] meetings assumed):
 - Participate in stakeholder coordination meetings with affected property owners.
 - Prepare exhibits and maps of the project limits for stakeholder coordination meetings.
 - One (1) person will attend stakeholder coordination meetings.
- c. PROPERTY OWNER MEETING SUPPORT (up to five [5] meetings assumed):
 - Prepare exhibits and maps of the project limits for property owner meetings.
 - Provide property owner exhibits identifying Parent tract (including area), Right-of-way acquisition (including parcel acquisition and remainder areas), and proposed improvements adjacent to the property as needed.
 - One (1) person will attend meetings as requested.
- d. PUBLIC MEETING/OPEN HOUSE (one [1] public meeting assumed):
 - Prepare exhibits for public viewing.
 - One (1) person will attend the Public Meeting/Open House.
- e. DELIVERABLES:
 - Stakeholder Meeting Exhibits and Maps
 - Property Owner Meeting Exhibits and Maps
 - Public Meeting Exhibits

4. RIGHT OF WAY (ROW) SUPPORT

- a. ROW MAP:
- Research and compile deed/plat records, including subdivision plats and existing easements, and build a working map from recorded data.
 - Calculate approximate search data to recover right of way monumentation and make initial pass to recover right of way monumentation.
 - Draft preliminary right of way map and list of impacted tracts.
- b. PARCEL ACQUISITION DOCUMENTS (seventeen [17] parcel documents assumed, seventeen [17] staking assumed):
- Upon approval of final schematic, prepare a right of way strip map.
 - Prepare draft parcel sketches and field note documents for right of way parcel and easement acquisition. Note any improvements requiring removal or relocation on parcel sketches and any improvements within 50' of proposed right of way shall be shown on the sketch. (Up to 17)
 - Set appropriate monumentation in accordance with County or TxDOT requirements as applicable. (Up to 68) Prepare signed and sealed documents for right of way parcel and easement acquisition. (Up to 17)
 - The surveyor shall provide a title letter addressing all encumbrances listed on the title commitment and a statement regarding which encumbrances apply to the acquisition area. (Title commitment will be provided to the County)
 - Survey (Metes and Bounds) Closure Reports shall be submitted at the time of delivery of the field note documents.
- c. ROW STAKING (seventeen [17] parcels assumed):
- Stake proposed right of way with suitable markers as requested on a parcel-by-parcel basis for the purposes of fence construction, utility installation, or property owner requests.
- d. DELIVERABLES:
- Preliminary ROW Map and affected property owner list (drawing file, pdf)
 - Final ROW Map and affected property owner list (drawing file, pdf)
 - Draft Parcel Acquisition Documents (field note documents) (pdf)
 - Final Parcel Acquisition Documents signed and sealed (field note documents) (pdf)
 - Survey Title Letter
 - Statement regarding encumbrances that apply to the acquisition area.
 - Closure Reports

5. SURVEYING

- a. RIGHT OF ENTRY (seventeen [17] parcels with three [3] letters per parcel assumed):
- Upon receiving approval from GEC, the Engineer will prepare for County signature and mail letters of introduction.
 - The Engineer will prepare and mail request for right of entry per the County's or TxDOT's standard, as applicable, for the project team. Right of Entry request will include access for survey, geotechnical, and environmental research. Send a second follow up letter to non-responsive property owners.
- b. FIELD SURVEYING:
- Survey the corridor area at approximately [100-foot sections] on either side of the proposed roadway centerline including identify existing landowners, deed recordation information, locate visible improvements and utilities including driveways, water wells, storage tanks, drainage structures (size, material, flowline elevations), edge of pavement/shoulder, physical centerline, guardrail, fences, signs, mailboxes, trees 12" inch diameter and greater, locate property boundaries sufficient to re-establish ROW.
 - The Surveyor shall acquire aerial LiDAR and orthophotography within the project limits for each intersection.
 - The aerial mapping shall meet the requirements for ASPRS Class 1 standard for 1"=50' scale mapping with a one-foot contour interval. The absolute accuracy of the mapping for well-defined features will be 0.17 feet for both Horizontal and Vertical. The relative accuracy of the data will be within 0.1 feet. The stated absolute accuracy will be tested utilizing a Root Mean Square Error (RMSE) method with a limiting RMSEz of 0.33 feet on open ground non-vegetated surface. Areas with tall grass, crops or dense vegetation may not meet the planned map accuracies. Orthophotos will be processed to have a 2-inch GSD for the entire project area along the corridor. The digital orthophotos will be mosaicked and checked to ensure color, tone, and contrast is optimized across the project area. Mosaic lines will be manually placed and hidden along linear features to avoid cutting through buildings and other above ground structures, and tiles. The Aerial Imagery will be used for interpretation and extraction of detailed planimetric features.
 - The Surveyor shall collect conventional on-the-ground surveying within the project limits once defined to supplement the aerial LiDAR. In such areas, SAM shall collect drainage structures (noting size, material, and flow line elevation), visibly utilities and visible evidence of underground utilities only, and any areas that were obscured from the aerial LiDAR's sensor field of view.

