

CITY CLERK  
ORIGINAL

C-9463  
11/24/2014

---

**CITY OF GLENDALE, ARIZONA**

**CONSTRUCTION AGREEMENT**

(Community Housing Xeriscape Project  
Project 141503  
53<sup>rd</sup> Avenue & Maryland Avenue  
61<sup>st</sup> Avenue & Lamar Road)

---

**(PLEASE DO NOT REMOVE ~ THIS IS PART OF THE OFFICIAL DOCUMENT)**

## CONSTRUCTION AGREEMENT

This Construction Agreement ("Agreement") is entered into and effective between the CITY OF GLENDALE, an Arizona municipal corporation ("City"), and Sunburst Landscaping, Inc, a(n) corporation, authorized to do business in Arizona ("Contractor") as of the 24th day of November, 2014

### 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 the Notice to Contractors and the attached **Exhibit A** ("Project");
- B City desires to retain the services of Contractor to perform those specific duties and produce the specific work as set forth in the Project, the plans and specifications, the Information for Bidders, and the Maricopa Association of Governments ("MAG") General and Supplemental Conditions and Provisions,
- C City and Contractor desire to memorialize their agreement with this document

### AGREEMENT

In consideration of the Recitals, which are confirmed as true and correct and incorporated by this reference, the mutual promises and covenants contained in this Agreement, and other good and valuable consideration, City and Contractor agree as follows

#### 1. Project.

**1.1 Scope** Contractor will provide all services and material necessary to assure the Project is completed timely and efficiently consistent with 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 contractors, providers or consultants retained by City.

**1.2 Documents.** The following documents are, by this reference, entirely incorporated into this Agreement and attached Exhibits as though fully set forth herein

- (A) Notice to Contractors,
- (B) Information for Bidders,
- (C) MAG General Conditions, Supplemental General Conditions, Special and Technical Provisions,
- (D) Proposal,
- (E) Bid Bond,
- (F) Payment Bond,
- (G) Performance Bond,
- (H) Certificate of Insurance,
- (I) Appendix, and
- (J) Plans and Addenda thereto

Should a conflict exist between this Agreement (and its attachments), and any of the incorporated documents as listed above, the provisions of this Agreement shall govern

#### 1.3 Project Team.

- (A) Project Manager Contractor will designate an employee as Project Manager with sufficient training, knowledge, and experience to, in the City's opinion, to complete the project and handle all aspects of the Project such that the work produced by Contractor is consistent with applicable standards as detailed in this Agreement

(B) Project Team

- (1) The Project manager and all other employees assigned to the project by Contractor will comprise the "Project Team "
- (2) Project Manager will have responsibility for and will supervise all other employees assigned to the project by Contractor

(C) Sub-contractors

- (1) The Project manager and all other employees assigned to the project by Contractor will comprise the "Project Team "
- (2) Contractor may engage specific technical contractor (each a "Sub-contractor") to furnish certain service functions
- (3) Contractor will remain fully responsible for Sub-contractor's services
- (4) Sub-contractors must be approved by the City, unless the Sub-contractor was previously mentioned in the response to the solicitation
- (5) Contractor shall certify by letter that contracts with Sub-contractors have been executed incorporating requirements and standards as set forth in this Agreement

2. **Schedule.** The Project will be undertaken in a manner that ensures it is completed in a timely and efficient manner. If not otherwise stated in Exhibit A, the Project shall be completed by no later than within January 15, 2015 (45 days) consecutive calendar days from and including the date of receipt of the Notice to Proceed

3. **Contractor's Work.**

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

3.2 **Licensing.** Contractor warrants that

- (A) Contractor and Sub-contractors will hold all appropriate and required licenses, registrations and other approvals necessary for the lawful furnishing of services ("Approvals"); and
- (B) Neither Contractor nor any Sub-contractor 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 Contractor's contracting ability
  - (2) Contractor must notify City immediately if any Approvals or Debarment changes during the Agreement's duration and the failure of the Contractor to notify City as required will constitute a material default of this Agreement

**3.3 Compliance.** Services and materials will be furnished in compliance with applicable federal, state, county and local statutes, rules, regulations, ordinances, building codes, life safety codes, or other standards and criteria designated by City.

**3.4 Coordination; Interaction**

(A) If the City determines that the Project requires the coordination of professional services or other providers, Contractor will work in close consultation with City to proactively interact with any other contractors retained by City on the Project ("Coordinating Entities")

(B) Subject to any limitations expressly stated in the budget, Contractor will meet to review the Project, schedules, budget, and in-progress work with Coordinating Entities and the City as often and for durations as City reasonably considers necessary in order to ensure the timely work delivery and Project completion.

(C) If the Project does not involve Coordinating Entities, Contractor 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 Hazardous Substances.** Contractor is responsible for the appropriate handling, disposal of, and if necessary, any remediation and all losses and damages to the City, associated with the use or release of hazardous substances by Contractor in connection with completion of the Project

**3.6 Warranties.** At any time within two years after completion of the Project, Contractor must, at Contractor's sole expense and within 20 days of written notice from the City, uncover, correct and remedy all defects in Contractor's work. City will accept a manufacturer's warranty on approved equipment as satisfaction of the Contractor's warranty under this subsection

**3.7 Bonds.** Upon execution of this Agreement, and if applicable, Contractor must furnish Payment and Performance bonds as required under A R S § 34-608

**4. Compensation for the Project.**

**4.1 Compensation.** Contractor's compensation for the Project, including those furnished by the Sub contractors will not exceed \$132,351 50, as specifically detailed in the Contractor bid and set for in **Exhibit B** ("Compensation")

**4.2 Changes in Scope of Project.** The Compensation may be equitably adjusted if the originally contemplated scope of services as outlined in the Project is significantly modified by the City

(A) Adjustments to the Scope or 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 and not contained in this Agreement may not be performed by the Contractor without prior written authorization from the City

**5. Billings and Payment.**

**5.1 Applications.**

(A) The Contractor 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 Contractor and its Sub-contractors, and
  - (2) Unconditional waivers and releases on final payment from Sub-contractors 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
- (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
- (C) Contractor will provide, by separate cover, and concurrent with the execution of this Agreement, all required financial information to the City, including City of Glendale Transaction Privilege License and Federal Taxpayer identification numbers.
- (D) City will temporarily withhold Compensation amounts as required by A R S 34-221(C)

## 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) Contractor will be equitably compensated any services and materials furnished prior to receipt of the termination notice and for reasonable costs incurred
- (B) Contractor 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 Contractor fails to cure any breach of this Agreement within seven days after receipt of written notice specifying the breach.

- (A) Contractor 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 Contractor for Service and Repair furnished, City will pay the amount due to Contractor, less City's damages.
- (B) If City's direct damages exceed amounts otherwise due to Contractor, Contractor must pay the difference to City immediately upon demand, however, Contractor will not be subject to consequential damages more than \$1,000,000 or the amount of this Agreement, whichever is greater.

## 7. Insurance.

### 7.1 Requirements. Contractor must obtain and maintain the following insurance ("Required Insurance"):

- (A) Contractor and Sub-contractors. Contractor, and each Sub-contractor performing work or providing materials related to this Agreement must procure and maintain the insurance coverages described below (collectively, "Contractor's Policies"), until each Parties' obligations under this Agreement are completed
- (B) General Liability.
  - (1) Contractor must at all times relevant hereto carry a commercial general liability policy with a combined single limit of at least \$1,000,000 per occurrence, \$1,000,000 for property damage and \$2,000,000 annual aggregate.
  - (2) Sub-contractors must at all times relevant hereto carry a general commercial liability policy with a combined single limit of at least \$1,000,000 per occurrence.
  - (3) This commercial general liability insurance must include independent contractors' liability, contractual liability, broad form property coverage, products and completed operations, XCU hazards if requested by the City, and a separation of insurance provision
  - (4) These limits may be met through a combination of primary and excess liability coverage
- (C) Auto. A business auto policy providing a liability limit of at least \$1,000,000 per accident for Contractor and 1,000,000 per accident for Sub-contractors and covering owned, non-owned and hired automobiles
- (D) Workers' Compensation and Employer's Liability Unless a sole proprietorship, contractor shall carry Arizona Statutory Workers' Compensation and Employer's Liability coverage
- (E) Equipment Insurance. Contractor must secure, pay for, and maintain all-risk insurance as necessary to protect the City against loss of owned, non-owned, rented or leased capital equipment and tools, equipment and scaffolding, staging, towers and forms owned or rented by Contractor or its Sub- contractors.
- (F) Notice of Changes. Contractor's Policies must provide for not less than 30 days' advance written notice to City Representative of
  - (1) Cancellation or termination of Contractor or Sub-contractor's Policies,
  - (2) Reduction of the coverage limits of any of Contractor or and Sub-contractor's Policies; and
  - (3) Any other material modification of Contractor or Sub-contractor's Policies related to this Agreement.
- (G) Certificates of Insurance.
  - (1) Within 10 business days after the execution of the Agreement, Contractor must deliver to City Representative certificates of insurance for each of Contractor and Sub-contractor's Policies, which will confirm the existence or issuance of

Contractor and Sub-contractor's Policies in accordance with the provisions of this section, and copies of the endorsements of Contractor and Sub-contractor's Policies in accordance with the provisions of this section

- (2) City is and will be under no obligation either to ascertain or confirm the existence or issuance of Contractor and Sub-contractor's Policies, or to examine Contractor and Sub-contractor's Policies, or to inform Contractor or Sub-contractor in the event that any coverage does not comply with the requirements of this section
  - (3) Contractor's failure to secure and maintain Contractor Policies and to assure Sub-contractor policies as required will constitute a material default under this Agreement
- (H) Other Contractors or Vendors
- (1) Other contractors or vendors that may be contracted by Contractor with in connection with the Project must procure and maintain insurance coverage as is appropriate to their particular agreement
  - (2) This insurance coverage must comply with the requirements set forth above for Contractor's Policies (e.g, the requirements pertaining to endorsements to name the parties as additional insured parties and certificates of insurance)
- (I) Policies Except with respect to workers' compensation and employer's liability coverages, the City must be named and properly endorsed as additional insureds on all liability policies required by this section, and City of Glendale will be named Certificate Holder.
- (1) The coverage extended to additional insureds must be primary and must not contribute with any insurance or self-insurance policies or programs maintained by the additional insureds.
  - (2) All insurance policies obtained pursuant to this section must be with companies legally authorized to do business in the State of Arizona and acceptable to all parties

## 7.2 Sub-contractors.

- (A) Contractor must also cause its Sub-contractors to obtain and maintain the Required Insurance detailed in paragraph 7 1
- (B) City may consider waiving these insurance requirements for a specific Sub-contractor if City is satisfied the amounts required are not commercially available to the Sub-contractor and the insurance the Sub-contractor does have is appropriate for the Sub-contractor's work under this Agreement
- (C) Contractor and Sub-contractors must provide to the City proof of Required Insurance whenever requested

## 7.3 Indemnification.

- (A) To the fullest extent permitted by law, Contractor 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 Contractor) and that arises out of or results from the breach of this Agreement by the

Contractor or the Contractor's negligent actions, errors or omissions (including any Subcontractor or other person or firm employed by Contractor), whether sustained before or after completion of the Project

- (B) This indemnity and hold harmless policy 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, Contractor shall be liable only to the extent the Demand or Expense results from the negligence or breach of a responsibility of Contractor or of any person or entity for whom Contractor is responsible
- (C) Contractor 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

**7.4 Waiver of Subrogation.** Contractor waives, and will require any Subcontractor to waive, all rights of subrogation against the City to the extent of all losses or damages covered by any policy of insurance

**8. Immigration Law Compliance.**

- 8.1** Contractor, and on behalf any subcontractor, warrants, to the extent applicable under A.R.S. § 41-4401, compliance with all federal immigration laws and regulations that relate to their employees as well as compliance with A.R.S. § 23-214(A) which requires registration and participation with the E-Verify Program.
- 8.2** Any breach of warranty under subsection 8.1 above is considered a material breach of this Agreement and is subject to penalties to and including termination of this Agreement.
- 8.3** City retains the legal right to inspect the papers of any Contractor or subcontractor employee who performs work under this Agreement to ensure that the Contractor or any subcontractor is compliant with the warranty under subsection 8.1 above
- 8.4** City may conduct random inspections, and upon request of City, Contractor shall provide copies of papers and records of Contractor demonstrating continued compliance with the warranty under subsection 8.1 above Contractor agrees to keep papers and records available for inspection by the City during normal business hours and will cooperate with City in exercise of its statutory duties and not deny access to its business premises or applicable papers or records for the purposes of enforcement of this section 8.
- 8.5** Contractor agrees to incorporate into any subcontracts under this Agreement the same obligations imposed upon Contractor and expressly accrue those obligations directly to the benefit of the City Contractor also agrees to require any subcontractor to incorporate into each of its own subcontracts under this Agreement the same obligations above and expressly accrue those obligations to the benefit of the City
- 8.6** Contractor's warranty and obligations under this section to the City is continuing throughout the term of this **Agreement or until such time as the City determines, in its sole discretion, that Arizona law has been modified** in that compliance with this section is no longer a requirement
- 8.7** The "E-Verify Program" above means the employment verification program administered by the United States Department of Homeland Security, the Social Security Administration, or any successor program

**9. Conflict.** Contractor 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.

10. **Non-Discrimination Policies.** Contractor must not discriminate against any employee or applicant for employment on the basis of race, religion, color sex or national origin Contractor must develop, implement and maintain non- discrimination policies and post the policies in conspicuous places visible to employees and applicants for employment Contractor will require any Sub-contractor to be bound to the same requirements as stated within this section

11. **Notices.**

11.1 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 private express overnight delivery service (delivery 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, or 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 on or before 5 00 pm , or
  - (2) As of the next business day after receipt, if received after 5:00p 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

1.2 **Representatives.**

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

Contractor	Sunburst Landscaping, Inc
Attn	Noelle Boothby, Vice President
Address	8757 N 78 <sup>th</sup> Ave
City, State, Zip.	Peoria, AZ 85345

- (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  
Attn Fred Abrahams, Supervisor Community Housing  
5850 West Glendale Avenue  
Glendale, Arizona 85301

With required copies to

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

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

Contractor	Sunburst Landscaping, Inc
Attn	Noelle Boothby, Vice President
Address	8757 N 78 <sup>th</sup> Ave
City, State, Zip	Peoria, AZ 85345

(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 considered to have been received by Cities representative until the time that it has also been received by City Manager and City Attorney
- (3) City may appoint one or more designees for the purpose of receiving notice by delivery of a written notice to Contractor identifying the designees) and their respective addresses for notices

- (D) **Changes.** Contractor 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

12. **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.

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

13.1 **Integration.** This Agreement contains, except as stated below, the entire agreement between City and Contractor 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) Any solicitation, addendums and responses submitted by the Contractor are incorporated fully into this Agreement as Exhibit A Any inconsistency between Exhibit A and this Agreement will be resolved by the terms and conditions stated in this Agreement

13.2 **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

13.3 **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.

