

**CITY OF FRANKLIN, TENNESSEE
PROFESSIONAL SERVICES AGREEMENT
COF Contract No. 2017-0123**

THIS PROFESSIONAL SERVICES AGREEMENT (“Agreement”) is by and between the City of Franklin, Tennessee, hereinafter referenced as City, and **BARGE WAGGONER SUMNER & CANNON, INC.** hereinafter referenced as Consultant, who mutually agree as follows:

DECLARATIONS. City desires to retain Consultant to provide engineering, related technical, and other services in connection with City’s project hereinafter referenced as Project. The Project is described as follows:

Southeast Municipal Complex Master Planning

1. **SCOPE OF SERVICES.** Consultant shall provide engineering related technical services and survey services for the Project in accordance with the Scope of Services (Services) as found in Attachment A which shall be considered as an integral part hereof.
2. Consultant shall submit as a part of Attachment A an individual Fee Schedule and a Completion Schedule for the Project based on the detailed Scope of Services.
3. In event of a conflict between this Agreement and the attached document(s), this Agreement shall supersede conflicting terms and conditions.
4. Consultant shall be paid on a monthly basis for work performed based on the Fee Schedule as contained in Attachment A in the Amount of **Three Hundred Ninety-Six Thousand Forty-Six and No Dollars** (\$396,046.00).

The Board of Mayor and Aldermen Approved this Agreement on the _____ Day of _____ 201__.

TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES

ARTICLE 1. SERVICES. Consultant will:

- 1.1 Act for City in a professional manner, using that degree of care and skill ordinarily exercised by and consistent with standards of competent consultants using the standards in the industry:
- 1.2 Consider all reports to be confidential and distribute copies of the same only to those persons specifically designated by the City.
- 1.3 Perform all services under the general direction of a senior professional employee, licensed and/or registered in the State of Tennessee, when appropriate.
- 1.4 Designate, in writing, the sole Project representative to coordinate with City the Services to be provided, including all contact information.
- 1.5 Unless provided for in the Project Scope of Services (Attachment A), Consultant shall perform all Services with his own forces (employees). Should sub-consultants be proposed to be used in the Project, a listing of said sub-consultants with Services to be performed shall be provided. After approval of this Agreement, no substitute for sub-consultants shall be allowed unless approved by City.
- 1.6 Retain pertinent records relating to the services performed for a period of seven (7) years following the completion of the work; during this period the records shall be available for review by City at all reasonable times.

ARTICLE 2. CITY'S RESPONSIBILITIES. City, or its authorized representative, will:

- 2.1 Provide Consultant with all information regarding the Project, which is available to, or reasonably obtainable by, the City.
- 2.2 Furnish right-of-entry onto the Project site for Consultant's necessary field studies and surveys. Consultant will endeavor to restore the site to its original condition and shall remain solely liable for all damages, costs and expenses, including reasonable attorneys' fees, for failure to make such restoration.
- 2.3 Designate, in writing, the sole Project representative to coordinate with and direct the Consultant, including all contact information.
- 2.4 Guarantee to Consultant that it has the legal capacity to enter into this contract and that sufficient monies are available to fund Consultant's compensation.

ARTICLE 3. GENERAL CONDITIONS.

- 3.1 Consultant, by the performance of services covered hereunder, does not in any way assume, abridge or abrogate any of those duties, responsibilities or authorities customarily vested in other professionals or agencies participating in the Project.

- 3.2 Consultant shall be responsible for the acts or omissions of any party involved in concurrent or subsequent phases of the Project acting upon written instruction issued by the Consultant.
- 3.3 Neither City nor Consultant may assign or transfer its duties or interest in this Agreement without written consent of the other party.
- 3.4 **ALLOCATION OF RISK AND LIABILITY; GENERAL.** Considering the potential liabilities that may exist during the performance of the services of this Agreement, the relative benefits and risks of the Project, and the Consultant's fee for the services rendered, and in consideration of the promises contained in this Agreement, the City and the Consultant agree to allocate and limit such liabilities in accordance with this Article.
- 3.5 **INDEMNIFICATION.** Consultant agrees to indemnify and hold City harmless from and against legal liability for all judgments, losses, damages, and expenses to the extent such judgments, losses, damages, or expenses are caused by Consultant's negligent act, error or omission in the performance of the services of this Agreement. In the event judgments, losses, damages, or expenses are caused by the joint or concurrent negligence of Consultant and City, they shall be borne by each party in proportion to its own negligence.
- 3.5.1 **SURVIVAL.** The terms and conditions of this paragraph shall survive completion of this services agreement.
- 3.6 **LIMITATIONS OF RESPONSIBILITY.** Consultant shall not be responsible for (a) construction means, methods, techniques, sequences, procedures, or safety precautions and programs in connection with the Project unless specifically undertaken in Attachment A, Scope of Services ; (b) the failure of any contractor, subcontractor, Consultant, or other Project participant, not under contract to Consultant, to fulfill contractual responsibilities to City or to comply with federal, state, or local laws, regulations, and codes; or (c) procuring permits, certificates, and licenses required for any construction unless such procurement responsibilities are specifically assigned to Consultant in Attachment A, Scope of Services.

ARTICLE 4. TERMINATION BY THE CITY. The City may terminate this Agreement in accordance with the following terms and conditions:

- 4.1 **Termination for Convenience.** The City may, when in the interests of the City, terminate performance under this Agreement with the Consultant, in whole or in part, for the convenience of the City. The City shall give written notice of such termination to the Consultant specifying when termination becomes effective. The Consultant shall incur no further obligations in connection with the work so terminated, other than warranties and guarantees for completed work and installed equipment, and the Consultant shall stop work when such termination becomes

effective. The Consultant shall also terminate outstanding orders and subcontracts for the affected work. The Consultant shall settle the liabilities and claims arising out of the termination of subcontracts and orders. The City may direct the Consultant to assign the Consultant's right, title and interest under termination orders or subcontracts to the City or its designee. The Consultant shall transfer title and deliver to the City such completed or partially completed work and materials, equipment, parts, fixtures, information and Contract rights as the Consultant has in its possession or control. When terminated for convenience, the Consultant shall be compensated as follows:

- (1) The Consultant shall submit a termination claim to the City specifying the amounts due because of the termination for convenience together with costs, pricing or other data required by the City. If the Consultant fails to file a termination claim within one (1) year from the effective date of termination, the City shall pay the Consultant the amount the City deems the Consultant is due.
- (2) The City and the Consultant may agree to the compensation, if any, due to the Consultant hereunder.
- (3) Absent agreement to the amount due to the Consultant, the City shall pay the Consultant the following amounts:
 - (a) Contract costs for labor, materials, equipment and other services accepted under this Agreement;
 - (b) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the work, and in terminating the Consultant's performance, plus a fair and reasonable allowance for direct job site overhead and earned profit thereon (such profit shall not include anticipated profit or consequential damages); provided however, that if it reasonably appears that the Consultant would have not profited or would have sustained a loss if the entire Agreement would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss, if any;

The total sum to be paid the Consultant under this Section shall not exceed the total Agreement Price, as properly adjusted, reduced by the amount of payments otherwise made, and shall in no event include duplication of payment.

- 4.2 Termination for Cause. If the Consultant does not perform the work, or any part thereof, in a timely manner, supply adequate labor, supervisory personnel or proper equipment or materials, or if it fails to timely discharge its obligations for labor, equipment and materials, or proceeds to disobey applicable law, or otherwise commits a violation of a material provision of this Agreement, then the City, in addition to any other rights it may have against the Consultant or others, may terminate the performance of the Consultant, in whole or in part at the City's sole option, and assume possession of the Project Plans and materials and may complete the work.

In such case, the Consultant shall not be paid further until the work is complete. After Completion has been achieved, if any portion of the Contract Price, as it may be modified hereunder, remains after the cost to the City of completing the work, including all costs and expenses of every nature incurred, has been deducted by the City, such remainder shall belong to the Consultant. Otherwise, the Consultant shall pay and make whole the City for such cost. This obligation for payment shall survive the termination of the Agreement.

In the event the employment of the Consultant is terminated by the City for cause pursuant to this Section and it is subsequently determined by a Court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience under this Section and the provisions of Section 4.1 shall apply.

- 4.3 Termination for Non-Appropriation. The City may also terminate this Agreement, in whole or in part, for non-appropriation of sufficient funds to complete or partially complete the Project, regardless of the source of such funds, and such termination shall be on the terms of Section 4.1.
- 4.4 The City's rights under this Section shall be in addition to those contained elsewhere herein or provided by law.

ARTICLE 5. SCOPE OF SERVICES. Consultant shall provide the Services as described in Attachment A, Scope of Services.

5.1 By mutual agreement, this Agreement and scope can be amended by the parties. The scope and fee for any additional tasks or services under such amendment shall be mutually negotiated and agreed to in writing prior to beginning such additional tasks or services.

