

STATE OF TEXAS §
 §
COUNTY OF FORT BEND §

AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES

THIS AGREEMENT is made and entered into by and between Fort Bend County, (hereinafter “County”), a body corporate and politic under the laws of the State of Texas, and CP&Y, Inc., (hereinafter “Consultant”), a company authorized to conduct business in the State of Texas.

WITNESSETH

WHEREAS, County desires that Consultant provide professional engineering services for improvements to Watts Plantation Road under 2020 Mobility Bond Project No. 20209 (hereinafter “Services”) pursuant to SOQ 14-025; and

WHEREAS, County has determined Consultant is the most highly qualified provider of the desired Services on the basis of demonstrated competence and qualifications, and County and Consultant have negotiated to reach a fair and reasonable amount of compensation for the provision of such Services, as required under Chapter 2254 of the Texas Government Code; and

WHEREAS, Consultant represents that it is qualified and desires to perform such services.

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth below, the parties agree as follows:

AGREEMENT

Section 1. Scope of Services

Consultant shall render the professional engineering services as described in Consultant’s proposal dated August 23, 2021, attached hereto as Exhibit A, and incorporated herein for all purposes.

Section 2. Personnel

2.1 Consultant represents that it presently has, or is able to obtain, adequate qualified personnel in its employment for the timely performance of the Scope of Services required under this Agreement and that Consultant shall furnish and maintain, at its own expense, adequate and sufficient personnel, in the opinion of County, to perform the Scope of Services when and as required and without delays.

2.2 All employees of Consultant shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of Consultant who, in the opinion of County, is incompetent or by his conduct becomes detrimental to the project shall, upon request of County, immediately be removed from association with the project.

Section 3. Compensation and Payment

3.1 Consultant's fees shall be calculated at the rates set forth in the attached Exhibit A. The Maximum Compensation for the performance of Services within the Scope of Services described in Exhibit A is five hundred forty-two thousand five hundred ninety-two dollars and no/100 (\$542,592.00) as set forth in Exhibit A. In no case shall the amount paid by County under this Agreement exceed the Maximum Compensation without a written agreement executed by the parties.

3.2 All performance of the Scope of Services by Consultant including any changes in the Scope of Services and revision of work satisfactorily performed will be performed only when approved in advance and authorized by County.

3.3 County will pay Consultant based on the following procedures: Upon completion of the tasks identified in the Scope of Services, Consultant shall submit to County staff person designated by the County Engineer, one (1) electronic (pdf) copy of the invoice showing the amounts due for services performed in a form acceptable to County. County shall review such invoices and approve them within 30 calendar days with such modifications as are consistent with this Agreement and forward same to the Auditor for processing. County shall pay each such approved invoice within thirty (30) calendar days. County reserves the right to withhold payment pending verification of satisfactory work performed.

Section 4. Limit of Appropriation

4.1 Consultant clearly understands and agrees, such understanding and agreement being of the absolute essence of this Agreement, that County shall have available the total maximum sum of five hundred forty-two thousand five hundred ninety-two dollars and no/100 (\$542,592.00) specifically allocated to fully discharge any and all liabilities County may incur.

4.2 Consultant does further understand and agree, said understanding and agreement also being of the absolute essence of this Agreement, that the total maximum compensation that Consultant may become entitled to and the total maximum sum that County may become liable to pay to Consultant shall not under any conditions, circumstances, or interpretations thereof exceed five hundred forty-two thousand five hundred ninety-two dollars and no/100 (\$542,592.00).

Section 5. Time of Performance

Time for performance of the Scope of Services under this Agreement shall begin with receipt of the Notice to Proceed and end no later than December 31, 2025. Consultant shall complete the tasks described in the Scope of Services, within this time or within such additional time as may be extended by the County.

Section 6. Modifications and Waivers

6.1 The parties may not amend or waive this Agreement, except by a written agreement executed by both parties.

6.2 No failure or delay in exercising any right or remedy or requiring the satisfaction of any condition under this Agreement, and no course of dealing between the parties, operates as a waiver or estoppel of any right, remedy, or condition.

6.3 The rights and remedies of the parties set forth in this Agreement are not exclusive of, but are cumulative to, any rights or remedies now or subsequently existing at law, in equity, or by statute.

Section 7. Termination

7.1 Termination for Convenience – County may terminate this Agreement at any time upon forty-eight (48) hours written notice.

7.2 Termination for Default

7.2.1 County may terminate the whole or any part of this Agreement for cause in the following circumstances:

7.2.1.1 If Consultant fails to perform services within the time specified in the Scope of Services or any extension thereof granted by the County in writing;

7.2.1.2 If Consultant materially breaches any of the covenants or terms and conditions set forth in this Agreement or fails to perform any of the other provisions of this Agreement or so fails to make progress as to endanger performance of this Agreement in accordance with its terms, and in any of these circumstances does not cure such breach or failure to County's reasonable satisfaction within a period of ten (10) calendar days after receipt of notice from County specifying such breach or failure.

7.2.2 If, after termination, it is determined for any reason whatsoever that Consultant was not in default, or that the default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the County in accordance with Section 7.1 above.

7.3 Upon termination of this Agreement, County shall compensate Consultant in accordance with Section 3, above, for those services which were provided under this Agreement prior to its termination and which have not been previously invoiced to County. Consultant's final invoice for said services will be presented to and paid by County in the same manner set forth in Section 3 above.

7.4 If County terminates this Agreement as provided in this Section, no fees of any type, other than fees due and payable at the Termination Date, shall thereafter be paid to Consultant.

Section 8. Ownership and Reuse of Documents

All documents, data, reports, research, graphic presentation materials, etc., developed by Consultant as a part of its work under this Agreement, shall become the property of County upon completion of this Agreement, or in the event of termination or cancellation thereof, at the time

of payment under Section 3 for work performed. Consultant shall promptly furnish all such data and material to County on request.

Section 9. Inspection of Books and Records

Consultant will permit County, or any duly authorized agent of County, to inspect and examine the books and records of Consultant for the purpose of verifying the amount of work performed under the Scope of Services. County's right to inspect survives the termination of this Agreement for a period of four years.

Section 10. Insurance

10.1 Prior to commencement of the Services, Consultant shall furnish County with properly executed certificates of insurance which shall evidence all insurance required and provide that such insurance shall not be canceled, except on 30 days' prior written notice to County. Consultant shall provide certified copies of insurance endorsements and/or policies if requested by County. Consultant shall maintain such insurance coverage from the time Services commence until Services are completed and provide replacement certificates, policies and/or endorsements for any such insurance expiring prior to completion of Services. Consultant shall obtain such insurance written on an Occurrence form (or a Claims Made form for Professional Liability insurance) from such companies having Best's rating of A/VII or better, licensed or approved to transact business in the State of Texas, and shall obtain such insurance of the following types and minimum limits:

10.1.1 Workers' Compensation insurance. Substitutes to genuine Workers' Compensation Insurance will not be allowed.

10.1.2 Employers' Liability insurance with limits of not less than \$1,000,000 per injury by accident, \$1,000,000 per injury by disease, and \$1,000,000 per bodily injury by disease.

10.1.3 Commercial general liability insurance with a limit of not less than \$1,000,000 each occurrence and \$2,000,000 in the annual aggregate. Policy shall cover liability for bodily injury, personal injury, and property damage and products/completed operations arising out of the business operations of the policyholder.

10.1.4 Business Automobile Liability insurance with a combined Bodily Injury/Property Damage limit of not less than \$1,000,000 each accident. The policy shall cover liability arising from the operation of licensed vehicles by policyholder.

10.1.5 Professional Liability insurance may be made on a Claims Made form with limits not less than \$1,000,000.

10.2 County and the members of Commissioners Court shall be named as additional insured to all required coverage except for Workers' Compensation and Professional Liability. All Liability policies including Workers' Compensation written on behalf of Consultant shall contain a waiver of subrogation in favor of County and members of Commissioners Court.

10.3 If required coverage is written on a claims-made basis, Consultant warrants that any retroactive date applicable to coverage under the policy precedes the effective date of the contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of 2 years beginning from the time that work under the Agreement is completed.

Section 11. Indemnity

CONSULTANT SHALL INDEMNIFY AND HOLD HARMLESS COUNTY AGAINST LOSSES, LIABILITIES, CLAIMS, AND CAUSES OF ACTION, INCLUDING THE REIMBURSEMENT OF COUNTY'S REASONABLE ATTORNEYS FEES IN PROPORTION TO CONSULTANT'S LIABILITY, ARISING FROM ACTIVITIES OF CONSULTANT, ITS AGENTS, SERVANTS OR EMPLOYEES, PERFORMED UNDER THIS AGREEMENT THAT RESULT FROM THE NEGLIGENT ACT, INTENTIONAL TORT, ERROR, OR OMISSION OF CONSULTANT OR ANY OF CONSULTANT'S AGENTS, SERVANTS OR EMPLOYEES.

Section 12. Confidential and Proprietary Information

12.1 Consultant acknowledges that it and its employees or agents may, in the course of performing their responsibilities under this Agreement, be exposed to or acquire information that is confidential to County. Any and all information of any form obtained by Consultant or its employees or agents from County in the performance of this Agreement shall be deemed to be confidential information of County ("Confidential Information"). Any reports or other documents or items (including software) that result from the use of the Confidential Information by Consultant shall be treated with respect to confidentiality in the same manner as the Confidential Information. Confidential Information shall be deemed not to include information that (a) is or becomes (other than by disclosure by Consultant) publicly known or is contained in a publicly available document; (b) is rightfully in Consultant's possession without the obligation of nondisclosure prior to the time of its disclosure under this Agreement; or (c) is independently developed by employees or agents of Consultant who can be shown to have had no access to the Confidential Information.

12.2 Consultant agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Consultant uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purposes whatsoever other than the provision of Services to County hereunder, and to advise each of its employees and agents of their obligations to keep Confidential Information confidential. Consultant shall use its best efforts to assist County in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limitation of the foregoing, Consultant shall advise County immediately in the event Consultant learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Agreement and Consultant will at its expense cooperate with County in seeking injunctive or other equitable relief in the name of County or Consultant against any such person. Consultant agrees that, except as directed by County, Consultant will not at any time during

or after the term of this Agreement disclose, directly or indirectly, any Confidential Information to any person, and that upon termination of this Agreement or at County's request, Consultant will promptly turn over to County all documents, papers, and other matter in Consultant's possession which embody Confidential Information.

