REQUEST FOR PROPOSALS

Item Description: JAMES AHERN PARK IMPROVEMENTS

Date to be opened: JULY 18, 2022 2PM

Issuing Department: PARKS DEPARTMENT

QUESTIONS

- Please direct questions relative to the bidding process, how to fill out forms, and how to submit a bid (Pages 1-8) to Purchasing Agent Patti Jordan.
  - Phone: (401) 680-5264
  - Email: pjordan@providenceri.gov
    - Please use the subject line “RFP Question”
- Please direct questions relative to the Minority and Women’s Business Enterprise Program and the corresponding forms (Pages 9-13) to the MBE/WBE Outreach Director for the City of Providence, Grace Diaz
  - Phone: (401) 680-5766
  - Email: gdiaz@providenceri.gov
    - Please use subject line “MBE WBE Forms”
- Please direct questions relative to the specifications outlined (beginning on page 14) to the issuing department’s subject matter expert:
  - PHIROM KHUN
  - 401-996-4219
  - Pkhun@providenceri.gov

Pre-bid Conference
A Non-Mandatory pre-bid conference will be held on July 6, 2022 at 9AM
James Ahern Park
1 Wallace St, Providence, RI 02909 (site)
INSTRUCTIONS FOR SUBMISSION

Bids may be submitted up to 2:15 P.M. on the above meeting date at the Department of the City Clerk, Room 311, City Hall, 25 Dorrance Street, Providence. At 2:15 P.M. all bids will be publicly opened and read at the Board of Contract Meeting in the City Council Chambers, on the 3rd floor of City Hall.

- Bidders must submit 2 copies of their bid in sealed envelopes or packages labeled with the captioned Item Description and the City Department to which the RFP and bid are related. (On page 1)
- Communications to the Board of Contract and Supply that are not competitive sealed bids (i.e. product information/samples) should have “NOT A BID” written on the envelope or wrapper.
- Only use form versions and templates included in this RFP. If you have an old version of a form do not recycle it for use in this bid.
- The bid envelope and information relative to the bid must be addressed to:

  Board of Contract and Supply
  Department of the City Clerk – City Hall, Room 311
  25 Dorrance Street
  Providence, RI 02903

**PLEASE NOTE: This bid may include details regarding information that you will need to provide (such as proof of licenses) to the issuing department before the formalization of an award.

This information is NOT requested to be provided in your initial bid by design.

All bids submitted to the City Clerk become public record. Failure to follow instructions could result in information considered private being posted to the city’s Open Meetings Portal and made available as a public record. The City has made a conscious effort to avoid the posting of sensitive information on the City’s Open Meetings Portal, by requesting that such sensitive information be submitted to the issuing department only at their request.
BID PACKAGE CHECKLIST
Digital forms are available in the City of Providence Purchasing Department Office or online at http://www.providenceri.gov/purchasing/how-to-submit-a-bid/

The bid package **MUST** include the following, in this order:

- Bid Form 1: Bidder's Blank as the cover page/ 1st page (see page 6 of this document)
- Bid Form 2: Certification of Bidder as 2nd page (see page 7 of this document)
- Bid Form 3: Certificate Regarding Public Records (see page 8 of this document)
- Forms from the Minority and Women Business Enterprise Program: Based on Bidder Category. **See forms and instructions enclosed (pages 9-13) or on:** https://www.providenceri.gov/purchasing/minority-women-owned-business-mbewe-procurement-program/

*Please note: MBE/WBE forms must be completed for EVERY bid submitted and must be inclusive of ALL required signatures. Forms without all required signatures will be considered incomplete.

- Bidder’s Proposal/Packet: Formal response to the specifications outlined in this RFP, including pricing information and details related to the good(s) or service(s) being provided. Please be mindful of formatting responses as requested to ensure clarity.
- Financial Assurance, **if requested** (as indicated on page 5 of this document under “Bid Terms”)

All of the above listed documents are **REQUIRED.** (With the exception of financial assurances, which are only required if specified on page 5.)

***Failure to meet specified deadlines, follow specific submission instructions, or enclose all required documents with all applicable signatures will result in disqualification, or in an inability to appropriately evaluate bids.***
NOTICE TO VENDORS

1. The Board of Contract and Supply will make the award to the lowest qualified and responsible bidder.
2. In determining the lowest responsible bidder, cash discounts based on preferable payment terms will not be considered.
3. Where prices are the same, the Board of Contract and Supply reserves the right to award to one bidder, or to split the award.
4. No proposal will be accepted if the bid is made in collusion with any other bidder.
5. Bids may be submitted on an “equal in quality” basis. The City reserves the right to decide equality. Bidders must indicate brand or the make being offered and submit detailed specifications if other than brand requested.
6. A bidder who is an out-of-state corporation shall qualify or register to transact business in this State, in accordance with the Rhode Island Business Corporation Act, RIGL Sec. 7-1.2-1401, et seq.
7. The Board of Contract and Supply reserves the right to reject any and all bids.
8. Competing bids may be viewed in person at the Department of the City Clerk, City Hall, Providence, immediately upon the conclusion of the formal Board of Contract and Supply meeting during which the bids were unsealed/opened. Bids may also be accessed electronically on the internet via the City’s Open Meetings Portal.
9. As the City of Providence is exempt from the payment of Federal Excise Taxes and Rhode Island Sales Tax, prices quoted are not to include these taxes.
10. In case of error in the extension of prices quoted, the unit price will govern.
11. The contractor will **NOT** be permitted to: a) assign or underlet the contract, or b) assign either legally or equitably any monies or any claim thereto without the previous written consent of the City Purchasing Director.
12. Delivery dates must be shown in the bid. If no delivery date is specified, it will be assumed that an immediate delivery from stock will be made.
13. A certificate of insurance will normally be required of a successful vendor.
14. For many contracts involving construction, alteration and/or repair work, State law provisions concerning payment of prevailing wage rates apply (RIGL Sec. 37-13-1 et seq.)
15. No goods should be delivered or work started without a Purchase Order.
16. **Submit 2 copies of the bid to the City Clerk, unless the specification section of this document indicates otherwise.**
17. Bidder must certify that it does not unlawfully discriminate on the basis of race, color, national origin, gender, gender identity or expression, sexual orientation and/or religion in its business and hiring practices and that all of its employees are lawfully employed under all applicable federal, state and local laws, rules and regulations. (See Bid Form 2.)
BID TERMS

1. Financial assurances may be required in order to be a successful bidder for Commodity or Construction and Service contracts. If either of the first two checkboxes below is checked, the specified assurance must accompany a bid, or the bid will not be considered by the Board of Contract and Supply. The third checkbox indicates the lowest responsible bidder will be contacted and required to post a bond to be awarded the contract.

a) □ A certified check for $_____ must be deposited with the City Clerk as a guarantee that the Contract will be signed and delivered by the bidder.

b) ☑ A bid bond in the amount of 5% per centum (%) of the proposed total price, must be deposited with the City Clerk as a guarantee that the contract will be signed and delivered by the bidder; and the amount of such bid bond shall be retained for the use of the City as liquidated damages in case of default.

c) ☑ A performance and payment bond with a satisfactory surety company will be posted by the bidder in a sum equal to one hundred per centum (100%) of the awarded contract.

d) □ No financial assurance is necessary for this item.

2. Awards will be made within sixty (60) days of bid opening. All bid prices will be considered firm, unless qualified otherwise. Requests for price increases will not be honored.

3. Failure to deliver within the time quoted or failure to meet specifications may result in default in accordance with the general specifications. It is agreed that deliveries and/or completion are subject to strikes, lockouts, accidents and Acts of God.

The following entry applies only for COMMODITY BID TERMS:

4. Payment for partial delivery will not be allowed except when provided for in blanket or term contracts.

The following entries apply only for CONSTRUCTION AND SERVICE BID TERMS:

5. Only one shipping charge will be applied in the event of partial deliveries for blanket or term contracts.

6. Prior to commencing performance under the contract, the successful bidder shall attest to compliance with the provisions of the Rhode Island Worker’s Compensation Act, RIGL 28-29-1, et seq. If exempt from compliance, the successful bidder shall submit a sworn Affidavit by a corporate officer to that effect, which shall accompany the signed contract.

7. Prior to commencing performance under the contract, the successful bidder shall, submit a certificate of insurance, in a form and in an amount satisfactory to the City.
BID FORM 1: Bidders Blank

1. Bids must meet the attached specifications. Any exceptions or modifications must be noted and fully explained.

2. Bidder’s responses must be in ink or typewritten, and all blanks on the bid form should be completed.

3. The price or prices proposed should be stated both in WRITING and in FIGURES, and any proposal not so stated may be rejected. Contracts exceeding twelve months must specify annual costs for each year.

4. Bids SHOULD BE TOTALED so that the final cost is clearly stated (unless submitting a unit price bid), however each item should be priced individually. Do not group items. Awards may be made on the basis of total bid or by individual items.

5. All bids MUST BE SIGNED IN INK.

Name of Bidder (Firm or Individual): ____________________________________________________________

Contact Name: ____________________________

Business Address: ____________________________

Business Phone #: ____________________________

Contact Email Address: ____________________________

Agrees to bid on (Write the “Item Description” here): ____________________________

If the bidder’s company is based in a state other than Rhode Island, list name and contact information for a local agent for service of process that is located within Rhode Island ____________________________

Delivery Date (if applicable): ____________________________

Name of Surety Company (if applicable): ____________________________

Total Amount in Writing*: ____________________________

Total Amount in Figures*: ____________________________

* If you are submitting a unit price bid, please insert “Unit Price Bid”

Use additional pages if necessary for additional bidding details.

_______________________________________________________

Signature of Representation

_______________________________________________________

Title
BID FORM 2: Certification of Bidder
(Non-Discrimination/Hiring)

Upon behalf of ________________________________ (Firm or Individual Bidding), I, ________________________________ (Name of Person Making Certification), being its ________________________________ (Title or “Self”), hereby certify that:

1. Bidder does not unlawfully discriminate on the basis of race, color, national origin, gender, sexual orientation and/or religion in its business and hiring practices.
2. All of Bidder’s employees have been hired in compliance with all applicable federal, state and local laws, rules and regulations.

I affirm by signing below that I am duly authorized on behalf of Bidder, on this __________ day of ___________________ 20__.

______________________________________________
Signature of Representation

______________________________________________
Printed Name
BID FORM 3: Certificate Regarding Public Records

Upon behalf of ____________________________________________ (Firm or Individual Bidding),

I, ______________________________________________ (Name of Person Making Certification),

being its ____________________________________________ (Title or “Self”), hereby certify an understanding that:

1. All bids submitted in response to Requests for Proposals (RFP’s) and Requests for Qualification (RFQ’s), documents contained within, and the details outlined on those documents become public record upon receipt by the City Clerk’s office and opening at the corresponding Board of Contract and Supply (BOCS) meeting.
2. The Purchasing Department and the issuing department for this RFP/RFQ have made a conscious effort to request that sensitive/personal information be submitted directly to the issuing department and only at request if verification of specific details is critical the evaluation of a vendor’s bid.
3. The requested supplemental information may be crucial to evaluating bids. Failure to provide such details may result in disqualification, or an inability to appropriately evaluate bids.
4. If sensitive information that has not been requested is enclosed or if a bidder opts to enclose the defined supplemental information prior to the issuing department’s request in the bidding packet submitted to the City Clerk, the City of Providence has no obligation to redact those details and bears no liability associated with the information becoming public record.
5. The City of Providence observes a public and transparent bidding process. Information required in the bidding packet may not be submitted directly to the issuing department at the discretion of the bidder in order to protect other information, such as pricing terms, from becoming public. Bidders who make such an attempt will be disqualified.

I affirm by signing below that I am duly authorized on behalf of Bidder, on this ___________ day of ___________________ 20__.

__________________________________________________________
Signature of Representation

__________________________________________________________
Printed Name
WBE/MBE Form Instructions

The City of Providence actively seeks Minority and Women business enterprises to participate in bids to meet the City’s procurement needs. Pursuant to the City of Providence Code of Ordinances, Chapter 21, Article II, Sec. 21-52 (Minority and Women’s Business Enterprise) and Rhode Island General Laws (as amended), Chapter 31-14, et seq. (Minority Business Enterprise), Minority Business Enterprise (MBE) and Women’s Business Enterprise (WBE) participation goals apply to contracts.

The goal for Minority Business Enterprise (MBE) participation is 10% of the total bid value.

The goal for Women’s Business Enterprise (WBE) participation is 10% of the total bid value.

The goal for combined MBE/WBE participation is 20% of the total bid value.

Only businesses certified with the State of Rhode Island as minority and/or women business enterprises are counted towards the City’s goals. Eligible minority or women-owned businesses are encouraged to seek certification from the State of Rhode Island Minority Business Enterprise Compliance Office at: http://odeo.ri.gov/offices/mbeco/

Note: MBE certification with the State of Rhode Island on the basis of Portuguese heritage is not currently recognized by the City of Providence's MBE program.

Bid Requirements:

All Bidders: All bidders must complete and submit the MBE/WBE Participation Affidavit indicating whether or not they are a state-certified MBE/WBE and acknowledging the City’s participation goals. Submission of this form is required with every bid. Your bid will not be accepted without an affidavit.

Bidders who will be subcontracting: Bidders who will be subcontracting must submit the Subcontractor Disclosure Form as part of their bid submission. All subcontractors, regardless of MBE/WBE status, must be listed on this form. Business NAICS codes can be found at https://www.naics.com/search/ Awarded bidders are required to submit Subcontractor Utilization and Payment Reports with each invoice.

Waiver Requests:

If the percentage of the total amount of the bid being awarded to MBE or WBE vendors is less than 20% (Box F on the Subcontractor Disclosure Form) and the prime contractor is not a Rhode Island State-certified MBE or WBE, the Bidder must complete the MBE/WBE Waiver Request Form for review. Waivers will be considered on a case by case basis.

No waiver will be granted unless the waiver request includes documentation that demonstrates that the Bidder has made good faith efforts to achieve the City’s stated participation goals. Waivers must be reviewed and signed by the City of Providence’s MBE/WBE Outreach Director, Grace Diaz, or her designee. Department Directors cannot recommend a bidder for award if this form is applicable and absent. If the bid does not meet the participation goals of the City of Providence and a waiver is not filed with the signature of the MBE/WBE Outreach Director or her designee, the bid will not be accepted.

Verifying MBE/WBE Certification

It is the responsibility of the bidder to confirm that every MBE/WBE named in a proposal and included in a contract is certified by the Rhode Island Minority Business Enterprise Compliance office. The current MBE/WBE directory is available at the State of RI MBE Office, One Capitol Hill, 2nd Floor, Providence, RI, or online at http://odeo.ri.gov/offices/mbeco/mbe-wbe.php. You can also call (401) 574-8670 to verify certification, expiration dates, and services that the MBE/WBE is certified to provide. Note: MBE certification with the State of Rhode Island on the basis of Portuguese heritage is not currently recognized by the City of Providence's MBE program.
Form Instructions:
Access all bid forms from http://www.providenceri.gov/oeo/ or http://www.providenceri.gov/purchasing/minority-women-owned-business-mbewbe-procurement-program/. Download the forms as blank PDFs. Once saved on your computer, fill them out using the Adobe program. The fillable PDFs must be completed in Adobe in order to be saved properly. Google Chrome and similar platforms do not allow for the forms to be saved as filled PDFs. Therefore, please download the blank forms to your computer, then fill them out and save.

Assistance with Form Requirements
Examples of completed forms can be found on the City of Providence website at http://www.providenceri.gov/oeo/ or http://www.providenceri.gov/purchasing/minority-women-owned-business-mbewbe-procurement-program/.

Contract Requirements:
Prime contractors engaging subcontractors must submit the Subcontractor Utilization and Payment Report to the City Department’s Fiscal Agent with every invoice and with request for final payment. This form is not submitted as a part of the initial bid package.

For contracts with duration of less than 3 months, this form must be submitted along with the contractor’s request for final payment. The form must include all subcontractors utilized on the contract, both MBE/WBE and non-MBE/WBE, the total amount paid to each subcontractor for the given period and to date. During the term of the contract, any unjustified failure to comply with the MBE/WBE participation requirements is a material breach of contract.

Questions?
For more information or for assistance with MBE/WBE Forms, contact the City of Providence MBE/WBE Outreach Director, Grace Diaz, at mbe-wbe@providenceri.com or (401) 680-5766.
MBE/WBE PARTICIPATION AFFIDAVIT

Item Discussion (as seen on RFP):
_________________________________________________________________________________________________
_________________________________________________________________________________________________
_________________________________________________________________________________________________
_________________________________________________________________________________________________

Prime Bidder: _____________________________________________
Prime Bidder (Company) Phone Number:________________________

Which one of the following describes your business’ status in terms of Minority and/or Woman-Owned Business Enterprise certification with the State of Rhode Island? _____MBE  _____WBE  _____Neither MBE nor WBE

By initialing the following sections and signing the bottom of this document in my capacity as the contractor or an authorized representative of contractor, I make this Affidavit:
It is the policy of the City of Providence that minority business enterprises (MBEs) and women business enterprises (WBEs) should have the maximum opportunity to participate in procurements and projects as prime contractors and vendors. Pursuant to Sec. 21-52 of the Providence Code of Ordinances and Chapter 31-14 et seq. of the Rhode Island General Laws (as amended), MBE and WBE participation goals apply to contracts.

The goal for Minority Business Enterprise (MBE) participation is 10% of the total bid value.
The goal for Women’s Business Enterprise (WBE) participation is 10% of the total bid value.
The goal for combined MBE/WBE participation is 20% of the total bid value.

I acknowledge the City of Providence’s goals of supporting MBE/WBE certified businesses. Initial ___________
If awarded the contract, I understand that my company must submit to the Minority and Women’s Business Coordinator at the City of Providence (MBE/WBE Office), copies of all executed agreements with the subcontractor(s) being utilized to achieve the participation goals and other requirements of the RI General Laws. I understand that these documents must be submitted prior to the issuance of a notice to proceed. Initial ___________

I understand that, if awarded the contract, my firm must submit to the MBE/WBE Office canceled checks and reports required by the MBE/WBE Office on a quarterly basis verifying payments to the subcontractors(s) utilized on the contract. Initial ___________

If I am awarded this contract and find that I am unable to utilize the subcontractor(s) identified in my Statement of Intent, I understand that I must substitute another certified MBE and WBE firm(s) to meet the participation goals. I understand that I may not make a substitution until I have obtained the written approval of the MBE/WBE Office. Initial ___________

If awarded this contract, I understand that authorized representatives of the City of Providence may examine the books, records and files of my firm from time to time, to the extent that such material is relevant to a determination of whether my firm is complying with the City’s MBE/WBE participation requirements. Initial ___________

I do solemnly declare and affirm under the penalty of perjury that the contents of the foregoing Affidavit are true and correct to the best of my knowledge, information and belief.

__________________________________________  ____________________________________________
Signature of Bidder  Printed Name

__________________________________________  __________________________
Company Name  Date
SUBCONTRACTOR DISCLOSURE FORM
Fill out this form only if you WILL SUBCONTRACT with other parties. If you will not subcontract any portion of the proposed bid, do not fill out this form.
Prime Bidder: ________________________________ Primary NAICS________________________________
Code:____________________________________
Item Description (as seen on RFP):______________________________________________________________

Please list all Subcontractors below. Include the total dollar value that you propose to share with each subcontractor and the dollar amount to be subcontracted. Please check off MBE and WBE where applicable. The directory of all state-certified MBE/WBE firms is located at www.mbe.ri.gov. Business NAICS codes can be found at https://www.naics.com/search/

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<tr>
<th>Proposed Subcontractor</th>
<th>MBE</th>
<th>WBE</th>
<th>Primary NAICS Code</th>
<th>Date of Mobilization</th>
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A. MBE SUBCONTRACTED AMOUNT: $  
B. WBE SUBCONTRACTED AMOUNT: $  
C. NON MBE WBE SUBCONTRACTED AMOUNT: $  
D. DOLLAR AMOUNT OF WORK DONE BY THE PRIME CONTRACTOR: $  
E. TOTAL AMOUNT OF BID (SUM OF A, B, C, & D): $  
F. PERCENTAGE OF BID SUBCONTRACTED TO MBEs AND WBEs. (Divide the sum of A and B by E and multiply result by 100). %  

Please read and initial the following statement acknowledging you understand. If the percentage of the total amount of the bid being awarded to MBE or WBE vendors is less than 20% (Box F) and the prime contractor is NOT a Rhode Island State-certified MBE or WBE, you must fill out the MBE/WBE WAIVER REQUEST FORM for consideration by City of Providence MBE/WBE Outreach Director. Initial ________

Signature of Bidder __________________________________________ Printed Name __________________________________________
MBE/WBE Waiver Request Form
Fill out this form only if you are subcontracting and did not meet the 20% MBE/WBE participation goal.
State-certified MBE or WBE Prime Bidders are NOT REQUIRED to fill out this form.

