

EXHIBIT

"A"

STATE OF TEXAS

§

§

COUNTY OF WILLIAMSON

§

**SUPPLEMENTAL CONTRACT NO. 2
TO CONTRACT FOR ENGINEERING SERVICES**

FIRM: Halff Associates, Inc. ("Engineer")

ADDRESS: 4030 W. Braker Lane, Suite 450, Austin, TX 78759

PROJECT: RM 620 Safety Improvements Project – Design Phase

This Supplemental Contract No. 2 to Contract for Engineering Services is made by and between the City of Round Rock, Texas, hereinafter called the "City" and Halff Associates, Inc., hereinafter called the "Engineer".

WHEREAS, the City and Engineer executed a Contract for Engineering Services, hereinafter called the "Contract", on the 27th day of June, 2013 for the RM 620 Safety Improvements Project – Design Phase Project in the amount of \$955,823.00; and

WHEREAS, the City and Engineer executed Supplemental Contract No. 1 on May 8, 2014 to amend the scope of services and to increase the compensation by \$698,445.00 to a total of \$1,654,268.00; and

WHEREAS, it has become necessary to amend the Contract to modify the provisions for the scope of services and to increase the compensation by \$682,232.00 to a total of \$2,336,500.00;

NOW THEREFORE, premises considered, the City and the Engineer agree that said Contract is amended as follows:

I.

Article 2, Engineering Services and Exhibit B, Engineering Services shall be amended as set forth in the attached Addendum To Exhibit B. Exhibit C, Work Schedule shall be amended as set forth in the attached Addendum To Exhibit C.

II.

Article 4, Compensation and Exhibit D, Fee Schedule shall be amended by increasing by \$682,232.00 the lump sum amount payable under the Contract for a total of \$2,336,500.00, as shown by the attached Addendum to Exhibit D.

IN WITNESS WHEREOF, the City and the Engineer have executed this Supplemental Contract in duplicate.

HALFF ASSOCIATES, INC.

By: _____

Date

CITY OF ROUND ROCK

By: _____

Alan McGraw, Mayor

Date

APPROVED AS TO FORM:

Stephan L. Sheets, City Attorney

ADDENDUM TO EXHIBIT B

Engineering Services

GENERAL PROJECT OVERVIEW

For the scope of services for this Work Authorization the Engineer shall provide engineering, surveying, and other professional services to develop Final (100%) Plans Specifications, and Estimates (PS&E) for the RM 620 Improvements from Deep Wood Drive to IH 35 in accordance with the 60% plans developed for the project under the engineering services contract per city council Resolution No. R-2014-1397.

See enclosed **Project Location Map**.

The purpose of the proposed project is to improve safety and enhance mobility in the project area. The project includes a bridge to carry RM 620 traffic over the Union Pacific Railroad and Chisholm Trail Road. In order to maintain access to businesses and residences, at-grade local access roads are proposed between Lake Creek Drive and Chisholm Trail Road. A second bridge is proposed at Lake Creek Drive. This proposed bridge would carry RM 620 traffic over Lake Creek Drive. The project area is within the Edwards Aquifer Recharge Zone.

For this phase of the contract, PS&E will be developed to a 100% completion level.

Contract Tasks shall include:

Project Management;

Roadway Design;

Drainage Design;

Water Quality Design;

Water and Wastewater Relocation Design;

