Michael Baker INTERNATIONAL

We Make a Difference

Scope of Services and Cost Proposal

TO: John Raymond, Assistant City Manager, City of Carson Department of Public Works

FROM: Ghina Yamout, Michael Baker International
Dave Mercier, Michael Baker International
Hans Tremmel, Michael Baker International
Stefani Bell, Michael Baker International
Chris Crompton, Michael Baker International

DATE: May 15, 2023

SUBJECT: Amendment 1 to Stormwater Facilities Implementation Plan (SWFIP) - Response to request for scope and fee for:

- Task 5 – Program Support
  - 5.1 SEP Support – Supplemental Environmental Projects (SEPs) Concept Development, Grant Application, and Workplan Support
  - 5.2 LID Ordinance Support – Supplemental Review of City of Carson Municipal Code Stormwater Regulations and Ordinance Review
- Task 6 – Green Streets Support
  - 6.1 BMP Selection – Supplemental Field / Geotechnical Work & BMP (Best Management Practices) Selection
  - 6.2 BMP Design and Construction Support
- Task 7 – Linear Parks Selection and Planning (Optional)
  - 7.1 Linear Parks Identification, Prioritization, and Funding
  - 7.2 Linear Parks Preliminary Design
- Task 8 – Linear Parks Implementation (Optional)
  - Design Plans, Specs, and Estimates
  - Construction Engineering Support

SCOPE OF WORK AMENDMENT

Michael Baker International, Inc. (Michael Baker) is pleased to submit the enclosed scope and cost proposal to support the City of Carson Department of Public Works (City) in additional work under Task 5, Task 6, Task 7 (optional), and Task 8 (optional). Please find below a brief description of the requested scope of work and cost proposal. The scope of work includes the following tasks to meet the minimum requirements to support the City's additional mentioned project needs.

TASK 5 – PROGRAM SUPPORT

Total Fee - $70,821

5.1 SEP Support

Total Fee - $40,452

Michael Baker will support the City with development and submittal of proposals for Supplemental Environmental Projects (SEPs) Concept Support. Work includes identifying environmentally beneficial projects, developing project concepts, and submitting proposals and workplans to the SEP program. The project proposals will be submitted to the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Board (RWQCB) in coordination with two settling parties as an action to offset a portion of a civil penalty. The tasks will be completed as prioritized by the City based on time and costs. *The number of SEPs supported will be dictated by City, based on the result of conversations between the City and third parties. So far, one SEP has been confirmed. The second is still under negotiation.*

1- Project Management

Project manager (PM) will be responsible for all management and administrative tasks. The PM will serve as the key contact for the City. This includes bi-weekly meetings throughout the project including video, email and phone communications, monthly progress reports of the work product, budget, and schedule updates.

Assumptions:

- NTP (Notice to Proceed) of April 2023 and final deliverable in December 2023
- No review period is included in the period of performance for entities other than the City

Deliverable(s):

- Monthly Progress Reports / Meeting Minutes / Project Schedule

2 – Project Selection and Concept Development

Michael Baker will evaluate and select, in coordination with the City, four (4) projects that qualify under the SEP policies. Concept reports (2-pages each) will be developed for each of the four (4) projects. The final two projects for which proposals/applications will be submitted will be decided in coordination with the City and the settling parties.

Deliverable(s):

- PDF of the four (4) projects concepts

3 – Meeting Support

Michael Baker will support the City in two (2) meetings, one (1) with the City Mayor's Office and one (1) City Council. Michael Baker will prepare the presentations and present the project concepts to the elected officials to gauge their interest and gain their support.

Project concepts will be further refined to include 2D/3D renderings to better convey the message.

Deliverable:

- PowerPoint presentations and technical questions support

4 – SEPs Proposals/Applications Development and Submittal Support

Michael Baker will work with the City to develop and submit proposals for two (2) of the four (4) projects identified in Task 3, based on recommendations from the City, settling parties, and in accordance with the SEP policies and guidelines, to maximize the chance of award.

Deliverable(s):

- Two (2) SEP proposals/applications

5 – SEPs Workplans Development and Submittal Support

Michael Baker will work with the City to develop and submit workplans for two (2) of the four (4) projects identified in Task 3, based on recommendations from the City, settling parties, and in accordance with the SEP policies and guidelines, to maximize the chance of award.