Submit this form to the City of Providence MBE/WBE Outreach Director, Grace Diaz, at mbe-wbe@providenceri.gov, for review prior to bid submission. This waiver applies only to the current bid which you are submitting to the City of Providence and does not apply to other bids your company may submit in the future.

Prime Bidder: __________________________________________________
Company Trade: __________________________________________________

Item Discussion (as seen on RFP):
_______________________________________________________________________________________________

To receive a waiver, you must list the certified MBE and/or WBE companies you contacted, the name of the primary individual with whom you interacted, and the reason the MBE/WBE company could not participate on this project.

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<tr>
<th>MBE/WBE Company Name</th>
<th>Individual's Name</th>
<th>Company Trade</th>
<th>Why did you choose not to work with this company?</th>
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I acknowledge the City of Providence’s goal of a combined MBE/WBE participation is 20% of the total bid value. I am requesting a waiver of ______% MBE/WBE (20% minus the value of Box F on the Subcontractor Disclosure Form). If an opportunity is identified to subcontract any task associated with the fulfillment of this contract, a good faith effort will be made to select MBE/WBE certified businesses as partners.

Signature of Prime Contractor
__________________________________________

Printed Name
______________________________
Date Signed
______________________________

Signature of City of Providence
__________________________________________

Printed Name of City of Providence
______________________________
Date Signed
______________________________

Signature of MBE/WBE Outreach Director
__________________________________________

Printed Name of MBE/WBE Outreach Director
______________________________
Date Signed
______________________________
SUPPLEMENTAL INFORMATION

If the issuing department for this RFP determines that your firm’s bid is best suited to accommodate their need, you will be asked to provide proof of the following prior to formalizing an award.

An inability to provide the outlined items at the request of the department may lead to the disqualification of your bid.

This information is NOT requested to be provided in your initial bid that you will submit to the City Clerk’s office by the “date to be opened” noted on page 1. This list only serves as a list of items that your firm should be ready to provide on request.

All bids submitted to the City Clerk become public record. Failure to follow instructions could result in information considered private being posted to the city’s Open Meetings Portal and made available as a public record.

You must be able to provide:

- Business Tax ID will be requested after an award is approved by the Board of Contract and Supply.
- PROOF OF INSURANCE
BID FORM 3: Supplemental Bid Form

To whom it may concern:

1. The undersigned, having familiarized (himself) (themselves) (itself) with the JAMES AHERN PARK IMPROVEMENTS bid affecting the cost of work, and with the Contract Documents (which includes the Invitation for Bids, Instructions to Bidders, Form of Bid Bond, Form of Agreements, form of Non-Collusive Affidavit, Addenda (if any), Drawings, Technical Specification, Form of Surety Bond(s); as prepared by the Providence Parks Department, and on file in the office of the City Clerk 3rd Floor, City Hall, Providence, RI 02903, hereby proposes to furnish all supervision, technical personnel, labor, materials, machinery, tools, equipment and services including utility and transportation services, and to perform such other required work for the JAMES AHERN PARK IMPROVEMENTS and such other required and incidental work, complete, all in accordance with the above listed documents and for the unit prices for work in-place for the following items and quantities.

2. In submitting this Bid, the bidder understands that the right is reserved by The Providence Parks Department to reject any and all Bids, If written notice of acceptance of this Bid is mailed, telegraphed or delivered to the undersigned within (90) days after the opening thereof, or at any time thereafter before this Bid is withdrawn, the undersigned agrees to execute and deliver an Agreement in the prescribed form and furnish the required bond within (10) days after the Agreement is presented to him/her for signature.

Herewith in accordance with the instructions to Bidders.

3. Attached hereto is an affidavit in proof that the undersigned has not colluded with any person in respect to this. Bid or any bids for the Contractor for which this Bid is submitted. Also attached is a Statement of Bidder’s Qualifications.

4. Application unit prices are contained in the Agreement (established as the result of either a Unit Price Bid or a Supplemental Schedule of Unit Prices), the City of Providence may order the Contractor to proceed with desired changes in the work, the value of such changes to be determined by the measured quantities involved and the application unit prices specified in the Contract.

5. The City of Providence reserves the right to determine the lowest responsible Bidder based on past experience with the City and/or recommendations by City and/or state agencies with an interest in this procurement. The City reserves the right to award the project to the appropriate bidder in the best interest of the City of Providence.

CERTIFICATION OF NON-SEGREGATED FACILITIES

The Bidder certifies that he/she does not maintain or provide for his/her employees any segregated facilities at any of his establishments, and that he/she does not permit his/her employees to perform their services at any location, under his/her control, where segregation facilities are maintained. The Bidder agrees that a breach of this certification will be a violation of the Equal Opportunity Clause in any contract resulting from acceptance of this Bid. As used in this certification, term “segregation facilities” means any waiting rooms, work rooms, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employee which are segregated by explicit directive or are in fact segregated on basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. The Bidder agrees that (except where he/she has obtained identical certification from proposed subcontractors for specific time periods) he/she will obtain identical certification from proposed subcontractor prior to the award of subcontracts exceeding $10,000.00 which are not exempt from provisions of the Equal Opportunity Clause, and that he/she will retain such certifications in his/her files.


DATE ________________________________, 20___
Name of Bidder and Official Address: __________________________________________
Name of Authorized Representative (Contact): ________________________________
By ____________________________________ (Signature)
Title __________________________________________
E-Mail: ________________________________ Phone: ____________________________

Bidder shall indicate, in space provided, the earliest possible Project Start-up Date:

ADDITION: The undersigned acknowledges receipt of the following Addenda, if any, and has included the provisions thereof in this Bid (If Any):

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<tr>
<th>Addendum No.</th>
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Sub-Contractors (If Any):

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<tr>
<th>Name:</th>
<th>Scope of Work:</th>
<th>MBE / WBE</th>
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BASE BID:

James Ahern Park is located in the Silver Lake neighborhood of Providence, at Cumerford and Wallace Streets. The City of Providence is seeking qualified bidders to furnish and install complete irrigation system utilizing existing water source. Furnish and install 8’ HT. heavy duty black vinyl chain link fence sections and improve playground drainage as noted within plans.

BASE BID: The Base Bid scope of work for this project shall include, but not be limited to the following:

- Furnish & Install Complete Irrigation System
- Furnish & Install Water Meter, Backflow Preventer, Dual Check Valve, Drain Valves, Curb Stop and Aluminum Enclosure Box on 4” Concrete Pad

ADD ALTERNATES:

- Furnish & Install 8’ HT. Heavy Duty Black Vinyl Chain Link Fences Behind Goal Posts
- Improve Drainage at Playground
- Improve Infield Mix and Outfield Sod

In addition to stating the Total Base Bid, the bidder shall state Unit Prices for related work listed under each bid item which represents the work items included in the Total Base Bid. The Unit Prices are quoted for computing adjustments to the Base Bid prior to Contract award, as well as during the course of construction, based upon extra work ordered by the City or for work countermanded, reduced or omitted by the City in order to stay within the Project budget.

Base Bid Items and Unit prices are to be Completed prices to be added or deducted on the basis of quantities of work involved, for each item in place in the unit indicated.

All Work Included in this Project Shall be Completed for the lump sum of:

$______________________________

Dollars

($______________________________), TOTAL BASE BID

BIDDER: ___________________________
ADD ALTERNATES:

1. Add Alt # 1 - Furnish & Install 8’ HT. Heavy Duty Black Vinyl Chain Link Fence - Per Lump Sum

_________________________________________________________________________  LS  $______________
price in writing

2. Add Alt # 2 - Drainage Improvements at Playground - Per Lump Sum

_________________________________________________________________________  LS  $______________
price in writing

3. Add Alt # 3 – Infield Mix & Outfield Sod Improvements - Per Lump Sum

_________________________________________________________________________  LS  $______________
price in writing

UNIT PRICES:

1. Furnish & Install Complete Irrigation System as Shown on Sheet L-4 - Per Lump Sum

_________________________________________________________________________  LS  $______________
price in writing

2. Furnish & Install Water Meter, Backflow Preventer, Dual Check Valve, Drain Valves, Curb Stop & Aluminum Enclosure Box (Model# SBBC-75ALHP) on 4” Concrete Pad (Complete)- Per Lump Sum

_________________________________________________________________________  LS  $______________
price in writing

3. Furnish & Install Tree Protection Fence – Per Linear Foot

_________________________________________________________________________  LF  $______________
price in writing

4. Furnish & Install Silt Sock Erosion Control – Per Linear Foot

_________________________________________________________________________  LF  $______________
price in writing

5. Sawcut Existing Asphalt Walk – Per Linear Foot

_________________________________________________________________________  LF  $______________
price in writing

6. Remove & Dispose Existing Asphalt Walk – Per Square Foot

_________________________________________________________________________  SF  $______________
price in writing

BIDDER: _______________________________
7. Excavate 24" Below Grade. Remove & Dispose EWF Mulch & Base Material. Furnish & Install 18” Washed #2 Crushed Stone Base Topped w/ 6” EWF Mulch - Per Lump Sum

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8. Furnish & Install 6” Perforated Pipe w/ Filter Sock – Per Linear Foot

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9. Furnish & Install 12” Catch Basin – Per Each

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10. Furnish & Install 2” Bituminous Walkway Complete – Per Square Foot

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11. Furnish & Install Rip-Rap – Per Cubic Yard

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12. Loam & Hydroseed in all Disturbed Areas – Per Square Foot

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13. Furnish and Install 8’ HT. Heavy Duty Black Vinyl Chain Link Fence - Per Linear Foot

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14. Remove & Dispose Existing Infield Mix @ 6” Depth – Per Square Foot

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15. Furnish & Install Screened Loam @ 6” Depth – Per Cubic Yard

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*price in writing*

16. Furnish & Install Sod – (2) Strips Along Infield and Outfield Line – Per Square Foot

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*price in writing*

**BIDDER:** ________________________________
17. Fine Grade and Seed to Blend Sod Line Into Existing Outfield Turf – Per Square Foot

_______________________________________________ SF $ __________

price in writing

BIDDER: ________________________________

Please note that the list above is not intended to include all items required to complete the base bid scope of work but can and shall be used to adjust the contract prior to or after award – in the best interest of the City of Providence.
BID DOCUMENTS:

The complete set of Bid Documents consists of the Bid Form, Technical Specifications, Minority Participation Forms, and the following Drawings:

DRAWINGS:
- L-1 COVER SHEET
- L-2 EXISTING CONDITIONS & DEMOLITION PLAN
- L-3 GRADING & DRAINAGE PLAN
- L-4 IRRIGATION PLAN
- L-5 IRRIGATION DETAILS
- L-6 CONSTRUCTION DETAILS

TECHNICAL SPECIFICATION:
- 010000 GENERAL REQUIREMENTS
- 015639 TEMPORARY TREE AND PLANT PROTECTION
- 312213 ROUGH GRADING
- 312500 EROSION AND SEDIMENTATION CONTROLS
- 313716.13 RUBBLE-STONE RIPRAP
- 321216 ASPHALT PAVING
- 323113 CHAIN LINK FENCES AND GATES
- 328400 PLANTING IRRIGATION
- 329119 LANDSCAPE GRADING
- 329200 TURF AND GRASSES
- 334200 STORMWATER CONVEYANCE
- ATTACHMENT A: ALUMINUM ENCLOSURE SPECIFICATION

ADDITIONAL INFORMATION REQUIRED WITH BID:
- Qualifications to Perform Work – See Form Below for Information Required
- Minority Participation Forms – 10% MBE / 10 % WBE Goal on this Project
- Addenda (If Any) - Must Be Acknowledged on Bid Form
- Product Information for Items Submitted as ‘Or Equal’ to Specified Materials

PROVISIONS OF THIS PROJECT:
- Upon the Issuance of the Award from the Board of Contract – the City shall issue a Contract to be executed by the City and the vendor incorporating the bid specifications. All Provisions of the Specifications are binding.
- Any Permits Required by the City of Providence and/or State of Rhode Island Shall be Obtained by the Vendor – Permit Fees by the City of Providence Shall be Waived – the State ADA Fee Must be Paid
BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

- The Davis Bacon Act Applies (HUD Projects) – Prevailing Wages Must Be Paid for On Site Hours – On-Site Interviews will be Conducted During the Project – Employees Shall be Advised of the Prevailing Wage Rates Prior to Mobilization on Site
- Certified payrolls Must be Submitted With Pay Requests Including Monthly Utilizations Form
- Performance and Payment Bonds (If Required) Must be Submitted within 10 Days of Award or Bid Bond Will be Forfeited
- An Insurance Certificate Shall be Submitted to the City Within 10 Days of Award
- A Copy of the Vendors Contractor’s License Must be Submitted within 10 Days of Award
- All On-Site Personnel Shall be Licensed (If Required) and Shall have Proof of All Licenses Required by the State of Rhode Island to Perform the Work Required
- Pay Requests Must be Submitted on Approved AIA Billing Documents (City will Provide if Needed)
- All Subcontractors Shall be Listed on the Bid Form – All Insurance & Payroll Requirements Apply
  - General Contractor Shall be the Insurance Certificate Holder and the City Shall be Named as ‘Additionally Insured’ with Respect to Liability Insurance
- A Submittal Log Must be Submitted within 10 Days of Award

CLOSE OUT DOCUMENTS:

- Prior to Final Payment the Vendor Shall Provide the Following:
  - Copies of Permits Signed off and Approved (If Any)
  - Operating Manuals and Warranties Shall Be Transferred and/or Delivered
  - Full and Completed As-Built Drawings Shall be Submitted for Approval
  - Training Shall be Provided to City Personnel (If Required)
  - Certification by Manufactures Representative (If Required)

QUALIFICATIONS:

Qualifications will be evaluated on the basis of similar project experience for:

a. Completion of at least 3 similar projects within the past five years.
b. Size and dollar value of similar completed projects.
c. Contractor’s performance with similar projects. (references will be checked)
d. Relevant experience of individuals assigned to the project.

Questions regarding this bid package shall be submitted via e-mail to Patti Jordan at pjordan@providenceri.gov and Phiron Khun, Supervisor of Project Planning at pkhun@providenceri.gov, no later than five (5) working days before the bid opening date.

Phiron Khun is the project contact and can be reached at 401-996-4219.
This project qualifies for prevailing wages per the Prevailing Wages Statute or the Davis Bacon Act (HUD). Certified payrolls will need to be submitted to the owner for all hours worked on site for this project. The Wage Decision for this project shall be as recorded on the Bid Date and is available on the RI Department of Labor website.

Federal Labor Standards
U.S. Department of Housing & Urban Development

Applicability

The Project of Program to which the Construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A.1. (i) Minimum Wages. All laborers and mechanics employed or working up on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction of development of the project) will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers of mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification or work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conforming under 29 CFT part 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii) (a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contact shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

1. The work to be performed by the classification requested is not performed by a classification in the wage determination; and
2. The classification is utilized in the area by the construction industry; and
3. The proposed wage rate, including any bona fide fringe benefits, bears a relationship to the wage rates contained in the wage determination.
4. If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)
(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much that the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract. HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records. Payrolls and basic record relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) or the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii) (a) The contractor shall submit weekly for each in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor or owner, as the case may be, for transmission to HUD or its designee. The
payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR Part 5.5(a)(3)(i). This information may be submitted in any form desired. Optional Form WH-34 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), Government Printing Office, Washington, Dc 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

(b) Each payroll submitted shall be accompanied by a “Statement of Compliance,” signed by the contractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

1. That the payroll for the payroll period contains the information required to be maintained under 20 CFR Part 5.5(a)(3)(i) and that such information is correct and complete;

2. That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

3. That each laborer or mechanic has been paid not less that the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a property executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the “Statement of Compliance” required by paragraph AA.3. (ii)(b) of this section.

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

The contractor or subcontractor shall make the records required under paragraph A.3. (i) of this section available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR Part 5.12.

4. (i) Apprentices and Trainees. Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprentice program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the age determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeymen’s hourly rate) specified in the contractor’s or subcontractor’s registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice’s level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the even the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by
the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

   (ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid not less than the rate specified in the approved program for the trainee’s level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

   (iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirement of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor will insert in any subcontract the clauses contained in 29 CFR 5.16 through 5.19 and such other clauses as HUD or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all contract clauses in 29 CFR Part 5.5.

7. Contracts termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All ruling and interpretations of the Davis-Bacon and Related Act contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor’s firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR part 24.

   (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act of 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

   (iii) The penalty to making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C., “Federal Housing Administration transaction”, provides in part: “Whoever, for the purpose of …influencing in any way the action of such Administration…makes, utter or publishes any statement, knowing the same to be false…shall be fined not more than $5,000 or imprisoned not more than two years, or both.”
11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. As used in this paragraph, the terms “laborers” and “mechanics” include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of $25 for each calendar day on which such individual was required or permitted to work in excess of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

(3) Withholding for unpaid wages for liquidated damages. HUD or its designees shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, any subcontractor under the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidates damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety

(1) No laborer or mechanic shall be required to work in surrounding or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 (formerly Part 1518) and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54, 83 Stat. 96).

(3) The Contractor shall include the provisions of this Article in every subcontract so that such provisions will be binding on each subcontractor. The Contractor shall take such action with respect to any subcontract as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

Questions regarding this bid shall be sent via e-mail to Phirim Khun at pkhun@providenceri.gov. Questions and responses will be sent to all bidders.
"General Decision Number: RI20220001 06/03/2022

Superseded General Decision Number: RI20210001

State: Rhode Island

Construction Types: Building, Heavy (Heavy and Marine) and Highway

Counties: Rhode Island Statewide.

BUILDING CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories) HEAVY, HIGHWAY AND MARINE CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

| If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022: | . Executive Order 14026 generally applies to the contract. |
| . The contractor must pay all covered workers at least $15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022. |

| If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022: | . Executive Order 13658 generally applies to the contract. |
| . The contractor must pay all covered workers at least $11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022. |

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at https://www.dol.gov/agencies/whd/government-contracts.
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<th>Modification Number</th>
<th>Publication Date</th>
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<td>7</td>
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* ASBE0006-006 06/01/2022

<table>
<thead>
<tr>
<th>Rates</th>
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<tbody>
<tr>
<td>$38.30</td>
<td>25.55</td>
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ASBE0006-008 09/01/2021

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<tr>
<td>$45.00</td>
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BOIL0029-001 01/01/2021

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<td>$45.87</td>
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BRR10003-001 06/01/2020

<table>
<thead>
<tr>
<th>Rates</th>
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<tbody>
<tr>
<td>$42.55</td>
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BRR10003-002 03/01/2020

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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<tr>
<td>$40.78</td>
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BRR10003-003 03/01/2020

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<th>Rates</th>
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<tr>
<td>$34.10</td>
<td>27.88</td>
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CARP0330-001 01/01/2021

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<th>Rates</th>
<th>Fringes</th>
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<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>
CARPENTER (Includes Soft Floor Layer).....................$ 39.72  28.66
Diver Tender..........................$ 40.72  28.66
DIVER......................................$ 51.47  28.66
Piledriver..............................$ 39.72  28.66
WELDER.................................$ 40.72  28.66

FOOTNOTES:

When not diving or tending the diver, the diver and diver tender shall receive the piledriver rate. Diver tenders shall receive $1.00 per hour above the pile driver rate when tending the diver.

Work on free-standing stacks, concrete silos & public utility electrical power houses, which are over 35 ft. in height when constructed: $.50 per hour additional.

Work on exterior concrete shear wall gang forms, 45 ft. or more above ground elevation or on setback: $.50 per hour additional.

The designated piledriver, known as the "monkey": $1.00 per hour additional.

--------------------------------------------------------------------------------
CARP1121-002 01/06/2020

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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<tbody>
<tr>
<td>MILLWRIGHT...............$ 39.07  29.15</td>
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ELEC0099-002 06/02/2021

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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<tbody>
<tr>
<td>ELECTRICIAN.................$ 43.61  54.71%</td>
<td></td>
</tr>
<tr>
<td>Teledata System Installer...$ 32.71  12.57%+14.93</td>
<td></td>
</tr>
</tbody>
</table>

FOOTNOTES:

Work of a hazardous nature, or where the work height is 30 ft. or more from the floor, except when working OSHA-approved lifts: 20% per hour additional.

