



PROFESSIONAL SERVICES AGREEMENT
Consultant Services
CITY OF CHANDLER STORMWATER MANAGEMENT MASTER PLAN STUDY
Project No. ST2113.101

Council Date: December 9, 2021 Item No.

THIS AGREEMENT ("Agreement") is made and entered into on the ____ day of _____, 2021 ("Effective Date"), by and between City of Chandler, an Arizona municipal corporation, ("City"), and **Entellus, Inc.**, an Arizona corporation, ("Consultant") (City and Consultant may individually be referred to as "Party" and collectively referred to as "Parties").

RECITALS

A. City proposes to engage Consultant to provide Consultant Services for **CITY OF CHANDLER STORMWATER MANAGEMENT MASTER PLAN STUDY** project as more fully described in **Exhibit "A"**, which is attached to and made a part of this Agreement by this reference.

B. Consultant is ready, willing, and able to provide the services described in **Exhibit "A"** for the compensation and fees set forth and as described in **Exhibit "B"**, which is attached to and made a part of this Agreement by this reference.

C. City desires to contract with Consultant to provide these services under the terms and conditions set forth in this Agreement.

AGREEMENT

NOW, THEREFORE, in consideration of the premises and the mutual promises contained in this Agreement, City and Consultant agree as follows:

SECTION I--CONSULTANT'S SERVICES

Consultant must perform the services described in **Exhibit "A"** to City's satisfaction within the terms and conditions of this Agreement and within the care and skill that a person who provides similar services in Chandler, Arizona exercises under similar conditions. All work or services furnished by Consultant under this Agreement must be performed in a skilled and workmanlike manner. All fixtures, furnishings, and equipment furnished by Consultant as part of the work or services under this Agreement must be new, or the latest model, and of the most suitable grade and quality for the intended purpose of the work or service.

SECTION II--PERIOD OF SERVICE

Consultant must perform the services described in **Exhibit "A"** for the term of this Agreement. Unless amended in writing by the Parties, the Agreement term expires **455** calendar days after the Notice to Proceed (NTP) Date.

SECTION III--PAYMENT OF COMPENSATION AND FEES

Unless amended in writing by the Parties, Consultant's compensation and fees as more fully described in **Exhibit "B"** for performance of the services approved and accepted by City under this Agreement must not exceed **\$800,000** for the full term of the Agreement. Consultant may not increase any compensation or fees under this Agreement without the City's prior written consent. Consultant must submit monthly requests for payment of services approved and accepted during the previous billing period and must include, as applicable, detailed invoices and receipts, a narrative description of the tasks accomplished during the billing period, a list of any deliverables submitted, and any subconsultant's or supplier's actual requests for payment plus similar narrative and listing of their work. Consultant must submit an Application and Certification for Payment Sheet with the monthly request for payment to: CapitalProjects.Payables@chandleraz.gov. Payment for those services negotiated as a lump sum will be made in accordance with the percentage of the work completed during the preceding billing period. Services negotiated as a not-to-exceed fee will be paid in accordance with the work effort expended on the service during the preceding month. All requests for payment must be submitted to City for review and approval. City will make payment for approved and accepted services within 30 calendar days of City's receipt of the request for payment. Consultant bears all responsibility and liability for any and all tax obligations that result from Consultant's performance under this Agreement.

SECTION IV--CITY'S OBLIGATIONS

As part of Consultant's services under this Agreement, City will provide furnished items, services, or obligations as detailed in **Exhibit "D"**.

SECTION V--GENERAL CONDITIONS

5.1 Notices. Unless otherwise provided herein, demands under this Agreement must be in writing and will be deemed to have been duly given and received either (a) on the date of service if personally served on the party to whom notice is to be given, or (b) on the third day after the date of the postmark of deposit by first class United States mail, registered or certified, postage prepaid and properly addressed as follows:

To City:	City of Chandler Public Works & Utilities Department Attn: CIP City Engineer P.O. Box 4008, Mail Stop 407 Chandler, AZ 85244-4008 Phone: 480-782-3343 Email: andrew.goh@chandleraz.gov
With a Copy to:	City of Chandler Public Works & Utilities Department Attn: Project Manager P.O. Box 4008, Mail Stop 407 Chandler, AZ 85244-4008
To Consultant:	Entellus, Inc. Mailing Address: 3033 N. 44 th St., Ste. 250, Phoenix, AZ 85018 Physical Address: Same as above Statutory Agent Name: Tim Crall Statutory Agent Mailing Address: 3033 N. 44 th St., Ste. 250, Phoenix, AZ 85018 Statutory Agent Physical Address: same as above CONSULTANT'S AUTHORIZED PROJECT REPRESENTATIVE Name: Bill Linck Title: President Phone: 602-244-2566 Email: linck@entellus.com

5.2 Records/Audit. Records of Consultant's direct personnel payroll, reimbursable expenses pertaining to this Agreement and records of accounts between City and Consultant must be kept on the basis of generally accepted accounting principles and must be made available to City and its auditors for up to three years following City's final acceptance of the services under this Agreement (this requirement is increased to five years if construction of this project is federally funded). City, its authorized representative, or any federal agency, reserves the right to audit Consultant's records to verify the accuracy and appropriateness of all cost and pricing data, including data used to negotiate this Agreement and any amendments. City reserves the right to decrease the total amount of Agreement price or payments made under this Agreement or request reimbursement from Consultant following final contract payment on this Agreement if, upon audit of Consultant's records, the audit discloses Consultant has provided false, misleading, or inaccurate cost and pricing data. Consultant will include a similar provision in all of its contracts with subconsultants who provide services under the Agreement to ensure that City, its authorized representative, or the appropriate federal agency, has access to the subconsultants' records to verify the accuracy of all cost and pricing data. City reserves the right to decrease Contract price or payments made on this Agreement or request reimbursement from Consultant following final payment on this Agreement if the above provision is not included in subconsultant

agreements, and one or more subconsultants refuse to allow City to audit their records to verify the accuracy and appropriateness of all cost and pricing data. If, following an audit of this Agreement, the audit discloses Consultant has provided false, misleading, or inaccurate cost and pricing data, and the cost discrepancies exceed 1% of the total Agreement billings, Consultant will be liable for reimbursement of the reasonable, actual cost of the audit.

5.3 Alteration in Character of Work. Whenever an alteration in the character of work results in a substantial change in this Agreement, thereby materially increasing or decreasing the scope of services, cost of performance, or Project schedule, the work will be performed as directed by City. However, before any modified work is started, a written amendment must be approved and executed by City and Consultant. Such amendment must not be effective until approved by City. Additions to, modifications, or deletions from this Agreement as provided herein may be made, and the compensation to be paid to Consultant may accordingly be adjusted by mutual agreement of the Parties. It is distinctly understood and agreed that no claim for extra services or materials furnished by Consultant will be allowed by City except as provided herein, nor must Consultant do any work or furnish any materials not covered by this Agreement unless such work is first authorized in writing. Any such work or materials furnished by Consultant without prior written authorization will be at Consultant's own risk, cost, and expense, and Consultant hereby agrees that without written authorization Consultant will make no claim for compensation for such work or materials furnished.

5.4 Termination. City and Consultant hereby agree to the full performance of the covenants contained herein, except that City reserves the right, at its discretion and without cause, to terminate or abandon any service provided for in this Agreement, or abandon any portion of the Project for which services have been performed by Consultant. In the event City abandons or suspends the services, or any part of the services as provided in this Agreement, City will notify Consultant in writing and immediately after receiving such notice, Consultant must discontinue advancing the work specified under this Agreement. Upon such termination, abandonment, or suspension, Consultant must deliver to City all drawings, plans, specifications, special provisions, estimates and other work entirely or partially completed, together with all unused materials supplied by City. Consultant must appraise the work Consultant has completed and submit Consultant's appraisal to City for evaluation. City may inspect Consultant's work to appraise the work completed. Consultant will receive compensation in full for services performed to the date of such termination. The fee will be paid in accordance with Section III of this Agreement, and as mutually agreed upon by Consultant and City. If there is no mutual agreement on payment, the final determination will be made in accordance with the "Disputes" provision in this Agreement. However, in no event may the fee exceed the fee set forth in Section III of this Agreement nor as amended in accordance with Section "Alteration in Character of Work." City will make the final payment within 60 days after Consultant has delivered the last of the partially completed items and the Parties agree on the final fee. If City is found to have improperly terminated the Agreement for cause or default, the termination will be converted to a termination for convenience in accordance with the provisions of this Agreement.

5.5 Indemnification. To the extent permitted by law, the Consultant ("Indemnitor") must indemnify, save and hold harmless City and its officers, officials, agents and employees

("Indemnatee") from any and all claims, actions, liabilities, damages, losses or expenses (including court costs, attorneys' fees and costs of claim processing, investigation and litigation) ("Claims") caused or alleged to be caused, in whole or in part, by the wrongful, negligent or willful acts, or errors or omissions of Consultant or any of its owners, officers, directors, agents, employees, or subconsultants in connection with this Agreement. This indemnity includes any claim or amount arising out of or recovered under workers' compensation law or on account of the failure of Consultant to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree. Consultant must indemnify Indemnatee from and against any and all Claims, except those arising solely from Indemnatee's own negligent or willful acts or omissions. Consultant is responsible for primary loss investigation, defense and judgment costs where this indemnification applies. In consideration of the award of this Agreement, Consultant agrees to waive all rights of subrogation against Indemnatee for losses arising from or related to this Agreement. The obligations of Consultant under this provision survive the termination or expiration of this Agreement.

5.6 Insurance Requirements. Consultant must procure insurance under the terms and conditions and for the amounts of coverage set forth in **Exhibit "C"** against claims that may arise from or relate to performance of the work under this Agreement by Consultant and its agents, representatives, employees, and subconsultants. Consultant and any subconsultant must maintain this insurance until all of their obligations have been discharged, including any warranty periods under this Agreement. These insurance requirements are minimum requirements for this Agreement and in no way limit the indemnity covenants contained in this Agreement. City in no way warrants that the minimum limits stated in **Exhibit "C"** are sufficient to protect Consultant from liabilities that might arise out of the performance of the work under this Agreement by Consultant, Consultant's agents, representatives, employees, or subconsultants. Consultant is free to purchase such additional insurance as may be determined necessary.

5.7 Cooperation and Further Documentation. Consultant agrees to provide City such other duly executed documents as may be reasonably requested by City to implement the intent of this Agreement.

5.8 Successors and Assigns. City and Consultant each bind itself, its partners, successors, assigns, and legal representatives to the other party to this Agreement and to the partners, successors, assigns, and legal representatives of such other party in respect to all covenants of this Agreement. Neither City nor Consultant may assign, sublet, or transfer its interest in this Agreement without the written consent of the other party. In no event may any contractual relation be created between any third party and City.

5.9 Disputes. In any dispute arising out of an interpretation of this Agreement or the duties required not disposed of by agreement between Consultant and City, the final determination at the administrative level will be made by City Engineer.

5.10 Completeness and Accuracy of Consultant's Work. Consultant must be responsible for the completeness and accuracy of Consultant's services, data, and other work prepared or compiled under Consultant's obligation under this Agreement and must correct, at

Consultant's expense, all willful or negligent errors, omissions, or acts that may be discovered. Correction of errors disclosed and determined to exist during any construction of the project on architectural or engineering drawings and specifications must be accomplished by Consultant. The cost of the design necessary to correct those errors attributable to Consultant and any damage incurred by City as a result of additional construction costs caused by such engineering or architectural errors will be chargeable to Consultant and will not be considered a cost of the Work. The fact that City has accepted or approved Consultant's work will in no way relieve Consultant of any of Consultant's responsibilities.

5.11 Reporting. Written monthly reports, along with updated work schedules, will be made by Consultant in the format prescribed by City. These reports will be delivered to City per schedule. When requested by City, Consultant will attend Council meetings and provide finished documents including correspondence for Council action, supporting charts, graphs, drawings and colored slides of same.

5.12 Withholding Payment. City reserves the right to withhold funds from Consultant's payments up to the amount equal to the claims City may have against Consultant until such time that a settlement on those claims has been reached.

5.13 City's Right of Cancellation. The Parties acknowledge that this Agreement is subject to cancellation by City under the provisions of Section 38-511, Arizona Revised Statutes (A.R.S.).

5.14 Independent Consultant. For this Agreement Consultant constitutes an independent contractor. Any provisions in this Agreement that may appear to give City the right to direct Consultant as to the details of accomplishing the work or to exercise a measure of control over the work means that Consultant must follow the wishes of City as to the results of the work only. These results must comply with all applicable laws and ordinances.

5.15 Project Staffing. Prior to the start of any work under this Agreement, Consultant must submit to City detailed resumes of key personnel that will be involved in performing services prescribed in the Agreement. City hereby acknowledges its acceptance of such personnel to perform services under this Agreement. At any time hereafter that Consultant desires to change key personnel while performing under the Agreement, Consultant must submit the qualifications of the new personnel to City for prior approval. Key personnel include, but are not limited to, principals-in-charge, project manager, and project Consultant. Consultant will maintain an adequate and competent staff of qualified persons, as may be determined by City, throughout the performance of this Agreement to ensure acceptable and timely completion of the Scope of Services. If City objects, with reasonable cause, to any of Consultant's staff, Consultant must take prompt corrective action acceptable to City and, if required, remove such personnel from the Project and replace with new personnel agreed to by City.

5.16 Consultants or Subconsultants. Prior to beginning the work, Consultant must furnish City for approval the names of consultants or subconsultants to be used under this Agreement. Any subsequent changes are subject to City's written prior approval.

5.17 Force Majeure. If either party is delayed or prevented from the performance of any act

required under this Agreement by reason of acts of God or other cause beyond the control and without fault of the Party (financial inability excepted), performance of that act may be excused, but only for the period of the delay, if the Party provides written notice to the other Party within ten days of such act. The time for performance of the act may be extended for a period equivalent to the period of delay from the date written notice is received by the other Party.

5.18 Compliance with Federal Laws. Consultant understands and acknowledges the applicability of the Americans with Disabilities Act, the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act of 1989 to it. Consultant agrees to comply with these laws in performing this Agreement and to permit City to verify such compliance.

5.19 No Israel Boycott. By entering into this Agreement, Consultant certifies that Consultant is not currently engaged in, and agrees for the duration of the Agreement, not to engage in a boycott of Israel as defined by state statute.

5.20 Legal Worker Requirements. A.R.S. § 41-4401 prohibits City from awarding a contract to any consultant who fails, or whose subconsultants fail, to comply with A.R.S. § 23-214(A). Therefore, Consultant agrees Consultant and each subconsultant it uses warrants their compliance with all federal immigration laws and regulations that relate to their employees and their compliance with § 23-214, subsection A. A breach of this warranty will be deemed a material breach of the Agreement and may be subject to penalties up to and including termination of the Agreement. City retains the legal right to inspect the papers of any Consultant's or subconsultant's employee who provides services under this Agreement to ensure that Consultant and subconsultants comply with the warranty under this provision.

5.21 Lawful Presence Requirement. A.R.S. §§ 1-501 and 1-502 prohibit City from awarding a contract to any natural person who cannot establish that such person is lawfully present in the United States. To establish lawful presence, a person must produce qualifying identification and sign a City-provided affidavit affirming that the identification provided is genuine. This requirement will be imposed at the time of contract award. This requirement does not apply to business organizations such as corporations, partnerships, or limited liability companies.