Deliverable(s):

- Two (2) SEP workplans

5.2 LID Ordinance Support

Total Fee - $30,369

The City of Carson last updated Section 5809 of its Municipal Code in 2014 to incorporate stormwater regulations for low impact development (LID) and green streets (GS) policy in accordance with the Los Angeles County Municipal Stormwater (MS4) Permit. The Los Angeles County MS4 Permit has subsequently been updated in 2021 as Order R4-2021-0105 and includes requirements that are not currently addressed in Section 5809, such as tracking, inspections, and enforcement of post-construction BMPs (Best Management Practices). Michael Baker will assist the City of Carson by reviewing Order R4-2021-0105 and Section 5809 and will identify any deficiencies in the current municipal code and potential remedies.

1- Project Management

Project manager (PM) will be responsible for all management and administrative tasks. The PM will serve as the key contact for the City. This includes bi-weekly meetings throughout this task including video, email and phone communications, monthly progress reports of the work product, budget, and schedule updates.

Assumptions:

- NTP of April 2023 and final deliverable in December 2023
- No review period is included in the period of performance for entities other than the City

Deliverable(s):

- Monthly Progress Reports / Meeting Minutes / Project Schedule

2 – Stormwater Code Review

Michael Baker will assist the City in the review of the Municipal Code Stormwater Regulations Order R4-2021-0105 and Section 5809 and will identify any deficiencies in the current municipal code and potential remedies. Note that this review will be technical in nature and that final ordinance revision development will rest with the City and its City Attorney, with support from Michael Baker.

Deliverables:

- Presentation to City staff/City Attorney on deficiencies

- Summary memo on deficiencies and potential remedies
- Support for City revision of Section 5809

3 – LID Ordinance Amendment Support

Michael Baker will assist the City in the final ordinance revision development will rest with the City and its City Attorney.

Deliverables:

- Comments and Recommendations on LID Ordinance Revision

TASK 6 – GREEN STREETS SUPPORT

Total Fee - $186,100

6.1 BMP Selection

Total Fee - $27,576

Implementing water quality improvements to City streets projects. These are based on three existing street improvement projects the City is implementing.

1- Project Management

Project manager (PM) will be responsible for all management and administrative tasks. The PM will serve as the key contact for the City. This includes bi-weekly meetings throughout this task including video, email and phone communications, monthly progress reports of the work product, budget, and schedule updates.

Assumptions:

- NTP of April 2023 and final deliverable in December 2023
- No review period is included in the period of performance for entities other than the City

Deliverable(s):

- Monthly Progress Reports / Meeting Minutes / Project Schedule

2 – Site Visits

The Michael Baker Team will complete site visits to the three streets where improvements will occur. The site visits will confirm the results of the desktop analysis for potential green infrastructure locations. Items to review will include visual review of existing utilities in the area, movement of vehicles and pedestrians, and likelihood of resident contact with the improvements.

Deliverable(s):

- Site visit notes and write up.

3 – Geotechnical Investigation

We understand that street improvement projects are being planned by the City for the following streets:

- Gardena Boulevard
- South Main Street
- Avalon Boulevard

This proposal is for performing field infiltration testing for the referenced project. The Michael Baker Team will complete geotechnical investigation in specified locations to determine the feasibility of BMPs that rely on infiltration for their treatment mechanism. Potential green infrastructure improvements

include bioretention areas (bulb outs that retain runoff) and dry wells. The sizing and siting of each of these would require investigation of the underlying soil properties to determine if infiltration is feasible. Depending on the proposed BMP a shallow or deep infiltration rate investigation will occur. The geotechnical engineer will also review available information about the underlying soil, such as potential for settling and liquefaction, to determine feasibility for infiltration BMPs.

Details of bioretention systems and dry well design are not available at this time. The scope of work consists of the following main tasks:

- Data review, marking borings, and permitting
- Field infiltration tests and laboratory tests
- Analyses and Report

Data Review, Marking, and Permitting

The Michael Baker Team will review relevant data from public sources of information and documents provided by Michael Baker to assess site geology, subsurface soil, and groundwater conditions. The data review results will be used to assess the feasibility of stormwater infiltration systems and develop geotechnical recommendations for their design. The results of the data review will be summarized in a memorandum. Based on the type of stormwater infiltration system selected by the designer, we will plan the field investigation and type of infiltration testing accordingly.

Before mobilizing for field investigation, we will mark proposed infiltration testing locations and obtain an Underground Service Alert (USA) ticket to notify the participating utilities. As an added measure, we will subcontract a utility locating company to perform a subsurface utility survey in the area around the proposed boring locations. In addition, each borehole will be hand augured to a depth of five (5) feet for clearing subsurface utilities. We request that you provide us with a map of known subsurface utilities before performing our field investigation.

