

PROFESSIONAL SERVICES AGREEMENT
Bethany Home Road Drainage Improvements Phase I
Project 202105

This Professional Services Agreement ("Agreement") is entered into and effective between CITY OF GLENDALE, an Arizona municipal corporation ("City") and Stantec Consulting Services, Inc., a New York corporation, authorized to do business in the State of Arizona, ("Consultant") as of the ____ day of _____, 2022 ("Effective Date").

RECITALS

- A. City intends to undertake a project for the benefit of the public and with public funds that is more fully set forth in **Exhibit A**, Project (the "Project");
- B. City desires to retain the professional services of Consultant to perform certain specific duties and produce the specific work as set forth in the attached **Exhibit B**, Project Scope of Work ("Scope");
- C. Consultant desires to provide City with professional services ("Services") consistent with best consulting or architectural practices and the standards set forth in this Agreement, in order to complete the Project; and
- D. City and Consultant desire to memorialize their agreement with this document.

AGREEMENT

The parties hereby agree as follows:

1. Key Personnel; Other Consultants and Subcontractors.

- 1.1 Professional Services. Consultant will provide all Services necessary to assure the Project is completed timely and efficiently consistent within Project requirements, including, but not limited to, working in close interaction and interfacing with City and its designated employees, and working closely with others, including other consultants or contractors, retained by City.
- 1.2 Project Team.
 - a. Project Manager.
 - (1) Consultant will designate an employee as Project Manager with sufficient training, knowledge, and experience to, in the City's opinion, complete the project and handle all aspects of the Project such that the work produced by Consultant is consistent with applicable standards as detailed in this Agreement; and
 - (2) The City must approve the designated Project Manager.
 - b. Project Team.
 - (1) The Project Manager and all other employees assigned to the Project by Consultant will comprise the "Project Team."
 - (2) Project Manager will have responsibility for and will supervise all other employees assigned to the Project by Consultant.
 - c. Discharge, Reassign, Replacement.
 - (1) Consultant acknowledges the Project Team is comprised of the same persons and roles for each as may have been identified in **Exhibit A**.
 - (2) Consultant will not discharge, reassign, replace or diminish the responsibilities of any of the employees assigned to the Project who have been approved by City without City's prior written consent unless that person leaves the employment of Consultant, in which event the substitute must first be approved in writing by City.

- (3) Consultant will change any of the members of the Project Team at the City's request if an employee's performance does not equal or exceed the level of competence that the City may reasonably expect of a person performing those duties, or if the acts or omissions of that person are detrimental to the development of the Project.

d. Subcontractors.

- (1) Consultant may engage specific technical contractors (each a "Subcontractor") to furnish certain service functions.
- (2) Consultant will remain fully responsible for Subcontractor's services.
- (3) Subcontractors must be approved by the City.
- (4) Consultant will certify by letter that all contracts with Subcontractors have been executed incorporating requirements and standards as set forth in this Agreement.

2. **Schedule.** The Services will be undertaken in a manner that ensures the Project is completed timely and efficiently in accordance with the Project.

3. **Consultant's Work.**

3.1 Standard. Consultant must perform Services in accordance with the standards of due diligence, care, and quality prevailing among consultants having substantial experience with the successful furnishing of Services for projects that are equivalent in size, scope, quality, and other criteria under the Project and identified in this Agreement.

3.2 Licensing. Consultant warrants that:

- a. Consultant and its Subconsultants or Subcontractors will hold all appropriate and required licenses, registrations and other approvals necessary for the lawful furnishing of Services ("Approvals"); and
- b. Neither Consultant nor any Subconsultant or Subcontractor has been debarred or otherwise legally excluded from contracting with any federal, state, or local governmental entity ("Debarment").
 - (1) City is under no obligation to ascertain or confirm the existence or issuance of any Approvals or Debarments, or to examine Consultant's contracting ability.
 - (2) Consultant must notify City immediately if any Approvals or Debarment changes during the Agreement's duration. The failure of the Consultant to notify City as required will constitute a material default under the Agreement.

3.3 Compliance.

- a. Services will be furnished in compliance with applicable federal, state, county and local statutes, rules, regulations, ordinances, building codes, life safety codes, and other standards and criteria designated by City.
- b. Consultant must not discriminate against any employee or applicant for employment on the basis of race, color, religion, sex, national origin, age, marital status, sexual orientation, gender identity or expression, genetic characteristics, familial status, U.S. military veteran status or any disability. Consultant will require any Sub-contractor to be bound to the same requirements as stated within this section. Consultant, and on behalf of any subcontractors, warrants compliance with this section.

3.4 Coordination; Interaction.

- a. For projects that the City believes requires the coordination of various professional services, Consultant will work in close consultation with City to proactively interact with

any other professionals retained by City on the Project ("Coordinating Project Professionals").

- b. Consultant will meet to review the Project, Schedule and in-progress work with Coordinating Project Professionals and City as often and for durations as City reasonably considers necessary in order to ensure the timely work delivery and Project completion.
- c. For projects not involving Coordinating Project Professionals, Consultant will proactively interact with any other contractors when directed by City to obtain or disseminate timely information for the proper execution of the Project.

3.5 Work Product.

- a. Ownership. Upon receipt of payment for Services furnished, Consultant grants to City, and will cause its Subconsultants or Subcontractors to grant to the City, the exclusive ownership of and all copyrights, if any, to evaluations, reports, drawings, specifications, project manuals, surveys, estimates, reviews, minutes, all "architectural work" as defined in the United States Copyright Act, 17 U.S.C § 101, *et seq.*, and other intellectual work product as may be applicable ("Work Product").
 - (1) This grant is effective whether the Work Product is on paper (e.g., a "hard copy"), in electronic format, or in some other form.
 - (2) Consultant warrants, and agrees to indemnify, hold harmless and defend City for, from and against any claim that any Work Product infringes on third-party proprietary interests.
- b. Delivery. Consultant will deliver to City copies of the preliminary and completed Work Product promptly as they are prepared.
- c. City Use.
 - (1) City may reuse the Work Product at its sole discretion.
 - (2) In the event the Work Product is used for another project without further consultations with Consultant, the City agrees to indemnify and hold Consultant harmless from any claim arising out of the Work Product.
 - (3) In such case, City will also remove any seal and title block from the Work Product.

4. **Compensation for the Project.**

- 4.1 Compensation. Consultant's compensation for the Project, including those furnished by its Subconsultants or Subcontractors will not exceed \$1,199,101.00 as specifically detailed in **Exhibit D** ("Compensation").
- 4.2 Change in Scope of Project. The Compensation may be equitably adjusted if the originally contemplated Scope as outlined in the Project is significantly modified.
 - a. Adjustments to Compensation require a written amendment to this Agreement and may require City Council approval.
 - b. Additional services which are outside the Scope of the Project contained in this Agreement may not be performed by the Consultant without prior written authorization from the City.
 - c. Notwithstanding the incorporation of the Exhibits to this Agreement by reference, should any conflict arise between the provisions of this Agreement and the provisions found in the Exhibits and accompanying attachments, the provisions of this Agreement shall take priority and govern the conduct of the parties.
- 4.3 Allowances. An "Allowance" may be identified in **Exhibit D** only for work that is required by the Scope and the value of which cannot reasonably be quantified at the time of this Agreement.

- a. As stated in Sec. 4.1 above, the Compensation must incorporate all Allowance amounts identified in **Exhibit D** and any unused allowance at the completion of the Project will remain with City.
- b. Consultant may not add any mark-up for work identified as an Allowance and which is to be performed by a Subconsultant.
- c. Consultant will not use any portion of an Allowance without prior written authorization from the City.
- d. Examples of Allowance items include, but are not limited to, subsurface pothole investigations, survey, geotechnical investigations, public participation, radio path studies and material testing.

4.4 Expenses. City will reimburse Consultant for certain out-of-pocket expenses necessarily incurred by Consultant in connection with this Agreement, without mark-up (the "Reimbursable Expenses"), including, but not limited to, document reproduction, materials for book preparation, postage, courier and overnight delivery costs incurred with Federal Express or similar carriers, travel and car mileage, subject to the following:

- a. Mileage, airfare, lodging and other travel expenses will be reimbursable only to the extent these would, if incurred, be reimbursed to City of Glendale personnel under its policies and procedures for business travel expense reimbursement made available to Consultant for review prior to the Agreement's execution, and which policies and procedures will be furnished to Consultant;
- b. The Reimbursable Expenses in this section are approved in advance by City in writing; and
- c. The total of all Reimbursable Expenses paid to Consultant in connection with this Agreement will not exceed the "not to exceed" amount identified for Reimbursable Services in the Compensation.

5. **Billings and Payment.**

5.1 Applications.

- a. Consultant will submit monthly invoices (each, a "Payment Application") to City's Project Manager and City will remit payments based upon the Payment Application as stated below.
- b. The period covered by each Payment Application will be one calendar month ending on the last day of the month.

5.2 Payment.

- a. After a full and complete Payment Application is received, City will process and remit payment within 30 days.
- b. Payment may be subject to or conditioned upon City's receipt of:
 - (1) Completed work generated by Consultant and its Subconsultants and Subcontractors; and
 - (2) Unconditional waivers and releases on final payment from all Subconsultants and Subcontractors as City may reasonably request to assure the Project will be free of claims arising from required performances under this Agreement.

5.3 Review and Withholding. City's Project Manager will timely review and certify Payment Applications.

- a. If the Payment Application is rejected, the Project Manager will issue a written listing of the items not approved for payment.

- b. City may withhold an amount sufficient to pay expenses that City reasonably expects to incur in correcting the deficiency or deficiencies rejected for payment.

6. Termination.

6.1 For Convenience. City may terminate this Agreement for convenience, without cause, by delivering a written termination notice stating the effective termination date, which may not be less than 15 days following the date of delivery.

- a. Consultant will be equitably compensated for Services furnished prior to receipt of the termination notice and for reasonable costs incurred.
- b. Consultant will also be similarly compensated for any approved effort expended, and approved costs incurred, that are directly associated with Project closeout and delivery of the required items to the City.

6.2 For Cause. City may terminate this Agreement for cause if Consultant fails to cure any breach of this Agreement within seven days after receipt of written notice specifying the breach.

- a. Consultant will not be entitled to further payment until after City has determined its damages. If City's damages resulting from the breach, as determined by City, are less than the equitable amount due but not paid Consultant for Services furnished, City will pay the amount due to Consultant, less City's damages, in accordance with the provision of Sec. 5.
- b. If City's direct damages exceed amounts otherwise due to Consultant, Consultant must pay the difference to City immediately upon demand; however, Consultant will not be subject to consequential damages more than \$1,000,000 or the amount of this Agreement, whichever is greater.

7. **Conflict.** Consultant acknowledges this Agreement is subject to A.R.S. § 38-511, which allows for cancellation of this Agreement in the event any person who is significantly involved in initiating, negotiating, securing, drafting, or creating the Agreement on City's behalf is also an employee, agent, or consultant of any other party to this Agreement.

