



**PURCHASING ITEM
FOR
COUNCIL AGENDA
MEMO NO. CP16-170**

1. Agenda Item Number:

13

2. Council Meeting Date:
April 14, 2016

TO: MAYOR & COUNCIL

3. Date Prepared: March 22, 2016

THROUGH: CITY MANAGER

4. Requesting Department: Transportation & Development

5. SUBJECT: Professional Services Contract award to Michael Baker International, Inc., for the Stormwater Management Master Plan Update

6. RECOMMENDATION: Staff recommends City Council award a Professional Services Contract to Michael Baker International, Inc., for consultant services for the Stormwater Management Master Plan Update, Contract No. ST1606.101, in an amount not to exceed \$233,823.

7. BACKGROUND/DISCUSSION: A new Arizona Pollutant Discharge Elimination System (AZPDES) Phase II Small MS4 General Permit is anticipated to be released in the first quarter of 2016. The City's Stormwater Management Master Plan (SWMMP) must be updated to include content associated with the new permit. In addition to the SWMMP update, the scope includes: reviewing capital improvement requirements and future projects including estimated costs; reviewing current City standard details (stormwater); reviewing, evaluating and providing options for stormwater system improvements involving both existing and new storm drainage system structures to address capacity and functionality; and develop an inspection, maintenance and replacement program for existing pump stations.

8. EVALUATION PROCESS: A Request for Qualifications was issued on October 2, 2015. On November 5, 2015, staff received Statements of Qualifications from five (5) firms for the Stormwater Management Master Plan. On November 18, 2015, the consultant was selected in accordance with state law. Staff reviewed the scope of work, billing rates, and total fee for this project, compared them to historical costs, and determined they are reasonable. Project completion is 540 calendar days following Notice to Proceed.

9. FINANCIAL IMPLICATIONS:

Cost: \$233,823

Savings: N/A

Long Term Costs: N/A

Fund Source:

<u>Account No.:</u>	<u>Fund Name:</u>	<u>Program Name:</u>	<u>CIP Funded:</u>	<u>Amount:</u>
215.3310.5219.6ST011	HURF	Stormwater Management Master Plan	Yes	\$233,823

10. PROPOSED MOTION: Move City Council award a Professional Services Contract to Michael Baker International, Inc., for consultant services for the Stormwater Management Master Plan Update, Contract No. ST1606.101, in an amount not to exceed \$233,823.

ATTACHMENTS: Contract

APPROVALS

11. Requesting Department



Bob Fortier, Capital Projects Manager

13. Department Head



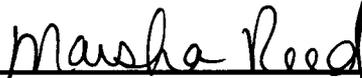
R.J. Zeder, Transportation & Development Director

12. Transportation & Development



Daniel W. Cook, City Engineer

14. Acting City Manager



Marsha Reed

PROFESSIONAL SERVICES CONTRACT

Project Name: Stormwater Management Master Plan
Project No. ST1606.101

THIS CONTRACT is made and entered into this ____ day of _____, 2016, by and between the City of Chandler, a Municipal Corporation of the State of Arizona, hereinafter referred to as "CITY", and **Michael Baker International, Inc.**, a Pennsylvania corporation doing business in the state of Arizona, hereinafter referred to as "CONSULTANT".

WHEREAS, the Mayor and City Council of the City of Chandler is authorized and empowered by provisions of the City Charter to execute contracts for professional services; and

WHEREAS, CONSULTANT represents that CONSULTANT has the expertise and is qualified to perform the services described in the Contract.

NOW THEREFORE, in consideration of the mutual promises and obligations set forth herein, the parties hereto agree as follows:

1. CONTRACT ADMINISTRATOR:

1.1 To provide the professional services required by this Contract CONSULTANT shall act under the authority and approval of City Engineer or designee, (the Contract Administrator), who shall oversee the execution of this Contract, assist the CONSULTANT with any necessary information, audit billings, and approve payments. The CONSULTANT shall channel reports and special requests through the Contract Administrator.

1.2 CITY reserves the right to review and approve any/all changes to CONSULTANT'S key staff assigned to the CITY project by the firm during the term of this Contract.

2. SCOPE OF WORK:

CONSULTANT shall provide those services described in Exhibit A attached hereto and made a part hereof by reference.

3. ACCEPTANCE AND DOCUMENTATION:

Each task shall be reviewed and approved by CITY to determine acceptable completion. All documents, including but not limited to, data compilations, studies, and reports which are prepared in the performance of this Contract, shall be and remain the property of CITY and shall be delivered to CITY before final payment is made to CONSULTANT.

4. FEE SCHEDULE:

For the services described in paragraph 2 of this Contract, CITY shall pay CONSULTANT a fee not to exceed the sum of Two Hundred Thirty Three Thousand Eight Hundred Twenty Three dollars (\$233,823) in accordance with the fee schedule attached hereto as Exhibit B and incorporated herein by reference.