12.3 Consultant acknowledges that a breach of this Section, including disclosure of any Confidential Information, or disclosure of other information that, at law or in equity, ought to remain confidential, will give rise to irreparable injury to County that is inadequately compensable in damages. Accordingly, County may seek and obtain injunctive relief against the breach or threatened breach of the foregoing undertakings, in addition to any other legal remedies that may be available. Consultant acknowledges and agrees that the covenants contained herein are necessary for the protection of the legitimate business interest of County and are reasonable in scope and content.

12.4 Consultant in providing all services hereunder agrees to abide by the provisions of any applicable Federal or State Data Privacy Act.

12.5 Consultant expressly acknowledges that County is subject to the Texas Public Information Act, TEX. GOV'T CODE ANN. §§ 552.001 *et seq.*, as amended, and notwithstanding any provision in the Agreement to the contrary, County will make any information related to the Agreement, or otherwise, available to third parties in accordance with the Texas Public Information Act. Any proprietary or confidential information marked as such provided to County by Consultant shall not be disclosed to any third party, except as directed by the Texas Attorney General in response to a request for such under the Texas Public Information Act, which provides for notice to the owner of such marked information and the opportunity for the owner of such information to notify the Attorney General of the reasons why such information should not be disclosed.

Section 13. Independent Consultant

13.1 In the performance of work or services hereunder, Consultant shall be deemed an independent contractor, and any of its agents, employees, officers, or volunteers performing work required hereunder shall be deemed solely as employees of contractor or, where permitted, of its subcontractors.

13.2 Consultant and its agents, employees, officers, or volunteers shall not, by performing work pursuant to this Agreement, be deemed to be employees, agents, or servants of County and shall not be entitled to any of the privileges or benefits of County employment.

Section 14. Notices

14.1 Each party giving any notice or making any request, demand, or other communication (each, a "Notice") pursuant to this Agreement shall do so in writing and shall use one of the following methods of delivery, each of which, for purposes of this Agreement, is a writing: personal delivery, registered or certified mail (in each case, return receipt requested and postage prepaid), or nationally recognized overnight courier (with all fees prepaid).

14.2 Each party giving a Notice shall address the Notice to the receiving party at the address listed below or to another address designated by a party in a Notice pursuant to this Section:

County: Fort Bend County Engineering Department
Attn: County Engineer
301 Jackson Street
Richmond, Texas 77469

With a copy to: Fort Bend County
Attn: County Judge
401 Jackson Street, 1st Floor
Richmond, Texas 77469

Consultant: CP&Y, Inc.
11757 Katy Freeway, Suite 1540
Houston, Texas 77079

14.3 A Notice is effective only if the party giving or making the Notice has complied with subsections 14.1 and 14.2 and if the addressee has received the Notice. A Notice is deemed received as follows:

14.3.1 If the Notice is delivered in person, or sent by registered or certified mail or a nationally recognized overnight courier, upon receipt as indicated by the date on the signed receipt.

14.3.2 If the addressee rejects or otherwise refuses to accept the Notice, or if the Notice cannot be delivered because of a change in address for which no Notice was given, then upon the rejection, refusal, or inability to deliver.

Section 15. Compliance with Laws

Consultant shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of this Agreement, including, without limitation, Worker's Compensation laws, minimum and maximum salary and wage statutes and regulations, licensing laws and regulations. When required by County, Consultant shall furnish County with certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

Section 16. Standard of Care

Consultant represents shall perform the Services to be provided under this Agreement with the professional skill and care ordinarily provided by competent engineers practicing under the same or similar circumstances and professional license. Further, Consultant shall perform the Services as expeditiously as is prudent considering the ordinary professional skill and care of a competent engineer.

Section 17. Assignment

17.1 Neither party may assign any of its rights under this Agreement, except with the prior written consent of the other party. That party shall not unreasonably withhold its consent. All assignments of rights are prohibited under this subsection, whether they are voluntarily or involuntarily, by merger, consolidation, dissolution, operation of law, or any other manner.

17.2 Neither party may delegate any performance under this Agreement.

17.3 Any purported assignment of rights or delegation of performance in violation of this Section is void.

Section 18. Applicable Law

The laws of the State of Texas govern all disputes arising out of or relating to this Agreement. The parties hereto acknowledge that venue is proper in Fort Bend County, Texas, for all legal actions or proceedings arising out of or relating to this Agreement and waive the right to sue or be sued elsewhere. Nothing in the Agreement shall be construed to waive the County's sovereign immunity.

Section 19. Successors and Assigns

County and Consultant bind themselves and their successors, executors, administrators and assigns to the other party of this Agreement and to the successors, executors, administrators and assigns of the other party, in respect to all covenants of this Agreement.

Section 20. Third Party Beneficiaries

This Agreement does not confer any enforceable rights or remedies upon any person other than the parties.

Section 21. Severability

If any provision of this Agreement is determined to be invalid, illegal, or unenforceable, the remaining provisions remain in full force, if the essential terms and conditions of this Agreement for each party remain valid, binding, and enforceable.

Section 22. Publicity

Contact with citizens of Fort Bend County, media outlets, or governmental agencies shall be the sole responsibility of County. Under no circumstances whatsoever, shall Consultant release any material or information developed or received in the performance of the Services hereunder without the express written permission of County, except where required to do so by law.

Section 23. Captions

The section captions used in this Agreement are for convenience of reference only and do not affect the interpretation or construction of this Agreement.

Section 24. Conflict

In the event there is a conflict between this Agreement and the attached exhibits, this Agreement controls.

Section 25. Certain State Law Requirements for Contracts

25.1 Agreement to Not Boycott Israel Chapter 2271 Texas Government Code: By signature below, Consultant verifies that if Consultant employs ten (10) or more full-time employees and this Agreement has a value of \$100,000 or more, Consultant does not boycott Israel and will not boycott Israel during the term of this Agreement.

25.2 Texas Government Code Section 2251.152 Acknowledgment: By signature below, Consultant represents pursuant to Section 2252.152 of the Texas Government Code, that Consultant is not listed on the website of the Comptroller of the State of Texas concerning the listing of companies that are identified under Section 806.051, Section 807.051 or Section 2253.153.

Section 26. Human Trafficking

BY ACCEPTANCE OF AGREEMENT, CONSULTANT ACKNOWLEDGES THAT THE COUNTY IS OPPOSED TO HUMAN TRAFFICKING AND THAT NO COUNTY FUNDS WILL BE USED IN SUPPORT OF SERVICES OR ACTIVITIES THAT VIOLATE HUMAN TRAFFICKING LAWS.

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK.]

IN WITNESS WHEREOF, the parties hereto have signed or have caused their respective names to be signed to multiple counterparts to be effective on the date signed by the last party hereto.

FORT BEND COUNTY

CP&Y, INC

KP George, County Judge

Authorized Agent – Signature

Date

Robin Handel, PE
Authorized Agent – Printed Name

ATTEST:

Senior Vice President
Title

Laura Richard, County Clerk

9/30/2021
Date

APPROVED:

J. Stacy Slawinski, P.E., County Engineer

AUDITOR'S CERTIFICATE

I hereby certify that funds are available in the amount of \$_____ to accomplish and pay the obligation of Fort Bend County under this contract.

Robert Ed Sturdivant, County Auditor

EXHIBIT A

August 23, 2021

Fort Bend County
Engineering Department
301 Jackson St., Suite 401
Richmond, TX 77469

Attn: J. Stacy Slawinski, PE., County Engineer

**Re: Watts Plantation Road Project (Fort Bend County 2020 Mobility Bond Project No. 20209)
CP&Y Inc. Design Scope & Fee Estimate**

Dear Mr. Slawinski,

CP&Y Inc. respectfully submits to you our design scope and fee for the above reference project, based on your previous comments. We estimate our “Scope” of design services, as detailed herein, to be a lump sum fee amount of \$542,592.00.

We appreciate the opportunity to submit this proposal to you and look forward to working with you and Fort Bend County staff on this project. Should you have any questions concerning this proposal, please contact me at 713-579-7410.

Sincerely,



Qayyum K. Javed, P.E.,
Project Manager

Attachments:

- Exhibit A – Scope of Services and summary of deliverable documents
- Exhibit B – Prime (CP&Y Inc) and Subconsultants Summary of Compensation
- Exhibit C – Surveyor (Costello, Inc.) Scope and Compensation Details
- Exhibit D – Geotech (HTS Consultants) Scope and Compensation Details
- Exhibit E – Drainage (KAVI Consultants) Scope and Compensation Details
- Exhibit F – Proposed Project Design Schedule



EXHIBIT A

SCOPE OF SERVICES AND DELIVERABLE DOCUMENTS

1. PROJECT DESCRIPTION

CP&Y, Inc. (ENGINEER) and its sub-consultants will provide professional engineering services to Fort Bend County (County) for the rehabilitation of the existing 2 12-ft wide lane asphalt roadway along Watts Plantation from Sienna Parkway to Knight Road (approximately 7,700 feet). The desired improvement will require an evaluation of the pavement and repair where needed. The project will also require a resurface of existing asphalt surface through the project limits and widening of the existing pavement to include 6-ft wide shoulders on both sides. All driveways and intersecting roads will be reconstructed through the project limits per Fort Bend County standards.

The aforementioned roadway will be developed to generally match into the termini described above, with services including surveying, right-of-way mapping, geotechnical investigations, roadway design, drainage design and utility coordination.

2. BASE SCOPE OF DESIGN PHASE SERVICES

2.1 PROJECT MANAGEMENT

- 2.1.1 The ENGINEER shall coordinate with County's Project Manager, manage the efforts of the ENGINEER's personnel, assign manpower, delegate responsibilities, monitor conformance to the scope regarding the budget and schedule, and direct the progress of work. Prepare and submit invoices and progress reports to the County, per the terms of this Contract.
- 2.1.2 The ENGINEER will schedule and attend periodic progress meetings at the PER/30% submittal, and additional meetings as needed at the 70%, 95% and 100% submittal milestones (estimated 4 total) in order to review the progress of the engineering effort or address other issues which may arise. The ENGINEER will initiate meetings that include his Consultants, and if necessary other parties. The ENGINEER shall prepare and deliver meeting record memorandum of decisions and action items after each meeting in a timely manner.
- 2.1.3 The ENGINEER will schedule and attend periodic meetings with local drainage district, city, municipal utility district, and property owners, as needed (assumed 4 total) to collect data and collaborate on the engineering effort or address other issues which may arise. ENGINEER will prepare and develop relevant exhibits, as necessary, to effectively communication with property owners. The ENGINEER shall prepare and deliver meeting record memorandum of decisions and action items after each meeting in a timely manner.
- 2.1.4 The ENGINEER shall coordinate with its sub-consultants, and monitor conformance to the scope regarding the budget, schedule, and progress of the work.
- 2.1.5 The ENGINEER shall implement and perform Quality Assurance and Quality Control (QA/QC) measures at the PER/30%, 70%, 95% and 100% plan submittal milestones.

