



Purchasing Division

## Invitation for Bid

IFB-5260-23-KF

Pomona Parking Lot Landscaping, and Irrigation Construction

### **Responses Due:**

June 16, 2023, prior to 2:00 PM

**Accepting Electronic Responses Only**  
**Responses Only Submitted Through the**  
**Rocky Mountain E-Purchasing System (RMEPS)**

<https://www.bidnetdirect.com/colorado>

Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. 800-835-4603

**NOTE: All City solicitation openings will be held virtually.**

### **Purchasing Representative:**

Kathleen Franklin, Senior Buyer

[kathleenf@gjcity.org](mailto:kathleenf@gjcity.org)

970-244-1513

# **Invitation for Bid**

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[Attachment A Landscaping Irrigation Drawings](#)

# 1. Instructions to Bidders

**NOTE:** It is the Contractor's responsibility to read and review all solicitation documentation in its entirety, and to ensure that it has a clear and complete understanding of not only the scope, specifications, project requirements, etc., but also all other requirements, instructions, rules, regulations, laws, conditions, statements, procurement policies, etc. that are associated with the solicitation process and project/services being solicited.

- 1.1. Issuing Office:** This Invitation for Bid (IFB) is issued by the City of Grand Junction. All contact regarding this IFB is to be directed to

Kathleen Franklin, Senior Buyer  
[kathleenf@gjcity.org](mailto:kathleenf@gjcity.org)

With the exception of Pre-Bid or Site Visit Meeting(s) all questions, inquiries, comments, or communication pertaining to this solicitation (whether process, specifications, scope, etc.) must be directed (in writing) to the Purchasing Agent. Other communication may result in disqualification.

- 1.2. Non-Mandatory Pre-Bid Meeting:** Prospective Bidders are encouraged to attend a non-mandatory pre-bid meeting on May 24, 2023, at 10:00 a.m. Meeting location will be the parking lot located North of Grand Junction Fire Station 3 at 582 25 ½ Rd, Grand Junction, CO 81505. The purpose of this site visit meeting will be to inspect and clarify the contents of this Invitation for Bid (IFB). *Nothing stated during this site visit meeting will modify the solicitation. Only information provided in an addendum can modify the IFB.*



- 1.3. Purpose:** The City of Grand Junction is soliciting competitive bids from qualified and interested Contractors for all labor, equipment, materials, and supplies required for the construction of a new irrigation system and landscaping around the new Pomona Parking Lot Extension on 25 ½ Road where the old Fire Station 3 once stood. The new irrigation system for the landscaping will be connected to the existing Pomona Park irrigation system. All dimensions and Scope of Work should be verified by Contractors prior to submission of bids.

- 1.4. **The Owner:** The Owner is the City of Grand Junction, Colorado and is referred to throughout this Solicitation. The term Owner means the Owner or authorized representative.
- 1.5. **Compliance:** All Bidders, by submitting a bid, agree to comply with all conditions, requirements, and instruction of this IFB as stated or implied herein. Should the Owner omit anything which is necessary to the clear understanding of the requirements, or should it appear that various instructions are in conflict, the Bidder(s) shall secure instructions from the Purchasing Agent prior to submittal deadline.
- 1.6. **Procurement Process:** The current version of the City of Grand Junction [Purchasing Policy and Procedure Manual](#) is contracting.
- 1.7. **Submission:** ***Each bid shall be submitted in electronic format only through the Rocky Mountain E-Purchasing website ([www.bidnetdirect.com/colorado](http://www.bidnetdirect.com/colorado)). This site offers both “free” and “paying” registration options which allow for full access of the Owner’s documents and for electronic submission of bids. (NOTE: “free” registration may take up to 24 hours to process. Please Plan accordingly.)*** Please view our “**Electronic Vendor Registration Guide**” at <http://www.gjcity.org/501/Purchasing-Bids> for details. Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. **800-835-4603**.

Bids shall be formatted as directed in Section 4.0. Submittals that fail to follow this format may be ruled non-responsive.

**Bid Opening, Pomona Parking Lot Landscaping, and Irrigation Construction IFB-5260-23-KF  
June 16, 2023, 2:00 – 2:30 PM (America/Denver)**

Please join my meeting from your computer, tablet, or smartphone.

<https://meet.goto.com/780564605>

You can also dial in using your phone.

Access Code:

780-564-605

United States:

[+1 \(646\) 749-3122](tel:+16467493122)

Join from a video-conferencing room or system.

Meeting ID:

780-564-605

Dial in or type:

67.217.95.2 or [inroomlink.goto.com](http://inroomlink.goto.com)

Or dial directly:

780564605@67.217.95.2 or 67.217.95.2##780564605

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**1.8. Modification and Withdrawal of Bids Before Opening:** Bids may be modified or withdrawn by an appropriate document stating such, duly executed and submitted to the place where Bids are to be submitted at any time prior to Bid Opening. Bids may not be altered, modified, or amended after submission date.

**1.9. Form for Price Bid:** All Price Bids must be made upon the Price Bid Schedule attached and should give the amounts both in words and in figures and must be signed and acknowledged by the Bidder.

The Bidder shall specify a unit price in figures for each pay item for which a quantity is given and shall provide the products (in numbers) of the respective unit prices and quantities in the Extended Amount column. The total Bid price shall be equal to the sum of all extended amount prices. When an item in the Price Bid Schedule provides a choice to be made by the Bidder, Bidder's choice shall be indicated in accordance with the specifications for that particular item and thereafter no further choice shall be permitted.

Where the unit of a pay item is lump sum, the lump sum amount shall be shown in the "extended amount" column and included in the summation of the total Bid.

All blank spaces in the Price Bid Schedule must be properly filled out.

Bids by corporations must be executed in the corporate name by the president or vice president or other corporate office accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown below the signature.

Bids by partnerships must be executed in the partnership name and signed by a partner whose title must appear under the signature and the official address of the partnership must be shown below the signature.

All names must be typed or printed below the signature.

The Bidder's Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Contractor's Bid Form.

The contact information to which communications regarding the Bid are to be directed must be shown.

**1.10. Exclusions:** No oral, telephonic, emailed, or facsimile bid will be considered

**1.11. Contract Documents:** The complete IFB and Bidder's response compose the Contract Documents. Copies of bid documents can be obtained from the City Purchasing website, <https://co-grandjunction.civicplus.com/501/Purchasing-Bids>.

**1.12. Additional Documents:** The July 2010 edition of the "City Standard Contract Documents for Capital Improvements Construction," Plans, Specifications and other Bid Documents are available for review or download on the Purchasing Bids page at <https://co-grandjunction.civicplus.com/501/Purchasing-Bids>.

**1.13. Definitions and Terms:** See Article I, Section 3 of the General Contract Conditions in the *Standard Contract Documents for Capital Improvements Construction*.

**1.14. Examination of Specifications:** Bidders shall thoroughly examine and be familiar with the project Statement of Work. The failure or omission of any Bidder to receive or examine any form, addendum, or other document shall in no way relieve any Bidder from any obligation with respect to its bid. The submission of a bid shall be taken as evidence of compliance with this section. Prior to submitting a bid, each Bidder shall, at a minimum:

- a. Examine the *Contract Documents* thoroughly;
- b. Visit the site to familiarize itself with local conditions that may in any manner affect cost, progress, or performance of the Work;
- c. Study and carefully correlate Bidder's observations with the *Contract Documents*, and;
- d. Notify the Purchasing Agent of all conflicts, errors, ambiguities, or discrepancies in or among the *Contract Documents* within the designated inquiry period.

On request, the Owner will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of a Bid. It shall be the Bidder's responsibility to make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (including without limitation, surface, subsurface and underground utilities) at or contiguous to the site or otherwise which may affect cost, progress or performance of the Work and which the Bidder deems necessary to determine its Bid for performing the Work in accordance with the time, price and other terms and conditions of the *Contract Documents*. Location of any excavation or boring made by Bidder shall be subject to prior approval of Owner and applicable agencies. Bidder shall fill all holes, restore all pavements to match the existing structural section and shall clean up and restore the site to its former condition upon completion of such exploration. The Owner reserves the right to require the Bidder to execute an access agreement with the Owner prior to accessing the site.

The lands upon which the Work is to be performed, rights of way, and access thereto, and other lands designated for use by Contractor in performing the Work, are identified on the Drawings.

Information and data reflected in the *Contract Documents* with respect to underground utilities at or contiguous to the site are based upon information and data furnished to the Owner and the Engineer by the owners of such underground utilities or others, and the Owner does not assume responsibility for the accuracy or completeness thereof, unless it is expressly provided otherwise in the *Contract Documents*.

By submission of a Bid, the Bidder shall be conclusively presumed to represent that the Bidder has complied with every requirement of these Instructions to Bidders, that the *Contract Documents* are not ambiguous and are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

- 1.15. Questions Regarding Statement of Work:** Any information relative to interpretation of Scope of Work or specifications shall be requested of the Purchasing Agent, in writing, in ample time, prior to the inquiry deadline.
- 1.16. Addenda & Interpretations:** If it becomes necessary to revise any part of this solicitation, a written addendum will be posted electronically on the City's website at <https://co-grandjunction.civicplus.com/501/Purchasing-Bids>. The Owner is not bound by any oral representations, clarifications, or changes made in the written specifications by Owner, unless such clarification or change is provided in written addendum form from the City Purchasing Representative.
- 1.17. Taxes:** The Owner is exempt from State, County, and Municipal Sales Tax and Federal Excise Tax, therefore, all fees shall not include taxes.
- 1.18. Sales and Use Taxes:** The Contractor and all Sub-Contractors are required to obtain exemption certificates from the Colorado Department of Revenue for sales and use taxes in accordance with the provisions of the General Contract Conditions Section XVI "Taxes." Bids shall reflect this method of accounting for sales and use taxes on materials, fixtures, and equipment.
- 1.19. Offers Binding 60 Days:** Unless additional time is required by the Owner, or otherwise specified, all formal offers submitted shall be binding for sixty (60) calendar days following opening date, unless the Bidder, upon request of the Purchasing Representative, agrees to an extension.
- 1.20. Exceptions and Substitutions:** All bids meeting the intent of this IFB shall be considered for award. A Bidder taking exception to the specifications does so at the Bidder's risk. The Owner reserves the right to accept or reject any or all substitutions or alternatives. When offering substitutions and/or alternatives, Bidder must state any exception(s) in the section to which the exception(s) pertain. Exception/substitution, if accepted, must meet, or exceed the stated intent and/or specifications. The absence of stated exception(s) indicates that the Bidder has not taken exceptions, and if awarded a Contract shall hold the Bidder responsible to perform in strict accordance with the specifications or scope of the bid and Contract Documents.
- 1.21. Collusion Clause:** Each Bidder by submitting a bid certifies that it is not party to any collusive action or any action that may be in violation of the Sherman Antitrust Act. Any and all bids shall be rejected if there is evidence or reason for believing that collusion exists among Bidders. The Owner may, or may not, at its discretion, accept future bids for the same Work or commodities from participants in such collusion.
- 1.22. Disqualification of Bidders:** A Bid will not be accepted from, nor shall a Contract be awarded to, any person, firm, or corporation that is in arrears to the Owner, upon debt or Contract, or that has defaulted, as surety or otherwise, upon any obligation to the Owner, or that is deemed irresponsible or unreliable.

Bidders may be required to submit satisfactory evidence that it is responsible, have a practical knowledge of the project bid upon and has the necessary financial and other resources to complete the proposed Work.

Either of the following reasons, without limitation, shall be considered sufficient to disqualify a Bidder and Bid:

- a. More than one Bid is submitted for the same Work from an individual, firm, or corporation under the same or different name; and
- b. Evidence of collusion among Bidders. Any participant in such collusion shall not receive recognition as a Bidder for any future Work of the Owner until such participant has been reinstated as a qualified Bidder.

**1.23. Public Disclosure Record:** If the Bidder has knowledge of its employee(s) or Sub-Contractors having an immediate family relationship with an Owner employee or elected official, the Bidder must provide the Purchasing Agent with the name(s) of the individuals. The individuals are required to file a "Public Disclosure Record", a statement of financial interest, before conducting business with the Owner.

## **2. General Contract Conditions for Construction Projects**

- 2.1. The Contract:** This Invitation for Bid, submitted documents, and any negotiations, when properly accepted by the Owner, shall constitute an enforceable agreement equally binding between the Owner and Contractor. The Contract represents the entire and integrated agreement between the Owner and the Contractor and supersedes all prior negotiations, representations, or agreements, either written or oral, including the Bid documents. The Contract may be amended or modified with Change Orders, Field Orders, or Addendums.
- 2.2. The Work:** The term Work includes all labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in such construction.
- 2.3. Execution, Correlation, Intent, and Interpretations:** The Contract Documents shall be signed by the Owner and Contractor. By executing the Contract, the Contractor represents that it has familiarized itself with the local conditions under which the Work is to be performed and correlated its observations with the requirements of the Contract Documents. The Contract Documents are complementary, and what is required by anyone, shall be as binding as if required by all. The intention of the Contract Documents is to include all labor, materials, equipment, services, and other items necessary for the proper execution and completion of the Scope of Work as defined in the technical specifications and/or drawings contained herein. All drawings, specifications and copies furnished by the Owner are, and shall remain, Owner property. It is not to be used on any other project.
- 2.4. The Owner:** The Owner is the City of Grand Junction, Colorado and is referred to throughout the Contract Documents. The term Owner means the Owner or authorized representative. The Owner shall, at all times, have access to the Work wherever it is in

preparation and progress. The Contractor shall provide facilities for such access. The Owner will make periodic visits to the site to familiarize itself generally with the progress and quality of Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. Based on such observations and the Contractor's Application for Payment, the Owner will determine the amounts owing to the Contractor and will issue Certificates for Payment in such amounts, as provided in the Contract. The Owner will have authority to reject Work which does not conform to the Contract documents. Whenever, in its reasonable opinion, it considers it necessary or advisable to ensure the proper implementation of the intent of the Contract Documents, it will have authority to require the Contractor to stop the Work or any portion, or to require special inspection or testing of the Work, whether or not such Work can be then be fabricated, installed, or completed. The Owner will not be responsible for the acts or omissions of the Contractor, and Sub-Contractor, or any of its agents or employees, or any other persons performing any of the Work.

- 2.5. Contractor:** The Contractor is the person or organization identified as such in the Agreement and is referred to throughout the Contract Documents. The term Contractor means the Contractor or its authorized representative. The Contractor shall carefully study and compare the General Contract Conditions of the Contract, Specification and Drawings, Scope of Work, Addenda and Modifications and shall at once report to the Owner any error, inconsistency, or omission it may discover. Contractor shall not be liable to the Owner for any damage resulting from such errors, inconsistencies, or omissions. The Contractor shall not commence Work without clarifying Drawings, Specifications, or Interpretations.
- 2.6. Sub-Contractors:** A Sub-Contractor is a person or organization who has a direct Contract with the Contractor to perform any of the Work at the site. The term Sub-Contractor is referred to throughout the contract documents and means a Sub-Contractor or its authorized representative.
- 2.7. Award of Sub-Contractors & Other Contracts for Portions of the Work:** Contractor shall submit with its bid response to the Owner, in writing for acceptance, a list of the names of the sub-contractors or other persons or organizations proposed for such portions of the Work as may be designated in the bid requirements, or, if none is so designated, the names of the sub-contractors proposed for the principal portions of the Work. Prior to the award of the Contract, the Owner shall notify the successful Contractor in writing if, after due investigation, has reasonable objection to any person or organization on such list. If, prior to the award of the Contract, the Owner has a reasonable and substantial objection to any person or organization on such list and refuses in writing to accept such person or organization, the successful Contractor may, prior to the award, withdraw its bid without forfeiture of bid security. If the successful Contractor submits an acceptable substitute with an increase in the proposed price to cover the difference in cost occasioned by the substitution, the Owner may, at its discretion, accept the increased bid or may disqualify the Contractor. If, after the award, the Owner refuses to accept any person or organization on such list, the Contractor shall submit an acceptable substitute and the Contract sum shall be increased or decreased by the difference in cost occasioned by such substitution and an appropriate Change Order shall be issued. However, no increase in the Contract sum shall be allowed for any

such substitution unless the Contractor has acted promptly and responsively in submitting a name with respect thereto prior to the award.

- 2.8. Quantities of Work and Unit Price:** Materials or quantities stated as unit price items in the Bid are supplied only to give an indication of the general scope of the Work, and are as such, estimates only. The Owner does not expressly or by implication agree that the actual amount of Work or material will correspond therewith and reserves the right after award to increase or decrease the quantity of any unit item of the Work without a change in the unit price except as set forth in Article VIII, Section 70 of the *General Contract Conditions*. The City also reserves the right to make changes in the Work (including the right to delete any bid item in its entirety or add additional bid items) as set forth in Article VIII, Sections 69 through 71 of the *General Contract Conditions*.
- 2.9. Substitutions:** The materials, products and equipment described in the *Solicitation Documents* shall be regarded as establishing a standard of required performance, function, dimension, appearance, or quality to be met by any proposed substitution. No substitution will be considered prior to receipt of Bids unless the Bidder submits a written request for approval to the Purchasing Agent at least ten (10) days prior to the date for receipt of Bids. Such requests for approval shall include the name of the material or equipment for which substitution is sought and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for evaluation, including samples if requested. The Bidder shall set forth changes in other materials, equipment, or other portions of the Work including changes of the Work of other Contracts, which incorporation of the proposed substitution would require to be included. The Owner's decision of approval or disapproval of a proposed substitution shall be final. If the Owner approves a proposed substitution before receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.
- 2.10. Supervision and Construction Procedures:** The Contractor shall supervise and direct the Work, using its best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work under the Contract.
- 2.11. Warranty:** The Contractor warrants to the Owner that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All Work not conforming to these standards may be considered defective. If required by Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. If within ten (10) days after written notice to the Contractor requesting such repairs or replacement, the Contractor should neglect to make or undertake with due diligence to the same, the Owner may make such repairs or replacements. All indirect and direct costs of such correction or removal or replacement shall be at the Contractor's expense. The Contractor will also bear the expenses of making good all Work of others destroyed or damaged by the correction, removal, or replacement of its defective Work.
- 2.12. Permits, Fees, & Notices:** The Contractor shall secure and pay for all permits, governmental fees, and licenses necessary for the proper execution and completion of

the Work. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and orders of any public authority, including the City, bearing on the performance of the Work. If the Contractor observes that any of the Contract Documents are at variance in any respect, it shall promptly notify the Purchasing Agent in writing, and any necessary changes shall be adjusted. If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to the Owner, it shall assume full responsibility and shall bear all costs attributable to the non-conforming Work.