The Michael Baker Team will obtain encroachment and excavation permits from the City for the proposed field investigation. As part of the encroachment permit application, traffic control plans will be required. We will retain a private traffic management agency to prepare traffic control plans. We have assumed that the encroachment and excavation permit will not incur any fees from the City since the work is being performed for the City. In addition, we will obtain exploration hole permits from the county of Los Angeles Department of Public Health (LADPH) for any boring deeper than 10 feet per LADPH well permit guideline.

Field Investigation, Infiltration Testing, and Disposal of Soil Cuttings

The proposed field investigation program will be based on the results of our data review and types of stormwater infiltration system being selected by the designer. We anticipate that boreholes will extend to either 5 feet, 10 feet, or up to 50 feet below existing grade. For boreholes extending up to 10 feet below ground, these boreholes will be drilled using hand auger drilling equipment. For boreholes extending below 10 feet and up to 50 feet below ground, these boreholes will be drilled using truck-mounted hollow stem auger drilling equipment. The boreholes will be drilled under the observation of our field technician, who will log the subsurface conditions encountered and obtain undisturbed and bulk samples for laboratory inspection and testing. Once the boreholes reach the target depth, a well will be constructed for the proposed infiltration test. A 2-inch to 3-inch diameter PVC casing will be installed in the borehole. The casing will be slotted in the depths of the test zone. Coarse sand backfill will be placed in the annulus space between the slotted PVC pipe and the boring wall.

The well casing will be filled with water which will be allowed to drain out and pre-saturate the soil before running the test. A falling head test in general conformance with the Los Angeles County guidelines (GS200.1) for a Small Diameter Boring Infiltration Test will be performed.

After completion of the infiltration tests, the boreholes will be abandoned by removing the PVC casing. The boreholes shallower than 10 feet will be backfilled with soil cuttings. Boreholes deeper than 10 feet will be backfilled with cement grout and the soil cuttings will be placed in drums. The surface will be repaired with asphalt cold-patch or concrete.

The soil cuttings obtained from boreholes for infiltration testing advanced deeper than 10 feet will be placed in drums and stored at a location to be identified and approved by the city or Michael Baker. We have assumed the storage location will be adjacent to the project work area and transportation of steel drums off-site will not be required. We will collect composite samples of the soil and submit them for testing for waste characterization required for the disposal of the soil cuttings. We will subcontract with a waste disposal contractor to pick up the drums and dispose of them at a soil recycling facility. If soil is found to be impacted, changes to the waste handling and disposal procedures may be required and may incur additional costs. We will notify the City if suspect-impacted soil is encountered.

Deliverable(s):

- A letter report summarizing field investigation and infiltration testing and will Include the following:
  - A plot plan showing the locations of the infiltration tests.
  - Boring logs with a description of the subsurface soils and groundwater conditions if encountered, and the locations of samples taken.
  - Description of the laboratory testing program, including test results if tests are performed.
  - Results of the infiltration testing.
  - Recommendations for the geotechnical design of the infiltration system.

Assumptions:

- We propose to begin planning for work with marking boring and permitting following receipt of written notice to proceed (NTP). The commencement of infiltration testing will depend upon the receipt of encroachment and excavation permits from the City of Carson, and well permit from the county of Los Angeles, and availability of drilling subcontractors. In general, after the permits are received, we can start our field infiltration testing in two (2) to three (3) weeks.
- We estimate that each shallow test (up to 10 feet) will take one day to complete. A deeper test will take up to two (2) days to complete. The completion date of infiltration testing will depend on the number of infiltration tests to be performed, locations, and working hour restrictions from the City. We can provide a letter report within three (3) weeks after the completion of field investigation.
- We understand the number of tests, locations, and test depths are not known and are subject to change; thus, we propose to perform the field investigation and infiltration testing on a unit price.