- 13.4 **Amendment** No amendment to this Agreement will be binding unless in writing and executed by the parties. An amendment may be subject to City Council approval
- 13.5 **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
- 13.6 **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 to applicable law
- 13.7 **Counterparts.** This Agreement may be executed in counterparts, and all counterparts will together comprise one instrument.
14. **Dispute Resolution** Each claim, controversy and dispute ("Dispute") between Contractor and City will be resolved in accordance with Exhibit C. The final determination will be made by the City
15. **Exhibits.** The following exhibits, with reference to the term in which they are first referenced, are incorporated by this reference.
- |                  |                    |
|------------------|--------------------|
| <b>Exhibit A</b> | Project            |
| <b>Exhibit B</b> | Compensation       |
| <b>Exhibit C</b> | Dispute Resolution |

IN WITNESS WHEREOF, all parties concerned acknowledge that they have read, understand, approve, and accept all of the provisions of this MOA

CITY OF GLENDALE, an Arizona  
municipal corporation

*Brenda S Fischer*

Brenda S Fischer  
City Manager

ATTEST

*Pam Hanna*

Pam Hanna  
City Clerk

(SEAL)

APPROVED AS TO FORM

*Michael D Bailey*

Michael D Bailey  
City Attorney

Sunburst Landscaping, Inc ,  
an Arizona corporation

By *Noelle J Boothby*  
Its *Noelle J. Boothby*  
Vice President

STATE OF ARIZONA )  
                                  ) ss  
County of Maricopa )

SUBSCRIBED AND SWORN to before me this 2nd day of December, 2014, by Noelle J. Boothby, the Developer who signed the above document

*Roberta Kyle*  
Notary Public

My Commission Expires

Sept. 17, 2018

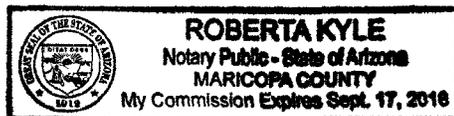


EXHIBIT A

**CONSTRUCTION AGREEMENT**

PROJECT DESCRIPTION

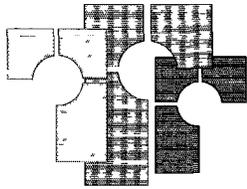
(See attached Project specifications and Drawings )

# CITY OF GLENDALE GLENDALE, ARIZONA

## City of Glendale Project # 141503 Glendale Community Housing Xeriscape Project 53rd Avenue & Maryland Avenue 61st Avenue & Lamar Road

**GENERAL NOTE:**

- A All construction shall conform to the City Specifications and the City Ordinance.
- B This set of plans has been prepared by the contractor and the City does not warrant its accuracy. The City shall be held responsible for any errors or omissions.
- C The City does not warrant the accuracy of the information provided on these plans.
- D The City approval is for informational purposes only and does not constitute approval of the project. The contractor shall be held responsible for all requirements of the City Ordinance.
- E An approved set of plans shall be submitted to the City for review and approval. The City shall be held responsible for any errors or omissions.
- F The City shall be notified of any construction work commencing within the right-of-way of any street within the City limits. The City shall be held responsible for any errors or omissions.
- G A Right-of-Way Construction Permit is required for all work within the right-of-way of any street within the City limits. The City shall be held responsible for any errors or omissions.
- H Improvements shall not be installed until after the City has approved the plans. The City shall be held responsible for any errors or omissions.
- I The developer is responsible for obtaining all necessary permits from the City. The City shall be held responsible for any errors or omissions.
- J The developer is responsible for obtaining all necessary permits from the City. The City shall be held responsible for any errors or omissions.
- K The developer is responsible for obtaining all necessary permits from the City. The City shall be held responsible for any errors or omissions.
- L The contractor shall conform to all City specifications and standards. The City shall be held responsible for any errors or omissions.
- M The contractor shall be responsible for obtaining all necessary permits from the City. The City shall be held responsible for any errors or omissions.
- N The contractor may not use any materials or methods not approved by the City. The City shall be held responsible for any errors or omissions.
- O Private on-site water supply systems shall conform to the City Ordinance. The City shall be held responsible for any errors or omissions.



**GLENDALE**

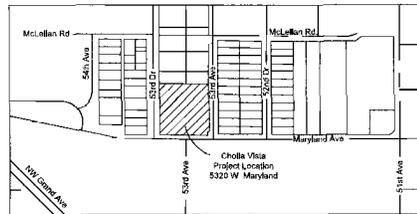
**MAYOR**  
JERRY P. WEIERS

**CITY COUNCIL**  
NORMA S. ALVAREZ  
SAMUEL U. CHAVIRA  
IAN HUGH  
YVONNE J. KNAACK  
MANUEL D. MARTINEZ  
GARY D. SHERWOOD

**CITY MANAGER**  
BRENDA S. FISCHER

**CITY CLERK**  
PAMELA HANNA

**CITY ATTORNEY**  
MICHAEL D. BAILEY



**KEY MAP**

**VICINITY MAP**

**SHEET INDEX**

- 1 PROJECT COVER SHEET
- 2 DEMO PLAN
- 3 LANDSCAPE NOTES, HARDSCAPE DETAILS
- 4 LANDSCAPE PLAN LEGEND AND DETAILS
- 5 SURFACE MATERIALS PLAN
- 6 IRRIGATION PLAN
- 7 IRRIGATION NOTES AND DETAILS
- 8 IRRIGATION DETAILS

**RECORD DRAWING**

I certify that the locations, elevations, depths and record drawing comments accurately reflect the existing field conditions and materials actually used during construction. This certification is based on periodic field observations and the contractor's representations of the facilities as constructed.

NAME \_\_\_\_\_ DATE \_\_\_\_\_ (SEAL)

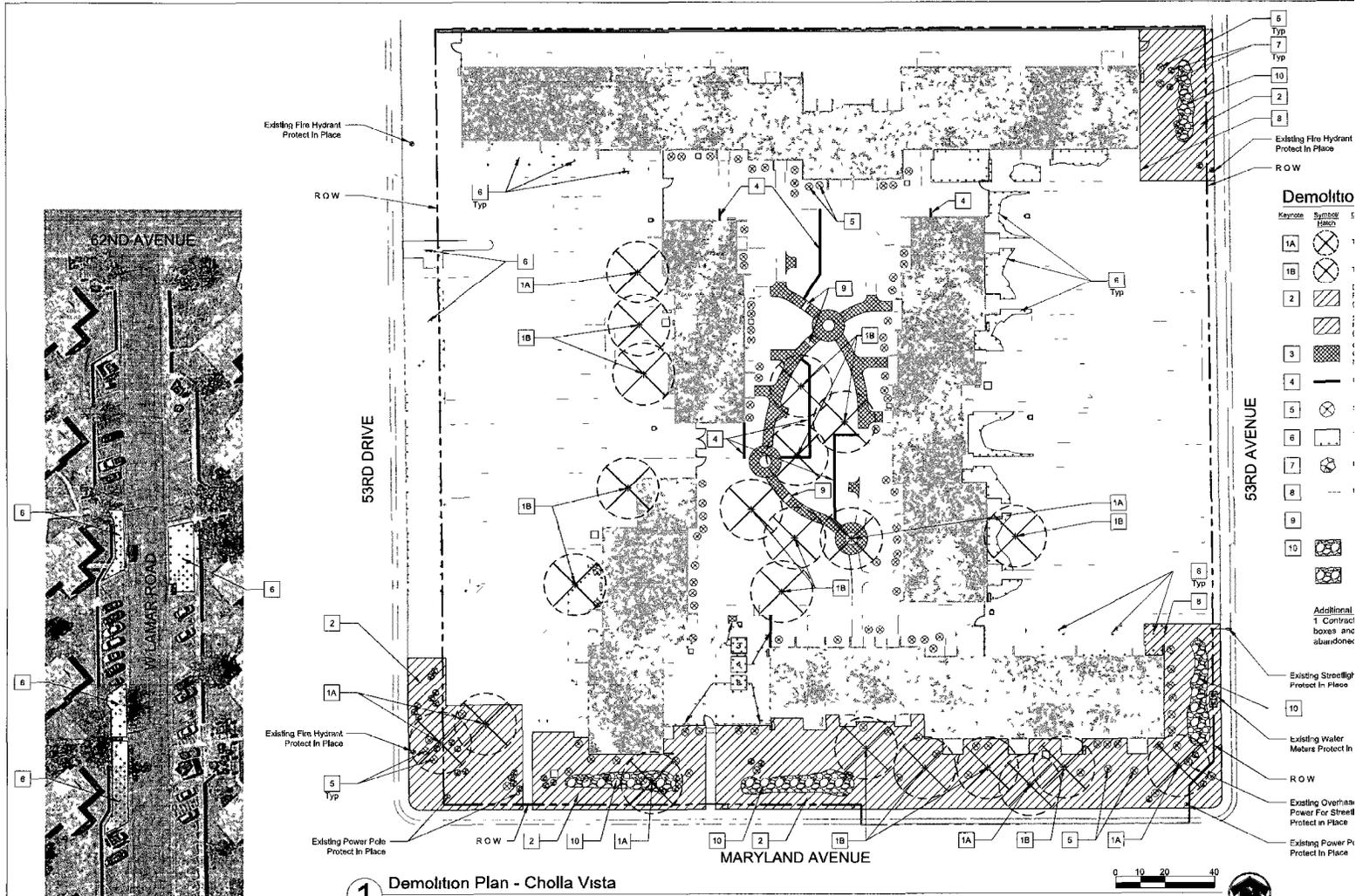
REGISTRATION NO. \_\_\_\_\_ EXP. DATE \_\_\_\_\_

REV'D BY \_\_\_\_\_  
CONSTRUCTION ENGINEER

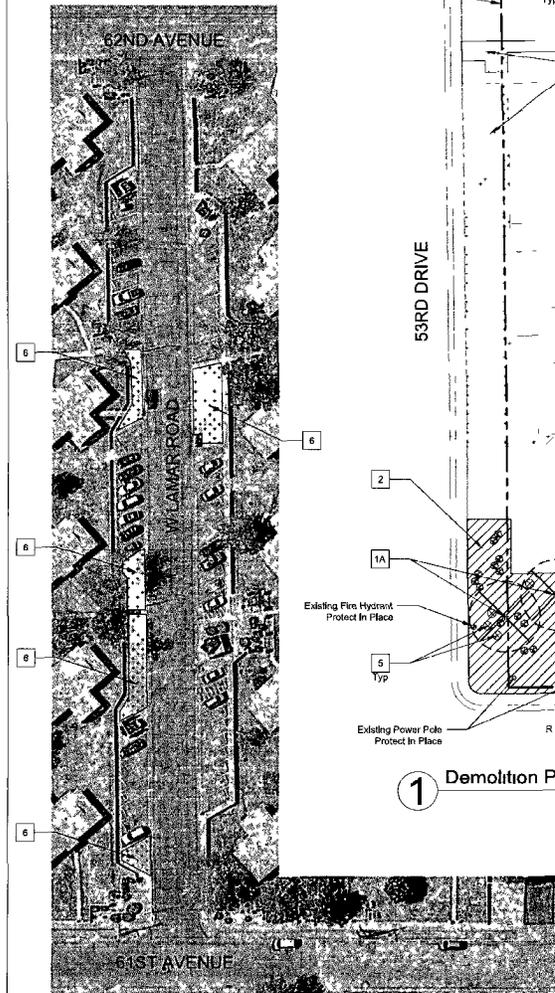
**PLANS ACCEPTANCE**

The City of Glendale accepts the compliance with plan preparator completeness and accuracy of the Engineer and the Engineering Firm.

CITY ENGINEER



1 Demolition Plan - Cholla Vista

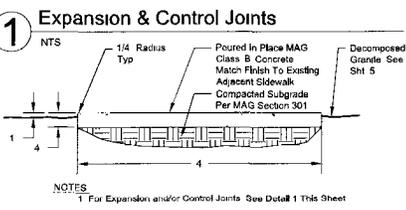
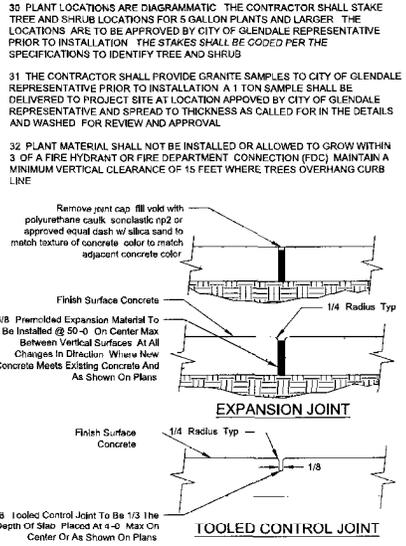


2 Demolition Plan - Lamar  
Turf Removal Bid Alternate # 1

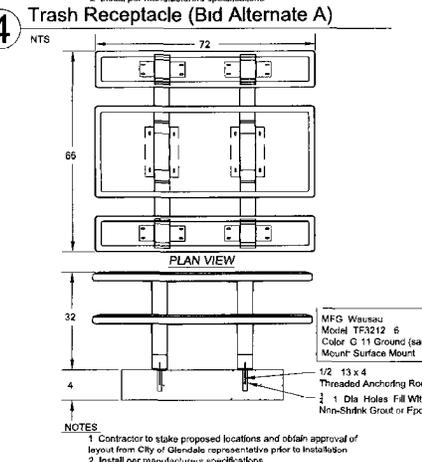
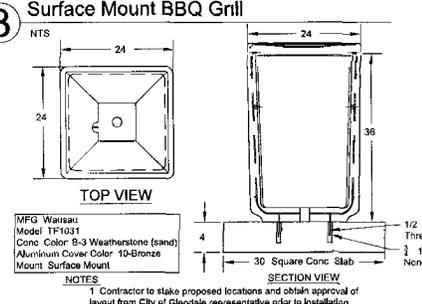
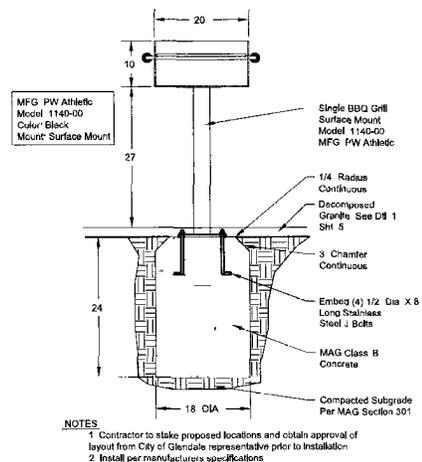
**LANDSCAPE GENERAL NOTES**