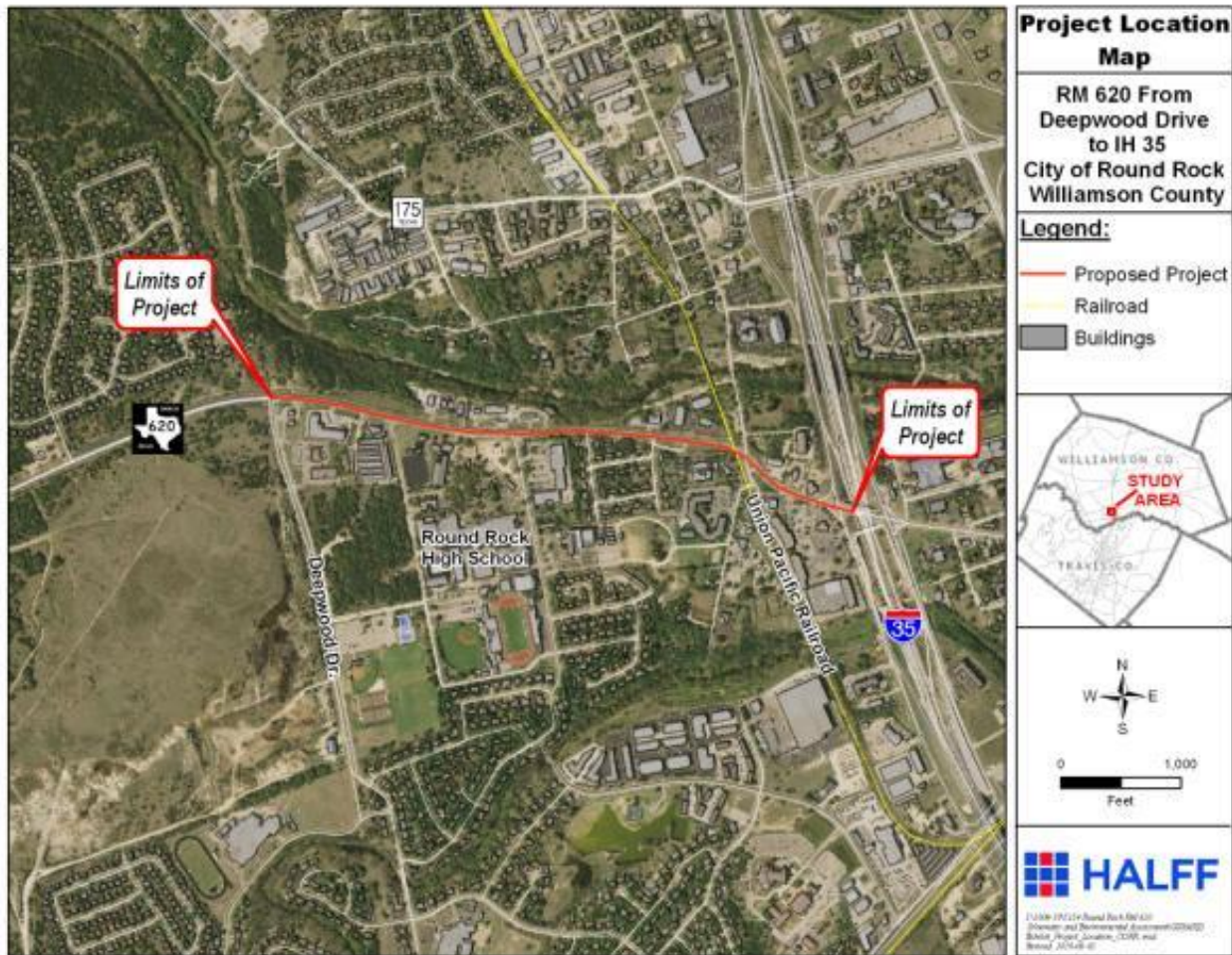
Signing, Pavement Markings, and Traffic Signal Design;

Miscellaneous Design (TCP, Illumination, Bridge, Ret Walls, Landscape and Irrigation);

Environmental Site Remediation; and

Public Involvement

Tasks are more specifically described in the following **Task Outline**.



TASK OUTLINE

I. PROJECT MANAGEMENT

A. PROJECT MANAGEMENT SERVICES

1. Project Administration - The Engineer will:
 - Assign a licensed PE in Texas to serve as the Project Manager and point of contact for the city. He may not be replaced without written consent from the city of Round Rock. The Project Manager shall communicate with the city's assigned project manager.
 - Create and submit monthly invoices in required city format.
 - Prepare monthly progress reports for submission with the invoices to provide a written account of the progress made to date on the project.
 - Prepare project meeting summaries for applicable meetings during the project development process.
 - Keep records of project correspondence and make such records available to the city as needed.
2. Sub-consultant Management - The Engineer will:
 - Prepare and execute contracts with sub-consultants, monitor sub-consultants activities (staff and schedule), complete monthly reports and review and recommend approval of sub-consultant invoices.
 - Conduct internal meetings with the consultant design team every two weeks for the length of the project. Meetings will include key personnel from each discipline and will discuss and resolve project issues.
 - Coordinate and review subconsultant work activities and submittals. The Engineer will review and coordinate work of sub-consultants to ensure quality products are delivered to the City. The Engineer will also be responsible for the consistency and coordination between plans developed by each sub-consultant on the design team.
3. Coordination- The Engineer will:
 - Establish and attend periodic progress meetings (approximately once a month) with the city and TxDOT.
 - Meet with City staff as required through the project development process.
 - Coordinate with outside agencies as detailed below.

II. CIVIL, ARCHITECTURAL MODIFICATIONS, AND ENVIRONMENTAL SITE ASSESSMENT (ESA)

A. SITE CIVIL and ARCHITECTURAL SERVICES

1. Civil Site Plans for Wendy's, MAACOs, Texaco, and the Commons sites:
 - a. Pavement, curb and gutter removal. Plans will label the buildings for removal. It is anticipated that two bid sets will be developed: one for the properties on the north side of RM 620 and another for the Commons.
 - b. Removal of existing water quality pond and coordination with TCEQ.
 - c. Site grading and restoration and erosion controls

- d. We will coordinate with TCEQ regarding approval for the site work in the form of notification, meeting, and review of proposed BMPs and calculations. Though not anticipated, if a WPAPs are required for demolition for these sites, additional effort and fee may be required.
 2. Architectural Modifications to the Commons Building B to keep the west portion of the building by designing a new exterior wall in place of an existing interior wall as described below:
 - a. Visit site to obtain all necessary data and provide drawings for new exterior wall at current interior wall location of the east wall of Suite B-302. The only interior work is finish out of walls/ceilings/finishes as affected by the new exterior wall.
 - b. Provide Structural Engineering for the new exterior wall
 - c. Specify capping of electrical and HVAC as required to provide complete system and reroute water and wastewater services.
- The above services will provide the city with bid documents to be constructed outside of (and ahead of) the TxDOT RM 620 road construction plans. The scope does not include construction phase services.