- 2.13. Responsibility for Those Performing the Work:** The Contractor shall be responsible to the Owner for the acts and omissions of all its employees and all Sub-Contractors, its agents and employees, and all other persons performing any of the Work under a Contract with the Contractor.
- 2.14. Use of the Site:** The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents, and shall not unreasonably encumber the site with any materials or equipment.
- 2.15. Cleanup:** The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by operations. At the completion of Work, shall remove all waste materials and rubbish from and about the project, as well as all tools, construction equipment, machinery, and surplus materials.
- 2.16. Insurance Requirements:** The selected Contractor agrees to procure and maintain, at its own cost, policy(s) of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by the Contractor pursuant to the Contract. Such insurance shall be in addition to any other insurance requirements imposed by this Contract or by law. The Contractor shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to the Contract by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types.

Contractor shall procure and maintain and, if applicable, shall cause any Sub-Contractor of the Contractor to procure and maintain insurance coverage listed below. Such coverage shall be procured and maintained with forms and insurers acceptable to Owner. All coverage shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed by the Contractor pursuant to the Contract. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage. Minimum coverage limits shall be as indicated below unless specified otherwise in the Special Conditions:

(a) Worker Compensation: Contractor shall comply with all State of Colorado Regulations concerning Workers' Compensation insurance coverage.

(b) General Liability insurance with minimum limits of:

FIVE HUNDRED THOUSAND DOLLARS (\$500,000) each occurrence and  
FIVE HUNDRED THOUSAND DOLLARS (\$500,000) per job aggregate.

The policy shall be applicable to all premises, products, and completed operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, products, and completed operations. The policy shall include coverage for explosion, collapse, and underground (XCU) hazards. The policy shall contain a severability of interest's provision.

(c) Comprehensive Automobile Liability insurance with minimum limits for bodily injury and property damage of not less than:

FIVE HUNDRED THOUSAND DOLLARS (\$500,000) each occurrence and  
FIVE HUNDRED THOUSAND DOLLARS (\$500,000) aggregate

(d) Professional Liability & Errors and Omissions Insurance policy with a minimum of:

FIVE HUNDRED THOUSAND DOLLARS (\$500,000) per claim

This policy shall provide coverage to protect the City against liability incurred as a result of the Work performed as a result of responding to this Solicitation. With respect to each of Contractors owned, hired, or non-owned vehicles assigned to be used in performance of the Work. The policy shall contain a severability of interest provision.

**2.16.1. Additional Insured Endorsement:** The policies required by paragraphs (b), and (c) above shall be endorsed to include Grand Junction, its Elected and Appointed Officials, Employees and Volunteers as Additional Insured. Every required policy above shall be primary insurance, and any insurance carried by the Owner, its officers, or its employees, or carried by or provided through any insurance pool of the Owner, shall be excess and not contributory insurance to that provided by the Contractor. The Contractor shall be solely responsible for any deductible losses under any policy required above.

**2.17. Indemnification:** The Contractor shall defend, indemnify and save harmless the Owner, and all its officers, employees, insurers, and self-insurance pool, from and against all liability, suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the Contractor, or of any Contractor's agent, employee, Sub-Contractor or supplier in the execution of, or performance under, any Contract which may result from bid award. Contractor shall pay any judgment with costs which may be obtained by and/or against the Owner growing out of or under the performance.

**2.18. Miscellaneous Conditions: Material Availability:** Contractors must accept responsibility for verification of material availability, production schedules, and other pertinent data prior to submission of bid. It is the responsibility of the Bidder to notify the Owner immediately if materials specified are discontinued, replaced, or not available for an extended period of time.

**2.19. Time:** Time is of the essence with respect to the time of completion of the Project and any other milestones or deadline which are part of the Contract. It will be necessary for

each Bidder to satisfy the City of its ability to complete the Work within the Contract Time set forth in the Contract Documents. The Contract Time is the period of time allotted in the Contract Documents for completion of the Work. The date of commencement of the Work is the date established in a Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the Contract, or such other date as may be established therein, or as established as entered on the Bid Form. The Date of Final Completion of the Work is the date certified by the Owner when all construction, and all other Work associated to include, but not be limited to: testing, QA/QC, receipt of required reports and/or forms, grant requirements (if applicable), punch list items, clean-up, receipt of drawings and/or as-builts, etc., is fully complete, and in accordance with the Contract Documents.

- 2.20. Progress & Completion:** The Contractor will begin Work on the Commencement Date as noted on the Notice to Proceed and perform the Work expeditiously with adequate forces to complete the Work within the Contract Time/by the Completion Date.
- 2.21. Payment & Completion:** The Contract Sum is stated in the Contract and is the total amount payable by the Owner to the Contractor for the performance of the Work under the Contract Documents. Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of application for payment, the Owner's Project Manager will promptly make such inspection and, when it finds the Work acceptable under the Contract Documents and the Contract fully performed, the Owner shall make payment in the manner provided in the Contract Documents.
- 2.22. Bid Bond:** Each bid shall as a guaranty of good faith on the part of the Bidder be accompanied by a Bid Guaranty consisting of a certified or cashier's check drawn on an approved national bank or trust company in the state of Colorado and made payable without condition to the City; or a **Bid Bond** written by an approved corporate surety in favor of the City. The amount of the Bid Guaranty shall not be less than 5% of the total Bid amount. Once a Bid is accepted and a Contract is awarded, the apparent successful Bidder has ten calendar days to enter into a Contract in the form prescribed and to furnish the bonds with a legally responsible and approved surety. Failure to do so will result in forfeiture of the Bid Guaranty to the City as Liquidated Damages.

Each Bidder shall guaranty its total bid price for a period of sixty (60) Calendar Days from the date of the bid opening.

- 2.23. Performance & Payment Bonds:** Contractor shall furnish a Performance and a Payment Bond, each in an amount at least equal to that specified for the Contract amount as security for the faithful performance and payment of all Contractor's obligations under the Contract Documents. These bonds shall remain in effect for the duration of the Warranty Period (as specified in the Special Conditions). Contractor shall also furnish other bonds that may be required by the Special Conditions. All bonds shall be in the forms prescribed by the Contract Documents and be executed by such sureties as (1) are licensed to conduct business in the State of Colorado and (2) are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of the Authority Act. If the surety on any bond furnished by the Contractor is declared bankrupt, or becomes insolvent, or its

rights to do business in Colorado are terminated, or it ceases to meet the requirements of clauses (1) and (2) of this section, Contractor shall within five (5) days thereafter substitute another bond and surety, both of which shall be acceptable to the City.

- 2.24. Retention:** The Owner shall deduct money from the partial payments in amounts considered necessary to protect the interest of the Owner and will retain this money until after completion of the entire Contract. The amount to be retained from partial payments will be five (5) percent of the value of the completed Work, and not greater than five (5) percent of the amount of the Contract. When the retainage has reached five (5) percent of the amount of the Contract no further retainage will be made and this amount will be retained until such time as final payment is made.
- 2.25. Liquidated Damages for Failure to Enter Into Contract:** Should the Successful Bidder fail or refuse to enter into the Contract within ten (10) Calendar Days from the issuance of the Notice of Award, the City shall be entitled to collect the amount of such Bidder's Bid Guaranty as Liquidated Damages, not as a penalty but in consideration of the mutual release by the City and the Successful Bidder of all claims arising from the City's issuance of the Notice of Award and the Successful Bidder's failure to enter into the Contract and the costs to award the Contract to any other Bidder, to re-advertise, or otherwise dispose of the Work as the City may determine best serves its interest.
- 2.26. Liquidated Damages for Failure to Meet Project Completion Schedule:** If the Contractor does not achieve Final Completion by the required date, whether by neglect, refusal or any other reason, the parties agree and stipulate that the Contractor shall pay liquidated damages to the City for each such day that final completion is late. As provided elsewhere, this provision does not apply for delays caused by the City. The date for Final Completion may be extended in writing by the Owner.

The Contractor agrees that as a part of the consideration for the City's awarding of this Contract liquidated damages in the daily amount of **\$500.00** is reasonable and necessary to pay for the actual damages resulting from such delay. The parties agree that the real costs and injury to the City for such delay include hard to quantify items such as: additional engineering, inspection and oversight by the City and its agents; additional Contract administration; inability to apply the efforts of those employees to the other Work of the City; perceived inefficiency of the City; citizens having to deal with the construction and the Work, rather than having the benefit of a completed Work, on time; inconvenience to the public; loss of reputation and community standing for the City during times when such things are very important and very difficult to maintain.

The Contractor must complete the Work and achieve final completion included under the Bid Schedule in the number of consecutive calendar days after the City gives its written Notice to Proceed. When the Contractor considers the entire Work ready for its intended use, Contractor shall certify in writing that the Work is fully complete. Final Completion date is the date by which the Contractor shall have fully completed all clean-up, and all items that were identified by the City in the inspection for final completion. Unless otherwise stated in the Special Conditions, for purposes of this liquidated damages clause, the Work shall not be finished, and the Contract time shall continue to accrue until the City gives its written Final Acceptance.

If the Contractor fails to pay said liquidated damages promptly upon demand thereof after having failed to achieve Final Completion on time, the City shall first look to any retainage or other funds from which to pay said liquidated damages; if retainage or other liquid funds are not available to pay said liquidated damages amounts, the Surety on the Contractor's Performance Bond and Payment Bond shall pay such liquidated damages. In addition, the City may withhold all, or any part of, such liquidated damages from any payment otherwise due the Contractor.

Liquidated damages as provided do not include any sums to reimburse the City for extra costs which the City may become obligated to pay on other Contracts which were delayed or extended because of the Contractor's failure to complete the Work within the Contract Time. Should the City incur additional costs because of delays or extensions to other Contracts resulting from the Contractor's failure of timely performance, the Contractor agrees to pay these costs that the City incurs because of the Contractor's delay, and these payments are separate from and in addition to any liquidated damages.

The Contractor agrees that the City may use its own forces or hire other parties to obtain Final Completion of the Work if the time of completion has elapsed and the Contractor is not diligently pursuing completion. In addition to the Liquidated Damages provided for, the Contractor agrees to reimburse the City for all expenses thus incurred.

**2.27. Contingency/Force Account/Minor Contract Revisions:** Contingency/Force Account/Minor Contract Revisions Work will be authorized by the Owner's Project Manager and is defined as minor expenses to cover miscellaneous or unforeseen expenses related to the project. The expenses are not included in the Drawings, Specifications, or Scope of Work and are necessary to accomplish the scope of this Contract. Contingency/Force Account/Minor Contract Revisions Authorization will be directed by the Owner through an approved form. Contingency/Force Account/Minor Contract Revisions funds are the property of the Owner and any Contingency/Force Account/Minor Contract Revisions funds, not required for project completion, shall remain the property of the Owner. Contractor is not entitled to any Contingency/Force Account/Minor Contract Revisions funds, which are not authorized by Owner or Owner's Project Manager.

**2.28. Protection of Persons & Property:** The Contractor shall comply with all applicable laws, ordinances, rules, regulations, and orders of any public authority having jurisdiction for the safety of persons or property or to protect it from damage, injury, or loss. Contractor shall erect and maintain, as required by existing safeguards for safety and protection, and all reasonable precautions, including posting danger signs or other warnings against hazards promulgating safety regulations and notifying owners and users of adjacent utilities. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct by the Contractor in the execution of the Work, or in consequence of the non-execution thereof by the Contractor, it shall restore, at its own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or shall make good such damage or injury in an acceptable manner.

- 2.29. Changes in the Work:** The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract sum, and the Contract time being adjusted accordingly. All such changes in the Work shall be authorized by Change Order and shall be executed under the applicable conditions of the Contract documents. A Change Order is a written order to the Contractor signed by the Owner issued after the execution of the Contract, authorizing a change in the Work or an adjustment in the Contract sum or the Contract time. The Contract sum and the Contract time may be changed only by Change Order.
- 2.30. Claims for Additional Cost or Time:** If the Contractor wishes to make a claim for an increase in the Contract sum or an extension in the Contract time, it shall give the Owner written notice thereof within a reasonable time after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case the Contractor shall precede in accordance with the regulations on safety. No such claim shall be valid unless so made. Any change in the Contract sum or Contract time resulting from such claim shall be authorized by Change Order.
- 2.31. Minor Changes in the Work:** The Owner shall have authority to order minor changes in the Work not involving an adjustment in the Contract sum or an extension of the Contract time and not inconsistent with the intent of the Contract Documents.
- 2.32. Field Orders:** The Owner may issue written Field Orders which interpret the Contract Documents in accordance with the specifications, or which order minor changes in the Work in accordance with the agreement, without change in the Contract sum or time. The Contractor shall conduct such Field Orders promptly.
- 2.33. Uncovering & Correction of Work:** The Contractor shall promptly correct all Work rejected by the Owner as defective or as failing to conform to the Contract Documents whether observed before or after substantial completion and whether or not fabricated installed or competed. The Contractor shall bear all costs of correcting such rejected Work, including the cost of the Owner's additional services thereby made necessary. If within one (1) year after the date of completion or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any of the Work found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovering of condition. All such defective or non-conforming Work under the above paragraphs shall be removed from the site where necessary and the Work shall be corrected to comply with the Contract Documents without cost to the Owner. The Contractor shall bear the cost of making good all Work of separate Contractors destroyed or damaged by such removal or correction. If the Owner prefers to accept defective or non-conforming Work, it may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect an appropriate reduction in the payment or Contract sum, or, if the amount is determined after final payment, it shall be paid by the Contractor.

- 2.34. Amendment:** No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting Contract. All amendments to the Contract shall be made in writing by the Owner.
- 2.35. Assignment:** The Contractor shall not sell, assign, transfer, or convey the Contract resulting from this IFB, in whole or in part, without the prior written approval from the Owner.
- 2.36. Compliance with Laws:** Offers must comply with all Federal, State, County and local laws governing the Work and the fulfillment of the Work for and on behalf of the public. Contractor hereby warrants that it is qualified to assume the responsibilities and render the Work described herein and has all requisite corporate authority and professional licenses in good standing required by law.
- 2.37. Confidentiality:** All information disclosed by the Owner to the Contractor for the purpose of the Work to be done or information that comes to the attention of the Contractor during the course of performing such Work is to be kept strictly confidential.
- 2.38. Conflict of Interest:** No public official and/or Owner employee shall have interest in the Contract resulting from this Invitation For Bid.
- 2.39. Contract Termination:** The Contract shall remain in effect until any of the following occurs: (1) Contract expires; (2) completion of Work; (3) final acceptance of Work or, (4) for convenience terminated by either party with a written *Notice of Cancellation* stating therein the reasons for such cancellation and the effective date of cancellation at least thirty (30) days past notification.
- 2.40. Employment Discrimination:** During the performance of any Work per agreement with the Owner, the Contractor, by submitting a Bid, agrees to:
- 2.40.1.** Not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, handicap, or national origin except when such condition is a legitimate occupational qualification reasonably necessary for the normal operations of the Contractor. The Contractor agrees to post in conspicuous places, visible to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- 2.40.2.** In all solicitations or advertisements for employees placed by or on behalf of the Contractor, that the Contractor is an Equal Opportunity Employer.
- 2.40.3.** Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- 2.41. Affirmative Action:** In executing a Contract with the City, the Contractor agrees to comply with Affirmative Action and Equal Employment Opportunity regulations presented in the General Contract Conditions Section 9 "Affirmative Action/EEO."

- 2.42. Immigration Reform and Control Act of 1986 and Immigration Compliance:** The Contractor certifies that it does not and will not during the performance of the Contract employ workers without authorization or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986 and/or laws regulating immigration compliance.
- 2.43. Ethics:** The Contractor shall not accept or offer gifts or anything of value and/or enter into any business arrangement with any employee, official, or agent of the Owner.
- 2.44. Failure to Deliver:** In the event of failure of the Contractor to perform in accordance with the Contract Documents, the Owner, after due oral or written notice, may procure the Work from other sources and hold the Contractor responsible for any and all costs resulting in the purchase of additional services and materials necessary to perform the Work. This remedy shall be in addition to any other remedies that the Owner may have.
- 2.45. Failure to Enforce:** Failure by the Owner at any time to enforce the provisions of the Contract shall not be construed as a waiver of any such provisions. Such failure to enforce shall not affect the validity of the Contract or any part thereof or the right of the Owner to enforce any provision of the Contract Documents at any time in accordance with the terms thereof.
- 2.46. Force Majeure:** The Contractor shall not be held responsible for failure to perform the duties and responsibilities imposed by the Contract due to legal strikes, fires, riots, rebellions, and acts of God beyond the control of the Contractor, unless otherwise specified in the Contract.
- 2.47. Independent Contractor:** The Contractor shall be legally considered an Independent Contractor and neither the Contractor nor its employees shall, under any circumstances, be considered servants or agents of the Owner. The Owner shall be at no time legally responsible for any negligence or other wrongdoing by the Contractor, its servants, or agents. The Owner shall not withhold from the Contractor payments to the Contractor any federal or state unemployment taxes, federal or state income taxes, Social Security, or any other amounts for benefits to the Contractor. Further, the Owner shall not provide to the Contractor any insurance coverage or other benefits, including Workers' Compensation, normally provided by the Owner for its employees.
- 2.48. Nonconforming Terms and Conditions:** A bid that includes terms and conditions that do not conform to the terms and conditions of this Invitation for Bid is subject to rejection as non-responsive. The Owner reserves the right to permit the Bidder to withdraw nonconforming terms and conditions from its bid prior to a determination by the Owner of non-responsiveness based on the submission of nonconforming terms and conditions.