- NO PLANT SUBSTITUTIONS TYPE OR QUANTITY DEVIATIONS FROM THE APPROVED LANDSCAPE PLANS WILL BE PERMITTED WITHOUT PRIOR APPROVAL FROM THE CITY OF GLENDALE REPRESENTATIVE. CONTRACTOR SHALL PROVIDE INFORMATION AS TO AVAILABILITY OF PLANT MATERIALS AS A SUBMITTAL WITHIN 30 DAYS OF NOTICE TO PROCEED. SEE SPECIFICATIONS.
- ALL PLANT MATERIAL SPECIFICATIONS SHALL CONFORM TO THE ARIZONA NURSERY ASSOCIATION STANDARDS.
- ALL RIGHT-OF-WAY PLANT MATERIAL TO BE IN COMPLIANCE WITH THE ARIZONA DEPARTMENT OF WATER RESOURCES LOW WATER USE PLANT LIST AND CITY OF GLENDALE APPROVED STANDARDS.
- ALL LANDSCAPE CONSTRUCTION REQUIRED TO COMPLETE THESE PLANS SHALL BE IN ACCORDANCE WITH CITY OF GLENDALE (C.O.G.) SUPPLEMENTS TO THE MAG UNIFORM STANDARD SPECIFICATIONS UNLESS SPECIFIED OTHERWISE IN THESE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL REQUIRED STANDARD SPECIFICATIONS DETAILS AND SUPPLEMENTS PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL LAWS, CODES AND REGULATIONS APPLICABLE TO THE ITEMS AND AREAS PERTAINING TO THESE PLANS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ALL PERMITS REQUIRED TO COMPLETE THE LANDSCAPE CONSTRUCTION WORK COVERED BY THESE PLANS AND SPECIFICATIONS.
- THE QUANTITIES AND SITE CONDITIONS SHOWN ON THESE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY THE ACTUAL QUANTITIES AND SITE CONDITIONS PRIOR TO BEGINNING THE WORK COVERED BY THESE PLANS AND SPECIFICATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND/OR FACILITIES CAUSED DURING THE LANDSCAPE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL CALL FOR BLUE STAKE AT 802 263 1100 TWO WORKING DAYS PRIOR TO ANY EXCAVATION.
- ANY DISCREPANCIES FOUND BETWEEN THESE PLANS AND SPECIFICATIONS AND THE SITE SHALL BE REPORTED TO THE CITY OF GLENDALE REPRESENTATIVE PRIOR TO STARTING ANY LANDSCAPE WORK.
- SHOULD THE CONTRACTOR HAVE ANY QUESTIONS REGARDING THESE PLANS AND SPECIFICATIONS OR SHOULD THERE BE ANY DISCREPANCIES, THE CONTRACTOR SHALL CONTACT THE CITY OF GLENDALE REPRESENTATIVE DIRECTLY FOR CLARIFICATION BEFORE PROCEEDING FURTHER WITH ANY OTHER WORK.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE JOB SITE TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS THAT COULD AFFECT THE INSTALLATION OF ANY WORK SET FORTH IN THESE PLANS AND SPECIFICATIONS PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL VERIFY ROCK AND SOIL CONDITIONS WITHIN THE PROJECT SITE PRIOR TO CONSTRUCTION. NO EXTRA PAYMENT OR TIME EXTENSION WILL BE GIVEN DUE TO RISKY SOIL CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR CONDUCTING SITE INSPECTIONS AND CHECKING SOIL BORING LOGS TO DETERMINE SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION.
- CONTRACTOR TO VERIFY LIMITS OF DISTURBANCE THROUGHOUT THE PROJECT. BRING DISCREPANCIES IMMEDIATELY TO THE ATTENTION OF THE CITY OF GLENDALE REPRESENTATIVE.
- ALL WORK TO BE CONFINED WITHIN THE EXISTING LIMITS OF DISTURBANCE.
- THE INFORMATION SHOWN ON THIS SET OF DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT REPRESENTED TO BE ACCURATE OR ALL INCLUSIVE. THE INFORMATION IS MADE AVAILABLE TO PROVIDE THE CONTRACTOR WITH READY ACCESS TO THE SAME INFORMATION USED BY THE CONSULTANT IN PREPARATION OF THESE DOCUMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY TYPE AND LOCATION OF UTILITIES AS NECESSARY TO AVOID DAMAGE THERETO. ALL UTILITIES SHALL BE LOCATED AND VERIFIED PRIOR TO ANY EXCAVATION.
- THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND LEGAL DISPOSAL OF ANY DEBRIS RESULTING FROM THE CONSTRUCTION. AT NO TIME SHALL ANY OF THIS MATERIAL OBSTRUCT THE NORMAL OPERATION OF ANY ADJOINING STREET AREAS ASSOCIATED WITH THIS PROJECT.
- THE JOB SITE AT THE COMPLETION OF THE CONSTRUCTION SHALL BE CLEANED OF ANY DEBRIS RESULTING FROM CONSTRUCTION. NO JOB WILL BE CONSIDERED COMPLETE UNTIL ALL CURBS, GUTTERS AND PAVEMENT HAVE BEEN SWEEPED CLEAN OF ALL DIRT AND DEBRIS.
- SUBSTANTIAL INSPECTION: AN INSPECTION AT COMPLETION OF THE LANDSCAPE AND IRRIGATION INSTALLATION WILL BE MADE BY THE CITY OF GLENDALE. ANY DEFICIENCIES IN THE INSTALLATION WILL BE NOTED AND CORRECTED BY THE CONTRACTOR PRIOR TO THE START OF THE LANDSCAPE MAINTENANCE PERIOD.
- LANDSCAPE MAINTENANCE PERIOD: THE CONTRACTOR SHALL NOTIFY THE CITY OF GLENDALE REPRESENTATIVE WHEN ALL LANDSCAPING IS COMPLETED INCLUDING ALL SUBSTANTIAL COMPLETION PUNCHLIST ITEMS AND READY FOR A LANDSCAPE AND IRRIGATION INSPECTION. THE CITY OF GLENDALE SHALL ISSUE A LETTER TO BEGIN THE LANDSCAPE MAINTENANCE PERIOD. THE LANDSCAPE MAINTENANCE PERIOD SHALL BE FOR A MINIMUM OF 90 DAYS.
- FINAL ACCEPTANCE: A FINAL INSPECTION IS REQUIRED AT THE END OF THE LANDSCAPE MAINTENANCE PERIOD TO DETERMINE FINAL ACCEPTANCE. A LETTER OF FINAL ACCEPTANCE WILL BE ISSUED BY CITY OF GLENDALE REPRESENTATIVE.
- CITY OF GLENDALE BUILDING SAFETY INSPECTIONS ARE REQUIRED FOR THE BACKFLOW PREVENTER AND RELATED ELECTRICAL CONNECTIONS AND REQUIRE A MINIMUM OF 48 HOURS PRIOR NOTIFICATION TO THE CITY OF GLENDALE.

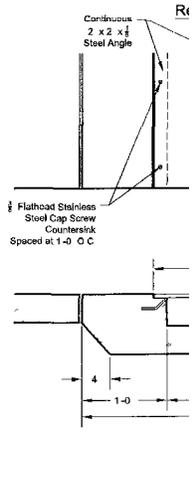
- THE CONTRACTOR IS ADVISED THAT DAMAGE TO ANY PORTION OF THIS PROJECT'S CURBS, GUTTERS, PAVEMENTS, FENCING OR SURROUNDING AREAS THAT IS NOT NOTED ON THE PLANS TO BE DISTURBED IS TO BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- ALL EQUIPMENT AND MATERIALS NOT SHOWN OR SPECIFIED ON THE PLANS OR SPECIFICATIONS BUT WHICH ARE REQUIRED TO COMPLETE THIS INSTALLATION SHALL BE SUPPLIED BY THE CONTRACTOR AS PART OF THIS CONTRACT WORK AND SHALL BE CONSIDERED INCLUDED TO THE WORK INVOLVED.
- ALL PLANT PITS ARE TO BE INSPECTED BY CITY OF GLENDALE REPRESENTATIVE PRIOR TO PLANTING BY THE CONTRACTOR. THE CONTRACTOR SHALL REQUEST AN INSPECTION 48 HOURS IN ADVANCE.
- PLANT PIT DEPTH SHALL BE MEASURED ON THE LOW SIDE OF PLANT PIT WHEN ON A SLOPE.
- ALL PLANTS SHALL BE CENTERED IN PLANT PITS.
- FINAL PLANT MATERIAL PLACEMENT IN THE FIELD MAY BE REQUIRED TO BE ADJUSTED WHERE TREES OCCUR DIRECTLY UNDER OR OVER EXISTING UTILITIES.
- THE PLANT PIT SOIL MIXTURE SHALL COMPLY WITH THE MAG STANDARDS SECTION 430 AND SHALL BE PLACED IN SIX INCH (6") LIFTS. EACH LIFT SHALL BE WATER SETTLED WITHOUT PUDDLING.
- WHERE CALICHE IS ENCOUNTERED IN PLANT PITS THE WIDTH OF THE PIT SHALL BE INCREASED BY ONE THIRD (1/3) OVER SPECIFICATIONS. A LIQUID PENETRANT SHALL BE INCORPORATED FOR EACH PIT PER MANUFACTURER'S RECOMMENDATIONS. NO OVER EXCAVATION SHALL OCCUR WITHOUT APPROVAL OF CITY OF GLENDALE. IF CALICHE IS DISCOVERED TO BE PREVALENT IN THE AREA CONTRACTOR SHALL IMMEDIATELY NOTIFY CITY OF GLENDALE REPRESENTATIVE TO DETERMINE ACTION AND ASSOCIATED COST. CONTRACTOR SHALL NOT PROCEED WITH ADDITIONAL WORK UNTIL DIRECTED BY CITY OF GLENDALE REPRESENTATIVE.
- PLANT LOCATIONS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL STAKE TREE AND SHRUB LOCATIONS FOR 5 GALLON PLANTS AND LARGER. THE LOCATIONS ARE TO BE APPROVED BY CITY OF GLENDALE REPRESENTATIVE PRIOR TO INSTALLATION. THE STAKES SHALL BE CODED PER THE SPECIFICATIONS TO IDENTIFY TREE AND SHRUB.
- THE CONTRACTOR SHALL PROVIDE GRANITE SAMPLES TO CITY OF GLENDALE REPRESENTATIVE PRIOR TO INSTALLATION. A 1 TON SAMPLE SHALL BE DELIVERED TO PROJECT SITE AT LOCATION APPROVED BY CITY OF GLENDALE REPRESENTATIVE AND SPREAD TO THICKNESS AS CALLED FOR IN THE DETAILS AND WASHED FOR REVIEW AND APPROVAL.
- PLANT MATERIAL SHALL NOT BE INSTALLED OR ALLOWED TO GROW WITHIN 3' OF A FIRE HYDRANT OR FIRE DEPARTMENT CONNECTION (FDC). MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 15 FEET WHERE TREES OVERHANG CURB LINE.



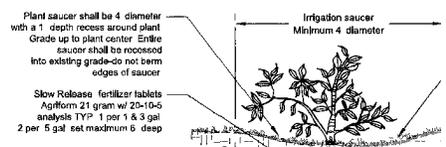
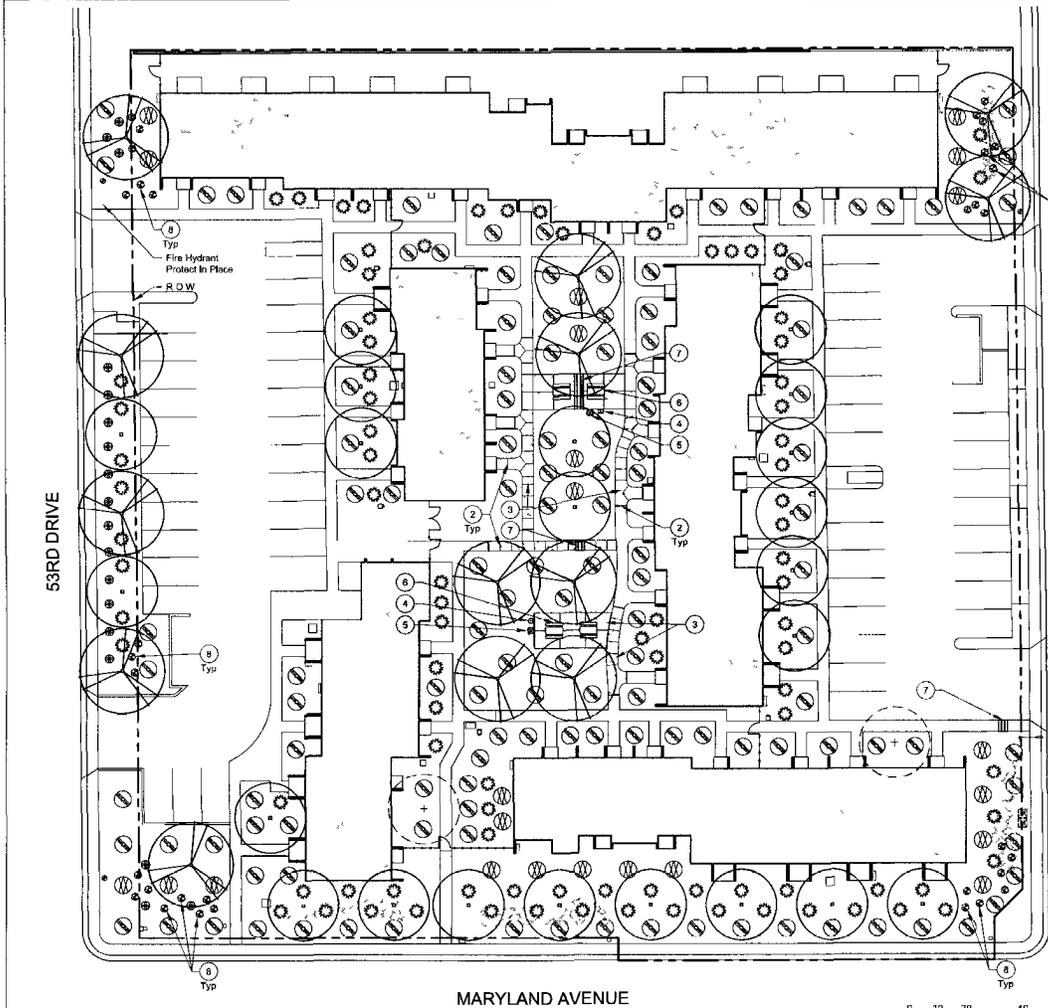
**2 Concrete Sidewalk**  
NTS



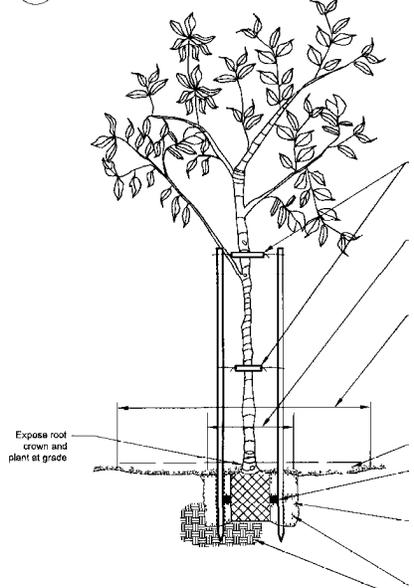
**5 Picnic Table (Bid Alternate B)**  
NTS



**6 Scupper Drain**  
NTS

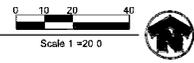


**1 Shrub Planting**  
NTS



**2 Tree planting & staking**  
NTS

**1 Landscape & Hardscape Plan**



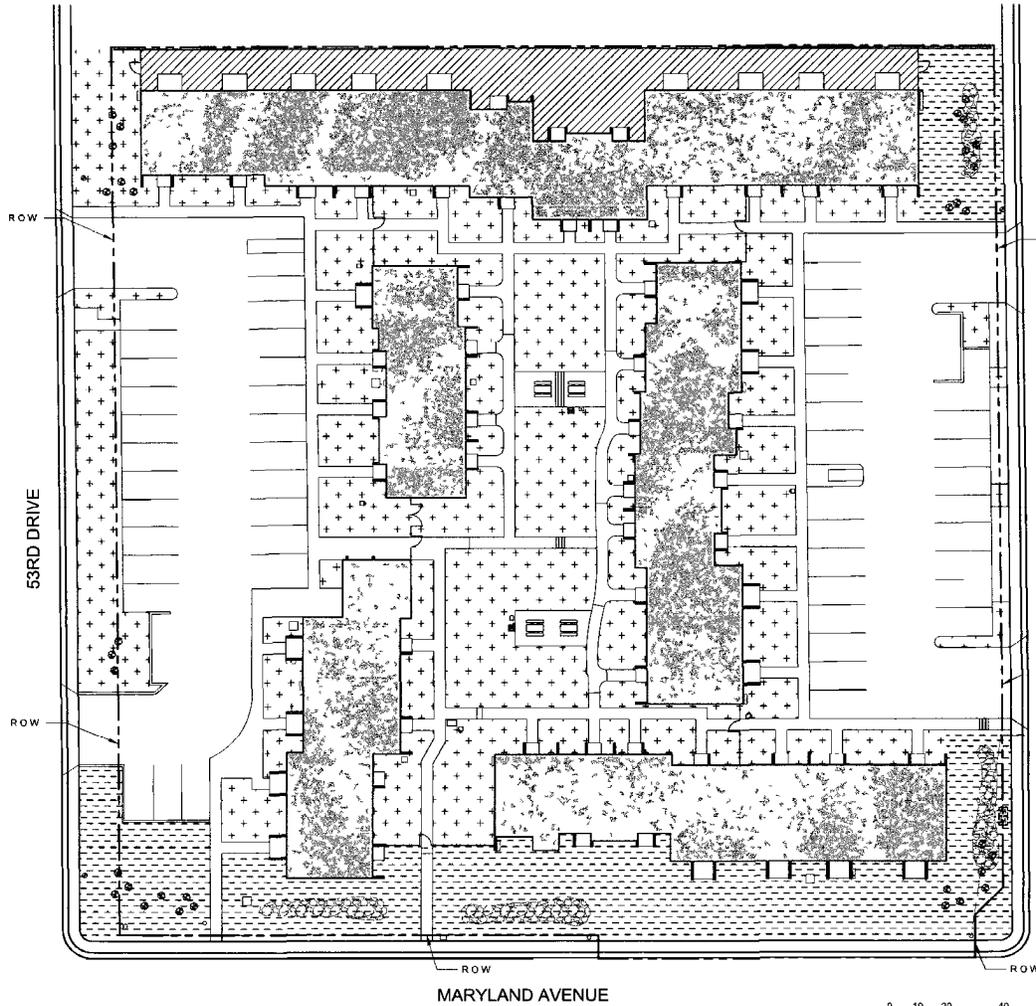
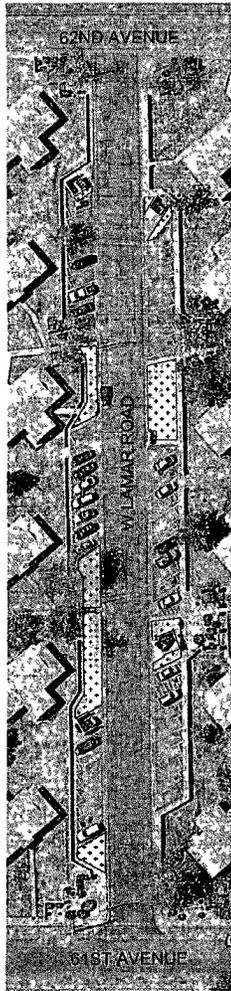
**Plant Legend**