- 2.1.6 The ENGINEER shall review work progress, and address plan submittal review comments from County and private utilities, as applicable, at each plan submittal milestone.
- 2.1.7 Provide coordination and review of proposed parcel and description documents and answer questions as needed during ROW acquisition process.

2.2 PRELIMINARY DESIGN

2.2.1 Project Surveying:

The ENGINEER will perform topographic survey, to include the following:

Topographic / Control / Right-of-Way Surveys / Utilities

- a. Establish Project Control (horizontal & vertical), including control sheets.
- b. Full topographic surveys from right-of-way to right-of-way, plus twenty (20) feet on either side; survey will include all pavement highs & lows and cross-sections at a maximum interval of 100'; three (3) cross-sections will be taken upstream and downstream of crossing streams/ditches (cross-section at face of bridge/culvert, at 50' & 100' beyond right-of-way).
- c. Flowline, size, direction & type of all storm manholes, inlets, and culverts.
- d. Flowline, size, direction & type of all sanitary sewer manholes.
- e. Mapping of topographic surveys.
- f. Subsurface Utility Engineering Quality Level "B"; submit "Locate 811" requests and tie all utility markings.
- g. Coordinate with location and probes of Nustar and Enterprise pipelines.
- h. Deed research and field surveys to produce right-of-way survey maps and prepare Metes and Bounds description to acquire the needed ROW for the project.
- i. Topographic survey of detention pond (exact location not identified at this time); survey will include all grade breaks and a maximum grid interval of 100'
- j. Deliverables will include Topographic Survey/Right-of-Way maps include monument control, CADD files, Ascii point file, Digital Terrain Model with 1-foot contours, and TIN file (XML format)

Proposed Parcel Documents - Right-of-Way Parcels (14)

- k. ENGINEER shall prepare parcel maps and metes & bounds descriptions for an estimated fourteen (14) parcels. The number of parcels will be verified by the Engineer during the PER phase after survey is completed. The parcel surveys will include:
 - i. Field work to support parcel development
 - ii. Parcel maps
 - iii. Metes and Bounds descriptions
 - iv. Setting corners of parcels

Pre-Construction Phase Services

1. The ENGINEER shall perform the following, as requested by the County:
 - i. Survey Updates:
 - ii. Stake project right-of-way for utility relocation control, as needed.
 - iii. Refresh the survey control for commencement of construction.

2.2.2 Geotechnical Investigation:

The ENGINEER will perform geotechnical investigation, to include the following:

- a. Core the existing asphalt pavement and drill and sample 16 geotechnical borings (at approximately 500 lf spacing) at the core locations to a depth of 15 feet beneath the surface where the construction is to be performed.
- b. Obtain both disturbed and relatively undisturbed soil samples continuously to a depth of 15 feet and intermittently thereafter.
- c. Measure the groundwater depth during drilling and after the completion of drilling.
- d. Mark the boring locations and obtain GPS coordinates for the surveyor's use in obtaining the boring locations, offsets, and elevations.
- e. Backfill the boreholes with grout after the completion of the groundwater level measurements.
- f. Perform moisture content, Atterberg limits, percent soil particles passing a No. 200 sieve, and dry density of soils in order to define subgrade soil classifications and physical soil properties.
- g. Characterize the site subsoil and groundwater conditions and provide the results on the boring logs (using "gINT" LogWriter software).
- h. Provide recommendation for reconstruction of the pavement which may include full depth repairs, spot repair, or resurfacing depending on the existing pavement condition. Pavement design analyses for the roadway improvement will be performed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) and Fort Bend/Harris County design guidelines and requirements for roadways.
- i. Develop/provide recommendations concerning the design and construction of a temporary pavement section for the roadway improvement project as well as site preparation and stabilization requirements for the pavement subgrade soils.
- j. Perform engineering analyses as necessary to develop recommendations pertaining to roadside ditch safe side slopes, lateral earth pressures on underground structures, dewatering requirements for excavations, utility trench shoring and bracing requirements, OSHA soil type classifications pertinent to trench shoring and bracing design, excavation/backfill requirements, and utility bedding requirements.
- k. Submit a pdf file of the final report that presents the results of the geotechnical investigation.
- l. Based upon our understanding of the project requirements, it is proposed that the scope of work for the geotechnical services regarding the construction of proposed detention pond consist of the following tasks, as

requested by the County:

- i. Drill and sample a total of 2 geotechnical borings to a depth of 20 feet beneath the surface within the area of the proposed detention pond that will be determined during the PER phase.
- ii. Obtain both disturbed and relatively undisturbed soil samples continuously to a depth of 15 feet and intermittently thereafter.
- iii. Measure the depth to groundwater during drilling and after the completion of drilling.
- iv. Backfill the boreholes with soil cuttings after the completion of drilling.
- v. Perform laboratory soil tests on samples obtained during the drilling of the borings in order to determine the engineering properties of the soil.
- vi. Characterize the site subsoil and groundwater conditions and provide the results on the boring logs (using “gINT” LogWriter software).
- vii. Perform engineering analyses in order to develop data, parameters, and recommendations that may be used for the design and construction of the proposed detention ponds. Engineering analyses will include the following items:
 - slope stability analyses to provide safe side slopes for the proposed detention ponds,
 - OSHA requirements for trenches and bracing,
 - groundwater control and dewatering requirements during construction,
 - erosion control requirements, and
 - suitability concerning the use of excavated soils.
- viii. Submit a pdf file of a report which presents the results of the geotechnical investigation.

2.2.3 Drainage Analysis & Report:

The ENGINEER will perform hydrologic and hydraulic analysis along the project, for both the existing and proposed conditions. The analysis will help to confirm the required sizes of the proposed roadside ditches and detention facilities and verify that the proposed project meets the County’s design criteria. In coordination with the Fort Bend County Drainage District Engineer, the following tasks will be performed:

Task A: Hydrologic Analysis

- a. Existing Conditions Hydrologic Analysis: ENGINEER will perform an existing conditions hydrologic analysis for the project site, while accounting for the latest Atlas 14 precipitation values. This task will include verifications of external and internal drainage areas delineation, verifying the Tc, land use and the computed design and 5-, 25- and 100-yr peak flows.
- b. Perform Proposed Conditions Hydrologic Analysis: ENGINEER will perform a proposed conditions hydrologic analysis for the project site, while accounting for the latest Atlas 14 precipitation values. This task will include delineating or

revising proposed conditions internal and external drainage areas, determining T_c , land use, and computing the design and 5-, 25- and 100-year peak flows using the Rational Method. The flows calculated will be utilized to size the proposed inlets and storm sewer pipes or ditches.

Task B: Hydraulic Analysis (for roadside ditches and detention facilities)

- c. Existing Conditions Hydraulic Analysis: Using a 1-D hydraulics model, ENGINEER will verify and confirm the hydraulic conditions of the existing ditches. The tailwater conditions at the ditch outfall locations will be analyzed, and the design storm and 100-year hydraulic grade line (HGL) will be verified and confirmed.
- d. Perform Proposed Conditions Hydraulic Analysis: ENGINEER will prepare a proposed conditions hydraulic model to analyze the proposed drainage system and proposed cross-culvert(s) performance for the design storm and up to the 100-yr event. The HGL for both storm events will be determined and shown on the plan and profile sheets. The one (1) cross culvert under Watts Plantation Rd to be analyzed will be east of Diamond Springs Dr at the western end of the project.

In case of runoff increases from existing to proposed conditions, ENGINEER will investigate mitigating the increase runoff in the form of detention ponds or similar facility as coordinated with the County Drainage Engineer and Program Engineer. The shallow nature of the topography may require up to two (2) shallow ponds.

- e. Modify Hydraulic Analysis: This task will includes modifying the hydraulic analysis up to two times to incorporate changes in the design.
- f. Preliminary Detention Mitigation for Proposed Conditions: This task will include preliminary dimensions and layout of proposed detention facilities for the purpose of County review and coordination. Detention pond, if required, will provided under in another task under the final design services, to be authorized by the County.

Task C: H&H Memo / Documentation

- g. Prepare Draft H&H Memo: ENGINEER will document the results of the drainage analysis in a report to be included in the project Preliminary Engineering Report. Digital files of the computer model and exhibits developed for this project will be provided.

2.2.4 Preliminary Geometric Layout (30% Design):

- a. The ENGINEER will first evaluate minor horizontal alignment and right-of-way alternatives utilizing partial survey, available LiDAR, GIS, and aerial images to establish the preferred alignment that minimizes impacts to right-of-way and existing utilities, minimize environmental impacts and optimizes design. The alignment alternatives will be submitted on PDF scroll plots for County's review and a final determination of the proposed alignment.
- b. The ENGINEER will attend and conduct a preliminary alignment meeting to include key County staff.
- c. The ENGINEER will develop preliminary plan and profile sheets for the proposed project alignment. The preliminary plans shall show the proposed

project centerline/alignment including Station PC, PTs, and proposed right-of-way (ROW) limits based on the proposed roadway typical section and anticipated cross slopes; as well as existing features (seen and unseen) shown in plan and profile, and proposed roadway features in plan only with minor annotation. The preliminary profile shall show the existing ground profile at centerline and right-of-way. Existing and proposed ditch flowlines and culverts under the roadway as well as the driveways and intersections. Proposed storm sewer trunkline profile shall be shown (as recommended by H&H Study).

- d. The ENGINEER will develop a preliminary roadway typical section sheet for project.
- e. The ENGINEER will develop conceptual construction sequencing/phasing plan, depicted in typical sections.
- f. The ENGINEER will develop a preliminary engineering report (PER) to document project attributes, criteria met, and recommendations.
- g. The ENGINEER will attend and conduct a review meeting to include key County staff.