8. **Insurance.** For the duration of the term of this Agreement, Consultant shall procure and maintain insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of all tasks or work necessary to complete the Project as herein defined. Such insurance shall cover Consultant, its agent(s), representative(s), employee(s) and any subcontractors.

8.1 **Minimum Scope and Limit of Insurance.** Coverage must be at least as broad as:

- a. Commercial General Liability (CGL): Insurance Services Office Form CG 00 01, including products and completed operations, with limits of no less than **\$1,000,000** per occurrence for bodily injury, personal injury, and property damage. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
- b. Automobile Liability: Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), with limits no less than **\$1,000,000** per accident for bodily injury and property damage.
- c. Professional Liability. Consultant must maintain a Professional Liability insurance covering errors and omissions arising out of the work or services performed by Consultant, or anyone employed by Consultant, or anyone for whose acts, mistakes, errors and omissions Consultant is legally liability, with a liability insurance limit of \$1,000,000 for each claim and a \$2,000,000 annual aggregate limit.
- d. Worker's Compensation: Insurance as required by the State of Arizona, with Statutory Limits, and Employers' Liability insurance with a limit of no less than **\$1,000,000** per accident for bodily injury or disease.

8.2 Indemnification.

- a. To the fullest extent permitted by law, Consultant must defend, indemnify, and hold harmless City and its elected officials, officers, employees and agents (each, an "Indemnified Party," collectively, the "Indemnified Parties") for, from, and against any and all claims, demands, actions, damages, judgments, settlements, personal injury (including sickness, disease, death, and bodily harm), property damage (including loss of use), infringement, governmental action and all other losses and expenses, including attorneys' fees and litigation expenses (each, a "Demand or Expense" collectively "Demands or Expenses") asserted by a third-party (i.e. a person or entity other than City or Consultant) and that arises out of or results from the breach of this Agreement by the Consultant or the Consultant's negligent actions, errors or omissions (including any Subconsultant or Subcontractor or other person or firm employed by Consultant), whether sustained before or after completion of the Project.
- b. This indemnity and hold harmless provision applies even if a Demand or Expense is in part due to the Indemnified Party's negligence or breach of a responsibility under this Agreement, but in that event, Consultant will be liable only to the extent the Demand or Expense results from the negligence or breach of a responsibility of Consultant or of any person or entity for whom Consultant is responsible.
- c. Consultant is not required to indemnify any Indemnified Parties for, from, or against any Demand or Expense resulting from the Indemnified Party's sole negligence or other fault solely attributable to the Indemnified Party.

8.3 **Other Insurance Provisions.** The insurance policies required by the Section above must contain, or be endorsed to contain the following insurance provisions:

- a. **The City, its officers, officials, employees and volunteers are to be covered as additional insureds** of the CGL and automobile policies for any liability arising from or in connection with the performance of all tasks or work necessary to complete the Project as herein defined. Such liability may arise, but is not limited to, liability for materials, parts or equipment furnished in connection with any tasks, or work performed by Consultant or on its behalf and for liability arising from automobiles owned, leased, hired or borrowed on behalf of the Consultant. General liability coverage can be provided in the form of an endorsement to the Consultant's existing insurance policies, provided such endorsement is at least as broad as ISO Form CG 20 10, 11 85 or both CG 20 10 and CG 23 37, if later revisions are used.
- b. For any claims related to this Project, the **Consultant's insurance coverage shall be primary insurance** with respect to the City, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees or volunteers shall be in excess of the Consultant's insurance and shall not contribute with it.
- c. Each insurance policy required by this Section shall provide that coverage shall not be canceled, except after providing notice to the City.

8.4 **Acceptability of Insurers.** Insurance is to be placed with insurers with a current A.M. Best rating of no less than A: VII, unless the Consultant has obtained prior approval from the City stating that a non-conforming insurer is acceptable to the City.

8.5 **Waiver of Subrogation.** **Consultant hereby agrees to waive its rights of subrogation which any insurer may acquire** from Consultant by virtue of the payment of any loss. Consultant agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation. The Workers' Compensation Policy shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Consultant, its employees, agent(s) and subcontractor(s).

8.6 **Verification of Coverage.** Within 15 days of the Effective Date of this Agreement, Consultant shall furnish the City with original certificates and amendatory endorsements, or copies of any applicable insurance language making the coverage required by this Agreement effective. All certificates and endorsements must be received and approved by the City before work commences. Failure to obtain, submit or secure the City's approval of the required insurance policies, certificates or endorsements prior to the City's agreement that work may commence shall not waive the Consultant's obligations to obtain and verify insurance coverage as otherwise provided in this Section. The City reserves the right to require complete, certified copies of all required insurance policies, including any endorsements or amendments, required by this Agreement at any time during the Term stated herein.

Consultant's failure to obtain, submit or secure the City's approval of the required insurance policies, certificates or endorsements shall not be considered a Force Majeure or defense for any failure by the Consultant to comply with the terms and conditions of the Agreement, including any schedule for performance or completion of the Project.

8.7 **Subcontractors.** Consultant shall require and shall verify that all subcontractors maintain insurance meeting all requirements of this Agreement.

8.8 **Special Risk or Circumstances.** The City reserves the right to modify these insurance requirements, including any limits of coverage, based on the nature of the risk, prior experience, insurer, coverage or other circumstances unique to the Consultant, the Project or the insurer.

9. **E-verify, Records and Audits.** To the extent applicable under A.R.S. § 41-4401, the Consultant warrant their compliance and that of its subconsultants with all federal immigration laws and regulations that relate to their employees and compliance with the E-verify requirements under A.R.S. § 23-214(A). The Consultant or subconsultant's breach of this warranty shall be deemed a material breach of the Agreement and may result in the termination of the Agreement by the City under the terms of this Agreement. The City retains the legal right to randomly inspect the papers and records of the other party to ensure that the other party is complying with the above-mentioned warranty. The Consultant and subconsultant warrant to keep their respective papers and records open for random inspection during normal business hours by the other party. The parties shall cooperate with the City's random inspections, including granting the inspecting party entry rights onto their respective properties to perform the random inspections and waiving their respective rights to keep such papers and records confidential.

10. **No Boycott of Israel.** To the extent A.R.S § 35-393 through § 35-393.03 are applicable, the parties hereby certify that they are not currently engaged in, and agree for the duration of the Agreement to not engage in, a boycott of goods or services from Israel, as that term is defined in A.R.S § 35-393.

11. **Attestation of PCI Compliance.** When applicable, the Consultant will provide the City annually with a Payment Card Industry Data Security Standard (PCI DSS) attestation of compliance certificate signed by an officer of Consultant with oversight responsibility.

12. **Notices.**

12.1 A notice, request or other communication that is required or permitted under this Agreement (each a "Notice") will be effective only if:

- a. The Notice is in writing; and
- b. Delivered in person or by overnight courier service (delivery charges prepaid), certified or registered mail (return receipt requested).
- c. Notice will be deemed to have been delivered to the person to whom it is addressed as of the date of receipt, if:
 - (1) Received on a business day before 5:00 p.m. at the address for Notices identified for the Party in this Agreement by U.S. Mail, hand delivery, or overnight courier service; or
 - (2) As of the next business day after receipt, if received after 5:00 p.m.

- d. The burden of proof of the place and time of delivery is upon the Party giving the Notice.
- e. Digitalized signatures and copies of signatures will have the same effect as original signatures.

12.2 Representatives.

- a. Consultant. Consultant's representative (the "Consultant's Representative") authorized to act on Consultant's behalf with respect to the Project, and his or her address for Notice delivery is:

Chris Eggers, PE
 Senior Project Engineer, Senior Associate
 Stantec Consulting Services, Inc.
 3133 West Frye Road
 Chandler, Arizona 85226

- b. City. City's representative ("City's Representative") authorized to act on City's behalf, and his or her address for Notice delivery is:

City of Glendale
 c/o Abdul Rashid
 Senrio Civil Engineer (PM), Engineering Department
 5850 West Glendale Avenue, Suite 315
 Glendale, Arizona 85301

With required copy to:

City Manager
 City of Glendale
 5850 West Glendale Avenue
 Glendale, Arizona 85301

City Attorney
 City of Glendale
 5850 West Glendale Avenue
 Glendale, Arizona 85301

- c. Concurrent Notices.
 - (1) All notices to City's representative must be given concurrently to City Manager and City Attorney.
 - (2) A notice will not be deemed to have been received by City's representative until the time that it has also been received by the City Manager and the City Attorney.
 - (3) City may appoint one or more designees for the purpose of receiving notice by delivery of a written notice to Consultant identifying the designee(s) and their respective addresses for notices.
- d. Changes. Consultant or City may change its representative or information on Notice, by giving Notice of the change in accordance with this section at least ten days prior to the change.

13. **Financing Assignment.** City may assign this Agreement to any City-affiliated entity, including a non-profit corporation or other entity whose primary purpose is to own or manage the Project.

14. **Entire Agreement; Survival; Counterparts; Signatures.**

14.1 Integration. This Agreement contains, except as stated below, the entire agreement between City and Consultant and supersedes all prior conversations and negotiations between the parties regarding the Project or this Agreement.

- a. Neither Party has made any representations, warranties or agreements as to any matters concerning the Agreement's subject matter.

- b. Representations, statements, conditions, or warranties not contained in this Agreement will not be binding on the parties.
- c. Inconsistencies between the solicitation, any addenda attached to the solicitation, the response or any excerpts attached as **Exhibit A**, and this Agreement, will be resolved by the terms and conditions stated in this Agreement.

14.2 Interpretation.

- a. The parties fairly negotiated the Agreement's provisions to the extent they believed necessary and with the legal representation they deemed appropriate.
- b. The parties are of equal bargaining position and this Agreement must be construed equally between the parties without consideration of which of the parties may have drafted this Agreement.
- c. The Agreement will be interpreted in accordance with the laws of the State of Arizona.

14.3 Survival. Except as specifically provided otherwise in this Agreement, each warranty, representation, indemnification and hold harmless provision, insurance requirement, and every other right, remedy and responsibility of a Party, will survive completion of the Project, or the earlier termination of this Agreement.

14.4 Amendment. No amendment to this Agreement will be binding unless in writing and executed by the parties. Electronic signature blocks do not constitute execution for purposes of this Agreement. Any amendment may be subject to City Council approval.

14.5 Remedies. All rights and remedies provided in this Agreement are cumulative and the exercise of any one or more right or remedy will not affect any other rights or remedies under this Agreement or applicable law.

14.6 Severability. If any provision of this Agreement is voided or found unenforceable, that determination will not affect the validity of the other provisions, and the voided or unenforceable provision will be reformed to conform with applicable law.

14.7 Counterparts. This Agreement may be executed in counterparts, and all counterparts will together comprise one instrument.