5. TERM:

Following execution of this Contract by CITY, CONSULTANT shall immediately commence work and shall complete all services described herein within Five Hundred Forty (540) calendar days from the date hereof.

6. TERMINATION FOR CAUSE:

This Contract may be terminated by CITY for cause should the CONSULTANT fail to perform any provision of this Contract, including without limitation, for any of the following reasons:

- (a) CONSULTANT abandons Work;
- (b) CONSULTANT assigns or attempts to assign its rights or obligations under this Contract or any part thereof to any third-party (without the prior written consent of CITY);
- (c) CONSULTANT is adjudged bankrupt or insolvent, makes a general assignments for the benefit of creditors, has a trustee or receiver appointed for its property, or files a petition to take advantage of any debtor's act;
- (d) CONSULTANT fails or refuses to perform any obligation under the Contract, or fails to remedy such nonperformance within seven (7) days after its occurrence;
- (e) CONSULTANT fails to comply with any applicable Laws and fails to remedy such nonperformance within seven (7) days after its occurrence;
- (f) CONSULTANT fails to achieve the required dates for performance required pursuant to the Contract.

7. TERMINATION FOR CONVENIENCE:

CITY may at any time and for any or no reason, at its convenience, terminate this contract or any part of the services to be rendered pursuant thereto by written notice to CONSULTANT specifying the termination date. Immediately after receiving such notice, CONSULTANT shall discontinue advancing the work under this Contract and shall deliver to the CITY all drawings, notes, calculations, sketches and other materials entirely or partially completed, together with all unused materials supplied by the CITY.

CONSULTANT shall receive as compensation in full for services performed to date of such termination, a fee for the percentage of work actually completed. This fee shall be a percentage of CONSULTANT (S) fee described in this Contract under paragraph 3 and shall be in the amount to be agreed mutually by CONSULTANT and the CITY. The CITY shall make this final payment within sixty (60) days after CONSULTANT has delivered the last of the partially completed items.

8. OWNERSHIP OF INSTRUMENTS OF SERVICE UPON TERMINATION FOR CAUSE AND/OR FOR CONVENIENCE:

Upon Termination for Cause or for Convenience, the CITY shall have ownership of the Instruments of Service.

9. INDEMNIFICATION:

To the fullest extent permitted by law, but only to the extent caused by the negligence, recklessness or intentional wrong conduct, CONSULTANT, its successors, assigns and guarantors, shall defend, indemnify and hold harmless City and any of its elected or appointed officials, officers, directors, commissioners, board members, agents or employees from and against any and all allegations, demands, claims, proceedings, suits, actions, damages, including, without limitation, property damage, environmental damages, personal injury and wrongful death claims, losses, expenses (including claim adjusting and handling expenses), penalties and fines (including, but not limited to, attorney fees, court costs, and the cost of appellate proceedings), judgments or obligations, which may be imposed upon or incurred by or asserted against the City by reason of this Contract or the services performed or permissions granted under it, or related to, arising from or out of, or resulting from any negligent or intentional actions, acts, errors, mistakes or omissions caused in whole or part by CONSULTANT, or any of its subcontractors, or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, relating to the discharge of any duties or the exercise of any rights or privileges arising from or incidental to this Contract, including but not limited to, any injury or damages claimed by any of CONSULTANT's and subcontractor's employees. The amount and type of insurance coverage requirements set forth in the Agreement will in no way be construed as limiting the scope of indemnity in this paragraph.

10. INSURANCE REQUIREMENTS:

- 1. General.

A. At the same time as execution of this Contract, CONSULTANT shall furnish the City of Chandler a certificate of insurance on a standard insurance industry ACORD form. The ACORD form must be issued by an insurance company authorized to transact business in the State of Arizona possessing a current A.M. Best, Inc. rating of A-7, or better and legally authorized to do business in the State of Arizona with policies and forms satisfactory to CITY. Provided, however, the A.M. Best rating requirement shall not be deemed to apply to required Worker's Compensation coverage.

B. CONSULTANT and any of its subcontractors, subconsultants or sublicensees shall procure and maintain, until all of their obligations have been discharged, including any warranty periods under this Contract are satisfied, the insurances set forth below.

C. The insurance requirements set forth below are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract.

D. The City in no way warrants that the minimum insurance limits contained in this Contract are sufficient to protect CONSULTANT from liabilities that might arise out of the performance of the Contract services under this Contract by CONSULTANT, its agents, representatives, employees, subcontractors, sublicensees or subconsultants and CONSULTANT is free to purchase any additional insurance as may be determined necessary.

E. Failure to demand evidence of full compliance with the insurance requirements in this Contract or failure to identify any insurance deficiency will not relieve the CONSULTANT from, nor will it be considered a waiver of its obligation to maintain the required insurance at all times during the performance of this Contract.

F. Use of SubContractors: If any work is subcontracted in any way, CONSULTANT shall execute a written Contract with Subcontractor containing the same Indemnification Clause and Insurance Requirements as the City requires of CONSULTANT in this Contract. CONSULTANT is responsible for executing the Contract with the Subcontractor and obtaining Certificates of Insurance and verifying the insurance requirements.