Tasks	Fee	Comments
Data Review and Memo	$4,500	Lump Sum
Marking/Permitting	$6,000	Per Test Location/1 day each
Shallow Infiltration Testing (Maximum Depth 5 feet)	$5,200	Per Test Location/1 day each
Infiltration Testing (5 feet to 10 feet Depth)	$6,500	Per Test Location/1 day each
Infiltration Testing (10 feet to 50 feet Depth)	$14,500	Per Test Location/1.5 days each
Reporting	$4,500	Total

4 – Green Infrastructure Recommendations

Michael Baker will provide guidance on where to place green infrastructure additions along the three streets with upcoming roadway and sidewalk improvements. The proposed additions will consider the greatest return on investment for the City by avoiding areas where regional BMPs can address the drainage area, considering progress toward water quality requirements, and how to introduce green streets elements to improve communities and increase public awareness about stormwater runoff. Consideration of BMPs will include bulb outs, drywells, and proprietary devices. The recommendations will identify where improvements should occur and reference the City Standard Plans or manufacturer guidance for installation.

Deliverable(s):

- Exhibits identifying the location and type of proposed BMPs

6.2 BMP Design and Construction Support / Bid Specs Development

Total Fee - $158,614

1 – Basis of Design Report

Michael Baker will leverage prescribed BMP location and type information as identified in "4 – Green Infrastructure Recommendations" to inform as the basis for future design efforts. BMPs have generally been identified along each of three project areas:

- S Main St bounded to the north by W Victoria St and to the south by W Carson St.
- Avalon Blvd bounded to the south by E Sepulveda Blvd and to the north by Carson St.
- W Gardena Blvd bounded to the west by Figueroa St and the east by Avalon Blvd.

As requested by the City, the project area along Avalon is not considered for this analysis.

Michael Baker will review each project area and BMP configuration as discovered in Task 6.4. A final determination for the BMP location, technology, traffic and right-of-way impacts, constructability, and American Association of Costing Engineers (AACE)1 Class IV (+50% to -20%) cost estimate will be investigated. An ArcGIS Map will be created to show the location of each BMP, indicating the BMP technology and treatment at each location for each project area.

[1] https://www.costengineering.eu/Downloads/articles/AACE_CLASSIFICATION_SYSTEM.pdf

If needed, vendors for applicable technologies will be contacted and a discussion of the constructability and operations and maintenance will be reported. Manufacturer cut sheets of relevant technologies will be included in the submittal. All assumptions will be clearly reported. Michael Baker will review the City's geotechnical report and outline site requirements associated with each BMP.

Findings will be codified in a Basis of Design Report (BODR) and delivered for the City's review. Comments will be recorded in a comment log with Michael Baker's suggested action for each. After concurrence on the proposed action, comments will be integrated into the final BODR.

We will endeavor to use the City's standard plans wherever possible. Naturally, this is a site-by-site determination, based on the technology mix that will satisfy MS4 requirements. However, in the BODR we will identify the standard plans to use which could function as a guidance document for the City for future projects of similar scope.

Deliverables:

- Draft and Final Basis of Design Report as Microsoft Word (MS Word) and Portable Document Format (PDF)
- Comment Log in response to the City's comments to the BODR.

Assumptions:

- City is to provide limits of each project.
- City to provide topographic and boundary survey information.
- City to provide utility investigations including locating.
- City to provide geotechnical investigation information inclusive of information required for the design, performance, and construction of BMPs.
- Datum for surveys will be in North American Datum of 1983 (NAD 83) and North American Vertical Datum of 1988 (NAVD 88) survey standards.
- Survey and utility products will be certified to a 0.1-ft precision.

2 – Design Plans and Specifications

Design Milestones. The 90% Design shall incorporate previously discovered information from the BODR, site investigations, and the City's input. Michael Baker will provide design plans at 90%, 100% and final design milestones. At each milestone incorporate City's comments and recommendations in the subsequent design milestone. Each design will be completed following a review and acceptance by the City. The design set will include the following sheets:

1. Title Sheet and Drawing Index
2. General Construction Notes
3. Main St Site Map
4. Gardena Blvd Site Map
5. S Main St Details 1
6. S Main St Details 2
7. S Main St Details 3
8. W Gardena Blvd Details 1
9. W Gardena Blvd Details 2
10. W Gardena Blvd Details 3
11. Standard Details 1
12. Standard Details 2

13. Standard Drawings
14. Vendor cut sheets

Engineer's Estimate of Probable Construction Cost (EPOC). The EPOC will be created to an AACE Level I with an expected accuracy range of -3% to +15%. The cost estimate will include detailed unit cost and material take-offs to inform bid documents. The EPOC will be delivered at each design milestone.

90% Design Field Meeting. At the completion of the 90% Design, Michael Baker's Project Manager will conduct a field review, accompanied by the City's Operations Staff, to ensure that the design is operable and maintainable. All comments will be formalized in meeting notes.