Botanical Name	Common Name	Quantity	Size
<b>Trees</b>			
Citrus trees: Arbo Seedless	Seedless Desert Willow	22	24 Box
Dalbergia sissoo	Sisoo Tree	13	48 Gal
Protea in Place	Varies	2	Varies
<b>Shrubs / Groundcovers / Accents</b>			
Eremophila glabra Mirgamuwa Gulf	Outback Surfline Emu	129	5-Gal
Eremophila hydroptrana	Blue Balls	18	5-Gal
Hesperaloe parviflora	Giant Hesperaloe	23	5-Gal
Nolina microcarpa	Bear Grass	83	5-Gal

**Hardscape Keypoint Legend**

Keypoint	Description	Color	Qty
1	Coning Joints 1/4" holes See Det 1, Sht. 3	N/A	N/A
2	Expansion Joint See Det 1 Sht. 3	N/A	N/A
3	Concrete Blockwork See Det 2, Sht. 3	N/A	2,383 Sq. Ft.
4	Single BRG Grid See Det 3 Sht. 3	Black	2
5	Concrete Trench Receptacles See Det 4, Sht. 3 (Bld Alternative A)	R3 Cast Weatherston	2
6	Concrete Paving Tables See Det 5, Sht. 3 (Bld Alternative A)	G-11 Sand Grout	4
7	New Scupper See Det 6, Sht. 3	not exist	1 @ 12-6 L 2 @ 4-0 L
8	Salvaged & Relocated Boulder See Det 2, Sht. 5	N/A	33

**NOTE**  
All plant material placement is ritagramatic. Plant material shall be field adjusted to avoid conflicts with any existing or proposed utilities lighting hardscape etc. Contractor shall stake and have approved by City of Glendale representative proposed new locations of any plant material needing adjustment



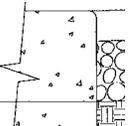
1 Surface Materials Plan - Cholla Vista



**Surface Materials**

- SURFACE MATERIALS**
-  Decomposed G
  -  Decomposed G (Bid Alternate C)
  -  Place Salvaged (Bid Alternate C)

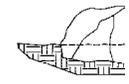
Provide second application of pre-emergent herbicide in manufacturer's recommended control upon final rati



Apply first applicat pre-emergent herbicide i manufacturer's recommend (Surflan or approved i prior to D G plac

**NOTES**  
 1 Contractor Glendale re: installation

**1** Deco  
 NTS  
 Boulder bur  
 Dept  
 Existing relic



Compac  
 per MAX

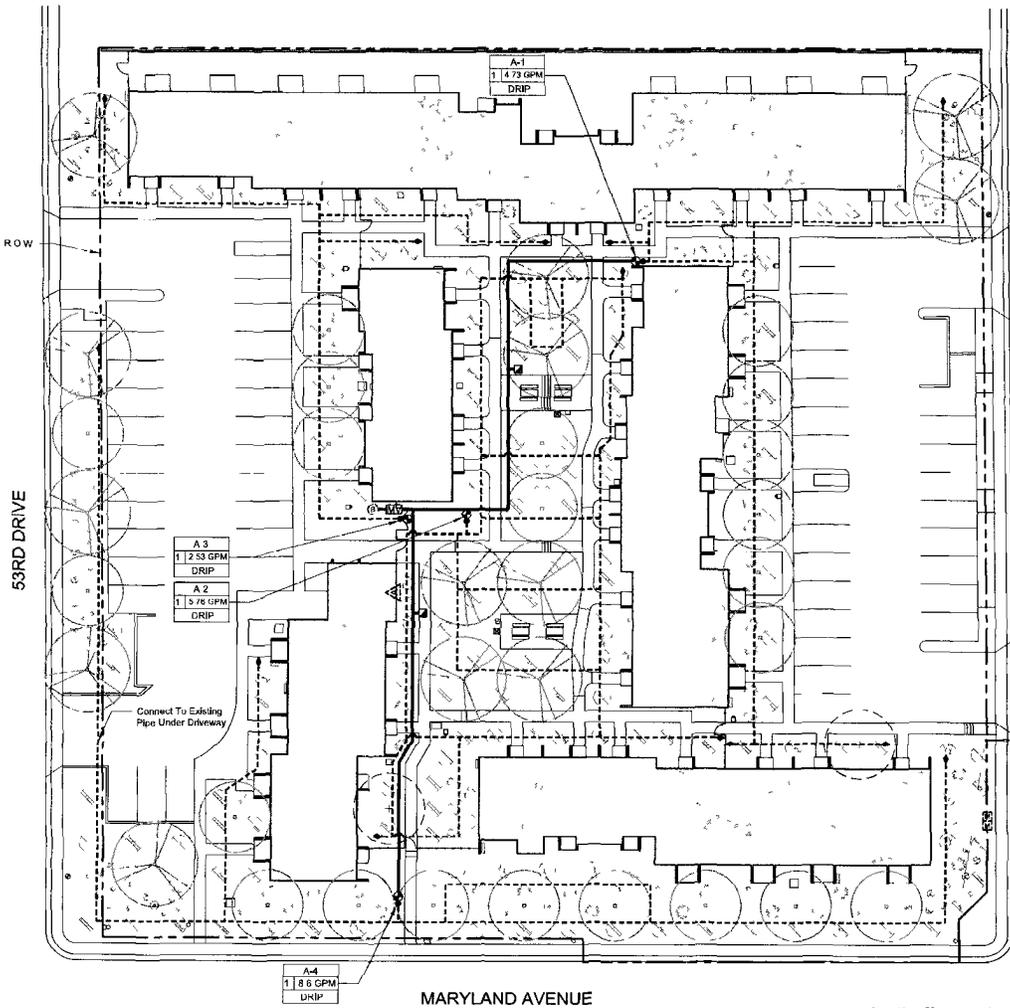
**NOTES**  
 1 Boulder for City of Cle  
 2 Boulders s scarring t treatment  
 3 Boulders v

**2** Land  
 NTS

**Notes**  
 1 Contractor installation  
 2 Contractor project acci glyphosate

2 Surface Materials Plans - Lamar  
 Turf Removal Bid Alternate # 1



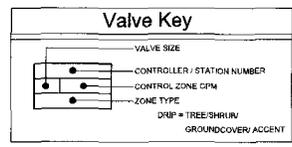


### Irrigation Legend

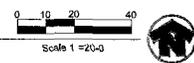
DETAIL	SYMBOL	DESCRIPTION	REMARKS
		WATER METER	EXISTING
		IRRIGATION CONTROLLER-	EXISTING HUNTER ICC LOCATED CONNECT NEW VALVE SIDE OF UTILITY ROOM
		BACKFLOW PREVENTION ASSEMBLY 2	EXISTING 2 BACKFLOW TO REV. CITY WITH APPROVED
1 Sheet 7		MASTER VALVE	1 MASTER VALVE GLOBE STYLE VALVE & SCH 80 PVC UNION IN PL.
2 Sheet 7		DRIFT VALVE, FILTER, AND PRESSURE REGULATOR ASSEMBLY	1 CONTROL VALVE GLOBE STYLE VALVE & SCH 80 PVC UNION IN PU 1 CHECK CHECK BASKET FILTER ( MEDIUM FLOW PRESSURE REGUL BALL VALVE & 1 SCH 80 PVC UNI
3 Sheet 7		LATERAL FLUSH CAP	24 PVC FLUSH BALL VALVE WITH SWIVEL OUTLET IN ROUND TAN V
4 & 5 Sheet 8	NOT SHOWN	MULTI-OUTLET EMITTER	MULTI-OUTLET EMITTER (5 GPH) C ROUND TAN VALVE BOX SEE EMI QUANTITIES
6 Sheet 8		MAIN LINE PIPE	1 1/2 SCHEDULE 40 PVC SOLVENT PERCO DETECTABLE TAPE AT 12
		DRIFT LATERAL PIPE	3/4 PVC CLASS 200 SOLVENT WE

### Emitter Schedule

Botanical Name	Common Name	Quantity	Partial Volume	Volume Per Pt
<b>TREES</b>				
Chikopsia bracteata	Arts Seedless Sweetless Dissect Willow	2 / Multi	12 / 2 GPH	24 GP
Dalbergia sissoo	Sissoo Tree	2 / Multi	12 / 2 GPH	24 GP
Prunella sp.	Varies	2 / Multi	12 / 2 GPH	24 GP
<b>SHRUBS / GROUNDCOVERS / ACCENTS</b>				
Eremophila glabra	Mignonew Gold	1 / Multi	2 / 1 GPH	2 GP
Eremophila tygriophora	Blue Bells	1 / Multi	2 / 1 GPH	2 GP
Hesperaloe parviflora	Giant Hesperaloe	1 / Multi	1 / 1 GPH	1 GP
Nolina microcarpa	Bear Grass	1 / Multi	1 / 1 GPH	1 GP



1 Irrigation Plan



**IRRIGATION GENERAL NOTES**

- The quantities and conditions shown on these plans are for informational purposes only. The contractor shall verify the actual quantities and site conditions prior to bidding the work.
- Prior to any work the contractor shall perform a survey to establish the owner right of way and work limits.
- Prior to commencement of any work the contractor shall contact Blue Stake (802 263 1103) to verify locations and depths of underground utilities that may be affected by this work and shall be responsible for damages to such utilities caused as a result of the work.
- Read thoroughly and become familiar with the installation details for this and related work prior to construction.
- The contractor shall take all necessary precautions to protect adjacent properties from damage throughout construction.
- The contractor shall be responsible for obtaining and complying with all permits required to complete the work covered by these plans.
- The contractor shall comply with all local, state and federal laws, codes and regulations applicable to the work covered by these plans.
- The contractor shall be responsible for all construction means methods, coordination and sequencing during construction unless specifically addressed otherwise in these plans and specifications.
- Once construction operations have commenced, it is the intention of this project that the job site be fully manned/staffed until the completion of the work without gaps in progress.
- The contractor shall be responsible for compensating the owner for any design charges made as result of deviation by the contractor from these plans and specifications or due to errors, faulty material or faulty workmanship.
- All materials utilized on this project are intended to be new and of the best grade available. No used salvaged reclaimed or seconds will be accepted unless specifically otherwise stated.
- The contractor shall verify and accept all site conditions and rough grades prior to starting any work. All drainage flows shall be protected and maintained throughout construction.
- The contractor shall be responsible for dust control during construction and shall acquire a dust control permit from Maricopa County Health Department (602 508-8010). All cost associated with dust control and permits is considered incidental to the project.
- The contractor shall be liable for payment of state, county and city sales taxes.
- The contractor agrees to indemnify and save harmless the owner, its officers, agents and employees and any jurisdiction or agency issuing permits for any work included in the project from all suits, including attorney's fees and cost of litigation, including loss of damage, expense, cost or claims of any character or nature arising out of the work done in fulfillment of the terms of these plans or specifications, or from any claim or suit under the workman's compensation law, or arising out of the contractor to conform to any suits, regulation, law or court decree.
- Contractor shall verify installation conditions prior to start of construction.
- The contractor shall provide irrigation coverage to all plant material.
- Install mainlines 2" and smaller with 18 inches of cover. Lines 3" and 4" shall have 24" minimum cover, 6" and larger shall have 36" cover minimum.
- Install lateral lines with 12" minimum cover.
- Crossings under existing pavement shall utilize existing sleeving or piping. When crossing existing walkways water jet (shoot) beneath the walkway. Where new walkways are installed provide a 3" sleeve for irrigation crossings.
- All master valve and control valve valve boxes to be purple in color and shall include purple locking T-style covers. All other boxes to be tan in color see irrigation legend.
- All irrigation equipment shall be installed per standard irrigation details and per manufacturer's specifications.
- All control wires shall be sleeved separately in 1" schedule 40 PVC conduit.

**IRRIGATION CONTRACTOR NOTES**

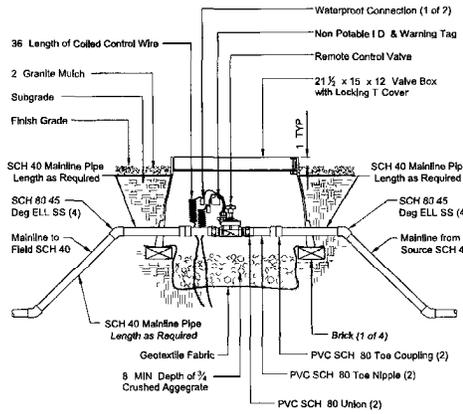
- The plans indicate a detailed layout of irrigation mainlines, laterals and equipment locations; however, some of the piping may be shown diagrammatically outside of the planting areas for graphic clarity. The contractor shall follow the intent of the plan layout and shall review and obtain written approval from the owner's authorized representative for any requested changes.
- All exact quantities of equipment remain the responsibility of the irrigation contractor and they shall provide own materials take off list. No additional cost to the owner will be accepted following the bidding of this project.
- Read thoroughly and become familiar with the plans and installation details for this and related work prior to construction.
- Do not proceed with the installation of the irrigation system when it is obvious in the field that discrepancies in construction details, legend or notes are discovered. Bring all such observations or discrepancies to the attention of the owner's representative.
- The irrigation contractor is responsible for the installation of irrigation sleeving. Sleeves are required for both piping and electrical wiring at each hardscape crossing. Coordinate installation of sleeving with other trades. Any pipe or wire which passes beneath existing hardscape where sleeving was not installed requires horizontal boring by the irrigation contractor.
- All labor, materials, fees & permits to connect the electrical power to the new irrigation control system is to be provided by the contractor and installed in accordance with the National Electric Code and all applicable local electric utility codes.
- Contractor shall maintain the irrigation system for a period of 90 days or as stated in special provisions after project construction acceptance. Maintenance shall include all necessary replacements, adjustments and clean up operations.
- Contractor shall guarantee the irrigation system materials and labor for a period of one year or as stated in special provisions after acceptance.
- Contractor shall note all deviations as constructed from bid set of plans in as-built plans as noted per project specifications.

**EMITTER NOTES**

- Install multi-outlet emitters per emitter schedule.
- Install all emitters up slope from plant material.
- Install emitters a maximum of 6" from shrub centerline and min 18" to max 36" from tree trunk centerline. Do not install emitters into rootball of any plant material.
- Use rigid 3/4" class 200 PVC as drip lateral and emitter lateral pipes throughout. Emitter lateral pipes are shown schematically in plans see emitter details.
- Install lateral flush caps at ends of lateral pipes as shown. Install all flush caps in a 10" DIA circular locking valve box.
- Install all equipment as per manufacturer's instructions and specifications.
- Irrigation contractor shall ensure each shrub and tree receive adequate water coverage as specified per plans.