5.22 Covenant Against Contingent Fees. Consultant warrants that no person has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, and that no member of the Chandler City Council, or any City employee has any interest, financially, or otherwise, in Consultant's firm. For breach or violation of this warrant, City may annul this Agreement without liability or, at its discretion, to deduct from the Agreement price or consideration, the full amount of such commission, percentage, brokerage, or contingent fee.

5.23 Non-Waiver Provision. The failure of either Party to enforce any of the provisions of this Agreement or to require performance of the other Party of any of the provisions hereof must not be construed to be a waiver of such provisions, nor must it affect the validity of this Agreement or any part thereof, or the right of either Party to thereafter enforce each and every provision.

5.24 Disclosure of Information Adverse to City's Interests. To evaluate and avoid potential conflicts of interest, Consultant must provide written notice to City, as set forth in this Section, of any work or services performed by Consultant for third parties that may involve or be associated with any real property or personal property owned or leased by City. Such notice must be given 7 business days prior to commencement of the services by Consultant for a third party, or 7 business days prior to an adverse action as defined below. Written notice and disclosure must be sent in accordance with Section 6.7 above. An adverse action under this Agreement includes, but is not limited to: (a) using data as defined in the Agreement acquired in connection with this Agreement to assist a third party in pursuing administrative or judicial action against City; or (b) testifying or providing evidence on behalf of any person in connection with an administrative or judicial action against City; or (c) using data to produce income for Consultant or its employees independently of performing the services under this Agreement, without the prior written consent of City. Consultant represents that except for those persons, entities, and projects identified to City, the services performed by Consultant under this Agreement are not expected to create an interest with any person, entity, or third party project that is or may be adverse to City's interests. Consultant's failure to provide a written notice and disclosure of the information as set forth in this Section constitute a material breach of this Agreement.

5.25 Data Confidentiality and Data Security. As used in the Agreement, "data" means all information, whether written or verbal, including plans, photographs, studies, investigations, audits, analyses, samples, reports, calculations, internal memos, meeting minutes, data field notes, work product, proposals, correspondence and any other similar documents or information prepared by, obtained by, or transmitted to Consultant or its subconsultants in the performance of this Agreement. The Parties agree that all data, regardless of form, including originals, images, and reproductions, prepared by, obtained by, or transmitted to Consultant or its subconsultants in connection with Consultant's or its subconsultant's performance of this Agreement is confidential and proprietary information belonging to City. Except as specifically provided in this Agreement, Consultant or its subconsultants must not divulge data to any third party without City's prior written consent. Consultant or its subconsultants must not use the data for any purposes except to perform the services required under this Agreement. These prohibitions do not apply to the following data provided to Consultant or its subconsultants have first given the required notice to City: (a) data which was known to Consultant or its subconsultants prior to its performance under this Consultant or its subconsultants by a third party, who to the best of Consultant's or its subconsultants' knowledge and belief, had the legal right to make such disclosure and Consultant or its subconsultants are not otherwise required to hold such data in confidence; or (c) data which is required to be disclosed by virtue of law, regulation, or court order, to which Consultant or its subconsultants are subject. In the event Consultant or its subconsultants are required or requested to disclose data to a third party, or any other information to which Consultant or its subconsultants became privy as a result of any other contract with City, Consultant must first notify City as set forth in this Section of the request or demand for the data. Consultant or its subconsultants must give City sufficient facts so that City can be given an opportunity to first give its consent or take such action that City may deem appropriate to protect such data or other information from disclosure. All data must continue to be subject to the confidentiality agreements of this Agreement. Consultant or its

subconsultants assume all liability to maintain the confidentiality of the data in its possession and agrees to compensate City if any of the provisions of this Section are violated by Consultant, its employees, agents or subconsultants. Solely for the purposes of seeking injunctive relief, it is agreed that a breach of this Section must be deemed to cause irreparable harm that justifies injunctive relief in court. Consultant agrees that the requirements of this Section must be incorporated into all subagreements entered into by Consultant. A violation of this Section may result in immediate termination of this Agreement without notice.

5.26 Personal Identifying Information-Data Security. Personal identifying information, financial account information, or restricted City information, whether electronic format or hard copy, must be secured and protected at all times by Consultant or its subconsultants. At a minimum, Consultant or its subconsultants must encrypt or password-protect electronic files. This includes data saved to laptop computers, computerized devices, or removable storage devices. When personal identifying information, financial account information, or restricted City information, regardless of its format, is no longer necessary, the information must be redacted or destroyed through appropriate and secure methods that ensure the information cannot be viewed, accessed, or reconstructed. In the event that data collected or obtained by Consultant or its subconsultants in connection with this Agreement is believed to have been compromised, Consultant or its subconsultants must immediately notify City contact. Consultant agrees to reimburse City for any costs incurred by City to investigate potential breaches of this data and, where applicable, the cost of notifying individuals who may be impacted by the breach. Consultant agrees that the requirements of this Section must be incorporated into all subcontracts entered into by Consultant. It is further agreed that a violation of this Section must be deemed to cause irreparable harm that justifies injunctive relief in court. A violation of this Section may result in immediate termination of this Agreement without notice. The obligations of Consultant or its subconsultants under this Section must survive the termination of this Agreement.

5.27 Jurisdiction and Venue. This Agreement is made under, and must be construed in accordance with and governed by the laws of the State of Arizona without regard to the conflicts or choice of law provisions thereof. Any action to enforce any provision of this Agreement or to obtain any remedy with respect hereto must be brought in the courts located in Maricopa County, Arizona, and for this purpose, each Party hereby expressly and irrevocably consents to the jurisdiction and venue of such court.

5.28 Survival. All warranties, representations, and indemnifications by Consultant must survive the completion or termination of this Agreement.

5.29 Modification. Except as expressly provided herein to the contrary, no supplement, modification, or amendment of any term of this Agreement will be deemed binding or effective unless in writing and signed by the Parties.

5.30 Severability. If any provision of this Agreement or the application to any person or circumstance may be invalid, illegal or unenforceable to any extent, the remainder of this Agreement and the application will not be affected and will be enforceable to the fullest extent permitted by law.

5.31 Integration. This Agreement contains the full agreement of the Parties. Any prior or contemporaneous written or oral agreement between the Parties regarding the subject matter is merged and superseded.

5.32 Time is of the Essence. Time of each of the terms, covenants, and conditions of this Agreement is hereby expressly made of the essence.

5.33 Date of Performance. If the date of performance of any obligation or the last day of any time period provided for should fall on a Saturday, Sunday, or holiday for City, the obligation will be due and owing, and the time period will expire, on the first day after which is not a Saturday, Sunday or legal City holiday. Except as may otherwise be set forth in this Agreement, any performance provided for herein will be timely made if completed no later than 5:00 p.m. (Chandler time) on the day of performance.

5.34 Third Party Beneficiary. Nothing under this Agreement will be construed to give any rights or benefits in the Agreement to anyone other than City and Consultant, and all duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of City and Consultant and not for the benefit of any other party.

5.35 Conflict in Language. All work performed must conform to all applicable City of Chandler codes, ordinances, and requirements as outlined in this Agreement. If there is a conflict in interpretation between provisions in this Agreement and those in **Exhibit "A"**, the provisions in this Agreement prevail.

5.36 Document/Information Release. Documents and materials released to Consultant, which are identified by City as sensitive and confidential, are City's property. The document/material must be issued by and returned to City upon completion of the services under this Agreement. Consultant secondary distribution, disclosure, copying, or duplication in any manner is prohibited without City's prior written approval. The document/material must be kept secure at all times. This directive applies to all City documents, whether in photographic, printed, or electronic data format.

5.37 Exhibits. The following exhibits are made a part of this Agreement and are incorporated by reference:

- Exhibit A** - Scope of Services / Schedule
- Exhibit B** - Compensation and Fees
- Exhibit C** - Insurance Requirements
- Exhibit D** - Special Conditions
- Exhibit E** - Federal Requirements (if applicable)

5.38 Special Conditions. As part of the services Consultant provides under this Agreement, Consultant agrees to comply with and fully perform the special terms and conditions set forth in **Exhibit "D"**, which is attached to and made a part of this Agreement.

5.39 Non-Discrimination and Anti-Harassment Laws. Consultant must comply with all applicable City, state, and federal non-discrimination and anti-harassment laws, rules, and

regulations.

5.40 Licenses and Permits. Beginning with the Effective Date and for the full term of this Agreement, Consultant must maintain all applicable City, state, and federal licenses and permits required to fully perform Consultant's services under this Agreement.

5.41 Warranties. Consultant must furnish a one-year warranty on all work and services performed under this Agreement. Consultant must furnish, or cause to be furnished, a two-year warranty on all fixtures, furnishings, and equipment furnished by Consultant, subconsultants or suppliers under this Agreement. Any defects in design, workmanship, or materials that do not comply with this Agreement must be corrected by Consultant (including, but not limited to, all parts and labor) at Consultant's sole cost and expense. All written warranties and redlines for as-built conditions must be delivered to City on or before City's final acceptance of Consultant's services under this Agreement.

5.42 Cooperative Purchasing Agreement (S.A.V.E. – Strategic Alliance for Volume Expenditures). In addition to City of Chandler and with the approval of Consultant, this Agreement may be extended for use by other municipalities, school districts, and government agencies of the State. Any such usage by other entities must be in accordance with the ordinance, charter, or procurement rules and regulations of the respective political entity.

5.43 Budget Approval into Next Fiscal Year. This Agreement will commence on the Effective Date and continue in full force and effect until it is terminated or expires in accordance with the provisions of this Agreement. The Parties recognize that the continuation of this Agreement after the close of the City's fiscal year, which ends on June 30 of each year, is subject to the City Council's approval of a budget that includes an appropriation for this item as an expenditure. The City does not represent that this budget item will be actually adopted. This determination is solely made by the City Council.

SIGNATURE PAGE TO FOLLOW

This Agreement will be in full force and effect only when it has been approved and executed by the duly authorized City officials.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

"CITY"

CITY OF CHANDLER

MAYOR

Recommended By:



Andrew Goh, P.E.
CIP City Engineer

APPROVED AS TO FORM:

City Attorney



ATTEST:

City Clerk

Seal

"CONSULTANT"

Entellus, Inc.



Signature

11/15/21

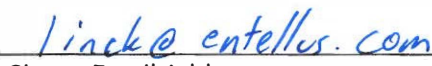
Date



Print Name



Title



Signer Email Address

EXHIBIT "A"
SCOPE OF SERVICES/SCHEDULE



November 8, 2021

City of Chandler Stormwater Management Master Plan
Entellus Project No. 615.114
City of Chandler Project No. ST2113.101

The following details the scope of work for the City of Chandler Stormwater Management Master Plan (SWMMP).

PHASE 1

Task 1. Project Description

The Consultant will provide services for the assessment of stormwater within the City of Chandler. This will include FLO-2D modeling, storm drain analysis, flood hazard analysis, the development of alternative flood mitigation solutions, and an assessment of the City's Municipal Separate Storm Sewer Systems (MS4) program.

Task 2. Design Standards

The Consultant will perform the project tasks as outlined in this scope of work and all work will conform to the latest additions and amendments of the following, unless specifically noted otherwise:

- City of Chandler Standard Details and Specifications
- City of Chandler Technical Design Manual #3: Storm Drainage System Design
- City of Chandler Technical Design Manual #4: Street Design and Access Control
- City of Chandler Technical Design Manual #8: Landscape and Irrigation Design of Right Of Ways, Retention Basins and Parks
- Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction
- City of Chandler Supplements to MAG
- Manual of Uniform Traffic Control Devices for Streets and Highways (MUTCD)
- The Code of the City of Chandler
- Arizona Utility Coordinating Committee (AUCC) Public Improvement Project Guide (PIPG)
- Arizona State Standard 1: Instructions For Organizing and Submitting Technical Support Data Notebooks (TSDN) for Flood Studies
- Flood Control District of Maricopa County Drainage Design Manual, Hydrology
- Flood Control District of Maricopa County Drainage Design Manual, Hydraulics
- Flood Control District of Maricopa County FLO-2D Verification Report
- City of Chandler Unified Development Manual
- City of Chandler General Plan
- City of Chandler Transportation Master Plan

Task 3. Background

In 2021, the City of Chandler (City) and the Flood Control District of Maricopa County (District) entered into an Intergovernmental Agreement (IGA FCD2020A17, PCN 022.01.20) for the Chandler Stormwater Management Master Plan Update to evaluate the existing conditions and identify deficiencies and areas of flooding within the City. This study would result in future Capital Improvement Projects (CIP) providing mitigation for the 10-year return period or greater.

The project will collect information about existing known flooding issues and perform FLO-2D modeling for the entire City integrating the major City storm drain networks into the model to assess the capacity of the existing stormwater system. Alternatives and mitigation solutions will be generated for identified areas of deficiency and an ultimate recommendation made. Additionally, the project will update the City's Stormwater Management Program to meet the requirements set forth in the current MS4 permit.

Task 4. Project Management and Meetings

4.1. Project Coordination and Administration

General project administrative tasks are included in this task budget for the duration of the project. These activities include but are not limited to the following: interim communication via telephone/email or teleconference, and general correspondence. This task also includes the generation of monthly progress reports and invoices, and coordination with subconsultants.

4.2. Project Kick-Off Meeting

The Consultant will hold one (1) Project Kickoff Meeting. It is anticipated that this meeting will be held virtually.

4.3. Coordination Meetings

The Consultant will hold coordination meetings with the City and the District at major milestone events. It is anticipated that there will be 10 coordination meetings as part of this project.

4.4. Stakeholder Coordination

The Consultant and the City will meet with Stakeholders throughout the duration of the project. Stakeholders may include developers, UPRR, GRIC, or others. It is assumed that there will be eight (8) stakeholder meetings.

Task 5. Data Collection

The data collection task will include the collection and review of pertinent, available data and documentation. This will include data available from the District, the City, the Arizona Department of Transportation (ADOT) and other stakeholders and sources. The following sections detail the data collection task:

5.1. Topographic Data Collection

The District will provide LiDAR topographic mapping to the Consultant for the study area. The Consultant will perform a review and quality check of the topographic data and include a summary in the data collection report.

5.2. Existing Studies and Reports

The Consultant will collect and review pertinent engineering studies and reports within the watershed. Reports and studies will be collected from the City and the District. It is anticipated that this task will include, but not limited to, the collection of the following general items:

- The previous Chandler SWMMP
- Available hydrologic and hydraulic reports
- Drainage reports
- Capital Improvement Project (CIP) reports
- General plans, land use plans, transportation plans and any other applicable plans
- Floodplain delineation studies
- ADOT studies
- As-Builts

5.3. GIS Data

Pertinent GIS data will be provided to the Consultant by the City and the District. The Consultant will meet with City GIS personnel to coordinate the setup of the data for future incorporation into the City's GIS. The City will provide data including, but not limited to the following:

- Storm drain GIS data
- Other drainage facility GIS data
- Flooding complaint data
- Utility data
- Parcel, right-of-way, and easement data
- Other available, pertinent GIS data

The District will provide the Consultant with data including, but not limited to, the following:

- Topographic GIS data
- Surface feature characterization (SFC) data
- The most current aerial photography of the study area
- Other available, pertinent GIS data

5.4. Historical Flood Photos

The City will provide the Consultant with any historical flood photos that they have available. The Consultant will also research available historic flood photos through the FCDMC library and data available online.