Items for non-responsiveness may include, but not be limited to:

- a. Submission of the Bid on forms other than those supplied by the City;
- b. Alteration, interlineation, erasure, or partial detachment of any part of the forms which are supplied herein;

- c. Inclusion of unauthorized additions conditional or alternate Bids or irregularities of any kind which may tend to make the Bid incomplete, indefinite, or ambiguous as to its meaning;
- d. Failure to acknowledge receipt of any or all issued Addenda;
- e. Failure to provide a unit price or a lump sum price, as appropriate, for each pay item listed except in the case of authorized alternative pay items;
- f. Failure to list the names of Sub-Contractors used in the Bid preparation as may be required in the Solicitation Documents;
- g. Submission of a Bid that, in the opinion of the Owner, is unbalanced so that each item does not reasonably carry its own proportion of cost, or which contains inadequate or unreasonable prices for any item;
- h. Tying of the Bid with any other bid or Contract; and
- i. Failure to calculate Bid prices as described herein.

**2.49. Evaluation of Bids and Bidders:** The Owner reserves the right to:

- reject any and all Bids,
- waive any and all informalities,
- take into account any prompt payment discounts offered by Bidder,
- negotiate final terms with the Successful Bidder,
- take into consideration past performance of previous awards/Contracts with the Owner of any Contractor, Vendor, Firm, Supplier, or Service Provider in determining final award, and
- disregard any and all nonconforming, nonresponsive, or conditional Bids.

Discrepancies between words and figures will be resolved in favor of words. Discrepancies between Unit Prices and Extended Prices will be resolved in favor of the Unit Prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. The corrected extensions and totals will be shown in the tabulation of Bids.

The Owner may consider the qualifications and experience of Sub-Contractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work as to which the identity of Sub-Contractors and other persons and organizations must be submitted. Operating costs, maintenance considerations performance data, and guarantees of materials and equipment may also be considered by the Owner.

The Owner will conduct such investigations as deemed necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of the Bidder, proposed Sub-Contractors and other persons and organizations to do the Work in accordance with the *Contract Documents* to the City's satisfaction within the Contract Time.

The Bidder shall furnish the Owner all information and data requested by the Owner to determine the ability of the Bidder to perform the Work. The Owner reserves the right to reject the Bid if the evidence submitted by, or investigation of such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein.

By submitting a Bid, each Bidder authorizes the Owner to perform such investigation of the Bidder as the Owner deems necessary to establish the responsibility, qualifications, and financial ability of the Bidder and, by its signature thereon, authorizes the Owner to obtain reference information concerning the Bidder and releases the party providing such information and the Owner from any and all liability to the Bidder as a result of such reference information so provided.

The Owner reserves the right to reject the Bid of any Bidder who does not pass any evaluation to the Owner's satisfaction.

If the Contract is to be awarded, it will be awarded to the Bidder who, by evaluation, the Owner determines will best meet the Owner's interests.

The Owner reserves the right to accept or reject the Work contained in any of the Price Bid Schedules or alternates, either in whole or in part.

**2.50. Award of Contract:** Unless otherwise indicated, a single award will be made for all the bid items in an individual bid schedule. In the event that the Work is contained in more than one Bid Schedule, the City may award Schedules individually or in combination. In the case of two Bid Schedules which are alternative to each other, only one of such alternative Schedules will be awarded. Within forty-five (45) Calendar Days of Bid Opening, the City will issue a Notice of Award to the Successful Bidder which will be accompanied by a Contract electronically submitted via DocuSign for digital signature. Within ten (10) Calendar Days thereafter, the Successful Bidder shall sign and deliver the digitally executed Contract via DocuSign. Performance Bond, Payment Bond, and Certificates of Insurance shall be submitted to the City within ten (10) days of Contract execution. No Contract shall exist between the Successful Bidder and the City, and the Successful Bidder shall have no rights at law or in equity until the Contract has been duly executed by the City.

The Successful Bidder's failure to sign and submit a Contract and other documents set forth in this Paragraph within the prescribed time shall be just cause of annulment of the award, and forfeiture of the Bid Guaranty. The award of Contract may then be made to the next qualified Bidder in the same manner as previously prescribed.

**2.51. Ownership:** All plans, prints, designs, concepts, etc., shall become the property of the Owner.

**2.52. Oral Statements:** No oral statement of any person shall modify or otherwise affect the terms, conditions, or specifications stated in this document and/or resulting agreement. All modifications to this request and any agreement must be made in writing by the Owner.

- 2.53. Patents/Copyrights:** The Contractor agrees to protect the Owner from any claims involving infringements of patents and/or copyrights. In no event shall the Owner be liable to the Contractor for any claims, damages, awards and/or costs of defense arising on the grounds of patent(s)/copyright(s) infringement. Patent/copyright infringement shall null and void any agreement resulting from response to this Invitation For Bid.
- 2.54. Remedies:** The Contractor and Owner agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.
- 2.55. Governing Law:** Any agreement as a result of responding to this Invitation For Bid shall be deemed to have been made in, and shall be construed and interpreted in accordance with, the laws of the City of Grand Junction, Mesa County, Colorado.
- 2.56. Expenses:** Expenses incurred in preparation, submission, and presentation of a response to this Invitation For Bid are the responsibility of the Bidder and cannot be charged to the Owner.
- 2.57. Sovereign Immunity:** The Owner specifically reserves its right to sovereign immunity pursuant to Colorado law as a defense to any action arising out of or under a Contract.
- 2.58. Public Funds/Non-Appropriation of Funds:** Funds for payment have been provided through the Owner's budget approved by the City Council for the stated fiscal year only. State of Colorado prohibits the obligation and expenditure of public funds beyond the fiscal year for which a budget has been approved. Therefore, anticipated orders or other obligations that may arise past the end of the stated Owner's fiscal year shall be subject to budget approval. The Contract, if any, will be subject to and must contain a non-appropriation of funds clause/limitation on multi-year fiscal obligations as required by Article X, Section 20. of the Colorado Constitution, and other applicable law(s).
- 2.59. Cooperative Purchasing:** Purchases as a result of this solicitation are primarily for the Owner. Other governmental entities may be extended the opportunity to utilize the resultant Contract award with the agreement of the successful provider and the participating agencies. All participating entities will be required to abide by the specifications, terms, conditions, and pricings established in this Bid. The quantities furnished in this bid document are for only the Owner. It does not include quantities for any other jurisdiction. The City will be responsible only for the award for its jurisdiction. Other participating entities will place its own awards on its respective Purchase Orders through its purchasing office or use its purchasing card for purchase/payment as authorized or agreed upon between the provider and the individual entity. The Owner accepts no liability for payment of orders placed by other participating jurisdictions that choose to "piggy-back" on Owner's solicitation. Orders placed by participating jurisdictions under the terms of this solicitation will indicate its specific delivery and invoicing instructions.
- 2.60. Keep Jobs in Colorado Act:** Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes (C.R.S.) requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a). If Contractor claims it is entitled to a waiver pursuant to C.R.S. §8-17-101(1), Contractor shall state that there is insufficient Colorado

labor to perform the Work such that compliance with Article 17 would create an undue burden that would substantially prevent a project from proceeding to completion and shall include evidence demonstrating the insufficiency and undue burden in its response.

Unless expressly granted a waiver by the Owner pursuant to C.R.S. §8-17-101(1), Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, C.R.S. requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a).

**2.60.1.** "Public Project" is defined as:

- (a) any construction, alteration, repair, demolition, or improvement of any land, building, structure, facility, road, highway, bridge, or other public improvement suitable for and intended for use in the promotion of the public health, welfare, or safety and any maintenance programs for the upkeep of such projects;
- (b) for which appropriate or expenditure of moneys may be reasonably expected to be \$500,000.00 or more in the aggregate for any fiscal year;
- (c) except any project that receives federal moneys.

### **3. Statement of Work**

**3.1. GENERAL:** The general scope of Work to be obtained as a result of this Solicitation includes the installation of a new irrigation system and associated landscaping around the new Pomona Parking Lot Extension on 25 ½ Road. The new irrigation system will be connected to the existing irrigation system at Pomona Park by the selected contractor in accordance with the construction drawings, specifications, and City of Grand Junction Parks Department standards.

**3.2. PROJECT DESCRIPTION:** This Project includes the construction of a new irrigation system and landscaping around the new Pomona Parking Lot Extension on 25 ½ Road where the old Fire Station 3 once stood. The new irrigation system for the landscaping will be connected to the existing Pomona Park irrigation system. Existing turf shown on the plans to remain and shall be restored to like-new condition.

The selected Contractor will coordinate construction scheduling with the Parks & Recreation Department and School District 51 on keeping the parking lot open during events at the ballfields.

All dimensions, scope of work, and schedule should be verified by Contractors prior to submission of bids.

**3.3. SPECIAL CONDITIONS & PROVISIONS:**

**3.3.1. Non-Mandatory Pre-Bid Meeting:** Prospective Bidders are encouraged to attend a non-mandatory pre-bid meeting on May 24, 2023, at 10:00 a.m. Meeting location will be the parking lot located North of Grand Junction Fire Station 3 at 582 25 ½ Rd, Grand Junction, CO 81505. The purpose of this site

visit meeting will be to inspect and clarify the contents of this Invitation for Bid (IFB). *Nothing stated during this site visit meeting will modify the solicitation. Only information provided in an addendum can modify the IFB.*



**3.3.2. QUESTIONS REGARDING SOLICITATION PROCESS/SCOPE OF WORK:**

Kathleen Franklin, Senior Buyer  
City of Grand Junction  
[kathleenf@gjcity.org](mailto:kathleenf@gjcity.org)

**3.3.3. Project Manager:** The Project Manager for the Project is Kirsten Armbruster, Project Engineer, who can be reached at (970) 244-1421 or email [kirstena@gjcity.org](mailto:kirstena@gjcity.org). During Construction, all notices, letters, submittals, and other communications directed to the City shall be addressed and mailed or delivered to:

City of Grand Junction  
Department of Public Works and Planning  
Attn: Kirsten Armbruster, Project Manager  
744 N 7<sup>th</sup> St.  
Grand Junction, CO 81501

**3.3.4. Contract Administrator:** The Contract Administrator for the Project is Duane Hoff Jr., Contract Administrator, who can be reached at (970)244-1545. During Construction, Contract related inquiries, issues, and other communications shall be directed to:

Duane Hoff Jr., Contract Administrator  
[duaneh@gjcity.org](mailto:duaneh@gjcity.org)

**3.3.5. Affirmative Action:** The Contractor is not required to submit a written Affirmative Action Program for the Project.

**3.3.6. Pricing:** Pricing shall be all inclusive to include but not be limited to: all labor, equipment, supplies, materials, freight (F.O.B. Destination – Freight Pre-paid and Allowed to each site), travel, mobilization costs, fuel, set-up and take down costs, and full-time inspection costs, and all other costs related to the successful completion of the project.

The Owner shall not pay nor be liable for any other additional costs including but not limited to: taxes, shipping charges, insurance, interest, penalties, termination payments, attorney fees, liquidated damages, etc.

**3.3.7. Freight/Shipping:** All freight/shipping shall be F.O.B. Destination – Freight Pre-Paid and Allowed to the project site(s), Grand Junction, CO.

Contractor must meet all federal, state, and local rules, regulations, and requirements for providing such services.

**3.3.8. Contract:** A binding Contract shall consist of: (1) the IFB and any amendments thereto, (2) Additional Documents as stated in Section 1.12, (3) the Bidder's response (bid) to the IFB, (4) clarification of the bid, if any, and (5) the City's Purchasing Department's acceptance of the bid by "Notice of Award" or by "Purchase Order." All Exhibits and Attachments included In the IFB shall be incorporated into the Contract by reference.

A. The Contract expresses the complete agreement of the parties and, performance shall be governed solely by the specifications and requirements contained therein.

B. Any change to the Contract, whether by modification and/or supplementation, must be accomplished by a formal Contract amendment signed and approved by and between the duly authorized representative of the Bidder and the City Purchasing Division or by a modified Purchase Order prior to the effective date of such modification. The Bidder expressly and explicitly understands and agrees that no other method and/or no other document, including acts and oral communications by or from any person, shall be used or construed as an amendment or modification to the Contract.

**3.3.9. Time of Completion:** The scheduled time of Completion for the Project is **63 Calendar Days** from the starting date specified in the Notice to Proceed.

Completion is achieved when site cleanup and all punch list items (resulting from the final inspection) have been completed. Completion shall have the meaning set forth in Article I, Section 3 (Definitions and Terms) of the General Contract Conditions.

**3.3.10. Working Days and Hours:** The working days and hours shall be as stated in the

General Contract Conditions or as mutually agreed upon in the preconstruction meeting with the following exception:

All Work shall be performed between the hours of 7:00 AM to 5:00 PM.

**3.3.11. Licenses and Permits:** Contractor is responsible for obtaining all necessary licenses and permits required for Construction, at Contractors expense. See Section 2.12. Contractor shall supply to Owner all copies of finalized permits.

**3.3.12. Permits:** The following permits are required for the Project and will be obtained by the City at no cost to the Contractor:

- None

The following permits are required for the Project and shall be obtained and paid for by the Contractor, with the costs included in the total bid price for the Project:

- None

**3.3.13. Project Sign:** Project signs, if any, will be furnished and installed by the City.

**3.3.14. Authorized Representatives of the City:** Those authorized to represent the City shall include Purchasing Agent, Engineers, and Inspectors employed by the City, only.

**3.3.15. Stockpiling Materials and Equipment:** All stockpiling/storage shall be in accordance with General Contract Condition Section 51.

**3.3.16. Traffic Control:** The Contractor shall provide and maintain traffic control in accordance with the approved Traffic Control Plan and the Manual on Uniform Traffic Control Devices (MUTCD). A Traffic Control Plan shall be prepared by the Contractor and reviewed by the City two (2) days prior to the pre-construction meeting.

**3.3.17. Clean-Up:** The Contractor is responsible for cleaning up all loose materials that have been deposited or swept into gutters, and onto sidewalks and driveways as a result of sidewalk operations. The costs for all clean-up Work shall be considered incidental and will not be paid for separately.

**3.3.18. Quality Control Testing:** Contractor shall perform quality control testing specified in the Project Manual. The City will perform all other necessary Quality Assurance testing specified in the Project Manual.

**3.3.19. Schedule of Submittals:** Contractor shall deliver these submittals at least two days prior to the pre-construction meeting:

- Traffic Control Plans (if applicable)
- Project Schedule

**3.3.20. Uranium Mill Tailings:** It is anticipated that radioactive mill tailings will not be encountered on this Project.

**3.3.21. Fugitive Petroleum or Other Contamination:** It is anticipated that soil contamination from fugitive petroleum or other contaminants will not be encountered with the Project.

**3.3.22. Excess Material:** All excess materials shall be disposed in accordance with General Contract Condition Section 50.

**3.3.23. Existing Utilities and Structures:** Utilities were not potholed during development of this project. The location of existing utilities and structures show on the Plans is approximate with the information gathered during design. It is the responsibility of the Contractor to pothole/locate and protect all structures and utilities in accordance with General Contract Condition Section 37.

**3.3.24. Incidental Items:** Any item of Work not specifically identified or paid for directly, but which is necessary for the satisfactory completion of any paid items of Work, will be considered as incidental to those items, and will be included in the cost of those items.

**3.3.25. Survey:** The Contractor shall perform all necessary construction survey for this project.

**3.3.26. Work to be Performed by the City (Prior to Construction):**

- None

**3.3.27. Existing Concrete Sidewalks, Pans, Fillets, Curbs and Gutters:** The existing sidewalks, pans, fillets, curb, and gutter are in good serviceable condition. In most instances the installation of new sidewalk and pavement will be adjacent to existing concrete. The Contractor will need to protect all concrete adjacent to construction. If the concrete is damaged during construction the Contractor will be responsible for its replacement at no cost to the City. The Contractor, the City Project Inspector, and/or the City Project Manager will walk and record any concrete that is deemed to be damaged before construction has started.

#### **3.4. SCOPE OF WORK:**

##### **STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION:**

The *City of Grand Junction Standard Specifications for Road and Bridge Construction* are hereby modified or supplemented for this Project by the following modifications to *The Standard Specifications for Road and Bridge Construction*, State Department of Highways, Division of Highways, State of Colorado:

## **SP-1 SECTION 328400 – PLANTING IRRIGATION**

### PART 1 - GENERAL

#### 1.01 GENERAL STATEMENT

The specifications set forth herein pertain to the installation of an underground irrigation system.

Consultant or Architect refers to Owner's Representative

#### 1.02 RELATED WORK SPECIFIED ELSEWHERE

1. Turf and Grasses
2. Plants
3. Earthwork

#### 1.03 SCOPE OF WORK

- A. The applicable provisions of the General Conditions and Supplementary Conditions of these specifications shall govern the work of this section as if it were written here in full.
- B. This Work shall consist of installing a complete underground irrigation system as shown on the drawings. The Contractor shall include all labor, materials, permits, licenses, inspection tools, facilities, transportation, and equipment necessary for the installation of a complete system according to the plans and specifications. No substitutions of material or the procedure shall be made concerning these documents without the written consent of an approved equal by the consultant. The work shall comply with the requirements of all legally constituted authorities having jurisdiction.
- C. All Work in this section shall be coordinated with all utilities and trades responsible for the installation.
- D. Work called for on the drawings and details shall be furnished and installed whether or not specifically mentioned in the specifications.