Technical Specifications. At the 90% Design milestone, Michael Baker will draft and finalize a technical specification section for the Project's construction. The technical specifications will be appended to the City's provided standard bidding documents.

The technical specification section will specify validation steps and inspections that the contractor and/or manufacturer must perform to confirm systems are correctly installed, and to certify that the BMP(s) will perform as intended. This will ensure that the contractor performs as required to provide the City with a final comprehensive system of exceptional quality and reliability.

General Conditions. The General Conditions will be appended to the City's provided standard bidding documents. General conditions will include contract language to consist of the following:

- Site Specific Information
- Site Management
- Project Management
- Material Handling
- Trash Removal

Deliverables:

- 90% and 100% design milestone completions and final calculations, plans, and cost estimate in PDF, Microsoft Excel, and AutoCAD.
- Comment/Response logs for each submittal.
- Draft and Final Technical Specifications in Microsoft Word and PDF.
- Draft and Final General Conditions in Microsoft Word and PDF.
- Field notes and photographs as appropriate for the 90% Design Field Meeting.

Assumptions:

- Traffic Control Plans during construction are to be completed by the contractor and, thus, are not included in this proposal.
- If required, building permits are to be acquired by the contractor and, thus, are not included in this proposal.
- Encroachment permits are to be acquired by the contractor and, thus, are not included in this SOW.
- Environmental permitting is not expected to be required for this project and is excluded from his Scope of Work.
- Local utility agency notification and identification will be provided by City

3 – Construction Engineering Service (Optional)

Bid Package

Following the review of the Final Design, all comments will be addressed, and professional seals will be applied to the documents. The bid package will include construction plans, Engineers Estimate of Construction Cost, specifications, and final construction documents for bidding. Michael Baker will facilitate answering bid questions and has assumed one round of revised bid documents for this submittal. Upon final approval of the design, electronic and hard copies will be provided to the City for record keeping and for use during the bidding phase.

(Optional) Engineer of Record Support Response to Requests for Information, Change Orders

During construction, Mr. Tremmel, P.E., and the Michael Baker team will review and approve submittals, requests for information (RFIs), change orders, and pay applications provided by the contractor. For the purposes of estimating, it assumed that construction would occur over sixteen (16) months with construction limited to dry season; generally, between April 1st to October 15th.

(Optional) Completion of Record Drawings

Following finalization of construction, the Michael Baker team will prepare a Completion Report and Certified Record Drawings of the "as-built" conditions. The Record Drawings will be based on field survey data collected by the construction contractor and on information contained in the daily construction reports. Final hard and electronic copies of all record documents will be packaged and provided to City prior to final closing of the project.

TASK 7 – LINEAR PARKS SELECTION AND PLANNING (OPTIONAL)

Total Fee - TBD

Task 7 intends to support the identification, prioritization, and preliminary design of Linear Parks, road adjacent green spaces to provide urban greening and additional opportunity for water quality improvement.

Task 7.1 Identification, Prioritization, and Funding (Optional)

Total Fee - TBD

Identification. Projects identified in "6.4 – Green Infrastructure Recommendations" will aid in providing the general understanding of Linear Street Project (Project) locations. Identified Project locations, the City's preference, and additional studies will be used to identify potential project locations. Each site will be evaluated utilizing readily available information such as Los Angeles County cadastral data and aerial photography to further investigate a Project's viability as a linear park. A City wide site map will be provided showing the locations of potential Projects relative to main intersections and landmarks such as schools, transit centers, and areas of interest.

Prioritization. Each potential Project opportunity will be prioritized in alignment with current practices consistent with this scope-of-work. A detailed prioritized list and ArcGIS site plan for each Project, will be created. The Site Plan will include at minimum:

- Project footprint;
- General location of major project components;
- Catchment areas; and

- A summary of preliminary metrics consistent with common funding vehicles and decision making criteria.

Funding. Michael Baker will leverage our experts in funding strategies to identify funding vehicles and the associated evaluation criteria the Project. A list of funding vehicles will be provided and discussed in a summary table, generally consisting of the following:

- Lead Agency;
- Name;
- Potential funding amount;
- Summary; and
- General acquisition strategy.

A recommendation of funding strategy and timeline will be provided.

Technical Memo. A Technical Memorandum (Memo) will be created to codify the identification, prioritization, and funding findings as described above. The Memo will also reflect the City's selection of three (3) preferred Projects for further consideration.