Preliminary (30%) Design Submittal Deliverables:

- Preliminary Engineering Report, including the following:
 - Design Narrative, including ROW acquisition needs, utility conflict list, permit/regulatory requirements, issues, and recommendations
 - Drainage Report
 - Preliminary (30%) Typical Section(s)
 - Preliminary (30%) Plan & Profile Sheets
 - Preliminary drainage profiles for roadside ditches, culverts, storm sewers, etc.
 - Preliminary construction cost estimate
 - Geotechnical report (may be submitted after PER)

2.3 UTILITY COORDINATION

The ENGINEER will:

- 2.3.1 Perform records research and field visits to determine the presence of underground or overhead private or public utilities during the Preliminary Design phase.
- 2.3.2 Send records requests to utilities and obtain I.D. numbers (CenterPoint and AT&T).
- 2.3.3 Depict utilities to a reasonable degree of accuracy on the plan and profile drawings.
- 2.3.4 Prepare a conflict table during the Preliminary Design phase to highlight conflicts between existing utilities and proposed improvements, to be at each milestone of 30%, 70%, 95% & 100%. This table to include the utility company's point of contact, dates contacted, and list of specific items provided.
- 2.3.5 Submit milestone-level drawings to applicable utility companies for their review.
- 2.3.6 Prepare limited relocation details for municipal utility conflicts, within the limits of existing utilities.

2.4 FINAL DESIGN:

Final design services shall include necessary engineering services for preparation of plans and specifications and estimate for the project. The ENGINEER will provide the County the necessary final engineering services (design, meetings, coordination, etc.) for the design of the planned improvements. All designs will conform to the latest engineering standards for projects of this size and complexity. In addition, all drawings and standards will conform to the County's latest engineering guidelines. The construction package will contain the necessary drawings, notes, and details including specifications. The Engineer will perform coordination with all affected utility companies within the project limits. The Engineer's review submittals shall include 70%, 95%, then a Final (100%) submittal (signed and sealed). CADD drawings and survey shall be provided to the County upon closeout. The ENGINEER will provide:

2.4.1 Traffic Control Plans:

The ENGINEER will provide the County construction traffic control plans (at 1" = 100' Scale) illustrating the phases necessary to construct the planned improvements with as little interruption to the traveling public as possible. All plans will conform to the latest Texas Manual on Uniform Traffic Control Devices (TMUTCD) and the County's latest guidelines. It is noted that there are no Signal Designs currently planned for this project. All intersections will operate as Stop Operations. The Engineer will also provide the County permanent pavement marking and signage plans.

2.4.2 Storm Water Pollution Prevention Plan:

The ENGINEER will provide to the County with a Storm Water Pollution Prevention Plan (SWPPP) at 1" = 100' Scale, and specifications in accordance with TPDES and additional County guidelines.

2.4.3 Miscellaneous Plans & Details including cover sheet, sheet index, general notes, project layout, survey control, horizontal alignment data, driveway details, standard construction detail sheets, and project sign sheet.

2.4.4 Typical Sections depicting pavement structure, dimensions, cross slope, lane configuration, and roadway side slopes or ditch configuration.

2.4.5 Drainage Area Map, Drainage Calculations, Cross Culvert Extension Plan & Profile Layouts

2.4.6 Detention Pond Layout(s) and Pond Calculations Sheets (if authorized by County)

2.4.7 Plan and Profile Sheets at 1" = 40' horizontal and 1" = 4' vertical Scale.

2.4.8 Cross Sections at maximum 100-foot stations, including earthwork quantities

2.4.9 Construction Cost Estimate

2.4.10 Specification Table

Interim (70%) Design Submittal Deliverables:

- Cover sheet
- Sheet Index
- Typical and non-standard cross sections

- Overall project layout
- Survey control map
- Horizontal Alignment Data
- Drainage area map with hydraulic calculations
- Plan and profile sheets
- Traffic control plan
- Storm Water Pollution Prevention Plan
- Cross Sections
- Specification Table of Contents
- Construction Cost Estimate
- Responses to 30% /PER Comments

Three copies of the 70 percent submittal will be required for County review, and drawings can be submitted on 11-inch by 17-inch sheets. A digital copy in Adobe Acrobat format (PDF) of the drawings, specifications and estimate will also be required.

Pre-Final (95%) Design Submittal Deliverables:

The 95 percent submittal should be considered complete with 95% interim seal, and shall include all the 70 percent requirements plus the following:

- General notes sheet
- Verify earthwork quantities with cross sections at 100-foot intervals
- Signage and pavement marking plans (signs may be shown on plan and profile sheets and use of pavement marking standards is encouraged)
- Driveway grading summary and detail sheet
- Standard construction details
- Project manual (specification table of contents, any special specifications, or conditions; bid form and contract documents excluded)
- Responses to 70 percent comments

Physical submittal requirements are the same as for the 70 percent submittal.

Final (100%) Submittal Deliverables:

The 100 percent design submittal shall consist of responses to 95 percent comments, one sealed and signed set of drawings delivered to the County, along with a PDF submittal of the drawings, specifications, and estimate.

- a. The engineer will address comments from the County and/or program manager past 100% submittal if County and/or the program manager deem deliverables need revisions. Prepare project manual and plans for distribution to county for issuance to potential bidders electronically.

3. BID & CONSTRUCTION PHASE SERVICES

3.1 PROJECT MANAGEMENT

ENGINEER shall perform the following services in assisting the County during the bidding and construction phase.

- b. Attend the pre-bid meeting with the county's representative and county's Project Manager.
- c. Review and respond to bidder's questions submitted during the bid advertisement period.
- d. Attend pre-construction meeting with the county after the bid closing date.
- e. Receive and review submittals from the selected contractor for the project.
- f. Review and respond to contractor's request for information (RFI) during project construction.
- g. Attend the substantial completion walk through with county PM and others.
- h. Prepare record drawings set for submittal to county.
- i. Provide coordination and review of additional geotechnical investigation and report.
- j. Provide coordination for survey updates, as needed.
- k. Provide Coordination with Environmental Consultant and implement recommendations/requirements into the project design, as needed.

3.2 ENVIRONMENTAL SITE ASSESSMENT

- 3.2.1 An Environmental Site Assessment is not anticipated. If requested by the County, this task may be added by contract amendment.

4. SERVICES TO BE PROVIDED BY THE COUNTY

The County, or it's agent via separate contract, will provide the following items and services including, but not limited to:

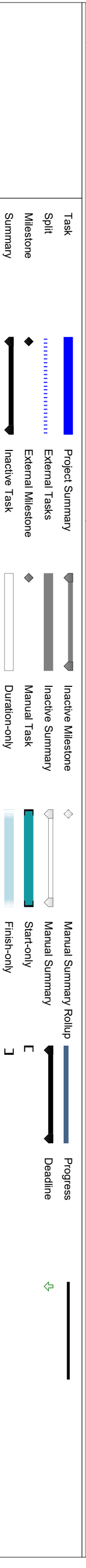
- 4.1 Preliminary wetlands investigation, or other required environmental studies. Notification of the ENGINEER, if additional mitigating efforts or requirements will be required.
- 4.2 Project notification to the Texas Historical Commission, if required.
- 4.3 Assist in securing permits from governing agencies, if needed.
- 4.4 Assist the Design Consultant in identifying major utilities and providing contact information for various utilities as needed.
- 4.5 Assist the Design Consultant with coordinating directly with utility companies to communicate utility adjustments and facilitate agreements required by the proposed improvements.

**EXHIBIT B
SUMMARY OF COMPENSATION FOR PROFESSIONAL SERVICES
METHOD OF PAYMENT: LUMP SUM**

PRIME PROVIDER: CP&Y, INC.
PROJECT NAME: WATTS PLANTATION ROAD

TASK DESCRIPTION	PROJECT MANAGER	PROJECT ENGINEER	STAFF ENGINEER	GRADUATE ENGINEER (EIT)	SENIOR CADD/ DESIGNER	CADD/ DESIGNER	CLERICAL/ ADMIN	TOTAL HOURS	Task Total	NO OF DWGS	LABOR HRS PER SHEET SHT
2. BASE SCOPE OF DESIGN PHASE SERVICES									\$ 511,112.00		
2.1 PROJECT MANAGEMENT											
2.1.1 COORDINATE W/COUNTY PM. & MANAGE STAFF	48						12	60	\$ 10,272.00		
2.1.2 ATTEND PROGRESS MEETINGS	20							20	\$ 3,880.00		
2.1.3 COORDINATE W/ AGENCIES & PROPERTY OWNERS	40						4	44	\$ 8,080.00		
2.1.4 COORDINATE W/ SUBS	60							60	\$ 11,640.00		
2.1.5 COORDINATE & REVIEW PROPOSED PARCEL & DESC DOCUMENTS	6	24						32	\$ 5,236.00		
2.1.6 COORDINATE DETENTION POND GEOTECHNICAL INVESTIGATION	1	2					1	4	\$ 600.00		
2.1.7 COORDINATE & REVIEW PROPOSED MITIGATION DESIGN	4	8					2	14	\$ 2,240.00		
2.2 PRELIMINARY DESIGN											
2.2.1 PROJECT SURVEYING (BY OTHERS)											
a. TOPOGRAPHIC/CONTROL/ROW SURVEYS/UTILITIES									\$ 58,990.00		
b. RIGHT OF WAY MAPPING									\$ 17,450.00		
c. RIGHT-OF-WAY ACQUISITION PARCELS									\$ 35,500.00		
d. RECOVER / RESET PROJECT CONTROL (AFTER PRE-CONSTRUCTION MEETING)									\$ 1,600.00		
2.2.3 GEOTECHNICAL INVESTIGATION (BY OTHERS)											
a. GEOTECHNICAL SCOPE FOR ROAD REHABILITATION									\$ 21,388.00		
b. GEOTECHNICAL SCOPE FOR DETENTION POND									\$ 10,064.00		
2.2.4 PRELIMINARY DRAINAGE ANALYSIS & REPORT (BY OTHERS)											
									\$ 39,730.00		
2.2.5 PRELIM GEOMETRIC LAYOUT (30% DESIGN)											
a. DEVELOP ALTERNATIVE ALIGNMENTS (UP TO 2)	4	4	12	16		24		56	\$ 7,248.00		
b. PRELIMINARY ALIGNMENT MEETING	4	4						8	\$ 1,428.00	20	12.00
c. PRELIMINARY 30% PLAN & PROFILE SHEETS	10	30	40	40	40	80		240	\$ 32,590.00	2	10.00
d. PRELIMINARY ROADWAY TYPICAL SECTIONS		2	4	6		8		20	\$ 2,608.00		
e. CONCEPTUAL CONSTRUCTION PHASING (TYPICAL SECTION)		2	4	8		16		30	\$ 3,834.00	2	15.00
f. PRELIMINARY ENGINEERING REPORT (PER)	6	12	36	60				114	\$ 15,624.00		
2.3 UTILITY COORDINATION											
2.3.1 RECORDS RESEARCH & SITE VISITS			8		12			20	\$ 2,744.00		
2.3.2 SUBMIT REQUESTS TO UTIL COS			2	8	6		2	10	\$ 1,254.00		
2.3.3 DEPICT UTILITIES ON PLANS			2	8	6	16		32	\$ 4,046.00		
2.3.4 UTILITY CONFLICT TABLE			4		8			12	\$ 1,644.00		
2.3.5 SUBMIT MILESTONE DRAWINGS TO UTILITIES					6		8	14	\$ 1,456.00		
2.3.6 MUNICIPAL UTILITY ADJUSTMENT DETAILS			4		8			12	\$ 1,644.00		
2.4 FINAL DESIGN											
2.4.1 TRAFFIC CONTROL PLANS (1"=100' SCALE)	8	16	24	24	50	70		192	\$ 25,836.00	16	12.00
2.4.2 SW&P PLANS (1"=100' SCALE)	2	8	16	24	36	36		122	\$ 16,204.00	8	15.25
2.4.3 MISCELLANEOUS PLANS & DETAILS	2	10		8	20	20		60	\$ 8,178.00	30	2.00
2.4.4 TYPICAL SECTIONS	2		4	6		8		20	\$ 2,670.00	2	10.00
2.4.5 DRAINAGE PLANS (BY OTHERS)									\$ 102,100.00		
2.4.6 ROADWAY PLANS & PROFILE (1"=40'H, 1"=4'V SCALE)	8	16	16	32	40	60		172	\$ 23,144.00	16	10.75
2.4.7 CROSS SECTIONS & EARTHWORK	8		12	60		60		140	\$ 18,040.00	20	7.00
2.4.8 CONSTRUCTION COST ESTIMATE	2	4	8	10				24	\$ 3,402.00		
2.4.9 SPECIFICATIONS	2	6	8	24				40	\$ 5,478.00		
2.4.10 BID FORM		2	4	8			8	14	\$ 1,882.00		
2.4.11 PROJECT MANUAL & PLANS (ELECTRONIC)								8	\$ 640.00		
2.5 BASE SCOPE DESIGN PHASE SERVICES EXPENSES									\$ 748.00		