#### 1.04 QUALITY ASSURANCE

##### A. Irrigation Drawings:

The irrigation drawings are essentially diagrammatic. Due to the scale of the drawings, all characteristics of the system (i.e., sleeving, fittings, etc.) may not be represented. The contractor shall carefully inspect the site and plan his work, accordingly, supplying any materials and equipment necessary to install said characteristics.

The Contractor shall notify consultant of any discrepancies between site dimensions, grade differences, obstructions, etc., and those on the drawings that might not have been known during preparation of irrigation drawings. If such written notifications are not made, contractor shall assume all expenses and responsibility for any revisions necessary.

Work called for on the Drawings by notes or on details shall be furnished and installed whether or not specifically mentioned in the specifications.

Design locations of heads, valves and lines are approximate. Contractor shall make minor adjustments of locations to avoid conflicts with planting, buildings, and other obstacles. All finish grades shall be approved prior to installation of the irrigation system.

B. Experience and Observations:

1. Work shall be performed in accordance with the best standards of practice relating to the various trades. The contractor shall be highly skilled and proficient in the installation of irrigation systems of this magnitude. If requested by owner or consultant, contractor shall submit a list of three (3) projects of equal complexity with references. Contractor must have a minimum of five (5) years' experience with projects of comparable size. The contractor shall coordinate installation of irrigation system with other trades on the project. Superintendent approved by the consultant shall oversee the irrigation system installation and shall be available on a daily basis. The superintendent shall not be changed unless approved by the consultant.
2. No materials of any kind shall be installed on the project until materials been approved by the consultant. The consultant reserves the right to observe installation of the irrigation system at any time and to reject any and all materials or workmanship that does not meet project specifications and standards. Materials used without prior consent of the consultant may be rejected and removed at contractor's expense. Approval of materials is for design purposes only and shall indicate that materials visually meet specifications, but this acceptance shall not relieve contractor of any guarantees. Contractor shall be responsible for the total performance of such substitution to equal or surpass the original design in every respect. Consultant reserves the right to reject installed substitution if, in his opinion, it proves unsatisfactory. Contractor shall replace substitution at his own expense.
3. Before final acceptance of the project, the Contractor shall show evidence to the consultant that all submittals, etc., have been received by the owner.
4. Contractor shall give consultant forty-eight (48) hours' notice with request for staking or for field observation. Head and valve staking must be approved prior to commencement of installation. Contractor to verify site conditions before commencing work. Contractor to notify consultant in written form of

any site irregularities prior to commencing work. Initiation of irrigation installation implies contractor acceptance of existing conditions.

C. Ordinances and Regulations:

Contractor shall observe all state and local laws, ordinances, regulations, and applicable codes concerning the materials and installation of the irrigation system. Should a conflict arise between ordinances, laws, codes, regulations and specifications, the most stringent requirements will prevail in any case.

1.05 SUBMITTALS

A. Material List:

1. A material list of all products and materials to be used in the project shall be submitted to the consultant prior to installation of irrigation system.
2. Consultant reserves the right to reject any and all materials that have been installed but have not been approved.
3. Contractor may request an approved equal to a product specified on the plans. Contractor must submit cut sheets of the product seven (7) days prior to bid opening to the consultant. Consultant shall respond to the request within three (3) days of receiving product information.
4. Manufacturer's warranties shall not relieve the contractor of his liability for project guarantee. Such warranties shall only supplement the project guarantee.

B. Operating and Maintenance Manuals:

1. Contractor is to deliver to owner's representatives the following before final acceptance of the irrigation system:
  - a. Index sheet of Contractor's address and phone number.
  - b. List of materials and manufacturer's representatives with addresses and phone numbers.
  - c. Operating and maintenance instructions of all equipment with shutdown and start-up procedures for the irrigation system.

C. Additional Equipment:

1. Equipment to be furnished as part of this contract to the owner at the completion of the project before final acceptance of irrigation system:
  - a. Two (2) manual drain valve keys of appropriate length;
  - b. Two (2) gate valve or stop and waste valve keys of appropriate length;

- c. Three (3) quick coupler keys and two (2) matching hose swivels;
- d. Two (2) sets of special tools used for maintaining and adjusting each type of sprinkler head and valve supplied;
- e. Two (2) keys for each automatic controller;
- f. Two (2) sprinkler heads and nozzles for each type used.

D. As-Built Drawing:

1. Before final acceptance of the irrigation system, contractor shall supply owner with a reproducible Mylar As-Built Drawing. Drawing shall include dimensioned locations of all equipment and piping as listed in the irrigation schedule on the plans. Drawing to include dimensioned changes in location of sprinkler heads, zoning changes, connection to existing water lines, and any other items as requested. As-built drawings are to be updated weekly throughout the length of the project and to be made available to the consultant. The owner shall not approve any pay requests if the As-built Drawings are not current.

If requested by Owner, Consultant shall review submitted As-built Drawings and reject the drawings if the drawings are not legible, etc., or do not contain the proper equipment.

1.06 PROTECTION OF PROPERTY AND SAFETY MEASURES

A. Property and Utilities:

1. All trees, shrubs, flowers, fences, buildings, walks, roadways, and other property shall be protected from damage. Any damage to said property shall be repaired or replaced to the owner's satisfaction at the contractor's expense. Open trenches left exposed shall be flared and barricaded as per O.S.H.A. regulations by the contractor. Contractor shall restore all areas to its original condition. Contractor shall be responsible to contact utility companies and the owner's representative for staked locations of all utilities on the property. If staked utilities are damaged by the contractor, the utilities shall be repaired at the contractor's expense.
2. All trenching and other work within three feet of existing trees shall be done by hand so as not to damage tree roots or limbs. All trenches shall be no less than one foot from the trunk of any tree.
3. Promptly notify consultant of unexpected sub-surface conditions.

B. Replacement of Paving and Curbs:

1. Damage caused by trenching, crossing existing and/or proposed roadways, paths, curbing, etc., shall be kept to a minimum and all damaged areas shall be restored to its original condition at the Contractor's expense. This will include compaction of subgrade to ninety-five percent (95%) relative compaction.

Restoration shall take the following course:

- a. Match existing paving sections for asphalt paving. Thoroughly compact sub-base, base course, and bituminous course, matching grade of existing paving. No rough or rolled grades will be allowed.
- b. Blacktop curbs - hot mix bituminous curb mix tamped and shaped to match adjoining curbs.
- c. Concrete paving - concrete to match adjoining concrete work, with expansion joints.
- d. Sidewalks - concrete to match adjoining concrete work.

#### 1.07 MATERIAL HANDLING, STORAGE AND CLEAN UP

##### A. Material Handling and Storage:

Contractor shall be cautious in handling and installing pipe and materials. Consultant reserves the right to reject any and all materials that are damaged. Damaged and defective pipe and equipment is to be removed from the site. Contractor shall make arrangements with the owner to store materials on site. Do not expose plastic piping to prolonged sunlight.

##### B. Clean Up:

Contractor shall endeavor to keep the site clean at all times. At the completion of the project, the contractor shall remove all construction equipment and surplus materials from the premises leaving the area in a clean and acceptable condition. Surplus materials shall include unsuitable excavated materials, rock, trash, and debris. Any equipment or debris which is not removed shall be removed at the expense of the contractor.

#### 1.08 FLUSHING, TESTING AND COVERAGE

##### A. Flushing:

All lines shall be thoroughly flushed to eliminate any foreign matter before sprinkler heads are installed.

##### B. Testing:

1. In the presence of the consultant, the Contractor shall conduct a pressure test on the mainline pipe at a pressure of 100 PSI for a period of two (2) hours. Any leaks or breaks during the test shall be repaired and the mainline will be tested until accepted. All test equipment and pumps shall be supplied by the contractor as part of the contract.

2. The Contractor is responsible for providing the proper amount of water on sod and plant material to establish and sustain optimum plant growth. The watering program is to be included on As-built drawings.

C. Coverage:

After the sprinkler heads have been installed, and before installation of sod, the contractor shall conduct a coverage test in the presence of the consultant to determine if irrigated areas are receiving the proper amount of water. As directed by the consultant, the Contractor shall make adjustments for proper coverage at no additional expense. This shall include changing of nozzle patterns and degrees of arc. Contractor shall perform, at no additional expense, the required work to correct any coverage problems due to deviations from irrigation plans or to problems caused by installing according to plans when it is obvious that the plans are inadequate, without bringing it first to the attention of the consultant. No overspray is permitted on any structure.

Any areas which do not conform to the designed characteristics of the drawings and unauthorized changes, or poor installation practices shall be repaired or replaced by the contractor at his expense.

1.09 PRELIMINARY INSPECTION

- A. Preliminary inspection will occur after completion of entire irrigation system. Provide 48 hours' notice to consultant for inspection.
- B. Preliminary inspection will evaluate the performance, coverage, appearance, and conformance of the system to that of the drawings. Contractor shall rework or replace items that do not meet consultant's approval.
- C. Consultant will provide punch list of items to be corrected.
- D. Contractor will correct all punch list items at this expense.

1.10 FINAL INSPECTION

- A. Upon completion of punch list items, Contractor will give consultant 48 hours' notice to set up final inspection. Final inspection will take place after all as-built drawings, controller charts and submittals have been provided to and accepted by the owner.
- B. If, after inspection, the consultant determines that all work conforms to the drawings, he will issue a written notice of acceptance.
- C. Final acceptance will not be given until all punch list items and subsequent new items are corrected. Funds shall be withheld from the contractor to pay for any subsequent inspection as deemed necessary by the owner to ensure compliance with contract drawings, specifications, and details.

- D. If the consultant determines that the irrigation system is obviously not completed to warrant a final inspection, the contractor shall pay the consultant to cover costs for final inspection.

#### 1.11 WINTERIZATION

Contractor shall be responsible for draining of the irrigation system at the close of the 2021 sprinkling season and for start-up of the system in the spring of 2022 without being requested by owner. Contractor shall use compressed air or an acceptable equivalent to drain system. Use procedures that are industry standards. Contractor shall adjust system (sprinkler heads, coverage, etc.) as part of the start-up procedures.

#### 1.12 WARRANTY

It shall be the responsibility of the Contractor to insure the satisfactory operation of the entire irrigation system and the workmanship and restoration of the project area. The entire system, including materials, shall be guaranteed in writing to be complete and remain operable in every detail by the contractor for a period of one (1) year from date of substantial completion of project, and the contractor agrees to make any adjustments or repair any defects occurring within the one-year guarantee period within seven (7) calendar days from receipt of notice of malfunction by the owner. If contractor neglects to perform these duties within the specified time, the owner may make such repairs at the contractor's expense; provided however, that in the case of an emergency, wherein the judgment of the owner, delay will cause serious loss or damage, repairs or replacement may be made by verbal communication and without notice being sent to the contractor, and the contractor shall pay the cost thereof. Any settling of irrigation trenches/backfill material during the guarantee period shall be repaired at contractor's expense. Contract documents shall govern irrigation replacement the same as new work. Replacements are to be made at no cost to the owner. Any vandalism to the irrigation system prior to final acceptance shall be repaired and/or replaced at contractor's expense.

### PART 2: PRODUCTS

#### 2.01 MATERIALS

##### A. P.V.C. Pipe

1. This specification describes the properties and performance required for polyvinyl chloride pipe. Pipe shall be suitable for use at maximum hydrostatic working pressure of 200 PSI, or 160 PSI as noted on plans. Pipe shall be made from clean, virgin, NSF approved, type 1, grade 1 P.V.C., conforming to ASTM Resin specification D1784-60 and project standard D2241 for P.V.C. 1120 SDR 26 or SDR 21. P.V.C. Pipe is to be belled end and solvent weld. Solvent cement and primer shall be of the type prescribed by manufacturer.

## 2. Marking and Declaration of Compliance

Marking shall show the size, series, identification, manufacturer's trade name at intervals of not more than 20 feet. Pipe shall include the seal of approval of the National Sanitation Foundation spaced at intervals required by NSF regulations.

### B. P.V.C. Fittings:

All pipe fittings to be schedule 40 P.V.C. (ASTM D2466 and D1784) unless specifically noted otherwise. Solvent cement to conform to ASTM D2564.

### C. Brass Pipe and Fittings:

1. Brass pipe shall be 85% red brass, (ANSI) Schedule 40.
2. Fittings shall be medium brass, 125-pound class, screwed type.
3. Use a dielectric union wherever a copper-based metal (copper, brass, bronze) is connected to an iron-based metal (iron, galvanized and stainless steel).

### D. Copper Pipe:

Copper pipe shall have the requirements of Type K, ASTM B88. Fittings shall be copper or cast bronze. Silver solder shall be used for joints.

### E. Sprinkler Heads:

Sprinkler heads shall be of the type and model as indicated on drawings. Rainbird 1800 SAM-PRS series.

### F. Automatic Control Valves:

Automatic control valves shall be of the make specified, designed to operate with the specified controller with size and model as listed on drawings. Control valve shall be normally closed type and shall have manual bleed nut and manual flow control. Rainbird PEB and PESB series valves.

### G. Drip Valve Assemblies:

Drip valve assembly shall be of the type, size and style as indicated on the drawings. Strainer shall have 120 mesh nylon screen with 1/2" blow-out. Pressure reducing valve shall have manual adjusting nut.

### H. Drip Emitters and Tubing:

Drip emitters shall be of the type, style and size as indicated on the drawings. Drip tubing shall conform to ASTM D1248 and ASTM D3350. Capillary tubing shall have 1/8" i.d.

I. Drip Line Blow Out Stubs:

Install drip line blow out stubs at all ends of drip tubing.

J. Quick Couplers:

Quick coupler valves shall be of the type, size and style as indicated on the drawings. Quick coupler valves shall be two piece with rubber locking cover.

K. Gate Valves:

Gate valves up to 2-1/2" and larger shall be brass with non-rising stem and I.P.S threads. Gate valves shall be as shown on drawings.

L. Automatic Controller:

The automatic controller shall be furnished and located as shown on the plans. The controller shall be of the type, size and model number as shown. Controller shall be equipped with primary line surge protector. Install valve output surge protection arrestors for control wiring and common.

M. Control Valve Wiring:

Irrigation control wiring shall be #14-gauge solid A.W.G. and shall be U.F., U.L. approved. Control wires to be red, common wires to be white.

N. Valve Boxes:

Valve boxes shall be of the type, size and style as indicated on the details. A Carson #910-12 box shall be used for control wire splices. Use one (1) valve box for each valve installed. Where multiple valve boxes occur, arrange in symmetric order and appearance. No valve box extensions will be accepted. On the underside of all control valve boxes shall be markings clearly indicating controller number and valve number.

### PART 3: EXECUTION

#### 3.01 INSTALLATION

A. Trenching:

1. Trenching and installation of irrigation system shall not commence until final grading has been completed and approved by the owner.
2. Trenches shall be cut to true line and grade and shall be excavated so that the pipe shall drain uniformly toward the drain valves deemed necessary to properly drain the system. Minimum grade of piping to drain shall be 3"/100'. All debris and rocks shall be removed from trenches. For

piping 3" and larger, trench width shall be sufficient for installation of pipe with a clearance of at least 4 inches horizontally on both sides of pipe within trench.

3. Pipe pulling may be used if soil conditions are acceptable to the consultant.

4. Installation Depth of Piping:

Depth of mainline from top of pipe is 24"

Depth of lateral (rotor) from top of pipe is 18"

Depth of lateral (pop-up) from top of pipe is 12"

Depth of shrub (pop-up) from top of pipe is 18"

Depth of wiring – side of mainline

- B. Plastic Pipe and Fittings:

1. All pipe and fittings shall be installed as per manufacturer's recommendations. No pipe shall be installed in temperatures of 40 degrees F or less. No pipe shall be installed on non-compacted fill dirt. Plastic pipe shall be snaked horizontally in trench and square cut with burrs removed from inside of pipe. Provide for thermal expansion and contraction. For threaded connections, use sealants that are recommended by the manufacturer for use with plastic. Do not use oil-based pipe joint compounds. Assemble threaded connections by tightening 1 to 1-1/2 turns beyond finger tight. Keep piping clear of dirt and pipe scale. Keep open ends of assembled piping capped. Teflon tape is to be used on all plastic threaded joints.
2. Solvent weld joints shall be made according to manufacturer's recommendations. Allow joints to set at least 24 hours before pressure is applied to the piping.

- C. Backfilling:

1. All backfilling shall be done with approved soil, free of any debris including rock and debris 1" in diameter or larger and shall be puddled and/or mechanically tamped to prevent settling. Backfilling shall not be done with frozen or caked soil. Excess debris encountered during backfill process shall be removed at the contractor's expense. Backfill shall be compacted to 95% standard proctor density (ASTM D698-78). Any backfill soil removed due to unsuitability shall be replaced with new, approved soil at the contractor's expense. Any settling during the warranty period of the backfill material shall be repaired at the contractor's expense, including any damage to other items affecting by the settling.

2. All lateral lines shall be installed in trenches with a minimum of 6" clearance.
3. Do not install lateral lines within 2' of lines of other trades.

D. Installation of Piping Under Paving:

Contractor to coordinate installation of sleeving with other applicable trades. All piping that is to be located under areas where asphalt or concrete paving is to be installed shall at an 18" depth below top of road base. Piping is to be encased in sand 4" on all sides. Add backfill in 6" lifts and use mechanical tamping to reach 95" standard proctor density.

Contractor is to match and install new paving and base with existing paving and base where cutting of paving is necessary for installation of piping. Contractor must obtain written approval from the consultant for the process.

Installation of piping under existing walks is to be done with jacking or boring. Any cracking or breaking of the walk is to be repaired at contractor's expense. Contractor shall repair or replace to its original condition any damage caused by settling of sleeving during the warranty period.