5.2 **ENVIRONMENTAL RESPONSIBILITY.**

Where drilling/sampling services are involved, the samples obtained from the Project site are the property of the City. Should any of these samples be recognized by the Consultant to be contaminated, the City shall remove them from the Consultant's custody and transport them to a disposal site, all in accordance with applicable government statutes, ordinances, and regulations. For all other samples, the Consultant shall retain them for a sixty (60)-day period following the submission of the drilling/sampling report unless the City directs otherwise; thereafter, the Consultant shall discard the samples in accordance with all federal, state and local laws.

ARTICLE 6. SCHEDULE.

6.1 **TIME OF THE ESSENCE.** The parties agree that time is of the essence with respect to the parties' performance of all provisions of the Agreement.

6.2 Before executing this Agreement, the Consultant shall have prepared and submitted for approval to the City a Completion Schedule for the Project with milestones for the various stages (tasks) of the Services as outlined in the Scope of Services. The Consultant shall submit and obtain the City's approval for any proposed changes to the logic, durations, sequences, or timing of tasks as approved in the Completion Schedule.

6.3 **FORCE MAJEURE.** Neither party will be liable to the other for any delay or failure to perform any of the services or obligations set forth in this Agreement due to causes beyond its reasonable control, and performance times will be considered extended for a period of time equivalent to the time lost because of such delay plus a reasonable period of time to allow the parties to recommence performance of their respective obligations hereunder. Should a circumstance of force majeure last more than ninety (90) days, either party may by written notice to the other terminate this Agreement. The term "force majeure" as used herein shall mean the following: acts of God; strikes, lockouts or other industrial disturbances; acts of public enemies; orders or restraints of any kind of the government of the United States or of the State or any of their departments, agencies or officials, or any civil or military authority; insurrections, riots, landslides, earthquakes, fires, storms, tornadoes, droughts, floods, explosions, breakage or accident to

machinery, transmission pipes or canals; or any other cause or event not reasonably within the control of either party.

- 6.4 Should City request changes in the scope, extent, or character of the Project, the fee and the time of performance of Consultant's Services as indicated in Attachment A shall be adjusted equitably.

ARTICLE 7. USE OF DOCUMENTS, DATA.

- 7.1 All Documents, including, but not limited to, reports, drawings, specifications, and computer software prepared by Consultant pursuant to this Agreement are instruments of service in respect to the Project. Consultant shall retain an ownership and property interest therein (including the right of reuse at the discretion of the Consultant) whether or not the Project is completed.

7.1.1 **USE OF DATA SYSTEMS:** Ownership, property interests and proprietary rights in data systems used by Consultant do not extend to the data created by or supplied to Consultant by the City; all rights to that data (including derivative or hidden data such as metadata) shall vest solely in City at the moment of creation.

7.1.2 **DISCLOSURE OF DOCUMENTS/DATA.** City may be required to disclose documents or data under state or federal law. City shall notify Consultant if a request for data or documents has been made and shall give Consultant a reasonable opportunity under the circumstances to respond to the request by redacting proprietary or other confidential information. Consultant waives any right to confidentiality of any document, e-mail or file it fails to clearly mark on each page as confidential or proprietary. In exchange, Consultant agrees to indemnify, defend, and hold harmless City for any claims by third parties relating thereto or arising out of (i) the City's failure to disclose such documents or information required to be disclosed by law, or (ii) the City's release of documents as a result of City's reliance upon Consultant representation that materials supplied by Consultant (in full or redacted form) do not contain trade secrets or proprietary information, provided that the City impleads Consultant and Consultant assumes control over that claim.

- 7.2 By execution of this Agreement, Consultant and his sub-consultant(s) grant the City a royalty-free, perpetual, irrevocable, and assignable license to use any and all intellectual property interest Consultant or his sub-consultant(s) possess to any drawings, details, specifications, documents, and other information created before each of their first involvement with the Project and subsequently incorporated into the Project's documents. City-furnished data that may be relied upon by Consultant is limited to the printed copies that are delivered to the

- Consultant pursuant to Article 2 of this Agreement. Any copyrighted electronic files furnished by City shall be used by Consultant only for the Project as described herein. City's posting or publication of such documents created by Consultant for City shall constitute fair use and shall not constitute an infringement of Consultant's copyright, if any.
- 7.3 Documents that may be relied upon by City are limited to the printed copies (also known as hard copies) that are signed or sealed by the Consultant. Files in electronic media format of text, data, graphics, or of other types that are furnished by Consultant to City are only for convenience of City, unless the delivery of the Project in electronic media format has been dictated in Attachment A, Scope of Services. Any conclusion or information obtained or derived from electronic files provided for convenience will be at the user's sole risk.
- 7.4 Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within sixty (60) days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the party delivering the electronic files. Unless stated otherwise herein, Consultant shall not be responsible to maintain documents stored in electronic media format after acceptance by City.
- 7.5 When transferring documents in electronic media format, Consultant makes no representations as to long term compatibility, usability, or readability, of documents resulting from the use of software application packages, operating systems, or computer hardware differing from that as required of, and used by, Consultant at the beginning of this Project.
- 7.6 City may make and retain copies of Documents for information and reference in connection with use on the Project by the City, or his authorized representative. Such Documents are not intended or represented to be suitable for reuse by City or others on extensions of the Project or on any other project. Any such reuse or modifications without written verification or adaptation by Consultant, as appropriate for the specific purpose intended, will be at City's sole risk and without liability or legal exposure to the Consultant or to Consultant's sub-consultants.
- 7.7 If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- 7.8 Any verification or adaptation of the Documents for extensions of the Project or for any other project will entitle Consultant to further compensation at rates to be agreed upon by City and Consultant.

ARTICLE 8. INSURANCE.

- 8.1 During the performance of the Services under this Agreement, Consultant shall maintain the following minimum insurance:
- a) General Liability Insurance with a combined single limit of \$1,000,000 per occurrence and \$2,000,000 annual aggregate.
 - b) Automobile Liability Insurance with a combined single limit of \$1,000,000 for each person and \$1,000,000 for each accident.
 - c) Workers' Compensation Insurance Coverage A in accordance with statutory requirements and Coverage B, Employer's Liability Insurance, with a limit of \$500,000 for each occurrence.
 - d) Professional Liability Insurance with a limit of \$1,000,000 annual aggregate.
- 8.2 Consultant shall add the City an additional insured on all policies unless otherwise prohibited.
- 8.3 Consultant shall, upon execution of this Agreement, furnish City certificates of insurance, which shall include a provision that such insurance shall not be canceled without at least thirty (30) days' written notice to City.
- 8.4 No insurance, of whatever kind or type is to be considered as in any way limiting other parties' responsibility for damages resulting from their activities in the execution of the Project. City agrees to include, or cause to be included, in the Project's construction contract, such requirements for insurance coverage and performance bonds by the Project's construction contractor as City deems adequate to indemnify City, Consultant, and other concerned parties against claims for damages and to insure compliance of work performance and materials with Project requirements.

ARTICLE 9. PAYMENT.

- 9.1 City will pay Consultant for services and expenses in accordance with the Fee Schedule proposal submitted for the Project as part of the Scope of Services. Consultant's invoices will be presented at the completion of the work or monthly and will be payable upon receipt. Payment is due upon presentation of invoice and is past due thirty (30) days from invoice date. City shall give prompt written notice of any disputed amount and shall pay the remaining amount.
- 9.2 Consultant shall be paid in full for all services under this Agreement, including City authorized overruns of the Project budget or unforeseen need for Consultant's services exceeding the original Scope of Services.
- 9.3 **TRAVEL; EXPENSES**
City shall reimburse reasonable expenses, including travel and meals, when specified in the Scope of Services, but only in accordance with the City's Travel and Expense Policy and Procedures Manual. The maximum amount will be applied as of the date of travel and as listed

in the per diem reimbursement rates on the “CONUS” website developed by the United States General Services Administration, located at www.gsa.gov [click on ‘per diem rates’ under the ‘etools’ category].