- The Surveyor shall merge and append the conventional design survey to the aerial LiDAR mapping data to create a seamless 2D planimetric and 3D DTM file.
- Establish horizontal and vertical control and set temporary benchmarks. (Up to 3 primary control points at each intersection)

c. DELIVERABLES:

- Certified Mail Letter of Introduction, Right of Entry Letters, Follow Up Letters, and Executed Right of Entry Documents.
- Mapping in 2-D and 3-D MicroStation Files (Surface)
- Pdf of Surveyor Project Notebook
- DTM of Proposed Corridor
- Ortho photo's

6. SCHEMATIC DEVELOPMENT

a. SCHEMATIC:

- Evaluate the existing SH 21, side street intersection, and driveways impacted by realigning the intersections. Provide recommendations for improvement and incorporate to schematic.
- Prepare final schematic submittal per Caldwell County or TxDOT submittal requirements, as applicable, and selected design criteria including proposed cross sections, typical sections, roadway centerline, proposed drainage structures, direction of flow and number of travel lanes, intersecting streets, property boundaries and information, ROW and easement locations, proposed pavement sections, driveway locations, horizontal alignment data, profile data, identification of known utilities, retaining walls, and bridge locations.

b. DELIVERABLES:

- Final Schematic Submittal including cost estimate per submittal requirements.
- Submit preliminary 1002 form
- Submit Preliminary Engineer Stage Gate Checklist
- Submit Design Exceptions, waivers, and variance
- Submit Draft Preliminary Engineering Summary Report
- Submit Final Preliminary Engineering Summary Report

7. DRAINAGE STUDY

a. HYDROLOGIC/HYDRAULIC MODELING (one [1] major channel crossings, one [1] cross drainage structures assumed):

- Prepare hydrologic and hydraulic models or modify existing models (FEMA, drainage districts, river authorities, cities, etc.) if available, to define the

drainage infrastructure required for the project. Detail the methodologies employed and recommendations. The analysis will include: preparation of a preliminary design of the right of way drainage system, cross drainage structures, right-of-way drainage, major channel crossings to reflect the existing and proposed conditions, recommended minimum pavement elevations based on cross drainage flood elevations, right of way requirements, ditch capacity, identify potential needs for FEMA Coordination. HEC-RAS shall be utilized for all stream modeling and bridges. HY-8 will be utilized for all non-bridge class culverts. Atlas 14 impacts will be reviewed and incorporated.

- Exhibits and analysis will be prepared in the GIS environment to the extent practical.

b. DELIVERABLES:

- Preliminary & Final Drainage Report

8. ENVIRONMENTAL SERVICES

a. DATA COLLECTION & FIELD RECONNAISSANCE:

- Obtain and update periodically publicly available information including but not limited to: locations of public buildings (schools, churches, parks, emergency responders), aerial photography, National Wetland Inventory Maps, County Soil Survey Maps, TCEQ & EPA Hazardous Materials Database Information, FEMA Floodplain Information, vegetation information, and environmental information from the appropriate local, State, or Federal agencies, including for state and federally-listed species, and Edwards Aquifer Information.
- 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 any other environmental risks along the project corridor.

b. Conduct field reconnaissance to visually inspect the project site for additional risks and field verify any environmental risks identified by the regulatory records review.

c. TXDOT ENVIRONMENTAL CLEARANCE:

- It is assumed that TxDOT Environmental Clearance would be needed for the SH 21 at FM 2720 and the SH 21 at Rocky Road projects. It is anticipated that these projects would be cleared as Categorical Exclusions.
- Coordinate with GEC and TxDOT District staff to access and update the TxDOT Environmental Compliance Oversight System (ECOS).

- Coordinate with GEC and TxDOT District staff to confirm deliverables required for environmental clearance and then prepare the deliverables. Anticipated deliverables are listed below under 9.h.
- Prepare environmental documentation utilizing the most current guidance on TxDOT's online Environmental Compliance Toolkits. Information needed for the TxDOT clearance is anticipated to be required only for the work in TxDOT ROW; however, TxDOT clearance is required for the entire county project if federal funds are assigned.
- Conduct a TxDOT Archeological Background Study (only for the SH 21 at FM 2720 project). Should an archaeological survey be required, conduct an archaeological survey and complete a report of sufficient intensity to determine the nature, extent, and potential significance of any archaeological resources located within the project area in accordance with full report guidelines as outlined by the Texas Historical Commissions Rules of Practice and Procedures.
- Coordinate with TxDOT including submittals to Texas Historical Commission and project records to the appropriate curation facility per Texas Historical Commission requirements.
- Conduct a TxDOT Project Coordination Request (only for the SH 21 at FM 2720 project). Should a historic resources survey be required, conduct appropriate fieldwork to determine the potential significance of identified historic resources (45 years old or older) located within the project's area of potential effects (APE), and complete a Historic Resources Research Design and Historic Resources Survey Report in accordance with guidelines outlined by TxDOT and the Texas Historical Commission.
- Conduct a Noise Analysis and prepare a Traffic Noise Technical Report (only for the SH 21 at FM 2720 project), in accordance with TxDOT's 2019 Noise Guidelines.
- Prepare a Species Analysis Form, Species Analysis Spreadsheet, and TPWD BMP Form (for SH 21 at FM 2720 and SH 21 at Rocky Road).
- Prepare a Hazmat Initial Site Assessment Form (for SH 21 at FM 2720 and SH 21 at Rocky Road).
- Prepare a Community Impact Assessment Technical Report Form (only for the SH 21 at FM 2720 project).
- Prepare a Surface Waters Analysis Form and Impacts Table, if necessary (for SH 21 at FM 2720 and SH 21 at Rocky Road).
- If it is determined that a Section 404 permit is required, a supplemental work authorization would be required.