5.5. Maintenance Personnel Meeting

The City will hold a meeting with the Consultant and City internal maintenance/operations staff regarding known flooding and drainage issue locations. The purpose of this meeting is for maintenance staff to provide information they are aware of regarding known flooding locations.

5.6. Storm Drain and Hydraulic Structure Inventory

The Consultant will collect GIS inventories of storm drain, hydraulic structures, and as-built plans maintained by the City and other agencies or stakeholders within the study area. The Consultant will perform a review of the storm drain and hydraulic structure data utilizing the most current aerial photography and Google Street View to verify the accuracy of the data and identify/quantify missing data. The Consultant will refer to the District's FLO-2D Storm Drain Development memo for guidance in filling in missing data and formatting the GIS data to be compatible with the FLO-2D modeling software. The Consultant will also coordinate with the City to ensure that the data will be compatible with the City databases so the City can have an up-to-date inventory of its drainage facilities.

5.7. Data Collection Documentation

The Consultant will compile the data collected and include a section in the Master Plan Report with a narrative description of the information collected, sources, maps and exhibits showing the locations of identified flooding issues, existing drainage facilities, rain, stream and stage gages and other exhibits as necessary.

Task 6. Preliminary Hydrologic and Hydraulic Modeling

The preliminary hydrologic and hydraulic (H&H) modeling will be performed to establish the modeling parameters to be used prior to incorporating the storm drain system into the model. The preliminary modeling will develop elevation, rainfall, infiltration, roughness coefficients (n-values), blockage due to buildings (ARFs), surface hydraulic structures and other datasets. The latest District approved version of the QGIS FLO-2D plug-in tool will be utilized to develop the model input data. The models will be run with the latest District approved version of the FLO-2D executable. The H&H modeling will be developed following the City and District standards.

For each submittal the Consultant will use the District's FLO-2D post-processing program for reviewing model results and fill out the District's FLO-2D Reviewer's Checklist. The Consultant will also provide the model input files, output files and the FLO-2D executable

6.1. Model Boundary and Grid Development

Due to the size of the study area, the FLO-2D model will be split into several smaller models (sub-domains). The external model boundary (total modeling area) will be developed using topography, aerial photography, storm drain, hydraulic structure, and other pertinent data.

The Consultant will develop sub-domain boundaries utilizing topography, aerial photography, storm drain and hydraulic structure data. The sub-domain boundaries will be evaluated to maintain reasonable model run times and to ensure proper flow exchange between models. A 15' FLO-2D grid size will be used for all models. The following sub-domains are anticipated as part of this project:

- Northeast model (north of Loop 202 from approximately the Loop 202 to the Consolidated Canal)
- Northwest model (north of Loop 202 from the Consolidated Canal to Loop 101)
- Southeast model (between Hunt Highway and Loop 202 from the EMF to the Consolidated Canal)
- Southwest model (between Hunt Highway and Loop 202 from the Consolidated Canal to the City Boundary)
- GRIC model (south of Hunt Highway from the EMF to approximately Gilbert Road)

6.2. Grid Elevations

The topographic data provided by the District in raster DEM format will be used to develop the grid elevations. Any modifications made to the grid elevations during the model development will be documented in the form of a shapefile with the original and adjusted elevations in the attribute table.

6.3. Rainfall Hyetograph Development

The Consultant will obtain NOAA Atlas 14 rainfall data in raster format from the District's website. The Consultant will develop rainfall files for the following storm events:

- 10-Year, 6-Hour
- 10-year, 24-Hour
- 100-Year, 6-Hour
- 100-Year, 24-Hour

Rainfall temporal distributions will be developed using the District's Hydrology Drainage Design Manual for Maricopa County.

6.4. Infiltration

The Consultant will model infiltration using the Green and Ampt (G&A) method. The Consultant will use available soil survey data and the SFC coverage provided by the District to develop the FLO-2D infiltration file. The Consultant will utilize District's FLO-2D Verification Report and the Hydrology Drainage Design Manual to develop the G&A infiltration parameters. For the preliminary H&H modeling the Consultant will use an initial limiting infiltration depth of 4 inches. The limiting infiltration depth will be adjusted as part of the detailed FLO-2D modeling in Task 7 as a calibration parameter.

6.5. Area Reduction Factors (ARFs)

The Consultant will use the building footprint polygons in the SFC provided by the District to assign ARFs to the FLO-2D model. The width reduction factors (WRF) will be set to zero per the District's FLO-2D Verification Report. Any adjustments made to ARFs will be documented.

6.6. Manning's n-values

The Consultant will develop the spatially varied Manning's n-values using the SFC provided by the District. N-values will be assigned to each surface feature based on the classifications provided in the District's FLO-2D Verification Report. Certain areas may require the adjustment of n-values, such as areas of deep ponding which can cause the model to decrease its computational timestep resulting in unreasonably long run times. Any changes to the n-values during model development will be documented in a shapefile with the original and adjusted n-values in the attribute table.

6.7. Hydraulic Structures

Culvert data will be developed utilizing the GIS and as-built data obtained from the City. Culverts will be modeled in FLO-2D using the generalized culvert routine. Grid elevations will be adjusted to match the GIS or as-built invert elevations when available. If invert elevations are not available, the topography provided by the District will be used to determine invert elevations. It may also be necessary to modify elevations upstream and/or downstream of culverts to maintain a positive drainage slope. Any adjustments to grid elevations will be documented in shapefile format with the original and adjusted elevations in the attribute

table. Additionally, short storm drains (approximately 1,250ft in length or less) will be modeled as hydraulic structures.

Commercial developments can have many small storm drain and culvert drainage systems. The intent of modeling the hydraulic structures is not to incorporate all possible hydraulic structures within the model, but to develop a model that adequately represents the drainage patterns of the City. If the developments underground site drainage system does not impact the over-all drainage system being modeled, those site improvements will not be added to the FLO-2D model.

6.8. Walls

The Consultant will incorporate hydraulically significant walls into the FLO-2D models through the use of the LEVEE.DAT file. The task will include the development of the walls dataset, submittal of the dataset to the District for review, revising the dataset for any review comments, incorporating the dataset into each FLO-2D model, review of model results and revisions to the walls dataset to resolve any data conflicts, model warnings or errors.

6.9. Floodplain Cross-Sections

The Consultant will incorporate floodplain cross sections into the FLO-2D model at locations of interest for extracting hydrographs, peak flows, volumes, and water surface elevations for understanding and presentation of model results

6.10. FLO-2D Model Numerical Stability

The Consultant will review model results such as hydrographs, velocities, and model error and warning files to improve model stability.

6.11. FLO-2D Model QA/QC

The Consultant will perform FLO-2D modeling QA/QC prior to submitting the FLO-2D analysis to the City and the District. QA/QC will be conducted based on District standards and guidance. The District has developed a FLO-2D Reviewer's Checklist that will be used to assist with QA/QC. This Checklist will serve as the basis for the QA/QC of the FLO-2D modeling.

The Consultant will perform reviews of the model input data and modeling results prior to submittals to the City and the District. The Consultant will utilize the District's post-processing program, the FLO-2D QGIS Debug tool, and the District's FLO-2D Reviewer's Checklist as a part of the QA/QC process. The Consultant will also perform a general review to ensure reasonableness of model results and review hydrographs, velocities, Froude numbers, and grid elevations for potential causes of any model instability.

6.12. FLO-2D Model Submittals

The Consultant will submit model input and output files, post-processed model results, FLO-2D Reviewer's Checklists and relevant data used to generate the FLO-2D model input files (e.g., soils data, SFC, etc.). It is anticipated there will also be preliminary submittals to the District prior to incorporating certain datasets into the FLO-2D models, including the SFC, hydraulic structures, and walls datasets. The Consultant will revise the dataset for District review comments prior to incorporating the data into the FLO-2D models. There will be one (1) model submittal as part of this task with the base modeling, hydraulic structures and infiltration incorporated.

Task 7. Detailed Hydrologic and Hydraulic Modeling

7.1. Storm Drain Model Development

The storm drain modeling will be developed using the SWMM component for FLO-2D. It is anticipated that storm drains longer than 1,250ft in length will be modeled using this SWMM component. Smaller storm drains, or storm drain networks that can be effectively modeled as a hydraulic structure directly in FLO-2D will be modeled accordingly (see Task 6.7). The intent of the SWMM storm drain modeling is to model critical, large storm drain networks within the City.

7.1a Missing Data

The City will provide the Consultant with storm drain GIS data which will be used as the basis of developing the storm drain model. This GIS data may not have all the data required for integration into the FLO-2D model and this data will be supplemented utilizing the District's FLO-2D Storm Drain Development memo. The sources for supplementing missing data will include, but not limited to:

- As-built drawings
- Field visits
- Aerial photography
- Google Street View
- Maintenance personnel knowledge
- LiDAR data

7.1b Storm Drain Data Evaluation

It is anticipated that the Consultant will model storm drain networks that are significant to the hydraulics of the system, and that are at a minimum 1,250ft in length. If necessary, shorter storm drain networks will be modeled using the generalized culvert routine.

The Consultant will review the storm drain data for additional required data or conflicting components which will include using the QGIS FLO-2D Plug-in Debug tool. This evaluation may include, but not limited to:

- Checking if two inlets are assigned to one FLO-2D grid cell
- Ensuring proper connectivity of nodes and conduits
- Identifying pump locations (if any) and assigning appropriate pump curves or assuming an ideal pump
- Assigning appropriate surcharge depths for manholes based on the weight of the manhole covers
- Identifying outfalls with flap gates
- Identifying outfalls to channels and assign outfall to channel left bank
- Identifying conflicts with other datasets such as walls and buildings

7.2. Field Reconnaissance

The Consultant will perform two (2) site visits as part of the detailed modeling to review site conditions and collect photographs of existing features including storm drain inlets, culverts, channels, basins, and any ancillary drainage features that will impact drainage patterns or volumes. It is anticipated that these site

visits will encompass select locations within the watershed and will not be a full watershed site visit. All photographs collected will be geo-referenced. Areas inaccessible to the project team during the field reconnaissance will be reviewed using aerial photographs and topographic data.

7.3. Storm Drain Modeling

Once the storm drain missing data and conflicts have been resolved, the storm drain data will be integrated into the FLO-2D model. As models are run and storm drain results are reviewed, additional model adjustments may be necessary to ensure the storm drain model is functioning reasonably. Numerical instabilities, volume conservation errors or other issues may be found and need to be resolved.

7.4. Model Calibration

The Consultant will calibrate the FLO-2D model runoff volumes to a single basin HEC-1 model for each sub-domain. The limiting infiltration depth will be adjusted such that the runoff volume from FLO-2D closely matches the HEC-1 model runoff volumes. The HEC-1 models will simulate the same rainfall as the FLO-2D sub-domains by utilizing the average rainfall depth across the FLO-2D model sub-domain and the same temporal distribution. The HEC-1 models infiltration parameters will be set as the average infiltration parameters across the FLO-2D model sub-domains. The calibration will be performed for the 10-year and 100-year frequencies and the 6-hour and 24-hour durations (4 separate calibrations per sub-domain).

7.5. Model Validation

The Consultant will validate the FLO-2D model results utilizing flooding photos, maintenance records, flooding complaints and other anecdotal evidence from past storm events to verify the flow patterns from the model are reasonable. Comparisons of the FLO-2D model runoff will also be made to USGS regression equations as an additional check for reasonableness where appropriate.

7.6. FLO-2D Model Numerical Stability

The Consultant will review model results such as hydrographs, velocities, and model error and warning files to improve model stability.

7.7. FLO-2D Model QA/QC

The Consultant will perform FLO-2D modeling QA/QC prior to submitting the FLO-2D analysis to the City and the District. QA/QC will be conducted based on District standards and guidance. The District has developed a FLO-2D Reviewer's Checklist that will be used to assist with QA/QC. This Checklist will serve as the basis for the QA/QC of the FLO-2D modeling.

The Consultant will perform reviews of the model input data and modeling results prior to submittals to the City and the District. The Consultant will utilize the District's post-processing program, the QGIS FLO-2D Debug tool and the District's FLO-2D Reviewer's Checklist as a part of the QA/QC process. The Consultant will also perform a general review to ensure reasonableness of model results and review hydrographs, velocities, Froude numbers, and grid elevations for potential causes of any model instability.

7.8. FLO-2D Model Submittals

The Consultant will submit model input and output files, post-processed model results, FLO-2D Reviewer's Checklists, and relevant data used to generate the FLO-2D model input files (e.g., soils data, SFC, etc.). It is anticipated there will also be preliminary submittals to the District prior to incorporating certain datasets into the FLO-2D models, including the SFC, hydraulic structures, and walls datasets. The Consultant will

revise the dataset for District review comments prior to incorporating the data into the FLO-2D models. There will be three model submittals as part of this task:

- 1st submittal will include preliminary modeling submittal plus storm drains and 1D channels,
- 2nd submittal will be a calibration model submittal,
- 3rd submittal will be the final FLO-2D modeling submittal.

All final FLO-2D models will be provided to the City on a hard drive for City use.

7.9. Tempe ADMS FLO-2D Modeling Update

The Consultant will update the existing 2016 Tempe ADMS FLO-2D modeling to be consistent with other FLO-2D models developed for this study. The Tempe ADMS FLO-2D modeling used three sub-domains to model the Tempe ADMS area. The only models that will be updated will be sub-domains B and C since these two domains contain portions of the City of Chandler. The updates will focus on those portions of sub-domains B and C that fall within the City of Chandler, except updates that are required to ensure compatibility with the FLO-2D executable used in this study or adding an extension of a storm drain that extends outside the City of Chandler. An example of an update that may be needed is the addition of certain manholes that may flood since this inlet type was not available at the time of the Tempe ADMS.

7.10. Sediment Transport Analysis

Flooding-related sedimentation and debris accumulation have historically been problematic along Hunt Highway at the southern boundary of the City of Chandler. The Consultant will conduct sedimentation transport analyses to identify the areas potentially impacted by sedimentation and quantify sedimentation rates. The Consultant will also perform sediment transport analysis computations to support the alternative assessments. These analyses will be based on the FLO-2D results and may include the use of the sediment transport module in FLO-2D, calculations based on the FLO-2D results, or sediment yield analyses based on the MUSLE and Zeller-Fullerton methodologies as outlined in the District's hydraulics manual.

7.10a Sediment Sample Analysis

The Consultant will collect up to 6 sediment samples for standard mechanical sieve analysis. The results will be used to support the sediment transport analyses. The City will provide coordination with the Gila River Indian Community to gain access for the soil sampling.

7.11. Existing Flood Hazard Assessment

The Consultant will utilize the results of the modeling to determine locations of high flood hazards. This will include:

- Building inundation analysis that will identify structures impacted by depths greater than 6 inches,
- A depth times velocity analysis to identify locations of high hazard.

7.12. Existing Condition Hydrology and Hydraulics Report

The existing condition FLO-2D modeling methodologies and results will be documented in a Hydrology and Hydraulics Report which will follow the Arizona Department of Water Resources State Standard 1 format. A draft version of the report will be submitted to the City and District for review. All comments will be resolved and/or incorporated for the final H&H report. This report will be integrated into the final Master Plan Report.

Task 8. Existing Storm Drain System Assessment

The Consultant will develop a GIS database of the City's existing storm drain system with information about the condition of the storm drain pipes and if they are being over or under-utilized for conveying stormwater runoff based on the results from the FLO-2D modeling.