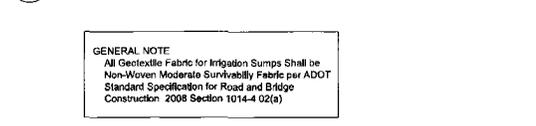
**IRRIGATION REMOVAL NOTES**

- Contractor shall remove all existing irrigation control valve assemblies, valve boxes, spray heads and emitters and dispose of them properly.
- All existing irrigation piping shall be abandoned.



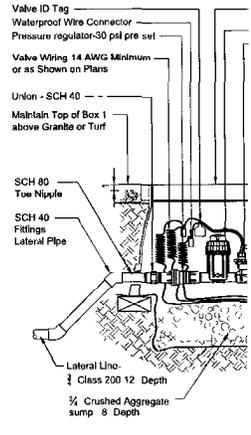
- NOTES**
- Install All Master Valve Control Wires To Controller In UL Approved Electrical Conduit.
  - Supply Spare Control and Common Wire to Master Valve and Supply Expansion Coils With All Wires.
  - Emboss Valve Box Cover with MV In 1" High Stencil Letters Using Stylus Tip Torch on the Master Valve Box.
  - Master Valve to be Normally Open.
  - Valve Box and Cover to be Purple.

**1 Master Valve Assembly - 2" and Smaller**



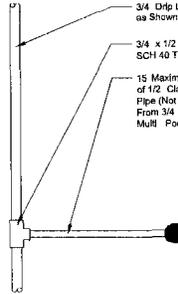
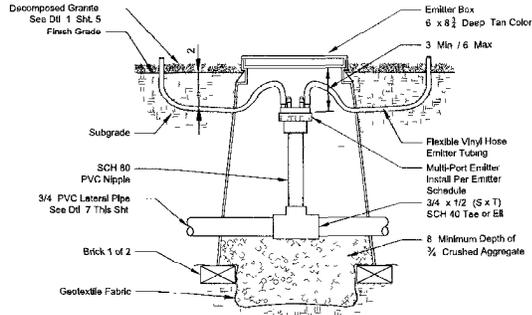
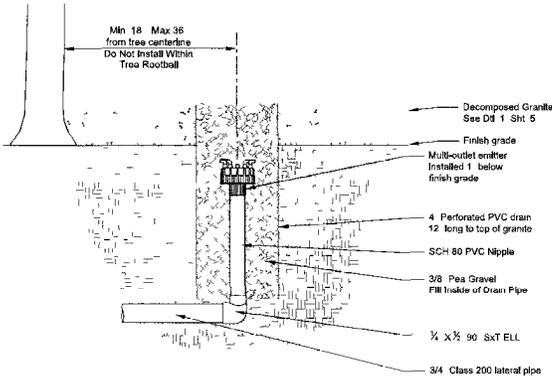
- GENERAL NOTE**  
All Geotextile Fabric for Irrigation Sumps Shall be Non-Woven Moderate Sun/UV Stability Fabric per AASHTO Standard Specification for Road and Bridge Construction 2008 Section 1014-4.02(a)
- Notes**
- Emboss valve box cover with 2" high stencil letters FC using stylus tip torch.
  - Valve box & Cover to be purple.
  - Use solvent designated for use with polyflex pipes.

**3 Drip Flush Cap Assembly**



- NOTES**
- Install Medium Flow Series Pressure Regulator 2-20 GPM and Low Flow Series on Remote Co.
  - Provide Expansion Coils at Each Wire Connect.
  - Emboss Cover of Remote Control Valve Box w/ Mainline Connections.
  - For Mainline Pipe Sizes 4" and Larger, install H Mainline Connections.
  - Valve Box and cover to be Purple.

**2 Drip Valve with Filter**



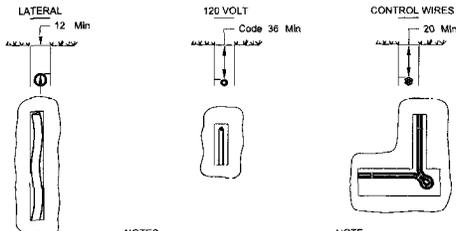
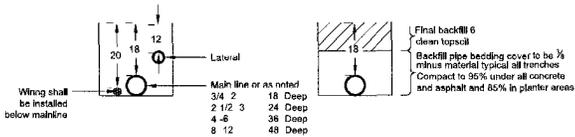
- Notes
- 1 See Emitter Schedule for quantity of emitters volume and number of emitter tubes for each shrub / accent / groundcover
  - 2 Bury all distribution tube 2 below subgrade prior to granite installation
  - 3 Use caution not to crimp emitter tubes at connections to emitters
  - 4 Do not bury emitter with sump rock. Entire emitter shall be exposed above sump rock.

#### 4 Multi-Outlet Drip Emitter Assembly - Trees

NTS

#### 5 Multi-Outlet Drip Emitter Assembly - Shrubs

NTS



NOTE  
All plastic piping to be snaked in trenches as shown

NOTES  
1 All 120 volt wiring in conduit to be installed in accordance with local code  
2 Approved electrical power wires below warning tape shall be installed 12 above all power wiring in trenches

NOTE  
1 Tie a loose 20' loop in all wiring at changes of direction & end of wire sleeves. Untie all loops after all connections have been made

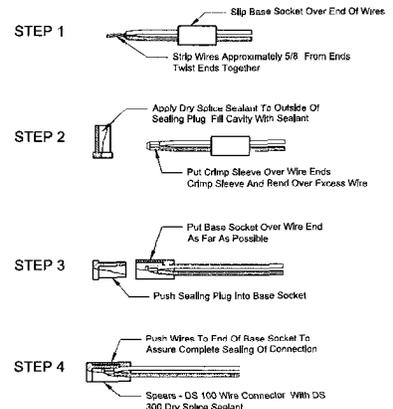
2 Tape and bundle wiring at 10' intervals  
Spliced wires to be in 10' splice pit boxes

3 Wire legend  
Red = Controller  
Blue = Master Valve  
Black/Orange = Flow Meter  
White = Common  
Green = Extra

NOTES  
1 No trench to be closer than 18' to concrete sidewalk, curbs, electric poles, boxes, electric cabinets, street signals, signs, etc.  
2 When multiple main or lateral lines run in the same trench, maintain 3" horizontal clearance between pipes.  
3 All mainline pipes shall have underground detectable tape installed at 12" above top of pipes paralleling the pipes.

#### 6 Trenching, Pipe, and Wire Detail

NTS



NOTES  
1 Use This Splice Technique For All Wire Gauges #14, #12, and #10  
2 All control wires shall be solid strand copper wire suitable for direct burial in wet & dry conditions  
3 Use Dry-Splice wire connectors for all wire splices

#### 7 Wire Splice Detail

NTS



---

# **Glendale Community** **Housing Xeriscape Project**

## **CONSTRUCTION SERVICES**

City of Glendale Project # 141503

**MAYOR**  
**JERRY P. WEIERS**

### **CITY COUNCIL**

<b>OCOTILLO DISTRICT- NORMA S. ALVAREZ</b>	<b>BARREL DISTRICT- YVONNE J. KNAACK</b>
<b>YUCCA DISTRICT- SAMUEL U. CHAVIRA</b>	<b>CHOLLA DISTRICT - MANUEL D. MARTINEZ</b>
<b>CACTUS DISTRICT - IAN HUGH</b>	<b>SAHUARO DISTRICT- GARY D. SHERWOOD</b>

### **CITY MANAGEMENT**

**CITY MANAGER - BRENDA S. FISCHER**



---

# **Glendale Community Housing Xeriscape Project**

## **CONSTRUCTION SERVICES**

City of Glendale Project # 141503

**MAYOR**  
**JERRY P. WEIRERS**

### **CITY COUNCIL**

**OCOTILLO DISTRICT– NORMA S. ALVAREZ**  
**YUCCA DISTRICT– SAMUEL U. CHAVIRA**  
**CACTUS DISTRICT – IAN HUGH**

**BARREL DISTRICT– YVONNE J. KNAACK**  
**CHOLLA DISTRICT – MANUEL D. MARTINEZ**  
**SAHUARO DISTRICT– GARY D. SHERWOOD**

### **CITY MANAGEMENT**

**CITY MANAGER – BRENDA S. FISHER**

**TECHNICAL SPECIFICATIONS**

For

**CITY OF GLENDALE**

**Glendale Community  
Housing Xeriscape Project**

***53<sup>rd</sup> Avenue and Maryland Avenue  
and  
61<sup>st</sup> Avenue and Lamar Road***

**CITY PROJECT NO. 141503**

**PROFESSIONAL CITY OF GLENDALE OR ITS REPRESENTATIVE SEALS:**

This book of specifications and related contract documents represents the efforts of the following firms

- (1) J2 Engineering and Environmental Design, LLC (J2) (Landscape Architecture, Irrigation Design)

A registrant of each firm has affixed his/her professional seal below, which attests that those portions of these specifications, which relate to their respective discipline area, were prepared under his/her direction

J2 - Landscape Architecture &  
Irrigation Design

## **STANDARD SPECIFICATIONS**

Except as otherwise required in these special provisions, construction of this project shall be in accordance with all applicable Maricopa Association of Governments (MAG) Uniform Standard Specifications, and MAG Standard Details following the 2014 edition of each and the 2014 City of Glendale supplements. All measurement and payment for items unless modified herein or on attached bid schedule shall also be in compliance with the above stated standards.

### **Description of Work:**

Improvements to Glendale Community Housing Xeriscape Project consist of preparing the two (2) different sites for the new landscape and irrigation improvements. Miscellaneous improvements per the plans such as tree removals, existing decomposed granite removal and the installation of various irrigation equipment and components, trees, shrubs, and new inert ground cover mulches (decomposed granite) are all required as part of this project.

**MAG UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION and MAG CITY OF GLENDALE SUPPLEMENTS TO DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS ARE HEREBY AMENDED TO INCLUDE THE FOLLOWING:**

## SECTION 102

### BIDDING REQUIREMENTS AND CONDITIONS

#### Is Modified to Add

#### 102.14 ALLOWANCE

##### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other MAG Specification Sections, apply to this Section

##### 1.2 SUMMARY

- A Section includes administrative and procedural requirements governing allowances
- B. Contract allowance items are provided for the purpose of encumbering funds to cover the costs of possible contract amendment work. The amount of the allowance item is determined by the City and is not subject to individual bid pricing. All bidders shall incorporate the amount pre-entered in the bid proposal and shall reflect the same in the total amount bid for this project.
- C Types of allowances in use under this contract include the following.
  - 1 Contingency allowances

##### 1.3 SELECTION AND PURCHASE

- A At the earliest practical date after award of the Contract, advise City of Glendale or its representative of the date when there is a possibility that the allowance amount may be required
- B At City of Glendale or its representative's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work
- C. It shall be understood that this allowance item is an estimate only and is based on contract amendment history of similar projects. It shall not be utilized without an approved contract amendment from the City of Glendale. It is further understood that authorized extra work, if any, may be less than the allowance item

#### 1.4 ACTION SUBMITTALS

- A Submit proposals to City of Glendale for approval prior to the purchase of products or systems required as part of and or in need of using portions of the allowances, in the form specified and attached herein for use of any portion of the allowance. City shall approve allowance use prior to any expenditure.

#### 1.5 INFORMATIONAL SUBMITTALS

- A Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of the cost used against the allowance
- B Submit time sheets and other documentation to show labor time and cost for installation of work and or labor used against the allowance item that include installation as part of the allowance.
- C Coordinate and process submittals for allowance items in same manner as for other portions of the Work

#### 1.6 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation

#### 1.7 CONTINGENCY ALLOWANCES

- A Use the contingency allowance only as directed by City of Glendale or its representative for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance. This allowance item provides an estimated funding to cover unforeseen changes that may be encountered and corresponding extra work needed to complete the contract per plan. Unforeseen extra work, if any, shall be in accordance with the Contract Amendment section of the General Conditions.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

### 3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

### 3.3 SCHEDULE OF ALLOWANCES

- A. Contingency Allowance: Include a contingency allowance of **\$4,400.00** for use according to Owner's written instructions

## SECTION 301

### SUBGRADE PREPERATION

#### 301.8 PAYMENT:

**Delete in its entirety and replace with the following:**

No separate measurement or payment will be made for Subgrade Preparation the cost of which is considered included in inert materials bid items

## **SECTION 355**

### **UTILITY POTHoles-KEYHOLE METHOD**

#### **355.8 PAYMENT:**

**Delete in its entirety and replace with the following:**

No separate payment will be made for utility potholes, the cost of which is considered included in the item of work requiring the pothole, including all work to complete the repair, traffic control, and disposal of all excess material

## SECTION 430

### LANDSCAPING AND PLANTING

#### **Section 430.1 Description:**

##### **Add the following:**

The Contractor shall maintain the viability of the existing landscape within the project limits for the entire length of this contract. Contractor shall be licensed Landscape Contractor with a K-21 classification "Landscaping and Irrigation Systems" or a licensed General Contractor in the State of Arizona and in good standing.

#### **Section 430.2 General:**

##### *Add the following*

Applicable publications listed below form a part of this specification:

- A. Arizona Nursery Association Growers Committee Recommended Average Tree Specifications (Revised 2011)
- B. American Standard for Nursery Stock (2004)

The Contractor shall perform all work in accordance with all applicable laws, codes and regulations required by authorities having jurisdiction over such work and provide for all inspections and permits required by Federal, State and local authorities in furnishing, transporting and installing materials as shown or for completing the work identified herein.

All planting areas shall be left free of construction debris including but not limited to concrete, grout, re-bar, wood, nails, debris and/or toxic material and graded to a level to permit landscape and irrigation construction. Trenches, foundation backfill or other filled excavations shall be compacted prior to the site being turned over to the Landscape Contractor. Compaction of fill areas for planting shall be at 85% maximum. No soil preparation or planting shall begin before the site has been cleared and cleaned of all debris. The City of Glendale Representative shall approve the condition of all planting areas prior to commencement of soil preparation for planting. Commencement of work indicates acceptance of job site conditions by the Contractor.

The Contractor shall maintain stakes set by others until all parties concerned mutually agree upon their removal.

The Contractor shall ship materials with Certificates of Inspection required by governing authorities.

If any of the specified plant material is not obtainable, submit proof of non-availability, together with a proposal for use of equivalent materials, similar in appearance, ultimate height, shape, habit of growth and general soil requirements. Non-availability is defined as contacting a

minimum of five (5) different nurseries and providing written documentation from the nurseries that plants are not available and the reason for non-availability. Any plant substitutions and proof of non-availability shall be submitted within 10 days of notice to proceed. The Contractor may make substitutions of a larger size of the same species and variety with the approval by the City of Glendale or its Representative and at no additional cost to the Owner.

Before delivery, Certificates of Compliance shall be submitted, certifying that materials meet the specified requirements. Submit certified copies of the compliance reports for the following materials:

- A. Transporting of cacti and landscape plant materials (from the Arizona Department of Agriculture)
- B. Soil amendments and conditioners

Certification shall indicate suppliers name, address, telephone number, date of purchase, name, model number and technical description of item purchased, and quantity of each item purchased.

The City of Glendale Representative reserves the right to take and analyze samples of materials for conformity to the specifications at any time. The Contractor shall furnish the samples upon request. Rejected materials shall be immediately removed from the site at the Contractor's expense. The Contractor shall pay for the cost of removing any materials not meeting specifications.

All herbicide and pesticide applicators shall be properly licensed for application of non-restricted use chemicals with an A-20 license or an A-21 license with Pesticide Endorsement from the State Registrar of Contractors and Structural Pest Control Commission. All Landscape Contractors are required to furnish a copy of their application from the Registrar of Contractors, which shall list the names of those employees approved as applicators by the State of Arizona. Application of non-restricted use pesticides shall not take place until the City of Glendale Representative receives a copy of the appropriate applicator's licenses.

All non-paved areas shall be treated with a chemical contact herbicide, such as Round Up or approved equal, to kill existing weed or as directed by the City of Glendale Representative. These areas shall be cleared, grubbed and have the weeds removed after the weed kill has been established to the satisfaction of the City of Glendale Representative.