- If it is determined that any other projects require TxDOT environmental clearance, a supplemental work authorization would be required.
- d. COUNTY DUE DILIGENCE:
- The Environmental Services will include studies and documentation required, per the Caldwell County Environmental Protocol, for the various regulating authorities, including the Texas Historical Commission (THC), U.S. Army Corp of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Caldwell County Regional Habitat Conservation Plan (RHCP), and Texas Commission on Environmental Quality (TCEQ). The intention of Environmental Services is to obtain necessary clearance letters and approvals in order to proceed with the proposed project.
 - Due diligence will be conducted for, and reports provided for, SH 21 to Misty Drive (0.25 miles) – Rocky Road, SH 21 to Schuelke Road (0.27 miles) – Schuelke Road, SH 21 to Holz Lane (0.13 miles) – Holz Lane.
- e. HAZARDOUS MATERIALS ENVIRONMENTAL SITE ASSESSMENT:
- Prepare a Hazardous Materials Environmental Site Assessment (ESA) based on the data collection and field reconnaissance conducted and identify potential hazardous material sites that may be impacted by the proposed project.
- f. SECTION 404 CLEAN WATER ACT COMPLIANCE:
- Conduct a site visit that will determine if water resources are present.
 - If no water resources are identified in the project area, HDR will notify the County via email. Based on a review of aerial photography, it is assumed that this task would apply to the following projects: SH 21 at Holz Lane, SH 21 at Rocky Road, and SH 21 at Schuelke Road.
 - If water resources are present, delineate wetland boundaries and ordinary high-water marks of jurisdictional waters within the project ROW. Prepare a Jurisdictional Waters Delineation Report identifying specific impacts of the project on the Waters of the U.S., measures to minimize the impacts will be identified, and discuss applicable Section 404 options in accordance with current permits and conditions based on data collection and field reconnaissance. It is anticipated that this project will be covered under a Nationwide Permit (NWP 14) without a pre-construction notification (PCN). Based on a review of aerial photography, it is assumed that this task would apply to the SH 21 at FM 2720 project, which would be addressed as part of the TxDOT environmental documentation.
 - If it is determined, after the Jurisdictional Waters Delineation Report, that a PCN is required; a supplemental work authorization would be required. The Jurisdictional Waters Delineation Report and NWP with PCN are subject to the

U.S. Army Corps of Engineers Fort Worth District review and issuance of a permit.

g. ENDANGERED SPECIES ACT COMPLIANCE:

- Prepare a letter documenting the project's effects on federally listed Threatened & Endangered Species to document the project's compliance with the Endangered Species Act based on data collection and field reconnaissance.
- It is assumed no federally listed species or suitable habitat would be impacted by the project.

h. TEXAS ANTIQUITIES CODE (TAC) COMPLIANCE:

- Prepare a Project Initiation Letter, Texas Antiquities Permit Application, and Associated Scope of Work based on desktop data collection.
- Conduct an archeological survey and complete a report of sufficient intensity to determine the nature, extent, and potential significance of any archeological resources located within the Area of Potential Effect (for SH 21 at FM 2720) and project area (for SH 21 at Holz Lane, SH 21 at Rocky Road, and SH 21 at Schuelke Road) in accordance with full report guidelines as outlined by the Texas Historical Commissions Rules of Practice and Procedures.
- Coordinate with Texas Historical Commission including submittals to Texas Historical Commission and project records to the appropriate curation facility per Texas Historical Commission requirements.

i. DELIVERABLES:

- Draft & Final Hazardous Materials Environmental Site Assessment (ESA) Report, which includes Regulatory Records Review (one report to cover the following projects: SH 21 at Holz Lane, SH 21 at Rocky Road, and SH 21 at Schuelke Road)
- Draft & Final Endangered Species Letter (one report to cover the following projects: SH 21 at Holz Lane, SH 21 at Rocky Road, and SH 21 at Schuelke Road)
- Draft & Final Texas Antiquities Permit Application Associated Scope of Work (anticipated to be two sets of reports – one to cover the SH 21 at FM 2720 project (through TxDOT) and one to cover the SH 21 at Holz Lane, SH 21 at Rocky Road, and SH 21 at Schuelke Road projects)
- Draft & Final Archeological Survey Report (one report to cover the following projects: SH 21 at Holz Lane, SH 21 at Rocky Road, and SH 21 at Schuelke Road)
- TxDOT ECOS WPD 1 Screen Input (assumed to be needed for the SH 21 at FM 2720 project and SH 21 at Rocky Road.)
- TxDOT Historical Studies Project Coordination Request (PCR) for Historic Resources (anticipated to only be needed for the SH 21 at FM 2720 project)