8.1. Storm Drain Capacity Assessment

The Consultant will assess the capacity of the storm drain system based on the results from the FLO-2D modeling, with an emphasis on the downtown area. Storm drain pipes will be assessed to determine if the stormwater runoff in the pipe is less than or greater than their estimated capacity, as well as the corresponding street flow capacity. This assessment will provide data for the alternative analysis of potential constraints in the existing system, and opportunities to better utilize the existing storm drain system to mitigate flooding within the City.

8.2. Storm Drain Integrity Assessment

The Consultant will collect existing information from the City's storm drain GIS database for the location, material, and age of pipe. Using this data and information from the City's maintenance staff, the Consultant will prioritize pipes for visual inspection utilizing closed-circuit television. Based on the visual inspection, the Consultant will provide recommendations for rehabilitation, replacement, or further investigations. The exact limits of the visual inspection are unknown. An allowance is included for this field work under Task 13.6.

8.3. Storm Drain Assessment Documentation

The Consultant will prepare the storm drain assessment documentation detailing the results of the capacity and integrity assessments. This will be integrated into the final Master Plan Report.

Task 9. Flood Mitigation Study

The purpose of the flood mitigation study is to analyze the flood hazards and to generate potential alternative solutions for these flood hazards. This task will not provide a design level analysis but will evaluate alternatives and alternative elements to determine the feasibility of each and to provide a high-level analysis of them.

9.1. Alternative Formulation

9.1a Seed Ideas & Brainstorming Session

The Consultant will develop seed ideas based on the data collection and FLO-2D modeling results. These concepts will be presented to the project team for discussion during a brainstorming session where additional concepts will be discussed.

9.1b Alternative Brainstorming Idea Consolidation

Following the brainstorming session, the Consultant will consolidate and organize the brainstorming ideas and concepts into alternative elements that will be used to generate the various alternatives.

9.1c Initial Brainstorming Idea Assessment

The Consultant will analyze the consolidated ideas for feasibility. Any ideas found to be infeasible or impractical will be eliminated from consideration for potential alternatives. This assessment will include simple methods such as normal depth calculations, volume estimates, etc. As part of the

idea assessment, the Consultant will look at high-level constraints such as major utilities, planned development and more.

9.1d *Preliminary Mitigation Solutions and Sizing*

Two mitigation solutions will be devised for up to 16 drainage issue locations selected for further consideration. The concepts at this point will be high-level planning concepts with minimal hydraulic analysis. The Consultant will initially size potential infrastructure solutions using normal depth or simplified methods for these drainage issue locations. Graphics of the preliminary solutions will be high level plan view maps with minimal detail.

9.2. **Alternatives Analysis**

For the remaining viable mitigation solutions, the Consultant will perform an alternatives analysis.

9.2a *Evaluation Criteria*

The Consultant will prepare draft evaluation criteria to be utilized to rate the various alternatives. Potential criteria components include cost, constructability, phasing ability, permitting requirements, operations & maintenance costs, sedimentation issues, liability & insurance implications, multi-use opportunities, aesthetics, utility impacts, availability of right-of-way, and required easements. The selection criteria will be presented to the City for comment.

9.2b *2-D Analysis*

The Consultant will model 2 mitigation solutions for the 16 drainage issue locations in the FLO-2D models to verify that the solutions function as intended. This task may include, but not limited to:

- Adding new storm drain pipes and inlets into the FLO-2D models
- Modifying model elevations to incorporate proposed basins
- Adding channelization into the models either using the 1-D channel option in FLO-2D or modifying grid elevations to represent the proposed channel

The intent is to generate up to 2 FLO-2D alternative models for each of the 4 large sub-domains with various drainage issue locations modeled in each alternative model.

9.2c *Alternative Evaluation Meeting*

Using the evaluation criteria and the modeling results, the various mitigation solutions will be evaluated. The Consultant will generate the initial evaluation of the alternatives and then the team will meet to discuss and modify as necessary. The highest-ranking solutions in each area will be recommended.

9.2d *Recommended Alternative Modeling*

It is anticipated that elements from the various alternatives will be part of the final recommended alternative. These recommended alternative elements will be combined into a final recommended FLO-2D model for each sub-domain.

9.3. **Field Reconnaissance**

The Consultant will perform two (2) site visits as part of the mitigation study to review site conditions and feasibility of various alternatives.

9.4. 15% Concept Plans

For the final recommended alternatives, the Consultant will develop 15% concept plans for the recommended solutions identified in the alternatives analysis. The concept plans will be plan view with major identified utilities.

9.5. Opinion of Probable Cost

The Consultant will provide an opinion of probable cost for the 2 mitigation solutions of each of the 16 drainage issue locations.

9.6. Prioritization Plan

With the final recommended alternative solutions, the Consultant will generate a prioritization plan establishing how critical the issue being addressed is. This will also account for anticipated development and known City projects. As part of the prioritization plan the Consultant will identify potential funding sources (partially funded by developer, etc) for the various projects.

Task 10. Master Plan Report

A final Master Plan Report will document the various aspects of the project. The Hydrology and Hydraulics Report and the Stormwater Management Master Plan (SWMP) will be integrated as appendices in this report. A draft version of the report will be presented to the City. All comments will be resolved and/or incorporated and a final report will be generated. It is anticipated that the report will contain the following sections:

- Executive Summary
- Data Collection
- Existing Conditions Hydrology and Hydraulics
- Storm Drain Assessment
- Alternatives Analysis
- Future Project Recommendations
- Public Involvement
- Stormwater Management Plan

Task 11. Public Involvement

11.1. Past Flood Survey

The Consultant will collect anecdotal data from the public and other stakeholders to identify known flooding issues within the study area. The Consultant will develop an online Survey123 for public dissemination by the City through the City's social media accounts.

11.2. Project Fact Sheet

The Consultant will generate project fact sheets throughout the project. It is anticipated that there will be three (3) project fact sheets generated for the project. These project fact sheets will be available in pdf format to stakeholders, interested members of the public, and the City's public outreach team.

11.3. Public Meetings

It is anticipated that there will be three (3) virtual public meetings as part of this study and that there will be one (1) meeting with the City to prepare for each of the public meetings. The Consultant will provide the following items at each public meeting:

- A PowerPoint presentation
- A project fact sheet (see Task 11.2)
- Content for a press release regarding the public meeting and the study
- Comment form and/or online survey
- Draft public meeting summary

The Consultant will also be responsible for generating a synopsis of the public comments at the meeting and documenting the public meeting. The City will send out public meeting notifications and will be responsible for disseminating any materials through electronic means. These public meetings will be virtual.

11.4. Public Involvement Summary

At the conclusion of the project, the Consultant will generate a public involvement summary that documents and summarizes the various public involvement activities undertaken throughout the project. This will be incorporated into the final Master Plan Report.

Task 12. Stormwater Management Plan and MS4 Permitting

The Consultant will review the existing Stormwater Management Plan and update as necessary for compliance to the current MS4 requirements. See the accompanying MS4 Scope for additional details.

Task 13. Allowances

Allowance tasks are optional and will be time and material tasks and require written authorization from the City prior to the initiation of work.

13.1. Additional Meetings and Coordination

See Phase 2.

13.2. Reimbursable Expenses

This task is for various reimbursable items that may be required throughout the course of the project.

13.3. Additional Field Survey

See Phase 2.

13.4. Field Reconnaissance

See Phase 2.

13.5. Not Used

Not Used.

13.6. Closed-Circuit Television (CCTV) of Existing Storm Drains

This allowance will be used for conducting a CCTV investigation of the existing storm drains. The exact lengths and locations of the field investigation are to be determined, although it is anticipated that it will be located in the downtown area. For purposes of this proposal, a unit price of \$1.50 / linear foot is being utilized to estimate costs. Traffic control and pipe cleaning will be additional costs.

13.7. Not Used

Not Used.

13.8. Review of Existing City Manual

See Phase 2.

13.9. MS4 Allowance Tasks

See Phase 2.

13.10. Additional Services

This task is for any additional services that may be required throughout the course of the project that are not specified in this scope of work.

Horrocks Engineers (Consultant) Scope of Work and Fee Proposal: Phase 1

Task 4 – Project Management and Meetings

The Consultant will participate in the administration of this project and the following meetings throughout the life of this project. The total fee estimated for this task is \$20,532.00.

4.1 Coordination and administration

The coordination and administration of this project includes, but is not limited to, regular communication, monthly invoicing, and allocation of resources.

4.2 Project kick-off- meeting

One (1) virtual project kick-off meeting will occur develop logistics, timelines, milestones, and schedule.

4.3 Coordination Meetings

Ten (10) coordination meetings are anticipated to facilitate the development of H&H work products, exchange ideas, discuss issues, maintain consistency, etc.

4.4 Stakeholder Coordination

Eight (8) stakeholder meetings are anticipated over the life of this project and may include developers, GRIC, and others.

Task 6 – Preliminary Hydrologic and Hydraulic Modeling

Consultant will develop the preliminary existing hydrologic and hydraulic (H&H) for the northwest and northeast models. These models will be based upon the requirements of the District's Hydrology Drainage Design Manual for Maricopa County to establish the modeling parameters. The Consultant will review elevation, rainfall, infiltration, roughness coefficients (n -values), blockage due to buildings (ARFs), surface hydraulic structures, and other datasets utilizing the latest District approved version of the QGIS FLO-2D plug-in tool. Consultant will run the preliminary H&H models with the latest District approved version of the FLO-2D executable program. The preliminary (existing) H&H modeling will be developed following the City and District standards. Any adjustments made to the data files obtained from Entellus will be documented, communicated, and noted within the data shapefiles.

For each submittal, the Consultant will use the District's latest FLO-2D executable post-processing program for reviewing model results and fill out the District's FLO-2D Reviewer's Checklist. The Consultant will also provide the preliminary H&H, model input files, output files and the FLO-2D executable program with each submittal.

These preliminary models assume reasonable optimal efficiency, and will include culvert structures, but not storm drain, channels, or other hydraulic structures, and will not be calibrated or validated. Addressing comments is included in each of the tasks. The total fee estimated for this task is \$64,256.00

6.1 Model Boundary and Grid Development

One boundary each will be created for the northwest and northeast models, totaling just over 40 square miles. The boundaries will be provided to the Consultant by Entellus. Entellus will also provide the Consultant with the topography, aerial photography, hydraulic structures, and other pertinent data described herein.

The Consultant will review the data provided for potential errors, conflicts, or missing data, and will notify Entellus of any issues, once the review is

completed. Consultant will process the data as needed for use in QGIS FLO-2D plug-in tool, using a 15-foot grid size. Consultant will apply the District's QC on the data received.

6.2 Grid Elevations

The topographic data provided by Entellus in raster DEM format will be used by the Consultant to develop the grid elevations. Any modifications made by the Consultant to the grid elevations during the process of model development will be documented in the form of a shapefile with the original and adjusted elevations in the attribute table. Such elevations include, but are not limited to, upstream and downstream of structures and roadways.

6.3 Rainfall Hyetograph Development

Entellus will provide the NOAA Atlas 14 rainfall data in raster format from the District's website. The Consultant will develop rainfall files for the following storm events:

- 10-Year, 6-Hour
- 10-year, 24-Hour
- 100-Year, 6-Hour
- 100-Year, 24-Hour

The Consultant will develop rainfall temporal distributions using the District's Hydrology Drainage Design Manual for Maricopa County.

6.4 Infiltration

The Consultant will model infiltration using the Green and Ampt (G&A) method. The Consultant will use available soil survey data and the Surface Feature Characteristics (SFC) coverage provided by Entellus to develop the FLO-2D infiltration file. The Consultant will utilize District's FLO-2D Verification Report and the Hydrology Drainage Design Manual to develop the G&A infiltration parameters. For the preliminary H&H modeling, the Consultant will use an initial limiting infiltration depth of 4 inches. The limiting infiltration depth will be adjusted in the detailed FLO-2D modeling as a calibration parameter.

6.5 Area Reduction Factors (ARFs)

The Consultant will use the building footprint polygons in the Surface Feature Characteristics (SFC) provided by Entellus to assign ARFs to the FLO-2D model. The width reduction factors (WRF) will be set to zero per the District's FLO-2D Verification Report. Any adjustments made to ARFs will be documented.

6.6 Manning's n -values

The Consultant will develop the spatially varied Manning's n -values using the SFC provided by Entellus. N -values will be assigned to each surface feature based on the classifications provided in the District's FLO-2D Verification Report. Certain areas may require the adjustment of n -values to facilitate model stability. Any changes to the n -values during model development will be documented in a

shapefile with the original and adjusted n -values in the attribute table. N -values will be coordinated with Entellus to ensure consistency between models.

6.7 Hydraulic Structures

The number of hydraulic structures within the model boundary, not including the storm drain, is currently unknown. This task assumes 5 channels and 15 culverts. Culvert data will be developed utilizing the GIS and as-built data provided by Entellus. Culverts will be modeled in FLO-2D using the generalized culvert routine option or using rating tables developed in HY-8. Grid elevations will be adjusted to match the GIS or as-built invert elevations when available. If invert elevations are not available, the topography provided by Entellus will be used to determine invert elevations. It may also be necessary to modify elevations upstream and/or downstream of culverts to maintain a positive drainage slope. Any adjustments to grid elevations will be documented in shapefile format with the original and adjusted elevations in the attribute table, and will be coordinated with Entellus.

6.8 Walls

The Consultant will incorporate hydraulically significant walls into the FLO-2D models using the LEVEE.DAT file. The task will include the development of the walls dataset, submittal of the dataset to the District for review, revising the dataset for any review comments, incorporating the dataset into each FLO-2D model, review of model results and revisions to the walls dataset to resolve any data conflicts, model warnings or errors.

6.9 Floodplain Cross-Sections

The Consultant will incorporate floodplain cross sections into the FLO-2D model at locations of interest for extracting hydrographs, peak flows, volumes and water surface elevations for understanding and presentation of model results.

6.10 FLO-2D Model Numerical Stability

The Consultant will review model results such as hydrographs, velocities and model error and warning files and adjust the model or data in collaboration with Entellus to improve model stability.

6.11 FLO-2D Model QA/QC

The Consultant will perform reviews of the preliminary H&H model input data and modeling results prior to submittals to Entellus. The Consultant will utilize the District's post-processing program, the FLO-2D QGIS Debug tool and the District's FLO-2D Reviewer's Checklist as a part of the QA/QC process. The Consultant will also perform a general review to ensure reasonableness of model results and review hydrographs, velocities, Froude numbers and grid elevations for potential causes of any model instability.

6.12 FLO-2D Model Submittals

The Consultant will submit to Entellus the eight (8) preliminary model input and output files, post-processed model results, FLO-2D Reviewer's Checklists and relevant data used to generate the FLO-2D model input files (e.g. soils data, SFC,

etc.). It is anticipated there will also be preliminary or interim prior to the preliminary model submittals to Entellus prior to incorporating certain datasets into the FLO-2D models, including the SFC, hydraulic structures and walls datasets. The Consultant will revise the dataset for Entellus/District review comments prior to incorporating the data into the preliminary FLO-2D models.

Task 7 – Detailed Hydrologic and Hydraulic Modeling

The detailed H&H will be based on the approved preliminary model. Consultant will use the District's latest FLO-2D executable post-processing program for reviewing model results and fill out the District's FLO-2D Reviewer's Checklist. The Consultant will also provide the preliminary H&H, model input files, output files and the FLO-2D executable program with each submittal. Any adjustments made to the data files obtained from Entellus will be documented, communicated, and noted within the data shapefiles. The total fee estimated for this task is \$40,382.

