



BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

REQUEST FOR PROPOSALS

Item Description: WALDO STREET PARK IMPROVEMENTS

Date to be opened: APRIL 15, 2019

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:
 - **Brian F. Byrnes – Deputy Superintendent of Parks**
 - **401-660-9308**
 - **Bbyrnes@providenceri.gov**

Pre-bid Conference (NON-MANDATORY)

MONDAY APRIL 1, 2018 10:00 AM

136 WALDO STREET PROVIDENCE, RI (SITE)



**BOARD OF CONTRACT AND SUPPLY
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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.



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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*)
- 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-mbewbe-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/Package: 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.***



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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.)



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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.



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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 #: _____

E-Mail Address: _____

Agrees to bid on (Items(s) to be bid): _____

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*: _____

Please visit <http://www.naics.com/search/> and identify the NAICS Code(s) for items being bid on. Enter the NAICS code(s) here or in parentheses next to each item listed immediately above: _____

Delivery Date (when 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 Representative

Title



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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 Representative

Printed Name



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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 Representative

Printed Name



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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



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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.



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MBE/WBE PARTICIPATION AFFIDAVIT

Item Discussion (as seen on RFP):

Prime Bidder: _____

Prime Bidder (Company) Phone Number: _____

Prime Bidder (Company) Zip Code: _____

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



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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/>

Proposed Subcontractor	MBE	WBE	Primary NAICS Code	Date of Mobilization	\$ Value of Subcontract
					\$
					\$
					\$
					\$
					\$
					\$
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):					\$
F. PERCENTAGE OF BID SUBCONTRACTED TO MBEs AND WBEs. (Divide A by D 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 Prime Contractor

Printed Name

Date Signed



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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.

MBE/WBE Company Name	Individual's Name	Company Trade	Why did you choose not to work with this company?

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
MBE/WBE Outreach Director

Printed Name of City of Providence
MBE/WBE Outreach Director

Date Signed



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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.

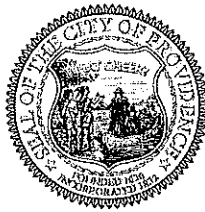
An inability to provide the outlined items at the request of the department may lead to the disqualification of your bid.

*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



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BID FORM 3: Supplemental Bid Form

To whom it may concern:

1. The undersigned, having familiarized (himself) (themselves) (itself) with the **WALDO STREET 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 **WALDO STREET 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.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. & 1001.

DATE _____, 20__

Name of Bidder and Official Address:

Name of Authorized Representative (Contact):



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E-Mail: _____

By _____
(Signature)

Title _____

Phone: _____

**Bidder shall indicate, in space provided,
the earliest possible Project Start-up Date:** _____, 20 _____

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

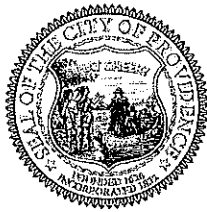
<u>Addendum No.</u>	<u>Date</u>	<u>Addendum No.</u>	<u>Date</u>
_____	_____, 20 _____	_____	_____, 20 _____
_____	_____, 20 _____	_____	_____, 20 _____

Sub-Contractors (If Any):

Name: _____ **Scope of Work:** _____ **MBE / WBE**

Name: _____ **Scope of Work:** _____ **MBE / WBE**

Name: _____ **Scope of Work:** _____ **MBE / WBE**



**BOARD OF CONTRACT AND SUPPLY
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SUPPLEMENTAL BID FORM**

WALDO STREET PARK IMPROVEMENTS

BASE BID: Waldo Street Park is a .09 acre parcel located in the West End of Providence within a residential neighborhood. The city of Providence seeks qualified contractors to perform the following scope of work that shall include but is not limited to the following: Remove and dispose bituminous concrete path, playground sand, timber use zone edging, chain link fence and gate at sidewalk, playground equipment, and site furnishings. Furnish and install 4' ht ornamental fence and service gate, Organic lock stone dust, 4" concrete pad, pre-cast concrete edging, sand circle, playground equipment, engineered wood fiber mulch, deciduous shade trees and site furnishings, as indicated on plans and specifications.

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.

BASE BID:

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

_____ Dollars

(\$ _____), TOTAL BASE BID

ALTERNATES:

1. Furnish and Install two (2) 3" cal. Quercus rubra B&B

_____ LS \$ _____
price in writing

2. Furnish and Install two (2) 3" cal. Betula Nigra B&B

_____ LS \$ _____
price in writing

3. Furnish and Install wood steps

_____ LS \$ _____
price in writing

BIDDER: _____



BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

4. Furnish and Install timber play planks

_____ LS \$ _____
price in writing

5. Furnish and Install Sand Circle

_____ LS \$ _____
price in writing

6. Install stockpiled swing

_____ LS \$ _____
price in writing

UNIT PRICES:

1. Remove and dispose bituminous and base

_____ SF \$ _____
price in writing

2. Remove and Dispose playground sand

_____ CY \$ _____
price in writing

3. Remove and Dispose benches

_____ LS \$ _____
price in writing

4. Remove and Relocate Playworld Moon Rock

_____ LS \$ _____
price in writing

5. Remove and Dispose chain link fence

_____ LS \$ _____
price in writing

BIDDER: _____



BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

6. Remove and Dispose playground wood edging

_____ LS \$ _____
price in writing

7. Furnish and Install Engineered wood fiber mulch

_____ CY \$ _____
price in writing

8. Furnish and Install Concrete Entry Pad

_____ SF \$ _____
price in writing

9. Furnish and Install Organic Lock Stone Dust

_____ SF \$ _____
price in writing

10. Furnish and Install 4' height ornamental fence

_____ LF \$ _____
price in writing

11. Furnish and Install 4' height ornamental entry gate

_____ EA \$ _____
price in writing

12. Furnish and Install Kompan stand alone play feature

_____ LS \$ _____
price in writing

BIDDER: _____



**BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND**

13. Furnish and Install Precast Concrete Curbing

_____ LF \$ _____
price in writing

14. Furnish and Install Dumor 6' Benches

_____ EA \$ _____
price in writing

15. Furnish and Install Trash Receptacle

_____ EA \$ _____
price in writing

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.

BIDDER: _____



**BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND**

BID DOCUMENTS:

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

DRAWINGS:

- COVER
- L1 - DEMO PLAN
- L2 - LANDSCAPE PLAN
- L3- PLAYGROUND PLAN
- L4- DETAILS PLAN

TECHNICAL SPECIFICATIONS:

02001	Mobilization/Demobilization
02100	Site Preparation and Demolition
02112	Tree Protection
02200	Earthwork
02800	Site Furnishings
02920	Turf
02930	Plants
03300	Site Cast-in-Place Concrete
0326100	Pre-cast concrete Curb
03231	Echelon Fence

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
- 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



**BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND**

- 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 **Brian Byrnes, Deputy Superintendent of Parks** at bbyrnes@providenceri.gov , no later than five (5) working days before the bid opening date.

Brian Byrnes is the project contact and can be reached at 401-660-9308.

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.

General Decision Number: RI190002 01/11/2019 RI2

Superseded General Decision Number: RI20180002

State: Rhode Island

Construction Type: Residential

Counties: Bristol, Kent, Providence and Washington Counties
in Rhode Island.

RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 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, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 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 calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019
1	01/11/2019

ASBE0006-009 09/01/2018

Rates Fringes

INSULATOR - PIPE & PIPEWRAPPER
Includes application of
all insulating materials,
protective coverings,
coatings & finishes to all
types of mechanical systems. \$ 42.38 28.75

ELEC0099-004 06/01/2018

Rates Fringes

ELECTRICIAN.....\$ 29.41 6.3%+14.36

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

* ELEV0039-002 01/01/2019

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 51.56	33.705+A+B

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.

ENGI0057-004 12/01/2018

	Rates	Fringes
Power Equipment Operator		
Grader and Roller.....	\$ 37.25	25.85+a
Paver.....	\$ 38.17	25.85+a

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

a. PAID HOLIDAYS: New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day & Christmas Day.

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

ROOF0033-002 12/01/2018

	Rates	Fringes
ROOFER.....	\$ 36.75	26.12

SURI1999-002 04/12/1999

	Rates	Fringes
BRICKLAYER.....	\$ 20.45	11.40

CARPENTER

Including Acoustical
Ceiling Installation,
Drywall Hanging, & Metal

Stud Framing.....	\$ 15.32	9.65
Cement Mason/Finisher.....	\$ 20.45	11.40
Drywall Finisher/Taper.....	\$ 20.55	8.50
FLOOR LAYER: Carpet.....	\$ 15.62	9.65
INSULATOR - BATT.....	\$ 19.56	9.65
LABORER		
Unskilled, Landscape, & Brick Mason Tender.....	\$ 18.47	8.10
PAINTER (Brush and Roller).....	\$ 20.55	8.50
PLASTERER.....	\$ 13.50	2.45
PLUMBER.....	\$ 23.96	8.95
Power Equipment Operator Backhoe.....	\$ 20.27	8.98
SPRINKLER FITTER.....	\$ 24.24	9.81

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 www.dol.gov/whd/govcontracts.

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 Regional Office for the area in which the survey was conducted because those Regional Offices have 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 DECISION

SPECIFICATIONS FOR
Waldo Street Park Improvements
Providence Parks Department
Providence, Rhode Island

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**SECTION 02001
MOBILIZATION/DEMobilIZATION**

PART 1 - GENERAL

1.01 Work Included

- A. Provide all facilities, labor, materials, tools, equipment, appliances, transportation, supervision, and supplies necessary to complete the Work under this project. The Work includes, but is not necessarily limited to:
 - 1. Protection of adjacent properties in the vicinity of all work areas, as directed by Landscape Architect.
 - 2. All required bonds and insurance.
 - 3. Site cleanup and restoration.
 - 4. All notifications required by law and/or regulations.
 - 5. All required submittals.

1.02 Related Work Specified Elsewhere

- A. Site Preparation and Demolition- Section 02100

1.03 Applicable Laws and Regulations

- A. The Contractor shall comply with all applicable rules and regulations relative to Work on this project promulgated by the Owner and enforced by its departments, including but not limited to the Building Department and Board of Health.
- B. The Contractor shall obtain required permits and make all required notifications, including payment of any associated fees.
- C. The Contractor shall notify affected utility companies, including Dig Safe, before starting work and comply with their requirements.

1.04 Project Site Conditions

- A. Site conditions existing at time of the Pre-Construction conference shall be maintained insofar as practical.
- B. Variations of conditions or discrepancies in actual conditions as they apply to site operations shall be brought to the attention of the Landscape Architect prior to the commencement of any site work.
- C. The use of explosives shall not be permitted.

1.05 Submittals

- A. The Contractor shall submit to the Landscape Architect all required permits, and all other information related to the Work to be performed under this project in accordance with the General Conditions.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 Protection

- A. The Contractor shall protect existing trees, monuments, existing improvements, adjacent property, and facilities from damage.
- B. The Contractor shall conduct operations with a minimum of interference to public or private accesses and facilities. Maintain site access and egress at all times and clean and keep clear all roadways daily, or as required by the governing authority. At such times deemed necessary by the Landscape Architect, dust control shall be provided with equipment provided by the Contractor.
- C. The Contractor shall protect benchmarks, property corners, groundwater monitoring wells, and all other survey monuments from damage or displacement. If a marker needs to be removed, it shall be referenced by a licensed land surveyor and replaced, as necessary, by the same.

3.02 Site Maintenance & Cleanup

- A. The project site shall be maintained in a neat and orderly fashion throughout the duration of the project. All wastes generated during construction activities shall be containerized.
- B. Upon completion of work, the Contractor shall remove all equipment, supplies, excess and waste materials, etc., and restore the Site to its pre-construction condition, to the satisfaction of the Landscape Architect.

3.03 Site Security

- A. Contractor shall be responsible for maintaining the security of the Site to protect his own equipment, supplies and all work areas which may pose a health or safety risk to the Public.

END OF SECTION

MOBILIZATION/DEMobilIZATION

02001-2

**SECTION 02100
SITE PREPARATION AND DEMOLITION**

PART 1—GENERAL

1.01 Description

- A. The Contractor shall provide all facilities, labor, materials, tools, equipment, appliances, transportation, supervision, and related work necessary to complete the Work specified in this section, and as shown on the Drawings.
- B. The Contractor shall perform all work under this section of the specifications subject to the General Conditions and Supplementary Conditions of the Contract.
- C. The Work of this section includes, but is not necessarily limited to:
 - 1. Protection of existing vegetation or trees indicated on the Drawings.
 - 2. Disposal of stump off site.
 - 3. Removal and disposal of bituminous concrete walk.
 - 4. Removal and disposal of playground surfacing
 - 5. Removal and disposal of playground equipment
 - 6. Removal and disposal of site amenities
 - 7. Saw cut bituminous concrete walk.
 - 8. Disconnecting, capping or sealing, and abandoning site utilities in place.
 - 9. Disconnecting, capping or sealing, and removing site utilities.
 - 10. Removal of abandoned piping, wire fencing, fence posts and any other debris not previously disposed of.

1.02 Related Sections

- A. The Contractor shall carefully examine all of the Contract Documents for requirements which affect the work in this section. Other specification sections which directly relate to the work of this section include, but are not limited to, the following:
 - 1. Earthwork – See Section 02200
 - 2. Bituminous Concrete Paving – See Section 02510

3. Cast in Place Concrete – See Section 03300

1.03 Materials Ownership

- A. Except for materials indicated to be stockpiled or to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from the site.

1.04 Submittals

- A. Photographs or videotape, sufficiently detailed, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing.
- B. Record drawings according to Division 1 Section "Contract Closeout." Identify and accurately locate existing utilities to remain and capped utilities and other subsurface structural, electrical, and mechanical conditions.

1.05 Laws and Regulations

- A. The Contractor shall conform to applicable codes for dust and runoff control.
- B. The Contractor shall obtain required permits and licenses from authorities. Pay associated fees including disposal charges, if applicable.
- C. The Contractor shall notify affected utility companies before starting work and comply with their requirements.
- D. The Contractor shall not close or obstruct roadways, sidewalks or hydrants without permits.
- E. The Contractor shall conform to applicable regulatory procedures when discovering hazardous or contaminated materials.
- F. The Contractor shall conform to the State of Rhode Island and Providence Plantations Department of Transportation, Division of Public Works, Standard Specifications for Road and Bridge Construction, and current Addenda.