- TxDOT Historic Resources Survey Report with Research Design (anticipated to only be needed for the SH 21 at FM 2720 project)
- TxDOT Archeology Background Study (anticipated to only be needed for the SH 21 at FM 2720 project)
- TxDOT Archeological Survey Report (anticipated to only be needed for the SH 21 at FM 2720 project)
- TxDOT Species Analysis Spreadsheet and Form (anticipated to be needed for the SH 21 at FM 2720 and SH 21 @ Rock Road projects)
- TxDOT Surface Water Analysis Form (anticipated to only be needed for the SH 21 at FM 2720 project)
- TxDOT Water Features Delineation Report (anticipated to only be needed for the SH 21 at FM 2720 and SH 21 and Rocky Road projects)
- TxDOT Section 404/10 Impact Table (anticipated to only be needed for the SH 21 at FM 2720 and SH 21 at Rocky Road projects)
- TxDOT Hazardous Materials Initial Site Assessment (anticipated to be needed for the SH 21 at FM 2720 and SH 21 at Rocky Road projects)
- TxDOT Traffic Noise Technical Report (anticipated to only be needed for the SH 21 at FM 2720 project)
- TxDOT Community Impact Assessment (anticipated to only be needed for the SH 21 at FM 2720 project)

9. DELIVERABLES

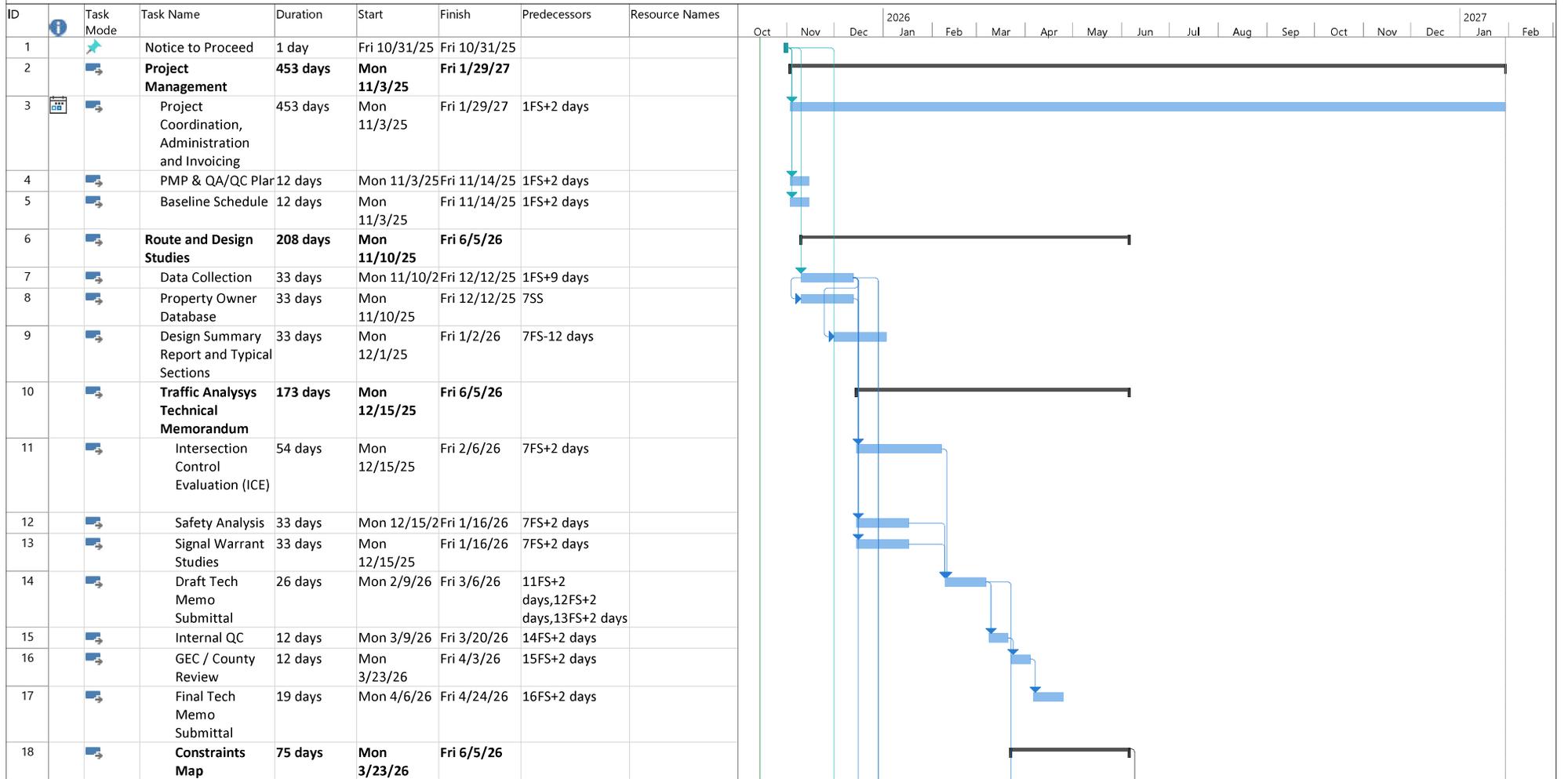
e. DOCUMENTS:

- All contract documents, including hard copies and electronic files, shall be turned over to the County at each milestone and at the completion of the project. Documents shall be posted to the County's project management database as requested.