ARTICLE 10. MISCELLANEOUS PROVISIONS

- 10.1 **EQUAL EMPLOYMENT OPPORTUNITY.** In connection with this Agreement and the Project, City and Consultant shall not discriminate against any employee or applicant for employment because of race, color, sex, national origin, disability or marital status. City and Consultant will take affirmative action to ensure that the contractor used for the Project does not discriminate against any employee and employees are treated during employment without regard to their race, age, religion, color, gender, national origin, disability or marital status. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship.
- 10.1.1 Consultant shall insert the foregoing provision in all contracts relating to this Project.
- 10.2 **TITLE VI – CIVIL RIGHTS ACT OF 1964.** City and Consultant shall comply with all the requirements imposed by Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), 49 C.F.R., Part 21, and related statutes and regulations.
- 10.2.1 Consultant shall insert the foregoing provision in all contracts relating to this Project.
- 10.3 **NO THIRD PARTY RIGHTS CREATED.** City and Consultant each binds itself and its successors, executors, administrators, permitted assigns, legal representatives and, in the case of a partnership, its partners, to the other party to this Agreement and to their successors, executors, administrators, permitted assigns, legal representatives and partners of such other party in respect to all provisions of this Agreement. The Services provided for in this Agreement are for the sole use and benefit of City and Consultant. Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than City and Consultant.
- 10.4 **WARRANTIES/LIMITATION OF LIABILITY/WAIVER.** City reserves all rights afforded to local governments under law for all general and implied warranties. City does not waive any rights it may have to all remedies provided by law and therefore any attempt by Consultant to limit its liability shall be void and unenforceable.

ARTICLE 11. EXTENT OF AGREEMENT:

- 11.1 **APPLICABLE LAW/CHOICE OF FORUM AND VENUE.** This Agreement is made under and will be construed in accordance with the laws of the State of Tennessee without giving effect to that state's choice of law rules. The parties' choice of forum and venue shall be exclusively in the courts of Williamson County, Tennessee. Any provision of this Agreement held to violate a law or regulation shall be deemed void, and all remaining provisions shall continue in force.
- 11.2 **ENTIRE AGREEMENT.** This Agreement, including these terms and conditions, represent the entire Agreement between City and Consultant for this Project and supersedes all prior negotiations, representations or agreements, written or oral. This Agreement may be amended only by written instrument signed by City and Consultant.

ARTICLE 12. DISPUTE RESOLUTION, BREACH.

- 12.1 If a dispute should arise relating to the performance of or payment for the Services under this Agreement, the aggrieved party shall notify the other party of the dispute within a reasonable time after such dispute arises. During the pendency of any dispute, the parties shall continue diligently to fulfill their respective obligations hereunder. No arbitration or mediation shall be required as a condition precedent to filing any legal claim arising out of or relating to this Agreement. No arbitration or mediation shall be binding.
- 12.2 **BREACH.** Upon deliberate breach of the Agreement by either party, the non-breaching party shall be entitled to terminate the Agreement with notice, with all of the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

ARTICLE 13. SURVIVAL.

The provisions contained in this Professional Services Agreement shall survive the completion of or any termination of the Agreement, contract or other document to which it may accompany or incorporate by reference or which subsequently may be modified, unless expressly excepted from this Article upon consent of both parties.

(Signatures on next page)

CONSULTANT

CITY OF FRANKLIN, TENNESSEE

BY: _____

Consultant's Signature

TITLE: _____

Date: _____

BY: _____

Dr. Ken Moore

Mayor

Date: _____

Approved as to Form:

Kristen L. Corn, Assistant City Attorney

ATTACHMENT "A"

CITY OF FRANKLIN SOUTHEAST MUNICIPAL COMPLEX MASTER PLANNING SCOPE OF SERVICES, FEE, AND SCHEDULE

INTRODUCTION

BWSC has prepared this Scope of Services at the City's request to develop a Master Plan, Opinion of Probable Cost for a new park on a 188-acre tract located between I-65 and the Harpeth River on the east side of Franklin. This site is also the location of a potential wastewater treatment facility, which would be located on 14 to 20 acres of the 38 acres of the property that is out of the floodplain. An aerial photograph of the property can be found in **Exhibit A** which is attached.

PARK MASTER PLAN SCOPE OF SERVICES

As described in the 2015 Parks Comprehensive Master Plan, the park site would include a minimum of eight (8) lighted multi-purpose rectangular sports fields that could be used for football, lacrosse, and rugby. The Franklin Cowboys football program would move from Jim Warren Park to this new park. The park should include other recreation amenities that are shown in deficit in the Level of Service Standards in the Comprehensive Master Plan, including playground, sand volleyball, basketball courts, and walking trails. This park would also be a Community Park to serve neighborhoods in this area. The City of Franklin Parks Department should also evaluate its system-wide needs to determine if a maintenance facility is needed at this location.

A goal of this master plan is to consider the potential site-specific needs (acreage, footprints, and access requirements) for the wastewater treatment plant that might be built on this parcel. **CDM Smith** will provide the planning work for the wastewater treatment plant as a subconsultant to BWSC, and we will coordinate their work with the City staff. CDM's scope of work is attached as **Exhibit B**.

Task 1: Inventory and Analysis

In this task, we will gather and assemble information regarding the sites and surrounding features, including any public and private development plans already in place, in process, or being contemplated. This information will be derived from existing resources. BWSC will prepare an electronic base map suitable for planning purposes from GIS electronic files for the site provided by the Client. BWSC recommends that the Client appoint a Core Planning Team (CPT) to work with us in the development of the master plan. This team would include key Client staff and any other stakeholders the Client deems appropriate.

We will conduct a kick-off meeting with the CPT and other stakeholders to discuss in detail the scope of the work, schedule for meetings, deliverable dates, lines of communication, desired program elements for the park (uses, facilities), potential site development issues, identification of risks, and the measures of success for the study. The identification of measures of success will result in a definition by the CPT of the key outcomes of the study that the Client believes would make the effort successful.

We will complete a site analysis to evaluate the site's natural and cultural features (topography, geology, hydrology, and existing infrastructure) and to identify physical opportunities and constraints to development. This inventory and analysis will focus on the natural systems of the site and will include a general identification of the ecological character and resources of the site. The analysis will also entail a review of the surrounding area to determine the potential impacts the park may have and vice versa. This will include an evaluation of the historical,

architectural, and spatial character of surrounding landscape to identify elements, themes, or concepts that could be used in developing linkages and design ideas for the park.

We will, on a preliminary basis, identify any potential critical environmental resources (wetlands, etc.) that are present on the site, based field review and on existing National Wetland Inventory and other available mapping; this will not include a field delineation of potential wetlands and/or regulatory streams. If such features are suspected based on our review, BWSC will advise the City who will use an on-call contract to have such features field delineated.

BWSC recommends that a preliminary geotechnical evaluation of the site be undertaken to identify depths to rock, water table, and soil permeability. It is anticipated that 10 borings will provide sufficient information for master planning purposes. An allowance is included in our fee for this. This work would only proceed upon subsequent future authorization by City staff.

CDM Smith's scope of work, deliverables, schedule, and fee for the wastewater treatment plant planning is attached as **Exhibit B**. BWSC will coordinate the scope and schedule of the park and wastewater treatment plant planning such that they function as a single, seamless effort. During this task, BWSC will specifically review and provide comments on CDM's general layout of the wastewater treatment plant.

We will prepare mapping which illustrates this analysis including key issues, opportunities, and constraints.

Key Task Outcomes:

- Development of site electronic base mapping.
- Schedule definition.
- Development of measures of success.
- Identification of opportunities for and constraints to development on the sites.
- Initial listing of desired program elements (uses and functions to be included in the parks).
- Location and sizing requirements for a potential future wastewater treatment plant.

Task 2: Concept Plan Development Options

BWSC will utilize the program information, the results of the site inventory and analysis, and input received during the inventory and analysis phase from the CPT to prepare up to two (2) alternative conceptual master plans for the park. The concept plans will illustrate the location, size, type, character, and scale of the proposed improvements in a diagram format. We will work with CDM Smith during this task to refine the site location, layout, means of vehicular access, and utility access corridors for the wastewater plant. We will review these concepts at a meeting with the CPT to receive their input. The CPT would decide at this meeting which of alternative concept plans (or both) to present at the public meeting in Task 4.

We would prepare order of magnitude opinions of probable cost for each of the three alternative concept plans. Because the concept plans are diagrammatic in nature, the level of detail and accuracy of the opinions of cost will be minimal. We will include a minimum of a 30% contingency in the opinions at this level.

Key Task Outcomes:

- Development of site concept plans.
- Collaboration with CDM Smith on the wastewater plant site location, layout, and access.

Task 3: Preliminary FEMA and Bridge Feasibility Study

Provide Bridge Feasibility Study to assist in giving guidance and recommendations for planned roadway and pedestrian bridge crossings. Given the potential crossings to the Southeast Municipal Complex will be within the FEMA floodway, a hydraulic analysis will be performed to evaluate and recommend potential crossings. The analysis is to include two iterations to assist in a “No Rise” Study of existing upstream elevations. The initial iteration is to be based on assumed bridge cross sections and agreed upon crossing locations. The second iteration is to refine the original and provide the basis of the planned crossings. The development of the Concept Plan and Final Master Plan by the BWSC landscape architects will be coordinated with the modeling efforts. Initial locations of crossings will be coordinated with city staff, BWSC transportation engineers and preliminary wastewater plant location provided by CDM Smith.