15. Term.

15.1 Renewals. The term of this Agreement commences upon the effective date and continues for a three (3) year initial period. The City may, at its option and with the approval of the Consultant, extend the term of this Agreement an additional three (3) years, renewable on an annual basis. Consultant will be notified in writing by the City of its intent to extend the Agreement period at least thirty (30) calendar days prior to the expiration of the original or any renewal Agreement period. Price adjustments will only be reviewed during the Agreement renewal period and will be a determining factor for any renewal. There are no automatic renewals of this Agreement.

15.2 Extension for Procurement Process. Upon the expiration of the Term of this Agreement, including the initial term and any renewals, at the City's sole discretion, this Agreement may be extended on a month-to-month basis for a maximum of six (6) months to allow for the City to complete its procurement process to select a vendor to provide the services/materials similar to those provided under this Agreement. The City will notify the Contractor in writing of its intent to extend the Agreement at least thirty (30) calendar days prior to the expiration of the Term. Any extension provided under this subsection will continue under the same terms and conditions as in effect immediately prior to the expiration of the then-current term.

16. Dispute Resolution. Any controversy or claim arising out of or relating to this contract, or the breach thereof, shall be settled by arbitration administered according to the American Arbitration Association's Commercial Arbitration Rules, and judgment on the award rendered by the arbitrator may be entered in any court having jurisdiction thereof.

17. **Exhibits.** The following exhibits, with reference to the term in which they are first referenced, are incorporated by this reference.

- Exhibit A Project
- Exhibit B Scope of Work
- Exhibit C Schedule
- Exhibit D Compensation

The parties enter into this Agreement effective as of the date shown above.

City of Glendale,
an Arizona municipal corporation

By: Kevin R. Phelps
Its: City Manager

ATTEST:

Julie K. Bower (SEAL)
City Clerk

APPROVED AS TO FORM:

Michael D. Bailey
City Attorney

Stantec Consulting Services, Inc.,
a New York corporation



By: Tina Moschetti
Its: Vice President, Transportation

EXHIBIT A
Professional Services Agreement

PROJECT

DESCRIPTION OF PROJECT:

This drainage improvement project will alleviate recurring flooding which occurs near the intersection of Bethany Home Road, 51st Avenue, and Grand Avenues by intercepting and redirecting stormwater upstream, and by providing additional retention and detention facilities. The City of Glendale completed the drainage study in 2019 with recommended solutions. This project will further develop the suggested improvements including new storm drain at Grand Avenue and Maryland Avenue along 51st and 47th Avenues. In addition, a storm drain along Grand Avenue will be installed between Bethany Home Road and ADOT's 43rd Avenue Detention Basin. Basin enlargements are also proposed for the Elementary School Retention Basin.

Although a preliminary HEC-1 drainage analysis was developed as part of the previous drainage study, the City has determined to conduct a new analysis using FLO-2D to produce a more accurate model and possibly reduce the pipe sizes of the storm drains. By initiating a FLO-2D model, new aerial survey will be flown for the anticipated drainage contributing areas.

This project is anticipated to be delivered as a Construction Manager At-Risk (CMAR) project, therefore additional coordination will be required with the selected contractor. The project will be split into 3 separate design packages to advance construction start dates in specific locations. Each of the three design packages will be submitted and finalized on independent schedules. The first and earliest package will be the 51st Avenue storm drain and spillway design. The limits of the 51st Avenue section will be discussed in further detail with the entire team once under contract. The second package will include the storm drain design along Grand Avenue and the regrading of the Elementary School Basin. The third and final package will include the 47th Avenue storm drain design.

EXHIBIT B
Professional Services Agreement

SCOPE OF WORK

DESIGN STANDARDS

The following standards will be applicable to this project:

- City of Glendale Engineering Design and Construction Standards, 2015 edition.
- Maricopa Association of Governments (MAG) Uniform Standard Specifications for Public Works Construction, 2021 Revisions to the 2020 edition.
- Maricopa Association of Governments Uniform Standard Details for Public Works Construction, Revisions through 2021 Revisions to the 2020 edition.
- Flood Control District of Maricopa County – Drainage Design Manual – Hydrology, Dec 2018
- Flood Control District of Maricopa County – Drainage Design Manual – Hydraulics, Dec 2018
- Flood Control District of Maricopa County – Drainage Policies and Standards, Aug 2018

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DESIGN SERVICES

The following are the tasks and design services required for this project.

1.0 PROJECT ADMINISTRATION

Consultant will coordinate and integrate project tasks and elements to effectively address project milestones. Consultant will attend meetings and provide coordination as described in this section as well as prepare and update an overall project schedule for services performed by Consultant as identified in this proposal.

Task 1.1 Project Management and Coordination

The Consultant will perform project management duties to successfully facilitate the project. Consultant will coordinate with the City of Glendale (COG) staff, including the COG Project Manager to facilitate coordination and timely task completion. Coordination will be facilitated using telephone, Teams messages, or e-mail exchanges. If additional unforeseen meetings or coordination is required with utility companies, the City, or the CMAR, these will be completed as part of Task 7.4 Allowances – Meetings and Coordination.

Project coordination will also include internal consultant project meetings, which is in addition to the meetings discussed in Task 1.2 below.

Assumptions

- Any meetings and subsequent coordination not included in Task 1.2 will be included with Task 7.4

Deliverables

- Project Administration folder.

Task 1.2: Meetings

Consultant will conduct project meetings to discuss the progress, direction, scope, schedule, budget, and technical aspects of the project. Utility coordination and comment resolution (CR) will occur during the progress meetings. Project documentation will consist of preparing and distributing meeting agendas and minutes. Meeting minutes will summarize work progress, project issues, project schedule status, key discussions, comments, decisions, and any action items required. Monthly progress meetings are anticipated to be virtual meetings with quarterly meetings (when approved) in-person at the City. The duration of each project meeting is assumed to be 2 hours, not including preparation of meeting agendas and draft and final meeting minutes. The monthly meetings will also incorporate time for coordination with the utility companies and act as the comment resolution meetings following project submittals for each of the Work Packages (WP).

This task includes time for up to three Alignment Design Charrettes to occur prior to the final Preliminary Design Report submittal and is anticipated to last up to 2 hours each. The In-Person charrette with the City, CMAR, and Consultant representatives will be set to discuss and select the best alignments for all the storm drains. The Consultant will prepare aerial exhibits (Task 2.6), agenda, and minutes for the charrette. Up to four Agency Coordination meetings are included with this task to meet with ADOT, SRP-IRR, FCDMC, etc. The Agency Coordination meetings are anticipated to have a duration of 2 hours for each meeting not including preparation of agenda and draft and final meeting minutes.

Meetings included in this scope of work include the following:

Reference Task	Meeting	No. of Meetings	Length of Meeting
1.2	Project Kickoff (Virtual)	1	2 hr.
1.2	Monthly Progress/Utility Meetings (Virtual)	9	2 hr.
1.2	Quarterly Progress/Utility Meetings (In-Person)	3	2 hr.
2.6	Alignment Design Charrettes (In-Person)	3	2 hr.
1.2	Agency Meetings (ADOT, SRP-IRR, & FCDMC)	4	2 hr.
	Total	20	

Assumptions

- COG will confirm proposed City attendees at meeting/conference
- In-Person Meetings will be held at City of Glendale facilities
- Design duration is expected to be 14 months, additional fees will be required for Task 1.1 and 1.2 if the project duration is longer than 14 months.

Deliverables

- Meeting Agendas
- Meeting Minutes
- Graphics, figures, plans, notes and details necessary for meeting discussion

Task 1.3 Utility Coordination

Consultant will coordinate with private, public and City utilities regarding utility issues and incorporate pertinent information in the design plans. In general, the Consultant will provide base maps incorporating utility information, provide pothole requests of existing utilities to the CMAR, prepare applications to secure utility permits, and provide utility coordination services to obtain “no-conflict” review responses. Consultant will coordinate and provide design information (with City approval) in the form of CAD files with private utility companies to aid in the relocation of their facilities.

1. Consultant will show known existing utilities on the project plan and profile sheets using the best available records (quarter sections maps, potholes, etc).
2. Consultant will obtain Blue Stake for design ticket which represents anticipated utilities located within project limits. Consultant will contact each utility owner to obtain maps, as-built information, and GIS data.
3. Consultant will be responsible for field verifying the horizontal locations of known utilities within the project limits and request the vertical locations in the form of pothole information for all crossings.
4. Consultant will provide pothole requests to the CMAR for utility potholing services. Pothole results shall be provided to Consultant for incorporation into the 60% plans and coordination with affected utility companies for possible relocation design. Pothole results shall be based on Project Survey Control and be sealed by a Registered Land Surveyor. Consultant will incorporate results into the construction plans.
5. Consultant will send a letter using a City template, if available, to each utility company notifying them of the project and defining the project scope and timeline at 60%, 90%, and 100% for their review along with a request for written response from each company to determine the disposition of their utility as it relates to the planned storm drain and utility work.

6. Consultant will begin utility coordination meetings after the 60% and 90% submittals for each of the 3 work packages.
7. Consultant will specifically identify utility conflicts, with input from utility companies, which might affect utility alignment or grade and recommend alignment alternatives. Consultant will respond to information request from utility owners for conflicts, CADD file transfers, and documentation of discussions.
8. Consultant will assist the CMAR who will coordinate with the utility companies to facilitate the design of their relocated their facilities.
9. Consultant will prepare a utility clearance letters, providing a review of proposed utility plans, including conflict evaluation, and general considerations.

Assumptions

- CMAR will provide utility potholing services before 60% design document submittal.
- City to provide available ¼-section maps and as-builts for utilities within project, based on Consultant's request form. Consultant has a right to rely on provided utility information from the City.
- Consultant review of utility relocation plans shall be limited to 10 individual reviews.
- Utility coordination will be held during monthly progress meetings.

Deliverables

- Utility clearance letters
- No-conflict review responses from affected utility companies

Task 1.4 Project Submittals

Consultant will prepare and submit projects plans, reports, estimates, and specs to each of the identified reviewing agencies. Consultant will print, compile, compose transmittals, and submit/deliver electronically to the reviewing agencies for each of the milestone submittals on each work package. Consultant will work with the City to determine which submittals will be submitted to each Agency.

Assumptions

- Private Utility submittals are covered under Task 1.3 – Utility Coordination.
- Submittals to Maricopa County Environmental Services Department (MCESD) are covered under Task 7.1 – Water & Sewer Plans (Allowance)
- Project Submittals will be submitted to City of Glendale, Flood Control District of Maricopa County (FCDMC), CMAR, ADOT, and City of Phoenix.
- Assumes all submittals to be electronic submittals via email or internet-based secure file sharing site.
- Assumes the CMAR will review the design submittals at the same time as the City. (No separated design submittals)

Deliverables

- 30/60/90/100 percent submittals for Work Package 1 (PDFs)
- 30/60/90/100 percent submittals for Work Package 2 (PDFs)
- 30/60/90/100 percent submittals for Work Package 3 (PDFs)

Task 1.5 Project Schedule

Consultant will develop and maintain a project schedule reflecting design concept development, construction document preparation, and CMAR related services. Schedule will be developed in a work breakdown structure format identifying key project tasks and deliverable milestones. The draft schedule will be provided to the City at the kick-off meeting. The project schedule will be discussed at each of the progress meetings and updated accordingly. The project schedule will be developed using Microsoft Project. The schedule will be updated monthly and submitted to the COG at progress meetings.