1.06 Environmental Requirements

The Contractor shall construct temporary erosion control systems as shown on the plans or as directed by the Landscape Architect to protect adjacent properties and water resources from erosion and sedimentation.

1.07 Project Conditions

- A. Conditions existing at time of inspection for bidding purposes shall be maintained by Owner in so far as practical.

- B. Variations to conditions or discrepancies in actual conditions as they apply to site preparation operations shall be brought to the attention of the Owner prior to the commencement of any site work.
- C. The Contractor shall be responsible for all cutting and patching required by the Work. All surfaces and finishes shall be restored using materials and methods necessary to equal original conditions.
- D. The use of explosives shall not be permitted without the Owner's written permission.
- E. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- F. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated. Materials not specifically identified for salvage shall become the property of the contractor and shall be legally disposed of off-site.
- G. Notify utility locator service for area where Project is located before site demolition.
- H. Comply with all regulations including "Dig Safe" requirements.

PART 2—PRODUCTS

2.01 Soil Materials

- A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Section "Earthwork."
 - 1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

2.02 Concrete Materials

- A. Requirements for portland cement concrete materials are specified in Section "Cast in Place Concrete."

2.03 Barrier Devices

- A. Install barriers and security devices as needed for protection and control of vehicular and pedestrian traffic.

PART 3—EXECUTION

3.01 Protection

- A. Before demolition begins, the Contractor shall protect indicated trees and areas to remain as shown on the Demolition Plans. Tree protection will consist of orange construction fence. The location of tree protection is determined from the diameter of the tree in inches converted to a radius in feet unless noted differently on the plans. This method shall prevent damage to the trunk, foliage and root system by construction equipment and procedures. Fencing shall be maintained by the Contractor.
- B. The Contractor shall protect other plants, monuments, existing improvements, adjacent property, and facilities from damage.
- C. The Contractor shall be responsible, at his cost, to repair or replace immediately any damage to existing trees or root systems that are to remain. The Contractor shall hire a licensed arborist to determine the repair and replacement needs and methods.
- D. The Contractor shall replace damaged trees and shrubs designated to remain with the same size and species.
- E. The Contractor shall conduct operations with a minimum of interference to public or private accesses and facilities. Maintain access and egress at all times and clean or sweep any roadways daily or as required by the governing authority. At such times as deemed necessary by the Owner, dust control shall be provided with equipment provided by the Contractor.
- F. The Contractor shall protect benchmarks, property corners and all other survey monuments from damage or displacement. If a marker needs to be removed, it shall be referenced by a licensed land surveyor and replaced, as necessary, by the same.
- G. Provide erosion-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.02 Utilities

- A. The Contractor shall locate and identify existing utilities that are to remain and protect them from damage.

- B. The Contractor shall notify all corporations, companies, individuals or local authorities owning, or having jurisdiction over, utilities running to, through or across areas disturbed by demolition operations.
- C. The Contractor shall have all utility services disconnected at service mains in accordance with requirements governing the utility involved.
- D. The Contractor shall locate, identify, disconnect, and seal or cap off utilities indicated to be removed.
- E. Remove all abandoned utilities from beneath buildings, structures, slabs, footings and utilities. Refill excavations with compacted granular fill. Abandoned utilities outside of the Work areas may be left in place. Abandoned utilities shall be plugged at the limit of excavation with cast-in-place concrete that completely fills the pipe or conduit for a distance of two pipe diameters or more.
- F. Abandoned catch basins, manholes, vaults or similar below grade structures shall be removed in their entirety and the resulting depressions refilled with compacted granular fill.

3.03 Grubbing (NIC)

- A. The Contractor shall completely grub the area within the clearing limits to completely remove stumps and root systems to a depth of 18” below exposed subgrade.
- B. Depressions from the removal of stumps or roots shall be filled and compacted with approved on site material.
 - 1. Place fill material in horizontal layers not exceeding eight inch loose depth, and compact each layer to a density equal to adjacent original ground.

3.04 Topsoil Stripping

- A. Strip topsoil in its entirety in a manner to prevent intermingling with underlying subsoil or other waste materials. Stockpile **off site** for re-use.
 - 1. Strip surface soil of unsuitable topsoil, including trash, pavement, debris, building materials, weeds, roots, and other waste materials. Dispose of off-site.
- B. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile topsoil for re-spreading on-site. There is no excess topsoil on site. Additional offsite topsoil will be necessary.

3.05 Site Improvements

- A. Remove existing above and below grade improvements as indicated and as necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, and aggregate base as indicated.
 - 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut length of existing pavement at nearest control or construction joint to remain before removing existing pavement. Saw-cut faces vertically.
- C. Except where fence posts are installed in wall or curb, remove posts completely, including the entire footings. Backfill systematically, as early as possible, to allow maximum time for natural settlement. Do not backfill over porous, wet or spongy subgrade surfaces. Where posts are installed in curb or wall, cut posts ½” below adjoining concrete surface.

3.06 Disposal

- A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, pavement, slabs on grade, building materials, and waste materials, including trash and debris, and legally dispose of them off Owner's property.

3.07 Potential Contamination—Soils

- A. The Contractor's attention is directed to his obligations related to potentially contaminated soils.

END OF SECTION

**SECTION 02112
TREE PROTECTION**

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK:

- A. Protect all trees not designated to be removed, in areas near construction, by boxing or fencing before grading operations start. Protect existing monument where noted on plan.
- B. *Designation of Tree Protection Zones (TPZ).* Generally, the TPZ should encompass the ground approximately equal to the dripline of the tree, or one linear foot away from the trunk for every inch of trunk diameter (measured 4.5 feet above the ground), whichever is greater. Securely installed snow fencing shall designate the boundaries of the TPZ, and shall be installed at the commencement of the project and remain until completion. All equipment, building materials, chemicals, dirt, or other debris shall be staged outside the barrier at all times.
- C.

1.03 RELATED WORK:

- A. Other specification sections which directly relate to the work of this section include, but are not limited to, the following:
1. Section 02220 - Site Earthwork.
 2. Section 02110 - Clearing of Site.

PART 2 PRODUCTS

2.01 MATERIALS:

- A. Boxing shall consist of simple but durable fence around the tree. It shall consist of 2 inch x 2 inch x 7 foot posts set no more than 10 feet on center with three stringers (1 inch x 6 inches) per side. Height shall be approximately 4 feet. Fence shall be constructed a minimum of 8 feet from base of tree unless otherwise noted on the plans.
- B. Fencing shall consist of 4 foot high snow fencing wired to 8 foot steel fence stakes driven a minimum of 3 feet into the ground. Fencing shall be installed a minimum of 8 feet from base of tree or trees to be protected unless otherwise noted on the plans.

PART 3 EXECUTION

- 3.01 *Locations of temporary wooden fences for sidewalk trees.* All street trees within thirty (30) feet of any excavation, construction, or demolition of any building, structure, or street work shall be guarded throughout the length of the project with a good substantial fence, frame, or box not less than four (4) feet high and eight (8) feet square, or equivalent. All equipment, building materials, chemicals, dirt, or other debris shall be kept outside the barrier at all times
- 3.02 *Designated routes for equipment and foot traffic.* These routes shall be clearly marked at the site, and apply to all tractors, bobcats, bulldozers, trucks, cars, trailers, and pedestrians. Should access be necessary within the TPZ, the existing grade shall be covered with mulch to a depth of at least six (6) inches or with plywood in order to protect roots from damage caused by heavy equipment. Such covering shall be maintained during the course of construction and removed after the end of construction. Installation and removal shall be performed by hand.
- 3.03 *Location of any proposed trenching or excavation for structures and utility lines.* Every effort should be made in the design phase to place structures and utilities outside of the dripline of trees (at minimum).
- 3.04 *Designation of proposed grade changes.* No soil shall be added within the tree protection zone. Grade changes should be kept to a minimum in nearby areas, or tree removal may be required.
- 3.05 All tree protection zones shall be so indicated with signage posted visibly on the fence. Wording shall read “Tree Protection Zone”. (NIC)
- 3.06 The Contractor shall exercise extreme care in performing excavation and demolition operations within the tree protection zone to avoid injury to roots, trunk, and trunk flare. Any excavation for utilities or infrastructure installation within a TPZ (or elsewhere on the site as designated by the City Forester) shall be done by hand or pneumatic excavation (air spade or equivalent). Trenching shall not occur within the TPZ.

Where excavation must be performed within the TPZ for removal of existing features or installation of new features, the excavated area shall be backfilled immediately and/or roots shall be kept constantly moist with burlap and checked a minimum of two (2) times a day, once in the morning and once in the afternoon, for a maximum of forty-eight (48) hours, until backfill is complete as directed by the City Forester. If directed, soaker hoses shall be installed to facilitate properly moist conditions. No pooling of water or continuous running water shall occur within the TPZ other than for the purpose of irrigation.

- 3.07 All contact between equipment and overhead tree limbs should be avoided. Bending or breakage of limbs is prohibited. If clearance pruning is proposed, it must be authorized by permit by the City Forester. No roots larger than two (2) inches in diameter may be cut without permission of the City Forester. Cuts must be made with hand-pruners, handsaws, or chainsaws. Cuts shall be made clean, without ripping or tearing the roots, and never with the bucket of an excavator. No wound dressings shall be used. All Tree work must be

performed by a qualified arborist, trained in proper pruning techniques, and in possession of a valid Rhode Island Arborist License as required by state law.

- 3.08 *Tree/plant injury.* The Contractor shall assume, at his own expense, any remedial work such as pruning, watering, fertilizing, or soil compaction mitigation required and/or necessary to prevent loss of plant material when trees and shrubs are injured by the Contractor and or a subcontractor, as determined by the City. This work shall be accomplished under the direction of the City Forester.
- 3.09 *Tree destruction.* The City shall be compensated for any trees damaged during the course of construction. Replacement trees or compensation for replacement trees will be required, as per the City Tree Ordinance, Sec 23 ½.

END OF SECTION

SECTION 02200 EARTHWORK

PART 1—GENERAL

1.01 Related Documents

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Referenced ASTM requirements.
- C. The State of Rhode Island and Providence Plantations Department of Transportation, Division of Public Works, Standard Specifications for Road and Bridge Construction, and current Addenda.

1.02 Summary

- A. This Section includes the following:
 - 1. Excavation, fill, grading and preparing subgrades for slabs-on-grade, walks, pavements, lawns, and plantings.
 - 2. Excavating and backfilling for structures.
 - 3. Base course for asphalt paving.
 - 4. Excavation and removal of peat and other unsuitable materials and replacement with compacted fill and backfill.
 - 5. All excavation is "unclassified." Separate or additional payment will not be made for the excavation, removal and replacement with granular fill of bedrock or boulders if encountered.
- B. Related Sections include the following:
 - 1. Section "General Conditions."
 - 2. Section "Site Clearing" for site stripping, grubbing, removing topsoil, and protecting trees to remain.
 - 3. Section "Dewatering" for lowering and disposing of ground water during construction.
 - 4. Section "Excavation Support and Protection."
 - 5. Section "Landscaping" for finish grading, including placing and preparing topsoil for lawns and plantings.
 - 6. Section "Cast-in-Place Concrete" for granular course over vapor retarder.

1.03 Rock Removal Limits

- A. Rock Removal: Minimum rock removal limits are as specified below:
 - 1. 24 inches outside of concrete forms other than at footings.
 - 2. 12 inches outside of concrete forms at footings.

3. 6 inches outside of minimum required dimensions of concrete cast against grade.
 4. 6 inches beneath bottom of concrete slabs on grade.
 5. 6 inches beneath pipe in trenches for pipes 18 inches nominal diameter and 12 inches beneath pipes in trenches for pipes greater than 18 inches in nominal diameter.
 6. The greater of 24 inches wider than pipe or 42 inches wide.
- B. Rock excavation and removal includes replacement with granular fill.
- C. All excavation is "unclassified." Separate or additional payment will not be made for the excavation of bedrock or boulders if encountered.

1.04 Definitions

- A. Backfill: Soil materials used to fill an excavation.
1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Layer placed between the subbase course and asphalt paving.
- C. Bedding Course: Layer placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Layer supporting slab-on-grade used to minimize capillary flow of pore water.
- F. Excavation: Removal of material encountered above subgrade elevations.
1. Additional Excavation: Excavation below subgrade elevations as directed by Landscape Architect . Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
 2. Bulk Excavation: Excavations more than 10 feet in width and pits more than 30 feet in either length or width.
 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated dimensions without direction by Landscape Architect . Unauthorized excavation, as well as remedial work directed by Landscape Architect , shall be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material exceeding 1 cu. yd. that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering or ripping.

- I. Peat: Any soil classified as Pt or OH by the Unified Soil Classification System or any other soft or compressible soil or soil with more than 5% organic (by weight) content.
- J. Unsuitable Materials: Unsatisfactory soils - any soil too soft, too wet or too compressible to support the various building, utility or site loads which will likely be applied; or any fill material containing refuse, debris, ashes, cinders, building rubble, construction materials, wood, trash, organic material or other material in sufficient quantities which, in the opinion of the Landscape Architect, would render the soil unacceptable to support the various building utility or site loads which are likely to be applied.
- K. Granular Fill: Borrow or on-site material conforming to the specified gradation requirements for use as fill to bring the site to subgrade or for refill of excavations made to remove peat or other unsuitable materials.
- L. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- M. Subbase Course: Layer placed between the subgrade and base course for asphalt paving, or layer placed between the subgrade and a concrete pavement or walk.
- N. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- O. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.05 Submittals

- A. Product Data: For the following:
 - 1. Plastic warning tape.
 - 2. Drainage fabric.
 - 3. Separation fabric.
- B. Samples: For the following:
 - 1. 10-lb samples, sealed in airtight containers, of each proposed soil material from on-site or borrow sources, delivered to testing agency.
 - 2. 12-by-12-inch sample of drainage fabric.
 - 3. 12-by-12-inch sample of separation fabric.
- C. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:
 - 1. Classification according to ASTM D 2487 of each on-site or borrow soil material proposed for fill and backfill.