Work in tunnels below ground level in combined sewer outfall: 20% per hour additional.

--------------------------------------------------------------------------------
ELEV0039-001 01/01/2022

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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</thead>
<tbody>
<tr>
<td>ELEVATOR MECHANIC..........$ 56.91  36.885+a+b</td>
<td></td>
</tr>
</tbody>
</table>

FOOTNOTES:

A. PAID HOLIDAYS: New Years Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

B. Employer contributes 8% basic hourly rate for 5 years or more of service of 6% basic hourly rate for 6 months to 5 years of service as vacation pay credit.
* ENGI0057-001 06/01/2022

<table>
<thead>
<tr>
<th>Group</th>
<th>Rates</th>
<th>Fringes</th>
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</thead>
<tbody>
<tr>
<td>GROUP 1</td>
<td>$43.55</td>
<td>29.25+a</td>
</tr>
<tr>
<td>GROUP 2</td>
<td>$41.55</td>
<td>29.25+a</td>
</tr>
<tr>
<td>GROUP 3</td>
<td>$37.17</td>
<td>29.25+a</td>
</tr>
<tr>
<td>GROUP 4</td>
<td>$34.32</td>
<td>29.25+a</td>
</tr>
<tr>
<td>GROUP 5</td>
<td>$40.60</td>
<td>29.25+a</td>
</tr>
<tr>
<td>GROUP 6</td>
<td>$31.40</td>
<td>29.25+a</td>
</tr>
<tr>
<td>GROUP 7</td>
<td>$25.40</td>
<td>29.25+a</td>
</tr>
<tr>
<td>GROUP 8</td>
<td>$37.25</td>
<td>29.25+a</td>
</tr>
<tr>
<td>GROUP 9</td>
<td>$41.17</td>
<td>29.25+a</td>
</tr>
</tbody>
</table>

**a. BOOM LENGTHS, INCLUDING JIBS:**

- 150 feet and over + $2.00
- 180 feet and over + $3.00
- 210 feet and over + $4.00
- 240 feet and over + $5.00
- 270 feet and over + $7.00
- 300 feet and over + $8.00
- 350 feet and over + $9.00
- 400 feet and over + $10.00

**a. PAID HOLIDAYS:**


**a: Any employee who works 3 days in the week in which a holiday falls shall be paid for the holiday.**

**a. FOOTNOTES:**

- Hazmat work: $2.00 per hour additional.
- Tunnel/Shaft work: $5.00 per hour additional.

**POWER EQUIPMENT OPERATORS CLASSIFICATIONS**

**GROUP 1:** Cranes, lighters, boom trucks and derricks

**GROUP 2:** Digging machine, Ross Carrier, locomotive, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, graders, front end loader (3 yds. and over), vibratory hammer & vacuum truck, roadheaders, forklifts, economobile type equipment, tunnel boring machines, concrete pump and on site concrete plants.

**GROUP 3:** Oilers on cranes.

**GROUP 4:** Oiler on crawler backhoe.

**GROUP 5:** Bulldozer, bobcats, skid steer loader, tractor, scraper, combination loader backhoe, roller, front end loader (less than 3 yds.), street and mobile-powered...
sweeper (3-yd. capacity), 8-ft. sweeper minimum 65 HP).

GROUP 6: Well-point installation crew.

GROUP 7: Utility Engineers and Signal Persons

GROUP 8: Heater, concrete mixer, stone crusher, welding machine, generator and light plant, gas and electric driven pump and air compressor.

GROUP 9: Boat & tug operator.

----------------------------------------------------------------

ENGI0057-002 05/01/2022

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Equipment Operator (highway construction projects; water and sewerline projects which are incidental to highway construction projects; and bridge projects that do not span water)</td>
<td></td>
</tr>
<tr>
<td>GROUP 1....................$ 36.70     29.25+a</td>
<td></td>
</tr>
<tr>
<td>GROUP 2....................$ 31.40     29.25+a</td>
<td></td>
</tr>
<tr>
<td>GROUP 3....................$ 25.40     29.25+a</td>
<td></td>
</tr>
<tr>
<td>GROUP 4....................$ 31.98     29.25+a</td>
<td></td>
</tr>
<tr>
<td>GROUP 5....................$ 35.68     29.25+a</td>
<td></td>
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<tr>
<td>GROUP 6....................$ 35.30     29.25+a</td>
<td></td>
</tr>
<tr>
<td>GROUP 7....................$ 30.95     29.25+a</td>
<td></td>
</tr>
<tr>
<td>GROUP 8....................$ 32.33     29.25+a</td>
<td></td>
</tr>
<tr>
<td>GROUP 9....................$ 34.28     29.25+a</td>
<td></td>
</tr>
</tbody>
</table>

a. FOOTNOTE: a. Any employee who works three days in the week in which a holiday falls shall be paid for the holiday.


POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Digging machine, crane, piledriver, lighter, locomotive, derrick, hoist, boom truck, John Henry's, directional drilling machine, cold planer, reclaimer, paver, spreader, grader, front end loader (3 yds. and over), vacuum truck, test boring machine operator, veemere saw, water blaster, hydro-demolition robot, forklift, economobile, Ross Carrier, concrete pump operator and boats

GROUP 2: Well point installation crew

GROUP 3: Utility engineers and signal persons

GROUP 4: Oiler on cranes

GROUP 5: Combination loader backhoe, front end loader (less than 3 yds.), forklift, bulldozers & scrapers and boats

GROUP 6: Roller, skid steer loaders, street sweeper

GROUP 7: Gas and electric drive heater, concrete mixer, light plant, welding machine, pump & compressor
GROUP 8: Stone crusher

GROUP 9: Mechanic & welder

----------------------------------------------------------------

* ENGI0057-003 06/01/2022

BUILDING CONSTRUCTION

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
</tr>
</thead>
<tbody>
<tr>
<td>$42.82</td>
<td>29.25+a</td>
</tr>
<tr>
<td>$40.82</td>
<td>29.25+a</td>
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<tr>
<td>$40.60</td>
<td>29.25+a</td>
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<tr>
<td>$36.60</td>
<td>29.25+a</td>
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<tr>
<td>$33.75</td>
<td>29.25+a</td>
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<tr>
<td>$39.90</td>
<td>29.25+a</td>
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<tr>
<td>$39.47</td>
<td>29.25+a</td>
</tr>
<tr>
<td>$36.79</td>
<td>29.25+a</td>
</tr>
</tbody>
</table>

a.Boom lengths, including jibs:

150 ft. and over: + $ 2.00
180 ft. and over: + $ 3.00
210 ft. and over: + $ 4.00
240 ft. and over: + $ 5.00
270 ft. and over: + $ 7.00
300 ft. and over: + $ 8.00
350 ft. and over: + $ 9.00
400 ft. and over: + $10.00


a. Footnote: Hazmat work: $2.00 per hour additional.
    Tunnel/Shaft work: $5.00 per hour additional.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, lighters, boom trucks and derricks.

GROUP 2: Digging machine, Ross carrier, locomotive, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, front end loader (3 yds. and over), vibratory hammer and vacuum truck

GROUP 3: Telehandler equipment, forklift, concrete pump & on-site concrete plant

GROUP 4: Fireman & oiler on cranes

GROUP 5: Oilier on crawler backhoe

GROUP 6: Bulldozer, skid steer loaders, bobcats, tractor, grader, scraper, combination loader backhoe, roller, front end loader (less than 3 yds.), street and mobile powered sweeper (3 yds. capacity), 8-ft. sweeper (minimum 65 hp)

GROUP 7: Well point installation crew
GROUP 8: Heater, concrete mixer, stone crusher, welding machine, generator for light plant, gas and electric driven pump & air compressor

IRON0037-001 09/16/2021

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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<tbody>
<tr>
<td>IRONWORKER ....................... $38.21</td>
<td>30.58</td>
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LABO0271-001 05/30/2021

BUILDING CONSTRUCTION

<table>
<thead>
<tr>
<th>Rates</th>
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<tbody>
<tr>
<td>LABORER</td>
<td></td>
</tr>
<tr>
<td>GROUP 1 ....................... $33.55</td>
<td>26.15</td>
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<td>GROUP 2 ....................... $33.80</td>
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<td>GROUP 3 ....................... $34.30</td>
<td>26.15</td>
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<tr>
<td>GROUP 4 ....................... $34.55</td>
<td>26.15</td>
</tr>
<tr>
<td>GROUP 5 ....................... $35.55</td>
<td>26.15</td>
</tr>
</tbody>
</table>

LABORERS CLASSIFICATIONS

GROUP 1: Laborer, Carpenter Tender, Mason Tender, Cement Finisher Tender, Scaffold Erector, Wrecking Laborer, Asbestos Removal [Non-Mechanical Systems]

GROUP 2: Asphalt Raker, Adzemen, Pipe Trench Bracer, Demolition Burner, Chain Saw Operator, Fence & Guard Rail Erector, Setter of Metal Forms for Roadways, Mortar Mixer, Pipelayer, Riprap & Dry Stonewall Builder, Highway Stone Spreader, Pneumatic Tool Operator, Wagon Drill Operator, Tree Trimmer, Barco-Type Jumping Tamper, Mechanical Grinder Operator

GROUP 3: Pre-Cast Floor & Roof Plank Erectors

GROUP 4: Air Track Operator, Hydraulic & Similar Self-Powered Drill, Block Paver, Rammer, Curb Setter, Powderman & Blaster

GROUP 5: Toxic Waste Remover

LABO0271-002 05/30/2021

HEAVY AND HIGHWAY CONSTRUCTION

<table>
<thead>
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<th>Rates</th>
<th>Fringes</th>
</tr>
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<tbody>
<tr>
<td>LABORER</td>
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<tr>
<td>COMPRESSED AIR</td>
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</tr>
<tr>
<td>Group 1 ....................... $53.45</td>
<td>24.15</td>
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<tr>
<td>Group 2 ....................... $50.98</td>
<td>24.15</td>
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<td>Group 3 ....................... $40.50</td>
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<td>FREE AIR</td>
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<td>Group 1 ....................... $44.05</td>
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<td>Group 2 ....................... $43.05</td>
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<tr>
<td>Group 3 ....................... $40.50</td>
<td>24.15</td>
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<tr>
<td>LABORER</td>
<td></td>
</tr>
<tr>
<td>Group 1 ....................... $33.55</td>
<td>24.15</td>
</tr>
<tr>
<td>Group 2 ....................... $33.80</td>
<td>24.15</td>
</tr>
<tr>
<td>Group 3 ....................... $34.55</td>
<td>24.15</td>
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</tbody>
</table>
Group 4........................$ 27.05  24.15
Group 5........................$ 35.55  24.15

OPEN AIR CAISSON,
UNDERPINNING WORK AND
BORING CREW
Bottom Man...................$ 39.55  24.15
Top Man & Laborer...........$ 38.60  24.15

TEST BORING
Driller.......................$ 40.00  24.15
Laborer......................$ 38.60  24.15

LABORER CLASSIFICATIONS

GROUP 1:  Labormer; Carpenter tender; Cement finisher tender;
Wrecking laborer; Asbestos removers [non-mechanical
systems]; Plant laborer; Driller in quarries

GROUP 2:  Adzeperson; Asphalt raker; Barcotype jumping
tamper; Chain saw operators; Concrete and power buggy
operator; Concrete saw operator; Demolition burner; Fence
and guard rail erector; Highway stone spreader; Laser beam
operator; Mechanical grinder operator; Mason tender; Mortar
mixer; Pneumatic tool operator; Riprap and dry stonewall
builder; Scaffold erector; Setter of metal forms for
roadways; Wagon drill operator; Wood chipper operator;
Pipelayer; Pipe trench bracer

GROUP 3:  Air track drill operator; Hydraulic and similar
powered drills; Brick paver; Block paver; Rammer and curb
setter; Powderperson and blaster

GROUP 4:  Flagger & signaler

GROUP 5:  Toxic waste remover

LABORER - COMPRESSED AIR CLASSIFICATIONS

GROUP 1:  Mucking machine operator, tunnel laborer, brake
person, track person, miner, grout person, lock tender,
gauge tender, miner: motor person & all others in
compressed air

GROUP 2:  Change house attendant, powder watchperson, top
person on iron

GROUP 3:  Hazardous waste work within the ""HOT"" zone

LABORER - FREE AIR CLASSIFICATIONS

GROUP 1:  Grout person - pumps, brake person, track person,
form mover & stripper (wood & steel), shaft laborer,
laborer topside, outside motorperson, miner, conveyor
operator, miner welder, heading motorperson, erecting
operator, mucking machine operator, nozzle person,
rodperson, safety miner, shaft & tunnel, steel & rodperson,
mole nipper, concrete worker, form erector (wood, steel and
all accessories), cement finisher (this type of work only),
top signal person, bottom person (when heading is 50' from
shaft), burner, shield operator and TBM operator

GROUP 2:  Change house attendant, powder watchperson

GROUP 3:  Hazardous waste work within the ""HOT"" zone
### Painter Rates and Fringes

**PAINT0011-005 06/01/2021**

<table>
<thead>
<tr>
<th>Rates</th>
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<tbody>
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<td><strong>PAINTER</strong></td>
<td></td>
</tr>
<tr>
<td>Brush and Roller............</td>
<td>$36.42</td>
</tr>
<tr>
<td>Epoxy, Tanks, Towers, Swing Stage &amp; Structural Steel ..................</td>
<td>$38.42</td>
</tr>
<tr>
<td>Spray, Sand &amp; Water Blasting ..................</td>
<td>$39.42</td>
</tr>
<tr>
<td>Taper ..................</td>
<td>$37.17</td>
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<tr>
<td>Wall Coverer ..................</td>
<td>$36.92</td>
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**PAINT0011-006 06/01/2021**

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<tbody>
<tr>
<td><strong>GLAZIER</strong>..........................</td>
<td>$39.98</td>
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</tbody>
</table>

**FOOTNOTES:**

SWING STAGE: $1.00 per hour additional.

PAID HOLIDAYS: Labor Day & Christmas Day.

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**PAINT0011-011 06/01/2021**

<table>
<thead>
<tr>
<th>Rates</th>
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<tbody>
<tr>
<td><strong>Painter (Bridge Work)</strong>...........</td>
<td>$54.00</td>
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**PLAS0040-001 06/03/2019**

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<tbody>
<tr>
<td><strong>CEMENT MASON/CONCRETE FINISHER</strong>...</td>
<td>$36.00</td>
</tr>
</tbody>
</table>

**FOOTNOTE:** Cement Mason: Work on free swinging scaffolds under 3 planks width and which is 20 or more feet above ground and any offset structure: $.30 per hour additional.

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**PLAS0040-003 07/01/2019**

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FOOTNOTES:


B. Employee who has been on the payroll for 1 year or more but less than 5 years and has worked 150 Days during the last year of employment shall receive 1 week's paid vacation; 5 to 10 years - 2 weeks' paid vacation; 10 or more years - 3 week's paid vacation.

C. Employees on the seniority list shall be paid a one hundred dollar ($100.00) bonus for every four hundred (400) hours worked, up to a maximum of five hundred dollars ($500.00)

All drivers working on a defined hazard material job site shall be paid a premium of $2.00 per hour over applicable
TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Pick-up trucks, station wagons, & panel trucks

GROUP 2: Two-axle on low beds

GROUP 3: Two-axle dump truck

GROUP 4: Three-axle dump truck

GROUP 5: Four- and five-axle equipment

GROUP 6: Low-bed or boom trailer.

GROUP 7: Trailers when used on a double hook up (pulling 2 trailers)

GROUP 8: Special earth-moving equipment, under 35 tons

GROUP 9: Special earth-moving equipment, 35 tons or over

GROUP 10: Tractor trailer

----------------------------------------------------------------

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

================================================================

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

----------------------------------------------------------------

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular
rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.
WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

================================================================
END OF GENERAL DECISIO"
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### SPECIFICATIONS GROUP

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#### Site and Infrastructure Subgroup

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<td>STORMWATER CONVEYANCE</td>
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</tbody>
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SECTION 010000 - GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 All work done under this Contract shall also be in conformance with the Drawings and these Supplemental Technical Specifications.

A. SCOPE OF WORK

1. The general summary of work to be done under this contract consists of, but shall not be limited, to the following as shown in the Contract Documents:

B. WORK COVERED BY CONTRACT DOCUMENTS

C. The Contractor shall execute the scope of work indicated on Plans and Specifications to enhance the use and operations of the site as shown within the project limits.

D. Work shall be as specifically indicated, shown or described in the Drawings, Technical Specifications, and other Contract Documents.

E. PROJECT INFORMATION

1. OWNER
   a. City of Providence Parks Department Roger Williams Park Dalrymple Boathouse, 1000 Elmwood Avenue, Providence, RI 02905, Telephone: 401.680.7200
   b. Superintendent of Parks: Wendy Nilsson

2. OWNER’S REPRESENTATIVE
   a. Sam Greenwood - 401-749-6314 - sgreenwood@providenceri.gov

1.2 PROJECT LOCATION

A. Prete-Metcalf Field - 504 Charles St, Providence, RI 02904

PART 2 - PRODUCTS

2.1 CONTRACTOR USE OF PREMISES

A. The Contractor’s use of premises shall be within the limits shown on the Drawings and as defined in the Standard Form of Agreement, for the performance of the Work.

1. The Contractor shall maintain vehicular access and utility service to the abutting properties at all times throughout the course of the construction.
2. The Contractor shall assume full responsibility for security of all materials and equipment on the site, including those of the subcontractors.
3. If directed by the Owner’s Representative, the Contractor shall relocate or move any stored items that interfere with operations of the Owner.
4. The Contractor may elect to obtain (at no cost to the Owner) additional storage or work areas off-site if needed to perform the work.

2.2 OWNER OCCUPANCY REQUIREMENTS

A. The Owner (City) anticipates that site inclusive of all on-site amenities beyond the Limit of Work will remain open throughout the course of construction.

B. Contractor shall provide the Owner’s Representative with a written plan describing the sequences and durations anticipated for the execution of the Work.

2.3 MOBILIZATION, SITE PREPARATION, & DEMOLITION

A. THE WORK SPECIFIED IN THIS SECTION INCLUDES:

1. Mobilization of all personnel and equipment;
2. Preparing the construction site for construction operations;
3. Materials to be removed and legally disposed of off site.
4. When applicable, verifying and utilizing survey control points as shown on the Drawings
5. Protecting existing site features to remain, such as fences, trees, shrubs and grassed areas outside the limit of work.
6. Protecting underground and overhead utilities and other existing facilities from damage.
7. Where applicable, provisions for site access and of traffic control.
8. At cessation of site improvement operations: Site clean-up
9. De-mobilization of all personnel and equipment.

2.4 CONSTRUCTION STAGING/STOCKPILE AREAS

A. Staging areas within the Park is permitted as shown on the Plans with the prior consent of and coordination with the Owner.

B. Restoration of the site to pre-existing condition shall be the sole responsibility of the Contractor.

2.5 MATERIALS AND EQUIPMENT:

A. Materials to be Removed and Stockpiled.

1. Materials directed to be removed and stockpiled shall be removed, transported to and stacked in a location directed by the Owner’s Representative. All materials shall be neatly stacked as directed.
2. If the Owner’s Representative determines that any part of the materials identified to be stockpiled are unsuitable for re use on the site or by the Owner elsewhere, such materials shall be evaluated for legal disposal by Owner's Representative and Contractor.

B. Signs: Conform to requirements of Temporary Facilities and Controls.
C. Temporary Site Protection: Temporary chain-link fence, if so desired shall be furnished, installed and maintained at no additional cost to the Owner. At the completion of all work at the site, the Contractor shall remove all temporary fencing and restore the site to its original condition at no additional cost to the Owner.

2.6 TEMPORARY CONSTRUCTION FACILITIES AND UTILITIES

A. Make arrangements with the Owner's Representative for storage of materials and equipment in designated locations at the construction site. If staged on site, materials shall be secured from vandalism and or theft.

B. Plastic construction fence or snow fencing if installed shall be maintained in good condition. Provide barricades, barrels, fencing and/or other barriers around excavations and trenches as required for safety. Upon completion, temporary fencing shall be removed and the affected area restored existing condition.

2.7 SITE MAINTENANCE

A. Control dust from Contractor operations in accordance with specified dust control measures.

B. Maintain the Site during construction in a manner that will not obstruct use on neighborhood streets. Proceed with the work in an orderly manner, maintaining the construction site free of debris and unnecessary equipment or materials.