Assumptions

- City will review and approve Project schedule
- Assumes the CMAR will develop the Construction Schedule.

Deliverables

- Initial and updated Project schedules (Adobe PDF or Microsoft Project format).

Task 1.6: Invoices

Consultant will prepare monthly invoices, delivered to the City's Project Manager no later than the 25th day of the month. The invoice will identify the contract number and include the amount of each work task and man-hour level of effort and consultant services identified in the approved fee proposal. The percent complete will be consistent with the project schedule, tasks, and fee proposal per tasks. The total invoice submitted will be less than or equal to the report that details the task percent complete with the associated cost. The invoice will show the contract amount, the amounts previously billed, the amount due for the current period, the contract balance, and the percent complete per tasks.

A projection of monthly billings will be submitted within 14 days after the Notice to Proceed (NTP) has been issued. The Consultant will complete the Cash Flow workbook monthly and submit to the applicable COG representative and the COG PM.

Assumptions

- City shall approve invoices
- Meeting notes from the monthly progress meetings may be submitted as progress reports.
- Invoices will be submitted via the City's online process.

Deliverables

- Monthly invoices
- Cash Flow Report

Task 1.7: Quality Assurance / Quality Control

Consultant will be responsible for providing Quality Assurance / Quality Control of all engineering designs, analyses and deliverables prepared for the Project. Consultant will utilize Consultant's established QA/QC format and procedures. Information regarding procedure and copies of documentation is available to the City upon request. In addition to overseeing Consultant's work, the Consultant will ensure that our sub-consultants are completing adequate quality control as part of the quality assurance.

2.0 PRELIMINARY DESIGN AND FIELD INVESTIGATION

Task 2.1: Background Documentation

Consultant will research and obtain data from existing records for the project area, including but not limited to as-built drawings, right-of-way and quarter-section maps, utility mapping, drainage reports, and field information. Consultant will also collect information for existing right-of-way infrastructure, public and private utility information, and flood complaints. Existing storm drain plans, including those from City of Phoenix, for the area encompassing the FLO-2D model will be gathered by the Consultant, with assistance from the City if required, for the proposed modeling.

Assumptions

- City will provide City as-built drawings upon request from the Consultant.
- Consultant to request and obtain as-built drawings from the City of Phoenix with the City's assistance if needed at no cost to the Consultant.
- Consultant to request and obtain FCDMC area drainage studies, plans, and models will be provided to the Consultant at no cost to Consultant.
- City to provide Gavin & Barker study and models upon request from the Consultant

Deliverables

- None

Task 2.2: Site Visits and Field Reconnaissance

Consultant will perform site visits and field reconnaissance for the site and surrounding area to observe and record information concerning existing improvements, use, and conditions for the site and surrounding area. A site walk will be conducted to verify the ground information from the aerial survey with respect to the topography base file. Consultant shall attend a site walk with the City and CMAR to analyze possible alignments during the preliminary phase.

Assumptions

- Approximately 4 one-hour site visits plus travel time are anticipated during the design phase of the project.
- Approximately 2 full-day field reconnaissance visits (for survey verification) are anticipated during the design phase of the project.

Deliverables

- Field report and photo documentation

Task 2.3: Topographic and Aerial Survey

Consultant will obtain aerial survey including flight, mapping, and imagery services for the larger floodplain required for the FLO-2D model and the immediate design area near Bethany Home Road required for the storm drain design. The larger aerial survey will be flown at a 1"=100' scale map with 2' contour collection and a 7.2 cm photography for mapping and imagery. The smaller aerial survey for the immediate design area will be flown at a 1"=20' scale map with 1' contours and plan mapping using 2.8 cm photography for mapping and imagery.

Consultant shall obtain supplemental ground survey and set targets for aerial mapping. Supplemental survey will be acquired for above ground features not attainable by aerial survey and below ground information such as storm drain and sanitary sewer pipe inverts and water line nut elevations.

Assumptions

- None

Deliverables

- Orthorectified Aerial Imagery (if requested)
- 2021 Civil 3d Base Mapping and Surface (if requested)

Task 2.4: Base Map Development

Consultant will create base maps from the information gathered during the field and aerial survey, utility company record drawings and schematics, and utility coordination tasks. Utilities will be shown based on surveyed surface features as well as mapping information provided by each utility. Base mapping will be created in AutoCAD Civil 3D format in conformance with City of Glendale standards. Reference the attached Cobb-Fendley scope of work for additional detail of the base mapping.

Assumptions

- City will provide standard plan sheet border and cover sheet
- City will provide current GIS base information for general property information
- CMAR will provide all utility designating (wire tracing) and locating (potholing) upon request from the Consultant

Deliverables

- Utility CAD Base file based on known researched record drawings and visible surface features from aerial and supplemental survey.

Task 2.5: Geotechnical Investigation

A project corridor geotechnical investigation and testing will be completed by the Consultant. It is anticipated that the geotechnical report will provide the existing pavement structural section from cores, trench conditions, side-slope stability, on-site soil re-use, and soil corrosivity properties for pipe selection. The geotechnical report will also contain retention basin percolation test results. Consultant will review the report and coordinate with the City of Glendale and the geotechnical consultant if required. Reference the attached Ninyo and Moore Geotechnical scope of work for detailed information.

Assumptions

- Field work will be performed during daytime hours
- Site is accessible to normal, two-wheel drive truck-mounted drilling equipment, and site access will be granted. Consultant will obtain permission from the School District with the assistance from the City if needed.
- Off-duty police officer traffic control services, if required and approved, will be reimbursed under Task 7.8.
- If auger refusal is encountered, drilling will be terminated
- Groundwater will not be encountered

- Excavations can be backfilled with the drilling spoils and patched with asphalt cold-patch material once finished
- No environmental clearance is required for investigation.
- Pavement replacement will be based on existing structural sections.

Deliverables

- Draft and Final Geotechnical Report in electronic PDF format

Task 2.6: Storm Drain Alignment Evaluation

The purpose of this task is to establish a storm alignment corridor within 51st Avenue, Grand Avenue, 47th Avenue, and Bethany Home Road. The alignment evaluation will identify a preferred storm drain alignment with consideration for the previous proposed storm drain alignments developed during the prior drainage study. Consultant will coordinate with the City and CMAR to determine refined alignments based on the additional survey and updated utility mapping. Consultant will also analyze alternate alignments with the City and CMAR which may produce a more favorable or cost-effective alignment for the Grand Avenue storm drain system. In-Person design charrettes will be covered under Task 1.2 – Meetings. Consultant will produce an alignment alternative exhibit or model prior to the design charrettes.

Assumptions

- In-Person design charrettes will be conducted in-person at the City of Glendale.
- Depending on the outcome of the selected alternative alignments, Consultant may revise scope and associated fee if necessary.
- Alignment findings to be noted in the Preliminary Design Report

Deliverables

- Alignment Alternative Exhibit for the design charrette.

Task 2.7: Preliminary Design Report

Consultant shall prepare a preliminary design report. The report will summarize the data review including existing (pertinent) design reports, drainage reports, and as-built drawings. The report will include preliminary hydrology and hydraulic calculations. Included in the report will be a proposed horizontal and vertical storm drain alignment for the storm drain and catch basin/inlet sizes and locations. The report will also include a concept design for the detention basin enlargement at the Elementary School Basin. The base sheets prepared from the topographic field surveys will be used to prepare the horizontal and vertical alignments. The base sheets will include the existing utilities identified from the utility maps and as-builts. The report will also include planning recommendations and design criteria.

After the City’s review and approval of the preliminary design report, the final report will be prepared along with a preliminary plan of the horizontal and vertical alignment of the proposed storm drain. The plans will indicate existing topography, existing rights of way and easements and proposed rights of way. Details will not be included.

Assumptions

- CMAR in coordination with the Consultant will recommend pipe selection (Task 7.9 - CMAR Services) prior to the final Preliminary Design Report being submitted.

Deliverables

- Draft Preliminary Design Report (PDF electronic copy).
- Final Preliminary Design Report (PDF electronic copy).

3.0 DRAINAGE DESIGN

The proposed storm drain design will include on-site and off-site drainage analysis, modeling and hydraulic calculations, and design, and a draft and final drainage report.

Task 3.1: Hydrology and Hydraulic Analysis

Hydrology & hydraulic modeling will be conducted to support the development of storm drain system and retention requirements utilizing FLO-2D. Specific boundaries for the FLO-2D model will be determined as part of this Scope of Work. The modeling shall be based upon guidelines from the Flood Control District of Maricopa County (FCDMC) for application of FLO-2D to rainfall-runoff and hydraulic modeling in Maricopa County.

The Consultant shall utilize the most recent Flood Control District of Maricopa County-approved FLO-2D Pro Build, current FLO-2D Plugin for QGIS, and the Flood Control District of Maricopa County's post processing program.

The Consultant shall develop input files for grid, elevation, infiltration, Manning's roughness value, and building blockages (ARFs) using FLO-2D Plugin for QGIS. The Consultant shall submit the GeoPackage with FLO-2D modeling files.

For each submittal, the Consultant shall use the FCDMC's post-processing program and fill out the FCDMC's Reviewers Checklist; review the Input Data Conflicts files, use the QGIS de-bugging tool, and explain why any conflicts remain.

Topographic Data Review - The Consultant will be provided a Raster DEM for the entire study area in TIF format from the Mapping Consultant. The Consultant will review the surface and verify the topographic data are sufficient for the project needs.

The Consultant will develop floodplain grid elevations using the FLO-2D Plugin for QGIS. The Consultant will provide a Grid Elevation Changes Dataset to document any changes made to grid elevations generated from the Mapping Consultant data.

Surface Feature Characterization Development. The Consultant shall provide development a Surface Feature Characterization for the study area based upon most current aerial imagery. The characterization will include polygons for vegetation, bare ground, building outlines/footprints, concrete, asphalt, etc.

Model Boundary/Grid Size Development – The Consultant will perform a general evaluation of grid element sizes and recommend an appropriate size cell for use modeling prior to beginning any modeling for approval by FCDMC. The general evaluation will take into consideration issues associated with land-use, topography, hydraulic accuracy, model size, modeling goals, and model integration. The Consultant will prepare a draft technical memorandum summarizing the rationale for the decision. The Consultant approximates there will be two (2) memo submittals.

The Consultant will identify the full watershed contributing runoff to project area from the Raster DEM. The Consultant will determine an appropriate FLO-2D boundary based on a buffer outside of the watershed.