2. Laboratory compaction curve according to ASTM D 1557 for each on-site or borrow soil material proposed for fill and backfill.

1.06 Quality Assurance

- A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548.
- B. Pre-excavation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings."

1.07 Project Conditions

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Landscape Architect and then only after arranging to provide temporary utility services according to requirements indicated:
 1. Notify Landscape Architect not less than two days in advance of proposed utility interruptions.
 2. Do not proceed with utility interruptions without Landscape Architect's written permission.
 3. Contact utility-locator service for area where Project is located before excavating.
 4. Comply with all regulations including "Dig Safe" requirements.
- B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.
- C. All excavations are "unclassified."
- D. Blasting is not permitted.
- E. Separation Fabric: Woven geotextile, specifically manufactured for use as a separation geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:
 1. Grab Tensile Strength: 200 lbf; ASTM D 4632.
 2. Tear Strength: 75 lbf ASTM D 4533.
 3. Puncture Resistance: 90 lbf; ASTM D 4833.
 4. Water Flow Rate: 4 gpm per sq. ft.; ASTM D 4491.
 5. Apparent Opening Size: No. 30; ASTM D 4751.
- F. The Contractor is responsible to field verify and become familiar with all field conditions which may affect the performance of the specified work.

- G. The Contractor is responsible to document existing trees and site improvements adjacent to and in the construction area to establish pre-construction conditions which might be misconstrued as damaged during subsequent construction activities.
 - 1. Documentation shall be sufficiently detailed photographs or videotapes provided to the owner prior to starting construction activities.
- H. Work includes all excavation necessary to provide a fully complete and functional facility in accordance with the plans and specifications
- I. It is the Contractor's responsibility to contact DIG SAFE
- J. Contractor shall not start construction activities until temporary erosion and sedimentation control and tree protection measures are in place.

1.04 Protection

- A. Provide temporary barricades and other forms of protection as required to provide free and safe passage of owner's personnel and visitors to and from the site.
- B. Remove protection upon completion of required work.
- C. No utility trench shall be left open overnight.
- D. Any damage to existing utilities, drainage components or other site improvements caused by neglect or carelessness on the part of the Contractor, is to be repaired immediately in a manner satisfactorily to the Owner and at no additional cost to the Owner.

1.05 Material Ownership

- A. Stripped topsoil and other materials indicated to be stockpiled remain the Owner's property and will be moved and stored at a location as directed by the Owner.
- B. All material which is not the Owner's and is not required for the completion of the project, will be removed from the site and properly disposed of.

PART 2- PRODUCTS

2.01 Soil Materials

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

- B. Satisfactory Soils: ASTM D 2487 soil classification groups GW, GP, GM, SW and SP, or a combination of these group symbols; free of rock or gravel larger than three inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: ASTM D 2487 soil classification groups GC, SM, SC, ML, MH, CL, CH, OL, OH, and PT, or a combination of these group symbols. Unsatisfactory soils also include satisfactory soils not maintained within two percent of optimum moisture content at time of compaction.
- D. Backfill Outside of Structure Limits: Satisfactory soil materials conforming to the State Standards for "Common Borrow."
- E. Subbase: Naturally or artificially graded mixture of natural or processed and washed crushed gravel, crushed stone, and natural or crushed sand; conforming to the State Standards for "gravel borrow."
- F. Base: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; conforming to the State Standards for "Crushed Stone" or "Crushed Gravel," M.O 1.09. Gradation II.
- G. Engineered Fill: Naturally or artificially graded mixture of natural or crushed and washed gravel, crushed stone, and natural or crushed sand; conforming to the State Standards for "Gravel Borrow."
- H. Bedding: Artificially graded mixture of crushed and washed gravel, crushed and washed stone, conforming to the State Standards for "Bedding Material," M.O 1.04.
- I. Drainage Fill: Washed, narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2- inch sieve and 0 to 5 percent passing a No. 8 sieve.
- J. Filter Material: Processed and washed, narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch sieve and 0 to 5 percent passing a No. 4 sieve.
- K. Impervious Fill: Bentonite and sand mixture consisting of 5% processed commercial bentonite and 95% sand capable of compacting to a dense state.
- L. Granular Fill: Granular fill placed beneath structures and footings, within the foundation zone as shown on the drawings; within the top 48 inches below utilities, and slabs on grade; and within the top 24 inches beneath walks and pavement shall be considered "Engineered Fill" and shall conform to the State Standards for "Gravel Borrow." Granular fill placed outside of the above specified limits shall conform to the State Standards for "Common Borrow." Granular fill may be suitable material from on-site excavations specifically

approved by the Landscape Architect for re-use and such additional quantities from off-site sources as required to complete the fill placement to subgrade or the indicated site grades, whichever is higher in elevation.

- M. Sand: Natural or processed material conforming to the requirements of ASTM C-33 fine aggregate.

2.02 Accessories

- A. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, minimum six inches wide and four mils thick, continuously inscribed With a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
 - 1. Red: Electric.
 - 2. Yellow: Gas, oil, steam, and dangerous materials.
 - 3. Orange: Telephone and other communications.
 - 4. Blue: Water systems.
 - 5. Green: Sewer systems and storm drains.

- B. Drainage Fabric: Nonwoven geotextile, specifically manufactured as a drainage geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:
 - 1. Grab Tensile Strength: 110 lbf; ASTM D 4632.
 - 2. Tear Strength: 40 lbf; ASTM D 4533.
 - 3. Puncture Resistance: 50 lbf ASTM D 4833.
 - 4. Water Flow Rate: 150 gpm per sq. ft.; ASTM D 4491.
 - 5. Apparent Opening Size: No. 50; ASTM D 4751.

PART 3- EXECUTION

3.01 Preparation

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

- B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.

- C. Construct and maintain erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways. Refer to Section "Erosion Control" for detailed specifications and requirements.

- D. Construct and maintain stormwater control measures.

3.02 Dewatering

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
 - 2. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.
- C. Refer to Section "Dewatering" for detailed specifications and requirements.

3.03 Explosives

- A. Explosives: Do not use explosives.

3.04 Excavation, General

- A. Unclassified Excavation: Excavation to subgrade elevations regardless of the character of surface and subsurface conditions encountered, including rock, soil materials, and obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
 - 2. Segregate and stockpile separately satisfactory materials for re-use.

3.05 Excavation for Removal of Peat and Unsuitable Materials

- A. Peat and unsuitable materials shall be removed completely from beneath structures and utilities and within the park.
- B. The Contractor shall perform such excavations as necessary to completely remove the peat and all other unsuitable material to such limits as directed by the Landscape Architect . The Contractor shall provide all sheeting, shoring and excavation support; perform all dewatering and control and diversion of water; provide all shoring and support necessary to protect roads, walks, public and private property, utilities and any structures and facilities to remain; dispose of all peat and unsuitable material off-site; refill excavations with compacted granular fill; and provide sufficient quantities of common borrow and gravel borrow as necessary to bring the site to subgrade or the indicated site grade, whichever is higher in elevation.

3.06 Excavation for Structures (NIC)

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus one inch. Extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
 2. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus one inch. Do not disturb bottom of excavations intended for bearing surface. In areas of fill or refill, the site shall be brought to a minimum of 24 inches above the required bottom of footing, then excavations made to the required depths.

3.07 Excavation for Walks and Pavements

- A. Excavate surfaces under walks and pavements to indicated cross sections, elevations, and grades.

3.08 Excavation for Utility Trenches (NIC)

- A. In areas of fill or refill, the site shall be brought to a minimum of 24 inches above invert, and then excavations made to the required depths.
- B. Excavate trenches to indicated gradients, lines, depths, and elevations.
1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.
- C. Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.
1. Clearance: 12 inches on each side of pipe or conduit or such additional width to install sheeting, shoring or trench boxes.
- D. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
1. For pipes and conduit less than six inches in nominal diameter and flat-bottomed, multipleduct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
 2. For pipes and conduit six inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill.

3. Excavate trenches six inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
- E. Trench Bottoms: Excavate trenches 12 inches deeper than bottom of pipe elevation to allow for bedding course. Hand excavate bedding for bell of pipe.
 1. Excavate trenches 12 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

3.09 Approval of Subgrade

- A. Notify Landscape Architect when excavations have reached required subgrade.
- B. If Landscape Architect determines that unsatisfactory soil is present, continue excavation and replace with compacted granular fill material as directed.
- C. Proof roll subgrade with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof roll wet or saturated subgrades.
- D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Landscape Architect .

3.10 Unauthorized Excavations

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill shall be used when directed by Landscape Architect.
 1. Fill unauthorized excavations under other construction or utility pipe with compacted gravel or as otherwise directed by Landscape Architect.

3.11 Storage of Soil Materials

- A. Stockpile borrow materials and satisfactory excavated soil materials **on site for re-use**. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.
 2. Unsuitable materials shall not be stockpiled on-site. Remove unsuitable materials within 72 hours of excavation.

3.12 Backfill

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 1. Construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.

2. Surveying locations of underground utilities for record documents.
3. Inspecting and testing underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring and bracing, and sheeting.
7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

3.13 Utility Trench Backfill

- A. Place and compact bedding course on trench bottoms and around the lower half of pipe (or lower quadrant of pipe for pipes 36 inches or greater in diameter) as indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- B. Provide four inch- thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of four inches of concrete before backfilling or placing roadway subbase.
- C. Place and compact initial backfill of subbase material, free of particles larger than one inch, to a height of twelve inches over the utility pipe or conduit.
 1. Place and compact material carefully under pipe haunches in 6-inch lifts and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system.
- D. Coordinate backfilling with utilities testing.
- E. Fill voids with approved backfill materials while shoring and bracing, and as sheeting is removed.
- F. Place and compact final backfill of satisfactory soil material to final subgrade.
- G. Install warning tape directly above utilities, thirty inches below finished grade, except six inches below subgrade under pavements and slabs.

3.14 Fill

- A. Preparation: Remove vegetation, topsoil, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface before placing fills.
- B. Scarify, bench, or break up sloped surfaces steeper than one vertical to four horizontal so fill material will bond with existing material.
- C. Place and compact fill material in layers to required elevations as follows:
 1. Under grass and planted areas, use satisfactory soil material.
 2. Under walks and pavements, use satisfactory soil material.
 3. Under steps and ramps, use satisfactory soil material.

4. Under building slabs, use Engineered fill.
5. Under footings and foundations, use Engineered fill.

3.15 Moisture Control

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within two percent of optimum moisture content.
 1. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
 2. Remove and replace, or scarify and air-dry, otherwise satisfactory soil material that exceeds optimum moisture content by two percent and is too wet to compact to specified dry unit weight.

3.16 Compaction of Backfills and Fills

- A. Place backfill and fill materials in layers not more than eight inches in loose depth for material compacted by heavy compaction equipment, and not more than four inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:
 1. Under structures, building slabs, steps, and pavements, scarify and re-compact top twelve inches of existing subgrade and each layer of backfill or fill material at 95 percent.
 2. Under walkways, scarify and re-compact top six inches below subgrade and compact each layer of backfill or fill material at 92 percent.
 3. Under lawn or unpaved areas, scarify and re-compact top six inches below subgrade and compact each layer of backfill or fill material at 85 percent.

3.17 Grading

- A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 1. Provide a smooth transition between adjacent existing grades and new grades.
 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 1. Lawn or Unpaved Areas: Plus or minus one inch with a tolerance of ½ inch when tested with a ten foot straightedge.

2. Walks: Plus or minus one inch.
 3. Pavements: Plus or minus ½ inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of ½ inch when tested with a ten foot straightedge.

3.18 Subsurface Drainage

- A. Drainage Piping: Drainage pipe is specified in Section "Storm Water Drainage Systems."
- B. Subsurface Drain: Place a layer of drainage fabric around perimeter of drainage trench as indicated. Place a six inch course of filter material on drainage fabric to support drainage pipe. Encase drainage pipe (top, bottom and sides) in a minimum of six inches of filter material and wrap in drainage fabric, overlapping sides and ends at least six inches.
1. Compact each course of filter material to 95 percent of maximum dry unit weight according to ASTM D 698.
- C. Drainage Backfill: Place and compact filter material over subsurface drain, to limits indicated, to within twelve inches of final subgrade. Overlay drainage backfill with one layer of drainage fabric, overlapping sides and ends at least six inches.
1. Compact each course of filter material to 95 percent of maximum dry density according to ASTM D 698.

3.19 Subbase and Base Courses

- A. Under pavements and walks, place subbase course on prepared subgrade and as follows:
1. Place base course material over subbase.
 2. Compact subbase and base courses at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 1557.
 3. Shape subbase and base to required crown elevations and cross-slope grades.
 4. When thickness of compacted subbase or base course is eight inches or less, place materials in a single layer.
 5. When thickness of compacted subbase or base course exceeds eight inches, place materials in equal layers, with no layer more than eight inches thick or less than four inches thick when compacted.
- B. Pavement Shoulders: Place shoulders along edges of subbase and base course to prevent lateral movement. Construct shoulders, at least twelve inches wide, of satisfactory soil materials and compact simultaneously with each subbase and base layer to not less than 95 percent of maximum dry unit weight according to ASTM D 1557.

3.20 Drainage Course

- A. Under slabs-on-grade, place drainage course on prepared subgrade and as follows:
1. Compact drainage course to required cross sections and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 698.
 2. When compacted thickness of drainage course is six inches or less, place materials in a single layer.
 3. When compacted thickness of drainage course exceeds six inches, place materials in equal layers, with no layer more than six inches thick or less than three inches thick when compacted.

3.21 Protection

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

END OF SECTION

**SECTION 02800
SITE FURNISHINGS**

PART 1 GENERAL

1.01 Related Documents

- A. The General Documents, as listed on the Table of Contents shall be included in and made a part of this Section.
- B. Examine all Contract Documents and all other Sections of the Specifications for requirements therein affecting the work of this trade.