ID	Task Name	Duration	Start	Finish
1	Start Date (NTP)	1 day	Mon 10/4/21	Mon 10/4/21
2	Preliminary Engineering	597 days	Tue 10/5/21	Wed 1/17/24
3	Data Collection	10 days	Tue 10/5/21	Mon 10/18/21
4	Property Right of Entry Letters & Responses	15 days	Tue 10/5/21	Mon 10/25/21
5	Field Survey	75 days	Tue 10/12/21	Mon 1/24/22
6	Utility Coordination	580 days	Thu 10/28/21	Wed 1/17/24
7	Geotechnical Field Work	10 days	Tue 10/19/21	Mon 11/1/21
8	Geotechnical Analysis and Report Preparation	10 days	Tue 11/2/21	Mon 11/15/21
9	Alternative Alignment Analysis & Schematic	10 days	Tue 10/19/21	Mon 11/1/21
10	Preliminary Alignment Meeting	0 days	Mon 11/1/21	Mon 11/1/21
11	Preliminary Hydrologic & Hydraulic Analysis	15 days	Tue 11/2/21	Mon 11/22/21
12	Preliminary Typical Sections	4 days	Tue 11/2/21	Fri 11/5/21
13	Preliminary Geometric Design	15 days	Mon 11/8/21	Fri 11/26/21
14	Preliminary Construction Cost Estimate	3 days	Mon 11/29/21	Wed 12/1/21
15	Develop Preliminary Engineering Report	15 days	Mon 11/29/21	Fri 12/17/21
16	QC Review	5 days	Mon 12/20/21	Fri 12/24/21
17	Prelim Engineering Report Submittal	0 days	Fri 12/24/21	Fri 12/24/21
18	PER/30% Review Meeting	0 days	Mon 1/24/22	Mon 1/24/22
19	ROW Maps & Parcel Plats	45 days	Tue 1/25/22	Mon 3/28/22
20	Signed & Sealed ROW Map Meeting	0 days	Mon 4/11/22	Mon 4/11/22
21	70% Plan Development	113 days	Tue 1/25/22	Thu 6/30/22
22	Address 30% Review Comments	15 days	Tue 1/25/22	Mon 2/14/22
23	Complete Plan & Profile Sheets	25 days	Tue 2/15/22	Mon 3/21/22
24	Complete Drainage Plans	25 days	Tue 2/15/22	Mon 3/21/22
25	Traffic Control Plans	25 days	Tue 3/8/22	Mon 4/11/22
26	SW3P Plans	20 days	Tue 3/15/22	Mon 4/11/22
27	Prepare Miscellaneous Plans for 70% Submittal	20 days	Tue 4/12/22	Mon 5/9/22
28	Construction Cost Estimate	5 days	Tue 5/10/22	Mon 5/16/22
29	Specification Table	4 days	Tue 5/17/22	Fri 5/20/22
30	Bid Form	4 days	Mon 5/23/22	Thu 5/26/22
31	QC Review	10 days	Fri 5/27/22	Thu 6/9/22
32	70% Submittal	0 days	Thu 6/9/22	Thu 6/9/22
33	County Review	15 days	Fri 6/10/22	Thu 6/30/22
34	95% Plan Development	75 days	Fri 7/1/22	Thu 10/13/22
35	Address 70% Review Comments	10 days	Fri 7/1/22	Thu 7/14/22
36	Prepare 95% Submittal	25 days	Fri 7/22/22	Thu 8/25/22
37	Quantities, Specs, Estimate	15 days	Fri 8/26/22	Thu 9/15/22
38	QC Review	5 days	Fri 9/16/22	Thu 9/22/22
39	95% Submittal	0 days	Thu 9/22/22	Thu 9/22/22
40	County Review	15 days	Fri 9/23/22	Thu 10/13/22
41	Final Plans	40 days	Fri 10/14/22	Thu 12/8/22
42	Address Comments, Final Plans	40 days	Fri 10/14/22	Thu 12/8/22
43	Submit Final Plans	0 days	Thu 12/8/22	Thu 12/8/22
44	ROW Acquisition & Utility Relocation	470 days	Tue 3/22/22	Mon 1/8/24
45	ROW Acquisition	350 days	Tue 3/22/22	Mon 7/24/23
46	Utility Relocation	120 days	Tue 7/25/23	Mon 1/8/24



Task
Split
Milestone
Summary

Project Summary
External Tasks
External Milestone
Inactive Task

Inactive Milestone
Inactive Summary
Manual Task
Duration-only

Manual Summary Rollup
Manual Summary
Start-only
Finish-only

Progress
Deadline
↓

Note: Durations shown are "Working Days"



July 14, 2021

CP&Y Inc.
11757 Katy Freeway, Suite 1540
Houston, TX 77079
Attn: Mr. Qayyum K. Javed, P.E.

Delivery via email: qjaved@cpyi.com

Re: Fort Bend County 2020 Mobility Bond Program, Watts Plantation Rd (Project #20209) - Proposal for Surveying Services (CI Proposal No. 2021-051)

Costello, Inc. (CI) is pleased to present this proposal for survey services associated with proposed road improvements for Watts Plantation Road (see attached map for project area). The length of project is approximately 7,700 feet between Sienna Parkway and Knight Road. A description of scope, schedule, and fee follow:

Scope of Services

Topographic / Control / Right-of-Way Surveys / Utilities

CI will perform the following tasks to support design of the roadway improvements:

- a. Establish Project Control (horizontal & vertical), including control sheets.
- b. Full topographic surveys from right-of-way to right-of-way, plus twenty (20) feet on either side; survey will include all pavement highs & lows and cross-sections at a maximum interval of 100'; three (3) cross-sections will be taken upstream and downstream of crossing streams/ditches (cross-section at face of bridge/culvert, at 50' & 100' beyond right-of-way).
- c. Flowline, size, direction & type of all storm manholes, inlets, and culverts.
- d. Flowline, size, direction & type of all sanitary sewer manholes.
- e. Mapping of topographic surveys.
- f. Subsurface Utility Engineering Quality Level "B"; submit "Locate 811" requests and tie all utility markings.
- g. Coordinate with location and probes of Nustar and Enterprise pipelines.
- h. Deed research and field surveys to produce right-of-way survey maps and prepare Metes & Bounds descriptions to acquire the needed Right-of-Way for the project.
- i. Topographic survey of detention pond (exact location not identified at this time); survey will include all grade breaks and a maximum grid interval of 100'.
- j. Deliverables will include Topographic Survey/Right-of-Way maps, CADD files, Ascii point file, Digital Terrain Model with 1-foot contours, and TIN file (XML format).

Right-of-Way Parcels

CI will prepare parcel maps and metes & bounds descriptions for all right-of-way acquisition parcels identified during design. The "Project Scope" provided to CI for Watts Plantation (project no. 20209) states fourteen (14) anticipated parcels under Section "Right of Way". CI is providing a per parcel cost based on three sizes (small, medium & large). Once the project is underway and right-of-way acquisition parcels have been identified, the actual number of parcels may change and will be billed according to actual number of parcels per unit price. The parcel surveys will include:

- a. Field work to support parcel development
- b. Parcel map
- c. Metes and Bounds description
- d. Setting corners of parcel

Recover / Reset Project Control (after pre-construction meeting)

CI will recover or reset all project control after the pre-construction meeting. CAD files and other usable data will be provided to contractor.

Schedule

Topographic / Right-of-Way Surveys

The topographic survey and right-of-way base map will be completed seventy-five (75) days after authorization to proceed. A detailed description of labor hours and cost are provided in the attached table (Table A).

Right-of-Way Parcels

Fourteen (14) acquisition parcels have been anticipated. CI will complete the parcel maps and metes & bounds descriptions forty-five (45) days after identification of parcels and approval of proposed right-of-way. Parcel acquisitions with parcel map and metes & bounds description will be provided at a per unit rate (see below):

Fee Estimate

Topographic / Right-of-Way Surveys

See the attached "Fee Estimate Worksheet" for level of effort.