C. Legally dispose of all debris, rubbish, hazardous materials, oil, and grease in accordance with local ordinances.

D. Maintain safety and security of the construction site and any stockpiled or staged materials or equipment if left on site.

2.8 TRAFFIC CONTROL

A. For all of his operations, the Contractor shall provide appropriate traffic control in accordance with, TEMPORARY FACILITIES AND CONTROLS. The purposes of the traffic control are 1) to ensure that operations in the project area are performed in a safe and orderly manner, and 2) to minimize the impact of truck and equipment traffic and noise on adjacent homes near the project area. The Contractor shall be responsible for obtaining any and all required permits and approvals.

B. Police Details, if required by the City, shall be paid directly to and coordinated with Providence Public Safety by the Owner.

2.9 DEMOBILIZATION

A. Contractor shall be responsible for site security and safety at all times. Upon substantial completion of the work, Contractor shall remove all excess materials, equipment, construction debris, temporary facilities and construction measures (fencing, signs, barriers, etc.) from the
project area, and shall leave the site in suitable condition for full occupancy and use by the Owner. The sedimentation and erosion controls installed as part of the Work may not necessarily be removed at this time (see below).

B. The Owner’s Representative shall be the sole judge of whether the site has been suitably cleaned.

C. Upon suitable stabilization of all disturbed “erodible” areas (e.g. acceptable level of grass growth in loamed and seeded areas, mulch applied and stable in planting areas, etc.), contractor shall remove and legally dispose of all sedimentation and erosion control measures (silt fence, hay bales, catch basin inserts, etc.). See Section 024119 Selective Demolition and 329200 Turf and Grasses for directives and procedures.

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS

A. The construction site entrance shall be as indicated on the plans. The Owner will provide access to any locked gate. Any tracked debris from the site present on adjacent roadways shall be removed and the roads swept daily to remove any excess mud, dirt, or rock originating from the site. Trucks hauling material shall be covered and equipped with gates that prevent material from falling out. If present, catch basins within 100 feet of site entry and exit locations shall be protected with inlet sediment control devices and maintained for the duration of the work.

B. Identify, clearly mark and protect all survey monuments, temporary bench marks as well as any adjacent contractors’ work and facilities (if applicable). Repair or replacement shall be at Contractor’s sole expense if damaged by Contractor.

C. Protect existing culverts, sewers, and all other utilities including gas, telecommunications, electricity, and water. Repair or replace at Contractor’s sole expense if damaged by Contractor.

D. Utilize or install drum or sawhorse barricades or backfill all open excavations, holes, trenches, and depressions occurring at construction sites or occurring as part of this work.

3.2 CHANGE ORDER PROCEDURE

A. DESCRIPTION

1. The Contractor shall comply with this procedure in the process of giving notification of change and preparing and submitting a proposal for adjustment due to a desired, perceived, or actual change in the work. Changes in the work, or period of performance of the work, may be directed in writing by the Owner's Representative or may be requested by the Contractor. In either case, payment for work accomplished under a modification may not be made until a formal contract modification, incorporating the change into the contract, has been issued and executed. Therefore, it is incumbent upon the Contractor to comply fully with this procedure and to expedite the resolution of changes.
3.3 CHANGE SUBMITTALS

A. When requested, the Contractor shall submit the following to the Owner's Representative in accordance with the Submittals procedures described in these specifications:

1. Proposal cover letter on Contractor's letterhead;
2. Detailed price proposal;
3. Drawings or other explanatory data; and
4. Time extension statement with justification if any time extension is requested.

3.4 COMPLIANCE

A. The Contractor shall take such measures as needed to assure familiarity and compliance by its staff with these procedures. If change proposals are incomplete, unclear, or ambiguous or are not supported by adequate documentation, the data will be returned and the Contractor shall resubmit or supplement the proposal as requested by the Owner's Representative. Delay resulting from the Contractor's noncompliance with this procedure shall not in itself constitute the basis for an extension in the time of performance under the contract.

3.5 PROCESSING CHANGES INITIATED BY THE OWNER’S REPRESENTATIVE

A. The Owner’s Representative will initiate changes only in writing. The Owner will sign any Request for Proposal (RFP). This will establish an Extra Work Order (EWO) number, by which the change will be identified until such time as it may be incorporated into the contract by formal Change Order (CO).

B. The Contractor may or may not be authorized to proceed with the changed work pending resolution of changes in the contract price or time of performance. If the work described in the RFP becomes critical to the timely performance of the Contractor's work, a written request for a Notice to Proceed must be forwarded to the Owner immediately. The Owner will issue any Notice to Proceed. This unilateral modification to the contract may be subject to further negotiation regarding price and time for completion.

C. Payment for changed work, covered by an authorized modification, will not be made until a notice to proceed covering the changed work has been executed.

D. The Contractor shall prepare and submit its proposal for change to include at a minimum:

1. A cover letter referencing the EWO number and citing the attachments, if any, which constitute the Contractor's total proposal.
2. A detailed price proposal showing labor, construction equipment, and material quantities and prices at the lowest practical level of each element of the work.
3. Any drawings, sketches, catalog cuts, samples, certifications, or other data required to be submitted by the Owner’s Representative that is required to fully document
4. A statement of the proposed change in the time of completion of the contract, together with all required justification for such a change.
5. A statement to the effect that there is "no change in price and/or time of completion of the work under this contract as a result of this proposed change”, if that is the case.
E. The Owner may accept the Contractor's proposal without negotiation. Alternatively, upon receipt of a proposal which is satisfactory in form, the Owner’s Representative may require negotiation with the Contractor to arrive at a fair and equitable change in the contract price and time of completion. Upon agreement, a contract modification will be issued by the Owner for Contractor's execution.

3.6 PROCESSING CHANGES INITIATED BY THE CONTRACTOR

A. Should the Contractor feel that a change to the work under the contract, or to the contract itself, is necessary or desirable, it shall propose such a change to the Owner’s Representative. This proposed change shall include a clear and concise description of the proposed change, along with that information cited in above.

B. Within a reasonable time, the Owner’s Representative will review the Contractor's proposal and determine if the proposed change is in the Owner's best interest. If so, Contractor will be advised of this and an EWO number will be assigned to Contractor's proposal.

3.7 EXECUTING CHANGED WORK

A. The Contractor is cautioned not to proceed with the work described in a proposed change until it is authorized to do so in writing by the Owner’s Representative.

3.8 TERMINATIONS AND DELAYS

A. Termination of Contract: If the Contractor or any of his/her subcontractors refuses or fails to prosecute the work with such diligence as will insure its completion within the time specified in these Contract Documents, or as modified, as provided for in these Contract Drawings, or violates any other Provisions of this Contract, the Local Public Agency, Local Public Agency, City, by written notice to the Contractor, may terminate the Contractor’s right to proceed with the Work. Upon such termination, the City of Providence may take over the work and prosecute the same to completion, by contract or otherwise, and the Contractor and his/her sureties shall be liable to the City of Providence for any additional cost incurred by the City of Providence in its completion of the work and they shall also be liable to the City of Providence for liquidated damages for any delay in the completion of the work as provided below. work and they shall also be liable to the City of Providence for liquidated damages for any delay in the completion of the work as provided below. work. If the Contractor’s right to proceed is so terminated, the Local Public Agency Local Public Agency City may take possession of and utilize in completing the work such materials, tools, equipment, and plants as may be on the site of the work and necessary thereof. Project work must commence 30 days after award of Contract or as mutually agreed upon by the Contractor and the Owner. The Contractor is required to submit a Work Schedule including all items included in the scope of work. The Work Schedule shall mirror the Schedule of Values which should be in chronological order. Both items are identified in the standard Pre-Bid and Pre-Construction Meeting Minutes as required. The work shall be continuous and the Contractor shall staff the project appropriately to meet the agreed upon work schedule. De- Mobilization from the project, prior to completion, must be agreed upon in writing by the Owner.
3.9 INSPECTION OF WORK

A. DESCRIPTION

1. Work included in this Section consists of periodic observation of construction of the project. The Contractor's work shall be monitored periodically by the Owner’s Representative.

2. The Owner’s Representative presence on site or construction observation work is inspectional in nature and will not include supervision or direction of the actual work of the contractor.

3. In no event will the Owner’s Representative be responsible or liable for the contractor’s use or administration of personnel, machinery, staging, or other temporary or precautionary construction, safety precautions or procedures, or for compliance by the contractor with the provisions, terms, or specifications of the contract. Observation services provided by the Owner’s Representative are solely for the benefit of the Owner.

4. The Contractor shall keep the Owner’s Representative informed concerning the work status and projected work schedule through regular communications.

5. The Contractor shall not cover any work related to the required field visits until one of the following occurs:
   a. The Contractor is authorized by the Owner’s Representative to proceed after the field visit.
   b. The field visit is re-scheduled by the Owner’s Representative to a later construction event.
   c. The field visit is waived in writing by the Owner’s Representative.

6. The Contractor shall request a Final Inspection seven calendar days in advance of the planned completion date. After review of the Notice of Completion, the Owner’s Representative may reject the Notice for cause or schedule the Final Inspection. The Owner’s Representative will perform its Final Inspection on all phases of the work and develop a comprehensive punch list, which will be provided to the Contractor.

7. The Final Inspection will be scheduled when the punch list items discovered during the Final Inspection have been corrected. If discovered, the Owner’s Representative may add new items to the punch list at this inspection.

8. The Contractor is advised that the Owner’s Representative will not accept the work until the Owner’s Representative determines Substantial Completion has been achieved. Therefore, to minimize its risk, the Contractor should schedule its work to be substantially complete in time to allow the Final Inspection and punch list work to occur in advance of the Project Close Out Date. Due to the construction time period and the anticipated weather conditions, substantially complete will be defined as the completion of construction for all item and the temporary stabilization of all disturbed areas, excluding planting and final seeding. Planting and final seeding is to occur during the time periods specified.

9. Nothing in this Section shall be construed to limit the Owner’s Representative right to inspect the work at any time.

3.10 CONSTRUCTION SCHEDULES

A. DESCRIPTION

1. Work included in this Section consists of preparation, submittal, and updating of the project.
3.11 CONSTRUCTION SCHEDULE

A. Submit the following to the Owner’s Representative in accordance with the Submittals Section. Submittals are for the record or approval as indicated.

1. The proposed construction schedule shall be submitted for approval within five (5) calendar days after receipt of Notice to Proceed.
2. Submit contract Weekly Summary Reports to the Owner’s Representative for the record at weekly site meeting at request by the Owner.
3. Submit construction progress schedule including a two week look ahead as back up to progress invoices.

B. The construction schedule shall show all work activities for completion of the work to be performed under this contract and will reflect Contractor's general sequential approach to the work. The construction schedule will be in a bar chart format. The minimum level of detail (number of activities) shall include the activities described in the Schedule of Values and the Scope of the Work. The construction schedule shall demonstrate completion of all work within the period of performance of the contract in a reasonable and achievable manner.

3.12 PERIODIC SCHEDULE UPDATES

A. The Contractor shall support monthly payment requests with an approved construction schedule marked to indicate progress. Submit updated schedule as necessary.

B. When in the opinion of the Owner’s Representative changes in the work occur that significantly affect the schedule, the Contractor shall submit a revised construction schedule for approval. The revised construction schedule shall be submitted within 10 calendar days after it is requested by the Owner’s Representative. The current approved construction schedule shall be used as a baseline for progress reporting.

C. Acts of God: Claims for additional compensation for ‘Acts of God’ will be reviewed by the Owner. It is the Contractor’s responsibility to secure the work site daily and failure to provide adequate provisions to do so may result in repairs to the site at the Contractor’s expense. Documented ‘Acts of God’ such as the state issuing a ‘State of Emergency’ may result in the Owner’s authorization to proceed repair funded by the Owner. No work shall proceed without written authorization by the Owner.

3.13 SUBMITTAL PROCEDURES

A. DESCRIPTION

1. This Specification Section covers the preparation and submission of all work plans, drawings, samples, manufacturer's literature and brochures, installation instructions, and operation and maintenance manuals as specified herein and in the various sections of these Specifications.
2. A Submittal Schedule shall be submitted for approval within five (5) calendar days after receipt of Notice to Proceed.
3.14 DRAWINGS

A. The term "drawings" as used herein includes ‘Shop Drawings’ as required for fabrication, erection and installation, layout, and setting of proposed improvements; lists or schedules of materials and catalogues and brochures; performance and test data; and all other drawings and descriptive data pertaining to materials and methods of construction as may be required to show that the materials, equipment, or systems and the positions thereof conform to the requirements of the Contract Documents.

B. Where specified and if so directed by the Owner’s Representative provide shop drawings that are accompanied by design computations.

C. Sheet sizes of drawings shall not exceed 24 in. by 36 in. The title block on all drawings shall bear the name of the Owner, the name of the project, and the project location.

D. The Contractor's drawings shall be submitted electronically in PDF format to the Owner’s Representative for review and approval.

E. The Contractor shall maintain a complete set of construction drawings at the jobsite, clearly marked to reflect as-built conditions. Upon completion of the work, the Contractor shall submit these Record Drawings to the Owner’s Representative.

F. The Owner’s Representative will review drawings and schedules only for conformance with the design of the Project and for compliance with the Contract Documents and Contract Drawings. The Contractor shall make any and all updates and corrections required by the Owner’s Representative.

G. Drawings shall be reviewed and returned within ten (10) working days of receipt of drawings at jobsite. Drawings and all supporting data, catalogs, or similar information shall be prepared by the Contractor or his suppliers and subcontractors but shall be submitted as instruments of the Contractor.

H. The Owner’s Representative review of drawings will be of a general nature and shall not relieve the Contractor from responsibility for errors and omissions of any sort, for deviations from Drawings or Specifications, or for conflict with the work of others that may result from such deviations. The Owner’s Representative review of drawings will not relieve the Contractor of responsibility to complete the work in accordance with the requirements of the Contract Documents.

I. After Notice of Award, the Contractor shall submit a Submittal Schedule to the Owner’s Representative. The Contractor's schedule shall be brought up to date from time to time to show the latest changes, omissions, and additions. The Schedule will be based on the Contractor's Construction Schedule and will show when the Contractor will submit the drawings and when he/she expects them to be returned so that construction activities shown on the Construction Schedule are not interrupted. There will be a minimum of three weeks between these two activities. Specific methods and routines for handling drawing reviews shall be established in advance within the general framework of the Contract Documents.

J. Work for which the Contractor's submittals are required shall not be started until the submittals have been reviewed and accepted in writing by the Owner or Landscape Architect. Owner or Landscape Architect. Owner or Landscape Architect. Owner or Landscape Architect. Owner's
Representative. Any revision by the Contractor of a previously accepted submittal must be accepted in writing by the Owner’s Representative before implementation.

3.15 SAMPLES
A. The Contractor shall, at his or her expense, furnish the Owner’s Representative with samples of the various materials as specified in these Specification and Drawings. Samples shall be delivered to the office of the Owner’s Representative at the Contractor’s expense.

3.16 PRODUCT DATA
A. The Contractor shall submit to the Owner’s Representative all required Material Safety Data Sheets (MSDS) and all Product Data Sheets and any other relevant product information for all items identified in the Technical Specifications and Drawings. All data shall be furnished by the Contractor in accordance with the approved schedule.

B. SUBMITTAL LOG
1. Contractor to provide the following information:
   a. An I.D. number for each item
   b. Specification Section, Paragraph Number and Line Item Number (ie. 321313 / 1.3 / A)
   c. Item Name
   d. Description of the Item
   e. Date Submitted
   f. Status: Approved / Approved As Noted / Rejected
   g. Sub-Contractor (If any) providing the material
   h. Comments

3.17 QUALITY CONTROL DESCRIPTION
A. This Section provides the requirements for Contract quality control (QC) pertaining to the Work, including:
   1. QC of products and workmanship;
   2. Manufacturer's instructions; and
   3. Manufacturer's certificates and field services.

3.18 WORKMANSHIP
A. The Contractor shall comply with industry standards of the region, except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.

B. The Contractor shall provide suitably-qualified personnel to produce work of specified quality.
C. The Contractor shall secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

D. The Contractor shall provide materials to match approved samples.

3.19 MANUFACTURER'S INSTRUCTIONS

A. The Contractor shall require compliance with instructions in full detail, including each step in sequence. Should instructions conflict with the Contract Documents, the Contractor shall request clarification from the Owner’s Representative before proceeding.

3.20 MANUFACTURER'S CERTIFICATES

A. When required in individual Specifications sections, the Contractor shall submit manufacturer's certificates, in duplicate, certifying that products meet or exceed specified requirements.

3.21 TESTING LABORATORY SERVICES (NIC)

A. Not Utilized in this Contract

B. (Modify as Required)

3.22 MANUFACTURER'S FIELD SERVICES

A. When required by the manufacturer or Owner’s Representative, the Contractor shall have the manufacturer provide a qualified representative to observe field conditions, conditions of surfaces and installation, and quality of workmanship as applicable and to make written report of observations and recommendations to the Owner’s Representative

3.23 AUTHORITY OF OWNER’S REPRESENTATIVE

A. The Owner’s Representative will decide all questions that may arise as to the quality and acceptability of materials furnished. All questions that may arise as to the interpretation of the Contract Drawing and Specifications shall be determined by the Owner’s Representative.

B. The Owner and Owner’s Representative shall not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions and programs incident thereto, and the Owner’s Representative will not be responsible for the Contractor's failure to perform the work in accordance with the Contract Documents.

C. The Owner’s Representative will not be responsible for the acts or omissions of the Contractor or any subcontractors, of the agents or employees of any Contractor or subcontractor, or of any other persons at the site or otherwise performing any of the work.
3.24 COORDINATION OF DRAWINGS AND SPECIFICATIONS

A. The Contractor shall take no advantage of any apparent error or omission in the Contract Drawings or Specifications. In the event the Contractor discovers such a discrepancy, error or omission, he shall immediately notify the Owner’s Representative. After review and consultation with the Owner’s Representative the Owner’s Representative will issue clarifications, provide interpretations and make such corrections as may be deemed necessary for the Contractor to proceed with fulfilling the intent of the Contract Drawings and Specifications.

B. When general reference is made on the Contract Drawings or within the Specifications to any cited Standard Specifications, it shall refer to the current edition of such Specifications or the latest revision thereof or interim Specifications adopted and in effect on the date of Effective Date of Agreement. In the event of a conflict between the Contract Drawings and the specifications, the Owner’s Representative shall be notified to provide a clarification to the Contractor.

3.25 COOPERATION WITH UTILITIES

A. The Contractor will notify all utility companies, all pipeline owners, or other parties affected and endeavor to have all necessary adjustments of the public or private utility fixtures, pipelines, and other appurtenances within or adjacent to the limits of construction made as soon as practical.

B. Water lines, gas lines, wire lines, service connections, water and gas meter boxes, water and gas valve boxes, light standards, cableways, signals, and all other utility appurtenances within the limits of the proposed construction which are to be crossed, relocated or adjusted are to be moved by the Contractor or its designated agents, except as otherwise noted on the Contract Drawings. In the case of utility lines, the Contractor shall coordinate with the respective utilities for their removal and relocation.

C. Attention is directed to the possible existence of underground facilities not known to the Owner’s Representative or in a location different from that which is shown on the Contract Drawings. The Contractor shall take steps to ascertain the exact location of all underground facilities prior to doing work that may damage such facilities or interfere with their service.

3.26 INDEPENDENT TESTING AND INSPECTION (NIC)

A. Not Applicable under this Contract

3.27 REQUIREMENTS

A. The requirements for sampling and testing or inspection are specified in the Specifications and Drawings. The Contractor shall maintain a complete and up-to-date file of all quality control documentation at the jobsite.
3.28 MATERIAL AND EQUIPMENT

A. DESCRIPTION

1. This Specification Section includes the requirements for the transportation, handling, storage, and protection of materials and equipment as specified herein and in the various Sections of these Specifications. This Section also addresses the procedure for Contractor-proposed product substitutions.

3.29 MANUFACTURER REQUIREMENTS

A. In general, the Contractor shall receive, handle, and store materials and equipment in accordance with manufacturer's recommendations and in a manner which will protect such items from damage or deterioration.

B. GENERAL

C. Products include the material, equipment, and systems used on this Project. Comply with the Specifications, Drawings and referenced standards as minimum requirements.

3.30 TRANSPORTATION AND HANDLING

A. The Contractor shall receive, handle, and store materials and equipment supplied by him/her in a manner that will protect such items from damage or deterioration in accordance with procedures provided by product manufacturers and the Owner.

B. Promptly inspect the shipments to assure that the products comply with requirements, the quantities are correct, and the products are undamaged.