B. ENVIRONMENTAL SITE ASSESSMENTS

Task 1: Phase I Environmental Site Assessments

Halff will perform a Phase I Environmental Site Assessment (ESA) on each of the following RM 620 ROW early acquisition properties:

- Texaco Mart located at 712 Round Rock Avenue
- Wendy's Restaurant located at 720 Round Rock Avenue
- Maaco Auto Repair located at 732 Round Rock Avenue
- The Commons office complex located at 901 Round Rock Avenue
- Seven Residential properties located at 403 Brentwood Street, 403 and 406 Briarwood Street, 1007 Round Rock Avenue, and 1000, 1002, and 1004 Glenwood Street

The ESAs will be performed in accordance with the American Society for Testing and Materials (ASTM) E1527-05 Standard Practice and will consist of the tasks as follows:

- Review selected, commercially available aerial photography of the site and adjacent area, noting any visible abnormalities during site or area development, which may indicate potential environmental problems. This typically involves examining four photographs taken at approximately 10-year intervals, depending on availability of photography for the property location. Additionally, review other standard historical sources (e.g. Sanborn Fire Insurance Maps, historical city directories, etc.) in an effort to develop the site history.

- Review standard physical setting sources (e.g. U.S. Geological Survey topographic map, Federal Emergency Management Agency Flood Insurance Rate Map, U.S. Department of Agriculture Soil Survey, etc.) to determine general geologic, hydrogeologic, and topographic characteristics of the site.
- Review Federal and State regulatory databases in accordance with ASTM E1527-05 Standard Practice, including but not necessarily limited to all ASTM recommended databases and minimum search distances, looking specifically for activities which could be potential sources of contamination. The databases reviewed typically include federal databases such as the Environmental Protection Agency (EPA) National Priority List, Comprehensive Environmental Response, Compensation, and Liability Information System database, Resource Conservation and Recovery Act (RCRA) Generator database, RCRA Corrective Action Report, and the Environmental Response Notification System database. Also reviewed are state databases such as the Petroleum Storage Tank (PST) Registration database, Leaking PST database, State Superfund Registry database, Solid Waste Landfill/Disposal Site database, Closed Landfill Inventory database, Voluntary Cleanup Program database, Innocent Owner/Operator Program database, and the Spill Response database. Briefly, summarize the degree of risk posed by sites identified within the search distances. This does not include a detailed risk assessment of all pathways, receptors, exposure assessments, or dose response evaluations.
- Contact local government officials in an effort to identify recognized environmental conditions on or near the subject property.
- Contact current site owner/manager, a reasonable number of occupants, and past owners, operators, or occupants who are likely to have additional material information regarding the potential for contamination at the site, in an effort to identify recognized environmental conditions in connection with the property. Property owners or occupants of neighboring properties will be contacted in an effort to identify recognized environmental conditions in connection with the assessment of abandoned properties.
- Visit the subject property to ascertain existing conditions. Visually survey the subject property for surface water, water wells, on-site and off-site storm water drainage, and utilities servicing or passing through the site. Perform a curbside visual survey of adjacent properties to determine land usage and existing conditions, looking specifically for activities that could be of environmental concern.
- Identify any evident or obvious on-site storage or disposal facilities, such as aboveground or underground tanks, drums, impoundments, and waste piles.

- Identify evident or obvious on-site treatment facilities, which handle wastewaters, solid wastes, or hazardous materials, and comment on their potential for discharge of waste materials to the environment.
- Identify evident or obvious electric transformers in service at the site and visually inspect for polychlorinated biphenyl (PCB) labels and evidence of insulating fluid leakage.
- Evaluate the regulatory status and compliance/complaint history of on-site facilities identified above based on the federal, state, and local information.
- Prepare an ESA report, summarizing the activities conducted and the information gathered in the tasks above, listing any comments and recommendations regarding the subject property. Data gaps will be identified in the report and an opinion will be provided whether those data gaps affect the environmental professional's ability to identify recognized environmental conditions on the property. Half Associates will provide two copies of the ESA report.