Fee (Topographic Survey): **\$58,990**

Right-of-Way Mapping

Mr. Qayyum K. Javed, P.E.

July 14, 2021

Page 3 of 6

See the attached "Fee Estimate Worksheet" for level of effort. The fee is to produce a full set of right-of-way maps (7 sheets) for the entire length of project. Fluctuation in the number of parcels does not increase or decrease the level of effort. The right-of-way mapping can be eliminated if the County decides it is not necessary.

Fee (Right-of-Way Mapping): **\$17,450**

Right-of-Way Acquisition Parcels (anticipated)

See the attached "Fee Estimate Worksheet" for unit calculations.

5 parcels x \$2,230 each =	\$11,150
5 parcels x \$2,510 each =	\$12,550
<u>4 parcels x \$2,950 each =</u>	<u>\$11,800</u>
Fee (Anticipated Parcels):	\$35,500

Recover / Reset Project Control (after pre-construction meeting)

See the attached "Fee Estimate Worksheet" for level of effort.

Fee (Recover/Reset Control): **\$1,600**

Grand Total: \$113,540

Fees will be billed "Lump Sum" according to percent complete, except for right-of-way acquisition parcels which will be billed per parcel (unit price).

We appreciate the opportunity to submit this proposal. Please return a signed copy of this proposal, which will serve as notice to proceed.

Sincerely,

COSTELLO, INC.

David E. Hunt, R.P.L.S.

Director of Surveying

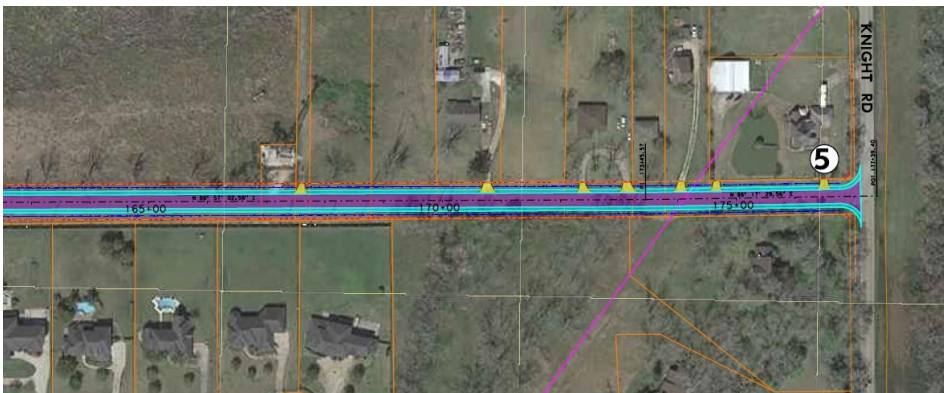
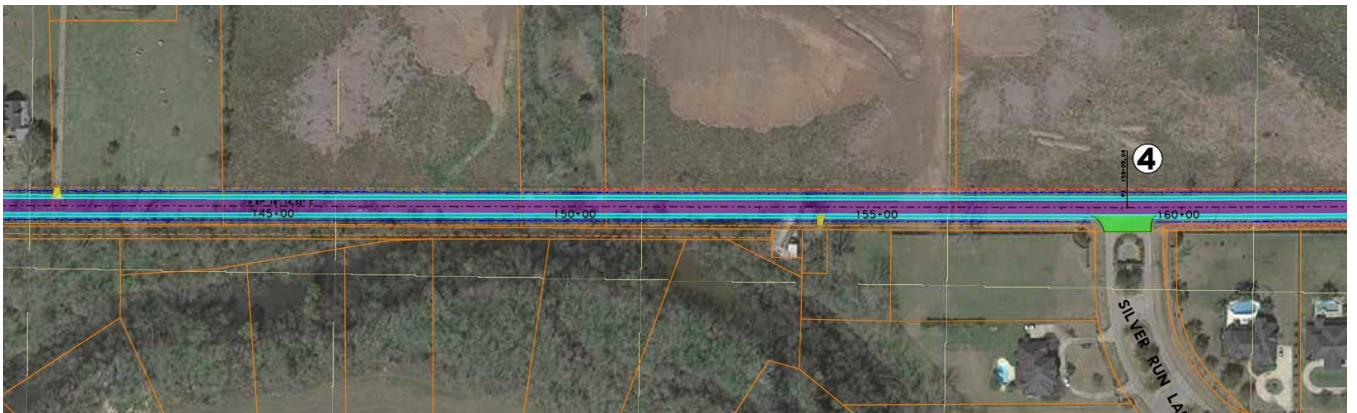
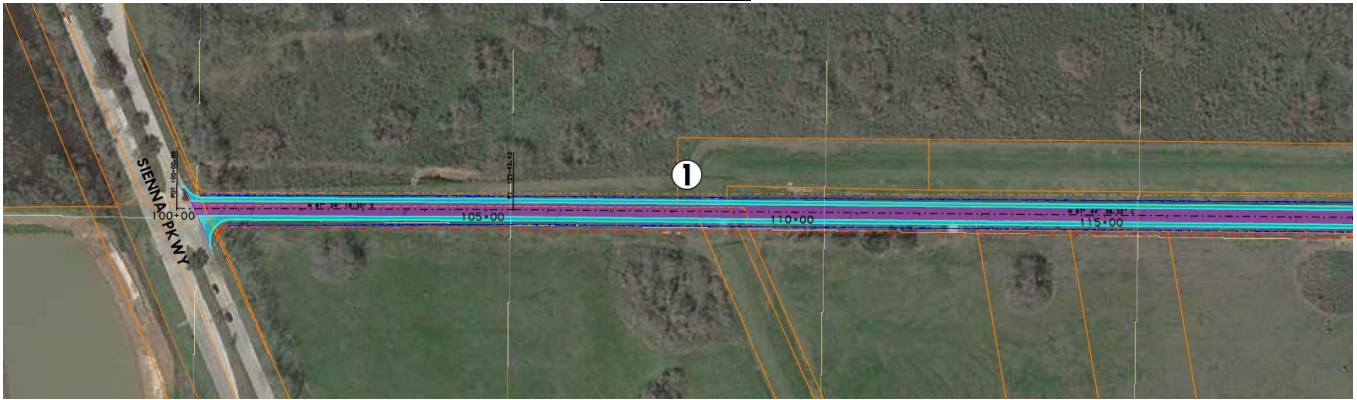
AGREED & ACCEPTED

Signature

Printed Name

Date

Project Area



Fort Bend County 2020 Mobility Bond Program Fee Estimate Worksheet

TASK DESCRIPTION	PRINCIPAL	SURVEY DEPT MANAGER	PROJECT SURVEYOR (R/LS)	SENIOR SURVEY TECHNICIAN	SURVEY TECHNICIAN	CHEF OF PARTIES	2-PERSON SURVEY CREW	3-PERSON SURVEY CREW	CLERICAL	TOTAL HOURS	R.O.W. PARCEL NO.	TASK TOTAL	NO OF DWGS	LABOR HRS PER SHEET SHT
1. Preliminary Design (LS)												\$111,940.00		
Establish a Typical Cross Section										0		\$		#DIV/0!
Determine ROW Acquisition Needs										0		\$		#DIV/0!
Determine Potential Conflicts with existing facilities & utilities										0		\$		#DIV/0!
Identify Critical Path Items										0		\$		#DIV/0!
Identify Problem Areas and Potential Resolutions										0		\$		#DIV/0!
Site Visit										0		\$		#DIV/0!
Prepare a Construction Cost Estimate										0		\$		#DIV/0!
Prepare 30% Plans										0		\$		#DIV/0!
Utility Coordination										0		\$		#DIV/0!
Topographic Survey	2	4	40	110	80	20	130	10	10	406		\$ 58,940.00	15	27.07
Control & Monumentation - Prepares Survey Control Map										0		\$		#DIV/0!
Geotechnical Investigation										0		\$		#DIV/0!
Project Management & Meetings (3 Months Typical)										0		\$		#DIV/0!
Preliminary Phase Expenses										0		\$		#DIV/0!
Right-of-Way Parcel Map & Desc. (small 0.01-.5 acres) \$2,230 each										5	5	\$ 11,150.00	5	
Right-of-Way Parcel Map & Desc. (medium 0.51-10.99 acres) \$2,510 each										5	5	\$ 12,550.00	5	
Right-of-Way Parcel Map & Desc. (large parcel 1-.5 acres) \$2,950 each										4	4	\$ 11,800.00	4	
Overall Right-of-Way Mapping with all parcels shown (full set)	1	4	16	53	50					129		\$ 17,450.00	7	
2. Final Design (LS)												\$		
Cover Sheet & Index										0		\$		#DIV/0!
General Notes										0		\$		#DIV/0!
Quantities (Summary Sheets - Optional)										0		\$		#DIV/0!
Typical Sections (70%-Final)										0		\$		#DIV/0!
Project Layout										0		\$		#DIV/0!
Drainage Area Maps										0		\$		#DIV/0!
Drainage Calculations										0		\$		#DIV/0!
Plan and Profile Sheets (Roadway, Drainage, Public Utilities)										0		\$		#DIV/0!
Intersection Layouts or Cross Street Details										0		\$		#DIV/0!
TCP Advance Warning Signs										0		\$		#DIV/0!
TCP Overview & Narrative										0		\$		#DIV/0!
Debour Plans (with County Approval only)										0		\$		#DIV/0!
Traffic Control Plan										0		\$		#DIV/0!
Temporary Traffic Signal Plans										0		\$		#DIV/0!
SWPPP Sheets										0		\$		#DIV/0!
Bridge Layouts										0		\$		#DIV/0!
Bridge Detail Sheets										0		\$		#DIV/0!
Design Calculations										0		\$		#DIV/0!
Signing & Pavement Markings										0		\$		#DIV/0!
Traffic Signal & Warrant Study										0		\$		#DIV/0!
Detail Sheets										0		\$		#DIV/0!
Standard Details										0		\$		#DIV/0!
Technical Specifications										0		\$		#DIV/0!
Bid Form										0		\$		#DIV/0!
Construction Cost Estimate										0		\$		#DIV/0!
Utility & Agency Approvals & Signatures										0		\$		#DIV/0!
Cross Sections with earthwork calculations										0		\$		#DIV/0!
Responses to Comments										0		\$		#DIV/0!
Project Management & Meetings (3 Months Typical)										0		\$		#DIV/0!
Final Design Phase Expenses										0		\$		#DIV/0!