Michael Baker will deliver a draft Memo for the City's review. Comments will be logged and a proposed action will be prescribed for each. After concurrence between all parties, all proposed changes will be delivered in a final Memo, concluding this task.

Deliverables:

- Draft and Final Technical Memorandum in MS Word and PDF

Task 7.2 Preliminary Design (Optional)

Total Fee - TBD

Michael Baker will further investigate the three (3) Linear Park Projects (Project) as selected by the City in "7.1 Identification and Prioritization" and identify the requirements and constraints to inform future design efforts and the final Project strategies for implementation.

Michael Baker will review each Project and further detail each site's BMP technology, multi-use amenities, permitting, design features, footprint, right-of-way impacts, constructability, and American Association of Costing Engineers (AACE)2 Class IV (+50% to -20%) cost estimate will be investigated. An AutoCAD conceptual drawing consisting of up to four (4) sheets will be provided for each Project. The conceptual drawings will be inclusive of the City and County requirements with the intent of easing further City and County reviews.

If needed, vendors for applicable technologies will be contacted and a discussion of the constructability and operations and maintenance will be reported. Manufacturer cut sheets of relevant technologies will be included in the submittal. All assumptions will be clearly reported. Michael Baker will review the City's geotechnical report and outline site requirements associated with each BMP.

We will endeavor to use the City's standard plans wherever possible. Naturally, this is a site-by-site determination, based on the technology mix that will satisfy MS4 requirements. The BODR will identify

[2] https://www.costengineering.eu/Downloads/articles/AACE_CLASSIFICATION_SYSTEM.pdf

the standard plans to use which could function as a guidance document for the City for future projects of similar scope.

Findings will be codified in a Basis of Design Report (BODR) and delivered for the City's review. Comments will be recorded in a comment log with Michael Baker's suggested action for each. After concurrence on the proposed action, comments will be integrated into the final BODR.

Deliverables:

- Draft and Final Basis of Design Report as Microsoft Word (MS Word) and Portable Document Format (PDF)
- Comment Log in response to the City's comments to the BODR.

Assumptions:

- City is to provide limits of each project.
- City to provide topographic and boundary survey information.
- City to provide utility investigations including locating.
- City to provide geotechnical investigation information inclusive of information required for the design, performance, and construction of BMPs.
- Datum for surveys will be in North American Datum of 1983 (NAD 83) and North American Vertical Datum of 1988 (NAVD 88) survey standards.
- Survey and utility products will be certified to a 0.1-ft precision.

TASK 8 – LINEAR PARKS IMPLEMENTATION (OPTIONAL)

Total Fee - TBD

Task 8.1 – Design Plans, Specifications, and Estimate (Optional)

Total Fee - TBD

The following activities are proposed for one (1) Linear Park Project as selected by the City. If additional projects are desired, an augmentation to this task can be provided.

Design Milestones. Michael Baker will provide design plans at 60%, 90%, 100% and final design milestones. Each milestone will incorporate City's comments and recommendations in the subsequent design milestone. Each design will be completed following a review and acceptance by the City. The design set will include the following sheets:

1. Title Sheet and Drawing Index
2. General Construction Notes
3. Site Map and Sheet Callouts
4. Plan and profile 1
5. Plan and profile 2
6. Plan and profile 3
7. Plan and profile 4
8. Cross-section details 1
9. Cross-section details 2
10. Details 1
11. Details 2
12. Details 3

13. Standard Drawings 1
14. Standard Drawings 2
15. Vendor cut sheets

Each sheet will be inclusive of utility and hazard information. Traffic control, stormwater diversion, and dewatering plans are explicitly omitted from this scope-of-work.

Utility Notifications. At 60% and 90% Design Milestones, Michael Baker will contact applicable utilities to notify them of the work. Comments will be reviewed and codified in a comment log and delivered to the City for review. Approved comments will be reflected in subsequent milestones.

Engineer's Estimate of Probable Construction Cost (EPOC). The EPOC will be created to an AACE Level I with an expected accuracy range of -3% to +15%. The cost estimate will include detailed unit cost and material take-offs to inform bid documents. Bid items lists will be in alignment with the City's bid-item guidance. The EPOC will be delivered at each design milestone and are expected to be reviewed concurrently with plans and specifications.

90% Design Field Meeting. At the completion of the 90% Design, Michael Baker's Project Manager will conduct a field review, accompanied by the City's Operations Staff, to ensure that the design is operable and maintainable. All comments will be formalized in meeting notes.