2. Minimum Scope and Limits Of Insurance. CONSULTANT shall provide coverage with limits of liability not less than those stated below.

A. Commercial General Liability-Occurrence Form. CONSULTANT must maintain "occurrence" form Commercial General Liability insurance with a limit of not less than \$2,000,000 for each occurrence, \$4,000,000 aggregate. Said insurance must also include coverage for products and completed operations, independent contractors, personal injury and advertising injury. If any Excess insurance is utilized to fulfill the requirements of this paragraph, the Excess insurance must be "follow form" equal or broader in coverage scope than underlying insurance.

B. Automobile Liability-Any Auto or Owned, Hired and Non-Owned Vehicles Vehicle Liability: CONSULTANT must maintain Business/Automobile Liability insurance with a limit of \$1,000,000 each accident on CONSULTANT owned, hired, and non-owned vehicles assigned to or used in the performance of CONSULTANT's work or services under this Contract. If any Excess or Umbrella insurance is utilized to fulfill the requirements of this paragraph, the Excess or Umbrella insurance must be "follow form" equal or broader in coverage scope than underlying insurance.

C. Workers Compensation and Employers Liability Insurance: CONSULTANT must maintain Workers Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of CONSULTANT employees engaged in the performance of work or services under this Contract and must also maintain Employers' Liability insurance of not less than \$1,000,000 for each accident and \$1,000,000 disease for each employee.

D. Professional Liability. If the Contract is the subject of any professional services or work performed by CONSULTANT, or if CONSULTANT engages in any professional services or work adjunct

or residual to performing the work under this Contract, CONSULTANT must maintain Professional Liability insurance covering errors and omissions arising out of the work or services performed by the CONSULTANT, or anyone employed by CONSULTANT, or anyone whose acts, mistakes, errors and omissions the CONSULTANT is legally liable, with a liability limit of \$1,000,000 each claim and \$2,000,000 all claims. In the event the Professional Liability insurance policy is written on a "claims made" basis, coverage must extend for 3 years past completion and acceptance of the work or services, and CONSULTANT, or its selected Design Professional will submit Certificates of Insurance as evidence the required coverage is in effect. The Design Professional must annually submit Certificates of Insurance citing that the applicable coverage is in force and contains the required provisions for a 3 year period.

3. Additional Policy Provisions Required.

A. Self-Insured Retentions Or Deductibles. Any self-insured retentions and deductibles must be declared and approved by the City. If not approved, the City may require that the insurer reduce or eliminate any deductible or self-insured retentions with respect to the City, its officers, officials, agents, employees, and volunteers.

B. City as Additional Insured. The policies are to contain, or be endorsed to contain, the following provisions:

1. The Commercial General Liability and Automobile Liability policies are to contain, or be endorsed to contain, the following provisions: The City, its officers, officials, agents, and employees are additional insureds with respect to liability arising out of activities performed by, or on behalf of, CONSULTANT including the City's general supervision of the CONSULTANT; Products and Completed operations of CONSULTANT; and automobiles owned, leased, hired, or borrowed by CONSULTANT.

2. CONSULTANT's insurance must contain broad form contractual liability coverage and must not exclude liability arising out of explosion, collapse, or underground property damage hazards ("XCU") coverage.

3. The City, its officers, officials, agents, and employees must be additional insureds to the full limits of liability purchased by CONSULTANT even if those limits of liability are in excess of those required by this Contract.

4. CONSULTANT's insurance coverage must be primary insurance with respect to the City, its officers, officials, agents, and employees. Any insurance or self-insurance maintained by the City, its officers, officials, agents, and employees shall be in excess of the coverage provided by CONSULTANT and must not contribute to it.

5. CONSULTANT's insurance must apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

6. Coverage provided by CONSULTANT must not be limited to the liability assumed under the indemnification provisions of this Contract.

7. The policies must contain a severability of Interest clause and waiver of subrogation against the City, its officers, officials, agents, and employees, for losses arising from Work performed by CONSULTANT for the City.

8. CONSULTANT, its successors and or assigns, are required to maintain Commercial General Liability insurance as specified in this Contract for a minimum period of 3 years following completion and acceptance of the Work. CONSULTANT must submit a Certificate of Insurance evidencing Commercial General Liability insurance during this 3 year period containing all the Contract insurance requirements, including naming the City of Chandler, its agents, representatives, officers, directors, officials and employees as Additional Insured as required.

9. If a Certificate of Insurance is submitted as verification of coverage, the City will reasonably rely upon the Certificate of Insurance as evidence of coverage but this acceptance and reliance will not waive or alter in any way the insurance requirements or obligations of this Contract. If any of the required policies expire during the life of this Contract, the CONSULTANT must forward renewal or replacement Certificates to the City within 10 days after the renewal date containing all the necessary insurance provisions.