3.31 STORAGE AND PROTECTION

A. Materials and equipment shall be stored off the ground on blocking or pallets and shall be covered for protection from vandalism and weather damage.

B. Materials and equipment shall be stored, tested, and cleaned prior to use, in accordance with the Specification and all specific manufacturers’ requirements. Damaged or nonconforming items shall be removed immediately to a separated storage area for expeditious removal from site.

C. The Contractor shall provide a secure outside storage area in the vicinity of the site.

3.32 SUBSTITUTIONS

A. Substitutions will be considered only when a product becomes unavailable due to no fault of the Contractor or when deemed appropriate by the Owner’s Representative

B. Document each request with complete data substantiating the compliance of the proposed substitution with the Contract Documents.
C. The requested substation proposed constitutes a representation that the Contractor:

1. Has investigated the proposed product and determined that it meets or exceeds, in all respects, the specified product.
2. Will provide the same warranty for substitution as for the specified product.
3. Will coordinate installation and make other changes which may be required for the Work to be complete in all respects.
4. Waives claims for additional costs which may subsequently become apparent.

D. Substitutions will be considered when they are indicated or implied on shop drawings or product data submittals without separate written request, or when acceptance will require substantial revision of the Contract Documents.

E. The Owner’s Representative will determine acceptability of the proposed substitution, and will notify the Contractor of acceptance or rejection in writing within a reasonable time. Only one request for the substitution will be considered for each product. When substitution is not accepted, the Contractor shall provide the specified product.

3.33 REJECTED MATERIALS AND DEFECTIVE WORK

A. Materials furnished by the Contractor and rejected by the Owner’s Representative as unsuitable or not in conformity with the specifications shall forthwith be removed from the job-site and work area by the Contractor, and shall not be made use of elsewhere in the work.

B. Any errors, defects, or omissions in the execution of work or in the materials furnished by the Contractor, even though they may have been passed or overlooked or have appeared after the completion of the work, discovered at any time before the final payment is made hereunder, shall be forthwith rectified and made good by and at the expense of the Contractor and in a manner satisfactory to the Owner or Owner’s Representative.

C. The Contractor shall reimburse the Owner for any expense, losses or damages incurred in consequence of any defect error, omission or act of the Contractor or his employees, as determined by the Owner’s Representative, occurring previous to the final payment.

3.34 PROJECT CLOSEOUT

A. DESCRIPTION

1. This Section specifies administrative and procedural requirements for the project closeout including, but not limited to:
   a. Project record document (As-Built drawings) submittal. Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
b. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set. Upon completion of work, submit record drawings to the Owner’s Representative.

2. Record Specifications
   a. Maintain one complete copy of the Project Manual, including addenda. Mark these documents to show substantial variations in actual Work performed in comparison with the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data. Upon completion of the Work, submit record Specifications.

3. Test Results
   a. Not Applicable this project

4. REMOVAL OF PROTECTION
   a. Remove temporary protection and facilities installed for protection of the Work during construction. Fencing and erosion and sediment control measures and best management practices can be removed after permanent measures have been established.

3.35 WARRANTIES

A. DESCRIPTION
   1. This Section specifies general administration and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturers’ standard warranties on products and special warranties.
      a. Refer to the General Conditions for terms of the Contractor’s special warranty of workmanship and materials;
      b. General closeout requirements are included in Section “Project Closeout”; and
      c. Specific requirements for warranties for the Work and products and installations that are specified to be warranted are included in the specifications and Drawings.
   2. Disclaimers and Limitations
      a. Manufacturer’s disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

B. DEFINITIONS
   1. Standard Warranties
      a. Standard product warranties are pre-printed written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
   2. Special Warranties
      a. Special warranties are written required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

C. WARRANTY REQUIREMENTS
1. Related Damages and Losses
   a. When correcting warranted Work that has failed, remove and replace other Work
      that has been damaged as a result of such failure or that must be removed and
      replaced to provide access for corrections of warranted Work.

2. Reinstatement of Warranty
   a. When Work covered by a warranty has failed and been corrected by replacement
      or rebuilding, reinstate the warranty by written endorsement. The reinstated
      warranty shall be equal to the original warranty with an equitable adjustment for
      depreciation.

3. Replacement Cost
   a. Upon determination that Work covered by a warranty has failed, replace or rebuild
      the Work to an acceptable condition complying with requirements of Contract
      Documents. The Contractor is responsible for the cost of replacing or rebuilding
      defective Work regardless of whether the Owner’s Representative has benefited
      from use of the Work through a portion of its anticipated useful service life.

4. Owner’s Recourse
   a. Written warranties made to the Owner are in addition to implied warranties, and
      shall not limit the duties, obligations, rights and remedies otherwise available
      under the law, nor shall warranty periods be interpreted as limitations on time in
      which the Owner can enforce such other duties, obligations, rights and remedies.

5. Rejection of Warranties
   a. The Owner’s Representative reserves the right to reject warranties and to limit
      selections to products with warranties not in conflict with requirements of the
      Contract Documents. The Owner’s Representative reserves the right to refuse to
      accept Work for the Project where a special warranty, certification, or similar
      commitment is required on such Work or part of the Work, until evidence is
      presented that entities required to counter sign such commitments are willing to do
      so.
   b. All warranties shall be submitted to the Owner in accordance with conditions of
      the Contract and the Submittals.

D. WARRANTY PERIOD

1. All warranties required by the Contract documents shall commence on the date of Final
   Acceptance.
2. Warranty period is one (1) year from date of Final Acceptance unless otherwise specified.

END OF SECTION 010000
SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Requirements, apply to this Section.

1.2 SUMMARY

A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

B. Related Requirements:

1. Section 311000 "Site Clearing" for removing existing trees and shrubs.

1.3 DEFINITIONS

A. (DBH): Diameter breast height; diameter of a trunk as measured by the average of the smallest and largest diameters at a height 54 inches above the ground line for trees with caliper of 8 inches or greater as measured at a height of 12 inches above the ground.

B. Plant-Protection Zone: Area surrounding individual trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.

C. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.

D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 PRE-CONSTRUCTION MEETINGS

A. Pre-construction Conference: Conduct conference at Project site.

1. Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:

a. Tree-service firm's personnel, and equipment needed to make progress and avoid delays.

b. Arborist's responsibilities.

c. Coordination of Work and equipment movement with the locations of protection zones.

d. Trenching by hand or with air spade within protection zones.

e. Field quality control and maintenance.
f. Coordination by Parks Department City Forester and Forestry crews.

1.5 ACTION SUBMITTALS

A. Contractor shall arrange site visit with City Forester prior to mobilization to determine the scope of pruning by the Parks Department Forestry Division or Contractor as indicated on the drawings.

1.6 QUALITY ASSURANCE

A. Arborist Qualifications: Licensed arborist in jurisdiction where Project is located.

1.7 FIELD CONDITIONS

A. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Moving or parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

B. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Backfill Soil: Stockpiled soil mixed with planting soil of suitable moisture content and granular texture for placing around tree; free of stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth.

1. Mixture: Well-blended mix of two parts stockpiled soil to one part planting soil.

B. Protection-Zone Fencing: Fencing fixed in position and meeting the following requirements:

1. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch maximum opening in pattern and weighing a minimum of 0.4 lb/ft.; remaining flexible from minus 60 to plus 200 deg F; inert to most chemicals and acids; minimum tensile yield strength of 2000 psi and ultimate tensile strength of 2680 psi; secured with plastic bands or galvanized-steel or...
PART 3 - EXECUTION

3.1 PREPARATION

A. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

3.2 PROTECTION ZONES

A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people from easily entering protected areas except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.

B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Owner's Representative. Install one sign on protection-zone fencing. Sign to read "Tree Protection Zone - Do not Disturb". Sign to be printed on 24"x 36" white panel with black lettering at a minimum of 3" height lettering.

C. Maintain protection zones free of trash.

D. Maintain protection-zone fencing in good condition as acceptable by Owner's Representative and remove when construction operations are complete and equipment has been removed from the site.

1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.

2. Temporary access is permitted subject to preapproval in writing by Owner's Representative if a root buffer effective against soil compaction is constructed as directed by Owner's Representative. Maintain root buffer so long as access is permitted.

3.3 EXCAVATION

A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 312000 "Earth Moving" unless otherwise indicated.

B. Trenching within Protection Zones: Where utility trenches are required within protection zones, excavate under or around tree roots by hand or with air spade, or tunnel under the roots as
directed by Owner's Representative. Do not cut main lateral tree roots or taproots larger than 2" without direction from Owner's Representative; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots.

C. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches back from new construction and as required for root pruning.

D. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover and wrap with dampened burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil or as directed by Owner's Representative.

3.4 ROOT PRUNING

A. Prune tree roots that are affected by temporary and permanent construction. Prune roots as follows:

1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
2. No roots larger than two (2) inches in diameter may be cut without permission of the City Forester. Cuts must be made with hand-pruner, handsaws, or chainsaws.
3. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
4. Cover exposed roots with burlap and water regularly.
5. Backfill as soon as possible according to requirements in Section 312000 "Earth Moving."

B. Root Pruning within Protection Zone: Clear and excavate by hand or with air spade to the depth of the required excavation to minimize damage to tree root systems. If excavating by hand, use narrow-tine spading forks to comb soil to expose roots. Cleanly cut roots as close to excavation as possible.

3.5 REGRADING

A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

B. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by Owner's Representative unless otherwise indicated.

1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.
3.6 REPAIR AND REPLACEMENT

A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by Owner's Representative.

1. Submit details of proposed pruning and repairs.
2. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.
3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Owner's Representative. Replacement trees to be equal to the total diameter of mature tree by multiple equal diameter specimens.

B. Trees: Remove and replace trees that were damaged during construction operations that Owner's Representative determines are incapable of restoring to normal growth pattern.

1. Small Trees: Provide new trees of same size and species as those being replaced for each tree that measures 4" or smaller in caliper size.
2. Large Trees: Provide multiple trees of 2-1/2" - 3" caliper size to equal total diameter of tree being replaced.
   a. Species: As determined by Owner's Representative.
3. Plant and maintain new trees as specified in Section 329300 "Plants."

C. Soil Aeration: Where directed by Owner's Representative, aerate surface soil compacted during construction. Aerate to loosen soil10 feet beyond drip line and no closer than 36" to tree trunk with air spade.

3.7 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove excess excavated material, displaced trees, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION 015639
SECTION 312213 - ROUGH GRADING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Excavating topsoil.
   2. Excavating subsoil.
   3. Cutting, grading, filling, rough contouring, compacting, site for stonedust & chip-seal paths and concrete pads.

B. Related Sections:
   1. Section 31200 - Earth Moving
   2. Section 329119 - Landscape Grading: Finish grading with topsoil to contours.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Topsoil Fill Type S4:
   2. Basis of Payment: Includes excavating existing soil, supplying soil materials, stockpiling, scarifying substrate surface, placing where required, and compacting.

B. Subsoil Fill Type S2:
   1. Basis of Measurement: By the cubic yard.
   2. Basis of Payment: Includes excavating existing subsoil, supplying subsoil materials, stockpiling, scarifying substrate surface, placing where required, and compacting.

1.3 REFERENCES

A. American Association of State Highway and Transportation Officials:

B. ASTM International:
   2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³).
   3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³).
1.4 SUBMITTALS
   A. Materials Source: Submit name of imported materials suppliers.

1.5 CLOSEOUT SUBMITTALS
   A. Section 01000 - General Requirements: Requirements for submittals.
   B. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

1.6 QUALITY ASSURANCE
   A. Perform Work in accordance with RIDOT Standard Specifications for Road and Bridge Construction, latest edition.
   B. Maintain one copy of each document on site

PART 2 - PRODUCTS

2.1 MATERIALS
   A. Topsoil: Type S4 as specified in Section 310513.
   B. Subsoil Fill: Type S2 as specified in Section 310513.

PART 3 - EXECUTION

3.1 EXAMINATION
   A. Verify survey bench mark and intended elevations for the Work are as indicated on Drawings.

3.2 PREPARATION
   A. Call Local Utility Line Information service at 1-888-DIG-SAFE not less than three (3) working days before performing Work.
      1. Request underground utilities to be located and marked within and surrounding construction areas.
   B. Identify required lines, levels, contours, and datum.
   C. Protect utilities indicated to remain from damage.
   D. Protect plant life, lawns, structures, and other features remaining as portion of final landscaping.
E. Protect bench marks, survey control point, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.3 TOPSOIL EXCAVATION

A. Excavate topsoil from areas to be further excavated, relandscaped, or regraded, in marked areas, without mixing with foreign materials for use in finish grading.

B. Do not excavate wet topsoil.

C. Stockpile in area designated on site to depth not exceeding 8 feet and protect from erosion. Stockpile material on impervious material and cover over with same material, until disposal.

D. Remove excess topsoil not intended for reuse, from site.

3.4 SUBSOIL EXCAVATION

A. Excavate subsoil from areas to be further excavated, relandscaped, or regraded, marked areas.

B. Do not excavate wet subsoil.

C. When excavating through roots, perform Work by hand and do not remove any roots over 2" in diameter.

D. Stockpile excavated material in area designated on site in accordance with Section 310513.

E. Benching Slopes: Horizontally bench existing slopes greater than 1:4 to key placed fill material to slope to provide firm bearing.

F. Stability: Replace damaged or displaced subsoil as specified for fill.

3.5 FILLING

A. Fill areas to contours and elevations with unfrozen materials.

B. Place material in continuous layers as follows:
   1. Subsoil Fill: Maximum 8 inches compacted depth.
   2. Granular Fill: Maximum 6 inches compacted depth.

C. Maintain optimum moisture content of fill materials to attain required compaction density.

D. Make grade changes gradual. Blend slope into level areas.

E. Repair or replace items indicated to remain damaged by excavation or filling.

F. Install Work in accordance with RIDOT Standard Specifications for Road and Bridge Construction, latest edition.
3.6  TOLERANCES

A.  Section 014000 - Quality Requirements: Tolerances.

B.  Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.

3.7  SCHEDULES

A.  Subsoil Fill:
   1.  Fill Type S2 : To subgrade elevation. 6" thick.
   2.  Compact uniformly to minimum 95% percent of maximum density.

B.  Topsoil Fill:
   1.  Fill Type S4 : To subgrade elevation. 6" thick.
   2.  Compact uniformly to minimum 90 % percent of maximum density.

END OF SECTION 312213
SECTION 312500 - EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Furnish all labor, materials, equipment and incidentals required and perform all installation, maintenance, removal and area cleanup related to erosion and sedimentation control work required to meet Federal, State, and local permit requirements and as shown on the Drawings and as specified herein. The work shall include, but not necessarily be limited to; installation of temporary access ways and staging areas, compost filter socks, catch basin sediment filters (silt sack), sediment removal and disposal, device maintenance, removal of temporary devices, and final cleanup.

1.2 REFERENCES

A. EPA document titled: "Stormwater Management for Construction Activities — Developing Pollution Prevention Plans and Best Management Practices" document number EPA 832-R-92-005, dated 1992, or most recent edition. State, County Conservation Districts or local Conservation Commission standards can be substituted for the EPA standard if the State, County or Local Conservation Commission standards is equal to, or more detailed than, the EPA standard.

B. State of Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, Current Edition with latest addenda.

1.3 SUBMITTALS

A. Submit, in accordance with Division 01 10 00 – General Requirements: Submittal Procedures ten (10) days after award of Contract, technical product literature for all commercial products to be used for erosion and sedimentation control.

B. If a NPDES General Permit is required, Contractor shall, prior to the start of construction:

C. Prepare and submit the EPA NPDES Notice of Intent to Discharge to the applicable EPA office in accordance with EPA regulations. Submit one copy of the permit to Owner’s Representative for informational purposes only.

1. Prepare and submit a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the U.S. Environmental Protection Agency (EPA) National Pollution Discharge Elimination System (NPDES) General Permit for this work. Submit one copy of the permit to Owner’s Representative for informational purposes only.
1.4 QUALITY ASSURANCE

A. Be responsible for the timely installation and maintenance of all erosion and sedimentation control devices necessary to prevent the movement of sediment from the construction site to off-site areas or into the stream system via surface runoff or underground drainage systems. Measures in addition to those shown on the Drawings necessary to prevent the movement of sediment off site shall be installed, maintained, removed, and cleaned up at the expense of the Contractor. No additional charges to the Owner will be considered.

B. Where Contractor's efforts to control erosion and sediment have been demonstrated to be ineffective or potentially ineffective in the opinion of the Owner's Representative, the Owner's Representative may order that additional measures be implemented and constructed at no additional cost to the Owner.

C. Perform Work in accordance with requirements of Section 310513, Section 312213.

D. Perform Work according to Municipality of Public Works standards.

PART 2 - PRODUCTS

2.1 MATERIALS

A. When work is performed outside of normal seeding window straw mulch shall be utilized on all newly graded areas to protect areas against washouts and erosion. Straw mulch shall be comprised of threshed straw of oats, wheat, barley, or rye that is free from noxious weeds, mold or other objectionable material. The straw mulch shall contain at least 50 percent by weight of material to be 10-in or longer. Straw shall be in an air-dry condition and suitable for placement with blower equipment.

B. If newly seeded areas contain slopes greater than 4:1 install Jute Mesh/Netting for erosion control. Jute Mesh should conform to following specifications:

1. Open Area: 70 - 75%
2. Mesh size: 11mm x 18mm
3. Water Absorption: >450% of fabric weight
4. Thickness: 0.25 inch (6 mm)
5. Recommended shear stress: 0.45 lbs./sq.ft. (22 N/sq.m)
6. Recommended flow capacity: 6 fps (1.8 m/s)

C. Compost Filter Sock

2. Straw filled tubes of compacted straw of rice, wheat or barley.
3. Compost filter sock to be certified as weed free.
4. Netting for tubes to be seamless, high density polyethylene with ultra violet inhibitors.
5. Roll length to be 10.0 feet to 25.0 feet.
6. Weight per linear foot, 12-inch: 2.5 lbs. minimum 9-inch: 1.5 lbs. minimum
7. Stakes shall be wooden, 1 1/8-inch x 1 1/8-inch x 2.5 feet long, with lower ends tapered to facilitate driving into compacted soil. Rebar may be substituted for wooden stakes.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Sediment control devices shall be installed according to manufacturer's recommendations and as directed by the Owner’s Representative.

B. Staging areas and stabilized construction entrance shall be surfaced with a minimum depth of 6 inches of crushed stone (if so directed by the Owner’s Representative). Stabilized construction entrances shall be installed as shown on the Plans.

3.2 MAINTENANCE AND INSPECTION

A. Inspections

B. Make a visual inspection of all erosion and sedimentation control devices once per week and promptly after every rainstorm. If such inspection reveals that additional measures are needed to prevent movement of sediment to offsite areas, promptly install additional devices as needed. Sediment controls in need of maintenance shall be repaired promptly.

C. Device Maintenance

D. Sediment Filters

1. Catch basin sediment control devices shall be cleaned of sediment in a manner as recommended by the manufacturer and as directed by the Owner’s Representative. Remove sediment from filter bag when saturated with sediment as directed by the Owner’s Representative.

3.3 REMOVAL AND FINAL CLEANUP

A. Once the site has been permanently stabilized against erosion, remove all sediment control devices and sediment. Dispose sediment and all waste materials in a proper manner.

B. When sediment accumulation in sedimentation structures has reached a point one-third depth of sediment structure or device, remove and dispose of sediment.

C. Do not damage structure or device during cleaning operations.

D. Clean channels when depth of sediment reaches approximately one half channel depth.

E. Clean channels when depth of sediment reaches approximately one half channel depth.
SECTION 313716.13 - RUBBLE-STONE RIPRAP

PART 1 - GENERAL

1.1 SUMMARY

A. Work includes furnishing and installing rubble-stone riprap on a slope to create a safe, climbable, slope stabilization treatment. Stone shall be installed to the lines and grades designated on the project’s final construction drawings or as directed by the Landscape Architect.

1.2 PREINSTALLATION MEETINGS

A. Convene minimum one week prior to commencing Work of this Section.

1.3 ACTION SUBMITTALS

A. Work Samples: Submit photos of at least three (3) similar projects completed by the installer that will be working on this project.