7.1 Storm Drain Model Development

Consultant will verify the storm drain data obtained from Entellus is required to be modeled, based on the results from the surface model. Some storm drain lines may be deemed insignificant and will not be modeled. This information will be documented and communicated to Entellus.

7.1a Missing Data

Consultant will communicate any missing data required to Entellus and will be documented.

7.1b Storm Drain Data Evaluation

It is anticipated that the Consultant will model storm drain networks that are significant to the hydraulics of the system, and that are at a minimum 1,250ft in length. If necessary, shorter storm drain networks will be modeled using the generalized culvert routine.

The Consultant will review the storm drain data for additional required data or conflicting components which will include using the QGIS FLO-2D Plug-in Debug tool. This evaluation may include, but not limited to:

- Checking if two inlets are assigned to one FLO-2D grid cell
- Ensuring proper connectivity of nodes and conduits
- Identifying pump locations (if any) and assigning appropriate pump curves or assuming an ideal pump
- Assigning appropriate surcharge depths for manholes based on the weight of the manhole covers
- Identifying outfalls with flap gates
- Identifying outfalls to channels and assign outfall to channel left bank
- Identifying conflicts with other datasets such as walls and buildings

7.2 Field Reconnaissance

The Consultant will perform one (1) site visit as part of the detailed modeling to review site conditions and collect photographs of existing features including storm drain inlets, culverts, channels, basins, and any ancillary drainage features that will impact drainage patterns or volumes. It is anticipated that these site visits will encompass select locations within the watershed and will not be a full watershed site visit. All photographs collected will be geo-referenced. Areas inaccessible to the project team during the field reconnaissance will be reviewed using aerial photographs and topographic data.

7.3 Storm Drain Modeling

Once the missing data and conflicts have been resolved, the storm drain data will be integrated into the FLO-2D model. As models are run and storm drain results are reviewed, additional model adjustments may be necessary to ensure the storm drain model is functioning reasonably. Numerical instabilities, volume conservation errors or other issues may be found and need to be resolved.

7.4 Model Calibration

The Consultant will calibrate the FLO-2D model runoff volumes to a single basin HEC-1 model for each sub-domain. The limiting infiltration depth will be adjusted such that the runoff volume from FLO-2D closely matches the HEC-1 model runoff volumes. The HEC-1 models will simulate the same rainfall as the FLO-2D sub-domains by utilizing the average rainfall depth across the FLO-2D model sub-domain and the same temporal distribution. The HEC-1 models infiltration parameters will be set as the average infiltration parameters across the FLO-2D model sub-domains. The calibration will be performed for the 10-year and 100-year frequencies and the 6-hour and 24-hour durations (4 separate calibrations per sub-domain).

7.5 Model Validation

The Consultant will validate the FLO-2D model results utilizing flooding photos, maintenance records, flooding complaints and other anecdotal evidence from past storm events to verify the flow patterns from the model are reasonable. Comparisons of the FLO-2D model runoff will also be made to USGS regression equations as an additional check for reasonableness where appropriate.

7.6 FLO-2D Model Numerical Stability

The Consultant will review model results such as hydrographs, velocities, and model error and warning files to improve model stability.

7.7 FLO-2D Model QA/QC

The Consultant will perform FLO-2D modeling QA/QC prior to submitting the FLO-2D analysis to Entellus. QA/QC will be conducted based on District standards and guidance. The District has developed a FLO-2D Reviewer's Checklist that will be

used to assist with QA/QC. This Checklist will serve as the basis for the QA/QC of the FLO-2D modeling.

The Consultant will perform reviews of the model input data and modeling results prior to submittals to the City and the District. The Consultant will utilize the District's post-processing program, the QGIS FLO-2D Debug tool and the District's FLO-2D Reviewer's Checklist as a part of the QA/QC process. The Consultant will also perform a general review to ensure reasonableness of model results and review hydrographs, velocities, Froude numbers, and grid elevations for potential causes of any model instability.

7.8 FLO-2D Model Submittals

The Consultant will submit model input and output files, post-processed model results, FLO-2D Reviewer's Checklists, and relevant data used to generate the FLO-2D model input files (e.g., soils data, SFC, etc.). It is anticipated there will also be preliminary submittals to the District prior to incorporating certain datasets into the FLO-2D models, including the SFC, hydraulic structures, and walls datasets. The Consultant will revise the dataset for District review comments prior to incorporating the data into the FLO-2D models. There will be three model submittals as part of this task:

- 1st submittal will include preliminary modeling submittal plus culverts.
- 2nd submittal will be based on the final preliminary model plus the storm drain and channels, and the model will be calibrated.
- 3rd submittal will be the final FLO-2D modeling submittal with validation.

All final FLO-2D models will be provided to the City on a hard drive for City use.

7.9 Tempe ADMS FLO-2D Modeling Update

This task is not required.

7.10 Sediment Transport Analysis

This task is not required.

7.11 Existing Flood Hazard Assessment

The Consultant will utilize the results of the modeling to determine locations of high flood hazards. This will include:

- Building inundation analysis that will identify structures impacted by depths greater than 6 inches,
- A depth times velocity analysis to identify locations of high hazard.

7.12 Existing Condition Hydrology and Hydraulics Report

The existing condition FLO-2D modeling methodologies and results will be documented in a Hydrology and Hydraulics Report which will follow the Arizona Department of Water Resources State Standard 1 format, the Consultant will

provide the necessary text as outlined by Entellus to be integrated into the final Master Plan Report.

Task 8 – Existing Storm Drain System Assessment

The Consultant will develop a GIS database of the City's existing storm drain system with information about the condition of the storm drain pipes and if they are being over or under-utilized for conveying stormwater runoff based on the results from the FLO-2D modeling. The total fee estimated for this task is \$16,500.00.

8.1 Storm Drain Capacity Assessment

The Consultant will assess the capacity of the storm drain system based on the results from the FLO-2D modeling, with an emphasis on the downtown area. Storm drain pipes will be assessed to determine if the stormwater runoff in the pipe is less than or greater than their estimated capacity, as well as the corresponding street flow capacity. This assessment will provide data for the alternative analysis of potential constraints in the existing system, and opportunities to better utilize the existing storm drain system to mitigate flooding within the City.

8.2 Storm Drain Integrity Assessment

Entellus will provide this assessment, if needed, to the Consultant.

8.3 Storm Drain Assessment Documentation

The Consultant will prepare the storm drain assessment documentation detailing the results of the capacity and integrity assessments. Entellus will integrate this information into the final Master Plan Report.

Task 9 – Flood Mitigation Study

The purpose of the flood mitigation study is to analyze the flood hazards and to generate potential alternative solutions for these flood hazards. This task will not provide a design level analysis but will evaluate alternatives and alternative elements to determine the feasibility of each and to provide a high-level analysis of them. The total fee estimated for this task is \$26,110.00.

9.1 Alternative Formulation

This task is not required.

9.1a Seed Ideas & Brainstorming Session

The Consultant will develop seed ideas based on the data collection and FLO-2D modeling results. These concepts will be presented to the project team for discussion during a brainstorming session where additional concepts will be presented.

9.1b-9.1c Alternative Brainstorming Idea Consolidation and Assessment

Entellus will perform these tasks.

9.1d Preliminary Mitigation Solutions and Sizing

Two mitigation solutions will be devised for up to 8 drainage issue locations selected for further consideration. The concepts at this point will be high-level planning concepts with minimal hydraulic analysis. The Consultant will initially size potential infrastructure solutions using normal depth or simplified methods for these drainage issue locations. Graphics of the preliminary solutions will be high level plan view maps with minimal detail.

9.2 Alternatives Analysis

For the remaining viable mitigation solutions, the Consultant will perform an alternatives analysis.

9.2a Evaluation Criteria

Entellus will determine the criteria used to evaluate the alternatives and provide the Consultant any required information.

9.2b 2-D Analysis

The Consultant will model 2 mitigation solutions for the 8 drainage issue locations in the FLO-2D models to verify that the solutions function as intended. This task may include, but not limited to:

- Adding new storm drain pipes and inlets into the FLO-2D models
- Modifying model elevations to incorporate proposed basins
- Adding channelization into the models either using the 1-D channel option in FLO-2D or modifying grid elevations to represent the proposed channel

The intent is to generate up to 2 FLO-2D alternative models for each of the 2 large sub-domains with various drainage issue locations modeled in each alternative model.

9.2c Alternative Evaluation Meeting

The Consultant will meet with the team to discuss and modify as necessary. The highest-ranking solutions in each area will be recommended.

9.2d Recommended Alternative Modeling

The recommended alternative elements will be combined into a final recommended FLO-2D model for each sub-domain.

9.3 Field Reconnaissance

The Consultant will perform two (2) site visits as part of the mitigation study to review site conditions and feasibility of various alternatives.

Task 10 – Master Plan Report

A final Master Plan Report will document the various aspects of the project. The Hydrology and Hydraulics Report and the Stormwater Management Master Plan (SWMMP) will be integrated

as appendices in this report. The Consultant has included the fee estimate of this task within Tasks 7, 8 and 9.

Task 11 – Public Involvement

It is anticipated there will be three public meeting, virtual or in-person. The total fee estimated for this task is \$1,044.00.

11.1 Past Flood Survey

The Consultant may assist Entellus on this task as a contingency item.

11.2 Project Fact Sheet

The Consultant may assist Entellus on this task as a contingency item.

11.3 Public Meetings

The Consultant will attend up to three (3) public meetings, and will provide Entellus any electronic data required for the meeting.

Task 12 – Stormwater Management Plan and MS4 Permitting

Not Included.

November 8, 2021

Mr. Ryan Andrew Sauer, PE
Entellus, Inc.
3033 N. 44th St, Ste 250
Phoenix, AZ 85018

RE: MS4 Permit Update

**City of Chandler Stormwater Management Master Plan – Phase 1
(City of Chandler Project No. ST2113.101)**

Dear Mr. Sauer,

Thank you for giving JE Fuller the opportunity to assist Entellus on the City of Chandler Stormwater Management Master Plan Project. As part of this effort, one goal is to update the existing Stormwater Management Program (Program) such that will comply with the ADEQ MS4 Permit 2021 (Permit). Below is a scope of work and project schedule, explaining the tasks involved and when the work can be completed.

SCOPE OF WORK

TASK 1 STORMWATER MANAGEMENT PLAN REVIEW

JE Fuller will complete a thorough review of the City of Chandler's Stormwater Management Program comparing the implemented plan with the updated requirements presented in 2021 MS4 Permit. The comparison will catalogue the deficiencies and will be used for the purpose of updating the Program. The Program review will also identify any other missing elements that were not included in the Program.

TASK 2 PROJECT KICK OFF AND DISCOVERY CHARRETTE

JE Fuller, in conjunction with Entellus and the City of Chandler, will host a meeting with City of Chandler staff to discuss the findings from Task 1 and to document shortcomings in the plan or difficulties that were uncovered during the previous implementation period. The meeting will involve the vested departments with the intent of the representatives attending serving as potential points of contact. This meeting will serve to shape the future Program such that it complies with the Permit and can be easily implemented.

TASK 3 STORM WATER MANAGEMENT PLAN

Using the information from Task 1 and Task 2. JE Fuller will update City of Chandler's Storm Water Management Program. The Program will meet the requirements set forth in the Permit. It will be designed such that the best management practices (BMPs), measurable goals and target dates presented in the Program can be implemented by City of Chandler staff using existing fiscal and man-power resources. To the extent possible, the BMP's will align with services currently being undertaken by the various departments within City of Chandler as being able to utilize on-going efforts is the most efficient and economical way to implement the Program. Draft and Final versions of the Plan will be created with the intent of the Final Version being adopted by City of Chandler's Mayor and Council. While the Program is a revision, it will need to be approved by ADEQ prior to the issuance of MS4 General Permit for City of Chandler.

FEE SCHEDULE

The proposed cost for the project will be initial effort Task 1 - Task 3 can be billed at a time-and-materials basis with a not-to-exceed amount of nineteen-thousand, three-hundred, forty-five and dollars and six cents (\$19,345.06).

PROJECT SCHEDULE

While it is understood that a Purchase Order may be necessary prior to starting the project, the current completion deadline set forth by ADEQ is September 30, 2022, for completion adoption and approval of updated program. Additional milestones and timelines for submittal will be set during the Task 2.

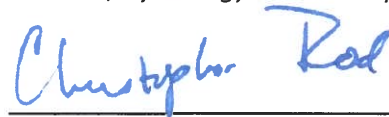
EXCLUSIONS

- 1) Preparation and submittal of the Notice of Intent
- 2) Storm Sewer System Inventorying and Mapping
- 3) As-built survey of MS4 Inlets and Outlets
- 4) Construction Site Stormwater Runoff Control Program
- 5) Installation of Recommended BMPs
- 6) Record keeping and monitoring of recordable measures
- 7) Coordination with outside training vendors
- 8) Monitoring and updating City of Chandler social media and website
- 9) Installation of Storm Water Quality Monitoring Equipment
- 10) ADEQ Multisector General Permit Compliance (MSGP) Municipal Facilities
- 11) Discharge Monitoring Report Preparation and Submittal
- 12) Water Quality Testing
- 13) Continuous Education & Annual Training
- 14) Bulk Mailing
- 15) Bulk Printing
- 16) Items not exclusively mentioned in the Scope of Work

Once again, thank you for providing JE Fuller Hydrology and Geomorphology the opportunity to be a member of your team. If you have questions or concerns regarding the proposal, feel free to contact me at (520) 623-3112 or via my email chris@jefuller.com.

Sincerely,

JE Fuller/Hydrology & Geomorphology, Inc.



Christopher B. Rod, P.E.