A single report will be prepared for each property or group of properties specified above. It has been assumed that the site will be accessible and the owner will provide site access. It has also been assumed that the user will provide information regarding the environmental cleanup liens, activity use limitations (AULs), specialized knowledge, the purchase price compared to the fair market value of the property, an assessment of commonly known or reasonably ascertainable information about the property, and/or indications of the presence or likely presence of contamination on the property as detailed in the *User Questionnaire*. The user must provide the information identified in the questionnaire, if available, to the environmental professional to qualify for the *Landowner Liability Protections* offered by the "*Brownfields Amendments*."

Task 2: Level II Site Investigation for Texaco Mart

The Texaco Mart property located at 712 Round Rock Avenue was identified as a registered Petroleum Storage Tank (PST) facility and a closed Leaking Petroleum Storage Tank (LPST) site during the Hazardous Materials Initial Site Assessment review for the RM 620 project. Sampling and laboratory analyses will be required to document the presence of affected media at the subject property. The Level II Site Investigation will include a regulatory file review and the collection and laboratory analysis of soil and groundwater samples. The findings of the site investigation will be summarized in an Environmental Site Investigation report to be prepared for the subject property. The Level II Site Investigation for the subject property will be performed in accordance with the following procedures:

Subsurface Investigation

The field activities for the project site will be conducted utilizing the following procedures. Shallow soil sampling will be performed and soil borings/groundwater monitor wells will be

installed at the subject property. Continuous soil samples will be collected from the ground surface to total borehole depth utilizing a truck mounted drilled rig equipped with hollow stem augers. All drilling equipment will be decontaminated between soil borings to prevent the possibility of cross-contamination. All soil borings not completed as permanent monitor wells will be filled with a non-shrinking grout or cement to prevent the infiltration of fluids from the surface. Soil samples will be logged by field personnel and screened for organic vapors using an Organic Vapor Meter (OVM). Soil sampling will be performed in accordance with accepted protocol and analyses will be performed by an approved laboratory. All samples will be sealed in proper containers with no head space, appropriately labeled, and immediately chilled to 40° F. Samples will be analyzed within 7 days of collection. Sampling and analytical testing will be completed in accordance with Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) rule requirements.

The site investigation will be performed in accordance with the following tasks:

- Regulatory files available through the Texas Commission on Environmental Quality (TCEQ) Central Records will be reviewed in order to evaluate the presence and extent of petroleum hydrocarbon affected soil and groundwater at the property associated with the historical LPST site. Data obtained during the file review will be used to guide field activities during the Level II Site Investigation.
- Five soil borings will be advanced to a depth of approximately twenty five (25) feet, to unweathered bedrock, or sample point refusal, whichever is encountered first. Three of the soil borings will be completed at permanent monitor wells.
- Two soil samples will be collected from each soil boring and one groundwater sample will be collected from each monitor well. The soil and groundwater samples will be analyzed for total petroleum hydrocarbons (TPH) by TX Method 1005 and benzene, toluene, ethyl benzene, and xylenes (BTEX)/methyl tertiary butyl ether (MTBE) by EPA Method 8260. The soil and groundwater samples with the highest concentrations of TPH in the C12-C28 hydrocarbon range will be analyzed for polynuclear aromatic hydrocarbons (PAH) by EPA Method 8270D.
- An Environmental Site Investigation report will be prepared summarizing the work performed and will include a description of the drilling and sampling procedures, sample location map, soil boring logs, analytical data summary table, copies of analytical reports, conclusions and recommendations, and estimated remediation/regulatory closure costs.

The fee is based on the following:

- The site will be accessible for drilling and sampling activities.
- The client will provide a legal right of entry to the site prior to mobilization for site investigation activities.

- Utilities on private land not located by public companies (i.e., utility locate companies, municipalities, etc.) will be located by the property owner/client.
- Subsurface distribution piping in the investigation area will be located by the owner/operator of the PST system
- Property owner/client will coordinate site access for location of on-site utilities by public companies.
- Five (5) soil borings, three completed as monitor wells, will be installed.
- Groundwater will be encountered within 20 feet below ground surface.
- Thirteen (13) samples will be analyzed for TPH and BTEX/MTBE and four (4) samples will be analyzed for PAH on a normal turnaround basis.
- All site work will be conducted during normal business hours.
- The cost associated with plugging and abandonment of monitor wells and the disposal of investigation derived wastes are not included.

Task 3: Asbestos Assessments/Survey Reports

Halff will perform an assessment for Asbestos Containing Materials (ACM) for the renovation/demolition of the structures at the following properties:

- Texaco Mart located at 712 Round Rock Avenue.
- Wendy's Restaurant located at 720 Round Rock Avenue.
- Maaco Auto Repair located at 732 Round Rock Avenue.
- The Commons office complex located at 901 Round Rock Avenue.
- Seven Residential properties located at 403 Brentwood Street, 403 and 406 Briarwood Street, 1007 Round Rock Avenue, and 1000, 1002, and 1004 Glenwood Street.