B. Product Data: Submit manufacturer information for liquid soil stabilizer

C. Provide samples of the following:

D. Stone: consisting of a minimum or 5 stones representative of the size and color gradation

E. Processed gravel: 1 gallon container

F. Stonedust: 1 gallon container

1.4 QUALITY ASSURANCE

A. Furnish each aggregate material from single source throughout Work of this Section.

1.5 QUALIFICATIONS

A. Contractor: Company specializing in manufacturing products specified in this Section with minimum of five years' experience.
PART 2 - PRODUCTS

2.1 MATERIALS

A. Rubble Stone:
   1. Description:

B. Rounded to slightly angular natural, minimally processed through crushing

C. Solid and nonfriable.
   1. Type: Granite
   2. Size:
      a. Minimum: 4 inches
      b. Maximum: 12 inches

2.2 BASE MATERIAL

A. Commonly available processed gravel aggregate, ¾” or 1½” minus is acceptable

2.3 BACKFILL AGGREGATE

A. Commonly available processed gravel aggregate, ¾” or 1½” minus is acceptable and may vary based on joint size.

B. Commonly available stonedust is typically suitable.

2.4 STABILIZER

A. StaLok concentrate liquid soil stabilizer shall be applied to stonedust following manufacturer’s instructions and at the specified rate

PART 3 - CONSTRUCTION

3.1 EXCAVATION

A. Contractor shall excavate to the lines and grades shown on the project grading plans. Contractor shall take precautions to minimize over--- excavation. Over- excavation shall be filled with compacted infill material, or as directed by the Landscape Architect, at the Contractor's expense.

B. Contractor shall verify location of existing structures and utilities prior to excavation. Contractor shall ensure all surrounding structures are protected from the effects of slope excavation. Excavation support, if required, is the responsibility of the Contractor.
3.2 BASE

A. The subgrade soil shall be compacted to 95% standard Proctor density and inspected by the Owner's Engineer prior to placement of base materials and stone.

3.3 PREPARING TO BUILD

A. The Contractor shall place rubble-stone in the location shown on the project plans.

B. The Contractor shall place rubble-stone to the dimensions and grades shown on the project plans.

3.4 RUBBLE-STONE ON SLOPE

A. PLACING STONE

1. The underside of the stone shall be free of voids and well packed with footing material
2. Stones shall be placed so they do not tip or shift when weight is applied to the top.

B. Average Installed Thickness: As indicated on Drawings.

C. Place stone into position and remove foreign material from surfaces.

D. Do not place stone over frozen or spongy subgrade surfaces.

END OF SECTION 313716.13
SECTION 321216 - ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Requirements apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Hot-mix asphalt paving.

B. Related Requirements:

1. Section 024119 "Selective Demolition" for demolition and removal of existing asphalt pavement.
2. Section 312000 "Earth Moving" for subgrade preparation, fill material, separation geotextiles, unbound-aggregate subbase and base courses, and aggregate pavement shoulders.
3. Section 321313 "Concrete Paving" for concrete pavement and for separate concrete curbs, gutters, and driveway aprons.

1.3 UNIT PRICES

A. Work of this Section is affected by square foot.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to hot-mix asphalt paving including, but not limited to, the following:
   a. Review proposed sources of paving materials, including capabilities and location of plant that will manufacture hot-mix asphalt.
   b. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include technical data and tested physical and performance properties.
2. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer.

B. Material Certificates: For each paving material. Include statement that mixes containing recycled materials will perform equal to mixes produced from all new materials.

C. Material Test Reports: For each paving material, by a qualified testing agency.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by authorities having jurisdiction or the DOT of state in which Project is located.

B. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of RIDOT Standards for Road & Bridge Construction for asphalt paving work.

1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:

1. Tack Coat: Minimum surface temperature of 60 deg F.
2. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at time of placement.
3. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.

PART 2 - PRODUCTS

2.1 AGGREGATES

A. General: Use materials and gradations that have performed satisfactorily in previous installations.

B. Coarse Aggregate: ASTM D 692/D 692M, sound; angular crushed stone, crushed gravel, or cured, crushed blast-furnace slag.

C. Fine Aggregate: ASTM D 1073, sharp-edged natural sand or sand prepared from stone, gravel, cured blast-furnace slag, or combinations thereof.
1. For hot-mix asphalt, limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.

D. Mineral Filler: ASTM D 242/D 242M, rock or slag dust, hydraulic cement, or other inert material.

2.2 ASPHALT MATERIALS

A. Asphalt Binder: ASTM D 6373 binder designation PG 64-22.


D. Emulsified Asphalt Prime Coat: ASTM D 977 emulsified asphalt, or ASTM D 2397/D 2397M cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

E. Tack Coat: ASTM D 977 emulsified asphalt, or ASTM D 2397/D 2397M or cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

F. Fog Seal: ASTM D 977 or emulsified asphalt, or ASTM D 2397/D 2397M or cationic emulsified asphalt, slow setting, factory diluted in water, of suitable grade and consistency for application.

G. Water: Potable.


2.3 AUXILIARY MATERIALS

A. Recycled Materials for Hot-Mix Asphalt Mixes: Reclaimed asphalt pavement; reclaimed, unbound-aggregate base material; and recycled tires asphalt shingles from sources and gradations that have performed satisfactorily in previous installations, equal to performance of required hot-mix asphalt paving produced from all new materials.

2.4 MIXES

A. Hot-Mix Asphalt: Dense-graded, hot-laid, hot-mix asphalt plant mixes; designed according to procedures in AI MS-2, "Asphalt Mix Design Methods"; and complying with the following requirements:

1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.
2. Base Course: DG M.
3. Surface Course: SMA.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that subgrade is dry and in suitable condition to begin paving.

B. Proceed with paving only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protection: Provide protective materials, procedures, and worker training to prevent asphalt materials from spilling, coating, or building up on curbs, driveway aprons, manholes, and other surfaces adjacent to the Work.

3.3 REPAIRS

3.4 SURFACE PREPARATION

A. Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.

B. Cutback Prime Coat: Apply uniformly over surface of compacted unbound-aggregate base course at a rate of 0.15 to 0.50 gal./sq. yd.. Apply enough material to penetrate and seal, but not flood, surface. Allow prime coat to cure.

1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.

2. Protect primed substrate from damage until ready to receive paving.

3.5 PLACING HOT-MIX ASPHALT

A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand in areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.

1. Place hot-mix asphalt base course in single lift.
2. Place hot-mix asphalt surface course in single lift.
3. Spread mix at a minimum temperature of 250 deg F.
4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.
5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

B. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.
1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Overlap mix placement about 1 to 1-1/2 inches from strip to strip to ensure proper compaction of mix along longitudinal joints.

2. Complete a section of asphalt base course before placing asphalt surface course.

C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.6 COMPACCTION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.

1. Complete compaction before mix temperature cools to 185 deg F.

B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:

1. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041/D 2041M, but not less than 90 percent or greater than 96 percent.

D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.

G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.7 INSTALLATION TOLERANCES

A. Pavement Thickness: Compact each course to produce the thickness indicated within the following tolerances:
1. Base Course: Plus or minus 1/4 inch.
2. Surface Course: Plus 1/8 inch, no minus.

B. Pavement Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:

1. Base Course: 1/4 inch.
2. Surface Course: 1/8 inch.

3.8 SURFACE TREATMENTS

A. Fog Seals: Apply fog seal at a rate of 0.10 to 0.15 gal./sq. yd. to existing asphalt pavement and allow to cure. With fine sand, lightly dust areas receiving excess fog seal.

3.9 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549/D 3549M.

C. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.

3.10 WASTE HANDLING

A. General: Handle asphalt-paving waste according to approved waste management plan required in Section 017419 "Construction Waste Management and Disposal."

END OF SECTION 321216
SECTION 323113 - CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 SUMMARY
   A. Section Includes:
      1. Chain-link fences.

1.2 PREINSTALLATION MEETINGS
   A. Preinstallation Conference: Conduct conference at [Project site] <Insert location>.

1.3 ACTION SUBMITTALS
   A. Product Data: For each type of product.
   B. Shop Drawings: For each type of fence and gate assembly.
      1. Include plans, elevations, sections, details, and attachments to other work.

1.4 INFORMATIONAL SUBMITTALS
   A. Sample warranty.

1.5 WARRANTY
   A. Special Warranty: [Manufacturer agrees] [Installer agrees] to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.
      1. Warranty Period: [Five] [15] <Insert number> years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS
   A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design chain-link fence and gate frameworks.
B. Structural Performance: Chain-link fence and gate frameworks shall withstand the design wind loads and stresses for fence height(s) and under exposure conditions indicated according to [ASCE/SEI 7] <Insert requirement>:

1. Design Wind Load: [As indicated on Drawings] <Insert loads>.

2.2 CHAIN-LINK FENCE FABRIC

A. General: Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist according to "CLFMI Product Manual" and requirements indicated below:

1. Fabric Height: 8' [As indicated on Drawings].
2. Steel Wire for Fabric: Wire diameter of 6 gauge .
      1) Color: [Black] [As selected by Architect from manufacturer's full range], according to ASTM F 934.
   c. Coat selvage ends of metallic-coated fabric before the weaving process with manufacturer's standard clear protective coating.
3. Selvage: [Twisted top and knuckled bottom].

2.3 FENCE FRAMEWORK

A. Posts and Rails <Insert drawing designation>: ASTM F 1043 for framework, including rails, braces, and line; terminal; and corner posts. Provide members with minimum dimensions and wall thickness according to ASTM F 1043 or ASTM F 1083 based on the following:

1. Fence Height: [96 inches] [As indicated on Drawings] <Insert dimension>.
   a. Line Post: [1.9 inches in diameter] [2.375 inches in diameter] [2.875 inches in diameter] [2.25 by 1.7 inches] 2 1/2” diameter .
   b. End, Corner, and Pull Posts: [2.375 inches] [2.875 inches] [4.0 inches] [2.25 by 1.7 inches] 3” in diameter .
3. Horizontal Framework Members: Intermediate top and bottom rails according to ASTM F 1043.
5. Polymer coating over metallic coating.
   a. Color: [Black] [As selected by Architect from manufacturer's full range], according to ASTM F 934.

2.4 TENSION WIRE

A. Metallic-Coated Steel Wire: 0.177-inch- diameter, marcelled tension wire according to ASTM A 817 or ASTM A 824, with the following metallic coating:
1. Type II: Zinc coated (galvanized) with minimum coating weight matching chain-link fabric coating weight.

B. Polymer-Coated Steel Wire: 6 gauge 0.162-inch-diameter, tension wire according to ASTM F 1664, [Class 1] [Class 2a] [Class 2b] over [aluminum] zinc [Zn-5-Al-MM-alloy]-coated steel wire.

1. Color: [Match chain-link fabric] [Dark green] [Olive green] Black [As selected by Architect from manufacturer's full range], according to ASTM F 934.

2.5 FITTINGS

A. Provide fittings according to ASTM F 626.

B. Barbed Wire Arms: [Pressed steel or cast iron] [Aluminum], with clips, slots, or other means for attaching strands of barbed wire, and means for attaching to posts, integral with post cap, for each post unless otherwise indicated, and as follows:

1. Provide line posts with arms that accommodate top rail or tension wire.
2. Provide corner arms at fence corner posts unless extended posts are indicated.
3. Single-Arm Type: [Type I, slanted arm] [Type II, vertical arm].
4. Double-Arm Type: [Type III, V-shaped arm] [Type IV, A-shaped arm].

C. Finish:

1. Metallic Coating for Pressed Steel or Cast Iron: Not less than 1.2 oz./sq. ft. of zinc.
   a. Polymer coating over metallic coating.

2.6 GROUT AND ANCHORING CEMENT

A. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout, recommended in writing by manufacturer, for exterior applications.

B. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating, and that is recommended in writing by manufacturer for exterior applications.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Do not begin installation before final grading is completed unless otherwise permitted by Architect.
3.2 Preparation

A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 Chain-Link Fence Installation

A. Install chain-link fencing according to ASTM F 567 and more stringent requirements specified.

B. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.

C. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil.
   1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
   2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.
      a. Concealed Concrete: Place top of concrete 2 inches below grade to allow covering with surface material.

D. Terminal Posts: Install terminal end, corner, and gate posts according to ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of [15 degrees or more] [30 degrees or more] [as indicated on Drawings] <Insert requirement>. For runs exceeding 500 feet, space pull posts an equal distance between corner or end posts.

E. Line Posts: Space line posts uniformly at [10 feet] <Insert dimension> o.c.

F. Tension Wire: Install according to ASTM F 567, maintaining plumb position and alignment of fence posts. Pull wire taut, without sags. Fasten fabric to tension wire with 0.162-inch-diameter hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric. Provide horizontal tension wire at the following locations:
   1. Extended along [top] [and] [bottom] of fence fabric.
   2. [As indicated on Drawings] <Insert requirements>.


H. Barbed Wire: Install barbed wire uniformly spaced [angled toward security side of fence] [as indicated on Drawings]. Pull wire taut, install securely to extension arms, and secure to end post or terminal arms.
3.4 ADJUSTING

A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

B. Lubricate hardware and other moving parts.

END OF SECTION 323113
SECTION 328400 - PLANTING IRRIGATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Requirements, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Piping.
2. Encasement for piping.
4. Pressure-reducing valves.
5. Automatic control valves.
6. Automatic drain valves.
7. Transition fittings.
8. Dielectric fittings.
9. Miscellaneous piping specialties.
10. Sprinklers.
11. Quick couplers.
12. Drip irrigation specialties.
13. Controllers.

1.3 DEFINITIONS

A. Circuit Piping: Downstream from control valves to sprinklers, specialties, and drain valves. Piping is under pressure during flow.

B. Drain Piping: Downstream from circuit-piping drain valves. Piping is not under pressure.

C. ET Controllers: EvapoTranspiration Controllers. Irrigation controllers which use some method of weather based adjustment of irrigation. These adjusting methods include use of historical monthly averages of ET; broadcasting of ET measurements; or use of on-site sensors to track ET.

D. Main Piping: Downstream from point of connection to water distribution piping to, and including, control valves. Piping is under water-distribution-system pressure.

E. Low Voltage: As defined in NFPA 70 for circuits and equipment operating at less than 50 V or for remote-control, signaling power-limited circuits.
1.4 PERFORMANCE REQUIREMENTS

A. Irrigation zone control shall be automatic operation with controller and automatic control valves.

B. Location of Sprinklers and Specialties: Design location is approximate. Make minor adjustments necessary to avoid plantings and obstructions such as signs and light standards. Maintain 100 percent irrigation coverage of areas indicated.

C. Minimum Working Pressures: The following are minimum pressure requirements for piping, valves, and specialties unless otherwise indicated:

1. Irrigation Main Piping: 200 psig.
2. Circuit Piping: 150 psig.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, [electrical characteristics], and furnished specialties and accessories.

B. Wiring Diagrams: For power, signal, and control wiring.

1.6 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Irrigation systems, drawn to scale, on which components are shown and coordinated with each other, using input from Installers of the items involved. Also include adjustments necessary to avoid plantings and obstructions such as signs and light standards.

B. Qualification Data: For qualified Installer.

C. Zoning Chart: Show each irrigation zone and its control valve.

D. Controller Timing Schedule: Indicate timing settings for each automatic controller zone.

1.7 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For [sprinklers] [controllers] [and] [automatic control valves] to include in operation and maintenance manuals.

1.8 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. All Sprinklers: Equal to no fewer than 5 units.
1.9 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers that include a licensed Master Irrigator.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.

B. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.

1.11 PROJECT CONDITIONS

A. Interruption of Existing Water Service: Do not interrupt water service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water service according to requirements indicated:

1. Notify Owner no fewer than two days in advance of proposed interruption of water service.

2. Do not proceed with interruption of water service without [Owner's] written permission.

PART 2 - PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

A. Comply with requirements in the piping schedule for applications of pipe, tube, and fitting materials, and for joining methods for specific services, service locations, and pipe sizes.

B. Galvanized-Steel Pipe: ASTM A 53/A 53M, Standard Weight, Type E, Grade B.


C. Ductile-Iron Pipe with Mechanical Joints: AWWA C151, with mechanical-joint bell and spigot ends.

1. Mechanical-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.

   a. Glands, Gaskets, and Bolts: AWWA C111, ductile- or gray-iron glands, rubber gaskets, and steel bolts.
D. Ductile-Iron Pipe with Push-on Joint: AWWA C151, with push-on-joint bell and spigot ends.
   1. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.

E. Soft Copper Tube: ASTM B 88, Type L, water tube, annealed temper.
   3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends.

F. Hard Copper Tube: ASTM B 88, Type L, and ASTM B 88, Type M, water tube, drawn temper.
   3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends.

G. PE Pipe with Controlled ID: ASTM F 771, PE 3408 compound; [SIDR 15].
   1. Insert Fittings for PE Pipe: ASTM D 2609, nylon or propylene plastic with barbed ends. Include bands or other fasteners.

H. PE Pipe with Controlled OD: ASTM F 771, PE 3408 compound, SDR 11.
   2. PE Socket-Type Fittings: ASTM D 2683.

I. PE Pressure Pipe: AWWA C906, with DR of 7.3, 9, or 9.3 and PE compound number required to give pressure rating not less than 160 psig.

   1. PVC Socket Fittings: ASTM D 2466, Schedules 40 and 80.
   2. PVC Threaded Fittings: ASTM D 2464, Schedule 80.
   3. PVC Socket Unions: Construction similar to MSS SP-107, except both headpiece and tailpiece shall be PVC with socket ends.

   1. PVC Socket Fittings: ASTM D 2467, Schedule 80.
   2. PVC Socket Unions: Construction similar to MSS SP-107, except both headpiece and tailpiece shall be PVC with socket or threaded ends.
2.2 PIPING JOINING MATERIALS

A. Pipe-Flange Gasket Materials: AWWA C110, rubber, flat face, 1/8 inch thick unless otherwise indicated; full-face or ring type unless otherwise indicated.

B. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.

C. Brazing Filler Metals: AWS A5.8/A5.8M, BCuP Series, copper-phosphorus alloys for general-duty brazing unless otherwise indicated.

D. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.

E. Solvent Cements for Joining PVC Piping: ASTM D 2564. Include primer according to ASTM F 656.

F. Plastic, Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer unless otherwise indicated.

2.3 MANUAL VALVES

A. Bronze Ball Valves:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
   a. NIBCO INC.
   b. Spears Manufacturing Co
   c. WATTS
   d. or approved equal.

2. Description:
   b. SWP Rating: 150 psig.
   c. CWP Rating: 600 psig.
   d. Body Design: Two piece.
   e. Body Material: Bronze
   f. Ends: Threaded or solder joint if indicated.
   g. Seats: PTFE or TFE.
   h. Stem: Bronze.
   i. Ball: Chrome-plated brass.
   j. Port: Full [or regular, but not reduced].

B. Plastic Ball Valves:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. NIBCO INC.
   b. Spears Manufacturing Company.
   c. WATTS; A Watts Water Technologies Company.
   d. or approved equal.

2. Description:
b. Pressure Rating: [125 psig minimum] [150 psig].
c. Body Material: PVC.
d. Type: Union.
e. End Connections: Socket or threaded.
f. Port: Full.

C. Operating Wrenches for Iron Gate Valve Casings: Furnish [one] [two] steel, tee-handle operating wrench(es) with one pointed end, stem of length to operate deepest buried valve, and socket matching valve operating nut for Project.

D. Iron Gate Valves, NRS:

1. **Manufacturers**: Subject to compliance with requirements, provide products by one of the following:
   a. NIBCO INC.
   b. WATTS; A Watts Water Technologies Company.
   c. or approved equal.

2. **Description**:
   a. Standard: MSS SP-70, Type I.
   b. CWP Rating: 200 psig.
   c. Body Material: ASTM A 126, gray iron with bolted bonnet.
   d. Ends: Flanged.
   e. Trim: All bronze.
   f. Disc: Solid wedge.
   g. Packing and Gasket: Asbestos free.

2.4 PRESSURE-REDUCING VALVES

A. Water Regulators:

1. **Manufacturers**: Subject to compliance with requirements, provide products by the following:
   a. WATTS; A Watts Water Technologies Company.
   b. Apollo Flow Controls: Conbraco Industries, Inc.
   c. or approved equal.

2. **Description**:
   b. Body Material: Bronze for NPS 2 and smaller; cast iron with interior lining complying with AWWA C550 or that is FDA approved for NPS 2-1/2 and NPS 3.
   c. Pressure Rating: Initial pressure of 150 psig.
   d. End Connections: Threaded for NPS 2 and smaller; flanged for NPS 2-1/2 and NPS 3.

B. Water Control Valves:

1. **Manufacturers**: Subject to compliance with requirements, provide products by one of the following:
   a. WATTS; A Watts Water Technologies Company.
   b. Zurn Industries, LLC.
c. or approved equal.