Finished grades for landscape areas shall be a smooth, uniform surface, free of abrupt grade changes or depressions. Finished soil grades adjacent to paving, curbs or headers shall be as shown in the drawings and may be adjusted by the City of Glendale Representative for surface materials.

During the installation of landscape plantings, keep pavements clean and work areas in a neat and orderly condition on a daily basis. Remove all debris, trash and excess materials generated.

by the landscape installation Sweep, scrub or hose affected areas as directed by the City of Glendale Representative to maintain a clean and neat work area

Landscape Contractor shall call for "blue stake" as required Exercise extreme caution in all planting operations, as there are various underground utilities throughout the entire area Contractor shall study and be familiar with the location of these obstructions and underground utilities Place plantings where shown on the plans If there are obstructions or underground utilities, relocate plants clear of any interference at the direction of the City of Glendale inspector Landscape Contractor shall repair all damages caused by him to obstructions and underground utilities at no expense to Owner

Determine location of underground utilities and perform work in a manner which will avoid possible damage Hand excavate, as required, to minimize possibility of damage to underground utilities The Contractor shall layout all plant material using stakes or flags to indicate the location of all plant materials and each plant species shall be clearly indicated Spacing of shrub and groundcover material shall be as specified on plans. Location and spacing of trees shall be determined by the plan scale and located as accurately as the scale permits Preliminary adjustments to conform to actual site conditions shall be accomplished at this time and the approval of the City of Glendale Inspector or his authorized representative on the staking of all plant material

Contractor shall not begin planting operations until landscape grading has been approved by the City of Glendale and the irrigation system has been installed and is fully operable from the irrigation controller.

### **430.3 LAWN AREAS**

#### **Is Modified to add:**

#### **Removal and Eradication of Existing Turf:**

Contractor shall fully eradicate and remove existing turf grass in areas indicated on the plans or where actively growing on the site Every attempt has been made to identify the areas with active growing turf however the contractor shall be responsible for the complete eradication of Bermuda from the site prior to any new landscape and or granite placement. Bermuda grass is a very aggressive warm season plant. Both common and hybrid bermuda can reproduce by stolons (above ground runners), rhizomes (underground runners) or seed. The only viable way to eradicate this plant is by chemical treatment The best chemical to use is called glyphosate It is marketed under the names of Roundup (Monsanto), Doomsday (General Control) and Kleenup (Ortho Products) Glyphosate is a foliar herbicide that kills or damages plants that it comes in direct contact

The contractor shall be responsible for all applications of contact herbicide work All applications of contact herbicide shall be performed by a registered and licensed applicator Contractor shall provide qualifications, license information, insurance and other pertinent data on the

qualifications and experience of the applicator to the City of Glendale at the pre-construction conference

One week prior to applying the **first** application of glyphosate, contractor shall irrigate the lawn area to get the grass actively growing. The temperatures shall be above 70 degrees for lawn eradication activities to begin. Do not exceed the recommended rate on the herbicide label, and apply the herbicide evenly. It is not necessary to saturate the grass with the herbicide. Allow about two weeks for glyphosate to work between the second and third of **three (3) required applications of pre-emergent.**

Contractor shall make a **second** application at the end of the two-week period. Re-irrigate to get the remaining grass to grow actively and then reapply the final third chemical treatment. Contractor shall be responsible for a total of three (3) applications with a two week period between applications. This will provide full control of Bermuda grass. If rain is expected within 8 hours of application, contractor shall wait for a dry period because the effectiveness of glyphosate is greatly reduced by rain.

When the grass is brown and dead, contractor shall remove a 3 inch layer of the dead grass and soil. If the grade is higher than the surrounding area, sidewalk, driveways, parking areas the contractor shall lower the grade by first "scalping" the lawn area using a mower set low or using a power rake (verticutter) and then removing the remaining soil and areas to the 3 inch depth. Contractor shall remove as much of the grass and soil as required to obtain the 3-inch depth. Contractor shall make the rough grade about three inches lower than the surrounding area to prevent the future granite from getting on adjacent walks, parking areas or hardscape areas. All grades shall be in compliance with this intent or as directed by the City of Glendale or its Representative.

No extra measurement or direct payment will be made for this complete turf removal and proper disposal of all waste products and soil by the contractor including all labor and incidentals for removal, hauling, and waste disposals fees for all areas with actively growing turf, the cost being considered included in the price of the contract items.

#### **Section 430.4 Decomposed Granite Areas:**

Delete in its entirety and replace with following.

##### **430.4.1 Decomposed Granite:**

Decomposed granite shall be native, local, desert, decomposed granite stone at the size and color specified on the plans. The decomposed granite shall be from a single source, free from coating, clay, caliche or organic matter. Contractor shall provide City Inspector with a sample of material, within 30 days of notice to proceed, for approval before installation. Sample size shall be a minimum of 1-ton sample, spread on-site, and covering an area approximately 10ft by 10ft. Contractor shall spread decomposed granite sample in an area as designated by the City Representative. Contractor shall supply as many samples as required to gain approval for color, size, and gradation from the City.

Contractor must examine the subgrade, verify the elevations, and observe the conditions under which the work is to be performed. The existing grade shall be fine graded and raked free of organic matter and other debris one inch diameter and larger and then compacted.

Any existing weeds or Bermuda grass growing in designated landscape areas shall be treated with a post-emergent spray, such as "Round-up", or an approved equal. Any existing or new trees or vegetation shall be protected from the spray drift. There will be no separate payment for the weed spraying. Bermuda grass or weeds must be completely eradicated from all areas of the landscape and where designated by the City of Glendale or its Representative or City of Glendale Representative. The contractor shall remove all non-planted vegetation from all areas designated to receive decomposed granite (by chemical or mechanical means) and maintain the designated areas "vegetation-free" for a minimum period of 40 working days prior to placement of the decomposed granite, or as specified by the City of Glendale or its Representative or City of Glendale Representative. Prior to placement of the decomposed granite, designated areas to receive decomposed granite shall be completely free of all grass, weeds, or other miscellaneous vegetation growth. All dead grass and weeds shall be removed and properly disposed of. There will be no separate payment for the weed spraying.

All weed control products and herbicides shall be approved for use by the City of Glendale prior to any applications. Contractor shall submit copies of all manufacture specifications and application rates to the City for review and approval prior to application. Herbicides and weed control shall only be performed by a licensed applicator, contractor shall supply information on applicator to the City of Glendale for approval.

The sub-grade, prior to granite placement, shall be compacted to between 85 to 90-percent of the maximum proctor density, as determined in accordance with the requirements of Arizona Test Methods 230 or 235, depending on the test method used to determine the compaction density (Sand Cone or Nuclear Method). Compaction testing and associated report shall be provided to the City and sealed by a registered and licensed civil City of Glendale or its Representative, specialized in geotechnical investigation, with all cost for testing and report of results to be provided by the Contractor at no cost to the City.

Contractor shall apply three (3) applications of pre-emergent. One application of pre-emergent herbicide as per manufacturer's directions prior to installing granite and one application after granite has been installed, compacted and raked level, and one application thirty (30) days prior to the end of the maintenance period. The pre-emergent herbicide shall be applied in the manner recommended by the manufacturer to prevent germination of noxious weeds, and shall be equivalent to Surflan, Gallery, or an approved equal, and shall be applied at a rate specified by the manufacturer. Pre-emergent herbicide shall be applied to the designated granite areas, prior to the final water settling operation. The City Inspector is to be notified prior to all pre-emergent applications. Water to activate the pre-emergent herbicide shall be applied to the areas of the herbicide application as recommended by the manufacturer's label. The amount of

water specified by the manufacturer may be adjusted due to rainfall, if approved by the City of Glendale or it's Representative

After the first application of pre-emergent the granite shall be installed and shall be rolled or raked to remove any irregularities, tire marks etc Installation shall provide a two-inch depth of decomposed granite after compacting During the final spreading and final grading operations, all surfaces within the decomposed granite areas shall be passed over by the spreading and grading equipment a minimum of 2-times Equipment operations for spreading, grading, raking, chemical application, water settling, and any other operations shall be done in a manner that uniformly maximizes the vehicle(s) wheel compaction over the surface area. All vehicles used for spreading, grading and raking the decomposed granite shall have one set of wheels with floatation tires having a minimum width of 18-inches to allow equal compaction of the granite mulch The use or application of granite by any method (conveyor belt etc.) shall not relieve the contractor of providing granite compaction to a level approved by the City of Glendale or it's Representative Methods of compacting such as rolling, water settling, etc., shall be approved by the City Inspector

After placing, spreading, compacting and grading the decomposed granite, the contractor shall water settle the total thickness of the decomposed granite, to remove the fine material from the surface. The water settling operation, noted above, shall be completed by applying water at minimum depth of one-half inch over the decomposed granite areas placed or as approved by the City of Glendale or its Representative This water settling technique can be used to water in the second application of pre-emergent in compliance with pre-emergent Manufacturer recommendations and as approved by the City representative

Unless otherwise specified in the drawings, granite finish grade shall be one inch (1") below top of curb or adjacent sidewalk surfaces

**430.4.2- 3/4" Screened Decomposed Granite:** Contractor shall supply and place decomposed granite in areas and colors as designated on the plans Gradation requirements for the 3/4" screened decomposed granite are as follows.

<b>3/4 Inch Screened Decomposed Granite Gradation</b>		
<u>Sample Sieve</u>	<u>Percent Retained</u>	<u>Percent Passing</u>
1 inch	17	83
3/4 Inch	61	39
1/2 Inch	97 4	2 6
3/8 Inch	97	3 0
1/4 Inch	98	2 0
#4	99	1 0

Contractor shall provide samples to the City of Glendale for all granite as specified above for approval by the City prior to placement.

### **430.4.3 DECOMPOSED GRANITE AREAS:**

**Add the following:**

**430.4.2 Salvaged Boulders** All boulders of various sizes identified by the project plans shall be salvaged from the site and relocated by the contractor on site. All boulders shall have a natural, weathered, smooth, and generally rounded surface with natural desert patinas free of fractures and surface scarring. The Contractor shall take all necessary precautions to protect all boulders and prevent any damage during salvage, storage, delivery, transport and installation.

The areas on which the boulders are to be placed shall be graded according to the drawings, prior to the placement of any boulder materials, note that Boulders will be required to be partially buried per the details on the plans. The ground shall be reasonably smooth and graded to within 2 inches of required finish grade following boulder placement.

Prior to starting any boulder installations or placement, the Contractor shall stake out all boulder locations and outline the relative size and shape of each boulder as indicated on the drawings with white marking paint or chalk. The locations and layout shall be reviewed and approved by the City of Glendale or its Representative. The City of Glendale or its Representative reserves the right to modify the staked/marked location of any boulders. Boulder placement must be coordinated with the location and placement of trees, shrubs, irrigation, utilities and other installations, therefore boulder installation shall be sequenced to occur so that the placement and related construction activities associated with the boulder placement will not adversely affect the construction of any other construction activities or installations.

The boulders shall be carefully placed and positioned in approved locations and installed in accordance with the details. Boulders shall be placed to expose and maximize visibility of the most attractive natural surfaces. Where boulders are shown to be installed in groupings or clusters, the boulders shall be positioned and placed to appear as a natural rock outcropping or as though they have weathered and fractured from an original larger parent boulder.

After placing each boulder, all voids and cavities adjacent to or beneath the boulder shall be backfilled and compacted to prevent any future settlement or movement. Prior to final acceptance, the Contractor shall water wash each boulder to remove all dust or soil from the visible surfaces of all boulders. Any surface scars or damage to the natural surface patina of each boulder shall be treated with an artificial desert varnish product such as Permeon, Eonite, or equal, as approved by and to the satisfaction of the City of Glendale or its Representative. Application of these products shall comply with all manufacturers' specifications. Contractor shall submit product information and application rates to the City of Glendale or its Representative for review and approval prior to application. Simulated desert varnish shall be applied to not less than three (3) test rock samples located within the construction site. Each rock sample shall be a minimum of 2'-0" x 2'-0" x 2'-0". Each of these test rocks will be for review and approval by the City of Glendale or its Representative. This testing and review shall occur 30 days prior to any application on the actual boulders to be used on the project.

All salvaging, storing, desert varnish, relocation, etc of salvaged boulders is considered included in the cost of the salvaged boulder item

**Section 430.5 Tree, Shrub and Ground Cover Planting:**

Add the following:

All materials as noted (but not limited to this list) shall conform to the bid specifications:

- A Pre-emergent
- B Fertilizer
- C Plant material
- D. Decomposed granite
- E Stabilizer
- F. Organic Compost

The Contractor shall coordinate pre-approval of plant material and delivery with the City of Glendale and applicable nurseries as required.

Upon delivery to the site, all nursery stock shall be planted within 24 hours of arrival on site. Until planting, plants shall not be exposed to excessive sun or drying winds. Stock which is not satisfactory in the opinion of the City of Glendale Inspector shall be immediately replaced with acceptable stock.

The planting of all trees shall be performed during favorable weather conditions, during the season or seasons which are normal for such work, as determined by acceptable local practice.

Planting pit width only for trees and shrubs shall be excavated to a volume a minimum of 2½ times the width of the root ball of the plant to be planted. Contractor shall stockpile native soil excavated. The native soil will be used for mixing with amendments and backfilling planting soil. Scarify the walls of the planting pit.

Planting pits shall be backfilled with equal parts in thirds of native soil, stabilized organic matter, and sand and be watered settled to a grade sufficient, that in the setting of the plant, the finish grade level after settlement will be the same as that at which the plants were grown (see details in landscape plans).

**Container Removal** Remove container by turning plant upside down, supporting root ball with hand and tapping container gently to dislodge plant. Support root ball with both hands until planted in pit. Do not injure root ball, or hold plant by the stem.

**Box Removal.** Remove bottom of plant boxes before planting. Remove sides of box without damage to root ball after positioning plant.

Set container and boxed stock on undisturbed native soil, plumb, and hold rigidly in center of pit or trench with top of ball at elevation as shown on planting details. When set, place additional soil backfill and fertilizer tablets around base and sides of ball, and work each layer to settle planting soil backfill to eliminate voids and air pockets. Working in six inch (6") lifts of planting backfill mix water settle the area every twelve (12") of depth applied around plant thoroughly before placing next two lifts, repeat process until completed

After removal of plants from containers or box sides, superficially cut edge-roots, no deeper than one-quarter (1/4) of an inch deep, with a sharp knife on sides and tease out feeder roots to assure positive contact and embedment into planting soil

After watering, any settlement within basins shall be refilled to required grade with native soil

Prune, thin out and shape trees and shrubs in accordance with standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise directed by the City of Glendale Inspector, do not cut tree leaders, and remove only injured or dead branches

Excessively pruned or malformed stock resulting from improper pruning shall be removed from site and replaced at no additional cost to the Owner

Stake trees as identified on the plans. All "grow stakes", stakes that come on plant material from the nursery and are directly abutting the plant material, shall be removed from the plant after planting operations have occurred. These "grow stakes" shall not be considered or used as final staking of plant material

Any rock or other underground obstructions shall be removed, if possible, to the depth necessary to permit proper planting, according to plans and specifications. If underground construction, obstructions, or rock are encountered in the excavation of planting areas, other locations of the planting may be selected by the Contractor only upon approval of the City of Glendale Inspector. Prior to any work, the Contractor must be knowledgeable of the locations of all existing underground installations, and their protection is his responsibility. All damage will be corrected at the expense of the Contractor to the satisfaction of the City of Glendale Inspector. Coordinate all work with other trades so conflicts will not exist or delay the work in any way. Coordinate grades with earthwork and with placement of irrigation systems fixtures.