E. Sprinkler Heads:

All sprinkler heads located in turf areas shall be adjusted vertically to be flush with final finish grades. Install heads as per details with spacing according to plans. Install heads on double swing joint assemblies. Angle of nipples relative to lateral lines shall be no more than 45 degrees and no less than 15 degrees. Locate rotary sprinklers 6" (spray heads 3") away from walls, fences, and paved areas. Under no circumstances shall the spacing exceed the maximum spacing recommended by the manufacturers.

F. Gate Valves:

Installation of gate valves shall be as indicated on the details.

G. Backflow Preventer:

Installation of backflow preventer shall be as indicated on the details. Install as per local and state codes. The most stringent requirement for backflow prevention shall prevail in case of a conflict.

H. Automatic Control Valves:

Installation of automatic control valves shall be as indicated on the details. All control valves shall be installed as close as possible to the locations as shown on plans.

I. Drip Valve Assemblies:

Installation of drip valve assemblies shall be as indicated on the details.

J. Drip Emitters and Tubing:

Installation of drip emitters and tubing shall be as indicated on the details. Drip tubing is to be installed at a depth of 4" below top of grade. In this case, top of grade does not include mulch or rock layer. Drip line blow out stubs are to be installed at all ends of drip tubings. Install drip tubing in turf areas as lateral piping.

K. Quick Coupling Valves:

All quick coupling valves shall be installed as double swing joint assemblies of schedule 45 PVC. Angle of nipple relative to mainline shall be no more than 45 degrees and no less than 15 degrees. Install as per detail.

L. Automatic Controller:

1. Automatic controller shall be installed as per manufacturer's recommendations and/or irrigation details. Each controller shall have its own separate ground wire and reduced, laminated as-built drawing installed in the door. Controller charts shall be legible, and color coded to show valve numbers and its respective zones. Charts are to be hermetically sealed between two layers of 20 mil. Thick plastic sheets and approved prior to final acceptance.
2. All work performed as electrical installation shall conform to applicable codes. All high voltage electrical work shall be performed by a licensed electrician. The contractor shall be responsible for the electrical connection of the controller with the metered electrical line at the base of the controller as provided by the owner.
3. Install one valve output surge protection arrestor on each control and common wire.
4. Install a circuit breaker and electrical on/off switch for each controller.

M. Control Wiring:

Installation of control wires shall be strung as close as possible to the mainline with such wires to be located on one side of pipe. Wiring to be installed in separate trench if not along mainline. All underground electrical connections shall be made with Rainbird Pentite connectors. Any splices not within control valve boxes shall be installed in a Carson #910-12 valve box. The contractor shall leave a minimum loop of 24" at each control valve, each splice and every 100 feet of wiring. Wiring is to be bundled every 20 feet with one (1) control wire used for every control valve. Install two (2) spare #14-1 wires along complete entirety

of mainline from controllers to farthest control valve on each and every branch of mainline. Color to be blue.

N. Drain Valves:

Manual drain valves shall be installed as per details. Contractor shall supply, locate, and install drain valves so as to drain entire mainline.

END OF SECTION 328400

**SP-2 SECTION 329113 - SOIL PREPARATION**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes planting soils specified by composition of the mixes.
- B. Related Requirements:
  - 1. Turf and Grasses
  - 2. Plants

1.3 ALLOWANCES

- A. Preconstruction and field quality-control testing are part of testing and inspecting allowance.

1.4 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."

1.5 DEFINITIONS

- A. AAPFCO: Association of American Plant Food Control Officials.
- B. Backfill: The earth used to replace or the act of replacing earth in an excavation. This can be amended or unamended soil as indicated.
- C. CEC: Cation exchange capacity.
- D. Compost: The product resulting from the controlled biological decomposition of organic material that has been sanitized through the generation of heat and stabilized to the point that it is beneficial to plant growth.

- E. Duff Layer: A surface layer of soil, typical of forested areas, that is composed of mostly decayed leaves, twigs, and detritus.
- F. Imported Soil: Soil that is transported to Project site for use.
- G. Layered Soil Assembly: A designed series of planting soils, layered on each other, that together produce an environment for plant growth.
- H. Manufactured Soil: Soil produced by blending soils, sand, stabilized organic soil amendments, and other materials to produce planting soil.
- I. NAAPT: North American Proficiency Testing Program. An SSSA program to assist soil-, plant-, and water-testing laboratories through interlaboratory sample exchanges and statistical evaluation of analytical data.
- J. Organic Matter: The total of organic materials in soil exclusive of undecayed plant and animal tissues, its partial decomposition products, and the soil biomass; also called "humus" or "soil organic matter."
- K. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified as specified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- L. RCRA Metals: Hazardous metals identified by the EPA under the Resource Conservation and Recovery Act.
- M. SSSA: Soil Science Society of America.
- N. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- O. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- P. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil"; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- Q. USCC: U.S. Composting Council.

## 1.6 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Pomona Parking Lot on 25 ½ Rd.

## 1.7 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1. Include recommendations for application and use.
  2. Include test data substantiating that products comply with requirements.
  3. Include sieve analyses for aggregate materials.
  4. Material Certificates: For each type of imported soil, soil amendment and fertilizer before delivery to the site, according to the following:
    - a. Manufacturer's qualified testing agency's certified analysis of standard products.
    - b. Analysis of fertilizers, by a qualified testing agency, made according to AAPFCO methods for testing and labeling and according to AAPFCO's SUIP #25.
    - c. Analysis of nonstandard materials, by a qualified testing agency, made according to SSSA methods, where applicable.
- B. Samples: For each bulk-supplied material, 1-gallon volume of each in sealed containers labeled with content, source, and date obtained. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of composition, color, and texture.

#### 1.8 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For each testing agency.
- B. Preconstruction Test Reports: For preconstruction soil analyses specified in "Preconstruction Testing" Article.
- C. Field quality-control reports.

#### 1.9 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

#### 1.10 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction soil analyses on existing, on-site soil and imported soil.
  1. Notify Architect seven days in advance of the dates and times when laboratory samples will be taken.
- B. Preconstruction Soil Analyses: For each unamended soil type, perform testing on soil samples and furnish soil analysis and a written report containing soil-amendment and fertilizer recommendations by a qualified testing agency performing the testing according to "Soil- Sampling Requirements" and "Testing Requirements" articles.

1. Have testing agency identify and label samples and test reports according to sample collection and labeling requirements.

#### 1.11 SOIL-SAMPLING REQUIREMENTS

- A. General: Extract soil samples according to requirements in this article.
- B. Sample Collection and Labeling: Have samples taken and labeled by Contractor in presence of Architect or state-certified, -licensed, or -registered soil scientist under the direction of the testing agency.
  1. Number and Location of Samples: Minimum of three representative soil samples from varied locations for each soil to be used or amended for landscaping purposes.
  2. Procedures and Depth of Samples: According to USDA-NRCS's "Field Book for Describing and Sampling Soils."
  3. Division of Samples: Split each sample into two, equal parts. Send half to the testing agency and half to Owner for its records.
  4. Labeling: Label each sample with the date, location keyed to a site plan or other location system, visible soil condition, and sampling depth.

#### 1.12 TESTING REQUIREMENTS

- A. General: Perform tests on soil samples according to requirements in this article.
- B. Physical Testing:
  1. Soil Texture: Soil-particle, size-distribution analysis by one of the following methods according to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods":
    - a. Sieving Method: Report sand-gradation percentages for very coarse, coarse, medium, fine, and very fine sand; and fragment-gradation (gravel) percentages for fine, medium, and coarse fragments; according to USDA sand and fragment sizes.
    - b. Hydrometer Method: Report percentages of sand, silt, and clay.
  2. Total Porosity: Calculate using particle density and bulk density according to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods."
  3. Water Retention: According to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods."
  4. Saturated Hydraulic Conductivity: According to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods"; at 85% compaction according to ASTM D 698 (Standard Proctor).

C. Chemical Testing:

1. CEC: Analysis by sodium saturation at pH 7 according to SSSA's "Methods of Soil Analysis - Part 3- Chemical Methods."
2. Clay Mineralogy: Analysis and estimated percentage of expandable clay minerals using CEC by ammonium saturation at pH 7 according to SSSA's "Methods of Soil Analysis - Part 1- Physical and Mineralogical Methods."
3. Metals Hazardous to Human Health: Test for presence and quantities of RCRA metals including aluminum, arsenic, barium, copper, cadmium, chromium, cobalt, lead, lithium, and vanadium. If RCRA metals are present, include recommendations for corrective action.
4. Phytotoxicity: Test for plant-available concentrations of phytotoxic minerals including aluminum, arsenic, barium, cadmium, chlorides, chromium, cobalt, copper, lead, lithium, mercury, nickel, selenium, silver, sodium, strontium, tin, titanium, vanadium, and zinc.

D. Fertility Testing: Soil-fertility analysis according to standard laboratory protocol of SSSA NAFT NCR-13 including the following:

1. Percentage of organic matter.
2. CEC, calcium percent of CEC, and magnesium percent of CEC.
3. Soil reaction (acidity/alkalinity pH value).
4. Buffered acidity or alkalinity.
5. Nitrogen ppm.
6. Phosphorous ppm.
7. Potassium ppm.
8. Manganese ppm.
9. Manganese-availability ppm.
10. Zinc ppm.
11. Zinc availability ppm.
12. Copper ppm.
13. Sodium ppm and sodium absorption ratio.
14. Soluble-salts ppm.
15. Presence and quantities of problem materials including salts and metals cited in the Standard protocol. If such problem materials are present, provide additional recommendations for corrective action.
16. Other deleterious materials, including its characteristics and content of each.

E. Organic-Matter Content: Analysis using loss-by-ignition method according to SSSA's "Methods of Soil Analysis - Part 3- Chemical Methods."

F. Recommendations: Based on the test results, state recommendations for soil treatments and soil amendments to be incorporated to produce satisfactory planting soil suitable for healthy, viable plants indicated. Include, at a minimum, recommendations for nitrogen, phosphorous, and potassium fertilization, and for micronutrients.

1. Fertilizers and Soil Amendment Rates: State recommendations in weight per 1000 sq. ft. for 6-inch depth of soil.

2. Soil Reaction: State the recommended liming rates for raising pH or sulfur for lowering pH according to the buffered acidity or buffered alkalinity in weight per 1000 sq. ft. for 6-inch depth of soil.

### 1.13 DELIVERY, STORAGE, AND HANDLING

- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and compliance with state and Federal laws if applicable.
- B. Bulk Materials:
  1. Do not dump or store bulk materials near structures, utilities, walkways, and pavements, or on existing turf areas or plants.
  2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
  3. Do not move or handle materials when materials are wet or frozen.
  4. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

## PART 2 - PRODUCTS

### 2.1 INORGANIC SOIL AMENDMENTS

- A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
  1. Class: T, with a minimum of 99 percent passing through a No. 8 sieve and a minimum of 75 percent passing through a No. 60 sieve.
  2. Class: O, with a minimum of 95 percent passing through a No. 8 sieve and a minimum of 55 percent passing through a No. 60 sieve.
  3. Form: Provide lime in form of ground dolomitic limestone.
- B. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent elemental sulfur, with a minimum of 99 percent passing through a No. 6 sieve and a maximum of 10 percent passing through a No. 40 sieve.
- C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- D. Perlite: Horticultural perlite, soil amendment grade.
- E. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through a No. 50 sieve.
- F. Sand: Clean, washed, natural or manufactured, free of toxic materials, and according to ASTM C 33/C 33M.

## 2.2 ORGANIC SOIL AMENDMENTS

- A. Compost: Well-composted, stable, and weed-free organic matter produced by composting feedstock, and bearing USCC's "Seal of Testing Assurance," and as follows:
  - 1. Feedstock: Limited to leaves but may include animal waste.
  - 2. Reaction: pH of 5.5 to 8.
  - 3. Soluble-Salt Concentration: Less than 4 dS/m.
  - 4. Moisture Content: 35 to 55 percent by weight.
  - 5. Organic-Matter Content: 30 to 40 percent of dry weight.
  - 6. Particle Size: Minimum of 98 percent passing through a 1/2-inch sieve.
- B. Sphagnum Peat: Partially decomposed sphagnum peat moss, finely divided or of granular texture with 100 percent passing through a 1/2-inch sieve, a pH of 3.4 to 4.8, and a soluble-salt content measured by electrical conductivity of maximum 5 dS/m.
- C. Muck Peat: Partially decomposed moss peat, native peat, or reed-sedge peat, finely divided or of granular texture with 100 percent passing through a 1/2-inch sieve, a pH of 6 to 7.5, a soluble-salt content measured by electrical conductivity of maximum 5 dS/m, having a water- absorbing capacity of 1100 to 2000 percent, and containing no sand.
- D. Wood Derivatives: Shredded and composted, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture and free of chips, stones, sticks, soil, or toxic materials.
  - 1. Partially Decomposed Wood Derivatives: In lieu of shredded and composted wood derivatives, mix shredded and partially decomposed wood derivatives with ammonium nitrate at a minimum rate of 0.15 lb./cu. ft. of loose sawdust or ground bark, or with ammonium sulfate at a minimum rate of 0.25 lb./cu. ft. of loose sawdust or ground bark.
- E. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, debris, and material harmful to plant growth.

## 2.3 FERTILIZERS

- A. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.
- B. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

1. Composition: 1 lb./1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
  2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified testing agency.
- C. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
  2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified testing agency.
- D. Chelated Iron: Commercial-grade FeEDDHA for dicots and woody plants, and commercial- grade FeDTPA for ornamental grasses and monocots.

### PART 3 - EXECUTION

#### 3.1 GENERAL

- A. Place planting soil and fertilizers according to requirements in other Specification Sections.
- B. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in planting soil.
- C. Proceed with placement only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION OF UNAMENDED, ON-SITE SOIL BEFORE AMENDING

- A. Excavation: Excavate soil from designated area(s) to a depth of 6 inches and stockpile until amended.
- B. Unacceptable Materials: Clean soil of concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
- C. Unsuitable Materials: Clean soil to contain a maximum of 8 percent by dry weight of stones, roots, plants, sod, clay lumps, and pockets of coarse sand.
- D. Screening: Pass unamended soil through a 2-inch sieve to remove large materials.

### 3.3 PLACING AND MIXING PLANTING SOIL OVER EXPOSED SUBGRADE

- A. General: Apply and mix unamended soil with amendments on-site to produce required planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.
- B. Subgrade Preparation: Till subgrade to a minimum depth of 8 inches. Remove stones larger than 1-1/2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
  - 1. Apply, add soil amendments, and mix approximately half the thickness of unamended soil over prepared, loosened subgrade according to "Mixing" Paragraph below. Mix thoroughly into top 2 inches of subgrade. Spread remainder of planting soil.
- C. Mixing: Spread unamended soil to total depth 8 inches but not less than required to meet finish grades after mixing with amendments and natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.
  - 1. Amendments: Apply soil amendments and fertilizer, if required, evenly on surface, and thoroughly blend them with unamended soil to produce planting soil.
    - a. Mix lime and sulfur with dry soil before mixing fertilizer.
    - b. Mix fertilizer with planting soil no more than seven days before planting.
  - 2. Lifts: Apply and mix unamended soil and amendments in lifts not exceeding 8 inches in loose depth for material compacted by compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- D. Compaction: Compact each blended lift of planting soil to 75 to 80 percent of maximum Standard Proctor density according to ASTM D 698 and tested in-place.
- E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

### 3.4 PLACING MANUFACTURED PLANTING SOIL OVER EXPOSED SUBGRADE

- A. General: Apply manufactured soil on-site in its final, blended condition. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.
- B. Subgrade Preparation: Till subgrade to a minimum depth of 8 inches. Remove stones larger than 1-1/2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

1. Apply approximately half the thickness of planting soil over prepared, loosened subgrade. Mix thoroughly into top 4 inches of subgrade. Spread remainder of planting soil.
- C. Application: Spread planting soil to total depth of 6 inches, but not less than required to meet finish grades after natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.
1. Lifts: Apply planting soil in lifts not exceeding 8 inches in loose depth for material compacted by compaction equipment, and not more than 6 inches in loose depth for material compacted by hand-operated tampers.
- D. Compaction: Compact each lift of planting soil to 75 to 80 percent of maximum Standard Proctor density according to ASTM D 698.
- E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

### 3.5 BLENDING PLANTING SOIL IN PLACE

- A. General: Mix amendments with in-place, unamended soil to produce required planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.
- B. Preparation: Till unamended, existing soil in planting areas to a minimum depth of 8 inches. Remove stones larger than 1-1/2 inches (38 mm)] in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
- C. Mixing: Apply soil amendments and fertilizer, if required, evenly on surface, and thoroughly blend them into full depth of unamended, in-place soil to produce planting soil.
1. Mix lime and sulfur with dry soil before mixing fertilizer.
  2. Mix fertilizer with planting soil no more than seven days before planting.
- D. Compaction: Compact blended planting soil to 75 to 80 percent of maximum Standard Proctor density according to ASTM D 698.
- E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

### 3.6 APPLYING COMPOST TO SURFACE OF PLANTING SOIL

- A. Application: Apply 4 inches of compost to surface of in-place planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.

- B. Finish Grading: Grade surface to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

### 3.7 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Perform the following tests:
  - 1. Compaction: Test planting-soil compaction after placing each lift and at completion using a densitometer or soil-compaction meter calibrated to a reference test value based on laboratory testing according to ASTM D 698. Space tests at no less than one for each 2000 sq. ft. of in-place soil or part thereof.
- C. Soil will be considered defective if it does not pass tests.
- D. Prepare test reports.
- E. Label each sample and test report with the date, location keyed to a site plan or other location system, visible conditions when and where sample was taken, and sampling depth.