Vice President

EXHIBIT "B"
COMPENSATION AND FEES



Summary Phase1

City of Chandler Prj. No. ST2113.101

Entellus Prj #615.114

November 8, 2021

Chandler Stormwater
Management Master Plan

PROJECT FEES

TASK	WORK ITEM DESCRIPTION	Entellus	Horrocks	JE Fuller			Total Amount	Total Amount
4	Project Management and Meetings	\$ 50,932.00	\$ 20,532.00	\$ 9,390.74	0	0	\$ 80,854.74	\$ -
4.1	Project Coordination and Administration	\$ 20,812.00	\$ 13,920.00	\$ 4,926.60			\$ 39,658.60	\$ -
4.2	Project Kick-Off Meeting	\$ 2,060.00	\$ 348.00	\$ 547.40			\$ 2,955.40	\$ -
4.3	Coordination Meetings	\$ 16,100.00	\$ 3,480.00	\$ 3,916.74			\$ 23,496.74	\$ -
4.4	Stakeholder Coordination	\$ 11,960.00	\$ 2,784.00	\$ -			\$ 14,744.00	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
5	Data Collection	\$ 48,760.00	\$ -	\$ -	0	0	\$ 48,760.00	\$ -
5.1	Topographic Data Collection	\$ 10,040.00	\$ -	\$ -			\$ 10,040.00	\$ -
5.2	Existing Studies and Reports	\$ 4,220.00	\$ -	\$ -			\$ 4,220.00	\$ -
5.3	GIS Data	\$ 13,410.00	\$ -	\$ -			\$ 13,410.00	\$ -
5.4	Historical Flood Photos	\$ 1,830.00	\$ -	\$ -			\$ 1,830.00	\$ -
5.5	Maintenance Personnel Meeting	\$ 1,580.00	\$ -	\$ -			\$ 1,580.00	\$ -
5.6	Storm Drain and Hydraulic Structure Inventory	\$ 9,930.00	\$ -	\$ -			\$ 9,930.00	\$ -
5.7	Data Collection Documentation	\$ 7,750.00	\$ -	\$ -			\$ 7,750.00	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
6	Preliminary Hydrologic and Hydraulic Modeling	\$ 79,410.00	\$ 64,256.00	\$ 4,728.40	0	0	\$ 148,394.40	\$ -
6.1	Model Boundary and Grid Development	\$ 3,750.00	\$ 2,428.00	\$ -			\$ 6,178.00	\$ -
6.2	Grid Elevations	\$ 16,720.00	\$ 17,688.00	\$ -			\$ 34,408.00	\$ -
6.3	Rainfall Hyetograph Development	\$ 1,650.00	\$ 1,214.00	\$ -			\$ 2,864.00	\$ -
6.4	Infiltration	\$ 7,520.00	\$ 2,428.00	\$ -			\$ 9,948.00	\$ -
6.5	Area Reduction Factors (ARFs)	\$ 3,900.00	\$ 5,376.00	\$ -			\$ 9,276.00	\$ -
6.6	Manning's n-values	\$ 5,060.00	\$ 5,376.00	\$ -			\$ 10,436.00	\$ -
6.7	Hydraulic Structures	\$ 13,600.00	\$ 13,184.00	\$ -			\$ 26,784.00	\$ -
6.8	Walls	\$ 6,180.00	\$ 2,428.00	\$ 1,000.42			\$ 9,608.42	\$ -
6.9	Floodplain Cross-Sections	\$ 3,530.00	\$ 2,428.00	\$ -			\$ 5,958.00	\$ -
6.10	FLO-2D Model Numerical Stability	\$ 3,920.00	\$ 3,468.00	\$ -			\$ 7,388.00	\$ -
6.11	FLO-2D Model QA/QC	\$ 3,690.00	\$ 3,816.00	\$ 3,727.98			\$ 11,233.98	\$ -
6.12	FLO-2D Model Submittals	\$ 6,590.00	\$ 4,422.00	\$ -			\$ 11,012.00	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
6.1	Outflow Locations	\$ 3,300.00	\$ -	\$ -			\$ 3,300.00	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
7	Detailed Hydrologic and Hydraulic Modeling	\$ 103,760.00	\$ 40,382.00	\$ 41,701.68	0	0	\$ 185,843.68	\$ -
7.1	Storm Drain Model Development	\$ -	\$ -	\$ -			\$ -	\$ -
7.1a	Missing Data	\$ 20,800.00	\$ 824.00	\$ 1,242.66			\$ 22,866.66	\$ -
7.1b	Storm Drain Data Evaluation	\$ 10,200.00	\$ 2,948.00	\$ -			\$ 13,148.00	\$ -
7.2	Field Reconnaissance	\$ 4,900.00	\$ 2,432.00	\$ 2,151.84			\$ 9,483.84	\$ -
7.3	Storm Drain Modeling	\$ 10,200.00	\$ 11,792.00	\$ 6,842.48			\$ 28,834.48	\$ -
7.4	Model Calibration	\$ 4,380.00	\$ 4,422.00	\$ 1,000.42			\$ 9,802.42	\$ -
7.5	Model Validation	\$ 5,140.00	\$ 2,948.00	\$ 1,000.42			\$ 9,088.42	\$ -
7.6	FLO-2D Model Numerical Stability	\$ 6,000.00	\$ 824.00	\$ -			\$ 6,824.00	\$ -
7.7	FLO-2D Model QA/QC	\$ 5,080.00	\$ 2,948.00	\$ 10,910.24			\$ 18,938.24	\$ -
7.8	FLO-2D Model Submittals	\$ 6,130.00	\$ 5,466.00	\$ -			\$ 11,596.00	\$ -
7.9	Tempe ADMS FLO-2D Modeling Update	\$ 810.00	\$ -	\$ 8,569.64			\$ 9,379.64	\$ -
7.10	Sediment Transport Analysis	\$ 1,390.00	\$ -	\$ 5,455.12			\$ 6,845.12	\$ -
7.10a	Sediment Sample Analysis	\$ -	\$ -	\$ 2,254.32			\$ 2,254.32	\$ -
7.11	Existing Flood Hazard Assessment	\$ 14,140.00	\$ 2,298.00	\$ -			\$ 16,438.00	\$ -
7.12	Existing Condition Hydrology and Hydraulics Report	\$ 14,590.00	\$ 3,480.00	\$ 2,274.54			\$ 20,344.54	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
8	Existing Storm Drain System Assessment	\$ 22,880.00	\$ 16,500.00	\$ 3,001.26	0	0	\$ 42,381.26	\$ -
8.1	Storm Drain Capacity Assessment	\$ 8,770.00	\$ 11,280.00	\$ 2,000.84			\$ 22,050.84	\$ -
8.2	Storm Drain Integrity Assessment	\$ 9,660.00	\$ -	\$ -			\$ 9,660.00	\$ -
8.3	Storm Drain Assessment Documentation	\$ 4,450.00	\$ 5,220.00	\$ 1,000.42			\$ 10,670.42	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
9	Flood Mitigation Study	\$ 129,650.00	\$ 26,110.00	\$ 13,511.98	0	0	\$ 169,271.98	\$ -
9.1	Alternative Formulation	\$ -	\$ -	\$ 1,450.30			\$ 1,450.30	\$ -
9.1a	Seed Ideas & Brainstorming Session	\$ 5,090.00	\$ 696.00	\$ 1,031.88			\$ 6,817.88	\$ -
9.1b	Alternative Brainstorming Idea Consolidation	\$ 5,090.00	\$ -	\$ -			\$ 5,090.00	\$ -
9.1c	Initial Brainstorming Idea Assessment	\$ 8,450.00	\$ -	\$ -			\$ 8,450.00	\$ -
9.1d	Preliminary Mitigation Solutions and Sizing	\$ 8,920.00	\$ 2,784.00	\$ 2,063.76			\$ 13,767.76	\$ -
9.2	Alternatives Analysis	\$ -	\$ 4,422.00	\$ -			\$ 4,422.00	\$ -
9.2a	Evaluation Criteria	\$ 5,540.00	\$ -	\$ -			\$ 5,540.00	\$ -
9.2b	2-D Analysis	\$ 19,640.00	\$ 10,400.00	\$ 5,518.04			\$ 35,558.04	\$ -



Summary Phase1

City of Chandler Prj. No. ST2113.101

Entellus Prj #615.114

November 8, 2021

Chandler Stormwater
Management Master Plan

PROJECT FEES

TASK	WORK ITEM DESCRIPTION	Entellus	Horrocks	JE Fuller			Total Amount	Total Amount
9.2c	Alternative Evaluation Meeting	\$ 1,160.00	\$ 696.00	\$ 1,997.70			\$ 3,853.70	\$ -
9.2d	Recommended Alternative Modeling	\$ 8,920.00	\$ 5,896.00	\$ -			\$ 14,816.00	\$ -
9.3	Field Reconnaissance	\$ 5,600.00	\$ 1,216.00	\$ -			\$ 6,816.00	\$ -
9.4	15% Concept Plans	\$ 36,940.00	\$ -	\$ -			\$ 36,940.00	\$ -
9.5	Opinion of Probable Cost	\$ 9,000.00	\$ -	\$ -			\$ 9,000.00	\$ -
9.6	Prioritization Plan	\$ 15,300.00	\$ -	\$ 1,450.30			\$ 16,750.30	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
10	Master Plan Report	\$ 21,488.00	\$ -	\$ 3,504.64	0	0	\$ 24,992.64	\$ -
10	Master Plan Report	\$ 21,488.00	\$ -	\$ 3,504.64			\$ 24,992.64	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
11	Public Involvement	\$ 14,077.00	\$ 1,044.00	\$ -	0	0	\$ 15,121.00	\$ -
11.1	Past Flood Survey	\$ 1,685.00	\$ -	\$ -			\$ 1,685.00	\$ -
11.2	Project Fact Sheet	\$ 3,117.00	\$ -	\$ -			\$ 3,117.00	\$ -
11.3	Public Meetings	\$ 6,555.00	\$ 1,044.00	\$ -			\$ 7,599.00	\$ -
11.4	Public Involvement Summary	\$ 2,720.00	\$ -	\$ -			\$ 2,720.00	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
12	Stormwater Management Plan and MS4 Permitting	\$ 3,825.00	\$ -	\$ 19,345.06	0	0	\$ 23,170.06	\$ -
12.1	Storm Water Management Plan Review	\$ 1,275.00	\$ -	\$ 4,423.35			\$ 5,698.35	\$ -
12.2	Project Kick-Off Meeting and Discovery Charrette	\$ 1,275.00	\$ -	\$ 4,744.24			\$ 6,019.24	\$ -
12.3	Storm Water Management Plan Revision	\$ 1,275.00	\$ -	\$ 10,177.47			\$ 11,452.47	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
TOTAL STAFF HOURS BASIC DESIGN SERVICES		\$ 474,782.00	\$ 168,824.00	\$ 95,183.76	\$ -	\$ -	\$ 738,789.76	
TOTAL BASE PROJECT COST								\$738,789.76
13	Allowances	\$ 60,810.24	\$ -	\$ 100.00	0	0	\$ 60,910.24	\$ -
13.1	Additional Meetings and Coordination	\$ -	\$ -	\$ -			\$ -	\$ -
13.2	Reimbursable Expenses	\$ 10,000.00	\$ -	\$ 100.00			\$ 10,100.00	\$ -
13.3	Additional Field Survey	\$ -	\$ -	\$ -			\$ -	\$ -
13.4	Field Reconnaissance	\$ -	\$ -	\$ -			\$ -	\$ -
13.5	Not Used	\$ -	\$ -	\$ -			\$ -	\$ -
13.6	Closed-Circuit Television (CCTV) of Existing Storm	\$ 32,500.00	\$ -	\$ -			\$ 32,500.00	\$ -
13.7	Not Used	\$ -	\$ -	\$ -			\$ -	\$ -
13.8	Review of Existing City Manual	\$ -	\$ -	\$ -			\$ -	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
13.10	Additional Services	\$ 18,310.24	\$ -	\$ -			\$ 18,310.24	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
13.9	MS4 Allowances	\$ -	\$ -	\$ 300.00	0	0	\$ 300.00	\$ -
13.9a	Reimbursable Expenses Task 12.2	\$ -	\$ -	\$ 300.00			\$ 300.00	\$ -
13.9b	Reimbursable Expenses Task 12.3	\$ -	\$ -	\$ -			\$ -	\$ -
13.9c	Reimbursable Expenses Task 12.4	\$ -	\$ -	\$ -			\$ -	\$ -
13.9d	Reimbursable Expenses Task 12.5	\$ -	\$ -	\$ -			\$ -	\$ -
13.9e	Reimbursable Expenses Task 12.6	\$ -	\$ -	\$ -			\$ -	\$ -
13.9f	Reimbursable Expenses Task 12.7	\$ -	\$ -	\$ -			\$ -	\$ -
13.9g	Reimbursable Expenses Task 12.8	\$ -	\$ -	\$ -			\$ -	\$ -
13.9h	Reimbursable Expenses Task 12.9	\$ -	\$ -	\$ -			\$ -	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
12.4	Storm Water Management Plan Training	\$ -	\$ -	\$ -			\$ -	\$ -
12.5	Public Involvement Program	\$ -	\$ -	\$ -			\$ -	\$ -
12.6	Educational Material	\$ -	\$ -	\$ -			\$ -	\$ -
12.7	Pollution Prevent Plans/Good House Keeping Plan	\$ -	\$ -	\$ -			\$ -	\$ -
12.8	Stormwater System Assessment and Monitoring Progra	\$ -	\$ -	\$ -			\$ -	\$ -
12.9	Sampling and Analysis Plan	\$ -	\$ -	\$ -			\$ -	\$ -
		\$ -	\$ -	\$ -			\$ -	\$ -
TOTAL ALLOWANCE PROJECT COST		\$ 60,810.24	\$ -	\$ 400.00	\$ -	\$ -	\$ 61,210.24	\$ 61,210.24
TOTAL BASE PROJECT COST		\$ 474,782.00	\$ 168,824.00	\$ 95,183.76				\$ 738,789.76
TOTAL PROJECT COST		\$ 535,592.24	\$ 168,824.00	\$ 95,583.76				\$ 800,000.00

Entellus Phase1

City of Chandler Prj. No. ST2113.101
Entellus Prj #615.114
November 8, 2021

Chandler Stormwater
Management Master Plan

PROJECT HOURS AND FEES

TASK	WORK ITEM DESCRIPTION	Project Principal Bill Linck	Project Manager Ryan Sauer	EIT Aaron Nichols	GIS Analyst A. Hagglund	GIS Manager C. Christensen	Construction Manager Mike Speck	Survey Manager D. Francetic	Survey RLS Erick Welch	Survey Crew Vega/Poore	Marketing Team Katy Konik	Admin Patli Agarwal	Total Hours	Total Amount	Direct Expenses	
4	Project Management and Meetings	52	172	68	0	0	0	0	0	0	0	16	308	\$ 50,932.00	\$ -	
4.1	Project Coordination and Administration	12	96									16	124	\$ 20,812.00		
4.2	Project Kick-Off Meeting	4	4	4										12	\$ 2,060.00	
4.3	Coordination Meetings	20	40	40									100	\$ 16,100.00		
4.4	Stakeholder Coordination	16	32	24									72	\$ 11,960.00		
5	Data Collection	2	42	210	140	26	0	0	0	0	0	0	0	\$ -	\$ -	
5.1	Topographic Data Collection	4	4	60	20	4							88	\$ 10,040.00		
5.2	Existing Studies and Reports	4	4	24	8								36	\$ 4,220.00		
5.3	GIS Data	10	10	42	52	14							118	\$ 13,410.00		
5.4	Historical Flood Photos			6	12								18	\$ 1,830.00		
5.5	Maintenance Personnel Meeting	4	4	6	2								12	\$ 1,580.00		
5.6	Storm Drain and Hydraulic Structure Inventory	8	8	40	30	8							86	\$ 9,930.00		
5.7	Data Collection Documentation	2	12	32	16								62	\$ 7,750.00		
6	Preliminary Hydrologic and Hydraulic Modeling	4	70	368	252	0	0	0	0	0	0	0	0	\$ -	\$ -	
6.1	Model Boundary and Grid Development	2	16	88	40								30	\$ 3,750.00		
6.2	Grid Elevations	2	8	40	16								144	\$ 16,720.00		
6.3	Rainfall Hyetograph Development	2	8	4									14	\$ 1,650.00		
6.4	Infiltration	8	8	40	16								64	\$ 7,520.00		
6.5	Area Reduction Factors (ARFs)	24	24	12									36	\$ 3,900.00		
6.6	Manning's n-values	4	28	12									44	\$ 5,060.00		
6.7	Hydraulic Structures	8	40	80	40								128	\$ 13,600.00		
6.8	Walls	4	8	48	8								60	\$ 6,180.00		
6.9	Floodplain Cross-Sections	4	18	8									30	\$ 3,530.00		
6.10	FLO-2D Model Numerical Stability	4	28										32	\$ 3,920.00		
6.11	FLO-2D Model QA/QC	4	26										30	\$ 3,690.00		
6.12	FLO-2D Model Submittals	2	8	28	16								54	\$ 6,590.00		
													0	\$ -		
			4	16	8								28	\$ 3,300.00		
													0	\$ -		
7	Detailed Hydrologic and Hydraulic Modeling	4	114	450	328	0	0	0	0	0	0	0	896	\$ 103,760.00	\$ -	
7.1	Storm Drain Model Development												0	\$ -		
7.1a	Missing Data	8	8	20	180								208	\$ 20,800.00		
7.1b	Storm Drain Data Evaluation	8	60	60	20								88	\$ 10,200.00		
7.2	Field Reconnaissance	4	20	20	20								44	\$ 4,900.00		
7.3	Storm Drain Modeling	8	8	60	20								88	\$ 10,200.00		
7.4	Model Calibration	4	4	32									36	\$ 4,380.00		
7.5	Model Validation	4	32	32	8								44	\$ 5,140.00		
7.6	FLO-2D Model Numerical Stability		8	40									48	\$ 6,000.00		
7.7	FLO-2D Model QA/QC		8	32									40	\$ 5,080.00		
7.8	FLO-2D Model Submittals	2	8	24	16								50	\$ 6,130.00		
7.9	Tempe ADMS FLO-2D Modeling Update	2	2	4									6	\$ 810.00		
7.10	Sediment Transport Analysis		4	6									10	\$ 1,390.00		
7.10a	Sediment Sample Analysis												0	\$ -		
7.11	Existing Flood Hazard Assessment		24	60	32								116	\$ 14,140.00		
7.12	Existing Condition Hydrology and Hydraulics Report	2	24	60	32								118	\$ 14,590.00		
8	Existing Storm Drain System Assessment	18	18	100	44	0	0	0	0	0	0	0	180	\$ 22,880.00	\$ -	
8.1	Storm Drain Capacity Assessment	2	2	60	16								78	\$ 8,770.00		
8.2	Storm Drain Integrity Assessment	16	8	24	20								68	\$ 9,460.00		
8.3	Storm Drain Assessment Documentation	2	8	16	8								34	\$ 4,450.00		
9	Flood Mitigation Study	28	202	504	280	4	20	0	0	0	0	0	1038	\$ 129,650.00	\$ -	