BWSC will provide field surveying services to gather river cross section to existing top of bank elevations. Field data will be combined with City provided LiDAR data (fees for the survey are included in the Survey Fee Allowance).

Assumptions:

1. The existing COE model for the project area is available in HEC-RAS digital format and can be provided to BWSC in a timely manner and at no cost to BWSC.
2. A total of 3 crossing are assumed. One Vehicular, Two Pedestrian
3. BWSC assumes city's current LiDAR data of the project area will be uses to aid in model development.
4. The intent of the analysis and “No-Rise” Study is for guidance and recommendation for the planned bridge crossing locations and sections. Scope does not include bridge design services.

Task 4: Master Plan Options Public Workshop

Following the meeting to review concepts with the CPT, BWSC will revise the options based on their input and will present the concept plans for the park at an evening public meeting (**Public Meeting #1**) to obtain input on the alternatives. The meeting will be facilitated with the goal of gaining consensus by the public for the preferred alternative for the park. Potential phasing options will also be discussed. The preferred alternative could be a single plan or combination of elements from the plans into a preferred option.

Following the public meeting, present the concept plans to BOMA in a work session (**Presentation #1**) to gain their input on a preferred alternative plan or combination of plans.

Key Task Outcomes:

- Public and BOMA guidance on preferred plan.
- Identification of a preferred concept plan option.
- Development of potential phasing options.

Task 5: Draft Final Master Plan Synthesis

In this task, we will refine the preferred alternative diagram based on input received from the public and BOMA into a more finished preliminary plan that will more accurately depict the location, scale, and character of the proposed improvements within the park. We will prepare initial preliminary opinions of probable costs for the implementation of the plan and phasing recommendations. We will prepare an estimate of earthwork and storm drainage quantities to include in the opinion of cost. The draft final plan will include specific recommendations for sustainable design concepts to be included in the site and building design. BWSC will also identify the scope and potential schedule for the permitting process for construction of the park. This information will be reviewed during

a meeting with the CPT for review and comment. We will revise the plan based on CPT input and present the plan at a Public Meeting (**Public Meeting #2**) to gain public input.

Key Task Outcomes:

- Refinement of master plan.
- Sustainable design recommendations.
- Phasing recommendations.
- Project budget definition and refinement.
- Input on the plan from the public.
- Consensus on the final plan(s) to be presented to the Board of Mayor and Aldermen (BOMA).

Task 6: Traffic Impact and Pedestrian Flow Study

BWSC will provide services for a Traffic Impact Study for the new park to identify required on- or off-site traffic improvements that will result in construction costs that would be incorporated into the opinion of costs for the park. The Traffic Impact Study Guidelines for the City of Franklin, as well as the standards of the Institute of Transportation Engineers (ITE) for traffic impact studies, will be followed. The Traffic Impact Study tasks include:

- Inventory the existing study area conditions and conduct field observations of roadway geometry, traffic control, posted speed limits, and site access sight distance.
- Obtain available traffic projections from the City of Franklin, or other historical Tennessee Department of Transportation (TDOT) volume trends. Determine a reasonable growth rate from this information.
- Perform trip generation analysis for the park using the guidelines of ITE. Land use and densities will be based on the current site plan. One phase of development is assumed.
- Estimate distribution of trips using manual techniques including reviews of existing developments and directional distributions.
- Develop projected/design volumes based on historical growth rates and future development information.
- Review current TIS submittals in the study area for trip generation data and recommendations for roadway improvements.
- Calculate Level of Service (LOS) at the study intersections under existing 2017 peak hour traffic conditions without the proposed development. Intersections will include:
 - Long Lane and Carothers Parkway
 - Truman Lane and Carothers Parkway
 - Long Point Way and Carothers
 - Carothers Parkway and South Carothers Road
 - Carothers Parkway and SR 96
 - Two park access points to be determined
- Calculate the projected background traffic (existing traffic and traffic anticipated from other pending developments) as related in the historic corridor growth rate for the build-out year on the study intersections. Assess critical queue lengths, changes in Level of Service, and delay for the build-out year.

- Calculate the projected future traffic (background traffic and traffic from the proposed development) for the build-out year on the study intersections. Assess critical queue lengths, changes in Level of Service, and delay for the build-out year.
- Conduct an operational analysis of the intersection Level of Service for all existing study intersections, as well as the new proposed access point in the years specified, with a Level of Service and delay by lane-group and intersection determined using the Highway Capacity Manual (HCM 2010) and Synchro software.
- Conduct a circulation analysis of the site plan for the park.
- Conduct a parking analysis of the site plan for the park.
- Report the extent of roadway and/or traffic control improvements necessary to maintain acceptable levels of service and mitigate the impact of the additional traffic from the development.
- Prepare a report documenting the findings.
- Incorporate recommended traffic/road improvements into the park Preliminary Final Master Plan and opinion of probable construction costs.
- Conduct preliminary bridge site investigation and location assessment.

Task 7: Park Branding and Graphics

This property could be the home to two very important, and very different uses. Due to the park's large size, visibility from I-65, and accessible location, it has the potential to become an iconic and signature destination in Franklin. For these reasons, developing a distinctive brand identity for the park will be very important. In this task, BWSC subconsultant **TollesonMcCoy** will work with the design team and the City staff in developing a branding strategy for the project. The objective will be to develop a name for the park and a graphic brand that conveys the unique and special character and function of the park. TollesonMcCoy will work with the design team to understand the proposed design themes and concepts for site and buildings that should influence the branding. They will also assist the design team in developing master plan level concepts and budgeting for park identification and internal wayfinding signage. The following are the specifics of TollesonMcCoy's scope:

Discovery:

- Interview key City and Park personnel to understand the programming and operations goals of the park that could be supported by the branding strategy.
- Research historical and current records to support the branding initiatives.
- Research applicable zoning and planning overlays as they relate to exterior signage.

Schematic Design:

- Build on information provided by key City and Park personnel to begin the naming exercise for the park.
- Provide no fewer than ten (10) naming options.
- From the name options, facilitate font studies and begin developing "marks" in black and white for review.
- Present Schematic Design and Discovery to key team members.

Design Development:

- Provide revised branding options for selection.
- Incorporate color studies for branding options.
- From the master plan, determine material precedents for signage.

- Provide no fewer than three design options for the primary identity and wayfinding signage.
- Present Design Development to the City.

Contract Documentation Deliverables:

- Provide brand strategy document including naming hierarchy and brand standards (color palette and font selections – primary and tertiary)
- Prepare detailed design development drawings to include overall dimensional and material call out drawings for the primary entrance identity and for wayfinding signage (ground mounted). This would constitute the “Pattern Book” as requested by the City.

Task 8: Final Master Plan Refinement

Based on comments received from the CPT, BOMA and the public, BWSC will complete a final rendered site master plan, an aerial color perspective rendering, and a brief written final report documenting the master planning process. The report will contain reduced copies of the rendered plan, an aerial color perspective rendering, the brand strategy and “pattern book” for the branding, supporting written documentation of the master planning process, and the opinions of probable construction cost. Copies of the final draft plan and report will be provided to the CPT and City staff in electronic format for review and comment. We will make any required changes and prepare a final report in electronic format for submission to BOMA. We will make a presentation of the plan and report at a BOMA meeting.

Key Task Outcomes:

- Prepare final draft master plan and report.
- Draft copies of the final plan and report in electronic format (.pdf) submitted to the CPT for review.
- Make any necessary revisions based on CPT comments.
- Prepare copies of the final plan and report for submission in electronic format to BOMA.
- Present the draft final plan to BOMA (**Presentation #2**).
- Approval of the plan by BOMA.

Task 9: Final Master Plan

Make any necessary revisions to the draft plan and report based on comments received and submit the final deliverables to include:

- One mounted copy of the color rendered conceptual master plan of the new park.
- Two copies (depending on Client requirements) of the final written report documenting the planning process, including a reduced copy of the color rendered master plan, recommended phasing of construction, and preliminary opinions of probable cost by phase.
- Electronic copies of the color rendered master plan and final report in .pdf format.

Key Task Outcomes:

- Completion of the Master Planning Phase.

Task 10: Services as Authorized by City Staff

- Provide geotechnical investigation (up to 10 borings coordinated with the Lockwood parcel CD contract).



- Attend up to 6 formal meetings (public meetings, BOMA, etc.). Fee assumes three meetings will be attended by the Parks Subject Matter Expert, Client Services Lead and Technical Lead; three would be attended only by the Client Services Lead and Technical Lead.

Additional Services

BWSC is available to provide additional services as requested by the City of Franklin:

- Site topographic and boundary survey.
- Construction plans, bidding and construction phase services for construction of the park improvements identified in the master plan.