Technical Specifications. At the 90% Design milestone, Michael Baker will draft and finalize a technical specification section for the Project's construction. The technical specifications will be appended to the City's provided standard bidding documents.

The technical specification section will specify validation steps and inspections that the contractor and/or manufacturer must perform to confirm systems are correctly installed, and to certify that the BMP(s) will perform as intended. This will ensure that the contractor performs as required to provide the City with a final comprehensive system of exceptional quality and reliability.

General Conditions. The General Conditions will be appended to the City's provided standard bidding documents. General conditions will include contract language to consist of the following:

- Site Specific Information
- Site Management
- Project Management
- Material Handling
- Trash Removal

Deliverables:

- 60%, 90%, 100% and final design milestone completions and final calculations, plans, and cost estimate in PDF, Microsoft Excel, and AutoCAD.
- Comment/Response logs for each submittal.
- Draft and Final Technical Specifications in Microsoft Word and PDF.
- Draft and Final General Conditions in Microsoft Word and PDF.
- Field notes and photographs as appropriate for the 90% Design Field Meeting.

Assumptions:

- Traffic Control Stormwater Diversion, and Dewatering Plans are to be completed by the contractor and, thus, are not included in this proposal.
- The City to provide a list of Bid Items of which to guide the EOPCC
- If required, building permits are to be acquired by the contractor and, thus, are not included in this proposal.
- Encroachment permits are to be acquired by the contractor and, thus, are not included in this SOW.
- Environmental permitting is not expected to be required for this project and is excluded from his Scope of Work.

Task 8.2 - Construction Engineering Service (Optional)

Total Fee - TBD

Bid Package

Following the review of the Final Design, all comments will be addressed, and professional seals will be applied to the documents. The bid package will include construction plans, Engineers Estimate of Construction Cost, specifications, and final construction documents for bidding. Michael Baker will facilitate answering bid questions and has assumed one round of revised bid documents for this submittal. Upon final approval of the design, electronic and hard copies will be provided to the City for record keeping and for use during the bidding phase.

(Optional) Engineer of Record Support Response to Requests for Information, Change Orders

During construction, Mr. Tremmel, P.E., and the Michael Baker team will review and approve submittals, requests for information (RFIs), change orders, and pay applications provided by the contractor. For the purposes of estimating, it assumed that construction would occur over sixteen (16) months with construction limited to dry season; generally, between April 1st to October 15th.

(Optional) Completion of Record Drawings

Following finalization of construction, the Michael Baker team will prepare a Completion Report and Certified Record Drawings of the “as-built” conditions. The Record Drawings will be based on field survey data collected by the construction contractor and on information contained in the daily construction reports. Final hard and electronic copies of all record documents will be packaged and provided to City prior to final closing of the project.

PROPOSED FEE

Michael Baker will complete these services for a fixed fee of not-to-exceed $257,211. The fee is detailed in the table on the next page. Note that this fee does not include individual sites geotechnical and soil testing for Task 6. *Per test cost is provided in the table above on this page.*