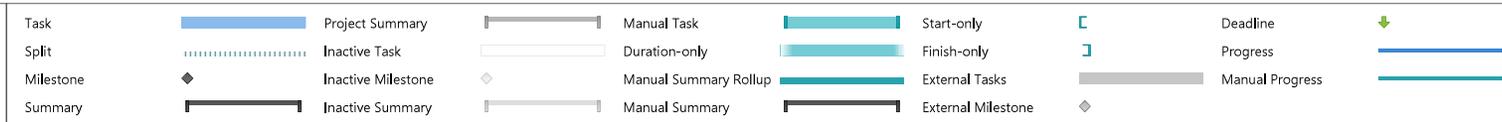
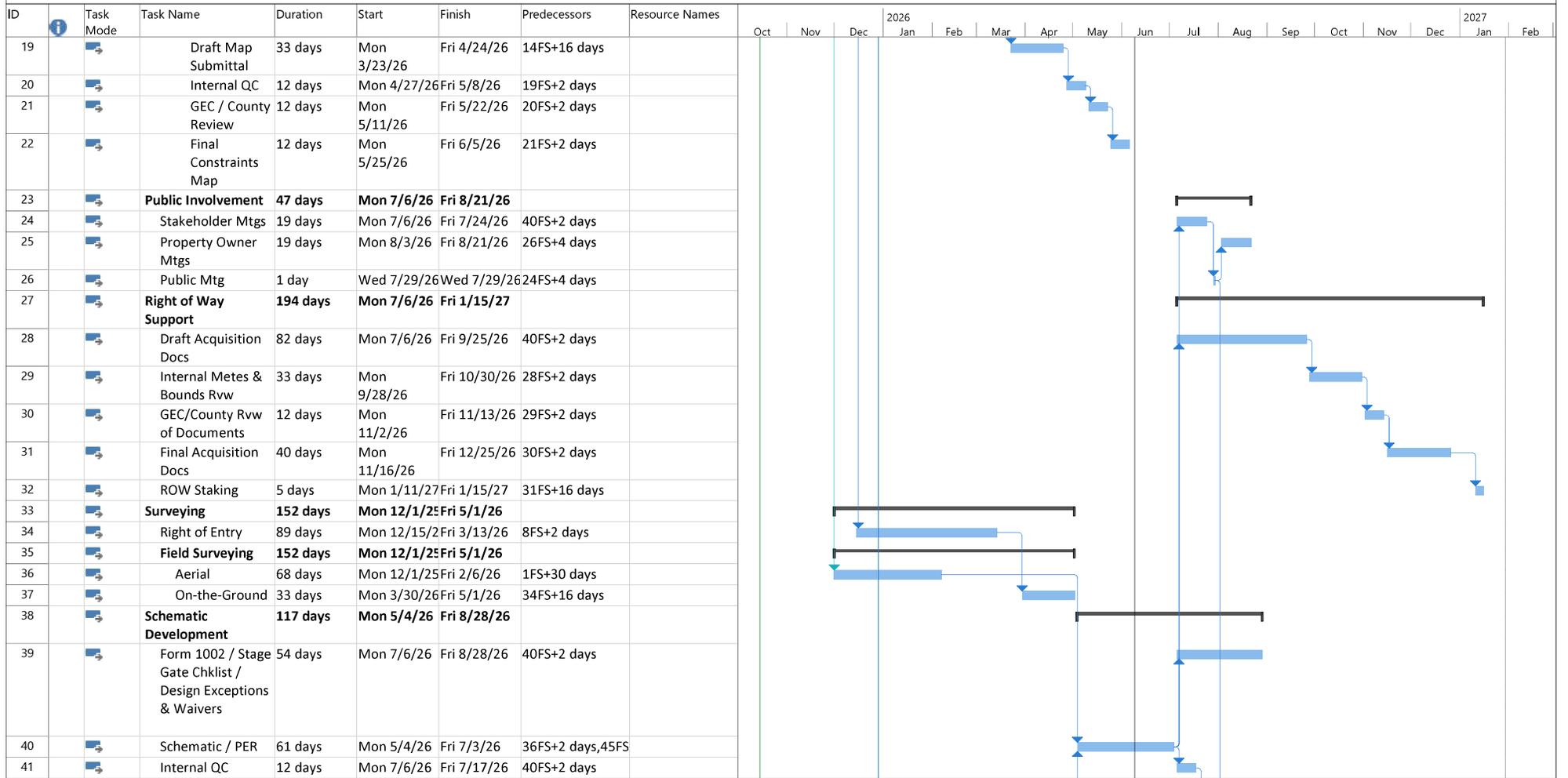
10. EXCLUSIONS

- The County and its representatives will provide all utility conflict identification, obtaining necessary SUE information and relocation coordination services.
- The County and its representatives will prepare the public involvement plan, project website, provide all public involvement coordination including Agendas, Sign-In Sheets, Meeting Minutes, Presentations for all meetings with stakeholder/property owners as well as for all open house and public meetings.
- The County and its representatives will obtain and provide Title Commitments to the surveyor.
- The Engineer will assume that any widening of SH 21 will match current existing pavement structure.