Rainfall Frequency, Duration, and Distribution – The Consultant will run the FLO-2D models with both 6-hour and 24-hour durations for the 2-, 10-, 50- and 100-year storm event and evaluate the results. The Consultant will develop a GIS file for assigning spatially varied point rainfall based on the depth duration frequency ASCII grids from NOAA Atlas 14. The Pattern No. 1 distribution will be used for the 6-hour

storm, and the SCS Type II distribution will be used for the 24-hour storm. The Consultant shall prepare the RAIN.DAT (including the RAINARF values).

Rainfall Losses - the Consultant will use Special Feature Characterization (SFC) coverage developed in *Surface Feature Characterization* above for the watershed estimation of rainfall loss parameters. The Green and Ampt rainfall loss method shall be utilized for the infiltration parameter inputs into FLO-2D. The Consultant will utilize NRCS SSURGO data, Special Feature Characterization data and methodology provided in the FCDMC's Drainage Design Manual (DDM, 2018) to establish the Green and Ampt parameters. The Consultant will develop data for INFIL.DAT file using the FLO-2D Plugin for QGIS.

No vegetation-cover correction shall be applied to XKSAT. The Consultant will develop spatially varied infiltration values. The Consultant will evaluate the limiting infiltration depth

Area Reduction Factors - The Consultant shall use the SFC coverage developed in SFC Development to assign the area reduction factor (ARF) in the ARF changes dataset. The Consultant shall use the QGIS plugin to generate the ARF data for the watershed and parse out the data for the individual domains.

Manning's n-Values - The Consultant will develop spatially varied coverage for Manning's n-values based on SFC data developed as part of *Surface Feature Characterization* above. The Consultant will develop Manning's n-values using the FLO-2D Plugin for QGIS. Manning's n-Values should be refined for areas per the FCDMC's FLO-2D Verification Report.

Floodplain Cross Section Locations - The Consultant shall define cross sections at major street intersections and other areas of interest within the project area to aid in the development of the model. The cross sections shall be aligned as perpendicular to the direction of flow as possible. FPXSEC locations will evolve over the duration of the project. A GIS shapefile of the cross-section locations will be provided.

Hydraulic Structures - The Consultant shall identify the location of hydraulic structures such as culverts using a desktop-survey. Consultant will confirm sizes of culverts provided by GIS or Record Drawing information, if available. If not available, the Consultant will obtain field-visit measurements of the structures under Task 7.7 – Additional Drainage Research (Owner's Allowance) with prior approval from the City. LIDAR mapping will be used to estimate inlet and outlet inverts at culvert locations. FLO-2D's generalized culvert equation will be utilized to estimate culvert conveyance by the Consultant (rating curves shall not be developed). For other identified features, A GIS shapefile will be developed by the Consultant for every bridge and culvert that is modeled within FLO-2D.

Model Controls - The 2D model will include simulation of rainfall and rainfall losses. Therefore, the FLO-2D variables in the TOLER.DAT input file must be set appropriately for the intended use. The Courant should be set to 0.6, and DEPTOL to 0.0 for initial model runs. FROUDL should be set appropriately for hydraulic and surface conditions (spatially varied if appropriate) and to allow supercritical flow in areas where supercritical flow can realistically occur, such as streets.

This task will also include the documentation and required adjustments to the model parameters such as ShallowN, FROUDL, the Courant, AMANN, etc. All selected parameters will be discussed in the modeling report.

SWMM Component - The Consultant will acquire GIS shapefiles and as-built plans representing the existing storm drain network of the contributing watershed. The Consultant will use the available data to create an EPA SWMM network of the system that will be incorporated in the FLO-2D model. All FLO-2D model simulations will contain the existing storm drain network utilizing the SWMM component of FLO-2D.

It is assumed that the City of Phoenix and City of Glendale has GIS shapefiles and as-built plans that represent the storm drain network of the FLO-2D domain. Should this data not be complete or usable, the Consultant will estimate parameters based upon best available information and engineering judgment or by obtaining additional information under Task 7.7 – Additional Drainage Research (Owner’s Allowance) with prior approval from the City.

FLO-2D Numerical Stability – FLO-2D is a complex two-dimensional model that requires multiple iterations of troubleshooting to create an adequate and accurate model. The Consultant will produce a model that is numerically stable, without surging and produces usable results for the design aspect of this project. This task represents the troubleshooting that will need to occur for that project objective to be satisfied.

FLO-2D Model Validation – The Consultant will review the FLO-2D model result to validate the reported runoff values are reasonable. Indirect methods and previous HEC-1 models performed within the study area will be utilized to verify the FLO-2D results.

Model QA/QC – the Consultant will perform QA/QC of all modeling efforts prior to submittal to the FCDMC and the City. The Consultant will provide a short draft and final QA/QC Memorandum (in electronic format) with the FLO-2D model submittal.

Model Submittals. The Consultant shall be prepared to provide a “data tour” of the model submittals to show the City and FCDMC how the model submittals and folders are organized. It is assumed approximately two (2) FLO-2D model iterations are to be submitted. The FLO-2D submittal for modeling is described below. Input and output files shall be provided as part of this submittal, together with the corresponding GIS shapefiles and supporting backup calculations.

Items to be submitted include:

- Initial Grid input Files
 - o FPLAIN.DAT
 - o CADPTS.DAT
 - o TOPO.DAT
 - o NEIGHBORS.DAT
- Spatially varied n-values (MANNINGS_N.DAT)
- RAIN.DAT input file
- Initial floodplain cross section locations (GIS Shapefile and FPXSEC.DAT)
- Building obstructions (ARF.DAT)
- Infiltration including limiting infiltration depth (INFIL.DAT)
- Outflow Nodes (OUTFLOW.DAT)
- Preliminary Hydraulic Structures (HYSTRUC.DAT)
- FLO-2D Control Files (CONT.DAT and TOLER.DAT)

Detailed analysis – Detailed analysis will be conducted to analyze street flow spread and to determine catch basin sizing per design criteria from the City or FCDMC. Analysis will include catch basin and connector pipe analysis to size the basins and pipes and to determine freeboard in the catch basins. Inlet and outlet structures in the basins will be sized to handle the design flows, maintain adequate freeboard in the basins and to limit velocity and erosion. Basin drainpipes will be sized to drain the basin in an appropriate amount of time per FCDMC design criteria. Basin drain times will be estimated and additional drywells may be recommended to meet the requirements. Spillways will be analyzed and designed to pass the design flows determined by the FLO-2D model. Riprap will be sized as necessary to reduce erosion around the inlet and

outlet structures and spillways. Grating and trash racks will be analyzed to reduce head loss and designed to minimize clogging. FLO-2D and SWMM models will be updated based on the design details and basin grading plans that are developed.

Assumptions

- None

Deliverables

- See Model Submittals above

Task 3.2: Drainage Report

Consultant will prepare a draft and final drainage report documenting the offsite hydrology and FLO-2D analysis, and the onsite hydrology and hydraulic analysis of the existing and proposed storm drain system, detention basins and street flow and catch basin calculations. With each package begin submitted at different times, the draft report will be formatted as a drainage memorandum and will be submitted with each of the 90% submittals. The final drainage report will be a comprehensive report documenting all construction packages and will be submitted at the 90% submittal of the final design package.

Assumptions

- None

Deliverables

- Preliminary Drainage Report in PDF Format
- Work Package 1 Drainage Memo in PDF Format
- Work Package 2 Drainage Memo in PDF Format
- Work Package 3 Drainage Memo in PDF Format
- Final Drainage Report in PDF Format

4.0 CONSTRUCTION DRAWINGS WORK PACKAGE 1 (51ST AVE)

Consultant shall complete the storm drain design for the proposed 51st Avenue alignment which includes the storm drain beginning at the intersection of 51st Avenue and Maryland Avenue, extending south to Marlette Avenue, east to the ball field and then south where it discharges into the Rose Lane Park basin; incidental grading of the Rose Lane Basin to accommodate the bubble up structure and any proposed drywells; the proposed spillway between Rose Lane Basin and the adjacent ADOT basin south of Rose Lane; and the storm drain section draining the ADOT basin south down 51st Avenue to the connection with the proposed storm drain in Bethany Home Road. (see Figure 1). It is assumed that the capacity (volume) of the Rose Lane Basin will not be increased as part of this scope of work.

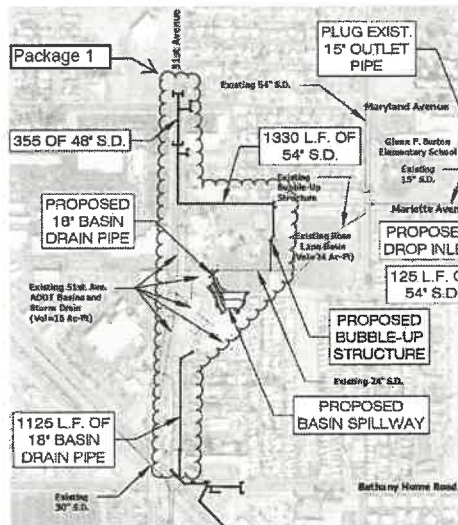


Figure 1 – Limits of Package 1

Consultant will prepare detailed construction drawings for the project in accordance with City standards. This scope of work outlines the anticipated sheets required for the construction documents. Construction drawings will include storm drain plan and profile sheets; and detail sheets. Waterline relocation plan and profile sheets and sewer line relocation plan and profile sheets will be prepared as necessary under Task 7.1 – Water and Sewer Plans. Paving is assumed to be limited to replacement within the trench only. Drawings will be prepared using 2021 Civil 3D release at a scale of 1"=20' Horizontal and 1"=2' or 4' Vertical for plan and profiles. Storm drain connector (laterals) pipe plans and profiles will be prepared at a scale of 1"=20' Horizontal and 1"=2' Vertical.

Consultant understands that the complete plan set will consist of approximately 23 sheets, ordered as shown in Table 1.

Table 1 - Preliminary Drawing List for Package 1	
Sheet Type	Sheets
Cover Sheet, Sheet Index	1
Legend & Notes, Key Map	1
General Notes	1
Geometric Control Plan	1
Storm Drain and Structure Details	4
Storm Drain Plan/Profile Sheets	8
Storm Drain Connector Pipe Profile Sheets	4
Spillway Plan and Details	2
Landscape/Irrigation Sheet	1
Total:	23

Submittals to the City will be provided at the following stages of design development:

Task 4.1: 30% Design

The submittal will include preliminary plans including the following:

- Indicate existing topography.
- Indicate storm drain mainline lateral alignment, plan/profile, and typical sections
- Include the approximate size and configuration of project features.
- Indicate rights-of-way and easements required.
- Indicate all utilities and identify conflicting utilities that are to be relocated and/or protected.
- Details will not be included.