City of Chandler Proj. No. ST2113.101
Entellus Proj #615.114
November 8, 2021

Entellus Phase1

Chandler Stormwater
Management Master Plan

PROJECT HOURS AND FEES

TASK	WORK/ITEM DESCRIPTION	Project Principal Bill Linck	Project Manager Ryan Sauer	EIT Aaron Nichols	GIS Analyst A. Hagglund	GIS Manager C. Christensen	Construction Manager Mike Speck	Survey Manager D. Francetic	Survey RLS Erick Welch	Survey Crew Vega/Poore	Marketing Team Katy Konik	Admin Patti Aguilar	Total Hours	Total Amount	Direct Expenses
9.1	Alternative Formulation												0	\$ -	
9.1a	Seed Ideas & Brainstorming Session	2	16	16									34	\$ 5,090.00	
9.1b	Alternative Brainstorming Idea Consolidation	2	16	16									34	\$ 5,090.00	
9.1c	Initial Brainstorming Idea Assessment	2	16	32	16								66	\$ 8,450.00	
9.1d	Preliminary Mitigation Solutions and Sizing		16	40	16								72	\$ 8,920.00	
9.2	Alternatives Analysis	4											0	\$ -	
9.2a	Evaluation Criteria		16	16									36	\$ 5,540.00	
9.2b	2-D Analysis		16	120	32								168	\$ 19,640.00	
9.2c	Alternative Evaluation Meeting		4	4									8	\$ 1,160.00	
9.2d	Recommended Alternative Modeling		16	40	16								72	\$ 8,920.00	
9.3	Field Reconnaissance		8	20	20								48	\$ 5,600.00	
9.4	15% Concept Plans	8	32	120	160	4							324	\$ 36,940.00	
9.5	Opinion of Probable Cost	2	6	40			20						68	\$ 9,000.00	
9.6	Prioritization Plan	8	40	40	20								108	\$ 15,300.00	
10	Master Plan Report	8	24	80	40	16	0	0	0	0	0	4	172	\$ 21,488.00	\$ -
10	Master Plan Report	8	24	80	40	16						4	172	\$ 21,488.00	\$ -
11	Public Involvement	9	26	33	25	0	0	0	0	0	9	0	102	\$ 14,077.00	\$ -
11.1	Past Flood Survey	1	4		8								13	\$ 1,685.00	
11.2	Project Fact Sheet		3	6	6						9		24	\$ 3,117.00	
11.3	Public Meetings	6	15	15	9								45	\$ 6,555.00	
11.4	Public Involvement Summary	2	4	12	2								20	\$ 2,720.00	
12	Stormwater Management Plan and MS4 Permitting	3	18	0	0	0	0	0	0	0	0	0	21	\$ 3,825.00	\$ -
12.1	Storm Water Management Plan Review	1	6										7	\$ 1,275.00	
12.2	Project Kick-Off Meeting and Discovery Charrette	1	6										7	\$ 1,275.00	
12.3	Storm Water Management Plan Revision	1	6										7	\$ 1,275.00	
TOTAL STAFF HOURS BASIC DESIGN SERVICES															\$ -
DIRECT LABOR COST															\$ -
TOTAL DIRECT EXPENSES															\$ -
TOTAL BASE PROJECT COST															\$474,782.00
13	Allowances	0	0	0	0	0	0	0	0	0	0	0	0	\$ -	\$ 60,810.24
13.1	Additional Meetings and Coordination												0	\$ -	
13.2	Reimbursable Expenses												0	\$ -	\$10,000.00
13.3	Additional Field Survey												0	\$ -	
13.4	Field Reconnaissance												0	\$ -	
13.5	Not Used												0	\$ -	
13.6	Closed-Circuit Television (CCTV) of Existing Storm												0	\$ -	\$32,500.00
13.7	Not Used												0	\$ -	
13.8	Review of Existing City Manual												0	\$ -	
13.10	Additional Services												0	\$ -	\$18,310.24
13.9	Allowance: MS4 Tasks	0	0	0	0	0	0	0	0	0	0	0	0	\$ -	\$ -
13.9a	Reimbursable Expenses Task 12.2												0	\$ -	
13.9b	Reimbursable Expenses Task 12.3												0	\$ -	
13.9c	Reimbursable Expenses Task 12.4												0	\$ -	
13.9d	Reimbursable Expenses Task 12.5												0	\$ -	
13.9e	Reimbursable Expenses Task 12.6												0	\$ -	
13.9f	Reimbursable Expenses Task 12.7												0	\$ -	

City of Chandler Prj. No. ST2113.101
Entellus Prj #615.114
November 8, 2021

Entellus Phase1

Chandler Stormwater
Management Master Plan

PROJECT HOURS AND FEES

TASK	WORK ITEM DESCRIPTION	Project Principal Bill Linck	Project Manager Ryan Sauer	EIT Aaron Nichols	GIS Analyst A. Hagglund	GIS Manager C. Christensen	Construction Manager Mike Speck	Survey Manager D.Francetic	Survey Crew Vega/Poore	Marketing Team Katy Konik	Admin Patti Aguilar	Total Hours	Total Amount	Direct Expenses
\$	\$	\$ 225.00	\$ 175.00	\$ 115.00	\$ 95.00	\$ 135.00	\$ 145.00	\$ 175.00	\$ 120.00	\$ 150.00	\$ 82.00			
13.9g Reimbursable Expenses Task 12.8												0 \$	-	
13.9H Reimbursable Expenses Task 12.9												0 \$	-	
												0 \$	-	
12.4 Storm Water Management Plan Training												0 \$	-	
12.5 Public Involvement Program												0 \$	-	
12.6 Educational Material												0 \$	-	
12.7 Pollution Prevent Plans/Good House Keeping Plan												0 \$	-	
12.8 Stormwater System Assessment and Monitoring Program												0 \$	-	
12.9 Sampling and Analysis Plan												0 \$	-	
												0 \$	-	
TOTAL STAFF HOURS OPTIONAL DESIGN SERVICES		0	0	0	0	0	0	0	0	0	0	0	\$0.00	
DIRECT LABOR COST		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-		\$ 60,810.24
TOTAL DIRECT EXPENSES		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-		\$ 60,810.24
TOTAL ALLOWANCE PROJECT COST		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-		\$ 60,810.24
TOTAL PROJECT COST		\$ 28,800.00	\$ 120,050.00	\$ 208,495.00	\$ 105,355.00	\$ 62,100.00	\$ 2,900.00	\$ -	\$ -	\$ 1,332.00	\$ 1,640.00		\$ 535,592.24	\$ 60,810.24



Horrocks Phase1

City of Chandler Prj. No. ST2113.101
Entellus Prj #615.114
November 8, 2021

Chandler Stormwater
Management Master Plan

PROJECT HOURS AND FEES

TASK	WORK ITEM DESCRIPTION	Project Lead Cindy DePonti \$ 174.00	Project Engineer Corbin Bendel \$ 130.00			Total Hours	Total Amount	Direct Expenses
4	Project Management and Meetings	118	0	0	0	118	\$ 20,532.00	\$ -
4.1	Project Coordination and Administration	80				80	\$ 13,920.00	
4.2	Project Kick-Off Meeting	2				2	\$ 348.00	
4.3	Coordination Meetings	20				20	\$ 3,480.00	
4.4	Stakeholder Coordination	16				16	\$ 2,784.00	
						0	\$ -	
5	Data Collection	0	0	0	0	0	\$ -	\$ -
5.1	Topographic Data Collection					0	\$ -	
5.2	Existing Studies and Reports					0	\$ -	
5.3	GIS Data					0	\$ -	
5.4	Historical Flood Photos					0	\$ -	
5.5	Maintenance Personnel Meeting					0	\$ -	
5.6	Storm Drain and Hydraulic Structure Inventory					0	\$ -	
5.7	Data Collection Documentation					0	\$ -	
						0	\$ -	
6	Preliminary Hydrologic and Hydraulic Modeling	54	422	0	0	476	\$ 64,256.00	\$ -
6.1	Model Boundary and Grid Development	2	16			18	\$ 2,428.00	
6.2	Grid Elevations	12	120			132	\$ 17,688.00	
6.3	Rainfall Hyetograph Development	1	8			9	\$ 1,214.00	
6.4	Infiltration	2	16			18	\$ 2,428.00	
6.5	Area Reduction Factors (ARFs)	4	36			40	\$ 5,376.00	
6.6	Manning's n-values	4	36			40	\$ 5,376.00	
6.7	Hydraulic Structures	16	80			96	\$ 13,184.00	
6.8	Walls	2	16			18	\$ 2,428.00	
6.9	Floodplain Cross-Sections	2	16			18	\$ 2,428.00	
6.10	FLO-2D Model Numerical Stability	2	24			26	\$ 3,468.00	
6.11	FLO-2D Model QA/QC	4	24			28	\$ 3,816.00	
6.12	FLO-2D Model Submittals	3	30			33	\$ 4,422.00	
						0	\$ -	
6.1	Outflow Locations					0	\$ -	
						0	\$ -	
7	Detailed Hydrologic and Hydraulic Modeling	58	233	0	0	291	\$ 40,382.00	\$ -
7.1	Storm Drain Model Development	0				0	\$ -	
7.1a	Missing Data	1	5			6	\$ 824.00	
7.1b	Storm Drain Data Evaluation	2	20			22	\$ 2,948.00	
7.2	Field Reconnaissance	8	8			16	\$ 2,432.00	
7.3	Storm Drain Modeling	8	80			88	\$ 11,792.00	
7.4	Model Calibration	3	30			33	\$ 4,422.00	
7.5	Model Validation	2	20			22	\$ 2,948.00	
7.6	FLO-2D Model Numerical Stability	1	5			6	\$ 824.00	
7.7	FLO-2D Model QA/QC	2	20			22	\$ 2,948.00	
7.8	FLO-2D Model Submittals	9	30			39	\$ 5,466.00	
7.9	Tempe ADMS FLO-2D Modeling Update	0				0	\$ -	
7.10	Sediment Transport Analysis	0				0	\$ -	
7.10a	Sediment Sample Analysis	0				0	\$ -	
7.11	Existing Flood Hazard Assessment	2	15			17	\$ 2,298.00	
7.12	Existing Condition Hydrology and Hydraulics Report	20				20	\$ 3,480.00	
						0	\$ -	
8	Existing Storm Drain System Assessment	50	60	0	0	110	\$ 16,500.00	\$ -
8.1	Storm Drain Capacity Assessment	20	60			80	\$ 11,280.00	
8.2	Storm Drain Integrity Assessment					0	\$ -	
8.3	Storm Drain Assessment Documentation	30				30	\$ 5,220.00	
						0	\$ -	
9	Flood Mitigation Study	35	154	0	0	189	\$ 26,110.00	\$ -
9.1	Alternative Formulation					0	\$ -	
9.1a	Seed Ideas & Brainstorming Session	4				4	\$ 696.00	
9.1b	Alternative Brainstorming Idea Consolidation					0	\$ -	
9.1c	Initial Brainstorming Idea Assessment					0	\$ -	
9.1d	Preliminary Mitigation Solutions and Sizing	16				16	\$ 2,784.00	
9.2	Alternatives Analysis	3	30			33	\$ 4,422.00	



Horrocks Phase1

City of Chandler Prj. No. ST2113.101
Entellus Prj #615.114
November 8, 2021

Chandler Stormwater
Management Master Plan

PROJECT HOURS AND FEES

TASK	WORK ITEM DESCRIPTION	Project Lead Cindy DePonti \$ 174.00	Project Engineer Corbin Bendel \$ 130.00			Total Hours	Total Amount	Direct Expenses
9.2a	Evaluation Criteria					0	\$ -	
9.2b	2-D Analysis		80			80	\$ 10,400.00	
9.2c	Alternative Evaluation Meeting	4				4	\$ 696.00	
9.2d	Recommended Alternative Modeling	4	40			44	\$ 5,896.00	
9.3	Field Reconnaissance	4	4			8	\$ 1,216.00	
9.4	15% Concept Plans					0	\$ -	
9.5	Opinion of Probable Cost					0	\$ -	
9.6	Prioritization Plan					0	\$ -	
10	Master Plan Report	0	0	0	0	0	\$ -	\$ -
10	Master Plan Report					0	\$ -	
11	Public Involvement	6	0	0	0	6	\$ 1,044.00	\$ -
11.1	Past Flood Survey					0	\$ -	
11.2	Project Fact Sheet					0	\$ -	
11.3	Public Meetings	6				6	\$ 1,044.00	
11.4	Public Involvement Summary					0	\$ -	
12	Stormwater Management Plan and MS4 Permitting	0	0	0	0	0	\$ -	\$ -
12.1	Storm Water Management Plan Review					0	\$ -	
12.2	Project Kick-Off Meeting and Discovery Charrette					0	\$ -	
12.3	Storm Water Management Plan Revision					0	\$ -	
TOTAL STAFF HOURS BASIC DESIGN SERVICES		321	869	0	0	1190		\$ -
DIRECT LABOR COST		\$ 55,854.00	\$ 112,970.00	\$ -	\$ -		\$ 168,824.00	\$ -
TOTAL DIRECT EXPENSES								\$ -
TOTAL BASE PROJECT COST							\$ 168,824.00	\$ -
13	Allowances	0	0	0	0	0	\$ -	\$ -
13.1	Additional Meetings and Coordination					0	\$ -	
13.2	Reimbursable Expenses					0	\$ -	
13.3	Additional Field Survey					0	\$ -	
13.4	Field Reconnaissance					0	\$ -	
13.5	Not Used					0	\$ -	
13.6	Closed-Circuit Television (CCTV) of Existing Storm					0	\$ -	
13.7	Not Used					0	\$ -	
13.8	Review of Existing City Manual					0	\$ -	
13.10	Additional Services					0	\$ -	
13.9	MS4 Allowances	0	0	0	0	0	\$ -	\$ -
13.9a	Reimbursable Expenses Task 12.2					0	\$ -	
13.9b	Reimbursable Expenses Task 12.3					0	\$ -	
13.9c	Reimbursable Expenses Task 12.4					0	\$ -	
13.9d	Reimbursable Expenses Task 12.5					0	\$ -	
13.9e	Reimbursable Expenses Task 12.6					0	\$ -	
13.9f	Reimbursable Expenses Task 12.7					0	\$ -	
13.9g	Reimbursable Expenses Task 12.8					0	\$ -	
13.9h	Reimbursable Expenses Task 12.9					0	\$ -	
12.4	Storm Water Management Plan Training					0	\$ -	
12.5	Public Involvement Program					0	\$ -	
12.6	Educational Material					0	\$ -	
12.7	Pollution Prevent Plans/Good House Keeping Plan					0	\$ -	
12.8	Stormwater System Assessment and Monitoring Program					0	\$ -	
12.9	Sampling and Analysis Plan					0	\$ -	