- Detailed Plans, Specifications and Estimate design will be under a separate Work Authorization.
- Efforts to obtain right of entry from property owners beyond the two (2) scoped written requests and one (1) verbal contact.
- Designer services during construction, will be under a separate Work Authorization.
- HDR assumes 1 mobilization for environmental effort.
- A maximum of 3 archaeological sites no larger than 0.5 acres will be recorded. When archaeological sites are identified, their delineation will not extend beyond the project area boundaries. If additional sites are located, their recordation would be covered under a scope amendment.
- Costs for the analysis of up to 50 artifacts have been included in the current proposal. Should analysis of additional artifacts be necessary, additional funding will be required.
- The current cost estimate does not include NRHP/SAL testing or mitigation.
- HDR assumes no human burials will be encountered. If human burials are encountered, burial exhumation, osteological analysis, and reporting would be covered under a scope amendment.
- No archival research is included in this cost estimate.
- Any modification to the scope of services mandated by regulatory authorities will necessitate an updated scope and fee estimate.



Task		Project Summary		Manual Task		Start-only		Deadline	
Split		Inactive Task		Duration-only		Finish-only		Progress	
Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
Summary		Inactive Summary		Manual Summary		External Milestone			



**ATTACHMENT D
FEE SUMMARY**

**WORK AUTHORIZATION NO. 1
REALIGNMENTS AT SH 21 (SCHEMATIC)**

Item	Description	
1.	Project Management	\$ 133,593.00
2.	Route and Design Studies	\$ 185,776.00
3.	Public Involvement	\$ 30,830.00
4.	Right of Way (ROW) Support	\$ 64,296.00
5.	Surveying - Sub - Surveying and Mapping, Inc.	\$ 267,200.00
6.	Schematic Development	\$ 243,874.00
7.	Drainage Study	\$ 53,900.00
8.	Environmental Services	\$ 150,395.00
	Directs	\$ 34,205.18
FEE TOTAL		\$ 1,164,069.18

ATTACHMENT D - FEE SCHEDULE

Project Name: SH 21 Intersection Realignments at FM 2720, Rocky Road, Shuelke Road, and Holz Lane														Project Manager: Allen Crozier				Date: 09/05/2025									
FEE SUMMARY																											
HDR FEE \$		350,199.00																									
SUBCONSULTANT FEES \$		-																									
DIRECTS \$		-																									
TOTAL FEE \$		350,199.00																									
PROJECT MANAGEMENT, ROUTE STUDIES AND PUBLIC INVOLVEMENT TASKS																											
Job Classification	Sr. Proj Advisor	Project Manager (30+ Yrs)	Deputy Proj Mgr	QA/QC Mgr / Rvwr	Senior Engineer	Project Engineer	Design Engineer 2	Design Engineer 1	EIT	Senior Designer	Designer	Sr. GIS Operator	GIS Operator	Sr. ROW Neg. Agnt	Project Controller	Project Accountant	Project Admin							Total Hours	Fee		
Loaded Labor Rate	\$ 425.00	\$ 349.00	\$ 318.00	\$ 349.00	\$ 300.00	\$ 250.00	\$ 210.00	\$ 155.00	\$ 140.00	\$ 170.00	\$ 140.00	\$ 171.00	\$ 131.00	\$ 209.00	\$ 165.00	\$ 130.00	\$ 110.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -		
1. Project Management																									\$ -		
b. Monthly Progress Reports, Invoices and Billings (15 Months)		30													15	30									75	\$ 16,845.00	
c. Quality Assurance and Quality Control Plan	2	4	4														12								22	\$ 4,838.00	
d. Project Coordination and Administration	6	32	60		32	32			32								32								226	\$ 58,398.00	
e. Progress/Coordination Meetings (32 Meetings)		32	32		32			32						32			32								192	\$ 46,112.00	
f. Project Schedule		5	10												15										30	\$ 7,400.00	
2. Route and Design Studies																									\$ -		
a. Data Collection																										\$ -	
1. Records Search		2			8												16								26	\$ 4,858.00	
2. Field Investigation		12	12		12	12		8	8																64	\$ 16,964.00	
3. Property Ownership Database		4												8			8								20	\$ 3,948.00	
4. Review of aerial photogrammetry and contours		2	2		4	16		2	4																30	\$ 7,404.00	
5. Obtain existing traffic counts / new traffic count data collection		2	4																						6	\$ 1,970.00	
6. Review and organize collected data		2	4	2	8			20	32		18						24								110	\$ 17,808.00	
7. Traffic Forecasting (Opening & Design Year) (AM, PM, Daily)				4	2			12	24		12														54	\$ 8,896.00	
8. Traffic Safety Analysis																										\$ -	
a. Historical Crash Analysis		1		1	1			6	16																25	\$ 4,168.00	
b. Intersection Control Evaluation (Opening & Design Year)		1		4	4			20	60																89	\$ 14,445.00	
c. HSM Predictive Safety Analysis (Opening & Design Year)		1		4	4			18	68																95	\$ 15,255.00	
9. Traffic Signal Warrant Study (Peak Hour)		1		2	2			4	16																25	\$ 4,507.00	
10. Traffic Operations Analysis (Synchro) (10 models)		1		5	5			20	40																71	\$ 12,294.00	
11. Draft Traffic Analysis Memorandum		1		12	8			40	80		28														169	\$ 28,257.00	
12. Respond to and address comments (Traffic)		1		4	4			30	40		4														83	\$ 13,755.00	
13. Finalize Traffic Analysis Memorandum		1		4	4			10	12		4														35	\$ 6,735.00	
b. Design Criteria - Design Summary Report		2	4	2	4	4																			16	\$ 4,868.00	
c. Constraints Map																										\$ -	
1. SH 21 at FM 2720		1	1		4	4				4	6		4												24	\$ 4,911.00	
2. SH 21 at Rocky Road		1	1		4	4				4	6		4												24	\$ 4,911.00	
3. SH 21 at Shuelke Road		1	1		4	4				4	6		4												24	\$ 4,911.00	
4. SH 21 at Holz Lane		1	1		4	4				4	6		4												24	\$ 4,911.00	
3. Public Involvement																									\$ -		
a. Impacted property owner database		1												8			4								13	\$ 2,461.00	
b. Stakeholder Coordination (4 Meetings)																										\$ -	
1. Meeting participation		8																								8	\$ 2,792.00
2. Exhibit Preparation (Assume 1 roll plot per project)		2			2		4				6															14	\$ 2,978.00
c. Property Owner Meeting Support (5 Meetings)																										\$ -	
1. Meeting participation		20																								20	\$ 6,980.00
2. Exhibit Preparation (Up to 10 ROW exhibits)		3			6		10				40															59	\$ 10,547.00
d. Public Meeting / Open House (1 Meeting)																										\$ -	
1. Meeting participation		6																								6	\$ 2,094.00
2. Exhibit Preparation (Assume 1 roll plot per project)		2			2		4				6															14	\$ 2,978.00
																										\$ -	
																										\$ -	
Subtotals	8	183	136	44	160	80	18	222	432	16	142		16	48	30	30	128							1,693	\$ 350,199.00		