In addition to the plans, the following will be submitted:

- Bid quantities
- Survey Data and Report (if requested)
- Preliminary Geotechnical Report
- Preliminary design calculations and analyses

Assumptions

- Landscaping and irrigation in Rose Lane basin shall be limited to replacement of existing turf or landscaping.
- City will distribute the plans to City staff for review
- City will provide technical staff for plan review and comment resolution
- CMAR will be responsible for construction schedules and cost estimating
- CMAR will be responsible for traffic control plans.
- CMAR comments will be delivered with the City Comments.
- Reviewers will provide comments within two (2) weeks

Deliverables

- Construction plans identified above
- Bid item list and quantities

- Design calculations and analysis
- Preliminary Geotechnical Report
- Consultant will submit an electronic copy of the 30% submittal to the City (No Paper Copies).

Task 4.2: 60% Design

Upon review and approval of the 30% submittal by the City, Consultant will incorporate review comments and perform hydrology, hydraulic, civil, and structural calculations necessary to prepare the 60% submittal. Plans will be complete with the exception that details may be preliminary in nature. Drawings will be detailed to show utility clearance and catch basin locations. Draft specifications outline will be prepared and will be based on MAG specifications with City of Glendale Supplements. Design calculations, analysis, and bid quantities will be submitted. City shall provide comments to Consultant within two (2) weeks after submittal.

Assumptions

- City will distribute the plans to City staff for review
- City will provide technical staff for plan review and comment resolution
- CMAR will be responsible for construction schedules and cost estimating
- CMAR will be responsible for traffic control plans.
- CMAR comments will be delivered with the City Comments.
- Reviewers will provide comments within two (2) weeks

Deliverables

- Construction plans
- Bid item list and quantities
- Draft technical special provisions
- Final Geotechnical Report
- Design calculations and analysis
- Consultant will submit an electronic copy of the 60% submittal to the City (No Paper Copies).
- CR Meeting Notes

Task 4.3: 90% Design

Upon review and approval of the 60% Submittal by the City, the Consultant shall incorporate review comments, and perform final revisions and refinements to the hydrology, hydraulic, civil, and structural calculations necessary to prepare the 90% Submittal.

Consultant shall prepare Pre-Final (90%) Design Documents including plans, specifications, and quantity estimates. 90% Documents shall be complete construction drawings and specifications suitable for permit submittal and final coordination. City shall provide comments to Consultant within two (2) weeks after submittal.

90% Design Documents shall contain the following elements:

- Complete construction drawings suitable for permitting, signed and sealed by a Registered Professional Engineer and marked "Agency Review, Not for Construction".
- Final design, including all required construction plans, notes, callouts, quantities and details necessary for bidding and construction

- Technical special provisions for all work and materials not adequately addressed by the referenced standard specifications

Assumptions

- City will distribute the plans to City staff for review
- City will provide technical staff for plan review and comment resolution
- CMAR will be responsible for construction schedules and cost estimating
- CMAR will be responsible for traffic control plans.
- CMAR comments will be delivered with the City Comments.
- Reviewers will provide comments within two (2) weeks

Deliverables

- Construction plans
- Bid item list and quantities
- Technical special provisions
- Design calculations and analysis
- Consultant will submit an electronic copy of the 90% submittal to the City (No Paper Copies).
- CR Meeting Notes

Task 4.4: 100% (Final) Design

Upon approval of the 90% Submittal, the Consultant shall incorporate review comments and make required corrections, changes, etc., to the hydrology, hydraulic, civil, and structural calculations, and incorporate comments and make changes and corrections to the Design Report, Plans, specifications, calculations, and the bid quantity calculations.

Consultant shall provide copies of the 100% documents to the City for final review to verify that 90% comments were addressed. Upon verification of comments, Consultant will provide final sealed plans.

Assumptions

- City will distribute the plans to City staff for review
- City will provide technical staff for plan review and comment resolution
- CMAR will be responsible for construction schedules and cost estimating
- CMAR will be responsible for traffic control plans.
- CMAR comments will be delivered with the City Comments.
- Reviewers will provide comments within two (2) weeks
- No separate roadway reconstruction or signing and striping plans required.

Deliverables

- Construction plans (100% and Final).
- Bid item list and quantities.
- Technical special provisions (100% and Final).
- Consultant will submit an electronic copy of the 100% and Final Sealed submittal to the City (No Paper Copies).

- CR Meeting Notes

Task 4.5 Special Provisions

Consultant will prepare any special provisions that may be necessary for the project that are either not covered in MAG Standard Specifications, City of Glendale Supplement to MAG Standard Specification; or that are modified in any way from any of these standards. If a completely new special provision is required that is not simply a modification or addition to an existing standard specification, Consultant will determine a suitable MAG Standard Specification number that would best fit within the standard specification subjects and numbering sequence.

Assumptions

- City will provide standard front-end boiler plate information, including but not limited to contract documents, general conditions, and general provisions.

Deliverables

- Delivered with plans at the 60%, 90%, and 100% Final submittals.

5.0 CONSTRUCTION DRAWINGS WORK PACKAGE 2 (GRAND AVE)

Consultant shall complete the storm drain design for the proposed Grand Avenue alignment which includes the storm drain lateral in Bethany Home Road at the intersection of Bethany Home and Grand Avenue, extending south east along Grand Avenue to the existing Elementary School basin, continuing southeast to the existing ADOT basin at 43rd Avenue; enlargement of the Elementary School basin, landscaping and fencing; incidental grading of the ADOT Basin to accommodate the storm drain outlet structure and any proposed drywells (see Figure 2). This scope assumes that a new block wall will be constructed at the front of the basin along Grand Avenue. The private wall between the residences and the basin is shown as an allowance under Task 7.6 – Private Wall (Allowance).

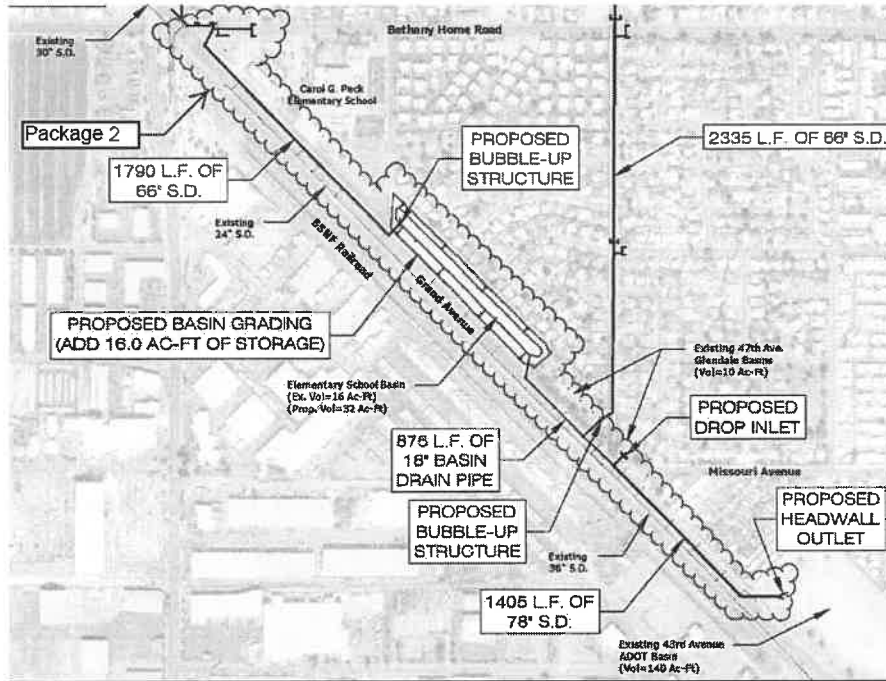


Figure 2

Consultant will prepare detailed construction drawings for the project in accordance with City standards. This scope of work outlines the anticipated sheets required for the construction documents. Construction drawings will include storm drain plan and profile sheets; and detail sheets. Waterline relocation plan and profile sheets and sewer line relocation plan and profile sheets will be prepared as necessary under Task 7.1 – Water and Sewer Plans. Paving is assumed to be limited to replacement within the trench only. Drawings will be prepared using 2021 Civil 3d release at a scale of 1"=20' Horizontal and 1"=2' or 4' Vertical for plan and profiles. Storm drain connector pipe plans and profiles will be prepared at a scale of 1"=20' Horizontal and 1"=2' Vertical.

Consultant understands that the complete plan set will consist of approximately 31 sheets, ordered as shown in Table 2.

Sheet Type	Sheets
Cover Sheet, Sheet Index	1
Legend & Notes, Key Map	1
General Notes	1
Geometric Control Plan	2
Storm Drain and Structure Details	3
Storm Drain Plan/Profile Sheets	11
Storm Drain Connector Pipe Profile Sheets	2
Basin Grading Plans	3
Block Wall Details	2
Landscaping Plans	2
Landscaping Details	2
Total:	31

Submittals to the City will be provided at the following stages of design development:

Task 5.1: 30% Design

The submittal will include preliminary plans including the following:

- Indicate existing topography.
- Indicate storm drain mainline lateral alignment, plan/profile, and typical sections
- Conceptual basin grading plan
- Include the approximate size and configuration of project features.
- Indicate rights-of-way and easements required.
- Indicate all utilities and identify conflicting utilities that are to be relocated and/or protected.
- Details will not be included.
- Wall plans and landscaping plans will not be included at 30% level

In addition to the plans, the following will be submitted:

- Bid quantities
- Survey Data and Report
- Final Geotechnical Report
- Preliminary Design Calculations and Analyses

Assumptions

- City will distribute the plans to City staff for review
- City will provide technical staff for plan review and comment resolution
- CMAR will be responsible for construction schedules and cost estimating
- CMAR will be responsible for traffic control plans.
- CMAR comments will be delivered with the City Comments.
- Reviewers will provide comments within two (2) weeks

Deliverables

- Construction plans identified above
- Bid item list and quantities
- Design calculations and analysis
- Preliminary Geotechnical Report
- Consultant will submit an electronic copy of the 30% submittal to the City (No Paper Copies).

Task 5.2: 60% Design

Upon review and approval of the 30% submittal by the City, Consultant will incorporate review comments and perform hydrology, hydraulic, civil, and structural calculations necessary to prepare the 60% submittal. Plans will be complete with the exception that details may be preliminary in nature. Drawings will be detailed to show utility clearance and catch basin locations. Draft specifications outline will be prepared and will be based on MAG specifications with City of Glendale Supplements. Design calculations, analysis, and bid quantities will be submitted. City shall provide comments to Consultant within two (2) weeks after submittal.

Assumptions

- City will distribute the plans to City staff for review
- City will provide technical staff for plan review and comment resolution
- CMAR will be responsible for construction schedules and cost estimating
- CMAR will be responsible for traffic control plans.
- CMAR comments will be delivered with the City Comments.
- Reviewers will provide comments within two (2) weeks
- Details from Package 1 will be referenced and not resubmitted.