### 3.8 PROTECTION

- A. Protect areas of in-place soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:
  - 1. Storage of construction materials, debris, or excavated material.
  - 2. Parking vehicles or equipment.
  - 3. Vehicle traffic.
  - 4. Foot traffic.
  - 5. Erection of sheds or structures.
  - 6. Impoundment of water.
  - 7. Excavation or other digging unless otherwise indicated.
- B. If planting soil or subgrade is over compacted, disturbed, or contaminated by foreign or deleterious materials or liquids, remove the planting soil and contamination; restore the subgrade as directed by Architect and replace contaminated planting soil with new planting soil.

### 3.9 CLEANING

- A. Protect areas adjacent to planting-soil preparation and placement areas from contamination. Keep adjacent paving and construction clean and work area in an orderly condition.

- B. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.
  - 1. Dispose of excess subsoil and unsuitable materials on-site where directed by Owner.

END OF SECTION 329113

**SP-3 SECTION 329200 - TURF AND GRASSES**

**PART 1 - GENERAL**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
  - 1. Sodding.
- B. Related Requirements:
  - 1. Plants

1.3 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. Pesticides also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- C. Pests: Living organisms that occur where pests are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- D. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. See Section 329113 "Soil Preparation" and drawing designations for planting soils.

- E. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

#### 1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Pomona Parking Lot on 25 ½ Rd.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For landscape Installer.
- B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture, stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
  - 1. Certification of each seed mixture for turfgrass sod. Include identification of source and name and telephone number of supplier.
- C. Product Certificates: For fertilizers, from manufacturer.
- D. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.

#### 1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of turf and meadows during a calendar year. Submit before expiration of required maintenance periods.

#### 1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful turf and meadow establishment.
  - 1. Professional Membership: Installer shall be a member in good standing of either the Professional Lawncare Network or the American Nursery and Landscape Association.
  - 2. Experience: Three years' experience in turf installation in addition to requirements in Section 014000 "Quality Requirements."
  - 3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
  - 4. Personnel Certifications: Installer's field supervisor shall have certification in one of the following categories from the Professional Landcare Network:
    - a. Landscape Industry Certified Technician - Exterior.

- b. Landscape Industry Certified Lawncare Manager.
  - c. Landscape Industry Certified Lawncare Technician.
5. Pesticide Applicator: State licensed, commercial.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.
- B. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.
- C. Bulk Materials:
  - 1. Do not dump or store bulk materials near structures, utilities, walkways, and pavements, or on existing turf areas or plants.
  - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
  - 3. Accompany each delivery of bulk materials with appropriate certificates.

## 1.9 FIELD CONDITIONS

- A. Planting Restrictions: Plant during the following period. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of planting completion.
  - 1. Planting Period: May 30 to September 30.
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

## PART 2 - PRODUCTS

### 2.1 TURFGRASS SOD

- A. Turfgrass Sod: Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.

- B. Turfgrass Species: Sod of grass species as follows, with not less than 85 percent germination, not less than 95 percent pure seed, and not more than 0.5 percent weed seed:
  - 1. Sun and Partial Shade: Proportioned by weight as follows:
    - a. 50 percent Kentucky bluegrass (*Poa pratensis*).
    - b. 30 percent chewings red fescue (*Festuca rubra* variety).
    - c. 10 percent perennial ryegrass (*Lolium perenne*).
    - d. 10 percent redtop (*Agrostis alba*).

## 2.2 FERTILIZERS

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
  - 1. Composition: 1 lb./1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
  - 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.
- B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
  - 1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
  - 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

## 2.3 MULCHES

- A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
- B. Sphagnum Peat Mulch: Partially decomposed sphagnum peat moss, finely divided or of granular texture, and with a pH range of 3.4 to 4.8.
- C. Muck Peat Mulch: Partially decomposed moss peat, native peat, or reed-sedge peat, finely divided or of granular texture, with a pH range of 6 to 7.5, and having a water-absorbing capacity of 1100 to 2000 percent, and containing no sand.
- D. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-incN sieve; soluble salt content of 2 to 5 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
  - 1. Organic Matter Content: 50 to 60 percent of dry weight.

- 2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
- E. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic and free of plant- growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.
- F. Non-asphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.
- G. Asphalt Emulsion: ASTM D 977, Grade SS-1; nontoxic and free of plant-growth or germination inhibitors.

## 2.4 PESTICIDES

- A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas to be planted for compliance with requirements and other conditions affecting installation and performance of the Work.
  - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
  - 2. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
  - 3. Uniformly moisten excessively dry soil that is not workable, or which is dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

### 3.2 PREPARATION

- A. Protect structures; utilities; sidewalks; pavements; and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
  - 1. Protect grade stakes set by others until directed to remove them.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

### 3.3 TURF AREA PREPARATION

- A. General: Prepare planting area for soil placement and mix planting soil according to Section 329113 "Soil Preparation."
- B. Placing Planting Soil: Place and mix planting soil in place over exposed subgrade.
  - 1. Reduce elevation of planting soil to allow for soil thickness of sod.
- C. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.
- D. Moisten prepared area before planting if surface is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

### 3.4 SODDING

- A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.
- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
  - 1. Lay sod across slopes exceeding 1:3.
  - 2. Anchor sod on slopes exceeding 1:6 with wood pegs or steel staples spaced as recommended by sod manufacturer but not less than two anchors per sod strip to prevent slippage.
- C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below sod.

### 3.5 TURF MAINTENANCE

- A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and re-mulch to

produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.

1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
  2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
  3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.
1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
  2. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.
- C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain a 2-inch grass height.
- D. Turf Postfertilization: Apply slow-release fertilizer after initial mowing and when grass is dry.
1. Use fertilizer that provides actual nitrogen of at least 1 lb./1000 sq. ft. to turf area.

### 3.6 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Architect:
1. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
- B. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

### 3.7 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents according to requirements of authorities having jurisdiction and manufacturer's written recommendations.
- B. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

- C. Post-Emergent Herbicides (Selective and Nonselective): Apply only as necessary to treat already-germinated weeds and according to manufacturer's written recommendations.

### 3.8 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.
- C. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
- D. Remove nondegradable erosion-control measures after grass establishment period.

### 3.9 MAINTENANCE SERVICE

- A. Turf Maintenance Service: Provide full maintenance by skilled employees of landscape installer. Maintain as required in "Turf Maintenance" Article. Begin maintenance immediately after each area is planted and continue until acceptable turf is established, but for not less than the following periods:
  - 1. Sodded Turf: 60 days from date of planting completion.

END OF SECTION 329200

## **SP-4 SECTION 329300 – PLANTS**

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Plants.
  - 2. Tree stabilization.
  - 3. Landscape edgings.

B. Related Requirements:

1. Turf and Grasses.

1.3 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."
- B. Unit prices apply to authorized work covered by quantity allowances.
- C. Unit prices apply to additions to and deletions from the Work as authorized by Change Orders.

1.4 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which the stock was grown, with a ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.
- C. Balled and Potted Stock: Plants dug with firm, natural balls of earth in which stock is grown and placed, unbroken, in a container. Ball size is not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required.
- D. Bare-Root Stock: Plants with a well-branched, fibrous-root system developed by transplanting or root pruning, with soil or growing medium removed, and with not less than the minimum root spread according to ANSI Z60.1 for type and size of plant required.
- E. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.
- F. Fabric Bag-Grown Stock: Healthy, vigorous, well-rooted plants established and grown in-ground in a porous fabric bag with well-established root system reaching sides of fabric bag. Fabric bag size is not less than diameter, depth, and volume required by ANSI Z60.1 for type and size of plant.
- G. Finish Grade: Elevation of finished surface of planting soil.

- H. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. Pesticides also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant. Some sources classify herbicides separately from pesticides.
- I. Pests: Living organisms that occur where pests are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- J. Planting Area: Areas to be planted.
- K. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. See. Section 329113 "Soil Preparation."
- L. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.
- M. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- N. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.
- O. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

## 1.5 COORDINATION

- A. Coordination with Turf Areas (Lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.
  - 1. When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

## 1.6 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Pomona Parking Lot on 25 ½ Rd.

## 1.7 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.
- B. Samples for Verification: For each of the following:
  - 1. Trees and Shrubs: Three Samples of each variety and size delivered to site for review. Maintain approved Samples on-site as a standard for comparison.
  - 2. Mulch: 1-quart volume of each organic mulch required; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.
  - 3. Mineral Mulch: 2 lb. of each mineral mulch required, in sealed plastic bags labeled with source of mulch. Sample shall be typical of the lot of material to be delivered and installed on-site; provide an accurate indication of color, texture, and makeup of the material.
  - 4. Weed Control Barrier: 12 by 12 inches.
  - 5. Proprietary Root-Ball-Stabilization Device: One unit.
  - 6. Edging Materials and Accessories: Manufacturer's standard size, to verify color selected.

## 1.8 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For landscape Installer. Include list of similar projects completed by Installer demonstrating Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and addresses of owners' contact persons.
- B. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:
  - 1. Manufacturer's certified analysis of standard products.
  - 2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
- C. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.
- D. Sample Warranty: For special warranty.

## 1.9 CLOSEOUT SUBMITTALS

- A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of plants during a calendar year. Submit before expiration of required maintenance periods.

## 1.10 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of plants.
  - 1. Professional Membership: Installer shall be a member in good standing of either the Professional Lawncare Network or the American Nursery and Landscape Association.
  - 2. Experience: Three years' experience in landscape installation in addition to requirements in Section 014000 "Quality Requirements."
  - 3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
  - 4. Personnel Certifications: Installer's field supervisor shall have certification in one of the following categories from the Professional Landcare Network:
    - a. Landscape Industry Certified Technician - Exterior.
    - b. Landscape Industry Certified Horticultural Technician.
  - 5. Pesticide Applicator: State licensed, commercial.
- B. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.
  - 1. Selection of plants purchased under allowances is made by Architect, who tags plants at their place of growth before the selection is prepared for transplanting.
- C. Measurements: Measure according to ANSI Z60.1. Do not prune to obtain required sizes.
  - 1. Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container-grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements 6 inches above the root flare for trees up to 4-inch caliper size, and 12 inches above the root flare for larger sizes.
  - 2. Other Plants: Measure with stems, petioles, and foliage in their normal position.
- D. Plant Material Observation: Architect may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Architect may also observe trees and

shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and may reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

1. Notify Architect of sources of planting materials seven days in advance of delivery to site.

#### 1.11 DELIVERY, STORAGE, AND HANDLING

- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws if applicable.
- B. Bulk Materials:
  1. Do not dump or store bulk materials near structures, utilities, walkways, and pavements, or on existing turf areas or plants.
  2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
  3. Accompany each delivery of bulk materials with appropriate certificates.
- C. Deliver bare-root stock plants within 24 hours of digging. Immediately after digging up bare-root stock, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting. Transport in covered, temperature-controlled vehicles, and keep plants cool and protected from sun and wind at all times.
- D. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
- E. Handle planting stock by root ball.
- F. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.
  1. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again two weeks after planting.
- G. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.

- H. Deliver plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.
  - 1. Heel-in bare-root stock. Soak roots that are in less than moist condition in water for two hours. Reject plants with dry roots.
  - 2. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
  - 3. Do not remove container-grown stock from containers before time of planting.
  - 4. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly wet condition.

#### 1.12 FIELD CONDITIONS

- A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.
- B. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.
  - 1. May 30 to September 30
- C. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.

#### 1.13 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner.
    - b. Structural failures including plantings falling or blowing over.
    - c. Faulty performance of tree stabilization and edgings.
    - d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Periods: From date of planting completion.
  - a. Trees, Shrubs, Vines, and Ornamental Grasses: **12** months.
  - b. Ground Covers, Biennials, Perennials, and Other Plants: **12** months.
3. Include the following remedial actions as a minimum:
  - a. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
  - b. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
  - c. A limit of one replacement of each plant is required except for losses or replacements due to failure to comply with requirements.
  - d. Provide extended warranty for period equal to original warranty period, for replaced plant material.

## PART 2 - PRODUCTS

### 2.1 PLANT MATERIAL

- A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant List, Plant Schedule, or Plant Legend indicated on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
  1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch in diameter; or with stem girdling roots are unacceptable.
  2. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.
- B. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.
- C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which begins at root flare according to ANSI Z60.1. Root flare shall be visible before planting.
- D. Labeling: Label at least one plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant.

- E. If formal arrangements or consecutive order of plants is indicated on Drawings, select stock for uniform height and spread, and number the labels to assure symmetry in planting.
- F. Biennials: Provide healthy, disease-free plants of species and variety shown or listed, with well- established root systems reaching to sides of the container to maintain a firm ball, but not with excessive root growth encircling the container. Provide only plants that are acclimated to outdoor conditions before delivery and that are in bud but not yet in bloom.

## 2.2 FERTILIZERS

- A. Planting Tablets: Tightly compressed chip-type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.
  - 1. Size: 10-gram tablets.
  - 2. Nutrient Composition: 20 percent nitrogen, 10 percent phosphorous, and 5 percent potassium, by weight plus micronutrients.

## 2.3 MULCHES

- A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:
  - 1. Type: Shredded bark.
  - 2. Size Range: 3 inches maximum, 1/2-inch (13 mm) minimum.
  - 3. Color: Natural.
- B. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through a 1-inch sieve;
 

soluble-salt content of 2 to 5 dS/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

  - 1. Organic Matter Content: 50 to 60 percent of dry weight.
  - 2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
- C. Mineral Mulch: Hard, durable stone, washed free of loam, sand, clay, and other foreign substances, of the following type, size range, and color:
  - 1. Type: Rounded riverbed gravel.
  - 2. Size Range: 2 inches maximum, 1 inch (19 mm)
  - 3. Color: Readily available natural gravel color range.

## 2.4 WEED-CONTROL BARRIERS

- A. Nonwoven Geotextile Filter Fabric: Polypropylene or polyester fabric, 3 oz./sq. yd. minimum, composed of fibers formed into a stable network so that fibers retain their relative position. Fabric shall be inert to biological degradation and resist naturally encountered chemicals, alkalis, and acids.
- B. Composite Fabric: Woven, needle-punched polypropylene substrate bonded to a nonwoven polypropylene fabric, 4.8 oz./sq. yd.

## 2.5 PESTICIDES

- A. General: Pesticide registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.

## 2.6 TREE-STABILIZATION MATERIALS

- A. Trunk-Stabilization Materials:
  - 1. Upright and Guy Stakes: Rough-sawn, sound, new hardwood free of knots, holes, cross grain, and other defects, 2-by-2-inch nominal by length indicated, pointed at one end.
  - 2. Wood Deadmen: Timbers measuring 8 inches in diameter and 48 inches long, treated with specified wood pressure-preservative treatment.
  - 3. Flexible Ties: Wide rubber or elastic bands or straps of length required to reach stakes.
  - 4. Guys and Tie Wires: ASTM A 641/A 641M, Class 1, galvanized-steel wire, two-strand, twisted, 0.106 inch in diameter.
  - 5. Tree-Tie Webbing: UV-resistant polypropylene or nylon webbing with brass grommets.
  - 6. Guy Cables: Five-strand, 3/16-inch diameter, galvanized-steel cable, with zinc-coated turnbuckles, a minimum of 3 inches long, with two 3/8-inch galvanized eyebolts.
  - 7. Flags: Standard surveyor's plastic flagging tape, white, 6 inches long.
  - 8. Proprietary Staking-and-Guying Devices: Proprietary stake or anchor and adjustable tie systems to secure each new planting by plant stem; sized as indicated and according to manufacturer's written recommendations.

## 2.7 LANDSCAPE EDGINGS

- A. Steel landscape edging. Color Black.

## 2.8 MISCELLANEOUS PRODUCTS

- A. Wood Pressure-Preservative Treatment: AWWA U1, Use Category UC4a; acceptable to authorities having jurisdiction, and containing no arsenic or chromium.
- B. Root Barrier: Black, molded, modular panels 18 inches high (deep), 85 mils thick, and with vertical root deflecting ribs protruding 3/4 inch out from panel surface; manufactured with minimum 50 percent recycled polyethylene plastic with UV inhibitors.
- C. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.
- D. Burlap: Non-synthetic, biodegradable.
- E. Planter Drainage Gravel: Washed, sound crushed stone or gravel complying with ASTM D 448 for Size No. 8.
- F. Planter Filter Fabric: Woven geotextile manufactured for separation applications and made of polypropylene, polyolefin, or polyester fibers or combination of fabric.
- G. Mycorrhizal Fungi: Dry, granular inoculant containing at least 5300 spores per lb. of vesicular- arbuscular mycorrhizal fungi and 95 million spores per lb. of ectomycorrhizal fungi, 33 percent hydrogel, and a maximum of 5.5 percent inert material.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas to receive plants, with Installer present, for compliance with requirements and conditions affecting installation and performance of the Work.
  - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
  - 2. Verify that plants and vehicles loaded with plants can travel to planting locations with adequate overhead clearance.
  - 3. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
  - 4. Uniformly moisten excessively dry soil that is not workable, or which is dusty.

- B. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Architect's acceptance of layout before excavating or planting. Make minor adjustments as required.
- D. Lay out plants at locations directed by Architect. Stake locations of individual trees and shrubs and outline areas for multiple plantings.

### 3.3 PLANTING AREA ESTABLISHMENT

- A. General: Prepare planting area for soil placement and mix planting soil according to Section 329113 "Soil Preparation."
- B. Placing Planting Soil: Place and mix planting soil in-place over exposed subgrade.
- C. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.
- D. Application of Mycorrhizal Fungi: At time directed by Architect, broadcast dry product uniformly over prepared soil at application rate according to manufacturer's written recommendations.

### 3.4 EXCAVATION FOR TREES AND SHRUBS

- A. Planting Pits and Trenches: Excavate circular planting pits.
  - 1. Excavate planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are unacceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
  - 2. Excavate approximately three times as wide as ball diameter for balled and burlapped, balled and potted and container-grown stock.