PROPOSED COMPENSATION

BWSC proposes to complete the above outlined Scope of Services for an hourly basis for amounts not to exceed the following:

Master Planning	\$96,013
FEMA and Bridge Study	\$29,517
Traffic Impact Study	\$25,360
Park Branding and Graphics	\$19,000
Other Direct Costs	<u>\$1,800</u>
Primary Park Site Subtotal	\$171,690
Wastewater Plant Planning (CDM Smith Exhibit B)	<u>\$184,856</u>
Total Proposed Fee	\$356,546

A summary of the proposed budget by task can be seen in **Table 1** on the following page.

Fee Allowances

The following are fee allowances that can be subsequently authorized by the City staff.

Site Survey (for FEMA Study)	\$25,000
Geotechnical Investigation	\$4,300
6 Additional Formal Meetings	\$10,200 (3 at \$2,200 and 3 at \$1,200)

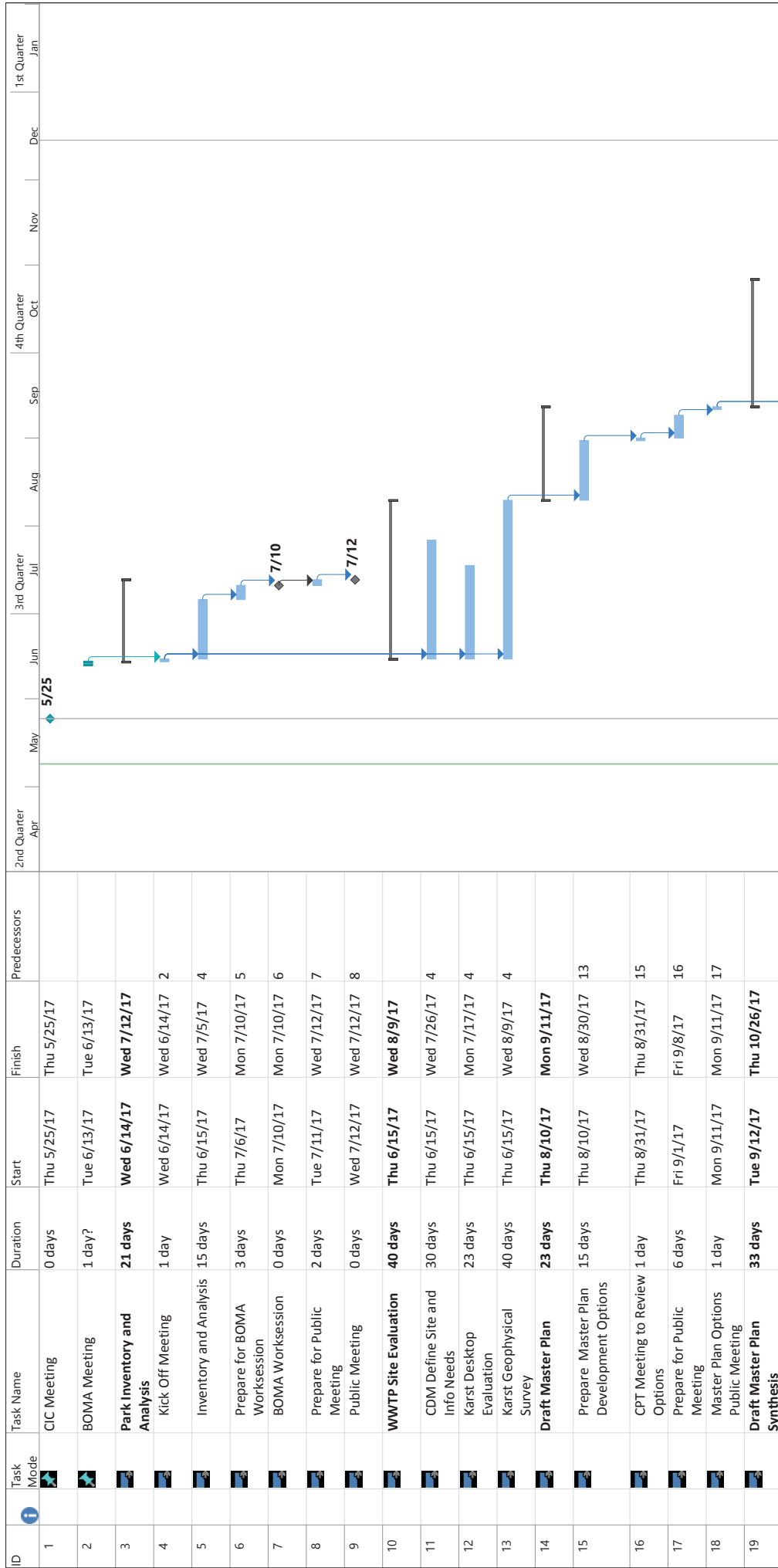
SCHEDULE

Attached following the proposed budget by task is the proposed schedule for the master planning effort. The schedule shows the master planning complete mid-December 2017.

It should be noted that the Karst Geophysical Survey for the wastewater plant may or may not have to be done. It is included in the schedule; however, the duration may have to be longer. This will only be known after CDM Smith completes the Karst Desktop Evaluation. The development of master plan development options should wait until this analysis is complete.

Table 1
Summary of Budget by Task
Southeast Municipal Park Master Planning

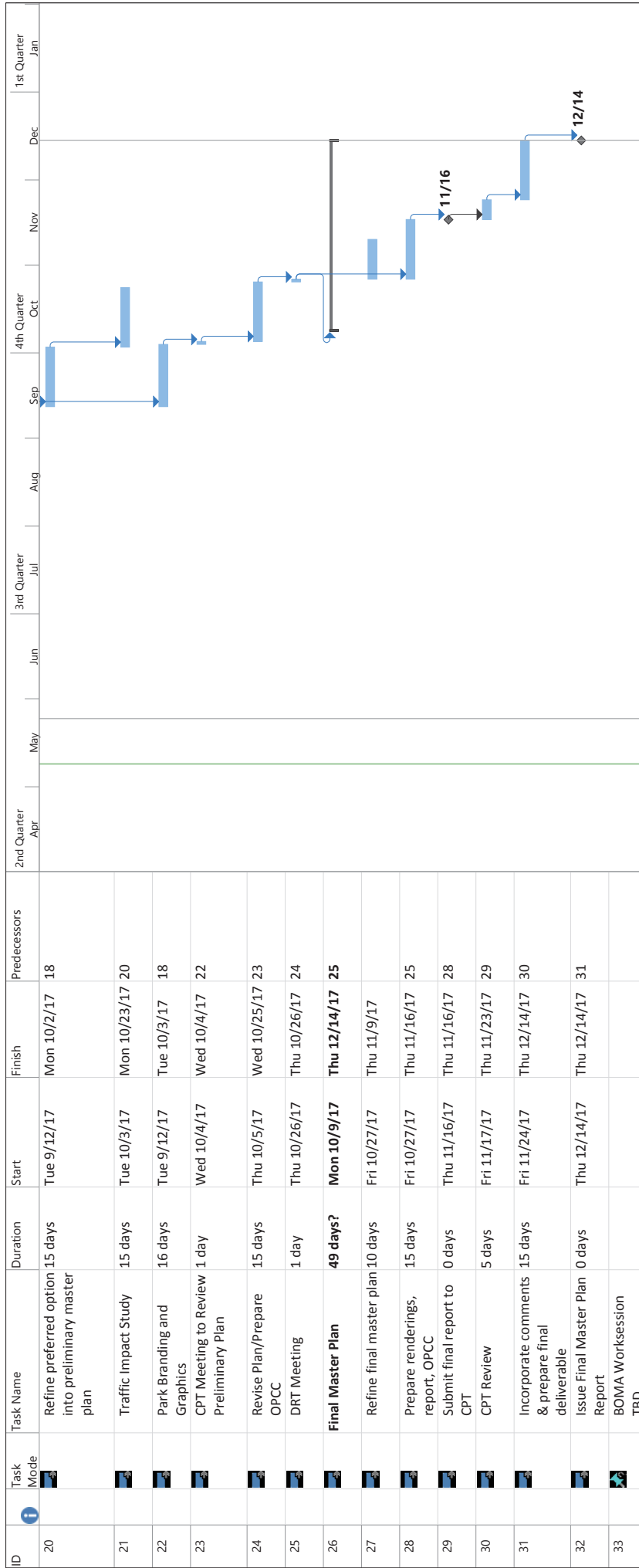
	Task Number	1	2	3	4	5	6	7	8	9	Total Hours
LABOR	Rate	Inventory and Analysis	Master Plan Development Options	FEMA and Bridge Feasibility Study	Master Plan Options Workshops	Draft Final Master Plan Synthesis	Traffic Impact Study	Park Branding and Graphics	Final Master Plan Refinement	Final Master Plan	
Principal	\$247						3				3
Client Service Lead	\$244	4	6		8	4			4		26
Park Subject Matter Expert	\$241	11	29		19	12			14	2	87
Project Manager	\$146	9	8	6	4	4	16		15	6	68
Administrative	\$81	1	3			3	5		22	2	36
Sr. Landscape Architect	\$153	38	48		21	30			61	5	203
Landscape Architect	\$124		2								2
Landscape Architect Intern	\$75	55	56		36	36			48	12	243
Senior Civil Engineer	\$163	3	6			6			43	3	61
Traffic Senior Engineer	\$185			9							9
Traffic Engineer 1	\$158			12			35				47
Traffic Engineer 2	\$130			16			54				70
Traffic Designer	\$88						106				106
EWR Senior Engineer (QC)	\$175			8							8
EWR Senior Engineer	\$150			40							40
EWR Jr. Engineer	\$110			80							80
EWR EIT	\$85			80							80
TOTAL HOURS		121	158	251	88	95	219	\$0	207	30	1169
TOTAL DOLLARS		\$15,450	\$22,634	\$29,517	\$13,028	\$12,963	\$25,360	\$0	\$28,264	\$3,674	\$150,890
OTHER DIRECT COSTS											
Printing, mileage, etc.		\$300	\$300		\$300	\$300			\$300	\$300	\$1,800
Total ODC Plus 0% Markup		\$300	\$300	\$0	\$300	\$300	\$0		\$300	\$300	\$1,800
OUTSIDE PROFESSIONALS											
TollesonMcCoy (Branding)								\$19,000			\$19,000
CDM Smith (See Exhibit C for breakdown)											\$184,856
Subtotal OP's With 0% Markup								\$19,000			\$203,856
TOTALS		\$15,750	\$22,934	\$29,517	\$13,328	\$13,263	\$25,360	\$19,000	\$28,564	\$3,974	\$356,546