The assessments for ACM will be performed in accordance with the following procedures:

Assessment for Asbestos Containing Materials

The asbestos assessment will satisfy the Texas Department of State Health Services (TDSHS) requirements for an asbestos assessment conducted prior to the renovation and/or demolition of public buildings. An asbestos inspector, licensed by the TDSHS, will visually assess the area of proposed remodeling to determine areas likely to contain ACM. Field drawings and photographs will be prepared that detail the location, condition, and quantities of the suspected ACM. Bulk samples of suspected ACM will be collected in accordance with TDSHS sampling protocol. The suspected materials will be analyzed by an asbestos bulk laboratory accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), using Polarized Light Microscopy (PLM), in accordance with Environmental Protection Agency (EPA) methodology. The laboratory report will be combined with field notes and observations to determine approximate quantities of ACM present.

Halff's sampling will not include materials such as concrete flooring, wooden or metal doors, and/or hidden inaccessible components. Halff will perform destructive sampling to a certain degree in a reasonable effort to identify suspect ACM. However, hidden materials or materials beyond reasonable access to the inspectors during the site visit (materials beneath carpet, above ceilings, within walls/crawl spaces, etc.) may not be evaluated as part of the survey. Halff will conduct a visual and physical assessment of each identified homogeneous area of suspect ACM to assess the friability and condition of the materials. Building materials identified as concrete, glass, wood, metal or rubber are not considered suspect ACM and, therefore, will not be sampled. Based on results of the visual observations, bulk samples of suspect materials will be collected from each homogeneous area by a State of Texas Licensed Asbestos Inspector in general conformance with protocols established by EPA regulation 40 CFR 763 (AHERA) and the Texas Asbestos Health Protection Rules.

Asbestos Survey Report

A report will be prepared for each property, describing the area(s) and condition of the building materials encountered during this assessment. The letter reports will explain the inspection and sampling procedures and discuss the results. The reports will include drawings showing material sample locations, areas, approximate quantities of identified ACMs, and estimates of abatement costs.

It has been assumed that no more than 1,220 building material samples will be collected for the analysis of asbestos content by PLM and 45 samples will be analyzed for asbestos content by point count method. It has also been assumed that all potentially affected areas of the facilities will be accessible for sampling activities, a scissor lift will not be required for sampling of materials, and that the inspections may be conducted during normal business hours.

Note: Services for monitoring during demolition are excluded from this scope of work.

III. ROADWAY DESIGN (100%)

A. ROADWAY PLANS

1. TXDOT Submittals

- a. Engineer will prepare and submit forms for TxDOT reviews, processing, and letting including Form 1002, PS&E and stage gate checklists, and others.

The Engineer will develop the following roadway plan sheets:

2. MISCELLANEOUS PLANS.

- a. Project Title Sheet.
- b. Detailed Index of Sheets.
- c. Project Layout sheets at a scale of 1"=200'.

3. ROADWAY PLANS and GEOMETRY
 - a. Existing and Proposed Typical Sections.
 - b. Roadway Plan and Profile Sheets at 1"=50' Horizontally.
 - c. Survey Control Plan Sheets.
 - d. Horizontal Alignment Data Sheets.
 - e. Superelevation Data Sheets
 - f. Removal Plans
4. GRADING AND DETAILS.
 - a. Develop and plot design cross sections for RM 620 at 50 even foot stations for final pavement conditions. Cross sections will be plotted on plan sheets and included as a separate plan set for contractor information.
 - b. Intersection layout sheets for intersections.
 - c. Driveway Detail Sheets.
 - d. Miscellaneous Roadway Detail Sheets.

B. DRAINAGE DESIGN (100%)

1. Storm Sewer Design
 - a. Produce Interior Drainage Area Maps at 1"=100' scale
 - b. Calculate Storm Drain Calculations and design using GEOPAK DRAINAGE software and TxDOT Drainage Design Criteria
 - c. Produce drainage plans and profiles at 1"=50' scale
 - d. Design temporary drainage facilities for the phased construction
 - e. Provide separate drainage plan, erosion control, and specifications of Chisholm Trail outfall for inclusion in the Parks Department bid package for pedestrian bridge improvements at Brushy Creek.
2. TxDOT SW3P Sheet, Erosion Control Plans, and EPIC Sheet preparation.

C. WATER QUALITY DESIGN (100%)

1. Water Quality Facility Design (for Edward's Aquifer Recharge Zone)
 - a. Project Setup and Data Review

Perform a geologic assessment: Engineer will obtain and review available data on the existing and proposed roadway design and site geology, including engineering plans and geologic reports. An initial field visit will be conducted in order to inspect the site and identify and evaluate potential locations for water quality Best Management Practices (BMPs).
 - b. Pollutant Removal Calculations and Design of Water Quality BMPs

Engineer will perform the required total suspended solids (TSS) pollutant load calculations and update design of water quality facilities, such as the extended detention ponds proposed in the 60% design plans. Best Management Practices will be designed according to the Texas Commission on Environmental Quality (TCEQ) technical guidance manual complying with the Edwards Aquifer Rules – Technical Guidance on Best Management Practices (RG-348, July 2005) and addenda.