ATTACHMENT D - FEE SCHEDULE

Project Name: SH 21 Intersection Realignments at FM 2720, Rocky Road, Shuelke Road, and Holz Lane										Project Manager: Allen Crozier					Date: 09/05/2025									
FEE SUMMARY																								
HDR FEE \$		243,874.00																						
SUBCONSULTANT FEES \$		-																						
DIRECTS \$		-																						
TOTAL FEE \$		243,874.00																						
SCHEMATIC TASKS																								
Job Classification	Sr Proj Advisor	Project Manager (30+ Yrs)	Deputy Proj Mgr	QA/QC Mgr / Rvwr	Senior Engineer	Project Engineer	Design Engineer 2	Design Engineer 1	EIT	Senior Designer	Designer	Sr. GIS Operator	GIS Operator	Project Controller	Project Accountant	Project Admin							Total Hours	Fee
Loaded Labor Rate	\$ 425.00	\$ 349.00	\$ 318.00	\$ 349.00	\$ 300.00	\$ 250.00	\$ 210.00	\$ 155.00	\$ 140.00	\$ 170.00	\$ 140.00	\$ 171.00	\$ 131.00	\$ 165.00	\$ 130.00	\$ 110.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -
General Tasks																								
Develop Design Criteria		1			2	4																	7	\$ 1,949.00
Provide Form 1002		1			1	4																	6	\$ 1,649.00
Develop Engineer Stage Gate Checklist					1	2																	3	\$ 800.00
Develop Design Exceptions, waivers and variances		1			1	4		24	12														42	\$ 7,049.00
Final Schematic Submittal		1		2		8			40														51	\$ 8,647.00
Final Schematic Level Cost Estimate					1	8			16														25	\$ 4,540.00
Final Preliminary Engineering Summary Report		1		1	2	12			40														56	\$ 9,898.00
FM 2720 at SH 21/Grist Mill Rd																								
Develop Typical Sections						1			2														3	\$ 530.00
Develop mainlane Horizontal Geometries					1	16			10														27	\$ 5,700.00
Develop mainlane Vertical Geometries					1	24			12														37	\$ 7,980.00
Develop Prelim Sidestreets and Driveways Geometries						4			16														20	\$ 3,240.00
Develop 3-D Model					1	32																	33	\$ 8,300.00
Develop Preliminary Cross Sections						4			16														20	\$ 3,240.00
Develop Denial Access Line					1	2																	3	\$ 800.00
Develop ICE Prelim Layout (1 additional alternative)					1	16			12														29	\$ 5,980.00
Develop Prelim Intersection Layout					1	2			8														11	\$ 1,920.00
Develop SH 21 Improvements					1	32			16														49	\$ 10,540.00
Preliminary flexible pavement design		1			20			20															41	\$ 9,449.00
QA/QC		2		4																			6	\$ 2,094.00
Rocky Rd at SH 21/Hays CISD Private Driveway																								
Develop Typical Sections						1			2														3	\$ 530.00
Develop mainlane Horizontal Geometries					1	16			10														27	\$ 5,700.00
Develop mainlane Vertical Geometries					1	24			10														35	\$ 7,700.00
Develop Prelim Sidestreets and Driveways Geometries						4			10														14	\$ 2,400.00
Develop 3-D Model					1	32																	33	\$ 8,300.00
Develop Preliminary Cross Sections						4			12														16	\$ 2,680.00
Develop Denial Access Line					1	2																	3	\$ 800.00
Develop ICE Prelim Layout (1 additional alternative)					1	16			12														29	\$ 5,980.00
Develop Prelim Intersection Layout					1	2			8														11	\$ 1,920.00
Develop SH 21 Improvements					1	32			16														49	\$ 10,540.00