All trees specified for staking shall be staked in line with prevailing winds. Stakes shall be 2-inch round knot-free pine, length as required and installed as follows. Stakes shall be placed immediately adjacent to, but in no case through, the root ball, and penetrate at least six (6) inches into undisturbed soil, be aligned vertically, be pointed at one end, and be aligned so as not to interfere with the existing branch structure of the tree, extending 5 to 6 feet above grade. Vinyl for fastening trees to stakes shall be stapled to the wood stakes, or otherwise attached to prevent removal of the vinyl. Provide not less than three (3) stakes spaced equally around trees (see tree staking details). After tree staking has been reviewed by the City of Glendale or its

Representative all growth stakes, labels, and ties shall be removed from trunks of trees and shrubs and be properly disposed of

**Section 430.5.5 Ground Cover Areas:**

Delete entire section and replace with the following

All ground cover plants shall be planted in accordance with Section 430 5.6

**Section 430.5.6 Shrub and Tree Pits:**

Add the following

Plant Layout:

The Contractor shall stake the location of individual trees, shrubs and accent plants, and layout the perimeter of ground cover areas in accordance with the plans for the City of Glendale or it's Representative to approve. The Contractor shall also make adjustments in the plant locations as directed by the City of Glendale or its Representative and plant trees, shrubs, ground covers and accent plants after final grades and plant locations are established and approved by the City of Glendale or it's Representative

Delivery

Deliver plants just prior to planting All packaged materials that will be utilized during the planting operation shall be delivered in containers showing weight, analysis and name of manufacturer. Contractor shall protect materials from deterioration during delivery and while stored on site Submit certification of contents, quantity and source of all plants and planting materials to the City of Glendale or its Representative for approval

Protection of Plant Materials

If planting is delayed more than 6 hours after delivery, protect the plants from the sun, wind and mechanical damage Keep roots and root balls moist and water as often as necessary to maintain good health and vigor Remove and replace all damaged and unhealthy plants as directed by the City of Glendale or its Representative Do not bend or bind any plants in such a manner as to damage bark, break branches or destroy their natural shape Provide adequate protection for root systems Do not handle container plants by their foliage, branches or trunks

Pre-Delivery Inspection of Materials

Prior to delivery of any species to the project site, the Contractor shall make the necessary arrangements with the City of Glendale or it's Representative for an inspection of the plant material The Contractor will pay for travel and expenses to non-local nurseries, out of the metropolitan Phoenix area, when requested by the Contractor Any plants found to be unsuitable in growth habit or condition, or plants which are not true to the specification, shall be removed immediately from the site and replaced with acceptable plants

The Contractor shall notify the City of Glendale or its Representative at least 48 hours in advance for any inspection of the plant material at the offsite location Prior to notifying the City

of Glendale or its Representative, the Contractor shall physically verify that all of the designated plant material meets the specified sizes and conditions

Construction of Plant Pits and Trenches - Prior to planting, a percolation test shall be performed on all plant pits to determine that adequate drainage exists. Fill the pits half-full with water. Allow the pits 24 hours to drain. If any pit has not substantially drained, a rock caisson shall be installed. Each caisson shall have a four-foot deep (4') by 8-inch (8") diameter hole filled with 1-1/2 inch diameter crushed stone filled to the bottom of the pit. Increase the depth of the caissons if ground water, caliche, or impervious rock is encountered. No separate measurement or payment will be made for the addition of rock caissons.

Modify the second paragraph to read as follows

Plant backfill mix - The planting backfill mix for trees, shrubs, ground covers and accent plants shall consist of equal parts 1/3 native soil, 1/3 stabilized organic material, and 1/3 sand.

Add the following:

Provide proper surface drainage within all planted areas. Any grading conditions found in the plans or specifications, in obstructions on the site, or in prior work done by another party that the Contractor feels precludes establishing proper drainage, shall be brought to the attention of the City of Glendale or its Representative in writing for resolution.

**Section 430.8 Plant Guarantee:**

Add the following paragraph.

Contractor shall guarantee all plant materials for two calendar years from the date of project acceptance.

**Section 430.9 Plant Establishment Period:**

Delete the entire section and replace with the following

The Contractor shall request an inspection by the City of Glendale or its Representative when the Contractor believes the landscape work is substantially complete and the planting and related work has been accomplished. After this initial inspection, and subject to his approval of the work, the City of Glendale or its Representative will issue a written field notification to the Contractor setting the effective, beginning date for the Plant Guarantee Period. The plant guarantee period for trees, shrubs, and ground cover shall be for a period of two calendar years, but is subject to extension by the City of Glendale or its Representative if appreciable plant replacement is required, or other corrective work becomes necessary. This work will be considered incidental to other bid items within this section and no separate payment will be made for the Plant Guarantee Period.

A final acceptance inspection of the landscape areas will be made by City of Glendale or its Representative at end of the plant guarantee period.

## SECTION 431

### DECOMPOSED GRANITE RESTORATION AREA AND RIP RAP RESTORATION AREAS

**431.1 GENERAL:** Prior to any demolition the Contractor shall verify with City of Glendale Representative exact limits and areas shown on the plans for Decomposed Granite Restoration Areas and Rip Rap Restoration Areas. All work shall be in accordance with these technical specifications and MAG Standard specifications and any City of Glendale supplements.

Contractor shall supplement existing granite and Rip Rap materials with new decomposed granite and Rip Rap materials where required to achieve specified depth and shall salvage and reset all existing boulders in the identified Decomposed Granite and Rip Rap Restoration Areas. Contractor shall match color and gradation of existing decomposed granite and Rip Rap for any required supplemental granite or Rip Rap necessary to achieve 2" specified depth for granite and 6" specified depth for Rip Rap. Contractor shall contact City of Glendale Representative for review and approval of Restoration materials prior to their use on the project to ensure that the restoration materials for granite and Rip Rap will match existing.

#### **431.2 MEASUREMENT AND BASIS OF PAYMENT:**

Measurement and Payment for the Decomposed Granite and Rip Rap restoration areas will be at the contract unit prices bid per Square Foot and shall include all costs, materials, equipment, labor, and operations necessary for full restoration of all decomposed granite and rip rap areas to the specified colors and depths, and other miscellaneous items to the satisfaction of the City of Glendale.

## SECTION 440

### SPRINKLER IRRIGATION SYSTEM INSTALLATION

Sprinkler Irrigation System Installation shall conform to Section 440 of the MAG Uniform Standard Specifications and the City of Glendale Specifications and details except as modified herein.

#### **440.1 GENERAL:**

##### **Add the following:**

The plans indicate a detailed layout of irrigation lines, laterals, and emitter locations, however, some of the piping may be shown diagrammatically outside of the planting areas for graphic clarity. The contractor shall follow the intent of the plan layout and shall review and obtain written approval from the Owner's Authorized Representative for any requested changes.

Due to the scale of the drawings, it is not possible to indicate all offsets, fittings and sleeves that may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all of his work and plan his work accordingly, furnishing such offsets, fittings

and sleeves as may be required to meet such conditions. All work called for on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications.

The irrigation system shall be constructed using the emitters, valves, piping, fittings, controllers, wiring, and other components, of sizes and types as shown on the drawings and as called for in these specifications. The system shall be constructed to grades and conform to areas and locations as shown on the drawings.

The contractor shall connect the irrigation system to the existing point of connection that includes an existing water meter, backflow prevention assembly and irrigation controller. Connection methods and materials shall conform to the plans and details and all applicable codes and applicable governmental requirements.

A landscape guarantee period is a part of this contract and shall include repairs or replacement of the irrigation systems as often as required to keep the system in proper operating condition. Guarantee shall include all repairs to any type of irrigation equipment installed as a part of the construction phase of the contract. All repairs to the irrigation system shall be completed within 24 hours notice of the required repair. Any loss of plant material due to irrigation system deficiencies shall be replaced with like sized and quality material at no cost to the City of Glendale.

The contractor shall guarantee the irrigation system for two calendar years from date of project acceptance.

If quantities are furnished either in specifications or on drawings, quantities are furnished for information only. It is Contractor's responsibility to determine actual quantities of material, equipment, and supplies required by the project and to complete independent estimate of quantities and wastage.

Provide work and materials in accordance with latest edition of National Electric Code, Uniform Plumbing Code as published by the International Association of Plumbing and Mechanical Officials, and applicable laws, regulations and codes of governing authorities.

All irrigation equipment and materials shall be supplied by the manufacturers as indicated on the plans, details and specifications. If no manufacturer is specified, the contractor shall supply as part of his submittal package complete manufacturer cut sheets detailing materials, construction methods and standards.

All materials utilized on this project are intended to be new and of the best grade available. No used, salvaged, reclaimed, remanufactured, or seconds will be accepted.

#### **440.3 QUALITY ASSURANCES:**

**Add the following:**

The irrigation contractor shall be licensed by the State of Arizona with a K-21 classification "Landscaping and Irrigation Systems" license in good standing. The irrigation contractor shall also be a "Certified Irrigation Contractor" as certified by the Irrigation Association

The irrigation contractor shall submit evidence of possession in good standing for the required licenses and certifications at the pre-construction meeting

The irrigation contractor shall, at the pre-construction conference, submit the name of the project superintendant and the on-site foreman who will be in charge of daily project activities. The superintendant and foreman shall have a minimum of 5 years experience in the construction of similar projects in size and complexity

The irrigation contractor shall not change the approved superintendant or on-site foreman without prior approval of the City of Glendale or its Representative

Once construction activities have commenced, it is the intention of this project that the job site be fully manned/staffed until the completion of the work without gaps in progress

The contractor shall provide two week look ahead schedules of work site activities and material deliveries. Regularly scheduled weekly meetings shall be held to review the schedules, progress, quality control and other items as needed

All materials and each part or detail of the work shall be subject to inspection by the City of Glendale or its Representative. The City of Glendale or its Representative shall be allowed access to all parts of the work and shall be furnished such information and assistance by the contractor as required to make a complete and detailed inspection.

The contractor shall schedule its operations to allow a reasonable amount of time for inspection of the work. The contractor shall not be entitled to additional compensation or an extension of the work time for delay resulting from such inspections

All work found to be unacceptable or work or materials that were installed without inspection shall be removed and replaced at no additional cost to the owner.

Upon failure on the part of the contractor to comply with any order of the City of Glendale or its Representative under provisions of this subsection, the City of Glendale or its Representative will have the authority to cause unacceptable work to be removed and to deduct the costs from any monies due the contractor

**440.3.2 Coordinate Work with Other Trades:**

**Add the following:**

The irrigation contractor shall coordinate his work with the general contractor and the work of other trades conducting construction activities on the project site. The irrigation contractor shall receive grades plus or minus 0.10 foot of the finished grade of the project. Beginning work shall constitute acceptance of grade and soil conditions.

The irrigation contractor shall arrange his work and shall place and dispose of the materials being used so as not to interfere with the operations of the other contractors within the limits of the same project and on adjoining projects. The contractor shall join the contractor's work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

#### **440.4 SUBMITTALS:**

**Add the following items to be submitted:**

- Master valves
- Control valves
- Pressure regulators
- Ball valve
- Emitters
- Pipe
- Valve Boxes

#### **440.4.2 Record Drawings:**

**Add the following locations to be recorded:**

- Sleeve locations
- Turf control valves

**Add the sentence:**

Do not permanently cover work until as-built information is recorded.

The record drawings shall show all changes in the Contract work, or work added, on these Record Drawings in a contrasting color, including work changed by Addendum or Bulletin.

#### **440.4.4 Operation and Maintenance Manuals:**

**Add the following:**

The controller programs shall include programming indicating which programs will be operated concurrently and the total; system flow during individual and concurrent run programs. All

programs will include cycle and soak periods for slope and soil considerations to minimize runoff Programs shall also demonstrate adherence to a 6 hour (10:00pm to 4:00am) water window

Maintenance manuals shall include manufacturer's parts sheets for all equipment installed. Provide an equipment source name address and phone number for each piece of equipment

#### **440.6.2 Trench Excavation:**

**Replace the minimum depth over pipeline with the following:**

- a Electrical Conduit for 120/240/480 volt conductors – 48 inches cover
- b Electrical conduit for irrigation control/communication – mainline depth or 20 inches minimum
- c Waterlines continuously pressurized
  - ¾" – 2" 18 inches cover
  - 2 ½" – 3" 24 inches cover
  - 4" – 6" 36 inches cover
  - 8" – 12" 48 inches cover
- d. Sleeving under pavement – 36 inches minimum

**Add the following:**

Pipe trenches shall be straight but if obstructions necessitate a change of direction, the limits of curvature for PVC pipe shall be followed in strict accordance with pipe manufacturer recommendations.

Trenches may be curved to change direction or avoid obstructions within the limits of the curvature for PVC pipe Minimum radii of curvature are 25 feet for 2-inch diameter pipe, 100 feet for 3- and 4-inch diameter pipe, and 150 feet for 6-inch pipe All curvature results from the bending of the pipe lengths. No deflection will be allowed at a pipe joint

#### **440.6.4 Piping:**

**Add the following:**

All piping 2 ½" and smaller shall be solvent weld schedule 40 PVC conforming to ASTM D-1785

All 3" and 4" piping shall be rubber gasketed pipe conforming to ASTM-D-2241

All fittings use on 2 ½" and smaller mainline pressure pipe shall be schedule 80 Fittings for use on lateral piping shall be schedule 40 Only schedule 80 PVC fittings may be threaded Use Teflon tape on threaded connections, pipe dope is not acceptable.

Fittings for use on 3" and larger pipe shall be deep bell ductile iron

Install 3" detectable warning tape over all mainline pipes, 6" above the top of the installed pipe

#### **440.6.5 Wiring:**

##### **Add the following:**

Contractor shall ensure that the existing controller is properly grounded and shall provide grounding if absent. Grounding for the irrigation controllers shall be a combination of a 5/8" x 8' copper ground rod in conjunction with a 4" x 96" x .0064" copper ground plate, connect to controller with 6 AWG solid bare copper wires. Cadweld the connection to the grounding rod. Install per plan details. Provide each controller with a complete ground rod/ground strap combination. Locate ground rods outside of the restroom in the landscape area.

Wiring to all remote control valves shall utilize UF-600 solid copper direct burial polyethylene insulated conductor. Common wire shall be 12 gauge (white) with control wire 14 gauge (red). Run one 14 gauge spare green between the controller and looped through all valve boxes.

Wire connections to remote control electric valves, flow sensors, moisture sensors and splices in the field, shall be made in the following manner and as shown on the details on the plans, using Pen-Tite (Dri-Splice) wire connectors and sealant.

- (1) Strip ends of wires and push wires through the holes of the base socket
- (2) Twist wires together and mechanically bond together using crimp sleeve and crimp pliers.
- (3) Pull wire connection back into base socket as far as possible
- (4) Apply sealant to outside of sealing plug, then fill cavity of sealing plug completely with sealant.
- (5) Push sealing plug into base socket, using slight twisting motion, until it bottoms
- (6) Push wires unseating sealing plug. This assures cement completely sealing around wire insulation and waterproofing the connection

It is important that the joint be absolutely waterproof so that there is no chance for leakage of water and corrosion build-up on the joint.

#### **440.6.6 Valves, Valve Boxes, and Special Equipment:**

##### **Add the following:**

All valve boxes are to be tan in granite

#### **440.6.7 Sprinklers, Bubblers, and Emitters:**

**Delete the fourth paragraph in its entirety and replace with the following:**

Emitter assemblies provide a connection to the 3/4" lateral line using a 1/2" S D R 13.5, class 315 PVC (maximum length 15'), extension utilizing schedule 40 PVC fittings, and 1/2" flex hose riser (schedule 40)(maximum length 18") with 1/2" threaded male adaptor to receive the emitter. The 1/2" PVC will not be measured or paid and is to be considered included in the cost of the emitter assembly. The emitters shall be installed to the high side of the plant. Install emitters with the port quantity and flow rate as shown on the plans emitter schedule. Emitters shall be installed below grade in a perforated sleeve at all trees and in a emitter box with 1/4" distribution tube extending to each shrub and ground cover per plan details.

**Add the following:**

Drip lateral flush end caps shall be installed at the end of the 3/4" drip lateral runs. Install at the locations shown on the plans per the plan details. Locate drip flush end caps within 10" round valve boxes. Where both tree and shrub drip laterals end at the same location it will be acceptable for both lateral line end caps to be located within the same 10" round valve box.