3. Excavate at least 12 inches wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
  4. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
  5. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
  6. Maintain angles of repose of adjacent materials to ensure stability. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
  7. Maintain supervision of excavations during working hours.
  8. Keep excavations covered or otherwise protected overnight, after working hours and when unattended by Installer's personnel.
  9. If drain tile is indicated on Drawings or required under planting areas, excavate to top of porous backfill over tile.
- B. Backfill Soil: Subsoil and topsoil removed from excavations may be used as backfill soil unless otherwise indicated.
- C. Obstructions: Notify Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
1. Hardpan Layer: Drill 6-inch diameter holes, 24 inches apart, into free-draining strata or to a depth of 10 feet, whichever is less, and backfill with free-draining material.
- D. Drainage: Notify Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.
- E. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

### 3.5 TREE, SHRUB, AND VINE PLANTING

- A. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.
- B. Roots: Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.
- C. Balled and Burlapped Stock: Set each plant plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
1. Backfill: Planting For trees, use excavated soil for backfill.
  2. After placing some backfill around root ball to stabilize plant, carefully cut, and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any,

- before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
  4. Place planting tablets equally distributed around each planting pit when pit is approximately one-half filled. Place tablets beside the root ball about 1 inch from root tips; do not place tablets in bottom of the hole.
    - a. Quantity: Three for each caliper inch of plant.
  5. Continue backfilling process. Water again after placing and tamping final layer of soil.
- D. Balled and Potted and Container-Grown Stock: Set each plant plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
1. Backfill: Planting soil for trees, use excavated soil for backfill.
  2. Carefully remove root ball from container without damaging root ball or plant.
  3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
  4. Place planting tablets equally distributed around each planting pit when pit is approximately one-half filled. Place tablets beside the root ball about 1 inch from root tips; do not place tablets in bottom of the hole.
    - a. Quantity: Three for each caliper inch of plant.
  5. Continue backfilling process. Water again after placing and tamping final layer of soil.
- E. Slopes: When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.
- ### 3.6 TREE, SHRUB, AND VINE PRUNING
- A. Remove only dead, dying, or broken branches. Do not prune for shape.
  - B. Prune, thin, and shape trees, shrubs, and vines as directed by Architect.
  - C. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.
  - D. Do not apply pruning paint to wounds.

### 3.7 TREE STABILIZATION

- A. Trunk Stabilization by Upright Staking and Tying: Install trunk stabilization as follows unless otherwise indicated:
1. Upright Staking and Tying: Stake trees of 2- through 5-inch caliper. Stake trees of less than 2-inch caliper only as required to prevent wind tip out. Use a minimum of two stakes of length required to penetrate at least 18 inches below bottom of backfilled excavation and to extend one-third of trunk height above grade. Set vertical stakes and space to avoid penetrating root balls or root masses.
  2. Upright Staking and Tying: Stake trees with two stakes for trees up to 12 feet high and 2- 1/2 inches or less in caliper; three stakes for trees less than 14 feet high and up to 4 inches in caliper. Space stakes equally around trees.
  3. Support trees with bands of flexible ties at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.
  4. Support trees with two strands of tie wire, connected to the brass grommets of tree-tie webbing at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.
- B. Trunk Stabilization by Staking and Guying: Install trunk stabilization as follows unless otherwise indicated on Drawings. Stake and guy trees more than 14 feet in height and more than 3 inches in caliper unless otherwise indicated.
1. Site-Fabricated, Staking-and-Guying Method: Install no fewer than three guys spaced equally around tree.
    - a. Securely attach guys to stakes 30 inches long, driven to grade. Adjust spacing to avoid penetrating root balls or root masses. Provide turnbuckle for each guy wire and tighten securely.
    - b. For trees more than 6 inches in caliper, anchor guys to wood deadmen buried at least 36 inches below grade. Provide turnbuckle for each guy wire and tighten securely.
    - c. Support trees with bands of flexible ties at contact points with tree trunk and reaching to turnbuckle. Allow enough slack to avoid rigid restraint of tree.
    - d. Support trees with guy cable, connected to the brass grommets of tree-tie webbing at contact points with tree trunk and reaching to turnbuckle. Allow enough slack to avoid rigid restraint of tree.
    - e. Attach flags to each guy wire, 30 inches above finish grade.
    - f. Paint turnbuckles with luminescent white paint.
  2. Proprietary Staking and Guying Device: Install staking and guying system sized and positioned as recommended by manufacturer unless otherwise indicated and according to manufacturer's written instructions.

### 3.8 PLANTING AREA MULCHING

- A. Install weed-control barriers before mulching according to manufacturer's written

instructions. Completely cover area to be mulched, overlapping edges a minimum of 6 inches and secure seams with galvanized pins.

- B. Mulch backfilled surfaces of planting areas and other areas indicated.
  - 1. Trees and Treelike Shrubs in Turf Areas: Apply organic mulch ring of 3-inch average thickness, with 24-inch radius around trunks or stems. Do not place mulch within 3 inches of trunks or stems.
  - 2. Organic Mulch in Planting Areas: Apply 3-inch average thickness of organic mulch extending 12 inches beyond edge of individual planting pit and finish level with adjacent finish grades. Do not place mulch within 3 inches of trunks or stems.
  - 3. Mineral Mulch in Planting Areas: Apply 3-inch average thickness of mineral mulch over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within 3 inches of trunks or stems.

### 3.9 EDGING INSTALLATION

- A. Steel Edging: Install steel edging where indicated according to manufacturer's written instructions. Anchor with steel stakes spaced approximately 30 inches apart, driven below top elevation of edging.

### 3.10 PLANT MAINTENANCE

- A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting, and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings.
- B. Fill in, as necessary, soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices, when possible, to minimize use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

### 3.11 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents according to authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Pre-Emergent Herbicides (Selective and Nonselective): Apply to tree, shrub, and ground-cover areas according to manufacturer's written recommendations. Do not apply to seeded areas.
- C. Post-Emergent Herbicides (Selective and Nonselective): Apply only as necessary

to treat already-germinated weeds and according to manufacturer's written recommendations.

### 3.12 REPAIR AND REPLACEMENT

- A. General: Repair or replace existing or new trees and other plants that are damaged by construction operations, in a manner approved by Architect.
  - 1. Submit details of proposed pruning and repairs.
  - 2. Perform repairs of damaged trunks, branches, and roots within 24 hours, if approved.
  - 3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.
  
- B. Remove and replace trees that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.
  - 1. Provide new trees of same size as those being replaced.
  - 2. Species of Replacement Trees: Same species being replaced.

### 3.13 CLEANING AND PROTECTION

- A. During planting, keep adjacent paving and construction clean and work area in an orderly condition. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
  
- B. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.
  
- C. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.
  
- D. After installation and before Substantial Completion remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.
  
- E. At time of Substantial Completion, verify that tree-watering devices are in good working order and leave them in place. Replace improperly functioning devices.

### 3.14 MAINTENANCE SERVICE

- A. Maintenance Service for Trees and Shrubs: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below:

1. Maintenance Period: 12 months from date of planting completion.
- B. Maintenance Service for Ground Cover and Other Plants: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below:
1. Maintenance Period: 12 months from date of planting completion.

END OF SECTION 329300

**3.5. Attachments (click on links):**

Attachment A: Landscaping Irrigation Drawings

[Attachment A Landscaping Irrigation Drawings](#)

**3.6. Contractor Bid Documents:** For Contractor's convenience, the following is a list of forms/items to be submitted with the Contractor's bid response. However, should a form/item not be listed in this section, but required in the solicitation documents, it is the Contractor's responsibility to ensure all forms/items are submitted.

- **Contractor's Bid Form**
- **Price Bid Schedule Form**
- **Bid Bond**

**3.7. IFB TENTATIVE TIME SCHEDULE:**

Invitation For Bids available	May 11, 2023	
Non-Mandatory Pre-Bid Meeting	May 24, 2023,	10:00 a.m.
Inquiry deadline, no questions after this date	June 7, 2023	
Addendum Posted	June 9, 2023	
Submittal deadline for bids	June 16, 2023,	2:00 p.m.
City Council Approval <i>(if required)</i>	July 5, 2023	
Notice of Award & Contract execution	July 7, 2023	
Bonding & Insurance Cert due	July 14, 2023	
Preconstruction meeting	To Be Determined	
Work begins no later than	Receipt of Notice to Proceed	
Final Completion	63 Calendar Days from start date of Notice to Proceed	

Holidays:

Memorial Day	May 29, 2023
Juneteenth	June 19, 2023
Independence Day	July 4, 2023
Labor Day	September 4, 2023

## 4. Contractor's Bid Form

Bid Date: \_\_\_\_\_

Project: IFB-5260-23-KF "Pomona Park Irrigation & Landscaping"

Bidding Company: \_\_\_\_\_

Name of Authorized Agent: \_\_\_\_\_

Email: \_\_\_\_\_

Telephone: \_\_\_\_\_ Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

The undersigned Bidder, in compliance with the Invitation for Bids, having examined the Instruction to Bidders, General Contract Conditions, Statement of Work, Specifications, and any and all Addenda thereto, having investigated the location of, and conditions affecting the proposed Work, hereby proposes to furnish all labor, materials and supplies, and to perform all Work for the Project in accordance with Contract Documents, within the time set forth and at the prices stated below. These prices are to cover all expenses incurred in performing the Work required under the Contract Documents, of which this Contractor's Bid Form is a part.

The undersigned Contractor does hereby declare and stipulate that this offer is made in good faith without collusion or connection to any person(s) providing an offer for the same Work, and that it is made in pursuance of, and subject to, all terms and conditions of the Instructions to Bidders, the Specifications, and all other Solicitation Documents, all of which have been examined by the undersigned.

The Contractor also agrees that if awarded the Contract, to provide insurance certificates within ten (10) working days of the date of Notification of Award. Submittal of this offer will be taken by the Owner as a binding covenant that the Contractor will be prepared to complete the project in its entirety.

The Owner reserves the right to make the award on the basis of the offer deemed most favorable, to waive any formalities or technicalities and to reject any or all offers. It is further agreed that this offer may not be withdrawn for a period of sixty (60) calendar days after closing time. Submission of clarifications and revised offers automatically establish a new thirty-day (30) period.

Prices in the bid proposal have not knowingly been disclosed with another provider and will not be prior to award.

- Prices in this bid proposal have been arrived at independently, without consultation, communication, or agreement for the purpose of restricting competition.
- No attempt has been made nor will be to induce any other person or firm to submit a bid proposal for the purpose of restricting competition.
- The individual signing this bid proposal certifies it is a legal agent of the Bidder, authorized to represent the Bidder and is legally responsible for the bid with regard to supporting documentation and prices provided.
- Direct purchases by the City of Grand Junction are tax exempt from Colorado Sales or Use Tax. Tax exempt No. 98-03544. The undersigned certifies that no Federal, State, County or Municipal tax will be added to the above quoted prices.
- City of Grand Junction payment terms shall be Net 30 days.
- Prompt payment discount of \_\_\_\_\_ percent of the net dollar will be offered to the Owner if the invoice is paid within \_\_\_\_\_ days after the receipt of the invoice. The Owner reserves the right to take into account any such discounts when determining the bid award that are no less than Net 10 days.

RECEIPT OF ADDENDA: the undersigned Contractor acknowledges receipt of Addenda to the Solicitation, Specifications, and other Contract Documents.

State number of Addenda received: \_\_\_\_\_

It is the responsibility of the Bidder to ensure all Addenda have been received and acknowledged.

*By signing below, the Undersigned agree to comply with all terms and conditions contained herein.*

Company: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

Title: \_\_\_\_\_

The undersigned Bidder proposes to subcontract the following portion of Work:

<u>Name &amp; address of Sub-Contractor</u>	<u>Description of Work to be performed</u>	<u>% of Contract</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

The undersigned Bidder acknowledges the right of the City to reject any and all Bids submitted and to waive informalities and irregularities therein in the City's sole discretion.

By submission of the Bid, each Bidder certifies, and in the case of a joint Bid each party thereto certifies as to its own organization, that this Bid has been arrived at independently, without collusion, consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.

**Bid Schedule: Grand Junction Fire Department - Pomona Parking Lot Landscaping & Irrigation Construction**

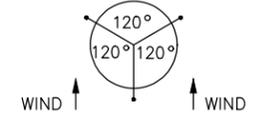
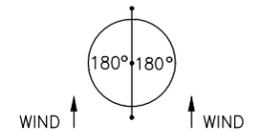
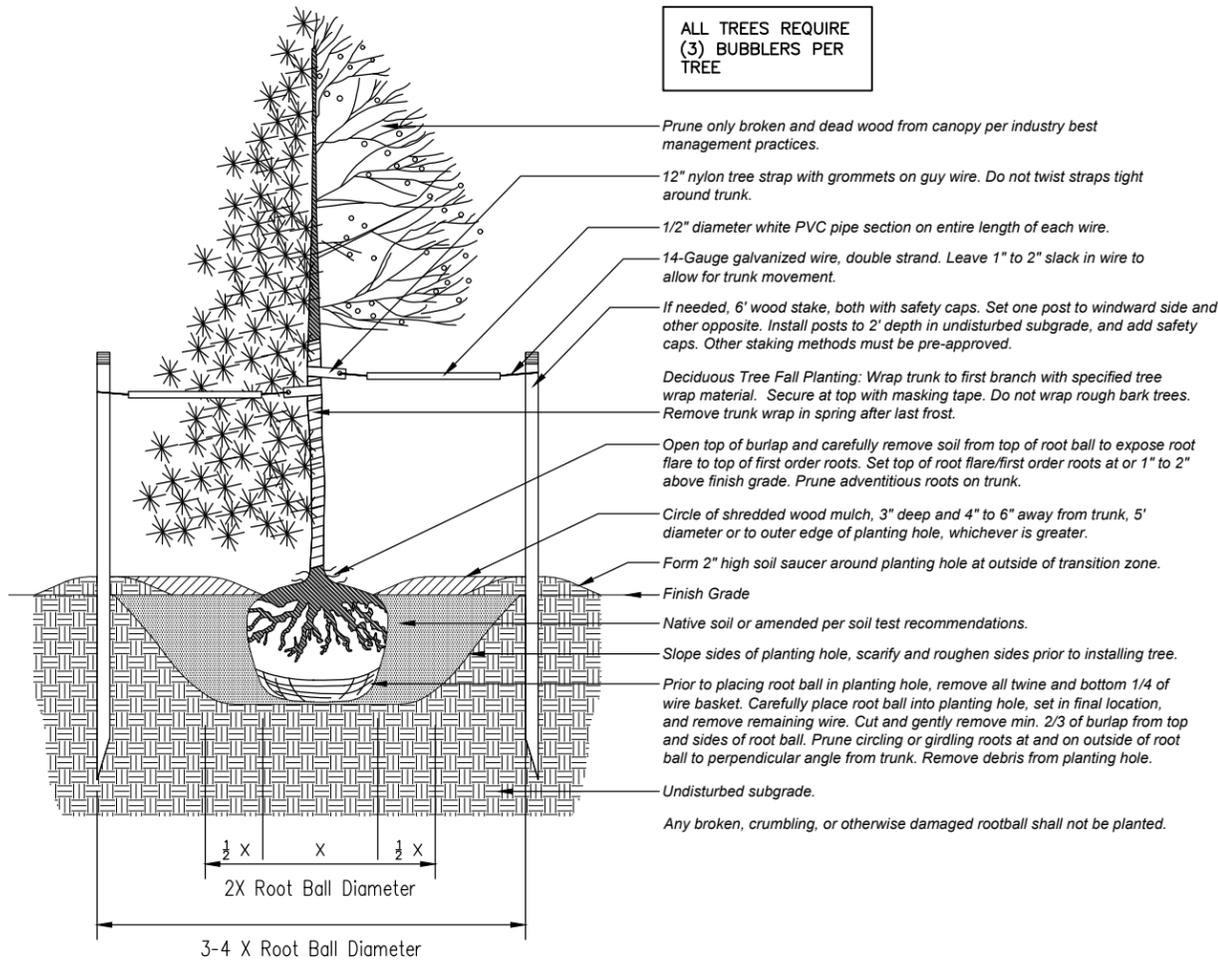
Item No.	Division No.	Description	Quantity	Units	Unit Price	Total Price
1	32	Exterior Improvements - Irrigation (including all heads, drip systems, valves, controls, laterals and main lines, and labor to install and connect new irrigation system to existing Pomona Park system)	1.	LS	\$ _____	\$ _____
2	32	Exterior Improvements - Landscaping (including soil prep, hardscaping, turf, and plants)	1.	LS	\$ _____	\$ _____
MCR		MINOR CONTRACT REVISIONS	---	---	---	\$ <u>1,500.00</u>
<b>Total Bid Amount:</b>						<b>\$ _____</b>

**Total Bid Amount written:**

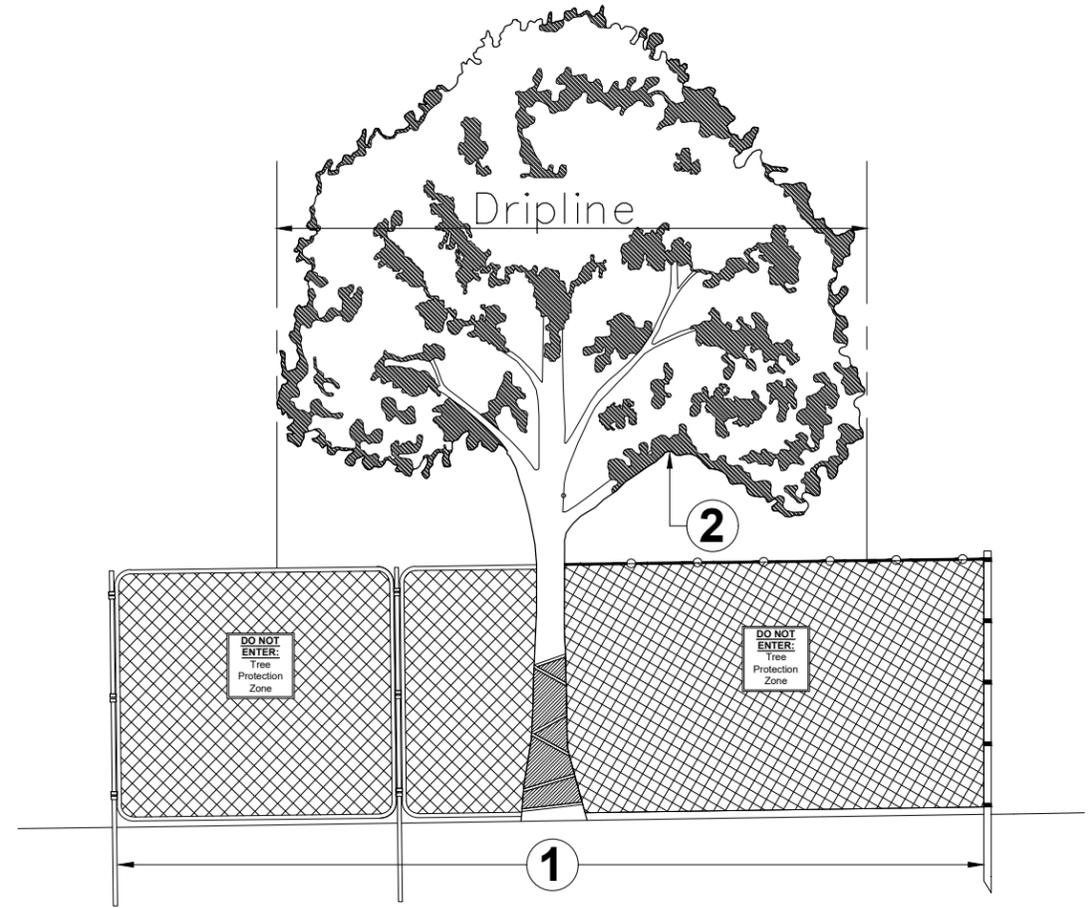
**\_\_\_\_\_ dollars**



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FOR TREES ON 4:1 OR STEEPER SLOPES, PLACE 2 GUYS UPSLOPE, ONE DOWNSLOPE; OTHERWISE PLACE FOR PREVAILING WIND.