Excellence in Engineering, Consulting, Testing and Inspection

August 17, 2021

**CP&Y, Inc.
11757 Katy Freeway, Suite 1540
Houston, Texas 77079**

Attn: Mr. Qayyum Javed, P.E.

**Re: Proposed Work Scope, Budget, and Schedule
Geotechnical Investigation
Proposed Watts Plantation Road Rehabilitation
from Sienna Parkway to Knight Road
Fort Bend County (FBC) 2020 Mobility Project
Fort Bend County, Texas**

HTS Proposal No.: 21-04973 Revision 2

Dear Mr. Javed:

1.0 INTRODUCTION

In response to your request, HTS, Inc. Consultants (HTS) is pleased to submit this proposal to CP&Y, Inc. to perform a geotechnical investigation pertaining to the proposed roadway improvements to a portion of Watts Plantation Road starting at Sienna Parkway going east 7,700 linear feet to Knight Road in Fort Bend County, Texas.

The proposed improvements will include the rehabilitation of the existing 2 lane asphalt roadway along Watts Plantation Road from Sienna Parkway to Knight Road. The desired improvements will require an evaluation of the pavement and repair where needed. The project will also require resurfacing of the existing asphalt through the project limits and widening the pavement to include 6-foot wide shoulders on both sides. All driveways and intersection roads will be reconstructed through the project limits as per Fort Bend County (FBC) standards. HTS also understands that detention mitigation (including a detention pond option) will be evaluated if necessary by the engineer. Authorization from program manager or the client will be given on or before the PER.

The remaining portions of this proposal present the proposed work scope, estimated costs, and an estimated schedule to complete the geotechnical investigation.

2.0 SCOPE OF WORK

Task 1 – Geotechnical Scope for Roadway Rehabilitation

Based upon our understanding of the project requirements, it is proposed that the scope of work for the geotechnical investigation consist of the following:

- **Core the existing asphalt pavement and drill and sample 16 geotechnical borings (at approximately 500 l.f. spacing) at the core locations to a depth of 15 feet beneath the surface where the construction is to be performed and measure the existing pavement thickness.**
- **Obtain both disturbed and relatively undisturbed soil samples continuously to a depth of 15 feet and intermittently thereafter.**
- **Measure the groundwater depth during drilling and after the completion of drilling.**
- **Mark the boring locations and obtain GPS coordinates for the surveyor's use in obtaining the boring locations, offsets, and elevations.**
- **Backfill the boreholes with grout after the completion of the groundwater level measurements.**
- **Perform moisture content, Atterberg limits, percent soil particles passing a No. 200 sieve, and dry density of soils in order to define subgrade soil classifications and physical soil properties.**
- **Characterize the site subsoil and groundwater conditions and provide the results on the boring logs (using “gINT” LogWriter software).**
- **Evaluate the pavement condition along the proposed project limit.**
- **Provide recommendation for reconstruction of the pavement which may include full depth repairs, spot repair, or resurfacing depending on the existing pavement condition. Pavement design analyses for the roadway improvement will be performed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) and Fort Bend/Harris County design guidelines and requirements for roadways.**
- **Develop/provide recommendations concerning the design and construction of a temporary pavement section for the roadway improvement project as well as site preparation and stabilization requirements for the pavement subgrade soils.**
- **Perform engineering analyses as necessary to develop recommendations pertaining to roadside ditch safe side slopes, lateral earth pressures on underground structures, dewatering requirements for excavations, utility trench shoring and bracing requirements, OSHA soil type classifications pertinent to trench shoring and bracing design, excavation/backfill requirements, and utility bedding requirements.**
- **Submit a pdf file of the final report that presents the results of the geotechnical investigation.**

Task 2 – Geotechnical Scope for Detention Pond

Based upon our understanding of the project requirements, it is proposed that the scope of work for the geotechnical services regarding the construction of proposed detention pond consist of the following:

- **Drill and sample a total of 2 geotechnical borings to a depth of 20 feet beneath the surface within the area of the proposed detention pond that will be determined during the PER phase.**
- **Obtain both disturbed and relatively undisturbed soil samples continuously to a depth of 15 feet and intermittently thereafter.**
- **Measure the depth to groundwater during drilling and after the completion of drilling.**
- **Backfill the boreholes with soil cuttings after the completion of drilling.**
- **Perform laboratory soil tests on samples obtained during the drilling of the borings in order to determine the engineering properties of the soil.**
- **Characterize the site subsoil and groundwater conditions and provide the results on the boring logs (using “gINT” LogWriter software).**
- **Perform engineering analyses in order to develop data, parameters, and recommendations that may be used for the design and construction of the proposed detention ponds. Engineering analyses will include the following items:**
 - **slope stability analyses to provide safe side slopes for the proposed detention ponds,**
 - **OSHA requirements for trenches and bracing,**
 - **groundwater control and dewatering requirements during construction,**
 - **erosion control requirements, and**
 - **suitability concerning the use of excavated soils.**
- **Submit a pdf file of a report which presents the results of the geotechnical investigation.**

Note: Hard copies of the report will be provided upon request at an additional cost of \$30.00 per report.

HTS understands that the geotechnical scope presented in this Task 2 will be utilized when approved by Fort Bend County Engineer and Program Engineer.

3.0 ESTIMATED COST AND SCHEDULE

HTS' estimated cost to complete the scope of work for Task 1, as defined in Section 2.0 above, is \$21,388.00 for the proposed roadway rehabilitation. The estimated cost is itemized in the attached Cost Estimate for Task 1.

HTS' estimated cost to complete the scope of work for Task 2, as defined in Section 2.0 above, is \$10,064.00 for the proposed detention pond. The estimated cost is itemized in the attached Cost Estimate for Task 2.

We estimate that about 4 to 5 weeks after receipt of the notice to proceed will be required to complete the geotechnical investigation and submit the report if no delays are encountered with respect to weather conditions. Once the boring locations are staked, Texas One-Call (Texas 811) will be notified for utilities clearance prior to our drilling activities, typically 48 hours after applying for utilities clearance verification. Interim data, engineering analyses, and recommendations will be provided as necessary for the client's use in the design of the proposed roadway and drainage improvements.

4.0 CLOSING REMARKS

We appreciate the opportunity to offer our services to your project. Should you desire that we revise any portion of this proposal, we will be pleased to meet with you to discuss the revisions. We look forward to being of service to you.

Respectfully submitted,
HTS, Inc. Consultants



Jubair Hossain, Ph.D., P.E.
President

Attachments: Cost Estimate (Task 1)
Cost Estimate (Task 2)

AGREED TO THIS _____ DAY OF _____, 2021

FIRM: _____ TITLE: _____

SIGNATURE: _____

PRINTED NAME: _____

JH/cg

H:\Proposals-21\CPY-21-04973 Revised.doc





416 Pickering Street
Houston, Texas

PROJECT :

Watts Plantation Road - Roadway Rehabilitation

CALC. BY:
JH

DATE :
8/17/2021

CHECKED BY:
JH

DATE :
8/17/2021

PROPOSAL NO. :

21-04973

PAGE NO.:

1 of 2

COST ESTIMATE FOR TASK 1

A) Field Activities:		<u>Quantity</u>	<u>Unit Price</u>	<u>Estimated Cost</u>
- Mobilization/demobilization of drill rig		Lump Sum	\$ 300.00	\$ 300.00
- Drill/sample 16 borings (15' below base)		240 feet	\$ 21.00	\$ 5,040.00
- Layout borings		4 hours	\$ 50.00	\$ 200.00
- Asphalt coring (4" diam to 6" thickness)		16 each	\$ 93.00	\$ 1,488.00
- Drilling supervision, logging of borings by technician		16 hours	\$ 50.00	\$ 800.00
- Traffic control (tech as flagman - coring)		8 hours	\$ 43.00	\$ 344.00
- Traffic control (tech as flagman - drilling)		16 hours	\$ 43.00	\$ 688.00
- Grout borings/coring after drilling (16 @ 15')		240 feet	\$ 10.00	\$ 2,400.00
- Vehicle charge		16 hours	\$ 10.00	\$ 160.00
Subtotal:				\$ 11,420.00
B) Laboratory Testing:				
- Atterberg limits (ASTM D-4138)		32 each	\$ 62.00	\$ 1,984.00
- Water content (ASTM D-2216)		35 each	\$ 9.00	\$ 315.00
- Unconfined compression test (ASTM D-2166)		28 each	\$ 42.00	\$ 1,176.00
- % passing No. 200 sieve (ASTM D-1140)		28 each	\$ 48.00	\$ 1,344.00
- Pinhole dispersion test (ASTM D-4647)		2 each	\$ 286.00	\$ 572.00
- Crumb test (ASTM D-6572)		2 each	\$ 38.00	\$ 76.00
- Particle size analysis with hydrometer (ASTM D-422)		2 each	\$ 128.00	\$ 256.00
- CBR of soils (ASTM D-1883) - 3 points/set		3 each	\$ 215.00	\$ 645.00
- Standard proctor (ASTM D-698)		1 each	\$ 204.00	\$ 204.00
Subtotal:				\$ 6,572.00
C) Engineering, Supervision, Analysis, and Draft/Final Report Preparation:				
- Senior engineer, P.E.		4 hours	\$ 183.00	\$ 732.00
- Project engineer, P.E.		24 hours	\$ 101.00	\$ 2,424.00
- Engineering assistant		4 hours	\$ 60.00	\$ 240.00
Subtotal:				\$ 3,396.00
TOTAL FOR ROADWAY REHABILITATION =				\$ 21,388.00





416 Pickering Street
Houston, Texas

PROJECT :

Watts Plantation Road - Detention Pond

CALC. BY:

JH

DATE :

8/17/2021

CHECKED BY:

JH

DATE :

8/17/2021

PROPOSAL NO. :

21-04973

PAGE NO.:

2 of 2

COST ESTIMATE FOR TASK 2

A) Field Activities:		<u>Quantity</u>	<u>Unit Price</u>	<u>Estimated Cost</u>
- Mobilization/demobilization of drill rig		Lump Sum	\$ 300.00	\$ 300.00
- Drill/sample 2 borings (20' deep)		40 feet	\$ 21.00	\$ 840.00
- Drilling supervision, logging of borings by technician		8 hours	\$ 50.00	\$ 400.00
- Layout borings		4 hours	\$ 50.00	\$ 200.00
Subtotal:				\$ 1,440.00
B) Laboratory Testing:				
- Atterberg limits (ASTM D-4138)		8 each	\$ 62.00	\$ 496.00
- Water content (ASTM D-2216)		12 each	\$ 9.00	\$ 108.00
- Unconfined compression test (ASTM D-2166)		8 each	\$ 42.00	\$ 336.00
- Triaxial CU compression test (ASTM D-4767)		2 each	\$ 1,500.00	\$ 3,000.00
- Pinhole dispersion test (ASTM D-4647)		2 each	\$ 286.00	\$ 572.00
- Crumb test (ASTM D-6572)		2 each	\$ 38.00	\$ 76.00
- Particle size analysis with hydrometer (ASTM D-422)		2 each	\$ 128.00	\$ 256.00
- % passing No. 200 sieve (ASTM D-1140)		8 each	\$ 48.00	\$ 384.00
Subtotal:				\$ 5,228.00
C) Engineering, Supervision, Analysis, and Draft/Final Report Preparation:				
- Senior engineer, P.E.		4 hours	\$ 183.00	\$ 732.00
- Project engineer, P.E.		24 hours	\$ 101.00	\$ 2,424.00
- Engineering assistant		4 hours	\$ 60.00	\$ 240.00
Subtotal:				\$ 3,396.00
TOTAL FOR DETENTION POND =				\$ 10,064.00



Kavi Consulting, Inc.