Deliverables

- Construction plans
- Bid item list and quantities
- Draft technical special provisions
- Design calculations and analysis
- Consultant will submit an electronic copy of the 60% submittal to the City (No Paper Copies).
- CR Meeting Notes

Task 5.3: 90% Design

Upon review and approval of the 60% Submittal by the City, the Consultant shall incorporate review comments, and perform final revisions and refinements to the hydrology, hydraulic, civil, and structural calculations necessary to prepare the 90% Submittal.

Consultant shall prepare Pre-Final (90%) Design Documents including plans, specifications, and quantity estimates. 90% Documents shall be complete construction drawings and specifications suitable for permit submittal and final coordination. City shall provide comments to Consultant within two (2) weeks after submittal.

90% Design Documents shall contain the following elements:

- Complete construction drawings suitable for permitting, signed and sealed by a Registered Professional Engineer and marked "Agency Review, Not for Construction".
- Final design, including all required construction plans, notes, callouts, quantities, and details necessary for bidding and construction
- Technical special provisions for all work and materials not adequately addressed by the referenced standard specifications

Assumptions

- City will distribute the plans to City staff for review
- City will provide technical staff for plan review and comment resolution
- CMAR will be responsible for construction schedules and cost estimating
- CMAR will be responsible for traffic control plans.
- CMAR comments will be delivered with the City Comments.
- Reviewers will provide comments within two (2) weeks

Deliverables

- Construction plans
- Bid item list and quantities
- Technical special provisions
- Design calculations and analysis
- Consultant will submit an electronic copy of the 90% submittal to the City (No Paper Copies).
- CR Meeting Notes

Task 5.4: 100% (Final) Design

Upon approval of the 90% Submittal, the Consultant shall incorporate review comments and make required corrections, changes, etc., to the hydrology, hydraulic, civil, and structural calculations, and incorporate comments and make changes and corrections to the Design Report, Plans, specifications, calculations, and the bid quantity calculations.

Consultant shall provide copies of the 100% documents to the City for final review to verify that 90% comments were addressed. Upon verification of comments, Consultant will provide final sealed plans.

Assumptions

- City will distribute the plans to City staff for review
- City will provide technical staff for plan review and comment resolution
- CMAR will be responsible for construction schedules and cost estimating
- CMAR will be responsible for traffic control plans.
- CMAR comments will be delivered with the City Comments.
- Reviewers will provide comments within two (2) weeks
- Residential Block walls along elementary school basin are covered under Task 7.6 – Private Wall
- Elevation views for the block walls along Grand Avenue are excluded
- No separate roadway reconstruction or signing and striping plans required.

Deliverables

- Construction plans (100% and Final)
- Bid item list and quantities
- Technical special provisions (100% and Final)
- Consultant will submit an electronic copy of the 100% and Final Sealed submittal to the City (No Paper Copies).
- CR Meeting Notes

Task 5.5 Special Provisions

Consultant will prepare any special provisions that may be necessary for the project that are either not covered in MAG Standard Specifications, City of Glendale Supplement to MAG Standard Specification; or that are modified in any way from any of these standards. If a completely new special provision is required that is not simply a modification or addition to an existing standard specification, Consultant will determine a suitable MAG Standard Specification number that would best fit within the standard specification subjects and numbering sequence.

Assumptions

- City will provide standard front-end boiler plate information, including but not limited to contract documents, general conditions, and general provisions.

Deliverables

- Delivered with plans at the 60%, 90%, and 100% Final submittals.

6.0 CONSTRUCTION DRAWINGS WORK PACKAGE 3 (47th AVE)

Consultant shall complete the storm drain design for the proposed 47th Avenue alignment which includes the storm drain beginning at the intersection of Maryland Avenue, connecting to the Maryland Lakes Basin, extending south to the 47th Avenue Glendale Basin; incidental grading of the 47th Avenue Basin to accommodate the storm drain outlet structure and any proposed drywells. (see Figure 3)

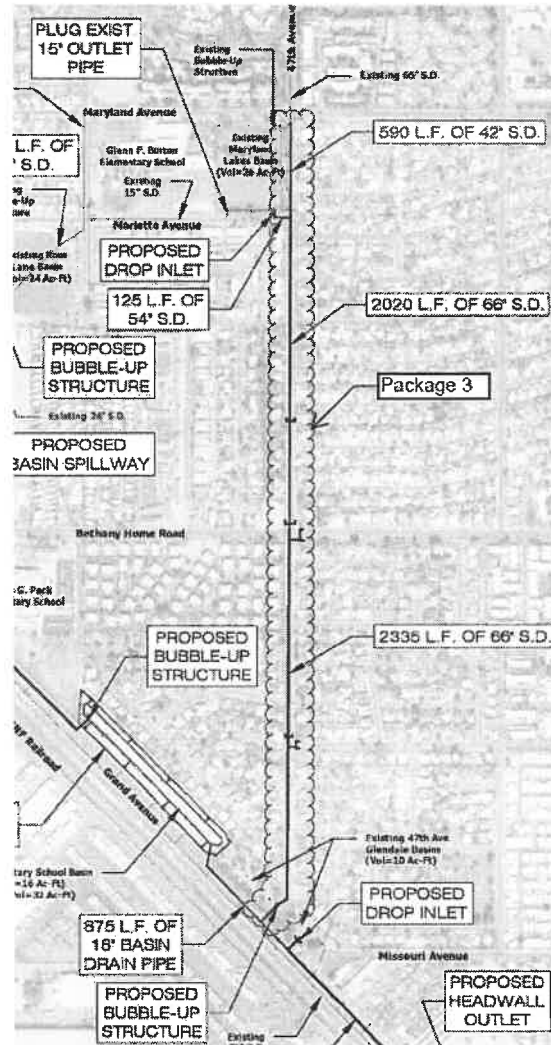


Figure 3

Consultant will prepare detailed construction drawings for the project in accordance with City standards. This scope of work outlines the anticipated sheets required for the construction documents. Construction drawings will include storm drain plan and profile sheets; and detail sheets. Waterline relocation plan and profile sheets and sewer line relocation plan and profile sheets will be prepared as necessary under Task 7.1 – Water and Sewer Plans. Paving is assumed to be limited to replacement within the trench only. Drawings will be prepared using 2021 Civil 3d release at a scale of 1"=20' Horizontal and 1"=2' or 4' Vertical for plan and profiles. Storm drain connector pipe plans and profiles will be prepared at a scale of 1"=20' Horizontal and 1"=2' Vertical.

Consultant understands that the complete plan set will consist of approximately 29 sheets, ordered as shown in Table 3.

Sheet Type	Sheets
Cover Sheet, Sheet Index	1
Legend & Notes, Key Map	1
General Notes	1
Geometric Control Plan	1
Storm Drain and Structure Details	7
Storm Drain Plan/Profile Sheets	13
Storm Drain Connector Pipe Profile Sheets	4
Landscape/Irrigation Sheet	1
Total:	29

Submittals to the City will be provided at the following stages of design development:

Task 6.1: 30% Design

The submittal will include preliminary plans including the following:

- Indicate existing topography.
- Indicate storm drain mainline lateral alignment, plan/profile, and typical sections
- Include the approximate size and configuration of project features.
- Indicate rights-of-way and easements required.
- Indicate all utilities and identify conflicting utilities that are to be relocated and/or protected.
- Details will not be included.

In addition to the plans, the following will be submitted:

- Bid quantities
- Survey Data and Report
- Geotechnical Report
- Preliminary Design Calculations and Analyses

Assumptions

- Cost estimating will be done by CMAR
- Landscaping and irrigation in Rose Lane basin shall be limited to replacement of existing turf or landscaping.

Deliverables

- Construction plans identified above
- Bid item list and quantities
- Design calculations and analysis
- Final Geotechnical Report
- Consultant will submit an electronic copy of the 30% submittal to the City (No Paper Copies).

Task 6.2: 60% Design

Upon review and approval of the 30% submittal by the City, Consultant will incorporate review comments and perform hydrology, hydraulic, civil, and structural calculations necessary to prepare the 60% submittal.

Plans will be complete with the exception that details may be preliminary in nature. Drawings will be detailed to show utility clearance and catch basin locations. Draft specifications outline will be prepared and will be based on MAG specifications with City of Glendale Supplements. Design calculations, analysis, and bid quantities will be submitted. City shall provide comments to Consultant within two (2) weeks after submittal.

Assumptions

- CMAR will be responsible for construction schedules and cost estimating
- CMAR will be responsible for traffic control plans.

Deliverables

- Construction plans
- Bid item list and quantities
- Draft technical special provisions
- Design calculations and analysis
- Consultant will submit an electronic copy of the 60% submittal to the City (No paper copies).
- CR Meeting Notes

Task 6.3: 90% Design

Upon review and approval of the 60% Submittal by the City, the Consultant shall incorporate review comments, and perform final revisions and refinements to the hydrology, hydraulic, civil, and structural calculations necessary to prepare the 90% Submittal.

Consultant shall prepare Pre-Final (90%) Design Documents including plans, specifications, and quantity estimates. 90% Documents shall be complete construction drawings and specifications suitable for permit submittal and final coordination. City shall provide comments to Consultant within two (2) weeks after submittal.

90% Design Documents shall contain the following elements:

- Complete construction drawings suitable for permitting, signed and sealed by a Registered Professional Engineer and marked "Agency Review, Not for Construction".
- Final design, including all required construction plans, notes, callouts, quantities and details necessary for bidding and construction
- Technical special provisions for all work and materials not adequately addressed by the referenced standard specifications

Assumptions

- City will distribute the plans to City staff for review
- City will provide technical staff for plan review and comment resolution
- Reviewers will provide comments within two (2) weeks

Deliverables

- Construction plans
- Bid item list and quantities
- Technical special provisions
- Final Drainage Report

- Design calculations and analysis
- Consultant will submit an electronic copy of the 90% submittal to the City (No Paper Copies).
- CR Meeting Notes

Task 6.4: 100% (Final) Design

Upon approval of the 90% Submittal, the Consultant shall incorporate review comments and make required corrections, changes, etc., to the hydrology, hydraulic, civil, and structural calculations, and incorporate comments and make changes and corrections to the Design Report, Plans, specifications, calculations, and the bid quantity calculations.

Consultant shall provide copies of the 100% documents to the City for final review to verify that 90% comments were addressed. Upon verification of comments, Consultant will provide final sealed plans.

Assumptions

- City will distribute the plans to City staff for review
- City will provide technical staff for plan review and comment resolution
- Reviewers will provide comments within two (2) weeks
- Comment review will be completed at the bi-weekly meeting, no comment resolution form or letter response is required
- No separate roadway reconstruction or signing and striping plans required.

Deliverables

- Construction plans (100% and Final)
- Bid item list and quantities
- Technical special provisions (100% and Final)
- Consultant will submit an electronic copy of the 100% and Final Sealed submittal to the City (No Paper Copies).
- CR Meeting Notes

Task 6.5 Special Provisions

Consultant will prepare any special provisions that may be necessary for the project that are either not covered in MAG Standard Specifications, City of Glendale Supplement to MAG Standard Specification; or that are modified in any way from any of these standards. If a completely new special provision is required that is not simply a modification or addition to an existing standard specification, Consultant will determine a suitable MAG Standard Specification number that would best fit within the standard specification subjects and numbering sequence.