1.02 Summary

- A. The work of this Section consists of providing all labor, equipment, materials, incidental work, and construction methods necessary to furnish and install designated Site Improvements and related items as indicated on the Contract Documents, as specified in this Section, and includes, but is not limited to, the following:

- 1. Playground Equipment;
- 2. Bench
- 3. Picnic Table

1.03 Related Work Under Other Sections

- A. The following items of related work are specified and included in other Sections of the Specifications:
 - 1. Section 02100 - SITE PREPARATION AND DEMOLITION
 - 2. Section 02200 - EARTHWORK
 - 3. Section 03300 – SITE CAST-IN-PLACE CONCRETE

1.04 References

- A. The following standards shall apply to the work of this Section:
 - 1. State of Rhode Island Department of Transportation (RIDOT): Spec. Standard Specifications for Roads, Bridges, and Incidental Construction
 - 2. ASTM: American Society for Testing and Materials
- B. National Concrete Masonry Association Standard "Specifications for the Design and Construction of Load Bearing Concrete Masonry." (NCMA)
- C. "Recommended Practices for Cold Weather Masonry Construction" by the International Masonry Industry All-Weather Council.

- D. ACI: American Concrete Institute 530-99/530.1-99 Building Code Regulations for Masonry Structures and Specifications for Masonry Structures and Commentaries
- E. ASTM: American Society for Testing and Materials
 - A82-97a Standard Specification for Steel Wire, Plain, for Concrete Reinforcement
 - A153/ Standard Specification for Zinc Coating (Hot-dip) on Iron and A153M Steel Hardware
 - A276 Standard Specification for Stainless Steel Bars and Shapes
 - B5 Standard Specification for High Conductivity Tough-Pitch Copper Refinery Shapes
 - B101 Standard Specification for Lead-Coated Copper Sheet and Strip for Building Construction
 - B370 Standard Specification for Copper Sheet and Strip for Building Construction.
 - C31/C31M Standard Specification for Making and Curing Concrete Test Specimens in the Field
 - C62 Standard Specification for Building Brick (Solid Masonry Units Made from Clay or Shale)
 - C67 Standard Test method for Sampling and Testing Brick and Structural Clay Tile
 - C90 Standard Specification for Loadbearing Concrete Masonry Units
 - C144 Standard Specification for Aggregate for Mortar Masonry
 - C150 Standard Specification for Portland Cement
 - C207 Standard Specification for Hydrated lime for Masonry Purposes
 - C216 Standard Specification for Facing Brick
 - C260 Standard Specification for Air-entraining Admixtures for Concrete
 - C270 Standard Specification for Mortar for Unit Masonry
 - C426 Standard Test Method for Linear Drying Shrinkage for Concrete Masonry Units
 - C827 Standard Test Method for change in Height at Early Ages of Cylindrical specimens from Cementitious Mixtures

1.05

Submittals

- A. Manufacturer's Literature: Submit copies of each of manufacturer's material descriptions, dimensions, details, and installation instructions for the following. Submit manufacturer's material descriptions for primer coat and finish coat.
 - 1. Playground;
 - 2. Bench
 - 3. Picnic Table
- B. Complete Shop Drawings for the following:
 - 1. Shop Drawings for installation of the playground.

1.06

Quality Standards

- A. Workmanship and finish shall be equal to the best practice of modern shops for each item of work. Metal fabrication shall be accomplished using the highest standards of workmanship. All work shall be executed by experienced mechanics, shall conform to the requirements of the Contract Documents, and meet the following requirements.
1. Individual metal pieces shall be saw cut and carefully fitted together.
 2. Sections shall be well formed to shape and size with sharp lines and angles; curved work shall be sprung evenly to curves.
 3. Exposed surfaces shall have a smooth finish and sharp, well defined lines and arises.
 4. Grind all edges of bars and plates completely free from nicks and machine marks, prior to galvanizing, shop priming, or finishing.
 5. All surfaces and connections of metal items shall be without visible grinding marks, surface differentiation or variation.
 6. All fabricated metal items shall be fine sanded throughout to produce a high standard of surface smoothness.
 7. Castings shall have sharp corners and edges and shall be clean, smooth and true to pattern.
 8. Welding shall be continuous and shall extend for the entire length of the joints except where specifically indicated on the Contract Documents. All exposed welds shall be ground smooth.
 9. The use of gas cutting torch in the field for correcting fabrication errors will be permitted only when the prior written approval of the Owner's Representative has been obtained for each specific condition.
 10. Weld with uncoated wire to prevent flux deposits. If coated wire is used, all flux residue shall be thoroughly removed and bare white metal exposed, prior to galvanization, if applicable. Where overlapping surfaces are welded, seal off contact area by welding all edges around contact area.
 11. All welds shall be water tight.
 12. All shop connections shall be full seam welded and ground flush and smooth. Field connections bolted unless otherwise permitted as indicated in this Section 02800, Site Furnishings. Draw up all threaded connections tightly, after buttering same with pipe joint compound, to exclude water. Deform threads to prevent loosening for all exposed connections subject to vandalism.

1.07

General Installation

- A. Where anchors, bolts or fasteners are exposed, they shall be configured or secured in such a way as to prevent their casual removal by use of vandal-proof heads or fastenings unless otherwise specified on Drawings.
- B. All metal inserts, anchor slots, anchors, anchor bolts, fastenings, and other fastening devices, for attachment of site improvement items to pavements, except as otherwise specified under other Sections of this Specification, shall

be in specified, provided, delivered installed and paid for under the work of this Section 02800, Site Furnishings.

- C. Unless specifically called out in the Contract Documents, galvanized steel or cast iron sections to be joined shall not be welded after galvanizing but shall be mechanically attached by means of unexposed sleeves and fasteners sufficient to provide secure attachment under normal usage.
- D. Free-standing site improvement items shall be set plumb and horizontal regardless of the pitch of the finished surrounding grade unless otherwise shown on the Contract Documents.
- E. The Contractor shall be responsible for timing the delivery of site improvement items so as to minimize the on-site storage time prior to installation. All stored materials are the responsibility of the Contractor and shall be protected from weather, careless handling and vandalism.
- F. Contractor shall be responsible for the correct location of site improvement items. Take particular care to maintain shapes, plumb and level during the pouring of concrete.
- G. All Work shall be accurately set to established lines and elevations and rigidly set in place to supporting construction.

1.08

Coordination

- A. The work of this Section 02800, Site Furnishings shall be completely coordinated with the work of other Sections. Verify dimensions and work of other trades that adjoin materials of this Section 02800, Site Furnishings, before installing items specified.
- B. Obtain all necessary templates and patterns required from other trades for proper execution of work of this Section 02800, Site Furnishings. Coordinate the delivery of items, templates, and patterns manufactured by other trades to maintain construction schedule. Receive from other trades items to be installed under this Section 02800, Site Furnishings.

1.09

Guarantee

- A. The Contractor shall furnish and deliver standard written manufacturer's guarantee in Owner's name covering all materials and workmanship under this Section 02800, Site Furnishings, in addition to, and not in lieu of, guarantee requirements set forth under Section 02000, GENERAL REQUIREMENTS, and other liabilities which the Contractor may have by law or other provisions of the Contract Documents.
- B. Supplier shall pay for repairs of any damage to any part of the project caused by defects in his work and for any repair to the materials or equipment caused

by replacement. All repairs are to be done to the satisfaction of the Owner's Representative.

- C. Any part of the work installed under this contract requiring excessive maintenance shall be considered as being defective, and shall be replaced by the Supplier during the one year guarantee period at no cost to the Owner.

PART 2 PRODUCTS

2.01 Playground

- A. Playground shall be as shown on Play Sheet and as manufactured by Kompan, or approved equal. Contact **Jeffrey Hochwarter**, Direct Sales Representative, Southeastern, MA and Rhode Island, M: +1 508-821-8715
- B. Benches shall be as shown on Landscape Sheet and as manufactured by Dumor, or approved equal. Contact Meghan O'Brien at (508) 359-4200.
- C. Picnic Table shall be as shown on Landscape Sheet and as manufactured by Dumor, or approved equal. Contact Meghan O'Brien at (508) 359-4200.

2.02 Other Furnishings

- A. See plans for instruction sheets for product and contact information
- B. See plans for color selections for site furnishings.

2.03 Concrete

- A. Concrete footings shall be 4,000 pounds per square inch cast-in-place concrete as specified under the work of the Section 03300, SITE CAST-IN-PLACE CONCRETE of this Specification.

2.04 Grout

- A. Grout as required for anchoring shall be a pourable, quick setting, non-metallic and nonshrinking hydraulic cement grout equal to the following:

- 1. Five Star Grout
U.S. Grout Corporation
425 Stillson Road
Fairfield, CT 06430
(800) 243-2206

- 2. Sika Grout 212
Sika Corporation
Lyndhurst, NJ 07071
(201) 933-8800

3. Harris Construction Grout
AH Harris & Sons
10 West Mill St.
Medfield, MA 02052
(508) 359-7321

2.05 Earthwork Materials

- A. All backfill materials, including base and subbase materials, ordinary borrow, drainage fill and sand shall be as specified under the Section 02200, Earthwork of this Specification.

PART 3 EXECUTION

3.01 Earthwork

- A. All excavation, filling, compacting and grading of backfill materials, including base and subbase materials, ordinary borrow, drainage fill and structural associated with and used in the installation of the items of this Section 02800, Site Furnishings, shall be as specified under the Section 02200, Earthwork.

3.02 Concrete

- A. Concrete footing placement, protection and formwork shall be as specified under the Section 03300, SITE CAST-IN-PLACE CONCRETE. Concrete footings shall be to the sizes noted on the Contract Documents. No calcium chloride will be permitted.

3.03 Playground

- A. Install all items in accordance with manufacturer's instructions and in locations shown on the Contract Documents and installed and paid for under this Section 02800, Site Furnishings.
- B. The Contractor shall be responsible for timing the delivery of the playground, so as to minimize on-site storage time prior to installation. All stored materials and items must be protected from weather, careless handling and vandalism.
- C. Please see contact **Kompan regional representative** for product information and installation instructions.

3.05 Other Furnishings

- A. Install all items in accordance with manufacturer's instructions and in locations shown on the Contract Documents and installed and paid for under this Section 02800, Site Furnishings.

3.07

Acceptance Standards

- A. Site Improvement items fabricated, provided and delivered and installed under this Section 02800, Site Furnishings including bench, picnic table and wall bench will be rejected by the Owner's Representative for the following reasons and as determined by the Owner's Representative:
1. Upon installation horizontal or vertical curves do not meet the shapes and profiles shown on the Contract Documents. Curves that have broken backs, sags, saddles, tangents or kinks will be rejected.
 2. Indications of field welding or cutting.
 3. Damage such as scrapes, nicks and dents to the finish.
 4. Threaded connections are not drawn up tightly. Threads have not been deformed to prevent loosening.
 5. Anchorage into concrete or masonry is not solid but is perceptibly loose. Anchorage does not meet the requirements of the Contract Drawings.

END OF SECTION

**SECTION 02920
TURF**

PART 1 – GENERAL

1.01 Summary

- A. Section Includes:
1. Seeding.
 2. Hydroseeding.
 3. Erosion-control material(s).

1.02 Submittals

- A. Product Data: For each type of product indicated.
1. Pesticides and Herbicides: Include product label and manufacturer's application instructions specific to this Project.
 2. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
 3. Certification of each seed mixture for turfgrass includes identification of source and name and telephone number of supplier.
 4. Product Certificates: For soil amendments and fertilizers, from manufacturer.
 5. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of turf during a calendar year. Submit for approval by Landscape Architect before expiration of required initial maintenance periods.

1.03 Quality Assurance

- A. Installer Qualifications: A qualified Landscape Installer whose work has resulted in successful turf block, turf and meadow establishment.

1.04 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 conformance with state and federal laws, as applicable.
- B. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod in time for planting within 24 hours of harvesting. Protect sod from breakage and drying.

1.05 Project 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 planting completion
1. Planting: **April 1st - June 15th**
 2. Planting: **August 1st - October 15th**
- 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.

1.06 Maintenance Services

- A. Initial Turf Maintenance Service: Provide full maintenance by skilled employees of Landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable turf is established but for not less than the following periods:
1. Seeded Turf: **45 days** from date of planting completion.
 - a. When initial maintenance period has not elapsed before end of planting season, or if turf is not fully established, continue maintenance during next planting season.
 2. Sodded Turf: **21 days** from date of planting completion.

PART 2 - PRODUCTS

2.01 Seed

- A. Seed Species: State-certified seed of grass species as follows, with not less than **95** percent germination, not less than **85** percent pure seed, and not more than **0.5** percent weed seed:
1. Sun and Partial Shade: Proportioned by weight as follows:
 - a. 80 percent Kentucky bluegrass (*Poa pratensis*).
 - b. 20 percent perennial ryegrass (*Lolium perenne*).
 2. Shade: Proportioned by weight as follows:
 - a. 50 percent perennial ryegrass (*Lolium perenne*).
 - b. 30 percent chewings red fescue (*Festuca rubra variety*).
 - c. 20 percent Kentucky bluegrass (*Poa pratensis*).
- B. Turfgrass Sod: Certified, Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted.
- C. Turfgrass Species: Sod of Certified, Number 1 Quality/Premium grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed. Furnish viable sod of uniform

density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted.

1. Sun and Partial Shade: Proportioned by weight as follows:
 - a. 80 percent Kentucky bluegrass (*Poa pratensis*).
 - b. 20 percent perennial ryegrass (*Lolium perenne*).

2.02 Inorganic Soil and Amendments

- A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
 1. Class: O, with a minimum of 95 percent passing through No. 8 sieve and a minimum of 55 percent passing through No. 60 sieve.
 2. Provide lime in form of ground dolomitic limestone.

2.03 Organic Soil and Amendments

- A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 3/4-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
 1. Organic Matter Content: 50 to 60 percent of dry weight.
 2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.

2.04 Fertilizers

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

2.05 Planting Soils

- A. Planting Soil (topsoil) is provided topsoil free of stones one half inch or larger in any dimension and other extraneous materials harmful to plant growth. Topsoil shall meet a “sand loam” soil classification (60% sand, 30% silt, 10% clay).