August 19, 2021

Qayyum Javed, P.E.
Project Manager, CP&Y, Inc.
11757 Katy Freeway, Suite 1540
Houston, Texas 77079

RE: Watts Plantation Rd from Sienna Parkway to Knight Rd

Dear Mr. Javed:

Attached please find our fee proposal for the design of Watts Plantation Rd- from Sienna Parkway to Knight Rd. Also attached is our level of effort spreadsheet. Our proposed fee for drainage portion of the project is \$148,190.00.

Please call me at 281-772-9643 if you have any questions. We look forward to working with CP&Y and Fort Bend County on this project.

Sincerely,

Vijaya Rapolu, P.E.
Kavi Consulting, Inc.

Encl:

Scope of Services
LOE (KAVI)

1011 Highway 6S, # 307
Houston TX-77077
Ph: 281.772.9643

E-Mail: rapolu.vijaya@kaviconsultinginc.com

SCOPE OF SERVICES

Watts Plantation Rd from Sienna Parkway to Knight Rd

SCOPE OF SERVICES

This scope includes a Preliminary Design, and Final Design including Surveying and Geotechnical Study per Fort Bend County Design Standards and Manual for Watts Plantation Rd from Sienna Parkway to Knight Rd.

Following are the basic services that will be required for this project:

Preliminary Design Phase

The preliminary design will include the following:

- MUD, City of Missouri city, Fort Bend County and other applicable public and private agencies' coordination.
- Field verification for Drainage Facilities
- Drainage will be performed per Atlas 14 or Fort Bend County Drainage District recommended rainfall.
- Perform Drainage Study for Existing Conditions for Conveyance
- Perform Drainage Study for Proposed Conditions for Conveyance
- Propose Typical sections for drainage
- Evaluate the Existing and Proposed flows and determine the impact due to increased runoff. For the required mitigation volume evaluate the alternatives such as in-line detention and off-line detention. Provide the County various alternatives with cost-estimate for the comparison and present it.
- Preliminary cost estimate preparation for drainage facilities
- Drainage improvements support for 30% design plan set

Final Design Phase

The final design phase will include the following:

- Preparation of construction plans that include:
General notes; index; overall layout; drainage area maps, drainage calculations, drainage improvements, culvert layouts, Drainage design support for P&P drawings, typical sections for drainage; and other applicable details.
- Perform any necessary changes in the drawings and specifications for drainage that are outside the scope of the project.
- Perform storm sewer design if drainage ditch design is not viable.
- Detention Pond analysis and design as needed.
- Prepare and deliver to the CP&Y one set of the record drawings for Drainage in Adobe, PDF or TIFF Image on CD Rom Media, in order by page number, showing those changes made during the construction period based on change orders, marked-up prints, drawings, and other data furnished by the Contractor to the Engineer, and which the Engineer considers significant.

Plans will be done in AutoCAD format. Land acquisition services are not included.

-
- Construction Plans submittals for 70, 95 and 100 percent.
- Coordination with TxDOT, Fort Bend County Drainage District as needed and obtain their approvals if necessary.
- Finalize the preliminary construction cost estimate for drainage facilities

Bid Phase:

Provide support to Fort Bend County, including Addendums, Pre-Bid meetings, bid evaluations and recommendations as necessary for drainage facilities.

Construction Phase Services (Time and Material)

- a. Attend and assist the County in pre-construction conferences. Attend bi-weekly (once every two weeks) and other project meetings as requested by the County for drainage construction.
- b. Make periodic visits (not less than bi-weekly), as distinguished from the continuous services of a resident project representative, in order to become familiar with the progress of the work, and to determine if the work is proceeding in accordance with the contract documents.
- c. Review, and submit comments on all project schedules as submitted by the Contractor for drainage facilities.
- d. Participate with the County's representatives in a substantial completion and/or final inspection of the Project. The Engineer must conduct inspections to determine the dates of substantial and final completion.
- e. Correct errors and omissions in the drawings and specifications as requested by the County.

SCHEDULE

The Preliminary Design Report will be submitted for review within 60 days after Survey data received. Phase II final design will take 60 days (not including County review time).

FEE BREAKDOWN

The fees for Phase I and Phase II will be paid on a lump sum basis. The following table gives a breakdown of the total fee by phase:

Phase	Fee
Preliminary Design (KAVI)	\$39,730.00
Final Design (KAVI)	\$102,100.00
Construction Phase (KAVI)(T&M)	\$6,360.00
Design (Total)	\$148,190.00
Total	\$148,190.00

Fort Bend County 2020 Mobility Bond Program Fee Estimate Worksheet

W.Planation- Fort Bend County Precinct 2

TASK DESCRIPTION	PRINCIPAL	DEPARTMENT MANAGER	SENIOR PROJECT MANAGER	PROJECT MANAGER	SENIOR PROJECT ENGINEER	PROJECT ENGINEER	ASSOCIATE ENGINEER	GIS SPECIALIST	CADD MANAGER	SENIOR DESIGNER	DESIGNER	SENIOR CADD TECHNICIAN	CADD TECHNICIAN	SURVEY CREW CHIEF	SURVEY CREW	CLERICAL	TOTAL HOURS	Task Total
1. Preliminary Design (LS)																		\$ 39,730.00
Establish a Typical Cross Section				4													4	\$ 1,220.00
Site Visit				4													4	\$ 1,220.00
Drainage Area Maps		1	2	4		8				8							23	\$ 3,065.00
H&H Analysis for Existing Conditions for road side ditch and culvert(s) under the W.Planation		2	2	6		32				4							46	\$ 6,350.00
H&H Analysis for Proposed Conditions for road side ditch and culvert(s) under the W.Planation		1	2	8		32				4							47	\$ 6,505.00
Culvert Extension analysis for Channel crossing (Evaluating Watershed level H&H Model and evaluating the impact)		1	1	2		40				4							55	\$ 7,545.00
Identify the mitigation alternatives		1	1	2		40				4							59	\$ 7,925.00
Prepare a Construction Cost Estimate		1	1	3		6				4						4	18	\$ 2,100.00
Drainage Design Support for 30% plans		1	1	1		8				20							34	\$ 4,020.00
Preliminary Phase Expenses				8		4												\$ 1,000.00
2. Final Design (LS)																		\$ 102,100.00
Quantities (Summary Sheets - Optional)				2		8				8							18	\$ 2,150.00
Typical Sections (70%-final)				8		8				2							20	\$ 3,000.00
Drainage Area Maps		1	1	4		12				4							30	\$ 4,485.00
Evaluate the H&H analysis for final design		1	1	10		8				4							26	\$ 3,945.00
Evaluate the Mitigation analysis for final design		1	1	2		8				4							26	\$ 3,945.00
Plan and Profile Sheets (Drainage Ditch and Cross Structure)		1	1	8		24				32							68	\$ 8,335.00
Storm Sewer Design (if roadside ditch is not viable)		2	1	16		32				50							102	\$ 12,500.00
Detention Analysis		1	2	12		32				12							59	\$ 7,980.00
Detention Pond and Outfall Structure Design		5	24	40		80				80						16	245	\$ 31,370.00
Detail Sheets				2		2				2							4	\$ 610.00
Standard Details				2		2				2							4	\$ 610.00
Technical Specifications		1	1	1		4				2							10	\$ 1,455.00
Construction Cost Estimate		1	1	2		12				4							21	\$ 2,880.00
Responses to Comments				2		8				8							19	\$ 2,335.00
Project Management & Meetings (2 Months Typical)				4		4											10	\$ 1,590.00
Final Design Phase Expenses																		\$ 1,590.00
3. Bid & Construction Phase Services (T&M)																		\$ 6,360.00
Answer Bidder Questions & Addendum				2		2				2							7	\$ 985.00
Attend Pre-Construction Meeting				2		2				0%							4	\$ 720.00
Review Contractor Submittals		1	1	1		2				4							10	\$ 1,370.00
Answering Requests for Information			1	2		2				2							13	\$ 2,065.00
Substantial Completion Walkthrough				2		2											4	\$ 720.00
Bid & Construction Phase Expenses																		\$ 500.00
4. Additional Services																		\$ -
Right-of-way Parcel Exhibits (\$ per parcel) - small parcels (size limits) (by others)																	0	\$ -
Right-of-way Parcel Exhibits (\$ per parcel) - medium parcels (size limits)																	0	\$ -
Right-of-way Parcel Exhibits (\$ per parcel) - large parcels (size limits)																	0	\$ -
Overall Parcel Map																	0	\$ -
Topographic Survey (By others)																	0	\$ -
MANHOUR SUBTOTAL	14	15	66	195	0	424	0	0	0	274	0	0	0	0	0	24	998	\$ -
LABOR RATE PER HOUR	1%	2%	7%	20%	0%	42%	0%	0%	0%	27%	0%	0%	0%	0%	0%	2%		\$ -
SUBTOTAL LABOR	\$210.00	\$195.00	\$185.00	\$175.00	\$140.00	\$130.00	\$100.00	\$60.00	\$105.00	\$26,050.00	\$80.00	\$75.00	\$65.00	\$1.00	\$1.00	\$1,320.00		\$ 148,190.00
TOTAL																		\$ 148,190.00