The location of temporary erosion and sedimentation controls designed to prevent discharges of polluted runoff from the project site during construction

will be evaluated to ensure compliance with TCEQ Edwards Aquifer requirements. The design of temporary controls, including an erosion and sedimentation control plan, will be included as part of the contractor's Storm Water Pollution Prevention Plan (SW3P).

- c. Prepare Water Pollution Abatement Plan (WPAP) Document, Coordinate with TCEQ. This task includes the completion of the WPAP application forms for submittal to TCEQ including the following:

- General Information Form (TCEQ-0587);
- The Geologic Assessment Form (TCEQ-0585);
- Water Pollution Abatement Plan Application Form (TCEQ-0584);
- Temporary Stormwater Section (TCEQ-0602);
- Permanent Stormwater Section (TCEQ-0600);
- Agent Authorization Form (TCEQ-0599);
- Application Fee Form (TCEQ-0574);
- Core Data Form (TCEQ-10400)

This task will include coordination with TxDOT. This task excludes separate WPAP for adjacent sites.

D. WATER AND WASTEWATER RELOCATION DESIGN (100%)

ENGINEER will perform engineering services within the described project area to prepare plans, specifications, and estimates for relocation of City of Round Rock water and wastewater lines within the project limits. The wastewater lines vary in size from 8 to 12 inch and the waterlines range from 6 to 12 inch. Project will include various crossings/bores, services and appurtenances.

1. 100% Water & Wastewater Replacement Design per the City of Round Rock Design and Construction Standards

- a. Dimension control
- b. Utility alignment & layout
- c. Line size determination as directed by the City of Round Rock
- d. Water and wastewater plan and profile sheets. Profile all waterlines greater than but not including 8". Provide profiles for any size waterline at roadway crossings. Profile all proposed wastewater lines.
- e. Prepare engineers estimate of probable construction cost
- f. Schedule an on the ground walk through with the City project manager to look at constructability, possible problem areas for construction, etc.

100% Water & Wastewater PS&E Deliverables:

- Provide plan and profile drawings indicating horizontal and vertical alignment of proposed facilities (with 30% comments addressed)
- Provide updated cost estimates

E. SIGNING, PAVEMENT MARKINGS, AND TRAFFIC SIGNAL DESIGN (100%)

1. Provide small sign and pavement marking layout plans at 1"=50' scale
2. Signalization
 - a. Engineer will develop traffic signal plans for permanent mast arm signals at the intersections of RM 620 with Lake Creek Dr., and IH 35 SBFR (the final Deep Wood Drive signal plans are excluded from this scope and will be handled in the scope for Williamson County's Phase 2 project from Wyoming Springs to Deep Wood Drive). The signal plans will be prepared at a scale of 1"=40'. Engineer will design the signal plans to a 100% completion to obtain a reasonable cost estimate for all the signal work on this project. Engineer will include following sheets for the submittal:
 - (i) Existing Conditions sheets will show locations of existing traffic control devices, and underground, and overhead utilities at each intersection, from the survey data.
 - (ii) Signal Layout sheets will show the locations of proposed signal poles, pedestrian poles, signal heads, communication equipment, electrical conduits, ground boxes, signal cabinet, new electrical service, existing utilities, right of way, and proposed roadway improvements. Locations of pedestrian poles and pedestrian access ramps will be designed in conformance with ADA requirements. The plans will include audible pedestrian signal head units at every pedestrian crossing. Due to lateral and vertical clearance required from an overhead electric line (per the State law), the Engineer will coordinate with the City before finalizing locations of signal poles.
 - (iii) Signal Elevation sheets will show placement of signal heads on each mast-arm and vertical clearance required for the mast-arm.
 - (b) Coordinate design with city and TxDOT traffic signal reviewers including up to three (3) meetings with reviewers regarding signal modifications.

F. MISCELLANEOUS ROADWAY

1. TRAFFIC CONTROL PLANS

- a. The Engineer will develop overview plans for each stage of the traffic control plan. These plans will act as key maps for each phase of TCP and shall be developed at a 1"=500' scale in order to depict the full project on one sheet. The traffic control for this project consists of five (5) major phases. The overview plans will depict the boundaries of each layout sheet and proposed construction areas.
- b. The Engineer will prepare 1"=500' plan layouts of all advance warning signs for RM 620, IH 35 and all cross streets.
- c. The Engineer will prepare a detailed narrative for the sequence of construction and traffic control general notes to submit to the City for review and incorporation into the plans. The narrative will include a

phase-by-phase description of the major construction activities. This is intended to be a narrative account of the activities shown in the traffic control plans.