2.06 Mulches

- A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.

2.07 Pesticides

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

2.08 Erosion Control Materials

- A. Erosion-Control Blankets: Shall be North American Green SC150 biodegradable straw-coconut mat enclosed in a photodegradable plastic mesh or approved equal. Include manufacturer's recommended steel wire staples, six inches long. Staple pattern “A” that uses 0.7 staples per SY shall be used.

PART 2 - EXECUTION

3.01 Examination

- A. Examine areas to be planted for compliance with requirements and other conditions affecting performance.
 - a. 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.
 - b. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
 - c. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 - d. Uniformly moisten excessively dry soil that is not workable and which is too 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 Landscape Architect and replace with new planting soil.

3.02 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.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.03 Turf Area Preparation

- A. Limit turf subgrade preparation to areas to be planted.
- B. Newly Graded Subgrades: Loosen subgrade to a minimum depth of four inches. Remove stones larger than one half inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
 - 1. Apply superphosphate fertilizer directly to subgrade before loosening.
 - 2. Spread planting soil to a depth of four inches but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
 - a. Reduce depth of planting soil to allow for soil thickness of sod.
- C. Unchanged Subgrades: If turf is to be planted in areas unaltered or undisturbed by excavating, grading, or surface-soil stripping operations, prepare surface soil as follows:
 - 1. Remove existing grass, vegetation, and turf. Do not mix into surface soil.
 - 2. Loosen surface soil to a depth of at least six inches. Apply soil amendments and fertilizers according to planting soil mix proportions and mix thoroughly into top four inches of soil. Till soil to a homogeneous mixture of fine texture.
 - a. Apply superphosphate fertilizer directly to surface soil before loosening.
 - 3. Remove stones larger than one half inch in any dimension and sticks, roots, trash, and other extraneous matter.
 - 4. Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.
- D. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus one half inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.

- E. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- F. Before planting, obtain Landscape Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.04 Preparation for Erosion Control

- A. For erosion-control blanket, install from top of slope, working downward, and as recommended by material manufacturer for site conditions. Fasten as recommended by material manufacturer.
- B. Moisten prepared area before planting if surface is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

3.05 Seeding

- A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds five mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 - 1. Do not use wet seed or seed that is moldy or otherwise damaged.
 - 2. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
 - 3. Broadcast spread seed.
- B. Sow seed at a total rate of **five** lb/1000 sq. ft.
- C. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.
- D. Protect seeded areas with slopes exceeding 1:4 with erosion-control blankets installed and stapled according to manufacturer's written instructions.
- E. Protect seeded areas with slopes not exceeding 1:6 by applying hydromulch.

3.06 Turf Maintenance

- A. Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, re-grade, and replant bare or eroded areas and re-mulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
 - 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
 - 2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
 - 3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.

- B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of four 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 one inch per week unless rainfall precipitation is adequate.
- C. Mow turf as soon as top growth is no more than two inches. Repeat mowing to maintain specified height without cutting more than 1/3 of grass height. Remove no more than 1/3 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: 2-1/2 inches
- D. Turf Postfertilization: Apply fertilizer after initial mowing and when grass is dry.
 - 1. Use fertilizer that will provide actual nitrogen of at least two lb/1000 sq. ft. to turf area.

3.07 Satisfactory Turf

- A. Turf installations shall meet the following criteria as determined by Landscape Architect:
 - 1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding ninety percent over any ten sq. ft and bare spots not exceeding five by five inches.
 - 2. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
- B. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

3.08 Turf Maintenance

- A. Maintain and establish meadow by watering, weeding, mowing, trimming, replanting, and performing other operations as required to establish a healthy, viable meadow. Roll, re-grade, and re-plant bare or eroded areas. 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 meadow 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 meadow 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.

4. Use “glove herbicide” or rubber glove with cotton ball of non selective herbicide and apply to individual plant tissue.
- B. Watering: Install and maintain temporary piping, hoses, and meadow-watering equipment to convey water from sources and to keep meadow uniformly moist.
 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 meadow with fine spray at a minimum rate of one half inch per week for four weeks after planting unless rainfall precipitation is adequate.
 - C. Weed Control: Maintain meadow at six inch height of cut for first two years. Conduct fall mowing to a height of four to six inches.

3.09 Pesticide Application

- A. Apply pesticides and other chemical products and biological control agents in accordance with 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 Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with manufacturer's written recommendations.

3.10 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 nondegradable erosion-control measures after grass establishment period.

END OF SECTION

**SECTION 02930
PLANTS**

PART 1 - GENERAL

1.01 Summary

- A. Section Includes:
1. Plants (trees, shrubs, perennials, ground cover)
 2. Planting soils.

1.02 Submittals

- A. Product Data: For each type of product indicated, including soils for approval.
1. Manufacturer's or vendor's certified analysis for soil amendments and fertilizer materials.
- B. Samples for Verification: For each of the following:
1. Bark Mulch: 1-quart volume of organic mulch in sealed plastic bag labeled with composition of materials and source of mulch. Sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.
- C. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of plants during a calendar year. Submit for approval by Landscape Architect before start of required maintenance periods.
- D. Warranty: Sample of special warranty.

1.03 Quality Assurance

- A. Installer Qualifications: A Qualified Landscape Installer whose work over the last five years has resulted in successful establishment of plants.
- B. Provide quality, size, genus, species, and variety of plants indicated.
- C. Measurements: Do not prune to obtain required sizes.
- D. Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements six inches above the root flare for trees up to four-inch caliper size, and twelve inches above the root flare for larger sizes.
- E. Other Plants: Measure with stems, petioles, and foliage in their normal position.
- F. Plant Material Observation: Landscape Architect may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species,

variety, cultivar, size, and quality. Landscape Architect retains right to observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected plant material immediately from Project site.

- G. Notify Landscape Architect of sources of planting materials seven days in advance of delivery to site.
- H. Pre-installation Conference: Conduct conference at Project site.

1.04 Delivery, Storage and Handling

- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.
- B. Bulk Materials:
 - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
 - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
- C. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
- D. Handle planting stock by root ball.
- E. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.
 - 1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
 - 2. Do not remove container-grown stock from containers before time of planting.
 - 3. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

1.05 Project Conditions

- A. Field Measurements: Verify actual grade elevations, service and utility locations, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.

- B. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.
 - 1. Planting: **April 1 – June 15**
September 1 - November 1
- C. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.
- D. Coordination with Turf Areas (Lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.
 - 1. When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

1.06 Warranty

- A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control.
 - b. Structural failures including plantings falling or blowing over.
 - 2. Warranty Periods from Date of **Substantial Completion**.
 - a. Trees, Shrubs, Vines, and Ornamental Grasses: **12 months**.
 - b. Ground Covers, Biennials, Perennials, and Other Plants: **12 months**.
 - 3. Include the following remedial actions as a minimum:
 - a. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
 - b. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
 - c. A limit of one replacement of each plant will be required except for losses or replacements due to failure to comply with requirements.
 - d. Provide extended warranty for period equal to original warranty period, for replaced plant material.

1.07 Maintenance Service

- A. Initial Maintenance Service for Trees, Shrubs, Ground Cover and Other Plants: Provide maintenance by skilled employees of Landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than maintenance period below.
 - 1. Maintenance Period: **12 months from date of Substantial Completion**.

PART 2 - PRODUCTS

2.01 Plant Material

- A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant Schedule or Plant Legend shown on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch in diameter; or with stem girdling roots will be rejected.
 2. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.
- B. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Landscape Architect, with a proportionate increase in size of roots or balls.
- C. Transplant existing plants per Planting Plan and Plant Schedule. **NOT APPLICABLE.**
- D. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.
- E. Plant selection at the source does not affect the Landscape Architect's right of re-inspection and rejection during the progress of the work.

2.02 Organic Soil Amendments

- A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 3/4-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
1. Organic Matter Content: 50 to 60 percent of dry weight.
 2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
- B. Sphagnum Peat: Partially decomposed sphagnum peat moss, finely divided or granular texture, with a pH range of 3.4 to 4.8.
- C. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, debris, and material harmful to plant growth.

2.03 Fertilizers

- A. Preplant incorporation of phosphorous and potassium into soils should be based on soil test results.

3.04 Planting Soils

- A. Planting Soil: Existing, native surface topsoil as stockpiled on site. Clean soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth. Mix existing, native surface topsoil with the following soil amendments in the following quantities to produce planting soil:

1. Ratio of Topsoil by Volume: **1:2**
2. Ratio of loose Compost by volume: **1:8**
3. Ratio of existing subgrade free of rocks greater than one inch: **3:8**
4. Ten pounds of bone meal per CY of planting soil.
5. Supplement with additional planting soil when quantities are insufficient.

3.05 Mulches

- A. Organic Shredded Bark Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of the following:

1. Type: **Shredded Aged Pine.**
2. Size Range: **three inches maximum, one half inch minimum**
3. Color: **Natural.**

PART 3 – EXECUTION

1.01 Examination

- A. Examine areas to receive plants for compliance with requirements and conditions affecting installation and performance.
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. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
 3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 4. Uniformly moisten excessively dry soil that is not workable and which is too 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 Landscape Architect and replace with new planting soil.

1.02 Preparation

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
- A. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- B. Lay out plants at locations following Landscape Architect's on site directions. Adjust locations when requested, and obtain Landscape Architect's acceptance of layout before excavating or planting. Make minor adjustments as required.
- C. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.

1.03 Planting Area Establishment

- A. Loosen subgrade of planting areas to a minimum depth of six inches to permit bonding of planting mix with subgrade. Remove stones larger than two inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
- B. Spread planting soil to a depth of six inches but not less than required to meet finish grades after natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
- C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.
- D. Before planting, obtain Landscape Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

1.04 Excavation for Trees and Shrubs

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

3. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
 4. Maintain required angles of repose of adjacent materials as shown on the Details. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
 5. Maintain supervision of excavations during working hours.
 6. Keep excavations covered or otherwise protected overnight.
- B. Subsoil and topsoil removed from excavations may be used as a portion of planting soil.
- C. Obstructions: Notify Landscape Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
- D. Drainage: Notify Landscape Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.
- E. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

1.05 Tree, Shrub and Vine Planting

- A. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.
- A. Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.
- B. Set balled and burlapped stock plumb and in center of planting pit or trench with root flare two inches above adjacent finish grades.
1. Use planting soil for backfill.
 2. After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops, sides and bottoms of root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
 3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
 4. Continue backfilling process. Water again after placing and tamping final layer of soil.
- C. Set balled and potted and container-grown stock plumb and in center of planting pit or trench with root flare two inches above adjacent finish grades.
1. Use planting soil for backfill.
 2. Carefully remove root ball from container without damaging plant.
 3. “Butterfly” root bound root ball.
 4. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly

before placing remainder of backfill. Repeat watering until no more water is absorbed.

5. Continue backfilling process. Water again after placing and tamping final layer of soil.

1.06 Tree, Shrub and Vine Pruning

- A. Remove only dead, dying, or broken branches. Do not prune for shape.
- B. Prune, thin, and shape trees, shrubs, and vines as directed by Landscape Architect.
- C. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Landscape Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.
- D. Do **not** apply pruning paint to wounds.

1.07 Planting Area Mulching

- A. Mulch backfilled surfaces of planting areas and other areas indicated.
- B. Trees and Tree-like Shrubs in Turf Areas: Apply organic mulch ring of **three inch average thickness**, with thirty six inch radius around trunks or stems. Do not place mulch within three inches of trunks or stems.
- C. Organic Mulch in Planting Areas: Apply **three inch average thickness** of organic mulch extending twelve inches beyond edge of individual planting pit or trench and over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within three inches of trunks or stems.

3.08 Plant Maintenance

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

A.

3.09 Pesticide Applications

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

3.10 Cleanup and Protection

- A. During planting, keep adjacent paving and construction clean and work area in an orderly condition.
- B. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.
- C. After installation and before **Final Completion** remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.

3.11 Disposal

- A. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION

**SECTION 03300
CAST-IN-PLACE CONCRETE**

PART 1 - GENERAL

1.01 Related Work

- A. Section 03100 - Concrete Formwork.
- B. Section 03200 - Concrete Reinforcement.
- C. Section 03250 - Concrete Accessories.
- D. Section 03345 - Cast-In-Place Concrete Finishes.

1.02 Quality Assurance

- A. Cast-in place concrete work shall be performed in accordance with ACI 318, unless specified otherwise. Concrete materials and operations will be tested and inspected as the work progresses. Failure to detect any defective work or materials shall not in any way prevent later rejection when such defect is discovered nor shall it obligate the E/A for final acceptance.
- B. Testing Agencies (NIC)
 - 1. The required testing services of Articles 1.02C and 1.02E of this section of the specifications shall be performed by the testing agency as designated in accordance with Section 01000 of these specifications. Initial tests detailed of Articles 1.02C and 1.02D will be provided by the Owner and those of Article 1.02E shall be paid for by the Contractor.
 - 2. The necessary testing services of Article 1.02G shall be performed by a testing agency acceptable to the E/A at the Contractor's expense.
 - 3. All testing agencies shall meet the requirements of ASTM E329.
- C. Testing Services (NIC)
 - 1. The following testing services shall be performed by the designated Testing Agency:
 - a. Review and/or check-test the Contractor's proposed materials for compliance with the specifications.
 - b. Review and check-test the Contractor's proposed mixture design when required by the E/A.
 - c. Secure production samples of materials at plants or stockpiles during the course of the work and test for compliance with the specifications. Tests of cement and aggregates shall be

performed to ensure conformance with Specification requirements. Manufacturer's certification that cement materials meet Specification requirements and results of manufacturer's own material tests will be acceptable in lieu of tests by inspection and testing firm. Aggregates testing shall be performed by independent inspection and testing firm, for compliance with ASTM C33, including limits for deleterious substances, grading and physical property requirements.