Assumptions

- City will provide standard front-end boiler plate information, including but not limited to contract documents, general conditions, and general provisions.

Deliverables

- Delivered with plans at the 60%, 90%, and 100% Final submittals.

7.0 OWNER'S ALLOWANCES

These allowances require separate approval from the City prior to use.

Task 7.1: Water and Sewer Plans (Owner's Allowance)

If it is determined that Water or Sanitary Sewer relocations are necessary, Consultant shall provide a separate scope and fee to be approved. This allowance shall be utilized upon approval from the City. When the horizontal and vertical alignments of the storm drain are finalized following, the Consultant will coordinate with the City to develop a list of water and sanitary sewer relocations which are required. This task includes evaluating the existing storm drain for water and sewer conflicts. Many conditions which affect this task are considered unknowns therefore a limited number of relocation plan sheets have been assumed for this task. This task assumes the following number of sheets have been allocated under this allowance:

- Water Sheets:
 - One Waterline General Note Sheet.
 - Ten 20-scale plan and profile sheets.
 - Two detail sheets.
- Sanitary Sewer Sheets:
 - One Sanitary General Note Sheet.
 - Two 20-Scale plan and profile sheets.
 - One detail sheet.

Consultant will prepare the Approval to Construct (ATC) permit submittal package for the City's review and signatures prior to submitting to Maricopa County Environmental Services Department (MCESD). This preparation will also include the associated water and sewer reports. An expedited ATC permit will be submitted only if approved by the City and will be determined prior to the submittal based on the schedule requirements.

Assumptions

- If additional sheets are require, the Consultant shall provide a separate scope and fee to be approved by the City.
- The water and sewer reports to be submitted to MCESD do not require modeling efforts.
- MCESD Permit fees will be reimbursed under Task 8.2 – Permit Fees

Deliverables

- Water and Sewer plans at the 60%, 90%, and 100% Final submittals.
- ATC Permit(s)

Task 7.2: Public Involvement (Owner's Allowance)

If requested by the City, the Consultant will prepare for and attend three public meetings (one for each design package). This allowance shall be utilized upon approval from the City. Prior to each of the public meetings, Consultant will develop a plan view aerial exhibit in PDF format to be utilized for the public meeting.

Assumptions

- One plan view roll plot exhibit will be developed for each public meeting.
- Meetings will be 2 hours in length and may be virtual or in-person meetings.

- A Public Involvement specialist or firm will be obtained under a separate City Contract.

Deliverables

- Public Meeting Exhibits

Task 7.3: Legal Descriptions (Owner's Allowance)

Consultant will prepare legal descriptions with exhibits for the acquisition of new right-of-way or easements for drainage or temporary construction purposes required for the project. This allowance shall be utilized upon approval from the City. Up to 30 legal descriptions and exhibits for Right-of-Way acquisition or Easements will be allotted under this allowance.

Assumptions

- City to provide any necessary title reports necessary for the development of the Legal Descriptions.

Deliverables

- Legal Descriptions and Exhibits

Task 7.4: Additional Meetings and Coordination (Owner's Allowance)

Hours within this allowance will be used for other types of meetings that might be requested, such as stakeholder review meetings, other utility meetings, CMAR coordination meetings, etc which have not been identified under Task 1.2. This allowance shall be utilized upon approval from the City. This allowance also covers time for project manager or engineer's attendance at meetings if required. This allowance includes time to prepare graphics or exhibits for the meetings, agenda, and meeting notes.

Task 7.5: Permits (Owner's Allowance)

City will assist the Consultant in obtaining anticipated state, county, and local utility permits and approvals required for the Project. As the Project progresses, the Consultant will furnish to COG copies of all communications between the Consultant and the respective agencies or departments, and all approvals and permits for the Project. This allowance shall be utilized upon approval from the City

Permits anticipated include:

- ADOT Encroachment Permit
- SRP – Irrigation Construction License Agreement

Assumptions

- CMAR will obtain any permits to construct within the R/W and Traffic Control approvals.
- Permit fees will be reimbursed to the Consultant as an expense allowance (Task 8.2).
- Permit submittals to MCESD are covered under Task 7.1 – Water & Sewer Plans (Allowance)
- NPDES permit will be completed by the CMAR prior to construction, if required.
- All construction permits will be completed by the CMAR.
- Additional permits and acquisitions may require a request for additional funds.
- SRP – Irrigation Construction License agreement requires City Council approval.
- No environmental permits required
- Phase 1 Environmental assessments will be completed by the City for all property acquisitions.

Deliverables

- ADOT Encroachment Permit

- SRP-IRRI Construction License Agreement

Task 7.6: Private Wall (Owner's Allowance)

The Consultant will develop construction plans for the Concrete Masonry Unit (CMU) screen wall along the easterly side of the Elementary School basin. This allowance shall be utilized upon approval from the City. The plans will include wall structural notes and typical sections and details. The plans will not include a wall layout plan or elevation details showing footing and wall steps, joints, or panel lengths. It is assumed the wall will be laid out by the CMAR to follow the existing layout.

Assumptions

- CMAR to record existing condition and design of wall prior to demolition.

Deliverables

- CMU Wall Detail Sheet

Task 7.7: Additional Drainage Research (Owner's Allowance)

This allowance has been created to provide additional field work if the GIS data and/or record drawings provided for the Hydrology and Hydraulic Analysis are insufficient to adequately develop the FLO-2D model. If information related to the existing storm drain sizes and/or depth are required, the Consultant will investigate the Storm Drain systems at existing manholes within the roadway. This allowance shall be utilized upon approval from the City.

Assumptions

- Assumes existing manholes in roadway are accessible by stopping traffic with a construction vehicle with minimal traffic control.

Deliverables

- Survey Field notes containing invert depths, pipe directions, and size measurements.

Task 7.8: Traffic Control Off-Duty Officers (Owner's Allowance)

Although not anticipated, this allowance has been created to provide Off-Duty Police Officers for traffic control during the Geotechnical investigation. In the event the City or ADOT request an officer be present during the field investigation process, the Consultant shall notify and get approval from the City prior to use.

Assumptions

- None

Deliverables

- None

Task 7.9: CMAR Services (Owner's Allowance)

Consultant will prepare a list of bid items and quantities for use by the contractor to establish his Guaranteed Maximum Price (GMP). Consultant will review up to 3 preliminary and 3 final GMPs prepared by the CMAR for each design package. Review will include contractors work plan, assumptions, contractors estimated quantities, allowance items, project schedule, risks, and estimated costs. Consultant will attend up to six meetings to discuss the GMP with the CMAR and the City.

Consultant will review and provide input to the City for up to four Value Engineering (VE) change proposals by the CMAR. The Consultant will work with the CMAR and the City to determine the best type of storm drain type based on the proposed application.

Assumptions

- Preliminary and Final GMP will be reviewed. Six reviews only total.
- City and Consultant will determine bid item list and format

Deliverables

- Consultant will provide a technical review of the GMP at each review.
- Consultant will provide a technical review of each VE proposal.

Task 7.10: Contingency - Undefined (Owner's Allowance)

City shall reimburse Consultant for additional approved work from their contingency fund.

The use of Owner Contingency shall only be used for additional scope and cannot be used without prior approval of the City.

8.0 REIMBURSABLE EXPENSES

Reimbursable expenses will be invoiced as accrued and back-up data provided with Consultant's invoices as required by City of Glendale's contract.

Task 8.1: Reimbursable Expenses

Reimbursable expenses will be invoiced as accrued and back-up data provided with Engineer's invoices as required by City of Glendale's contract. Reimbursables will include printing cost, courier cost, and mileage reimbursement for travel to site or meetings at City of Glendale.

Task 8.2: Permit Fees

Approval to Construct permits will be submitted to MCESD for the water and sewer work as discussed in Task 7.1. Fees have been included for both the water and sewer lines (waterline \$600 and gravity sewerline \$500). The allowance assumes expedited reviews for the packages, so the base fees have been doubled however the City will designate if the final submittal will be expedited.

Assumptions

- If permit fees are increased by MCESD during this project duration, the City will approve additional funds for permit reviews if required.
- Assumes \$3600 in permit fees in any combination of Water, Sanitary Sewer, and/or expedited fees.

Deliverables

- Water and Sewer plans at the 60%, 90%, and 100% Final submittals.
- ATC Permit(s)

EXCEPTIONS

The following items are not included in this scope of work:

- Environmental studies such as NEPA, cultural or Hazmat clearances
- Traffic Signal Plans
- Roadway lighting Plans
- Signing and Striping Plans
- 401/404 Permitting (not anticipated to be a requirement)
- Traffic Control Plans are expected to be developed by the CMAR
- SWPPP is expected to be prepared by the CMAR
- Right-of-Way acquisition to be completed by COG
- Temporary access documents if required to be completed by COG
- Post Design Services during Construction or Inspection Services

EXHIBIT C
Professional Services Agreement

SCHEDULE

Draft Schedule Dates - To Be Confirmed after NTP

01/25/2022 - January Council Meeting
02/01/2022 - Notice to Proceed
04/01/2022 - Aerial and Ground Survey Completed
05/27/2022 - Initial FLO-2D Model Submitted for Review
06/17/2022 - Draft Preliminary Design Report Submitted
07/08/2022 - Final FLO-2D Model Submitted
07/29/2022 - Final Preliminary Design Report Submitted
10/21/2022 - 100% Package 1 (51st Ave) Plans Submitted
01/27/2023 - 100% Package 3 (47th Ave) Plans Submitted
02/24/2023 - 100% Package 2 (Grand Ave) Plans Submitted

EXHIBIT D
Professional Services Agreement

COMPENSATION

METHOD AND AMOUNT OF COMPENSATION

Compensation shall be hourly rates plus allowable reimbursable expenses.

NOT-TO-EXCEED AMOUNT

The total amount of compensation paid to Consultant for full completion of all work required by the Project during the entire term of the Project must not exceed \$1,199,101.00.

DETAILED PROJECT COMPENSATION

See attached spreadsheets for detail

Fee Schedule

CORE SERVICES COST

1.0 Project Administration	\$180,536.00
2.0 Preliminary Design and Investigation	\$225,499.00
3.0 Drainage Design	\$143,626.00
4.0 Construction Drawings Work Package 1	\$127,133.00
5.0 Construction Drawings Work Package 2	\$123,498.00
6.0 Construction Drawings Work Package 3	\$152,384.00

TOTAL CORE SERVICES \$952,676.00

OWNER ALLOWANCES COST

7.0 Allowances	\$157,535.00
8.0 Expenses	\$ 8,890.00
9.0 Owner Contingency	\$ 80,000.00

TOTAL OWNER ALLOWANCES/EXPENSES \$246,425.00

GRAND TOTAL PROJECT COST: \$1,199,101.00