- d. The Engineer will prepare traffic control typical sections for each phase / step of the construction sequence to clearly delineate the position of traffic and barriers with respect to the proposed construction.
- e. The Engineer will prepare detailed traffic control plans at a scale of 1"=100'. These plans will be developed based on the plans developed at the 60% PS&E level. This plan will describe the maintenance of traffic and sequence of work for each phase of the proposed construction. Detour alignments, location of work areas, temporary paving, temporary shoring, signing, barricades and other details will be required to describe the traffic control plan. The Engineer will ensure that proper drainage can be maintained during each phase of construction.
- f. The Engineer will prepare detour layouts at a scale of 1"=100' H and 1"=10' V showing plan & profiles where needed to define the geometry for detours used in the traffic control plans. When widening is required that can be defined based on existing pavement slopes, a detour profile will not be prepared.
- g. The Engineer will prepare profiles for temporary shoring required during construction sequencing at a scale of 1"=100' H and 1"=10' V. Existing ground and top of shoring will be depicted on these sheets. Existing ground and top of shoring elevations will be indicated at 50 feet intervals.

2. ILLUMINATION

- a. The Engineer will prepare detailed layouts at a scale of 1"=100' depicting safety lighting for the gores of the ramps and the roundabout and underpass lighting for the bridges at the UPRR / Chisholm Trail Road and at Lake Creek Drive.
- b. The Engineer will identify potential overhead utility conflicts, and coordinate with the State and utility companies to help resolve conflicts.

3. RETAINING WALLS

- a. The Engineer will provide a location plan of all walls at a scale of 1"=200'. The intent is to show the location of all walls in plan including the wall designation and beginning and ending stations.
- b. The Engineer will update layouts for fifteen (17) retaining walls based on review comments and completion of the project design. The layouts will show plan and profile views of the retaining walls at a scale of 1"=40'.
- c. The Engineer will update typical sections for retaining walls based on review comments and completion of the project design.
- d. The Engineer will prepare structural design details for non-proprietary wall designs (i.e., drilled shaft wall) required for the project. It is anticipated that one of the retaining walls on the project will be non-proprietary.
- e. The Engineer will prepare aesthetic details based on the approved conceptual aesthetic theme from the City.

4. BRIDGE LAYOUTS & DESIGN

The grade separation on RM 620 at Lake Creek Drive is anticipated to be a two span overpass structure with two lanes both in eastbound and westbound directions. The grade separation on RM 620 at the existing UPRR track and Chisholm Trail Road is anticipated to be a five span overpass structure with two lanes in the westbound direction and three lanes in the eastbound direction.

- a. The Engineer will finalize bridge layouts (1"=40') and typical sections for the UPRR Overpass and for the Lake Creek Drive Overpass based on review comments and as needed for completion of the project design. The Engineer will complete the above described layout for each overpass. The bridge layouts shall include:

Plan View

- (i) Horizontal curve data
- (ii) Bearing of centerline
- (iii) Bridge skew angles
- (iv) Control stations at the begin and end of structures
- (v) Dimensioned widths of bridge, roadway, shoulders and sidewalks
- (vi) Limits of riprap (if required)
- (vii) North arrow
- (viii) Cross slope and super elevation data
- (ix) Railing type
- (x) Bent stations and bearings
- (xi) Retaining wall locations
- (xii) Approach pavement crown width
- (xiii) Typical bridge section displaying beam type and spacing
- (xiv) Joint and seal type

Profile View

- (i) Profile grade
- (ii) Vertical curve data
- (iii) Finished roadway elevation at begin/end of structure
- (iv) Overall length of structure
- (v) Existing and proposed ground lines clearly marked
- (vi) Profile view of grid elevations and stations
- (vii) Type of foundation, number, size and length of foundation elements
- (viii) Bent numbers
- (ix) Fixed or expansion condition at each beam end
- (x) Column heights
- (xi) Soil core data including penetrometer values and soil classification will be provided in Boring Log Sheets.
- (x) Any other information required in the TXDOT LRFD Bridge Design and Bridge Detailer's Manuals.

- b. The Engineer will perform detailed design and create custom bridge details for the Lake Creek and UPRR/Chisholm Trail Road Overpasses. Bridge design will be completed using 2013 AASHTO LRFD Bridge Design Specifications and HL 93 Loading. The Engineer will design and develop details for the following items for each of the structures:
 - (i) Boring Logs (showing bridge profile with foundation tips)
 - (ii) Estimated Quantities and Bearing Seat Elevations
 - (i) Abutments (Details for one abutment only)
 - (ii) Inverted T-Cap Interior Bents (Design only)
 - (iii) Concrete I-Girder Spans
 - (iv) I-Girder Design
 - (v) Foundation Design
 - (vi) Miscellaneous Bent Details (for both bridges)
 - (vii) Bridge Aesthetic Theme and Features Details (for both bridges)
- c. The Engineer will list the necessary TxDOT Statewide Standards for inclusion in the 100% contract plan set.
- d. 100% Deliverables:
 - Bridge Layout
 - Foundation Boring Log
 - Estimated Quantities and Bearing Seat Elevations
 - Abutment Details
 - Interior Bent Details
 - Form Liner Details for Column
 - Beam Layout
 - Concrete Beam Unit Details
 - Miscellaneous Bent Details
 - IGND Bridge Girder Design
 - Bridge Standards

5. RAILROAD COORDINATION AND EXHIBIT 'A'

Engineer will update Railroad Exhibit 'A' documents based on TxDOT and UPRR review comments to previous submittal.