Ammendment 1 - Carson SWFIP

Michael Baker INTERNATIONAL	Estimated Staff-Hours									Subconsultants		Total		
	Project Manager	Sr. Technical Manager	Sr. Engineer / Sr. Planner / Sr. Environmental Specialist	Assistant Engineer	Graphics	Design Engineer	GIS Analyst	Total Hours	Fee Subtotals	Blue Ocean Civil Consulting	Group Delta	Fee Hours	Task Fee	Task Hours
	$212	$265	$193	$110	$83	$138	$120							
Work Item Description														
TASK 5 - PROGRAM SUPPORT													$70,821	
5.1 - SEP Support													$40,452	180
	56	60	32	24	8	0	0	180	$37,252				$18,312	78
1: Project Management													$3,816	18
	18	0						18	$3,816			18		
2: Projects Selection and Concept Development													$14,496	60
	8	20	12	12	8			60	$11,296	$3,200		60		
3: Meetings Support													$6,738	30
	12	10	8					30	$6,738			30		
4: SEPs Proposals/Applications Submittal Support													$5,740	28
	6	10	6	6				28	$5,740			28		
5: SEPs Workplan Submittal Support													$9,662	44
	12	20	6	6				44	$9,662			44		
5.2 - LID Ordinance Support													$30,369	117
	12	105	0	0	0	0	0	117	$30,369				$24,115	93
1: Project Management													$16,801	65
	8	57						65	$16,801			65		
2: Stormwater Code Review													$7,314	28
	2	26						28	$7,314			28		
3: LID Ordinance Amendment Support													$6,254	24
	2	22						24	$6,254			24		
TASK 6 - GREEN STREETS SUPPORT													$186,190	
6.1 - BMP Selection													$27,576	120
	12	36	0	4	0	44	24	120	$21,476				$27,576	40
1: Project Management													$1,696	8
	8	0						8	$1,696			8		
2: Field Visit													$8,048	32
		16				16		32	$6,448	$1,600		32		
3: Geotechnical Investigation													$8,672	20
		12		4		4		20	$4,172		$4,500	20		
4: Green Infrastructure Recommendations													$9,160	60
	4	8				24	24	60	$9,160			60		
6.2 - BMP Design and Construction Support / Bid Specs													$158,614	1222
	43	53	53	775	50	248	0	1222	$157,014				$55,136	381
1. Basis of Design Report	10	12	12	100	50	29	0	213	$26,768			213	$28,368	213
Requirements Engineering	1	2	2	10				15	$2,228					
Vendor Research and Outreach		2	2	15				19	$2,566					
AACE Class 4 Estimate		3	3	25		20		51	$6,884					
Maps and Graphics		0		5	30	4		39	$3,592					
Preliminary Design	5	2	2	20	10	5		44	$5,696	$1,600				
Draft BODR	3	2	2	20	10			37	$4,582					
Final BODR	1	1	1	5				8	$1,220					
2. Design Plans and Specifications	17	15	41	565	0	199	0	837	$105,104			837	$105,104	837
90% Plans (Assumes 14 sheets, unique)	2	5	16	220	0	64		307	$37,869					
QC Review		*5*	*10*	*30*		*4*		*49*	*$7,107*					
Draft	*2*	0	*6*	*190*		*60*		*258*	*$30,762*					
100% Plans	1	5	8	115	0	24		153	$19,043					
QC Review		*5*	*5*	*15*		*4*		*29*	*$4,492*					
Draft	*1*	0	*3*	*100*		*20*		*124*	*$14,551*					
Final Plans	2	5	7	75	0	8		97	$12,454					
QC Review		*5*	*4*	*15*				*24*	*$3,747*					
Draft	*1*	0	*2*	*50*		*4*		*57*	*$6,650*					
Final	*1*	0	*1*	*10*		*4*		*16*	*$2,057*					
Technical Specifications	2	0	4	60	0	45		111	$14,006					
QC Review		0	*2*			*15*		*17*	*$2,456*					
Draft	*1*	0	*1*	*40*		*20*		*62*	*$7,565*					
Final	*1*	0	*1*	*20*		*10*		*32*	*$3,985*					
General Conditions	2	0	6	80	0	50		138	$17,282					
QC Review		0	*2*	*10*		*10*		*22*	*$2,866*					
Draft	*1*	0	*2*	*60*		*30*		*93*	*$11,338*					
Final	*1*	0	*2*	*10*		*10*		*23*	*$3,078*					
90% Field Review	8	0		15		8		31	$4,450					
3. Construction Engineering Services	16	26	0	110	0	20	0	172	$25,142			172	$25,142	172
Bid Package	8	10		30		20		68	$10,406					
Final Bid Package		*5*		*10*		*20*		*35*	*$5,185*					
Bid Support	*8*	*5*		*20*				*33*	*$5,221*					
(Optional) EOR Support Response to Requests for Information, Change Orders (16 mos)	8	16		80				104	$14,736					
(Optional) Completion of Record Drawings	0	0		0				0	$0					
TOTALS													$257,011	
Total Hours	**123**	**254**	**85**	**803**	**58**	**292**	**24**	**1639**	**$246,111**		*			
Budget	**$26,076**	**$67,310**	**$16,405**	**$88,330**	**$4,814**	**$40,296**	**$2,880**		**$246,111**	**$6,400**	**$4,500**	**TOTAL LABOR COST**	**$257,011**	**1639**
ODC (workshops material)						**$200**				**$0**	**$0**	**ODC**	**$200**	
TOTAL	**$26,076**	**$67,310**	**$16,405**	**$88,330**	**$4,814**	**$40,296**	**$2,880**						**$257,211**	**1639**

We are pleased to submit the proposed scope, schedule, and cost to meet the needs and expectations of the City. If you have any questions, please feel free to contact us.

Sincerely,

MICHAEL BAKER INTERNATIONAL, INC.

Ghina Yamout, PhD
Project Manager

Dave Mercier, PE
Vice President