Project: East Side Park Master P
Date: Tue 5/9/17

Legend:

- Task: Solid blue bar
- Split: Dotted blue bar
- Milestone: Diamond
- Summary: Thick black bar
- Project Summary: Thin grey bar
- Inactive Task: Dotted grey bar
- Inactive Milestone: Diamond
- Inactive Summary: Thin grey bar
- Manual Task: Solid teal bar
- Duration-only: Dotted teal bar
- Manual Summary Rollup: Thick grey bar
- Manual Summary: Thin grey bar
- Start-only: Thin teal bar
- Finish-only: Dotted teal bar
- External Tasks: Thin grey bar
- External Milestone: Diamond
- Deadline: Green arrow
- Progress: Blue bar
- Manual Progress: Teal bar



Project: East Side Park Master P
Date: Tue 5/9/17

Legend:

- Task: Solid blue bar
- Split: Dotted blue bar
- Milestone: Diamond symbol
- Summary: Thick black bar
- Project Summary: Thin blue bar
- Inactive Task: Thin grey bar
- Inactive Milestone: Diamond symbol
- Inactive Summary: Thin grey bar
- Manual Task: Solid teal bar
- Duration-only: Hollow teal bar
- Manual Summary Rollup: Thick black bar
- Manual Summary: Thin grey bar
- Start-only: Thin teal bar
- Finish-only: Hollow teal bar
- External Tasks: Thin teal bar
- External Milestone: Diamond symbol
- Deadline: Green arrow
- Progress: Solid blue bar
- Manual Progress: Solid teal bar

EXHIBIT A

FRANKLIN

Harpeth River



700 Feet

1 inch = 700 feet
Tennessee State Plane (feet) 4100ftps
North American Datum 1983

N

BWSC **pros consulting** **KVD**

CITY OF FRANKLIN PARKS

FRANKLIN PARK MASTER PLAN

FRANKLIN, TENNESSEE

— Interstate Property

— Highway City Limits

~ River

Exhibit B

City of Franklin

Goose Creek Property Master Plan Assistance

Scope of Work Proposal

1.0 Project Background

The City's Integrated Water Resources Plan (IWRP) identified the need for a second wastewater treatment/reclamation facility in the southern portion of the City to serve Franklin's sewer system. The plant was recommended to be an advanced wastewater treatment plant to be constructed at the Goose Creek site, a property previously purchased by the City for this purpose. The City also desires to develop a portion of the Goose Creek site as a park and wishes to proceed with development of a masterplan for the site for these multiple purposes. As part of the masterplan, a conceptual layout of the wastewater management facilities (which include the wastewater treatment system itself, potential wetland treatment system, and associated utility corridors) is necessary so the layouts can be integrated into the park masterplan to reserve space for the wastewater management facilities. This proposal includes assistance in development of the wastewater facilities portion of the site master plan to be incorporated into the overall site layout.

As referenced, the wastewater management facilities to be housed on this site include the wastewater treatment plant itself, potential wetlands treatment for polishing of the treatment plant effluent, and corridors for utilities associated with the treatment plant and facilities. These will be referred to as the three wastewater management facility components in the text below. Utility corridors will be needed for sewer mains to carry wastewater to the treatment plant, force mains to carry treated effluent off the Goose Creek site, and other utilities (water, electric, gas, roadway access, etc.) necessary to operate the wastewater management facility components.

2.0 Scope

CDM Smith's proposed scope is presented below and includes the following five tasks:

- Task 1: Kickoff and Identification of Siting Constraints
- Task 2: Karst Evaluation
- Task 3: Evaluation, Sizing and Generic Layout of the System Elements
- Task 4: Collaborative Site Layout
- Task 5: Development of Wastewater Management System Traffic Estimates
- Task 6: CPT (Core Planning Team), Public and City Meeting Support

For the development of this scope of work, CDM Smith reviewed the Barge Waggoner Sumner and Cannon Inc. (BWSC) scope to determine how the timing of our work relates to the timing of the overall park masterplan steps (tasks) and we have included a discussion under each of our tasks that describes how the timing of that task will relate to the BWSC tasks.

Task 1, Kickoff and Identification of Siting Constraints

The purpose of this task is to 1) kick off the project, 2) delineate areas that can be removed from consideration based on preferences, needs, and constraints, and 3) identify information that will be needed to delineate potential wastewater management facility locations.

Subtask 1.1, Kickoff Meeting

This task includes attendance of an overall project kickoff meeting with all parties associated with the project site development. We assume that the kickoff meeting will be attended in person by two CDM Smith engineers and by phone by two additional CDM Smith engineers who are integral to the completion of the project tasks.

Subtask 1.2, Identification of Siting Considerations

This subtask will include identification of key management facility siting preferences, needs, and constraints. An example of a preference might be selecting a site with elevations conducive to delivery of some portion of the wastewater via gravity sewer rather than force main. A need might include having access to the river for discharge of treated effluent. A constraint might be that the wastewater management facilities must be constructed on property above the flood plain level. In addition to identification of considerations based on our experience, CDM Smith will coordinate with BWSC and the Water Management Department on the identification of preferences, needs, and constraints. This information will be used to develop a brief memorandum and a graphic identifying areas to be excluded from consideration and to establish a list of information needed to finalize a graphic identifying areas to be excluded. After completion of Task 2 and after obtaining input and additional data from BWSC and the City the memorandum and site graphic will be finalized.

Two additional informational needs can already be identified: 1) Identification of areas that must be excluded due to karst geologic activity, and 2) Identification of areas that must be excluded because they are classified as wetlands. Task 2 is proposed to define the former and we assume that BWSC will define the wetlands limits as part of their scope.

Task 2, Karst Evaluation

Part of the goal of this project is to identify how much area will be required for a water reclamation facility and where that facility will be located on the property. Since Williamson County is in an area that has the potential for karst development, it is recommended that areas for potential siting of the water reclamation facility be screened for karst geologic hazards such as sinkholes. The water reclamation facility will include water-bearing structures that will impose significant loads that could be incompatible with limestone bedrock with unstable solution cavities. In addition, placement of wetland treatment systems over shallow bedrock with solution cavities could introduce enough additional hydraulic loading to trigger collapses.

This task will include performing screening for karst features on the Goose Creek property. This will be performed in two steps. The first step will be performance of a desktop evaluation of the property for karst potential. Step 1 will utilize the following sources of information:

- Topographic information from the USGS and other public sources to evaluate for surface expression of karst features;

- USGS, Tennessee, and additional publications addressing bedrock character and karst development in the project vicinity;
- Aerial photographs; and
- A one day site visit by a CDM Smith geologist.

The first step of the karst evaluation and the work performed in Task 1 will be used to identify areas for site investigation of karst potential during the karst investigation. The karst investigation will involve performing a non-intrusive geophysical survey of target areas. We assume that areas of the property that were not eliminated from consideration in Task 1 and the first part of this task will be subjected to a geophysical survey using either seismic or resistivity methods. The method to be used will be selected in the field after a short test to see which method will efficiently yield the best results (See Task B below). It should be noted that use of the Ohm-Mapper system is very efficient in the open areas of the site and, as a result, CDM Smith has included higher density data collection by this method. For the purpose of pricing this proposal we have developed the scope of work defined below for the geophysical survey. Our pricing assumes that option C2 will be used, as it is the most expensive option. For example, if Option C1 will produce suitable results, the cost to the City would be about \$10,000 less than if Option C2 is necessary.