11. ENTIRE CONTRACT:

This Contract constitutes the entire understanding of the parties and supersedes all previous representations, written or oral, with respect to the services specified herein. This Contract may not be modified or amended except by a written document, signed by authorized representatives or each party.

12. CONFLICT OF INTEREST:

CONSULTANT stipulates that its officers and employees do not now have a conflict of interest and it further agrees for itself, its officers and its employees that it will not contract for or accept employment for the performance of any work or services with any individual business, corporation or government unit that would create a conflict of interest in the performance of its obligations pursuant to this Contract.

Pursuant to A.R.S. Section 38-511, CITY may cancel this Contract within three (3) years after its execution, without penalty or further obligation by CITY if any person significantly involved in initiating, negotiating, securing, drafting or creating this Contract on behalf of CITY is, at any time while this Contract is in effect, an employee of any other party to this Contract in any capacity, or a consultant to any other party of this Contract with respect to the subject matter of this Contract

13. ARIZONA LAW, JURISDICTION AND VENUE, AND FEES AND COSTS:

13.1 Arizona Law. This Contract shall be governed and interpreted according to the laws of the State of Arizona.

13.2 Jurisdiction and Venue. The parties agree that this Contract is made in and shall be performed in Maricopa County. Any lawsuits between the Parties arising out of this Contract shall be brought and concluded in the courts of Maricopa County in the State of Arizona, which shall have exclusive jurisdiction over such lawsuits.

13.3 Fees and Costs. Except as otherwise agreed by the parties, the prevailing party in any adjudicated dispute relating to this Contract is entitled to an award of reasonable attorney's fees, expert witness fees and costs including, as applicable, arbitrator fees; provided, however, that no award of attorney's fees shall exceed ten percent (10%) of the damages awarded the prevailing party unless the non-prevailing party has been determined to have acted in bad faith or in a frivolous manner during the adjudication.

14. ARIZONA LAW:

This Contract shall be governed and interpreted according to the laws of the State of Arizona.

15. REQUIRED COMPLIANCE WITH ARIZONA PROCUREMENT LAW:

Compliance with A.R.S. § 41-4401. Pursuant to the provisions of A.R.S. § 41-4401, the Consultant hereby warrants to the City that the Consultant and each of its subcontractors ("Subcontractors") will comply with all Federal Immigration laws and regulations that relate to the immigration status of their employees and the requirement to use E-Verify set forth in A.R.S. §23-214(A) (hereinafter "Consultant Immigration Warranty").

A breach of the Consultant Immigration Warranty (Exhibit C) shall constitute a material breach of this Contract that is subject to penalties up to and including termination of the contract.

The City retains the legal right to inspect the papers of any Consultant or Subcontractor employee who works on this Contract to ensure that the Consultant or Subcontractor is complying with the Consultant Immigration Warranty. The Consultant agrees to assist the City in the conduct of any such inspections.

The City may, at its sole discretion, conduct random verifications of the employment records of the Consultant and any Subcontractors to ensure compliance with Consultants Immigration Warranty. The Consultant agrees to assist the City in performing any such random verifications.

The provisions of this Article must be included in any contract the Consultant enters into with any and all of its subcontractors who provide services under this Contract or any subcontract. "Services" are defined as furnishing labor, time or effort in the State of Arizona by a Consultant or subcontractor. Services include construction or maintenance of any structure, building or transportation facility or improvement to real property.

16. NOTICES:

All notices or demands required to be given pursuant to the terms of this Contract shall be given to the other party in writing, delivered by hand or registered or certified mail, at the addresses set forth below, or to such other address as the parties may substitute by written notice given in the manner prescribed in this paragraph.

IN WITNESS WHEREOF, the parties have hereunto subscribed their names to this ____ day of _____, 2016.

CITY OF CHANDLER

CONSULTANT

MAYOR Date

By: 
Title: Kevin Kugler, Associate Vice President

ADDRESS FOR NOTICE
City of Chandler
P.O. Box 4008, Mail Stop 407
Chandler, AZ 85244-4008
Phone: 480-782-3307

ADDRESS FOR NOTICE
Michael Baker International, Inc.
2929 N. Central, Suite 800
Phoenix, AZ 85012
Phone: 602-798-7521

APPROVE AS TO FORM

ATTEST: If Corporation

City Attorney by: 


Secretary
Doug Plasencia, Vice President

ATTEST:

City Clerk SEAL

EXHIBIT A SCOPE OF WORK

BACKGROUND AND PROJECT DESCRIPTION

This project shall update the City's Stormwater Management Master Plan (SWMMP) to include content associated with the new Arizona Pollutant Discharge Elimination System (AZPDES) Phase II Small MS4 General Permit, anticipated to be issued in the first quarter of 2016. Additional scope includes: reviewing capital improvement requirements and future projects including estimated costs; reviewing current City standard details (stormwater); reviewing, evaluating and providing options for stormwater system improvements involving both existing and new storm drainage system structures; and develop an inspection, maintenance and replacement program for existing pump stations.