#### **440. 8 PRELIMINARY, SUBSTANTIAL AND FINAL WALK –THROUGH INSPECTIONS:**

**Add the following:**

The Contractor shall be responsible for irrigation system guarantee for a two calendar year period from time of project acceptance.

#### **440.11 MEASUREMENTS AND PAYMENTS:**

**Replace with the following:**

Measurement and payment shall be in accordance with the unit prices established in the proposal which shall be full compensation for furnishing all labor, materials, tools and equipment, and performing all work necessary to complete the irrigation system described or specified in the contract documents.

**Water Service Tap and Meter** These items are existing. Contractor shall retest and have certified by a City of Glendale authorized testing service the existing backflow prevention assembly. The contractor shall reconnect to the existing 2" backflow prevention unit for this system. The testing and certification of this existing irrigation system components is considered

incidental to the overall operation of the irrigation system and will not be paid for separately and is considered included in the price for the irrigation system

**Master Valve** The contract price for this item shall include the valve box, lid with stainless steel bolt, geotextile fabric, and pea gravel sump.

**All Quick Coupler Valves** The contract price for this item shall include the valve box, lid with stainless steel bolt, geotextile fabric, pea gravel sump and quick coupler key with swivel hose bib

**All Gate Valves** The contract price for this item shall include the valve box, lid with stainless steel bolt, geotextile fabric, pea gravel sump and one 5' long valve key

**All Drip Filters and Regulators** The contract price for this item shall include brass filter, regulator, and gauge The valve box, lid, geotextile fabric and pea gravel sump shall be a part of the 1" brass electric control valve

**All Multi-port and single port emitter assemblies** The contract price for this item shall include the emitter, 1/2" S.D R 13.5 class 315 PVC pipe and all necessary fittings between the emitter and the 3/4" PVC pipe shown on the drawings

**Add the following:**

## **SECTION 441**

### **IRRIGATION SLEEVING**

#### **441.1 DESCRIPTION:**

Sleeving for under asphalt, concrete, or other pavements shall be sized and schedule as noted on the plans

Contractor shall utilize existing sleeving and piping under existing pavement for new irrigation installation. Where existing sidewalks are to be crossed and no sleeves exist the contractor shall water jet (shoot) the sidewalk to install the pipe

Where new sidewalks are installed the contractor shall provide 3" schedule 40 sleeves for irrigation pipe and wire crossings.

When any cutting or removal of asphalt and/or concrete work is necessary, it shall be saw cut in accordance with MAG Section 601 2 7 and City of Glendale supplements to MAG

Asphalt cut and patch operations necessary for sleeve installation outside of the street prism between curbs shall be considered incidental to the sleeve installation. All asphalt cutting shall be done with proper equipment to allow straight and true cuts through the entire depth of the asphalt being removed. Contractor shall replace any patch work if the patch compacts more than 1/2" or if any of the patches becomes dislodged within one year. All asphalt shall comply with MAG section 336 and COP standard detail 'T' Top

## SECTION 757

### SPRINKLER IRRIGATION SYSTEM

Sprinkler Irrigation System shall conform to Section 757 of the MAG Uniform Standard Specifications and City of Glendale Standard Specifications and Details except as modified herein

#### **757.2 Pipe and Fittings:**

**Delete the first paragraph of subsection (A) and replace with the following:**

- (A) Rigid Plastic Pipe shall be extruded from 100% virgin normal impact unplasticized polyvinyl chloride (PVC) Type I, Grade I or II resin 2000 psi (PVC 1120 or 1220) Design stress ASTM D1784, Department of Commerce PS-21-70, PS-22-70, and Standard Dimension Ratio (SDR) 21 or greater than 200 psi Pipe shall conform to ASTM D-2241 and D-2672 See plans for application and exact grade

**Delete the sixth paragraph of subsection (A) and replace with the following:**

Piping up to and including 2 ½" size shall be schedule 40 solvent welded

**Delete the first paragraph of subsection (B) and replace with the following:**

Plastic Pipe Fittings and Couplings For all continuously pressurized mainlines up to and including 2 ½" in size all fittings shall be schedule 80. All lateral line pipe fittings shall be schedule 40 Only schedule 80 fittings shall be threaded Plastic flange and saddle fittings are not permitted.

#### **757.2 Pipe and Fittings:**

**Delete the first paragraph of subsection (C) and replace with the following:**

1. Copper Pipe shall be Type K, hard tempered, ASTM B88, with fittings of wrought solder joint type in accordance with ANSI B16.22
2. Solder joints with silver solder 45 percent silver, 15 percent copper, 16 percent zinc, 24 percent cadmium and solidus at 1125 degrees F and liquidus at 1145 degrees F, conforming to ASTM B206 and FS QQB-655C.

#### **757.3 Valves and Valves Boxes:**

**Delete this subsection and replace with the following:**

### **757.3.7 Valve Boxes:**

#### **Valve Boxes:**

- 1 Round valve boxes shall be 10-inch diameter x 10-1/4 inches high constructed of rigid polyolefin, chemically inert plastic, with 6-inch CI 160 P V C extension sleeves where required. Valve boxes shall have locking plastic covers. Valve boxes and covers shall be green in turf areas and tan in granite/desert areas. Apply the appropriate identifying letters with a Heat-brand.
- 2 Rectangular valve boxes shall be 15 3/4 inches wide x 25 1/2 inches long x 15 1/4" inches high constructed of rigid polyolefin, chemically inert plastic, with valve box extensions where required. Valve boxes shall have locking plastic covers. Valve boxes and covers shall be green in turf areas and tan in granite/desert areas. Apply the appropriate identifying letters and/or numbers with a Heat-brand.
- 3 Identification letters or numbers shall be 2 inches high and heat branded onto the box cover. Identification shall be as indicated on the detail drawings.
- 4 Heat branding shall be accomplished using branding irons specifically designed for this purpose. Heat branding shall not weaken or in any way puncture the valve box cover.
- 5 Valve box covers shall be green in color, tan in granite, unless directed to be purple in color for use with reclaimed water. Reclaimed water Valve boxes shall have appropriate reclaimed water warnings embossed onto the cover in English and Spanish, as well as the international "Do Not Drink" symbol.
- 6 Valve box covers shall be locking type secured with a 3/8-inch stainless steel bolt, washer and nut.
- 7 Valve boxes used for irrigation equipment shall be as follows
  - a Round valve boxes shall be used for butterfly valves, quick coupler valves, ball valves, drip system flush valves, air/vacuum relief valves and multiple outlet drip emitters.
  - b Rectangular valve boxes shall be used for remote control valves, master control valves, drip control valves, drip pressure regulator / wye filter assemblies, flow sensors, basket strainers, and pull boxes.
- 8 Install valve boxes in planting areas and according to the construction details. Only one valve per box will be allowed. Align valve boxes at right angles to adjacent hardscape whenever possible. Where several valve boxes are located in the same area, arrange them in a uniform and orderly fashion. Valve boxes shall be installed with an 8-inch deep layer of 3/8-inch pea gravel at the base of the box over geotextile fabric. When grouped together, allow a minimum of 12 inches between valve boxes.

**Add the following:**

**757.3.8 Ball Valves:**

- a. Ball valves 2-inch and smaller shall be of the brand, size and type indicated on the irrigation plans
  
- b. Ball valves shall have a one-piece body constructed of 600-lb WOG Bronze material conforming to ASTM B-584 alloy 844. Ball valve shall have a vented ball with a blowout proof system. Ball valves shall have a working pressure of not less than 150 P.S.I. and shall conform to AWWA standards.

**757.3.9 Quick Coupler Valves:**

- a. Quick coupler valves shall be of the brand, size and type indicated on the irrigation plans
  
- b. Quick coupler valve shall have a body constructed of red brass with a wall thickness guaranteed to withstand normal working pressure of 150 P.S.I. without leakage, with female threads opening at base. Quick coupler valve shall have a hinge cover constructed of red brass with leather like vinyl cover bonded to it in such a manner that it becomes a permanent type of cover. Quick couplers shall include a swing joint and 10" round valve box.

**757.3.10 Master Control Valves:**

1. Master control valves shall be of the brand, size and type indicated on the irrigation plans
  
2. The master control valve shall be a switchable normally closed or open 24 VAC solenoid actuated globe pattern, spring-loaded diaphragm type. The valve shall be pressure rated up to 300 P.S.I. at 150 degrees F.
  
3. The valve shall have a 600-pound test fabric reinforced rubber diaphragm assembly with self-cleaning stainless steel screen.
  
4. The master control valve shall be compatible with the irrigation controller and show the flow in a bonnet mounted flow gauge.
  
5. The body and bonnet shall be cast iron and the valve shall have a stainless steel control / shut-off stem and manual operator. The cast iron body shall be epoxy coated.
  
6. The valve shall provide for all internal parts to be removable from the top without disturbing the valve installation.

7 Solenoid shall be corrosion-proof and constructed of stainless steel molded in epoxy to form one integral unit, 24-volt AC watt maximum holding milliamp in-rush, current: 0.41 amps (9.9 VA), holding current 0.23 amps (5.5 VA).

**757.3.12 Drip Equipment:**

1 Emitters shall be non-pressure compensating type able to work with a maximum filtration of no more than 30 mesh. They shall be of the single and multi-port variety and shall deliver the flow volumes as shown on the plans and details.

1 The drip pressure regulator and filter assembly shall be constructed of brass. The regulator shall be adjustable and include a pressure gauge. The filter shall be a wye type with removable flush plug.

## **SECTION 796 GEOSYNTHETICS**

### **796.2 MATERIALS AND REQUIREMENTS:**

#### **Add the following:**

Geotextile fabrics shall be per project plans, details, as stated in other sections of MAG, or standard section 796 2. The stricter geotextile fabric requirements shall prevail

**Add the following:**

## **SECTION 905**

### **BOULDER STAINING**

#### **905.1 DESCRIPTION:**

Staining of boulders will only be required if the existing boulders are scarred and or damaged during the salvage and relocation process. The boulder staining shall be completed to create a "desert patina" finish color that will blend with the existing color of the boulders. Apply per the manufacturer's specifications.

#### **905.2 CONSTRUCTION METHODS:**

Contractor shall provide submittal of materials analysis and manufacturer information in accordance to MAG Standard Section 105. Provide three (3) sample "mock up" boulders in the field for approval by the City of Glendale or its Representative. Care shall be taken to protect surrounding and adjacent landscape and hardscape from over spray. If overspray occurs the contractor is responsible for removal and replacement at no additional cost.

#### **905.3 MANUFACTURER:**

Manufacturer and supplier of the equipment shall be

Natina Desert Varnish Solutions™  
Product: Natina Concentrate 500  
Address: 1555 North VIP Boulevard  
Casa Grande, AZ 85222  
Phone (877) 762-8462  
Fax (866) 420-1708  
Website [www.natinaproducts.com](http://www.natinaproducts.com)

Or City of Glendale approved equal

#### **905.4 MEASUREMENT AND PAYMENT:**

No separate measurement or payment will be made for staining of boulders as required due to the contractor's failure to protect the existing boulders during the salvage and relocation process and is considered incidental and included in the price for boulder salvage and placement.

**EXHIBIT B**  
**CONSTRUCTION AGREEMENT**  
**COMPENSATION**

**METHOD AND AMOUNT OF COMPENSATION**

The City shall pay the contractor \$132,351 50

**NOT-TO-EXCEED AMOUNT**

The total amount of compensation paid to Contractor for full completion of all work required by the Project during the entire term of the Project must not exceed \$132,351 50

**DETAILED PROJECT COMPENSATION**

The contractor shall bill the city directly at 30%, 60%, and 90% of project completion. The final 10% of the contract amount will be held for 30 day after completion of the project for retention.

**EXHIBIT C**  
**CONSTRUCTION AGREEMENT**  
DISPUTE RESOLUTION

**1. Disputes.**

- 1 1    Commitment   The parties commit to resolving all disputes promptly, equitably, and in a good-faith, cost-effective manner
- 1 2    Application   The provisions of this Exhibit will be used by the parties to resolve all controversies, claims, or disputes ("Dispute") arising out of or related to this Agreement-including Disputes regarding any alleged breaches of this Agreement
- 1 3    Initiation    A party may initiate a Dispute by delivery of written notice of the Dispute, including the specifics of the Dispute, to the Representative of the other party as required in this Agreement
- 1 4    Informal Resolution   When a Dispute notice is given, the parties will designate a member of their senior management who will be authorized to expeditiously resolve the Dispute
- a       The parties will provide each other with reasonable access during normal business hours to any and all non-privileged records, information and data pertaining to any Dispute in order to assist in resolving the Dispute as expeditiously and cost effectively as possible,
  - b       The parties' senior managers will meet within 10 business days to discuss and attempt to resolve the Dispute promptly, equitably, and in a good faith manner, and
  - c       The Senior Managers will agree to subsequent meetings if both parties agree that further meetings are necessary to reach a resolution of the Dispute

**2. Arbitration.**

- 2 1    Rules       If the parties are unable to resolve the Dispute by negotiation within 30 days from the Dispute notice, and unless otherwise informal discussions are extended by the mutual agreement, the parties may agree, in writing, that the Dispute will be decided by binding arbitration in accordance with Commercial Rules of the AAA, as amended herein. Although the arbitration will be conducted in accordance with AAA Rules, it will not be administered by the AAA, but will be heard independently
- a       The parties will exercise best efforts to select an arbitrator within 5 business days after agreement for arbitration. If the parties have not agreed upon an arbitrator within this period, the parties will submit the selection of the arbitrator to one of the principals of the mediation firm of Scott & Skelly, LLC, who will then select the arbitrator. The parties will equally share the fees and costs incurred in the selection of the arbitrator
  - b       The arbitrator selected must be an attorney with at least 10 years' experience, be independent, impartial, and not have engaged in any business for or adverse to either Party for at least 10 years
- 2 2    Discovery   The extent and the time set for discovery will be as determined by the arbitrator. Each Party must, however, within ten (10) days of selection of an arbitrator deliver to the other Party copies of all documents in the delivering party's possession that are relevant to the dispute
- 2 3    Hearing     The arbitration hearing will be held within 90 days of the appointment of the arbitrator. The arbitration hearing, all proceedings, and all discovery will be conducted in Glendale, Arizona unless otherwise agreed by the parties or required as a result of witness location. Telephonic hearings and other reasonable arrangements may be used to minimize costs

2 4 Award At the arbitration hearing, each Party will submit its position to the arbitrator, evidence to support that position, and the exact award sought in this matter with specificity. The arbitrator must select the award sought by one of the parties as the final judgment and may not independently alter or modify the awards sought by the parties, fashion any remedy, or make any equitable order. The arbitrator has no authority to consider or award punitive damages.

2 5 Final Decision The Arbitrator's decision should be rendered within 15 days after the arbitration hearing is concluded. This decision will be final and binding on the Parties.

2 6 Costs The prevailing party may enter the arbitration in any court having jurisdiction in order to convert it to a judgment. The non-prevailing party shall pay all of the prevailing party's arbitration costs and expenses, including reasonable attorney's fees and costs.

3. **Services to Continue Pending Dispute.** Unless otherwise agreed to in writing, Contractor must continue to perform and maintain progress of required services during any Dispute resolution or arbitration proceedings, and City will continue to make payment to Contractor in accordance with this Agreement.

4. **Exceptions.**

4 1 Third Party Claims City and Contractor are not required to arbitrate any third-party claim, cross-claim, counter claim, or other claim or defense of a third-party who is not obligated by contract to arbitrate disputes with City and Contractor.

4 2 Liens City or Contractor may commence and prosecute a civil action to contest a lien or stop notice, or enforce any lien or stop notice, but only to the extent the lien or stop notice the Party seeks to enforce is enforceable under Arizona Law, including, without limitation, an action under A.R.S. § 33-420, without the necessity of initiating or exhausting the procedures of this Exhibit.

4 3 Governmental Actions This Exhibit does not apply to, and must not be construed to require arbitration of, any claims, actions or other process filed or issued by City of Glendale Building Safety Department or any other agency of City acting in its governmental permitting or other regulatory capacity.