- Task A – Project Setup
- Task B – Mobilization & Feasibility Study using Ohm-mapper, electrical resistivity imaging (ERI), seismic refraction, and multichannel analysis of surface waves (MASW)
- Task C – Geophysical Survey. Depending on the findings of Task B above one of the following options will be used. Pricing is based on seismic refraction, which is the most conservative of the options.
 - Option C1 – Ohm-Mapper used in open areas (75% or 12,000 survey feet) and ERI in wooded areas (25% or 4,000 survey feet)
 - Option C2 – Seismic Refraction (10,000 survey feet)
 - Option C3 – MASW (10,000 survey feet)
- Task D – Report prepared by geophysical subconsultant

The following additional assumptions also apply:

- No restrictions for site access and working hours;
- Vehicles will be allowed in the fields; and
- Bedrock depth is expected to be no more than 30 feet for Ohm-Mapper use. If bedrock is greater than 30 feet, ERI will be used.

A memorandum summarizing the work, findings, and recommendations from this work will be prepared. The memorandum will be reviewed by a CDM Smith senior technical staff member,

revised and transmitted to BWSC and the Water Management Department for review. Upon receipt of input, the memorandum will be finalized.

If the geophysical survey reveals karst activity, borings would be performed to calibrate the interpretation of the geophysical survey. The geophysical survey results would be used to target features for physical identification and the resulting boring information would be used to correlate geophysical survey electronic signatures to the physical information. These borings would differ from the borings that BWSC is proposing because these borings would include penetration into the rock and performance of SPT sampling with measurement of blow counts. The number and depth of borings will not be known until the geophysical survey is performed, so we propose establishing an allowance of \$15,000 for this work.

Task 3, Evaluation, Sizing, and Generic Layout of System Elements

The goal of this task is to further define each of the wastewater management facility components, develop generic sizing, and develop generic layouts. The layouts would then be used as the initial information in a subsequent collaborative task with BWSC to develop site specific layouts for the components. By further defining the wastewater management components, we signify identifying and fleshing out individual structures and processes that will comprise the treatment system, and establishing the type and sequence of the wetland treatment system to be used. This task will also include establishing what utilities will be necessary and where they need to enter the site based on current availability. Since the graphic portion of the work product will be generic layouts, we will also identify constraints that must be considered in developing site specific layouts. For example, the wetland treatment system will have maximum and minimum length to width ratios that are necessary to maintain treatment effectiveness.

The evaluations described above will be presented in three technical memorandums (one for each of the wastewater management facility components), and will include associated graphics that can be incorporated by BWSC into the overall site layout. The graphic portion of this work product will include one generic layout for the wastewater treatment component, one generic layout for the wetland treatment system component, and two optional site plans each showing suggestions for potential locations of the components. We assume that the following steps will occur for the evaluation of each element:

1. Preparation of a draft memorandum that establishes the conceptual design criteria, sizing of components, definition of the critical layout criteria, and development of an idealized generic layout for the elements of each component.
2. Internal review and revision of the memorandum
3. BWSC and City team review
4. Final revision

This task will be initiated immediately after completion of CDM Smith Task 1; however, depending on planned duration of BWSC Task 1, may have to extend into BWSC Tasks 2 and 3. To avoid delaying preparation of the site plan, CDM Smith will use an aerial photo as the base for our layouts and figures. If the BWSC base map is available, that will be used instead as the base map.

The following narratives provide more detailed information on the scopes for the three wastewater management facility component evaluations.

Subtask 3.1, Wastewater Treatment Plant Evaluation

For the purpose of the evaluation, CDM Smith assumes that the treatment system will consist of two 8 million gallons per day (MGD) average daily flow (ADF) treatment trains that will be constructed in phases. This will result in an ultimate build-out at the site of 16 million gallons of ADF treatment. This is based on the estimated City-wide basin models and flows that were the basis of the on-going Franklin WRF expansion. We are initially assuming that the treatment system will consist of the following processes/structures:

- Centralized screening and grit removal facility;
- Odor control;
- BNR influent splitter box;
- A2O process trains with the aerobic component configured as an oxidation ditch;
- Internal recycle pump station (if needed);
- Secondary clarifier splitter box;
- Secondary clarifiers;
- Centralized RAS/WAS Pump Station;
- Tertiary filtration utilizing deep bed filters;
- Filter building with backwash pumps and blowers;
- Supplemental carbon storage and feed facility for filters;
- Ultraviolet radiation disinfection and potential advanced oxidation facilities;
- Gravity belt thickening system;
- Aerated sludge holding tank (2.5 days storage);
- In plant lift station;
- New administration building;
- New main electrical building housing main switchgear.
- New electrical building to house MCC lineup in proximity to activated sludge process;
- New electrical building to house MCC lineup in proximity to filters and disinfection processes;
- On-site diesel backup power generator;
- 24 foot wide roads to access the facility (minimum 15 foot offset of structures from roadways); and
- Stormwater retention/detention

The basis of design for sizing the tankage will be the influent concentrations, mass load peaking factors, and effluent criteria from the February 21, 2012 “New WWTP Technical Analysis Technical Memorandum” prepared by CDM Smith as part of the City’s Integrated Water Resources Master Plan (IWRP). The facility ADF flow will be adjusted as appropriate for this evaluation.

Sizes of process tanks will be modified utilizing the increased plant capacity. Main assumptions from the unit processes, such as solids retention time, will remain the same to show consistency between the IWRP and this document. CDM Smith will obtain updated vendor input for the size of the oxidation ditch and filtration system in order to update the size of these unit processes.

Although multiple options were evaluated as part of the IWRP, no final treatment train or process has been selected for the plant. Therefore, we will assume that the option with the largest footprint will be employed.

Subtask 3.2, Wetland Treatment System

The Integrated Water Resource Plan – Phase II (CDM Smith 2012) indicates that advanced treatment processes will be required to meet stringent permit discharge limits and that the proposed WWTP will include consideration of a tertiary polishing wetlands. In addition, the intent is to send the maximum amount of effluent possible to the reclaimed water system for reuse. However, even if enough reuse contracts are signed to use all the effluent during high demand periods, more effluent will be produced during low reuse demand periods (i.e., wet weather periods and winter months) than can be successfully reused. During these low reuse demand periods, wetlands treatment would be used to polish the effluent before discharge to the Harpeth River.

Several factors are important in determining the appropriate design of a treatment wetland. These include the type of wetlands as defined by the dominant vegetation and soils, the direction and extent of surface water flow to and from the wetland, location and type of downstream water bodies, regulatory requirements, topography, geotechnical characteristics, the overall water budget, wetland jurisdictional boundaries, distribution system and discharge system design, and construction costs. Water quality regulations must be considered in the design and permitting of treatment wetlands; as well as, establishment of a wetland monitoring program.

The work under this task will include evaluation of the feasibility of wetlands treatment, conceptual wetlands treatment design (including conceptual sizing and generic layout of the proposed wetland treatment system), and preparation of a memorandum documenting the above evaluation and recommendations. The first two items are described below and the third, the memorandum and graphics were described previously above.

Wetlands Treatment Feasibility

Area requirements for wetlands used to treat wastewater will be determined using a model that considers hydraulic and nutrient loading rates. The model will be used to evaluate various treatment wetland options and to estimate the wetland area necessary to reduce constituent concentrations to target levels. We assume that the constituents of interest will be limited to TSS, BOD, TN, and TP. Once the estimate of the treatment wetland area needed to meet the appropriate discharge water quality is determined, an evaluation will be performed to determine if there are available sites near the WWTP that are suitable for the constructed treatment wetlands.

Conceptual Wetlands Treatment System Configuration

CDM Smith will present a conceptual wetlands treatment configuration, excavation and grading needs (if necessary), berms, the influent distribution system and control structures, substrate acquisition, a wetland planting plan, and a monitoring plan. These will be defined only to the extent necessary to establish the required area and geometry of the wetland treatment system and shall not constitute a design.

Subtask 3.3, Utility Corridors and Overall Site Layout

The purpose of this task is to identify potential locations of the wastewater management facility components on the Goose Creek site and to identify likely entry points and routing for influent

wastewater mains and effluent force mains for the reclaimed water system. The facilities will be represented by simple polygons showing the extents of the structures and components. The potential locations are intended to be a starting place for the collaborative site layout discussions in Task 4.