Any work in these areas require approval from Grand Junction City Forester (GJCF) prior to activity. Contact GJCF for instruction.

**Trees planted upon park land, public property, or within the Public Right of Way (PRW) are subject to the following restrictions:**

- Prior to digging, the Utility Notification Center of Colorado shall be contacted at 811 to locate underground utilities.
- A planting permit from the Grand Junction City Forester (GJCF) is required regardless of approved plans to ensure the City is available to inspect the planting of public trees.
- Tree planting shall not occur when daytime temperatures reach or exceed 90-degrees Fahrenheit, unless approved by GJCF.
- Only tree species approved by the GJCF shall be planted.
- Trees shall not be planted in tree lawns less than six feet wide unless authorized by the GJCF.
- Trees shall be centered in tree lawns and/or planting areas. Where sidewalks are not present, trees shall be located as designated by the GJCF.
- Unless authorized by the GJCF, trees shall be located:
  - Outside street intersection sight distance triangle, measured 30 (thirty) feet along the PRW in each direction from the corner.
  - Min. 10 (Ten) feet from alleys and driveways
  - Min. 20 (Twenty) feet from stop signs and curb ramps
  - Min. 25 (Twenty-five) feet from street lights
  - Min. 10 (Ten) feet from electric/gas/water lines, water meters/pits, and fire hydrants
  - Min. 15 (Fifteen) feet from small cell towers
- If overhead utility wires exist, only trees with an expected mature size that meet current clearance regulations may be planted.
- Tree spacing shall be based on projected mature canopy size and above restrictions, or as approved by the GJCF.
- All electric fixtures and utilities, including but not limited to outlets and lights, shall be located at outside perimeter of tree planting areas within hardscape. In tree lawns, fixtures shall be placed minimum 3 (three) feet radially from base of trunk.

When planting is completed, contact forestry@gjcity.org for final inspection.

**Area 1: Tree Protection Zone and Critical Root Zone Protection**

- The **Tree Protection Zone (TPZ)** shall be equal to dripline or 1.5 feet radially from the tree for every one inch of trunk diameter at breast height (DBH = 4.5' above soil line), whichever is greater.
- The **Critical Root Zone (CRZ)** shall be equal to one foot radially from the tree for every one inch of trunk diameter at breast height.

- Minimum 6' in height steel chain link fence is required unless otherwise approved by the GJCF. Steel chain link fence panels or rolls are acceptable.
  - When chain link rolls are installed, it shall be fastened to heavy duty steel posts with safety caps at minimum five (5) attachment points with 12-gauge wire, including points at top and bottom. Weave wire through top of roll to eliminate sag.
  - Posts shall be driven 2' to 3' below grade and spaced at max. five to ten foot (5' - 10') o.c. intervals. Fencing must be kept taut at all times.
  - "Tree Protection Zone" signs shall be placed one (1) per each tree protection zone minimum or more per direction of GJCF; maintain in the location and condition in which approved.
  - TPZ, including signage, shall be maintained in the location and condition in which approved.

**Area 2: Canopy Protection**

Contact GJCF if potential for damage exists and/or if pruning is needed for any clearance issues prior to performing work.

**Notes**

- GJCF Tree Protection Specifications shall be followed throughout duration of work.
- After TPZ is approved;
  - TPZ shall not be resized, modified, removed, or altered in any manner without prior written approval. TPZ shall be maintained in place as approved until removal is authorized by GJCF.
  - Entrance/access to the TPZ is not permitted without prior written approval from the GJCF.
  - No materials, debris, equipment, or site amenities shall be stored within the TPZ without prior written approval from the GJCF.
- While TPZ fencing is in place, trees shall be deep-root watered at an interval of once every two weeks when temperatures are at or above 40 degrees F. Trees shall be watered at the rate of twenty-five (25) gallons per inch DBH. GJCF may ask for proof of watering.
- Violation of TPZ or damage to protected trees is subject to penalty per City Ordinance.
- Responsible party for tree removal or damage shall be responsible for lost value based on industry standard tree appraisal methods as determined by GJCF.

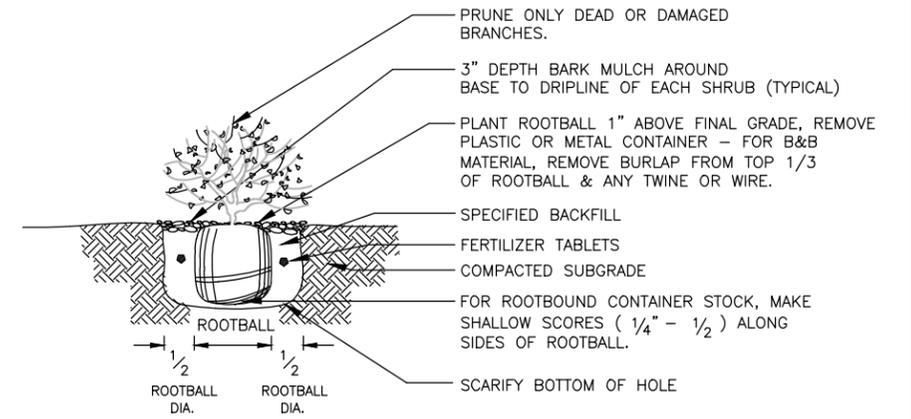
REVISION	DESCRIPTION	DATE	PROJECT NO. E2012-E201202	SCALES: PLAN & PROFILE
REVISION Δ			DRAWN BY KA DATE APRIL 2023	
REVISION Δ			DESIGNED BY JB DATE APRIL 2023	
REVISION Δ			CHECKED BY XXX DATE 201X	
REVISION Δ			APPROVED BY XXX DATE 201X	



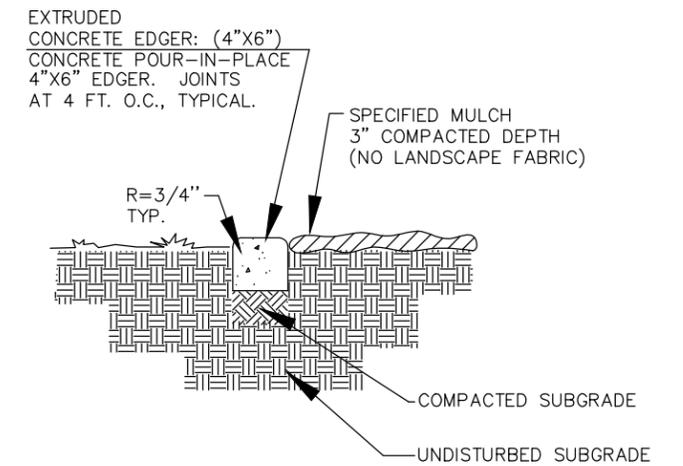
**PUBLIC WORKS  
ENGINEERING DIVISION**

**POMONA PARKING LOT EXTENSION  
LANDSCAPING DETAILS**

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B SHRUB & PERENNIAL PLANTING SECTION  
NOT TO SCALE



C CONCRETE EDGER / STONE MULCH  
NOT TO SCALE

REVISION	DESCRIPTION	DATE	PROJECT NO. E2012-E201202	SCALES: PLAN & PROFILE
REVISION	△		DRAWN BY KA DATE APRIL 2023	
REVISION	△		DESIGNED BY JB DATE APRIL 2023	
REVISION	△		CHECKED BY XXX DATE 201X	
REVISION	△		APPROVED BY XXX DATE 201X	

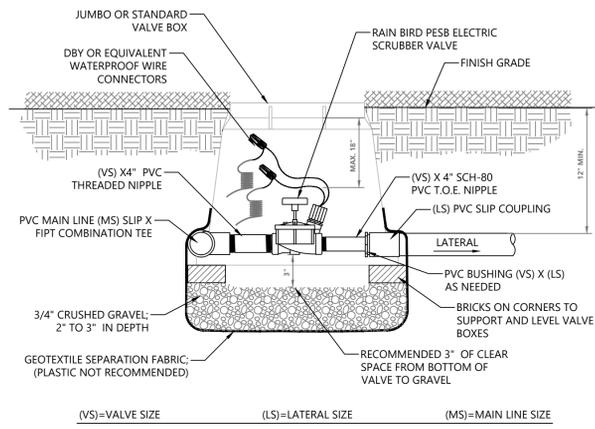


PUBLIC WORKS  
ENGINEERING DIVISION

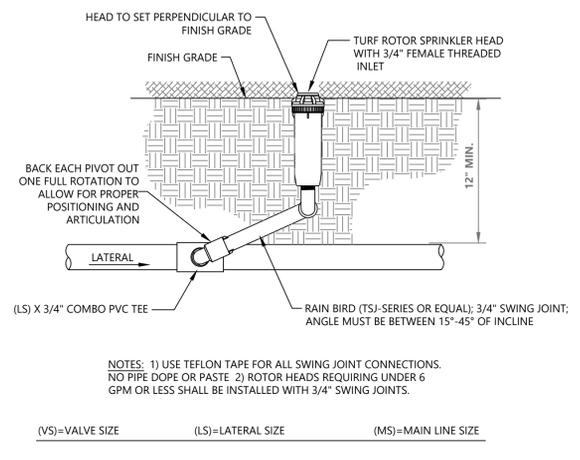
POMONA PARKING LOT EXTENSION  
LANDSCAPING DETAILS



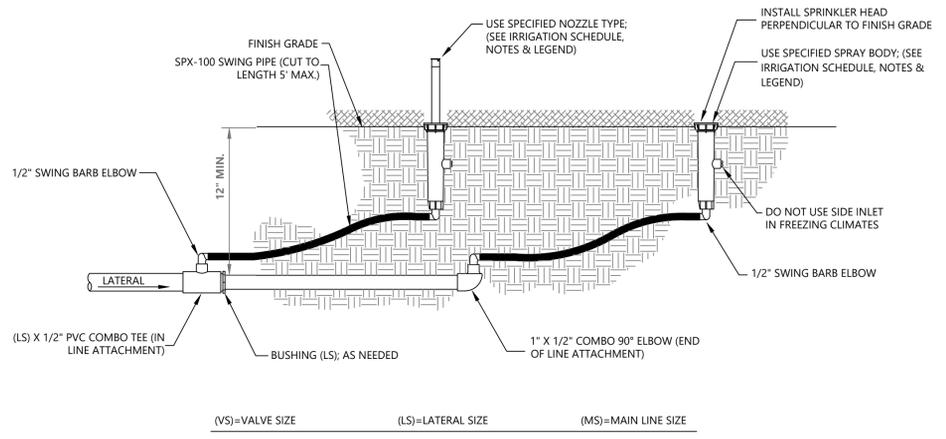




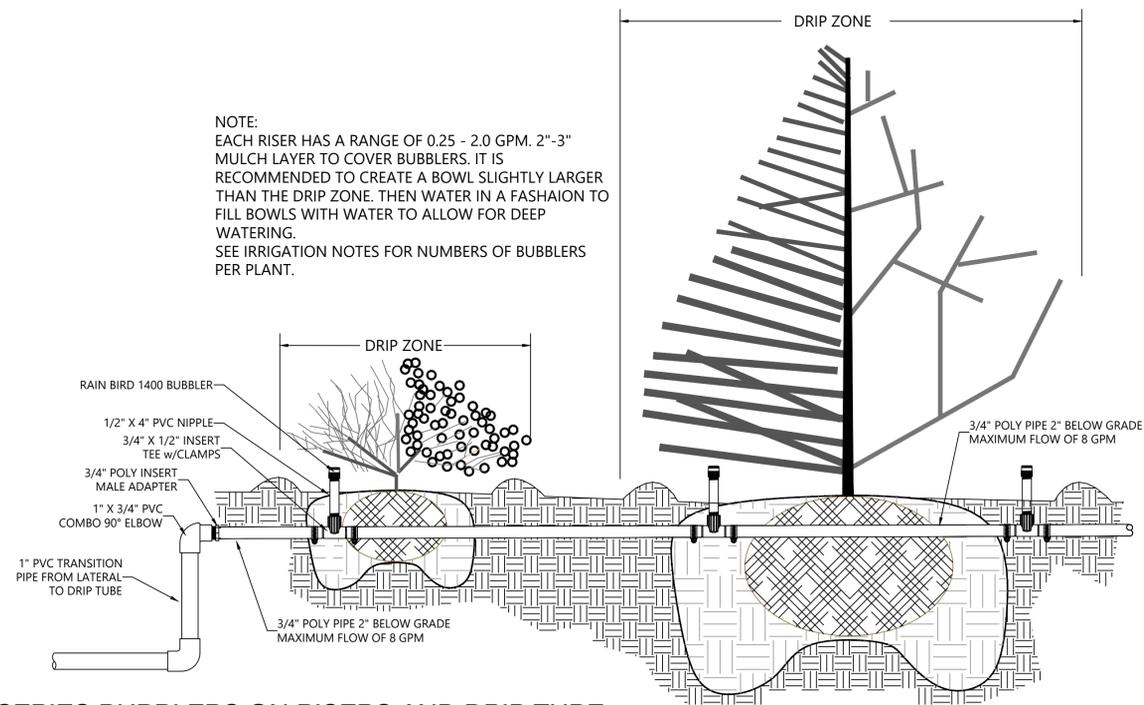
**1** RAIN BIRD PESB SERIES ELECTRIC SCRUBBER VALVE  
 IR-3 N.T.S. DETAIL-FILE



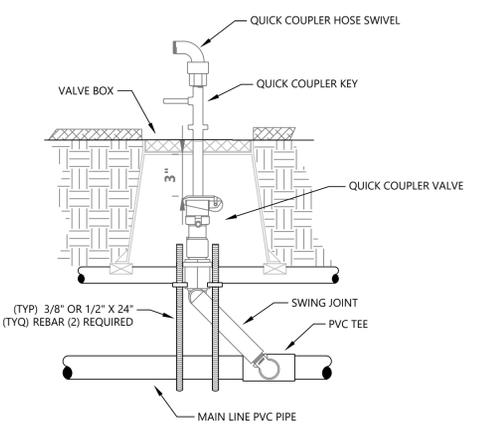
**2** TURF ROTOR ON 3/4\"/>
 IR-3 N.T.S. 1 1/2\"/>



**3** SPRAY BODY ON SWING PIPE  
 IR-3 N.T.S. 1 1/2\"/>



**4** RAIN BIRD 1400 SERIES BUBBLERS ON RISERS AND DRIP TUBE  
 IR-3 N.T.S. DETAIL-FILE



**5** QUICK COUPLER ON SWING JOINT  
 IR-3 N.T.S. 1\"/>

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Date	Revisions:	Designer
07/12/2021		BGV

**FIRE STATION #3**  
 588 25- 1/2 RD  
 GRAND JUNCTION, COLORADO

Project Title:  
**Grand Junction Pipe & Supply**  
 Main Branch  
 2868 I-70 Bus. Loop  
 Grand Jct, CO 81501  
 (970) 243-4604  


Job Status:

<input type="radio"/>	PRELIMINARY
<input checked="" type="radio"/>	FINAL
<input type="radio"/>	FOR PERMIT CONSTRUCTION
<input type="radio"/>	AS-BUILDS

Drawn By: N.C.P.

Designed By: N.C.P.

Checked By: N.C.P.

Design Date: 03-17-2023

Drawing Number: 2023-0003

File Name: 2023-0003 FIRESTATION3 PKG ISLAND EDT\_2.0.DWG

Drawing Scale: N.T.S.

SHEET TITLE: Irrigation Details

Sheet No. IR-3  
 Sheet: 3 OF 3  
  
 CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.