PROJECT TASKS

CONSULTANT shall perform the following project tasks:

Task 1: Stormwater Management Plan

This task shall identify any necessary changes needed to update the City's Stormwater Management Plan (SWMP) to meet the requirements of the new Phase II permit. The new Phase II Small MS4 General Permit is anticipated to be issued in the first quarter of 2016. (Numbers in parentheses represent the reference in the 12/4/15 draft of the Phase II MS4 general permit). As part of the SWMP review and recommendations for modification, the CONSULTANT shall:

- a. Conduct a legal authority review (Items identified in 3.2)
- b. Develop an enforcement response plan (3.3)
- c. Review the storm sewer system map and locations (outfalls, monitoring locations, impaired waters, Outstanding Arizona Waters) (items identified in 4.1)
- d. Review the public education and outreach program (6.4.1)
- e. Review the public involvement and participation program (6.4.2)
- f. Develop an Illicit Discharge Detection and Elimination Program (6.4.3)
- g. Develop/modify the construction site stormwater runoff control program (6.4.4)
- h. Develop a post construction site stormwater runoff control program (6.4.5)
- i. Review of Pollution Prevention and Good Housekeeping for Municipal Operations (O and M program for city owned facilities, SWPPPs) (6.4.6)
- j. Evaluate the Analytical Monitoring Program and see if the City may be required to monitor (7.0)
- k. Review the Program Assessment, Recordkeeping and Reporting aspects to the City's program (8.0)

Deliverables

- Provide recommended modifications to the City for review and comment
- Address feedback and reviews from the City reviews and develop a draft final SWMP for review by the City
- Incorporate final comments and distribute the final SWMP
- Master SWPPP template with drop down lists in word.
-

Assumptions

- The City shall provide copies of their existing SWMP, Annual Reports, Copies of Correspondence with ADEQ, access to their existing stormwater infrastructure assets (GIS files).
- The CONSULTANT shall review the existing stormwater management program, annual reports, and correspondence with ADEQ.
- The City shall create and implement their own SWPPPs using the SWPPP template
- The City shall provide input on options for the SWPPP template
- The City may provide modifications to the scope throughout the duration of the contract
- The Project is anticipated to span a period of approximately 18 months (may vary depending on the City needs and issuance of the Final Permit). CONSULTANT must meet all timelines detailed in the issued permit.

Task 2: Capital Improvement Projects

The City recently participated in the Flood Control District of Maricopa County (FCDMC) prioritization program to assess the Downtown Storm Drain improvements. An assessment report was developed by EEC Inc., (2008), entitled, 'Downtown Chandler Drainage Improvements Candidate Assessment Report.' This report provided infrastructure improvement recommendations and associated costs.

The CONSULTANT shall:

- a. Review the Assessment Report, specifically reviewing the volume requirements for the Gazelle Meadows Park detention facility and the outfall structure from the basin to determine if the structure is sized optimally, and provide a preliminary cost estimate for the recommended improvements.
- b. Assess the drainage system in the residential area south of Erie Street to Chandler Blvd and from Delaware Street to Hamilton Street, which is tributary to the Gazelle Meadows Park detention facility. The CONSULTANT shall review the storm drain system and condition, specifically to determine if portions of the system are undersized, in need of maintenance or poorly designed, and recommend improvements to ensure that the residential area meets City drainage criteria.

Deliverables:

- The CONSULTANT shall provide a Technical Memorandum summarizing the recommended improvements and associated estimated construction costs for the Gazelle Meadows Park detention facility and the drainage system upstream of this detention basin in the residential area south of Erie Street.

Assumptions:

- The CONSULTANT shall provide preliminary hydrology and hydraulic analysis based on available data for the area. It is assumed that there is sufficient topographic and watershed boundary information to perform the analysis. A field review by a qualified engineer shall be performed, but no field survey is anticipated as a part of this task. The City shall provide the CONSULTANT with a copy of the Assessment Report by EEC Inc. Construction costs developed shall be preliminary estimates, suitable for project programming with the FCDMC. No geotechnical investigation, aerial topography, permitting or environmental assessment shall be performed as a part of this task. No construction drawings shall be prepared as a part of this task.

Task 3 – Standard specifications and details

The City has an established set of Standard Details and Specifications (2015) for public works infrastructure that modify the State standard specifications (Uniform Standard Specification for Public Works Construction). Section 618 of the specifications provide guidance and requirements for storm drain construction. Standard Details C-500 through C-509 are provided for storm drain construction and appurtenances. The City is interested in limiting the number of City Standard Details, in lieu of use of the Maricopa Association of Governments (MAG) details where appropriate. The CONSULTANT shall:

- a. Review the details with the objective of identifying City standards that can be eliminated in favor of a similar MAG detail.
- b. Review the City storm drain standards and specifications to ensure that they represent the current state of practice and standard of care in Maricopa County, and that they provide coverage for the details that are needed to construct the majority of public works projects.
- c. Compare the City storm drain standards and specifications to other local municipalities, and provide recommended revisions that represent the current state of practice in Maricopa County.