Task 4, Collaborative Site Layout

Since the layout of the wastewater management facility components has a direct impact on the layout of the park components and vice versa, we propose this collaborative task to take the CDM Smith generic layouts and work with BWSC to mold them into site specific layouts. We assume that up to two alternative layouts will be developed. The following subtasks are assumed:

1. An initial collaboration meeting will be held in Franklin, Tennessee with BWSC and will be attended by two CDM Smith technical staff, the CDM Smith project manager and client manager.
2. CDM Smith will then revisit the site layouts and create modifications that reflect the concepts identified in the initial meeting.
3. A second meeting will be held with BWSC to review the resulting site layouts. This meeting will be attended in person by two CDM Smith engineers and by phone by two additional CDM Smith engineers.
4. Modifications will be made to the site layouts appropriately based on the comments.

We assume that BWSC will request up to two additional sets of revisions to the site layouts as they go through the review processes with CPT and the Public.

Task 5, Development of Wastewater Management System Traffic Estimates

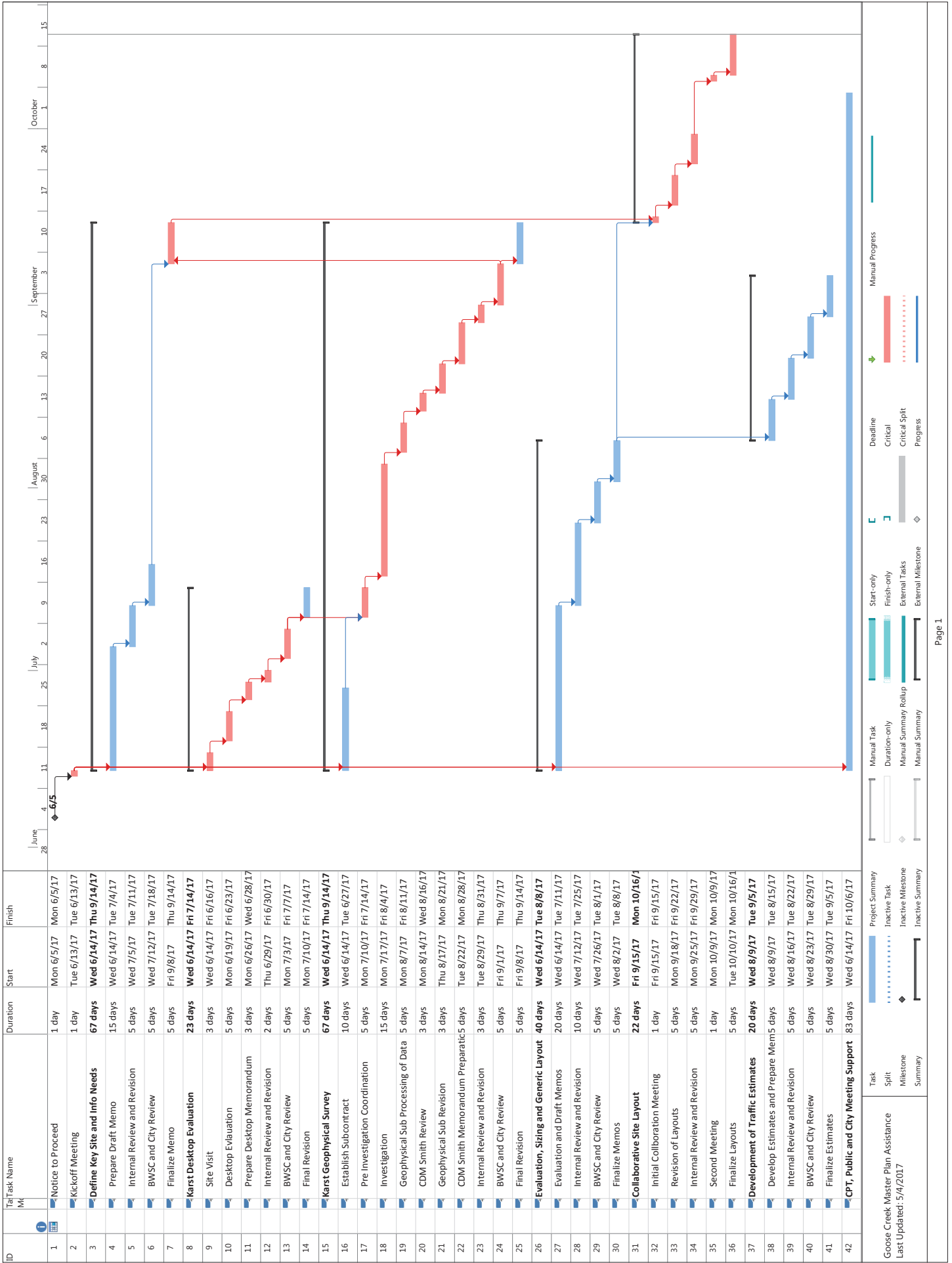
This task includes development of traffic estimates for the wastewater management system to support BWSC's Traffic Impact Study. CDM Smith will provide an estimate of truck traffic to and from the wastewater management system over time. The estimate will be provided for five year increments starting in the year 2020 and ending in the year 2040. These traffic impacts will be developed for all activities anticipated to be associated with the operation and maintenance of the new Goose Creek Wastewater facilities.

Task 6, CPT, Public and City Meeting Support

CDM Smith will attend and provide support at meetings with various entities as requested by BWSC. We have assumed attendance of up to four meetings by two appropriate CDM Smith engineers depending on the purpose of the meeting. We have assumed a total preparation time of 6 man hours for each meeting and will coordinate all our work and meeting materials through BWSC who is assumed to be in charge of the coordination and facilitation of the meetings.

3.0 Time of Completion/Schedule

Please see the attached schedule.



4.0 Compensation and Payment

The work in this amendment will be performed for a not-to-exceed budget of \$184,856. A breakdown of the cost for this amendment is provided in Table 1. The work will be performed on a billing rate basis in accordance with the rates established in the contract.

Table 1
 Summary of Budget by Task
 Goose Creek Property Master Plan Assistance

	Task No.	1		2A		2B		3		4		5		6	
		Kickoff Meeting and ID Considerations	Karst Evaluation	Geotechnical Boring Allowance	Evaluation, Sizing and Generic Layout	Collaborative Site Layout	Traffic Estimates	CPT, Public and City Meeting Support	Totals						
LABOR															
Officer	\$225	4	0	0	11	10	2	16	43						
Project Manager	\$190	15	11	24	24	4	48	126							
Senior Technical Specialist	\$205	4	45	2	124	30	4	209							
Technical Specialist	\$185	24	0	0	30	24	0	78							
Senior Engineer/Scientist	\$165	1	0	0	26	22	12	61							
Engineer/Scientist	\$135	32	22	0	24	0	0	78							
Junior Engineer/Scientist	\$110	0	0	24	0	0	0	24							
Senior Designer	\$125	0	0	0	0	0	0	0							
Designer/Drafter/Technician	\$105	18	4	0	40	18	0	80							
Project Accounting Staff	\$115	0	0	0	6	0	2	10							
Administrative Staff	\$85	0	0	0	32	0	4	40							
TOTAL HOURS		98	82	26	317	128	28	749							
TOTAL DOLLARS		\$15,385	\$14,705	\$3,050	\$53,145	\$22,920	\$4,580	\$127,075							
OTHER DIRECT COSTS															
Car Mileage (at Federal Govt. Rates)		\$280	\$560	\$280	\$0	\$616	\$0	\$1,120	\$2,856						
Rental Car		\$0	\$0	\$0	\$0	\$160	\$0	\$80	\$240						
Air Fare		\$0	\$0	\$0	\$0	\$1,400	\$0	\$700	\$2,100						
Meals		\$40	\$80	\$80	\$0	\$160	\$0	\$160	\$520						
Hotel		\$0	\$0	\$280	\$0	\$280	\$0	\$280	\$840						
Document Reproduction		\$100	\$215	\$0	\$750	\$300	\$50	\$0	\$1,415						
Shipping		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0						
Miscellaneous Equipment/Supplies		\$0	\$0	\$90	\$0	\$0	\$0	\$0	\$90						
TOTAL ODCs Plus 0% Markup		\$420	\$855	\$730	\$750	\$2,916	\$50	\$2,340	\$8,061						
OUTSIDE PROFESSIONALS															
Karst Geophysical Subconsultant		\$0	\$35,000	\$0	\$0	\$0	\$0	\$0	\$35,000						
Driller		\$0	\$0	\$10,200	\$0	\$0	\$0	\$0	\$10,200						
Subtotal OPs		\$0	\$35,000	\$10,200	\$0	\$0	\$0	\$0	\$45,200						
Subtotals with Ten Percent Markup	10%	\$0	\$38,500	\$11,220	\$0	\$0	\$0	\$0	\$49,720						
TOTALS		\$15,805	\$54,060	\$15,000	\$53,895	\$25,836	\$4,630	\$15,630	\$184,856						