- d. Conduct strength tests of the concrete during construction in accordance with the following procedures:
 1. Secure composite samples in accordance with ASTM C172. Each sample shall be obtained on a random basis, avoiding any selection of the test batch other than by a number selected at random before commencement of concrete placement.
 2. Mold and cure four specimens from each sample in accordance with ASTM C31. Any deviations from the requirements of this Standard shall be recorded in the test report.
 3. Test specimens in accordance with ASTM C39. Two specimens shall be tested at 28 days for acceptance and one shall be tested at 7 days for information. One specimen shall be held should additional testing be required and ordered. The acceptance test results shall be the average of the two specimens tested at 28 days. If one specimen in a test manifests evidence of improper sampling, molding or testing, it shall be discarded and the strength of the remaining cylinder shall be considered the test result. Should both specimens show any of the above defects, the entire test shall be discarded.
 4. Make at least one strength test for each 100 cubic yards or fraction thereof, of each mixture design of concrete placed in any one day.
 5. When the total quantity of concrete with a given mixture design is less than 50 cubic yards, the strength tests may be waived by the E/A if, in his judgment, adequate evidence of satisfactory strength is provided, such as strength test results for the same kind of concrete supplied on the same day and under comparable conditions to other work or other projects.
- e. Determine slump of the concrete sample for each strength test and whenever consistency of concrete appears to vary, using ASTM C143.

- f. Determine air content of normal weight concrete sample for each strength test in accordance with either ASTM C231, ASTM C173 or ASTM C138.
- g. Determine temperature of concrete sample for each strength test.

D. Additional Services When Required

- 1. The following services shall be performed by the designated agency when required by the E/A:
 - a. Inspect concrete batching, mixing and delivery operations to the extent deemed necessary by the E/A.
 - b. Sample concrete at point of placement and perform required tests.
 - c. Review the manufacturer's report for each shipment of cement and reinforcing steel and conduct laboratory tests or spot checks of the materials as received for compliance with the specifications.
 - d. Other testing or inspection services as required.

E. Other Services as Needed

- 1. The following services shall be performed by the designated agency when necessary:
 - a. Additional testing and inspection required because of changes in materials or proportions requested by the Contractor.
 - b. Additional testing of materials or concrete occasioned by their failure by test or inspection to meet specifications requirements.

F. Duties and Authorities of Designated Test Agency

- 1. Representatives of the agency shall inspect, sample and test the materials and the production of concrete as required by the E/A. When it appears that any material furnished or work performed by the Contractor fails to fulfill specification requirements, the testing agency shall report any such deficiency to the E/A and the Contractor.
- 2. The testing agency shall report all test and inspection results to the E/A and Contractor immediately after they are performed. All test reports shall include the exact location in the work at which the batch representing a test was deposited. Reports of strength test shall include detailed information on storage and curing of specimens prior to testing.

3. The testing agency and its representatives are not authorized to revoke, alter, relax, enlarge or release any requirements of the contract documents, nor to approve or accept any portion of the work.

G. Responsibilities and Duties of Contractor

1. The Contractor shall provide the necessary testing services for the following:
 - a. Qualification of proposed materials and the establishment of mixture designs.
 - b. Other testing services needed or required by the Contractor.
 - c. The use of testing services shall in no way relieve the Contractor of the responsibility to furnish materials and construction in full compliance with the contract documents.
 - d. The Contractor shall submit to the E/A the concrete materials and the concrete mix designs from the redi-mix supplier proposed for use for each class of concrete with a written request for acceptance. This submittal shall include the results of all testing performed to qualify the materials and to establish the mix designs. No concrete shall be placed in the work until the Contractor has received such acceptance in writing.
 - e. To facilitate testing and inspection, the Contractor shall:
 1. Furnish any necessary labor to assist the designated testing agency in obtaining and handling samples at the project or other sources for materials.
 2. Advise the E/A and the testing agency sufficiently in advance of operations to allow for completion of quality tests and for the assignment of personnel.
 3. Provide and maintain for the sole use of the testing agency adequate facilities for safe storage and proper curing of concrete test specimens on the project site for the first 24 hours as required by ASTM C31.
 4. Submit copies of mill test reports for shipments of cement and reinforcing steel to the E/A when required.

1.04

Reference Standards

- A. ACI 301 - Specifications for Structural Concrete for Buildings.
- B. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
- C. ACI 305 - Recommended Practice for Hot Weather Concreting.

- D. ACI 306 - Recommended Practice for Cold Weather Concreting.
- E. ACI 318 - Building Code Requirements for Reinforced Concrete.
- F. ASTM C33 - Concrete Aggregates.
- G. ASTM C94 - Ready-Mixed Concrete.
- H. ASTM C150 - Portland Cement.
- I. ASTM C171 - Sheet Materials for Curing Concrete.
- J. ASTM C260 - Air Entraining Admixtures for Concrete.
- K. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.
- L. ASTM C494 - Chemical Admixtures for Concrete.
- M. ASTM C979 - Pigments for Integrally Colored Concrete.

1.05 Submittals

- A. Proposed design certificate from supplier for all required design mixes.
- B. Certification of finisher.
- C. Samples for Color Verification:
 - 1. Submit sample chip of specified color indicating color additive number and required dosage rate. Samples indicate general color and may vary from concrete finished in field according to Specifications.

1.06 Qualifications

- A. Concrete work shall be performed by an American Concrete Institute certified finisher with at least five years' experience with work of similar scope and quality.

1.07 Schedule and Protection

- A. Color Additives: Comply with manufacturer's instructions. Deliver color additives in original, unopened packaging. Store in dry conditions.
- B. Avoid placing concrete if rain, snow, or frost is forecast within 24 hours. Protect fresh concrete from moisture and freezing.
- C. Schedule concrete pours for early in the morning. Protect work from damage through the day (minimum of eight hours). Cover with plastic sheet until

completely set to minimize exposure to wind and hot sun before curing materials are applied.

PART 2 - PRODUCTS

2.01 Concrete Materials

- A. Cement: Portland Cement, ASTM C150, Type I.
- B. Fine and Coarse Aggregates: ASTM C33.
- C. Water: Clean and free from injurious amounts of oil, alkali, organic matter, or other deleterious material.

2.02 Admixtures

- A. Air Entrainment: ASTM C260.
- B. Chemical: ASTM C494, Type A - Water reducing. Type B - retarding. Type C - accelerating. Type D - water reducing and retarding. Type E - water reducing and accelerating.

2.03 Curing Materials

- A. Curing Compound: Resin based, type; ASTM C309, Type 2 - white pigmented, Class B.
- B. Polyethylene Film: 4 mil. thick, white opaque color, ASTM C171.

2.04 Accessories

- A. Bonding Agent: Two component modified epoxy resin.
- B. Vapor Barrier: 4 mil. unless otherwise shown on the Drawings. Clear polyethelene film, type recommended for below grade application.
- C. Non-Shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 2,400 psi in 2 days and 7,000 psi in 28 days.

2.05 Concrete Mixes

- A. Mix concrete in accordance with ASTM C94.
- B. Provide concrete of the following strength:
 - 1. Compressive strength (28 day): 4,000 psi.
 - 2. Entrained Air Content: As indicated in ACI 301, Table 3.4.1.
 - 3. Cement Content: Minimum 564 pounds per cubic yard.

4. Water Cement Ratio: Maximum 0.45.
 5. Slump: 1-inch minimum, 3-inch maximum for footings and substructure walls; 4-inch maximum for slabs, beams, reinforced walls and columns. Loss of slump in pumping shall not exceed 1-1/2-inch.
- C. Select proportions for normal weight concrete in accordance with ACI 301, 3.8, Method 1.
- D. Use water reducing admixtures only when accepted by Engineer.
- E. Use accelerating admixtures only in cold weather and only when accepted by Engineer. If accepted, use of admixture will not relax cold weather placement requirements. Calcium chloride shall not be used.
- F. Use retarding admixtures only in hot weather and only when accepted by Engineer.
- G. Use air entrained concrete for all concrete exposed to the exterior.
- H. Color Additives for Integrally Colored Concrete:
1. Manufacturer: Davis Colors manufactured by Davis Colors or approved equal; phone 800-356-4848, e-mail info@daviscolors.com, or internet www.daviscolor.com.
 2. Curing Compound for Colored Concrete: Curing compound shall comply with ASTM C309 and be approved by color additive manufacturer for use with colored concrete. Provide W-1000 Clear Cure & Seal manufactured by Davis Colors or approved equal.
 3. Color Additives: Mix in accordance with manufacturer's instructions. Mix until color additives are uniformly dispersed throughout mixture and disintegrating bags, if used, have disintegrated.
 4. Do not re-temper mix by adding water in field.

2.06

Concrete Colors

- A. Concrete Color:
1. Cement: Color shall be standard "buff".
 2. Sand: Color shall be locally available natural sand.
 3. Aggregate: Concrete producer's standard aggregate complying with specifications.
 4. Color Additives: **NIC**

2.07 Expansion Joints

- A. Inside of wet deck expansion joint filler shall be preformed, nonbituminous type conforming to ASTM D1752, Type II, similar to Sealtight Cork Expansion Joint Filler, manufactured by W.R. Meadows, Inc., Elgin, IL 60120, or approved equivalent. Premolded filler shall be one piece for the full depth and width of the joint.
- B. Shall be fiber-board joint filler strips outside of wet deck.

PART 3 - EXECUTION

3.01 Placing Concrete

- A. Place concrete in accordance with ACI 304.
- B. Notify Landscape Architect minimum 24 hours prior to commencement of concreting operations.
- C. Concrete to re-use aggregate base material if found to be suitable. Additional aggregate base may be necessary to meet elevations where aggregate is found. If no existing aggregate base is found then the contractor shall provide as part of the base bid.
- D. Ensure anchors, seats, plates and other items to be cast into concrete are placed, held securely and will not cause hardship in placing concrete. Rectify same and proceed with Work.
- E. Maintain records of poured concrete items. Record date, location for pour, quantity, air temperature, and test samples taken.
- F. Ensure reinforcement, inserts, embedded parts, and formed expansion and contraction joints are not disturbed during concrete placement.
- G. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent. Apply bonding agent in accordance with manufacturer's recommendations.
- H. Pour concrete continuously between predetermined construction and control joints. Do not break or interrupt successive pours such that cold joints occur.
- I. Pour floor slabs in checkerboard or saw cut pattern indicated on Contract Drawings. Saw cut control joints within 24 hours after finishing. Use 3/16-inch thick blade, cutting 1/4-inch into depth of slab thickness.
- J. In locations where new concrete is dowelled to existing Work, drill holes in existing concrete, insert steel dowels, and pack solidly with non-shrink grout.

- K. Honeycomb or embedded debris in concrete is not acceptable. Notify Landscape Architect upon discovery.
- L. Conform to ACI 305 when concreting during hot weather.
- M. Conform to ACI 306 when concreting during cold weather.
- N. Maintain concrete cover around reinforcing in accordance with ACI 3187 or as otherwise indicated on Contract Drawings.
- O. Install vapor barrier under interior slabs on grade. Lap joints minimum 1 foot and seal. Do not disturb or damage vapor barrier while placing concrete reinforcing. If damage does occur, repair areas before placing concrete. Use vapor barrier materials, lapped over damaged areas minimum 6-inches in all directions and sealed.
- P. Separate slabs-on-grade from vertical surfaces where shown with 1/2-inch thick joint filler. Extend joint filler from bottom of slab to within 1/2-inch of finished slab surface. Refer to Section 03250 for joint filler requirements.

3.02

Curing and Protection

- A. Beginning immediately after placement, protect concrete from premature drying, excessive hot or cold temperatures, and mechanical injury. Maintain concrete with minimal water loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- B. One additional test cylinder shall be taken during cold weather concreting, and cured on the Work Site under same conditions as concrete it represents. **(NIC)**
- C. One slump test and one air test shall be taken for each set of test cylinders taken. **(NIC)**
- D. Follow sampling and testing procedures referred in ASTM C94.

END OF SECTION

AMERISTAR FENCE PRODUCTS
ECHELON PLUS® - Aluminum Ornamental Fence System – Internally Secured
Construction Specification - SECTION 32 31 00

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The contractor shall provide all labor, materials and all necessary items for the installation of the Echelon Plus® ornamental aluminum fence system defined herein at Billy Taylor Park.

1.02 RELATED WORK

Section 02200 - Earthwork
Section 03300 - Concrete

1.03 SYSTEM DESCRIPTION

- A. The manufacturer shall supply a total ornamental aluminum fencing system of the Ameristar Echelon Plus® Monarch and Majestic Pool design. The system shall include all components (i.e., pickets, posts, rails, gates and hardware) required.

1.04 QUALITY ASSURANCE

- A. The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and the materials specified.

1.05 REFERENCES

- ASTM B117 - Practice for Operating Salt-Spray (Fog) Apparatus.
- ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.
- ASTM D523 - Test Method for Specular Gloss.
- ASTM D822 - Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus.
- ASTM D1654 - Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
- ASTM D2244 - Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.
- ASTM D2794 - Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
- ASTM D3359 - Test Method for Measuring Adhesion by Tape Test.

1.06 SUBMITTAL

- A. The manufacturer's submittal package shall be submitted prior to installation to confirm compliance with all requirements for materials specified in this section.

1.07 PRODUCT HANDLING AND STORAGE

- A. Upon receipt at the job site, all materials shall be checked to ensure that no damages occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage and to protect against damage, weather, vandalism and theft.

PART 2 - MATERIALS

2.01 MANUFACTURER

- A. The ornamental fence system shall conform to Ameristar's Echelon Plus aluminum ornamental fencing, Monarch and Majestic Pool, 3-rail, style manufactured by Ameristar Fence Products, Inc. in Tulsa, Oklahoma.

2.02 MATERIAL

- A. Aluminum material for fence framework (i.e., tubular pickets, rails and posts) shall conform to the requirements of ASTM B221. The aluminum extrusions for posts and rails shall be Alloy and Temper Designation 6005-T5. The aluminum extrusions for pickets shall be Alloy and Temper Designation 6063-T5.
- B. Pickets shall be 3/4" square x .045" thick. Horizontal rails shall be 1-1/4" x 1-7/16" Forerunner™ channel with .060" thick top & internal web wall, and .090" thick side walls and shall be punched to allow picket to pass through the top of the rail. The Forerunner™ rail shall be constructed with an internal web insert providing a raceway for the pickets to be retained with a 1/8" retaining rod. The number of rails shall vary with the style, height and strength as determined by manufacturer. Fence posts and gate posts shall meet the minimum size requirements of Table 1.
- C. Accessories: Aluminum castings shall be used for all post caps, scrolls, finials, and other miscellaneous hardware. Hinges and latches shall be fabricated from aluminum, stainless steel or composite materials.