Deliverables:

- The CONSULTANT shall provide a Technical Memorandum summarizing the recommended changes and/or additions to the Standard Specifications as well as the recommended changes and/or additions to the Standard Details. The recommendations shall be provided in 'strikeout' form for the specifications and in the form of sample drawings, or changes (highlighted) to existing drawings.

Assumptions:

- The CONSULTANT shall provide recommendations based on specifications and standards currently in use in Maricopa County. No structural or hydraulic calculations shall be completed as a part of this

task, and the CONSULTANT shall note what additional work or assessment beyond that provided is required by the City prior to finalizing the recommendation for general use.

Task 4 – Stormwater System Improvements

Storm drain improvements (87" RCP) were constructed in the early 1980's on N. Arizona Avenue from Ray Road to W. Frye Road, W. Frye Road to S. Nebraska Street to the Denver Basin. A second system serves W. Frye Rd, to W. Fairview St., discharging to the Denver detention basin. Currently, the City is not requiring on-lot detention in the area served by these systems; however, the capacity of these storm drain systems is unknown. Consequently, a hydraulic analysis of the systems is needed to support the continued policy of not requiring local stormwater detention for new development and redevelopment projects. The analysis of this system shall begin at S. Alma School Rd. The City has some as-builts available for the portion of the system installed in S. Arizona Avenue, however they may not be complete. The CONSULTANT shall:

- a. Contact ADOT to confirm as-built drawings for the storm drain improvements.
- b. Perform field survey to verify pipe invert elevations along the alignments described above, for a total distance of about 9300 ft. CONSULTANT shall obtain invert elevation and rim elevation at manholes and verify pipe size and material as part of the survey. The CONSULTANT shall obtain geometric and elevation data for the outlet structure for the Denver Detention Basin.
- c. Perform a hydrologic analysis using HEC-1 software to determine the discharge for the identified pipe segments. The CONSULTANT shall use discharges from available Area Drainage Master Studies or other available studies previously approved by the City or Flood Control District of Maricopa County.
- d. Perform a hydraulic analysis of the storm drain systems using PC SWMM.
- e. Perform a routing analysis for the Denver Retention basin using the design storm for use in assessing the adequacy of the Denver Basin.
- f. Using the outflow hydrograph and the pump curves for the Denver Pump Station, assess the hydraulic adequacy of the pump station.

Deliverables:

- *The CONSULTANT shall provide a Technical Memorandum summarizing the results of the hydrologic and hydraulic analyses, storm drain system performance and capacity, routing analysis of the Denver Basin, and the adequacy of the Denver Pump Station. The Memorandum shall provide an opinion as to the adequacy of the facilities with respect to the current City design criteria for drainage facilities. The CONSULTANT shall provide recommendations to improve the assessed portions of the drainage system if they are shown to be inadequate.*

Assumptions:

- *The City shall provide all as-constructed information for the Denver Detention Basin and Pump Station. The hydraulic analysis for the storm drain systems shall be performed for the limits described above. The routing analysis shall not include infiltration in the Denver Detention Basin. The hydraulic performance reported shall be for the entire storm drain system, and the adequacy of the hydraulic grade line with respect to the finish surface elevation over the pipe. No construction drawings shall be prepared as a part of this task.*

Task 5 – Other Storm System Issues

The purpose of this task is to assess the possible issues of selected detention and retention facilities in the City. The CONSULTANT shall:

- a. Contact City maintenance staff to understand the limits and nature of the problems encountered during the recent storm events.
- b. Perform a field assessment of each identified location, and perform limited (basic estimates of runoff volume from the 100 year design storm using rainfall depths and estimated runoff coefficients, no hydraulic analysis is anticipated) computations to render an opinion of the current systems for the 100-year storm event.
- c. Make recommendations for infrastructure improvements, as appropriate that the City could implement to economically improve the operation of the drainage infrastructure and reduce the frequency of flooding.
- d. Make recommendations for further study if necessary. The CONSULTANT shall perform this work for the following locations:

1. The Arrowhead Detention Basin provides peak flow reduction for the Arrowhead Pump Station. The CONSULTANT shall assess the adequacy of the inlet/outlet structure design. The CONSULTANT shall provide recommendations, if any, to modify the basin outlet and inlet to be consistent with the capacity of the pump station.
2. The Galveston Detention Basin provides flood protection for the Galveston neighborhood. The CONSULTANT shall specifically provide an opinion as to the adequacy of the detention basin and inlet/outlet structure to meet established level of flood protection for the Galveston neighborhood. The CONSULTANT shall provide recommendations, if any, to modify the Galveston Detention Basin and/or basin inlet/outlet to improve the function of the system, or increase the hydraulic capacity.
3. The Western Canal divides Mesa and Chandler. Linear detention basins are located on the Chandler corporate boundary along the Canal. The CONSULTANT shall render an opinion as to the adequacy of the existing basins, and, as appropriate, provide recommendations to increase the storage capacity. Options may include the use of drywells or lowering the existing basins. The CONSULTANT shall note that SRP facilities may limit options for improvements to drainage infrastructure in the area. The CONSULTANT shall also assess the portion of Dobson Rd. along the portion of the roadway that is adjacent to unincorporated Maricopa County, and provide recommendations. The CONSULTANT shall render an opinion as to the adequacy of the local detention basins and the outlet structures and provide recommendations.
4. The Intersection of N. Hartford St. and W. Knox Rd. drains to a public park located southwest of the intersection. The City anticipates performing improvements to the park in the near future. If the detention basin in this park is undersized, it is appropriate to consider increasing the basin capacity when the park improvements are constructed. The CONSULTANT shall determine the watershed tributary to this intersection and the park, and render an opinion as to the capacity of the existing detention basin to provide local drainage protection. The CONSULTANT shall make a recommendation as to an estimate of the additional volume, if any, that is required to be added to the existing detention basin. The CONSULTANT shall, as a part of this subtask, investigate any flooding in the adjacent development, and make recommendations to improve or eliminate the flooding condition. The CONSULTANT shall investigate the traffic calming improvements on Knox Road to determine if they are impeding street flow. The CONSULTANT shall evaluate options in the sub-watershed to improve local drainage function and reduce the potential for flooding. One option shall be to increase the volume of storage throughout the watershed. The CONSULTANT shall evaluate opportunities to increase storage throughout the watershed, including at the adjacent school parcel.
5. A private retention basin is located along N. Bullmoose Dr., near the intersection with W. Warner Rd. Some of the roadways in this area have had water ponding in the roadway during storm events. The basin is relatively shallow compared to the street elevation. This retention basin takes primarily street drainage from the surrounding area. The CONSULTANT shall, as a part of this subtask make recommendations to improve or eliminate the street flooding condition. Work shall include identifying the drainage sub-watershed tributary to the retention basin, and determining the adequacy of the existing basin to meet local drainage criteria. The CONSULTANT shall, if needed, recommend an expansion of the retention basin to increase the storage volume. The CONSULTANT shall inspect the basin and render an opinion as to the adequacy of the maintenance that is currently being provided at this facility. The CONSULTANT shall rely on a single field visit to render this opinion, and shall not interview personnel or obtain maintenance records as a part of this subtask.
6. Two communities (Crescent Village and Blakeman Ranch) are served by retention basins within the communities. The CONSULTANT shall, as a part of this task, investigate storm drainage in this area, and make recommendations to improve or eliminate the flooding condition. Work shall include identifying the drainage sub-watershed tributary to the retention basin, and determining the adequacy of the existing basin to meet local drainage criteria using approximate methods. The CONSULTANT shall propose options to address any concerns.
7. Hunt Highway, in the area near Lindsay Rd. located in the southeast corner of the City, experiences street flooding on a relatively frequent basis, including sediment and debris flow. The CONSULTANT shall identify the cause of the flooding and source of the debris and sediment and make recommendations to correct or improve the situation.

Deliverables:

- The CONSULTANT shall provide a Technical Memorandum summarizing the results of the seven assessments. The Memorandum shall provide an opinion as to the adequacy of the facilities with respect to the current City design criteria for drainage facilities, and the CONSULTANT shall provide recommendations to improve the assessed portions of the drainage system if they are shown to be inadequate.

Assumptions:

- No field surveying shall be performed as a part of this Task. The CONSULTANT assumes that as-built information shall be available from the City sufficient to complete the assessments described herein, including all volumes for existing detention basins, outlet structure geometries and storm drain system configurations and elevations. The City shall provide all as-constructed information. No hydrologic or hydraulic calculations shall be performed as a part of this task except at the sole discretion of the CONSULTANT. Cost estimates, suitable for project programming, shall be prepared as a part of the work associated with this task. No preliminary or final construction plans shall be prepared as a part of this task.

Task 6- Pump Station Inspection, Maintenance, and Replacement Program

The CONSULTANT shall develop an inspection, maintenance, and replacement program for three existing pump stations within the City. These pump stations include the Arrowhead Basin, Denver Basin, and Thude Basin pump stations. The City would like a pump replacement schedule, or recommendations for replacement, and a maintenance protocol and verification of the inspection schedule for each station. The CONSULTANT shall assess the feasibility of standardizing the equipment and pumps across the stations if possible. The City needs capital life-span information to inform future pump replacement in ensuing year's budgets. This task shall include the following sub-tasks:

1. The CONSULTANT shall perform a site visit to each of the three pump stations. The CONSULTANT shall inspect the existing condition of the pump stations to identify any apparent issues and identify opportunities for improvement. The CONSULTANT team shall consist of a civil engineer, electrical engineer, and structural engineer. The CONSULTANT shall summarize the results of the site visit with recommendations for improvement in a technical memorandum that shall be provided to the City. The preparation of design plans to make the improvements at the pump stations have not been included in this task, but could be provided as a separate task. Confined space entry is excluded as part of this project.
2. The CONSULTANT shall review the record drawings, O&M manuals and service work orders for each of the three pump stations. The City shall provide the CONSULTANT with copies of the record drawings and O&M manuals. Based on the condition evaluation performed at the site visit, review of the as-built data, and review of the manufacturer's recommendations, the CONSULTANT shall develop Operation and Maintenance procedures and checklists for the each pump station including the generators, pumps, vaults, etc. The CONSULTANT shall also develop inspection check lists and a schedule for inspections and maintenance. As part of this task, the CONSULTANT shall develop a rebuild and replacement schedule for the pumping equipment. The CONSULTANT shall not develop new O&M manuals for each pump station as part of this task. If O&M manuals are required, they can be developed as a separate effort if requested by the City.
3. The CONSULTANT shall attend project review meetings to discuss City comments. A total of three meetings have been budgeted for this task. The CONSULTANT shall prepare and submit to the City meeting minutes within five business days after each meeting.

Deliverables:

- Technical Memorandum summarizing the findings of the site visit and recommendations for improvements.
- Technical Memorandum summarizing the Operation and Maintenance procedures for each pump station. An O&M checklist shall also be prepared.
- Inspection Checklist
- Inspection and Maintenance schedule.

CLARIFICATIONS

- Expenses for items such as printing, delivery, and mileage, shall be compensated at cost utilizing the Reimbursable Allowance.
- Owner's Allowance shall only be utilized for additional services with prior written approval from the City Representative.

**EXHIBIT B
FEE SCHEDULE**

CONSULTANT shall provide all services as described in Exhibit A for an amount not to exceed \$ 233,823.

LABOR COSTS			
<u>Classification</u>	<u>Estimated Hours</u>	<u>Hourly Rate</u>	<u>Labor Costs</u>
Project Manager	161	\$ 178.00	\$ 28,658
Senior VP/Sr. Engineer (Stormwater/QA-QC)	65	\$ 195.00	\$ 12,675
Sr. Engineer (Floodplain/QA-QC)	152	\$ 175.00	\$ 26,600
Civil Engineer (Stormwater and Wastewater)	365	\$ 166.00	\$ 60,590
Drainage Engineer	327	\$ 138.00	\$ 45,126
Electrical Engineer	78	\$ 139.00	\$ 10,842
Structural Engineer	34	\$ 145.00	\$ 4,930
Survey Manager	6	\$ 135.00	\$ 810
Land Surveyor	32	\$ 115.00	\$ 3,680
2-Man Survey Crew	66	\$ 170.00	\$ 11,220
Environmental Specialist	29	\$ 178.00	\$ 5,162
GIS Analyst	21	\$ 80.00	\$ 1,680
Total Labor	1336		\$ 211,973

COST BY TASK		
<u>Breakdown by Task</u>	<u>Estimated Hours</u>	<u>Labor Costs</u>
Task 1- Stormwater Management Plan	375	\$ 62,505
Task 2 - Capital Improvement Projects	80	\$ 12,319
Task 3 - Standard Specifications and Drawing	35	\$ 5,471
Task 4 - Stormdrain System Improvements	318	\$ 49,088
Task 5 - Other Storm System Issues	256	\$ 39,832
Task 6 - Pump Station Inspection and Maintenance	272	\$ 42,758
Total Labor	1336	\$ 211,973
Reimbursable Allowance		\$ 850
Owner's Allowance		\$ 21,000
Total Fee Including Allowances		\$ 233,823

EXHIBIT C

Consultant Immigration Warranty
To Be Completed by Consultant Prior to Execution of Contract

A.R.S. § 41-4401 requires as a condition of your contract verification of compliance by the Consultant and subcontractors with the Federal Immigration and Nationality Act (FINA), all other Federal immigration laws and regulations, and A.R.S. § 23-214 related to the immigration status of its employees.

By completing and signing this form the Consultant shall attest that it and all subcontractors performing work under the cited contract meet all conditions contained herein.

Project Number/Division: ST1606.101
Company Name (as listed in the contract): Michael Baker International, Inc.
Street Name and Number: 2929 N. Central, Suite 800
City: Phoenix State: Arizona Zip Code: 85012

I hereby attest that:

1. The Consultant complies with the Federal Immigration and Nationality Act (FINA), all other Federal immigration laws and regulations, and A.R.S. § 23-214 related to the immigration status of those employees performing work under this contract;
2. All subcontractors performing work under this contract comply with the Federal Immigration and Nationality Act (FINA), all other Federal immigration laws and regulations, and A.R.S. § 23-214 related to the immigration status of their employees; and
3. The Consultant has identified all Consultant and subcontractor employees who perform work under the contract and has verified compliance with Federal Immigration and Nationality Act (FINA), all other Federal immigration laws and regulations, and A.R.S. § 23-214.

Signature of Consultant (Employer) or Authorized Designee:



Printed Name: Kevin Kugler

Title: Associate Vice President

Date (month/day/year): 3/28/2016