Horrocks Phase1

City of Chandler Prj. No. ST2113.101
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Chandler Stormwater
Management Master Plan

PROJECT HOURS AND FEES

TASK	WORK ITEM DESCRIPTION	Project Lead Cindy DePonti	Project Engineer Corbin Bendel			Total Hours	Total Amount	Direct Expenses
		\$ 174.00	\$ 130.00					
TOTAL STAFF HOURS OPTIONAL DESIGN SERVICES		0	0	0	0	0		\$ -
DIRECT LABOR COST		\$ -	\$ -	\$ -	\$ -		\$0.00	\$ -
TOTAL DIRECT EXPENSES								\$ -
TOTAL ALLOWANCE PROJECT COST		\$ -	\$ -	\$ -	\$ -		\$ -	
TOTAL PROJECT COST		\$ 55,854.00	\$ 112,970.00	\$ -	\$ -		\$ 168,824.00	\$ -



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JEFuller Phase1

Chandler Stormwater
Management Master Plan

PROJECT HOURS AND FEES

TASK	WORK ITEM DESCRIPTION	Master Engineer II Ogdan \$	Master Engineer I Lyons \$	Senior Engineer II Waskowsky \$	Senior Engineer I Rod \$	Project Engineer II Hwang \$	Project Engineer I Evans \$	EIT Davin \$	Total Hours	Total Amount	Direct Expenses
4	Project Management and Meetings	0	0	58	0	12	0	0	70	\$ 9,390.74	\$ -
4.1	Project Coordination and Administration			36					36	\$ 4,926.60	
4.2	Project Kick-Off Meeting			4					4	\$ 547.40	
4.3	Coordination Meetings			18		12			30	\$ 3,916.74	
4.4	Stakeholder Coordination								0	\$ -	
5	Data Collection	0	0	0	0	0	0	0	0	\$ -	\$ -
5.1	Topographic Data Collection								0	\$ -	
5.2	Existing Studies and Reports								0	\$ -	
5.3	GIS Data								0	\$ -	
5.4	Historical Flood Photos								0	\$ -	
5.5	Maintenance Personnel Meeting								0	\$ -	
5.6	Storm Drain and Hydraulic Structure Inventory								0	\$ -	
5.7	Data Collection Documentation								0	\$ -	
6	Preliminary Hydrologic and Hydraulic Modeling	0	0	8	0	30	0	0	38	\$ 4,728.40	\$ -
6.1	Model Boundary and Grid Development								0	\$ -	
6.2	Grid Elevations								0	\$ -	
6.3	Rainfall Hyetograph Development								0	\$ -	
6.4	Infiltration								0	\$ -	
6.5	Area Reduction Factors (ARFs)								0	\$ -	
6.6	Manning's n-values								0	\$ -	
6.7	Hydraulic Structures								0	\$ -	
6.8	Walls			2		6			8	\$ 1,000.42	
6.9	Floodplain Cross-Sections								0	\$ -	
6.10	FLO-2D Model Numerical Stability			6		24			30	\$ 3,727.98	
6.11	FLO-2D Model QA/QC								0	\$ -	
6.12	FLO-2D Model Submittals								0	\$ -	
7	Detailed Hydrologic and Hydraulic Modeling	0	4	58	0	248	0	26	336	\$ 41,221.68	\$ 480.00
7.1	Storm Drain Model Development								0	\$ -	
7.1a	Missing Data			2		8			10	\$ 1,242.66	
7.1b	Storm Drain Data Evaluation								0	\$ -	
7.2	Field Reconnaissance			6		6		6	18	\$ 2,151.84	
7.3	Storm Drain Modeling			4		42		12	58	\$ 6,842.48	
7.4	Model Calibration			2		6			8	\$ 1,000.42	
7.5	Model Validation			2		6			8	\$ 1,000.42	
7.6	FLO-2D Model Numerical Stability								0	\$ -	
7.7	FLO-2D Model QA/QC			16		72			88	\$ 10,910.24	
7.8	FLO-2D Model Submittals								0	\$ -	
7.9	Tempe ADMS FLO-2D Modeling Update		4	12		52			68	\$ 8,569.64	
7.10	Sediment Transport Analysis			8		36			44	\$ 5,455.12	



City of Chandler Proj. No. ST2113.101
Entellus Proj #615:114
November 8, 2021

JEFuller Phase1

Chandler Stormwater
Management Master Plan

PROJECT HOURS AND FEES

TASK	WORK ITEM DESCRIPTION	Master Engineer II Ogden \$	Master Engineer I Lyons \$	Senior Engineer II Waskowsky \$	Senior Engineer I Rod \$	Project Engineer II Hwang \$	Project Engineer I Evans \$	EIT Davin \$	Total Hours	Total Amount	Direct Expenses
7.10a	Sediment Sample Analysis								16	\$ 1,774.32	\$480.00
7.11	Existing Flood Hazard Assessment								0	\$ -	
7.12	Existing Condition Hydrology and Hydraulics Report			6		12			18	\$ 2,274.54	
8	Existing Storm Drain System Assessment	0	0	6	0	18	0	0	24	\$ 3,001.26	\$ -
8.1	Storm Drain Capacity Assessment			4		12			16	\$ 2,000.84	
8.2	Storm Drain Integrity Assessment								0	\$ -	
8.3	Storm Drain Assessment Documentation			2		6			8	\$ 1,000.42	
9	Flood Mitigation Study	0	12	46	0	44	0	0	102	\$ 13,511.98	\$ -
9.1	Alternative Formulation		4	6					10	\$ 1,450.30	
9.1a	Seed Ideas & Brainstorming Session			4		4			8	\$ 1,031.88	
9.1b	Alternative Brainstorming Idea Consolidation								0	\$ -	
9.1c	Initial Brainstorming Idea Assessment								0	\$ -	
9.1d	Preliminary Mitigation Solutions and Sizing			8		8			16	\$ 2,063.76	
9.2	Alternatives Analysis								0	\$ -	
9.2a	Evaluation Criteria								0	\$ -	
9.2b	2-D Analysis			12		32			44	\$ 5,518.04	
9.2c	Alternative Evaluation Meeting		4	10					14	\$ 1,997.70	
9.2d	Recommended Alternative Modeling								0	\$ -	
9.3	Field Reconnaissance								0	\$ -	
9.4	15% Concept Plans								0	\$ -	
9.5	Opinion of Probable Cost								0	\$ -	
9.6	Prioritization Plan		4	6					10	\$ 1,450.30	
10	Master Plan Report	0	0	8	8	12	0	0	28	\$ 3,504.64	\$ -
10	Master Plan Report			8	8	12			28	\$ 3,504.64	
11	Public Involvement	0	0	0	0	0	0	0	0	\$ -	\$ -
11.1	Past Flood Survey								0	\$ -	
11.2	Project Fact Sheet								0	\$ -	
11.3	Public Meetings								0	\$ -	
11.4	Public Involvement Summary								0	\$ -	
12	Stormwater Management Plan and MS4 Permitting	1	0	0	153	0	8	0	162	\$ 19,345.06	\$ -
12.1	Storm Water Management Plan Review				37				37	\$ 4,423.35	
12.2	Project Kick-Off Meeting and Discovery Charrette				36		4		40	\$ 4,744.24	
12.3	Storm Water Management Plan Revision	1			80		4		85	\$ 10,177.47	
TOTAL STAFF HOURS BASIC DESIGN SERVICES										760	\$94,703.76
DIRECT LABOR COST											\$ 480.00



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JEFuller Phase1

Chandler Stormwater
Management Master Plan

PROJECT HOURS AND FEES

TASK	WORK ITEM DESCRIPTION	Master Engineer II Ogden	Master Engineer I Lyons	Senior Engineer II Waskowsky	Senior Engineer I Rod	Project Engineer II Hwang	Project Engineer I Evans	EIT Davin	Total Hours	Total Amount	Direct Expenses
	\$ 173.03 \$ 157.30 \$ 136.85 \$ 119.55 \$ 121.12 \$ 110.11 \$ 100.67										
TOTAL DIRECT EXPENSES											
TOTAL BASE PROJECT COST											
13	Allowances	0	0	0	0	0	0	0	0	0	\$ 100.00
13.1	Additional Meetings and Coordination										
13.2	Reimbursable Expenses										\$100.00
13.3	Additional Field Survey										
13.4	Field Reconnaissance										
13.5	Not Used										
13.6	Closed-Circuit Television (CCTV) of Existing Storm										
13.7	Not Used										
13.8	Review of Existing City Manual										
13.10	Additional Services										
13.9	MS4 Allowances	0	0	0	0	0	0	0	0	0	\$ 300.00
13.9a	Reimbursable Expenses Task 12.2										\$300.00
13.9b	Reimbursable Expenses Task 12.3										
13.9c	Reimbursable Expenses Task 12.4										
13.9d	Reimbursable Expenses Task 12.5										
13.9e	Reimbursable Expenses Task 12.6										
13.9f	Reimbursable Expenses Task 12.7										
13.9g	Reimbursable Expenses Task 12.8										
13.9h	Reimbursable Expenses Task 12.9										
12.4	Storm Water Management Plan Training										
12.5	Public Involvement Program										
12.6	Educational Material										
12.7	Pollution Prevent Plans/Good House Keeping Plan										
12.8	Stormwater System Assessment and Monitoring Program										
12.9	Sampling and Analysis Plan										
TOTAL STAFF HOURS OPTIONAL DESIGN SERVICES											
DIRECT LABOR COST											
TOTAL DIRECT EXPENSES											
TOTAL ALLOWANCE PROJECT COST											
TOTAL PROJECT COST											
	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -										\$ 400.00
	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -										\$ 400.00
	\$ 173.03 \$ 2,516.80 \$ 25,180.40 \$ 19,247.55 \$ 44,087.68 \$ 880.88 \$ 2,617.42 \$ - \$ - \$ - \$ -										\$ 880.00

EXHIBIT "C"
INSURANCE REQUIREMENTS

1. General.

- 1.1 At the same time as execution of this Agreement, Consultant must furnish City 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 will not be deemed to apply to required Workers' Compensation coverage.
- 1.2 Consultant and any of its subconsultants must procure and maintain, until all of their obligations have been discharged, including any warranty periods under this Agreement are satisfied, the insurances set forth below.
- 1.3 The insurance requirements set forth below are minimum requirements for this Agreement and in no way limit the indemnity covenants contained in this Agreement.
- 1.4 City in no way warrants that the minimum insurance limits contained in this Agreement are sufficient to protect Consultant from liabilities that might arise out of the performance of the Agreement services under this Agreement by Consultant, its agents, representatives, employees, subconsultants, and Consultant is free to purchase any additional insurance as may be determined necessary.
- 1.5 Failure to demand evidence of full compliance with the insurance requirements in this Agreement or failure to identify any insurance deficiency will not relieve 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 Agreement.
- 1.6 Use of subconsultants: If any work is subcontracted in any way, Consultant must execute a written contract with subconsultant containing the same Indemnification Clause and Insurance Requirements as City requires of Consultant in this Agreement. Consultant is responsible for executing the Agreement with the subconsultant and obtaining Certificates of Insurance and verifying the insurance requirements.

2. Minimum Scope and Limits of Insurance. Consultant must provide coverage with limits of liability not less than those stated below.

- 2.1 *Professional Liability.* If the Agreement 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 Agreement, Consultant must maintain Professional Liability insurance covering errors and omissions arising out of the work or services performed by Consultant, or anyone employed by Consultant, or anyone whose acts, mistakes, errors and omissions 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.

2.2 *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.

2.3 *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 Agreement. 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.

2.4 *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 Agreement 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.

3. Additional Policy Provisions Required.

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

3.1.1. Consultant's insurance must contain broad form contractual liability coverage.

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

3.1.3. 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.

- 3.1.4. Coverage provided by Consultant must not be limited to the liability assumed under the indemnification provisions of this Agreement.
- 3.1.5. The policies must contain a severability of interest clause and waiver of subrogation against City, its officers, officials, agents, and employees, for losses arising from Work performed by Consultant for City. (Does not apply to Professional Liability coverage.)
- 3.1.6. Consultant, its successors and or assigns, are required to maintain Commercial General Liability insurance as specified in this Agreement 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 Agreement insurance requirements, including naming City of Chandler, its agents, representatives, officers, directors, officials and employees as Additional Insured as required.
- 3.1.7. If a Certificate of Insurance is submitted as verification of coverage, 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 Agreement.

3.2. *Insurance Cancellation During Term of Contract/Agreement.*

- 3.2.1. If any of the required policies expire during the life of this Agreement, Consultant must forward renewal or replacement Certificates to City within 10 days after the renewal date containing all the required insurance provisions.
- 3.2.2. Each insurance policy required by the insurance provisions of this Agreement must provide the required coverage and must not be suspended, voided or canceled except after thirty (30) days prior written notice has been given to City, except when cancellation is for non-payment of premium, then ten (10) days prior notice may be given. Such notice must be sent directly to Chandler Law-Risk Management Department, Post Office Box 4008, Mailstop 628, Chandler, Arizona 85225. If any insurance company refuses to provide the required notice, Consultant or its insurance broker must notify City of any cancellation, suspension, non-renewal of any insurance within seven (7) days of receipt of insurers' notification to that effect.

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

- 3.3.1. The Commercial General Liability and Automobile Liability policies are to contain, or be endorsed to contain, the following provisions: 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; Products and Completed operations of Consultant; and automobiles owned, leased, hired, or borrowed by Consultant.
- 3.3.2. 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 Agreement.

EXHIBIT "D"
SPECIAL CONDITIONS

Work within City's Right-of-Way. All work performed within City's Right-of-Way by Consultant and Consultant's subconsultants must comply with City of Chandler requirements.