2. Description: Pilot-operation, diaphragm-type, single-seated main water control valve. Include small pilot control valve, restrictor device, specialty fittings, and sensor piping.
   a. Main Valve Body: Cast- or ductile-iron body with AWWA C550 or FDA-approved, interior epoxy coating; or stainless-steel body.
   b. Pattern: Angle-valve design.
   c. Trim: Stainless steel.
   d. Pressure Rating: Initial pressure of 150 psig minimum.
   e. End Connections: Threaded for NPS 2 and smaller; gasket joint for NPS 2-1/2 and larger.

2.5 AUTOMATIC CONTROL VALVES

A. Plastic, Automatic Control Valves:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   b. Rain Bird Corporation.

2. Description: Molded-plastic body, normally closed, diaphragm type with manual-flow adjustment, and operated by 24-V ac solenoid.

2.6 AUTOMATIC DRAIN VALVES

A. Description: Spring-loaded-ball type of corrosion-resistant construction and designed to open for drainage if line pressure drops below 2-1/2 to 3 psig.

2.7 TRANSITION FITTINGS

A. General Requirements: Same size as, and with pressure rating at least equal to and with ends compatible with, piping to be joined.

B. Transition Couplings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Ford Meter Box Company, Inc. (The).
   b. JCM Industries, Inc.
   c. Smith-Blair, a Xylem brand.
   d. or approved equal

2. Description: AWWA C219, metal sleeve-type coupling for underground pressure piping.

C. Plastic-to-Metal Transition Unions:

1. <Click here to find, evaluate, and insert list of manufacturers and products.>

2. Description: MSS SP-107, PVC four-part union. Include one brass [or stainless-steel] threaded end, one solvent-cement-joint [or threaded] plastic end, rubber O-ring, and union nut.
2.8 MISCELLANEOUS PIPING SPECIALTIES

A. Water Hammer Arresters: ASSE 1010 or PDI WH 201, with bellows or piston-type pressurized cushioning chamber and in sizes complying with PDI WH 201, Sizes A to F.

B. Pressure Gages: ASME B40.1. Include 4-1/2-inch-diameter dial, dial range of two times system operating pressure, and bottom outlet.

2.9 SPRINKLERS

A. General Requirements: Designed for uniform coverage over entire spray area indicated at available water pressure.

B. Plastic, Pop-up, Gear-Drive Rotary Sprinklers:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   b. Rain Bird Corporation.
   c. or approved equal.

2. Description:
   a. Body Material: ABS.
   b. Nozzle: ABS.
   c. Retraction Spring: Stainless steel.
   d. Internal Parts: Corrosion resistant.

C. Metal, Pop-up, Impact-Drive Rotary Sprinklers:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
   a. Rainbird.
   b. or approved equal.

2. Description:
   a. Case: Brass.
   c. Pop-up Height: 4 inches Approximately 3 inches aboveground to nozzle.
   d. Sprinkler Construction: Brass and other corrosion-resistant metals.

D. Plastic, Surface Spray Sprinklers:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
   a. Rain Bird Corporation.
   b. or approved equal.

2. Description:
   a. Body Material and Flange: ABS.
   b. Pattern: Fixed, with flow adjustment.

E. Metal, Surface, Pop-up Spray Sprinklers:
1. **Manufacturers:** Subject to compliance with requirements, provide products by the following:
   a. Rain Bird Corporation.
   b. Hunter
   c. or approved equal.

2. **Description:**
   c. Pattern: Fixed, with flow adjustment.

F. Plastic, Surface, Pop-up Spray Sprinklers:

1. **Manufacturers:** Subject to compliance with requirements, provide products by the following:
   a. Rain Bird Corporation.
   b. Hunter
   c. or approved equal.

2. **Description:**
   a. Body Material and Flange: ABS.
   b. Pattern: Fixed, with flow adjustment.

G. Plastic, Pop-up Spray Sprinklers:

1. **Manufacturers:** Subject to compliance with requirements, provide products by one of the following:
   b. Rain Bird Corporation.
   c. or approved equal.

2. **Description:**
   a. Body Material: ABS.
   b. Nozzle: ABS.
   c. Retraction Spring: Stainless steel.
   d. Internal Parts: Corrosion resistant.
   e. Pattern: Fixed, with flow adjustment.

2.10 QUICK COUPLERS

A. **Manufacturers:** Subject to compliance with requirements, provide products by the following:

1. Rain Bird Corporation.
2. Netafim USA
3. or approved equal.

B. **Description:** Factory-fabricated, bronze or brass, two-piece assembly. Include coupler water-seal valve; removable upper body with spring-loaded or weighted, rubber-covered cap; hose swivel with ASME B1.20.7, 3/4-11.5NH threads for garden hose on outlet; and operating key.

1. Locking-Top Option: Vandal-resistant locking feature. Include one matching key(s).
2.11 CONTROLLERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

2. Rain Bird Corporation.
3. or approved equal.

B. Description:

1. Controller Stations for Automatic Control Valves: Each station is variable from approximately 5 to 60 minutes. Include switch for manual or automatic operation of each station.
2. Exterior Control Enclosures: NEMA 250, Type 4, weatherproof, with locking cover and two matching keys; include provision for grounding.
   b. Mounting: Surface type for wall.
3. Interior Control Enclosures: NEMA 250, Type 12, dripproof, with locking cover and two matching keys.
   b. Mounting: Surface type for wall.
5. Timing Device: Adjustable, 24-hour, 14-day clock, with automatic operations to skip operation any day in timer period, to operate every other day, or to operate two or more times daily.
   a. Manual or Semiautomatic Operation: Allows this mode without disturbing preset automatic operation.
   c. Surge Protection: Metal-oxide-varistor type on each station and primary power.
6. Moisture Sensor: Adjustable from one to seven days, to shut off water flow during rain.
7. Smart Controllers: Use ET, tested in accordance with IA SWAT Climatological Based Controllers 8th Draft Testing Protocol and compliant with ASHRAE Standard 189.1.
8. Wiring: UL 493, Type UF multiconductor, with solid-copper conductors; insulated cable; suitable for direct burial.
   a. Feeder-Circuit Cables: No. 12 AWG minimum, between building and controllers.
   b. Low-Voltage, Branch-Circuit Cables: No. 14 AWG minimum, between controllers and automatic control valves; color-coded different from feeder-circuit-cable jacket color; with jackets of different colors for multiple-cable installation in same trench.
   c. Splicing Materials: Manufacturer's packaged kit consisting of insulating, spring-type connector or crimped joint and epoxy resin moisture seal; suitable for direct burial.
9. Concrete Base: Reinforced precast concrete not less than 36 by 24 by 4 inches thick, and 6 inches greater in each direction than overall dimensions of controller. Include opening for wiring.
2.12 BOXES FOR AUTOMATIC CONTROL VALVES

A. Plastic Boxes:

1. **Manufacturers:** Subject to compliance with requirements, provide products by the following:
   a. Armorcast Products Company; brand of Hubbell Utility Solutions; Hubbell Incorporated.
   b. Ametec
   c. Carson
   d. or approved equal

2. **Description:** Box and cover, with open bottom and openings for piping; designed for installing flush with grade.
   a. **Size:** As required for valves and service.
   b. **Shape:** Rectangular.
   c. **Sidewall Material:** PE, ABS, or FRP.
   d. **Cover Material:** PE, ABS, or FRP.
   1) **Lettering:** "IRRIGATION."

B. Drainage Backfill: Cleaned gravel or crushed stone, graded from 3/4 inch minimum to 3 inches maximum.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Excavating, trenching, and backfilling are specified in Section 312000 "Earth Moving."

B. Install warning tape directly above pressure piping, [12 inches] below finished grades, except 6 inches below subgrade under pavement and slabs.

C. Drain Pockets: Excavate to sizes indicated. Backfill with cleaned gravel or crushed stone, graded from [3/4 to 3 inches] to 12 inches below grade. Cover gravel or crushed stone with sheet of asphalt-saturated felt and backfill remainder with excavated material.

D. Provide minimum cover over top of underground piping according to the following:

   1. **Irrigation Main Piping:** Minimum depth of 36 inches 18 inches below finished grade, or not less than 18 inches <Insert value> below average local frost depth, whichever is deeper.
   2. **Circuit Piping:** <Insert value>.
   3. **Drain Piping:** 12 inches.
   4. **Sleeves:** 18 inches.

3.2 PREPARATION

A. Set stakes to identify locations of proposed irrigation system. Obtain Architect's approval before excavation.
3.3 PIPING INSTALLATION

A. Location and Arrangement: Drawings indicate location and arrangement of piping systems. Install piping as indicated unless deviations are approved on Coordination Drawings.

B. Install piping at minimum uniform slope of 0.5 percent down toward drain valves.

C. Install piping free of sags and bends.

D. Install groups of pipes parallel to each other, spaced to permit valve servicing.

E. Install fittings for changes in direction and branch connections.

F. Install unions adjacent to valves and to final connections to other components with NPS 2 or smaller pipe connection.

G. Install flanges adjacent to valves and to final connections to other components with NPS 2-1/2 or larger pipe connection.

H. Install underground thermoplastic piping according to ASTM D 2774.

I. Install expansion loops in control-valve boxes for plastic piping.

J. Lay piping on solid subbase, uniformly sloped without humps or depressions.

K. Install ductile-iron piping according to AWWA C600.

L. Install PVC piping in dry weather when temperature is above 40 deg F. Allow joints to cure at least 24 hours at temperatures above 40 deg F before testing.

M. Install water regulators with shutoff valve and strainer on inlet and pressure gage on outlet. Install shutoff valve on outlet. Install aboveground or in control-valve boxes.

N. Water Hammer Arresters: Install between connection to building main and circuit valves aboveground or in control-valve boxes.

O. Install piping in sleeves under parking lots, roadways, and sidewalks.

P. Install sleeves made of Schedule 40 PVC pipe and socket fittings, and solvent-cemented joints.

Q. Install transition fittings for plastic-to-metal pipe connections according to the following:

1. Underground Piping:
   a. NPS 1-1/2 and Smaller: Plastic-to-metal transition fittings.
   b. NPS 2 and Larger: AWWA transition couplings.

2. Aboveground Piping:
   a. NPS 2 and Smaller: Plastic-to-metal transition fittings.
   b. NPS 2 and Larger: Use dielectric flange kits with one plastic flange.
3.4 JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
   1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
   2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

D. Flanged Joints: Select rubber gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.

E. Ductile-Iron Piping Gasketed Joints: Comply with AWWA C600 and AWWA M41.


G. Copper-Tubing Soldered Joints: Apply ASTM B 813 water-flushable flux to tube end unless otherwise indicated. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy (0.20 percent maximum lead content) complying with ASTM B 32.

H. PE Piping Fastener Joints: Join with insert fittings and bands or fasteners according to piping manufacturer's written instructions.

I. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.
   1. Plain-End PE Pipe and Fittings: Use butt fusion.
   2. Plain-End PE Pipe and Socket Fittings: Use socket fusion.

J. PVC Piping Solvent-Cemented Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
   1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
   2. PVC Pressure Piping: Join schedule number, ASTM D 1785, PVC pipe and PVC socket fittings according to ASTM D 2672. Join other-than-schedule-number PVC pipe and socket fittings according to ASTM D 2855.
   3. PVC Nonpressure Piping: Join according to ASTM D 2855.
3.5 VALVE INSTALLATION

A. Underground Curb Valves: Install in curb-valve casings with tops flush with grade.

B. Underground Iron Gate Valves, Resilient Seat: Comply with AWWA C600 and AWWA M44. Install in valve casing with top flush with grade.
   1. Install valves and PVC pipe with restrained, gasketed joints.

C. Aboveground Valves: Install as components of connected piping system.

D. Pressure-Reducing Valves: Install in boxes for automatic control valves or aboveground between shutoff valves.

E. Throttling Valves: Install in underground piping in boxes for automatic control valves.

F. Drain Valves: Install in underground piping in boxes for automatic control valves.

3.6 SPRINKLER INSTALLATION

A. Install sprinklers after hydrostatic test is completed.

B. Install sprinklers at manufacturer's recommended heights.

C. Locate part-circle sprinklers to maintain a minimum distance of 4 inches from walls and 2 inches from other boundaries unless otherwise indicated.

3.7 AUTOMATIC IRRIGATION-CONTROL SYSTEM INSTALLATION

A. Equipment Mounting: Install interior controllers on wall.
   1. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
   2. Install anchor bolts to elevations required for proper attachment to supported equipment.

B. Equipment Mounting: Install exterior freestanding controllers on precast concrete bases.
   1. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
   2. Install anchor bolts to elevations required for proper attachment to supported equipment.

C. Install control cable in same trench as irrigation piping and at least 2 inches below or beside piping. Provide conductors of size not smaller than recommended by controller manufacturer. Install cable in separate sleeve under paved areas.

3.8 CONNECTIONS

A. Comply with requirements for piping specified in Section 221113 "Facility Water Distribution Piping" for water supply from exterior water service piping, water meters, protective enclosures,
and backflow preventers. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Install piping adjacent to equipment, valves, and devices to allow service and maintenance.

C. Connect wiring between controllers and automatic control valves.

3.9 IDENTIFICATION

A. Identify system components. Comply with requirements for identification specified in Section 220553 "Identification for Plumbing Piping and Equipment."

B. Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplates and signs on each automatic controller.

1. Text: In addition to identifying unit, distinguish between multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations.

C. Warning Tapes: Arrange for installation of continuous, underground, detectable warning tapes over underground piping during backfilling of trenches. See Section 312000 "Earth Moving" for warning tapes.

3.10 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
2. Operational Test: After electrical circuitry has been energized, operate controllers and automatic control valves to confirm proper system operation.
3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

B. Any irrigation product will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

3.11 STARTUP SERVICE

A. Perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. Verify that controllers are installed and connected according to the Contract Documents.
3. Verify that electrical wiring installation complies with manufacturer's submittal.

B. Perform winterization Service.

1. Complete (1) system shut down with training.
3.12 ADJUSTING
A. Adjust settings of controllers.
B. Adjust automatic control valves to provide flow rate at rated operating pressure required for each sprinkler circuit.
C. Adjust sprinklers and devices, except those intended to be mounted aboveground, so they will be flush with, or not more than 1/4 inch above, finish grade.

3.13 CLEANING
A. Flush dirt and debris from piping before installing sprinklers and other devices.

3.14 DEMONSTRATION
A. Train Owner's maintenance personnel to adjust, operate, and maintain automatic control valves and controllers.

3.15 PIPING SCHEDULE
A. Install components having pressure rating equal to or greater than system operating pressure.
B. Piping in control-valve boxes and aboveground may be joined with flanges or unions instead of joints indicated.
C. Underground irrigation main piping, 3 inch to 211/2 inch, shall be the following:
   1. Schedule 40, PVC pipe and socket fittings, and solvent-cemented joints.
D. Circuit piping, NPS 2-1/2 to NPS 4 1-2 inch, shall be the following:
   1. PE, controlled ID pipe; insert fittings for PE pipe; and banded or fastener joints.
   2. PE, controlled OD pipe; PE socket or butt-fusion fittings; and heat-fusion joints. NPS 3 pipe and fittings if NPS 2-1/2 pipe and fittings are not available.
   3. Schedule 40, PVC pipe and socket fittings; and solvent-cemented joints.
   4. SDR 26, PVC, pressure-rated pipe; Schedule 40, PVC socket fittings; and solvent-cemented joints.
E. Underground Branches and Offsets at Sprinklers and Devices: Schedule 80, PVC pipe; threaded PVC fittings; and threaded joints.
   1. Option: Plastic swing-joint assemblies, with offsets for flexible joints, manufactured for this application.
F. Risers to Aboveground Sprinklers and Specialties: hard copper tube, wrought-copper fittings, and soldered joints.
G. Risers to Aboveground Sprinklers and Specialties: Schedule 80, PVC pipe and socket fittings; and solvent-cemented joints.

H. Drain piping shall be one of the following:
   1. SDR 21, 26, or 32.5, PVC, pressure-rated pipe; Schedule 40, PVC socket fittings; and solvent-cemented joints.

3.16 VALVE SCHEDULE

A. Drain Valves:
   1. NPS 1/2 and NPS 3/4: Plastic ball valve.
   2. NPS 1 to NPS 2: Plastic ball valve.

END OF SECTION 328400
SECTION 329119 - LANDSCAPE GRADING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Final grade topsoil for finish landscaping.

B. Related Sections:
   1. Section 312213 - Rough Grading: Site contouring.
   2. 329113 - Soil Preparation
   3. 329200 - Turf and Grasses

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Topsoil:
   2. Basis of Payment: Includes excavating existing topsoil, supplying topsoil materials, stockpiling, preparing and scarifying substrate surface, placing where required, and rolling.

1.3 SUBMITTALS

A. Materials Source: Submit name of imported materials source.

1.4 QUALITY ASSURANCE

A. Furnish each topsoil material from single source throughout the Work.


PART 2 - PRODUCTS

2.1 MATERIAL

A. Topsoil: Fill Type S2 as specified in Section 329300.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 013000 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify substrate base has been contoured and compacted.

3.2 PREPARATION

A. Protect landscaping and other features remaining as final Work.

B. Protect existing structures, sidewalks, utilities, paving, and curbs.

3.3 SUBSTRATE PREPARATION

A. Eliminate uneven areas and low spots.


C. Scarify surface to depth of 3 [6] _______ inches where topsoil is scheduled. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

3.4 PLACING TOPSOIL

A. Place topsoil in areas where seeding, is required. to thickness as scheduled. Place topsoil during dry weather.

B. Fine grade topsoil to eliminate rough or low areas. Maintain profiles and contour of subgrade.

C. Remove roots, weeds, rocks, and foreign material while spreading.

D. Manually spread topsoil close to plant material, and path to prevent damage.

E. Roll placed topsoil.

F. Remove surplus subsoil and topsoil from site.

G. Leave stockpile area and site clean and raked, ready to receive landscaping.

3.5 TOLERANCES

A. Section 014000 - Quality Requirements: Tolerances.

B. Top of Topsoil: Plus or minus 1/2 _______ inch.
3.6 PROTECTION OF INSTALLED WORK

A. Section 017000 - Execution and Closeout Requirements: Requirements for protecting finished Work.

B. Prohibit construction traffic over topsoil.

3.7 SCHEDULES

A. Compacted topsoil thicknesses:


END OF SECTION 329119
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. Hydroseeding.
B. Related Requirements:
   1. Section 329300 "Plants" for trees, shrubs, ground covers, and other plants as well as border edgings and mow strips.

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. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
C. Pests: Living organisms that occur where they 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 Project site.
1.5 INFORMATIONAL SUBMITTALS
   A. Qualification Data: For landscape Installer.
   B. Product Certificates: For fertilizers, from manufacturer.

1.6 CLOSEOUT SUBMITTALS
   A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of turf 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 establishment.
      1. Professional Membership: Installer shall be a member in good standing of either the National Association of Landscape Professionals or AmericanHort.
      2. Experience: Five 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 National Association of Landscape Professionals:
         a. Landscape Industry Certified Technician - Exterior.
         b. Landscape Industry Certified Lawn Care Manager.
         c. Landscape Industry Certified Lawn Care 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. Bulk Materials:
      1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
      2. Accompany each delivery of bulk materials with appropriate certificates.

1.9 FIELD CONDITIONS
   A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of Substantial Completion.

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 SEED MIXES

A. Use the following seed mix for all areas:

1. 30% Improved Perennial Rye
2. 30% Turf Type Tall Fescue
3. 35% Chewings Fescue
4. 5% Miniature or Dutch White Clover

B. Available from:

1. Allen's Seed Store - 693 S County Trail Exeter, RI 02822 Phone: 401-294-2722
2. Approved Equal

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: fertilizer to have a ratio of 18 Nitrogen (N) - 24 Phosphorous (P) - 12 Potassium (K)

B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

1. Composition: fertilizer to have a ratio of 18 Nitrogen (N) - 24 Phosphorous (P) - 12 Potassium (K)

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 adjacent and adjoining areas from hydroseeding and hydromulching overspray.
2. Protect grade stakes set by others until directed to remove them.

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.

C. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry
before planting. Do not create muddy soil.

D. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded
or otherwise disturbed after finish grading.

3.4 HYDROSEEDING

A. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment
specifically designed for hydroseed application. Continue mixing until uniformly blended into
homogeneous slurry suitable for hydraulic application.

1. Mix slurry with fiber-mulch manufacturer's recommended tackifier.
2. Spray-apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry
at a rate so that mulch component is deposited at not less than 1500-lb/acre dry weight,
and seed component is deposited at not less than the specified seed-sowing rate.