2.03 FABRICATION

- A. Pickets, rails and posts shall be pre-cut to specified lengths. ForeRunner rails shall be pre-punched to accept pickets. Grommets shall be inserted into the pre-punched holes in the rails and pickets shall be inserted through the grommets so that pre-drilled picket holes align with the internal upper raceway of the ForeRunner rails (Note: This can best be accomplished by using an alignment template). Retaining rods shall be inserted into each ForeRunner rail so that they pass through the pre-drilled holes in each picket, thus completing the panel assembly.
- B. The manufactured framework shall be subjected to the Ameristar thermal stratification coating process (high-temperature, in-line, multi-stage, and multi-layer) including, as a minimum, a six-stage pretreatment/wash and an electrostatic spray application of a polyester finish. The topcoat shall be a "no-mar" TGIC polyester powder coat finish with a minimum thickness of 2 mils (0.0508mm). The color shall be (specify Black, Bronze, or White). The stratification-coated framework shall be capable of meeting the performance requirements for each quality characteristic shown in Table 2.
- C. Finish: All fence components shall be subject to a six-stage pretreatment/wash followed by an electrostatic spray application of a "no-mar" TGIC polyester powder coat finish with a minimum thickness of 2-4 mils. The color shall be (specify black, bronze or white).
- D. Completed panels shall be capable of supporting a 200 lb. load (applied at midspan) without permanent deformation. Panels without rings shall be biasable to a 12.5% change in grade.
- E. Swing gates shall be fabricated using 1-1/4" x 1-7/16" Forerunner rail, 1.75" sq. x .125" gate ends, and 3/4" sq. x .080 pickets. Gates that exceed 6' in width will have a 1.75" sq. x .125" intermediate upright. All rail and upright intersections shall be joined by welding. All picket and rail intersections shall also be joined by welding.

PART 3 - EXECUTION

3.01 PREPARATION

- A. All new installation shall be laid out by the contractor in accordance with the construction plans.

3.02 FENCE INSTALLATION

- A. Fence post shall be spaced according to Table 3, plus or minus 1/2". For installations that must be raked to follow sloping grades, the post spacing dimension must be measured along the grade. Fence panels shall be attached to posts with brackets supplied by the manufacturer. Posts shall be set in concrete footers 33" depth recommended (Note: In some cases, local restrictions of freezing weather conditions may require a greater depth). The "Earthwork" and "Concrete" sections of this specification shall govern material requirements for the concrete footer. Posts setting by other methods such as plated posts or grouted core-drilled footers are permissible only if shown by engineering analysis to be sufficient in strength for the intended application.

3.03 FENCE INSTALLATION MAINTENANCE

- A. When cutting/drilling rails or posts adhere to the following steps to seal the exposed surfaces; 1) Remove all metal shavings from cut area. 2) Apply custom finish paint matching fence color. Failure to seal exposed surfaces per steps 1 & 2 above will negate warranty. Ameristar spray cans or paint pens shall be used to finish exposed surfaces; it is recommended that paint pens be used to prevent overspray. Use of non-Ameristar parts or components will negate the manufactures' warranty.

3.04 GATE INSTALLATION

- A. Gate posts shall be spaced according to the manufacturers' gate drawings, dependent on standard out-to-out gate leaf dimensions and gate hardware selected. Type and quantity of gate hinges shall be based on the application; weight, height, and number of gate cycles. The manufacturers' gate drawings shall identify the necessary gate hardware required for the application. Gate hardware shall be provided by the manufacture of the gate and shall be installed per manufacturer's recommendations.

3.05 CLEANING

- A. The contractor shall clean the jobsite of excess materials; post-hole excavations shall be scattered uniformly away from posts.

Table 1 – Minimum Sizes for Echelon Plus Posts			
<u>Fence Posts</u>	<u>Panel Height</u>		
2-1/2" x 2-1/2" x .060" w/ reinforced web	Up to 6' Height		
	<u>Gate Height</u>		
<u>Gate Leaf</u>	<u>Up to & Including 4'</u>	<u>Over 4' Up to & Including 5'</u>	<u>Over 5' Up to & Including 6'</u>
Up to 4'	2 1/2" x 2-1/2" x .060" Alum.	3" x 3" x .120" Alum.	4" x 4" x .250" Alum. or 3" x 3" x 12ga. Steel
4'1" to 6'	3" x 3" x .120" Alum.	4" x 4" x .250" Alum. or 3" x 3" x 12ga. Steel	3" x 3" x 12ga. Steel
6'1" to 8'	4" x 4" x .250" Alum. or 3" x 3" x 12ga. Steel	4" x 4" x 11ga. Steel	4" x 4" x 11ga. Steel

Table 2 – Coating Performance Requirements		
<u>Quality Characteristics</u>	<u>ASTM Test Method</u>	<u>Performance Requirements</u>
Adhesion	D3359 – Method B	Adhesion (Retention of Coating) over 90% of test area (Tape and knife test).
Corrosion Resistance	B117 & D1654	Corrosion Resistance over 1000 hours (Scribed per D1654; failure mode is accumulation of 1/8" coating loss from scribe or medium #8 blisters).
Impact Resistance	D2794	Impact Resistance over 60 inch lb. (Forward impact using 0.625" ball).
Weathering Resistance	D822, D2244, D523 (60° Method)	Weathering Resistance over 1,000 hours (Failure mode is 60% loss of gloss or color variance of more than 3 delta-E color units).

Table 3 – Echelon Plus – Post Spacing By Bracket Type					
8' Nominal (91-3/4" Rail)					
Span					
Post Size	2-1/2"	2-1/2"	3"	2-1/2"	3"
Bracket Type	Echelon Plus Line Boulevard (ABB3)	Echelon Plus Swivel* (ABB2)		Echelon Plus Flat Mount (ABB1)	
Post Settings ± 1/2" O.C.	95"	*95"	*95-1/2"	95"	95-1/2"
6' Nominal (73-1/16" Rail)					
Span					
Post Size	2-1/2"	2-1/2"	3"	2-1/2"	3"
Bracket Type	Echelon Plus Line Boulevard (ABB3)	Echelon Plus Swivel* (ABB2)		Echelon Plus Flat Mount (ABB1)	
Post Settings ± 1/2" O.C.	76-1/4"	*76-1/4"	*76-3/4"	76-1/4"	76-3/4"
*Note: When using ABB2 swivel brackets on either or both ends of a panel installation, care must be taken to ensure the spacing between post and adjoining pickets meets applicable codes. This will require trimming one or both ends of the panel.					

SECTION 03216
PRECAST CONCRETE CURB

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The Work of this Section consists of providing labor, equipment, materials, incidental work, and construction methods necessary to furnish and install the precast concrete curb, as indicated on the Contract Documents and as specified.

1.2 RELATED DOCUMENTS

- A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. The following items of related work are specified and included in other Sections of the Specifications:
1. Section 31 20 00 – Earth Moving
 2. Section 32 11 23 – Rough Grading

1.3 REFERENCES

- A. The following standards shall apply to the work of this Section.
1. State of Rhode Island Department of Transportation (RIDOT):
Specifications Standard Specifications for Road and Bridge Construction
 2. American Society for Testing and Materials (ASTM):
A 615 Deformed and Plain Billet - Steel Bars for Concrete Reinforcement

1.4 SUBMITTALS

- A. Submit complete shop drawings of precast concrete curbing for Owner's Representative's approval.
1. Shop drawings shall indicate size, dimension, and finish of each curb type.
 2. Submit a complete schedule for quantity, lengths, and size for all curbing on the project.
- B. Submit manufacturer's literature and test reports for all curbing required for project; include each curb type.

1.5 QUALITY ASSURANCE

- A. Unless otherwise indicated, pre-cast concrete curb materials and construction shall conform to the applicable portions of the following:
1. RIDOT Specifications Section 906, "Curbing for Roadways".

- B. Concrete for all curbing shall be supplied from a single source for entire project
- C. Source of concrete shall be approved by Owner's Representative prior to construction

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Precast concrete curb units shall be delivered to the job adequately protected from damage during transit.
- B. Curb units shall be stored off the ground with wood cribbing between each unit. Curb shall be protected against staining, chipping, and other damage. Cracked, chipped, or stained units will be rejected and shall not be employed in the work.
- C. Store pallets of curbing on pavement or other hard, durable surfaces that will not compact as a result of the weight of the pallets of curbing. Prevent steel strapping of pallets from rusting and staining of pavement. Remove and replace all pavement stained by rusting steel strapping of pallets.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Precast curb units shall be the product of one of the following precast concrete curb suppliers, or an approved equal:
 - 1. Means Precast
Braintree, MA 02184
Tel. (781) 843-1909.
 - 2. Durastone Corporation
P.O. Box 1114
150 Higginson Avenue
Lincoln, RI 02865
Tel. (401) 596-7225.
 - 3. Precast Specialties Corp.
999 Adams Street
P.O. Box 86
Abington, MA 02351
Tel. (781) 878-7220.

2.2 CONCRETE MATERIALS

- A. Formwork:
 - 1. Forms shall be wood or steel and shall have a "smooth form" surface to produce required finish on exposed portions of precast curbing.
- B. Reinforcing Steel:
 - 1. Steel reinforcing bars shall be deformed type conforming to ASTM A 615.
 - 2. Unless otherwise indicated on the Contract Documents, provide a minimum of two No. 3 bars for each curb unit.
- C. Concrete for Precast Curbing:
 - 1. Concrete shall be air-entrained type with a minimum 28 day compressive strength of 4000 psi, 3/4inches aggregate, 610 lb. Portland cement per cubic yard. Air content shall be 5% to 7%.

2.3 SIZE AND DIMENSIONS

- A. Straight curb units shall be 6 inches x 18 inches, 6 feet lengths.
- B. Curved curbing shall be employed on radii up to 100 feet.
- C. Arris exposed to traffic shall be rounded to a 3/4 inches radius. Back arris line shall be straight.
- D. Curb units shall be true to line, plane, and dimensions.

2.4 FINISH

- A. Curb units shall have a uniform, smooth texture finish, free from cracks and other defects. Color of units shall be uniform.
- B. Curb shall have no paint, mortar, or other coating.

2.5 CURING

- A. Precast units shall be moist cured by steam or water for a sufficient length of time for the concrete to obtain the required compressive strength. Curing compounds will not be permitted.

PART 3 - EXECUTION

3.1 SETTING CURB

- A. Curb shall be set in an 18-inch wide trench, with trench bottom at 6 inches below bottom of curb. Excavation shall be filled to required level with dense graded

crushed stone provided, installed and paid for under the work of Section 31 20 00 - Earth Excavation, Backfill, Fill, & Grading.

1. All spaces under the curb shall be filled with compacted dense graded crushed stone so that the curb will be completely supported throughout its length.
 2. Vertical face of vertical curb shall be plumb, with curb top parallel to adjacent surface.
 3. Curb shall be set accurately to line and grade. Curb alignment shall be uniform, with smooth and continuous arris lines. Radius curbs shall meet with a common tangent.
- B. Curb units shall be placed accurately to line. Final points (locations where lines of curb intersect) shall be joined by closure pieces made to order and not less than 30 inches in length.
- C. Curb shall not be field cut except with the prior permission of the Owner's Representative.
1. If field cutting of curb is permitted by the Owner's Representative, the curb shall be cut using concrete cutting tools to provide a smooth and uniform saw cut. Sawn end shall match manufactured end, in every respect. Chamfers shall be ground to match abutting curb unit. Field chamfers and sawn end profiles shall be finished with manufacturer recommended bonding agent, to match surface finish of curb unit. In no case, shall field sawn end cut be exposed to view.
- D. Curb units shall be butted together with joints between curb units (both front and back) no greater than 1/8 inches. Joint space shall not be filled with mortar.
- E. Set curb to required line and grade. Where indicated, provide transition sections to create smooth transition between standard curb and flush curb at entrances, ramps,
- and all other locations requiring transition curbing as determined by the Owner's Representative.
- F. Backfill material on each side of curb shall be as specified for adjacent surface and shall be thoroughly compacted by means of power tampers. Extreme care shall be taken not to destroy alignment. Curb sections disturbed during backfilling or otherwise shall be reset to line and grade, and properly backfilled.
- G. Remove and reset all curb sections that do not conform to the vertical and horizontal alignment shown on the Contract Documents.

END OF SECTION



Envirobond Products Corporation
 6191-2100 Bloor Street West
 Toronto, ON
 M6S 5A5

AGGREGATE ONBOARDING PROCEDURE

Aggregate Onboarding Level	Description
LEVEL 1	Potential aggregate analysis
LEVEL 2	Sample of aggregate(s)
LEVEL 3	Aggregate testing
LEVEL 4	Test plot

LEVEL 1: POTENTIAL AGGREGATE ANALYSIS

Provide Envirobond with gradations of any aggregate or aggregate blend that aligns with the Optimal Gradation of Organic-Lock aggregates.

The Envirobond lab is able to accurately construct optimal blend ratios, therefore sending the individual gradations of potential aggregates and allowing us to formulate the blend ratios is acceptable. Please include a high resolution photo of each potential aggregate – a close up shot with a dime or ruler in the field of view. Once this has been received, successful candidates will be determined with significant accuracy that will minimize any unnecessary sample couriers.

LEVEL 2: SAMPLE OF AGGREGATE(S)

Envirobond will request a 6.8kg (15 pound) sample of each potential aggregate to be couriered to the Envirobond Lab.