6. AMENITIES, LANDSCAPE AND IRRIGATION (100%)

- a. Coordinate with bridge and retaining wall engineering staff on the color selection, form liner selection, and/or natural stone color and pattern selection for retaining walls and bridge structures on the project..
- b. Provide landscape plans, consisting of tree layouts to mitigate tree removal and/or any additional tree plantings within the project limits.
- c. Provide irrigation plans, consisting of locations of irrigation system mainlines, potential locations for clocks and controllers, the designation of different types of irrigation (drip or bubblers for tree irrigation), and the locations of sleeves for the installation of irrigation components on the

project, and specifications for inclusion in the project manual. Permanent irrigation will only be provided for the trees planted within the project contract area; turf areas will not be permanently irrigated.

- d. In the event that the total number of mitigated tree caliper inches cannot be incorporated within the contract area, one (1) offsite location within the City of Round Rock can be designated for the planting of trees to meet the mitigation requirements. Irrigation to trees at the designated off-site location is not included in this scope of work.

7. QUANTITIES

- a. The Engineer will calculate quantities for each of the following and as necessary to provide an Engineer's estimate of probable cost:
 - (i) Roadway Plans
 - (ii) Removal Plans
 - (iii) Drainage Plans
 - (iv) Water Quality Plans
 - (v) Water and Wastewater Relocation Plans
 - (vi) Signs, pavement markings, and signals
 - (vii) Traffic Control Plans
 - (viii) Illumination Plans
 - (ix) Retaining Wall Plans
 - (x) Bridge Plans

8. STANDARDS, SPECIFICATIONS AND ESTIMATE

- a. The Engineer will identify the appropriate TxDOT standards for the project. Standards requiring modification will be revised & sealed by the Engineer.
- b. The Engineer will update the opinion of probable construction cost at the 90% and 100% submittals.

The Engineer will perform the services to be provided under this agreement out of Engineer's office(s) as listed below:

<u>Service</u>	<u>Half Associates Office Location</u>
Project Management and Engineering Design	4030 West Braker Lane, Suite 450 Austin, TX 78759
Environmental Remediation	14800 St Mary's Lane, Suite 160 Houston, TX 77079
Water and Wastewater Design	Two Sierra Way, Suite 105 Georgetown, TX 78626
<u>Sub-Consultants:</u>	
CP&Y, Inc. (CPY)	
Kimley	Horn and Associates, Inc. (KHA)

ADDENDUM TO EXHIBIT C

Work Schedule

Halff Associates Inc. is prepared to continue work on this project immediately upon notice-to-proceed from the City of Round Rock. The proposed date for completion of services is December of 2015*. The proposed contract milestones are as follows:

- Contract Award / Notice to Proceed: **April 2015**
- TASK I: Project Management: **April 2015 - December 2015**
- TASK II: Site Civil, Environmental, and Architectural Services
 - Complete environmental assessments: 3 months from right-of-entry to properties (during due diligence period anticipated to start summer 2015) estimated completion: **October 2015**
 - Complete site plans at a date TBD by city.
- TASK III: Roadway Design (100% PS&E)
 - Submittal of 90% PS&E for review: **July 2015**
 - District Review of 90% PS&E: **August 2015**
 - Submittal of 100% PS&E for review: **December 2015**

** Target date for completion of ROW Acquisition by city (subject to change).*

ADDENDUM TO EXHIBIT D - Fee Schedule						
TASK / DESCRIPTION		DIRECT LABOR COSTS	PRINTING, PLOTTING	DELIV, TRAVEL & MISC	SUB CONSULTANTS	TOTAL COST FOR TASK (INCL MULT'S)
TASK	DESCRIPTION					
I.	PROJECT MANAGEMENT	\$34,350	\$110	\$410		\$34,870
II.	SITE CIVIL / ARCHITECTURAL MODIFICATIONS AND ESAs	\$193,304	\$350	\$5,250	\$22,550	\$221,454
III.	ROADWAY DESIGN (100% PS&E)	\$265,182	\$1,850	\$200	\$158,676	\$425,908
TOTAL FEE		\$492,836	\$2,310	\$5,860	\$181,226	\$682,232