Preliminary flexible pavement design		1			10			10															21	\$ 4,899.00
QA/QC		2		4																			6	\$ 2,094.00
Schuelke Rd at SH 21																								
Develop Typical Sections						1			2														3	\$ 530.00
Develop mainlane Horizontal Geometries					1	12			6														19	\$ 4,140.00
Develop mainlane Vertical Geometries					1	16			8														25	\$ 5,420.00
Develop Prelim Sidestreets and Driveways Geometries						4			16														20	\$ 3,240.00
Develop 3-D Model					1	24																	25	\$ 6,300.00
Develop Preliminary Cross Sections						4			12														16	\$ 2,680.00
Develop Denial Access Line					1	2																	3	\$ 800.00
Develop ICE Prelim Layout (1 additional alternative)					1	16			12														29	\$ 5,980.00
Develop Prelim Intersection Layout					1	2			8														11	\$ 1,920.00
Develop SH 21 Improvements					1	32			16														49	\$ 10,540.00
Preliminary flexible pavement design		1			10			10															21	\$ 4,899.00
QA/QC		2		4																			6	\$ 2,094.00
Holz Lane at SH 21																								
Develop Typical Sections						1			2														3	\$ 530.00
Develop mainlane Horizontal Geometries					1	12			8														21	\$ 4,420.00
Develop mainlane Vertical Geometries					1	16			10														27	\$ 5,700.00
Develop Prelim Sidestreets and Driveways Geometries						2			8														10	\$ 1,620.00
Develop 3-D Model					1	24																	25	\$ 6,300.00
Develop Preliminary Cross Sections						4			12														16	\$ 2,680.00
Develop Denial Access Line					1	2																	3	\$ 800.00
Develop ICE Prelim Layout (1 additional alternative)					1	16			12														29	\$ 5,980.00
Develop Prelim Intersection Layout					1	2			8														11	\$ 1,920.00
Develop SH 21 Improvements					1	32			16														49	\$ 10,540.00
Preliminary flexible pavement design		1			10			10															21	\$ 4,899.00
QA/QC		2		4																			6	\$ 2,094.00
Subtotals		17		19	86	532		74	436														1,164	\$ 243,874.00

ATTACHMENT D

WORK AUTHORIZATION NO. 1 REALIGNMENTS AT SH 21 (SCHEMATIC)

DIRECT EXPENSES

Expense Type / Description	Qty	Rate	Subtotal
Photocopies B/W (11" X 17")	1510	\$ 0.20	\$ 302.00
Photocopies B/W (8 1/2" X 11")	500	\$ 0.10	\$ 50.00
Photocopies Color (11" X 17")	500	\$ 1.50	\$ 750.00
Photocopies Color (8 1/2" X 11")	500	\$ 1.00	\$ 500.00
Presentation Boards 30" X 40" Color Mounted	10	\$ 100.00	\$ 1,000.00
Highway Toll Charges	100	\$ 1.50	\$ 150.00
Postage (Current Postal Rate)	0	\$ 0.78	\$ -
Title Commitments (Each)	0	\$ 500.00	\$ -
Certified Mail	51	\$ 20.00	\$ 1,020.00
Hazardous Material Database Search (Each)	4	\$ 1,200.00	\$ 4,800.00
Noise Meter (per day)	1	\$ 150.00	\$ 150.00
GPS Unit (per day)	6	\$ 120.00	\$ 720.00
Environmental Field Supplies (per day)	6	\$ 50.00	\$ 300.00
Backhoe Rental (per day)	1	\$ 3,000.00	\$ 3,000.00
TARL Curation Fee (per site)	4	\$ 1,200.00	\$ 4,800.00
Curator (per project)	2	\$ 1,500.00	\$ 3,000.00
Historical Aerial/Topographic Images (per mile)	4	\$ 50.00	\$ 200.00
Truck rental (per day)	5	\$ 75.00	\$ 375.00
Gram Traffic Counting	1	\$ 9,616.98	\$ 9,616.98
Overnight Mail - Letter Size (Current Postal Rate)	17	\$ 10.00	\$ 170.00
Mileage (Current IRS Rate)	4716	\$ 0.70	\$ 3,301.20
Total			\$ 34,205.18