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 remulch 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. Mowing:** 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 the following grass height:

1. Mow to a height of 1-1/2 to 2 inches.

**3.6 SATISFACTORY TURF**

A. 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. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

B. 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.

3.9 MAINTENANCE SERVICE

END OF SECTION 329200
SECTION 334200 - STORMWATER CONVEYANCE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Stormwater drainage piping.
   2. Catch basins/area drains.
   3. Bedding and cover materials.

B. Related Requirements:
   1. Section 31213 - Rough Grading.
   2. Section 312316.13 - Trenching: Execution requirements for trenching as required by this Section.

1.2 DEFINITIONS

A. ABS: Acrylonitrile butadiene styrene.

1.3 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 012000 - Price and Payment Procedures: Contract Sum/Price modification procedures.

B. Pipe and Fittings:
   2. Basis of Payment: Includes excavating, removing soft subsoil, bedding and fill, geotextile fabric, pipe and fittings, accessories, and connecting to building service piping and to municipal sewer.

1.4 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:
   2. AASHTO M294 - Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter.
   3. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg Rammer and a 457-mm Drop.

B. ASTM International:
4. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

1.5 COORDINATION

A. Coordinate Work of this Section with termination of storm sewer connection outside building, trenching, connection to existing catch basins.

1.6 PREINSTALLATION MEETINGS

A. Convene minimum one week prior to commencing Work of this Section.

1.7 SUBMITTALS

A. Product Data: Submit manufacturer information describing pipe, pipe accessories.
B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
C. Manufacturer Instructions: Submit special procedures required to install specified products.
D. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
E. Qualifications Statement:
   1. Submit qualifications for manufacturer.

1.8 CLOSEOUT SUBMITTALS

A. Section 017000 - Execution and Closeout Requirements: Requirements for submittals.
B. Project Record Documents: Record actual locations of pipe runs, connections, catch basins, cleanouts, and invert elevations.
C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.9 QUALITY ASSURANCE

A. Perform Work according to RIDOT Standard Specifications for Road and Bridge Construction standards Current Edition.
1.10 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.

1.11 DELIVERY, STORAGE, AND HANDLING

A. Section 016000 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Store materials according to manufacturer instructions.

D. Protection:
   1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
   2. Provide additional protection according to manufacturer instructions.

1.12 EXISTING CONDITIONS

A. Field Measurements:
   1. Verify field measurements prior to fabrication.
   2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 STORM DRAINAGE PIPING

A. HDPE Piping:
   1. Pipe:
      b. Corrugated
      c. Perforated
   2. Fittings: HDPE.
   3. Joints:
      a. Type: Snap fittings.
   4. Accessories:
      a. Geotextile Filter Sock

B. Area Drains
   1. 12" Square Catch Basin
2.2 MATERIALS

A. Bedding and Cover:
   1. Bedding: #2 Crushed Stone as Specified in Section 312316.13
   2. Cover: 3/4" Crushed Stone, as specified in Section 312316.13.
   3. Soil Backfill from above Pipe to Finish Grade: Loam as specified in Section 312316.13.
   4. Subsoil: No rocks more than 6 inches in diameter, frozen earth, or foreign matter.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 017000 - Execution and Closeout Requirements: Requirements for installation examination.
   B. Verify that excavation base is ready to receive Work of this Section.
   C. Verify that excavations, dimensions, and elevations are as indicated on Drawings.

3.2 PREPARATION

A. Section 017000 - Execution and Closeout Requirements: Requirements for installation preparation.
   B. Correct over-excavation with coarse aggregate.
   C. Remove large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.

3.3 INSTALLATION

A. Excavation and Bedding:
   1. Excavate trench to [12] 6 inches below pipe invert, and as specified in Section 312316.13 - Trenching.
   2. Hand trim excavation for accurate placement of piping to indicated elevations.
   3. Place bedding material at trench bottom.
   5. Maintain optimum moisture content of bedding material to attain required compaction density.
6. Level fill materials in continuous layers not exceeding 6 [8] <_______> inches in depth, and compact to 95 percent maximum density.  
7. Place geotextile fabric over compacted bedding.

B. Piping:  
1. Place pipe on minimum 6-inch- deep bed of #2 filter aggregate.  
2. Install 3/4" crushed stone at sides and over top of pipe.  
3. Install top cover and compact to 95 percent maximum density.  
4. Backfilling and Compaction:  
   a. Do not displace or damage pipe while compacting.  
5. Connect to existing catch basins , through installed sleeves.  
6. Installation Standards: Install Work according to RIDOT Standard Specifications for Road and Bridge Construction standards.

3.4 TOLERANCES  
A. Section 014000 - Quality Requirements: Requirements for tolerances.  
B. Maximum Variation from Indicated Pipe Slope: 1/8 <________> inch in 10 <_______> feet.

3.5 FIELD QUALITY CONTROL  
A. Section 014000 - Quality Requirements: Requirements for inspecting and testing.  
B. Inspection:  
   1. Request inspection by Architect/Engineer prior to placing aggregate cover over pipe.  
C. Testing:  
   1. Piping:  
   2. If tests indicate that Work does not meet specified requirements, remove Work, replace, and retest.

3.6 PROTECTION  
A. Section 017000 - Execution and Closeout Requirements: Requirements for protecting finished Work.  
B. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.

END OF SECTION 334200
The backflow enclosure shall be of a vandal and weather resistant nature manufactured entirely of marine grade aluminum alloy 5052-H32, with a wall thickness of one eighth inch. The mounting base shall be manufactured entirely of stainless steel. The main housing shall be of solid sheet construction punched on the sides with a rectangular pattern for viewing backflow operation. The enclosure shall be a center split design, having mounting lips on each end. The mounting base shall be submerged into the concrete a minimum of two inches, positioning the enclosure one and one half inches above the concrete for drainage purposes. The locking mechanism shall be of the full release type which allows for complete removal of the enclosure from its mounting base without the use of tools. The locking mechanism shall be a Stainless Steel Cross Bar style and provide for a padlock.
EROSION & SEDIMENT CONTROL NOTES

1. THE SITE CONSTRUCTION FORMS SHALL BE DESIGNATED AS THE ON-SITE PERSONNEL RESPONSIBLE FOR THE DAILY INSPECTION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MATERIALS AND EQUIPMENT. NO RESPONSIBILITY FOR ANY MATERIALS IS CARRIED BY THE OWNERS REPRESENTATIVE OR RESPONSIBLE PERSON.

2. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES AS SHOWN ON THE DESIGN PLANS AND SPECIFICATIONS. ONLY MATERIALS APPROVED AS SEVERAL IMPERMEABLE, PAVING STABLE, OR OTHER APPROVED MATERIALS MAY BE USED.

3. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES AS SHOWN ON THE DESIGN PLANS AND SPECIFICATIONS. ONLY MATERIALS APPROVED AS SEVERAL IMPERMEABLE, PAVING STABLE, OR OTHER APPROVED MATERIALS MAY BE USED.

4. ANY DEVIATION FROM THE REQUIREMENTS OF THIS FORM IS REQUIRED. THE CONTRACTOR IS TO IMMEDIATELY CONTACT AND CONFIRM WITH THE LANDSCAPE ARCHITECT AND THE OWNERS REPRESENTATIVE PRIOR TO THE WORK.

5. ALL LAYOUTS FOR WALKS AND PATHS SHALL BE ACTUALLY MARKED BY THE CONTRACTOR AND APPROVED BY THE OWNERS REPRESENTATIVE PRIOR TO CONSTRUCTION.

6. ALL SYSTEMS TRANSITIONED TO BE CONSTRUCTED AS SHOWN ON THE SITE PLAN.

GRADING NOTES

1. EXISTING GRADE CONTOUR INTERVALS ARE SHOWN AT 1'-0"

2. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ACHIEVE THE DESIRED GRADE.

3. EXISTING CONDITIONS AND FEATURES, WHEREAS THE PLANS DO NOT SHOW ALL LANDSCAPING FEATURES.

4. CONTRACTOR SHALL ADJUST AND/or CUT EXISTING PAVEMENT AS NECESSARY TO ACHIEVE THE DESIRED GRADE.

5. CONTRACTOR SHALL ADJUST AND/or CUT EXISTING PAVEMENT AS NECESSARY TO ACHIEVE THE DESIRED GRADE.

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23. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ACHIEVE THE DESIRED GRADE.

24. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ACHIEVE THE DESIRED GRADE.
NOTES:

1. SILT SOCK MANUFACTURER SHALL BE SILT SOCK OR ENGINEER APPROVED EQUAL.
2. ALL MATERIAL TO MEET MANUFACTURER’S SPECIFICATIONS.
3. Silt sock shall be filled with leaf compost and/or woody mulch per manufacturer’s requirements.
4. Following construction and site stabilization, compost material shall be removed or dispersed on site, as approved by the engineer.

MINIMUM 12" CLEARANCE AROUND TREE

6" STANDARD STEEL POST, R/O.C.
PLASTIC CONSTRUCTION FENCING PER SPEC.
EXISTING GRADE

STORM DRAIN LINE (APPROXIMATE)

OFFICIAL LITTLE LEAGUE INFIELD

CHAINLINK FENCE

PROPERTY LINE (APPROXIMATE)

EXISTING CONSTRUCTION & DEMOLITION PLAN

JAMES AHERN PARK IMPROVEMENTS

PROVIDENCE PARKS

WALLACE ST.

DALRYMPLE BOATHOUSE

EXISTING TREE

DISTURBED AREAS SHALL NOT EXTEND BEYOND THE SAWCUT.

CLEAN SAWED-OUT POINTS WITH COMPRESSED AIR.

APPLY JOINT AND MATERIAL FLUIDS FROM THE BOTTOM UP.

KEEP SAWCUT SUCH THAT AFTER ELEVATING THE LEVEL OF THE DRAINER, THE SAWCUT WILL NOT BE GREATER THAN 1" BELOW THE PAVEMENT SURFACE.

CARE SHALL BE TAKEN DURING SEALING TO ENSURE THAT THE FINAL APPEARANCE WILL PRESENT A NEAT LINE.

CARE SHALL BE TAKEN DURING SEALING TO ENSURE THAT THE FINAL APPEARANCE WILL PRESENT A NEAT LINE.
IRRIGATION NOTES

1. Mark out proposed irrigation heads and valve boxes.
2. Replace existing water pit with above grade service cabinet on concrete pad.
3. Contractor to remove and salvage existing irrigation heads, controls, valve and controller.
4. Contractor shall re-install existing 2" water line to water service cabinet box of 3/4"-2" IPS and PVC sizing to serve backflow meter and valve (as specified by PVC water).
5. Contractor shall pay for new water service installation.
6. Contractor shall install 2" PVC to field with appropriate thrust blocking.
7. Contractor shall furnish and install sprinklers, lateral piping and controllers.

FLOW AND METER DETAILS SHEET

REFER TO NOTES AND TABLES AS PROVIDED

IRRIGATION MAIN LINE DETAIL

WATER

DUAL CHECK VALVE (PORTABLE)

ABOVE GROUND ENCLOSURE

METER WITH DUAL CHECK VALVE DIAGRAM

IRRIGATION SCHEDULE

1. Tape wire at 1'-2' intervals.
2. Tie lose loop of wire at change of direction.

IRRIGATION LINES SHALL BE POLYETHYLENE, SIZED AS SHOWN.

IRRIGATION LINES: PVC CLASS 200 (5 OR 21)

RAIN BIRD WRC-RFC RAIN SHUT-OFF Device
RAIN BIRD 20-STA CONTROLLER (METAL PED)
2" BACKFLOWS PREVENTER (RSP2) IN ENCLOSURE TO BE LOCATED BY OWNER.
**NOTES:**

1. USE A PROCESSED WOOD FIBER MULCH OR WOODEPAPER BDUDD:
2. ADD 1.0 QG TONIC & 1 L-2 STARTER FERTILIZER TO LOAM PRIOR TO HYDROSEEDING:
3. DEPTH OF LOAM MAY BE LESS THAN 6" IN AREAS OF TRANSITION PEATING TO EXISTING LAWN AND FOR REPAIR TO DISTURBED AREAS.
4. DISTURBED AREAS TO BE AERATED, TOP-DRESSED W LOAM & SLICE-SEEDED.

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**GRASS SEED MIX**

- IMPROVED PERENNIAL RYE
- TURF TYPE TALL FESCUE
- MINIATURE OR DUTCH WHITE CLOVER

---

**LOAM & HYDROSEED DETAIL**

1. CORNER POST CAP (7")
2. RAIL END ASSEMBLY
3. 1-3/4" DIA. TOP & INTERMEDIATE RAIL (VINYL COATED STEEL PIPE)
4. TENSION BAND (1")
5. 8' HT. & 6 GA. 3" MESH BLACK VINYL COATED FENCE FABRIC
6. 3" DIA. TERMINAL POST (VINYL COATED STEEL PIPE)
7. 1-3/4" DIA. BOTTOM RAIL (VINYL COATED STEEL PIPE)
8. 6 GA. TENSION WIRE
9. PROCESSED GRAVEL AT 90 DEGREE COMPACTION
10. CORNER POST CAP (TYP.)
11. 2-12" DIA. INTERMEDIATE POST (VINYL COATED STEEL PIPE)
12. 6" DIA. CONC. FOOTING AT INTERMEDIATE POSTS (TYP.)
13. DRY CAST CONCRETE AT 4000 PSI AIR ENTRAINED CONCRETE STEP W FIBERGLASS REINFORCEMENT
14. COMPACTED AGGREGATE BASE
15. RECOMPACTED SUBGRADE

**2" BITUMINOUS ASPHALT PAVING DETAIL**

1. NEW ASPHALT WEARING COURSE, PER SPECS.
2. COMPACTED AGGREGATE BASE.
3. GRADE AS NEEDED TO MATCH EXISTING WALKWAY SLOPE.
4. COMPACTED SUBGRADE

**4" CONCRETE PAD DETAIL**

1. FINISHED GRADE
2. HOLE RAINdb (1")
3. CONCRETE STEP W FIBERGLASS REINFORCEMENT
4. COMPACTED AGGREGATE BASE
5. RECOMPACTED SUBGRADE

---

**8' HT. HEAVY DUTY BLACK VINYL CHAIN LINK FENCE DETAIL**

1. ALL POSTS AND RAILS TO BE HEAVY-DUTY (20WT) CONSTRUCTION.
2. FENCING TO BE TIED TO TOP RAILS & LINE POSTS W 6 GA. WIRE SPACED AT 12".
3. BRACE ALL CORNERS & TERMINAL POSTS W 1-3/4" DIA. BLACK VINYL COATED STEEL PIPE AND APPROPRIATE FASTENERS.
4. ALL FENCE ELEMENTS SHALL BE OF BLACK VINYL COATED STEEL CONSTRUCTION.

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**NOTES (continued):**

1. ALL POSTS AND RAILS TO BE HEAVY-DUTY (20WT) CONSTRUCTION.
2. FENCING TO BE TIED TO TOP RAILS & LINE POSTS W 6 GA. WIRE SPACED AT 12".
3. BRACE ALL CORNERS & TERMINAL POSTS W 1-3/4" DIA. BLACK VINYL COATED STEEL PIPE AND APPROPRIATE FASTENERS.
4. ALL FENCE ELEMENTS SHALL BE OF BLACK VINYL COATED STEEL CONSTRUCTION.

---

**NOTES:**

1. USE A PROCESSED WOOD FIBER MULCH OR WOODEPAPER BDUDD:
2. ADD 1.0 QG TONIC & 1 L-2 STARTER FERTILIZER TO LOAM PRIOR TO HYDROSEEDING:
3. DEPTH OF LOAM MAY BE LESS THAN 6" IN AREAS OF TRANSITION PEATING TO EXISTING LAWN AND FOR REPAIR TO DISTURBED AREAS.
4. DISTURBED AREAS TO BE AERATED, TOP-DRESSED W LOAM & SLICE-SEEDED.

---

**GRASS SEED MIX**

- IMPROVED PERENNIAL RYE
- TURF TYPE TALL FESCUE
- MINIATURE OR DUTCH WHITE CLOVER

---

**LOAM & HYDROSEED DETAIL**

1. CORNER POST CAP (7")
2. RAIL END ASSEMBLY
3. 1-3/4" DIA. TOP & INTERMEDIATE RAIL (VINYL COATED STEEL PIPE)
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6. 3" DIA. TERMINAL POST (VINYL COATED STEEL PIPE)
7. 1-3/4" DIA. BOTTOM RAIL (VINYL COATED STEEL PIPE)
8. 6 GA. TENSION WIRE
9. PROCESSED GRAVEL AT 90 DEGREE COMPACTION
10. CORNER POST CAP (TYP.)
11. 2-12" DIA. INTERMEDIATE POST (VINYL COATED STEEL PIPE)
12. 6" DIA. CONC. FOOTING AT INTERMEDIATE POSTS (TYP.)
13. DRY CAST CONCRETE AT 4000 PSI AIR ENTRAINED CONCRETE STEP W FIBERGLASS REINFORCEMENT
14. COMPACTED AGGREGATE BASE
15. RECOMPACTED SUBGRADE

**2" BITUMINOUS ASPHALT PAVING DETAIL**

1. NEW ASPHALT WEARING COURSE, PER SPECS.
2. COMPACTED AGGREGATE BASE.
3. GRADE AS NEEDED TO MATCH EXISTING WALKWAY SLOPE.
4. COMPACTED SUBGRADE

**4" CONCRETE PAD DETAIL**

1. FINISHED GRADE
2. HOLE RAINdb (1")
3. CONCRETE STEP W FIBERGLASS REINFORCEMENT
4. COMPACTED AGGREGATE BASE
5. RECOMPACTED SUBGRADE

---

**8' HT. HEAVY DUTY BLACK VINYL CHAIN LINK FENCE DETAIL**

1. ALL POSTS AND RAILS TO BE HEAVY-DUTY (20WT) CONSTRUCTION.
2. FENCING TO BE TIED TO TOP RAILS & LINE POSTS W 6 GA. WIRE SPACED AT 12".
3. BRACE ALL CORNERS & TERMINAL POSTS W 1-3/4" DIA. BLACK VINYL COATED STEEL PIPE AND APPROPRIATE FASTENERS.
4. ALL FENCE ELEMENTS SHALL BE OF BLACK VINYL COATED STEEL CONSTRUCTION.

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**NOTES:**

1. USE A PROCESSED WOOD FIBER MULCH OR WOODEPAPER BDUDD:
2. ADD 1.0 QG TONIC & 1 L-2 STARTER FERTILIZER TO LOAM PRIOR TO HYDROSEEDING:
3. DEPTH OF LOAM MAY BE LESS THAN 6" IN AREAS OF TRANSITION PEATING TO EXISTING LAWN AND FOR REPAIR TO DISTURBED AREAS.
4. DISTURBED AREAS TO BE AERATED, TOP-DRESSED W LOAM & SLICE-SEEDED.

---

**GRASS SEED MIX**

- IMPROVED PERENNIAL RYE
- TURF TYPE TALL FESCUE
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---

**LOAM & HYDROSEED DETAIL**

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13. DRY CAST CONCRETE AT 4000 PSI AIR ENTRAINED CONCRETE STEP W FIBERGLASS REINFORCEMENT
14. COMPACTED AGGREGATE BASE
15. RECOMPACTED SUBGRADE

**2" BITUMINOUS ASPHALT PAVING DETAIL**

1. NEW ASPHALT WEARING COURSE, PER SPECS.
2. COMPACTED AGGREGATE BASE.
3. GRADE AS NEEDED TO MATCH EXISTING WALKWAY SLOPE.
4. COMPACTED SUBGRADE

**4" CONCRETE PAD DETAIL**

1. FINISHED GRADE
2. HOLE RAINdb (1")
3. CONCRETE STEP W FIBERGLASS REINFORCEMENT
4. COMPACTED AGGREGATE BASE
5. RECOMPACTED SUBGRADE

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**8' HT. HEAVY DUTY BLACK VINYL CHAIN LINK FENCE DETAIL**

1. ALL POSTS AND RAILS TO BE HEAVY-DUTY (20WT) CONSTRUCTION.
2. FENCING TO BE TIED TO TOP RAILS & LINE POSTS W 6 GA. WIRE SPACED AT 12".
3. BRACE ALL CORNERS & TERMINAL POSTS W 1-3/4" DIA. BLACK VINYL COATED STEEL PIPE AND APPROPRIATE FASTENERS.
4. ALL FENCE ELEMENTS SHALL BE OF BLACK VINYL COATED STEEL CONSTRUCTION.