LEVEL 3: AGGREGATE TESTING

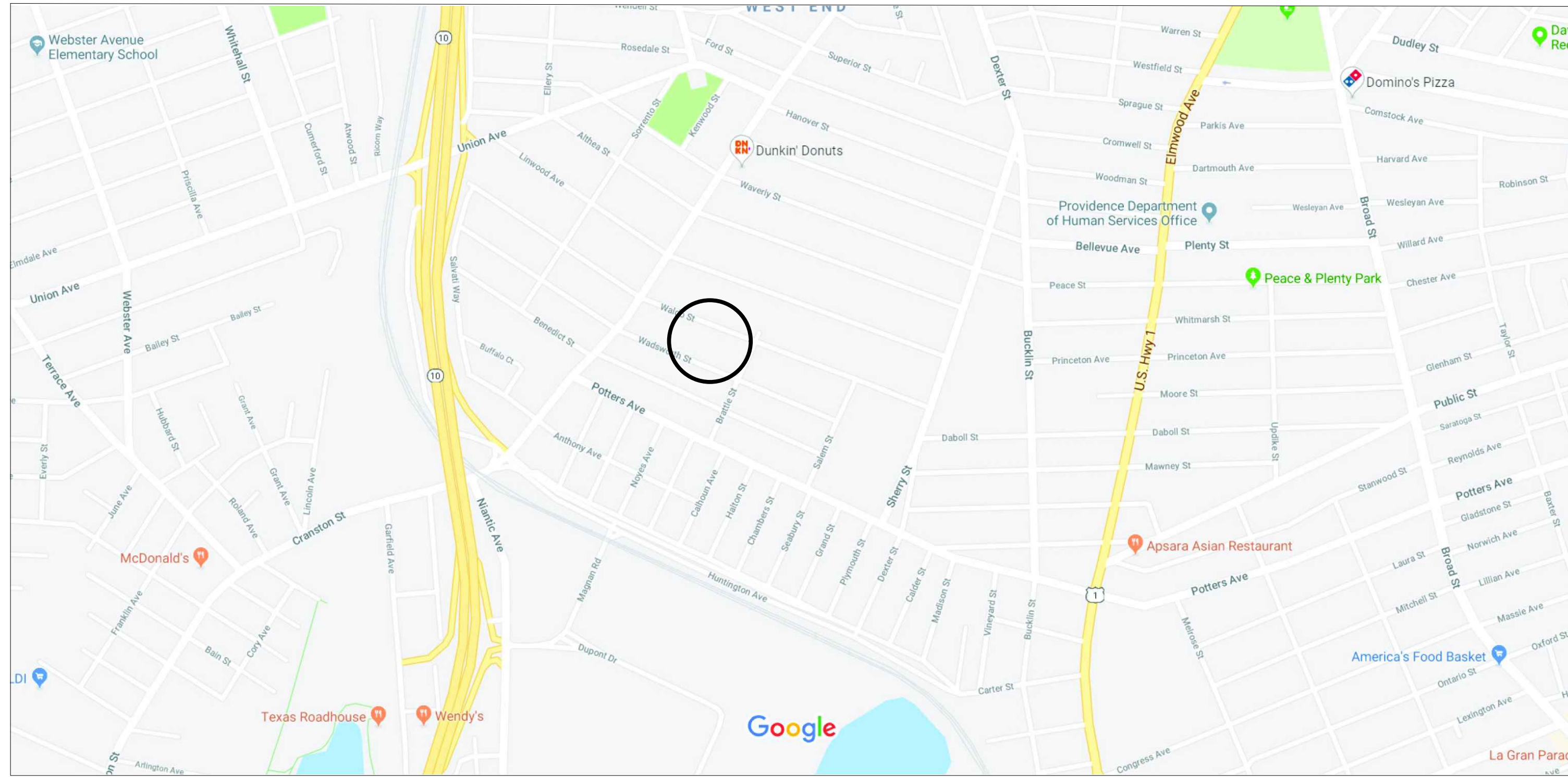
The Envirobond Lab will test aggregates to determine its erosion resistance capabilities when blended with Organic-Lock. Aggregates that exhibit strong performance in testing will be labelled as “approved” aggregates.

LEVEL 4: TEST PLOT

Using approved aggregates, Envirobond will request a test plot installation. A test plot should be a minimum of 5ft x 5ft. Envirobond will provide all installation documents and specifications required. The presence of an Envirobond representative will be determined on a case by case basis.

ORGANIC-LOCK PATHWAY AGGREGATE OPTIMAL GRADATION

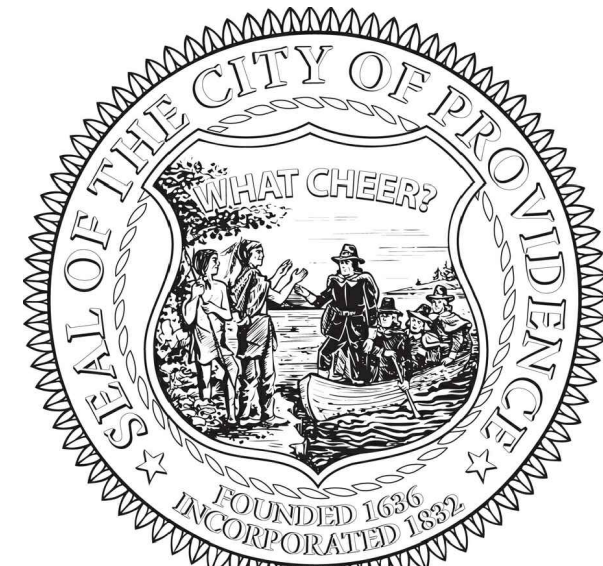
Percent Passing								
Sieve No.	4	8	16	30	50	100	200	PAN
Sieve Size (mm)	4.75	2.35	1.18	0.6	0.3	0.15	0.075	0
Upper Limit	100.00%	90.00%	70.00%	55.00%	35.00%	20.00%	15.00%	0.00%
Lower Limit	80.00%	65.00%	50.00%	25.00%	15.00%	10.00%	5.00%	0.00%



WALDO STREET TOT LOT

Providence, Rhode Island

PARK IMPROVEMENTS



City of Providence
Mayor Angel Taveras

THE HONORABLE JORGE O. ELORZA, Mayor

JAMES TAYLOR, City Councilman

WENDY NILSSON, Superintendent of Parks



INDEX TO DRAWINGS:

- L-1 DEMO PLAN
- L-2 LANDSCAPE PLAN
- L-3 PLAYGROUND PLAN
- L-4 CONSTRUCTION DETAILS

Landscape Architect

GARDNER+GERRISH, LLC
151 Broadway, Suite 245
Providence, Rhode Island 02903
401.263.3784

LOCUS MAP

not to scale

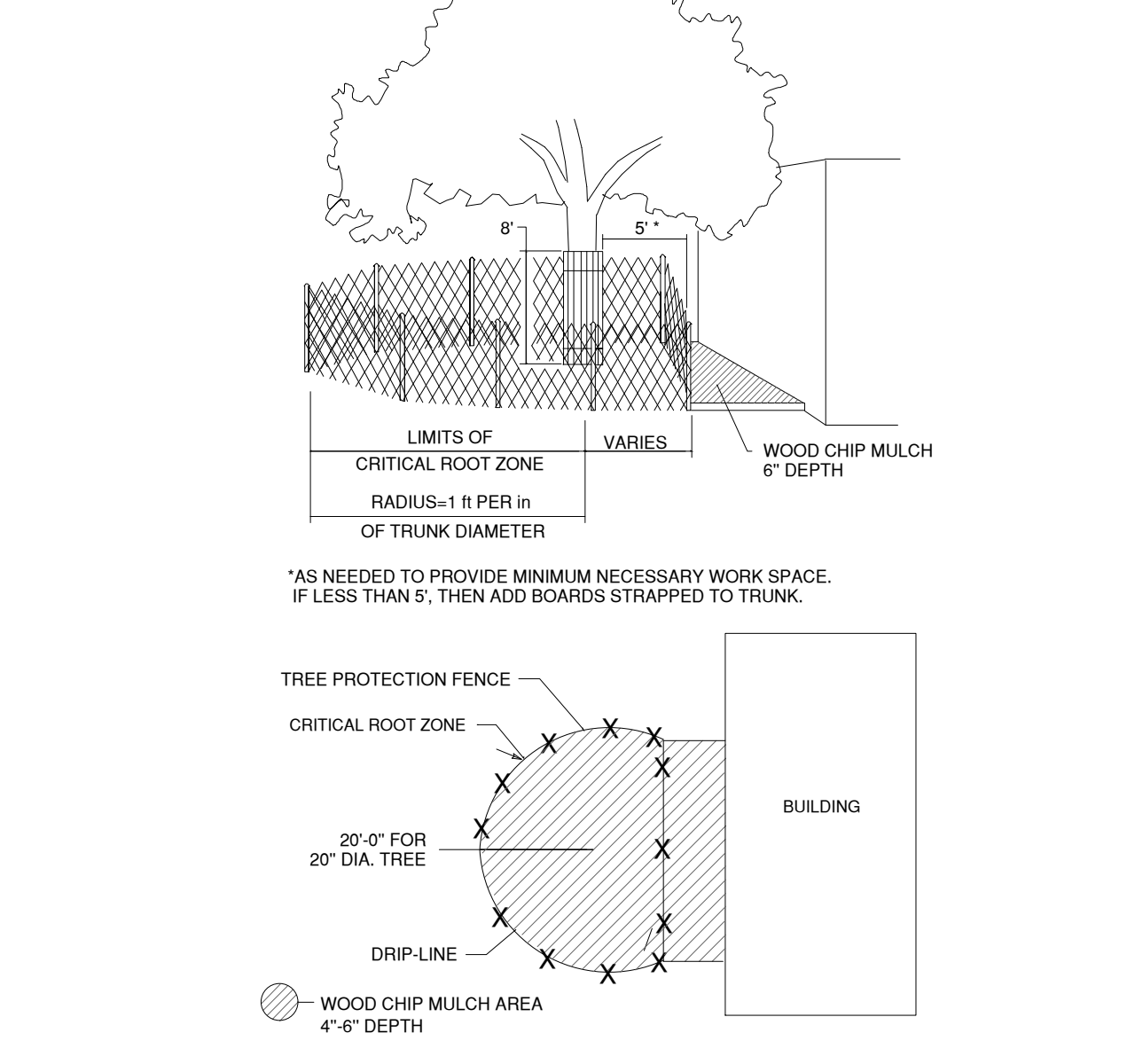
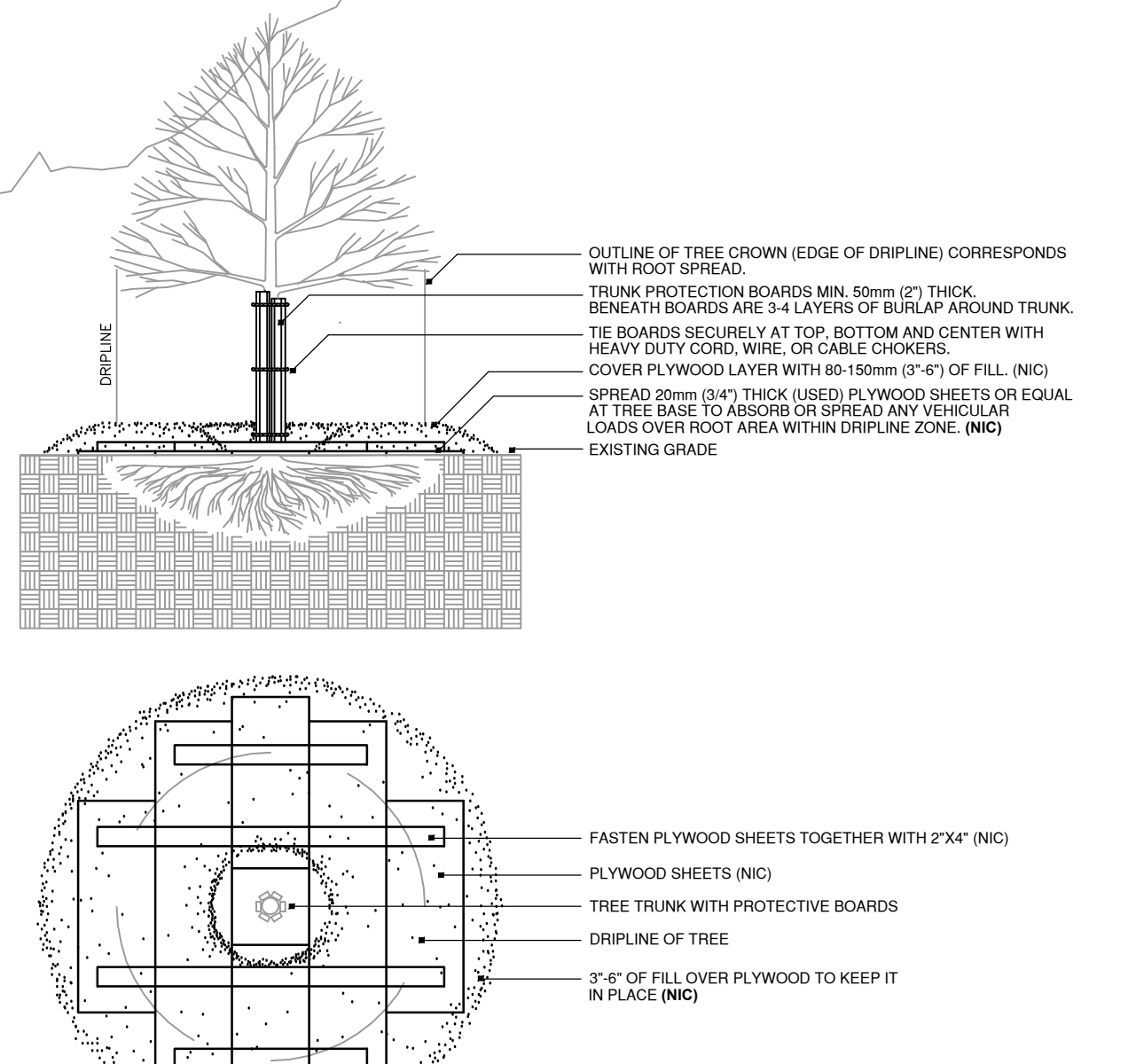
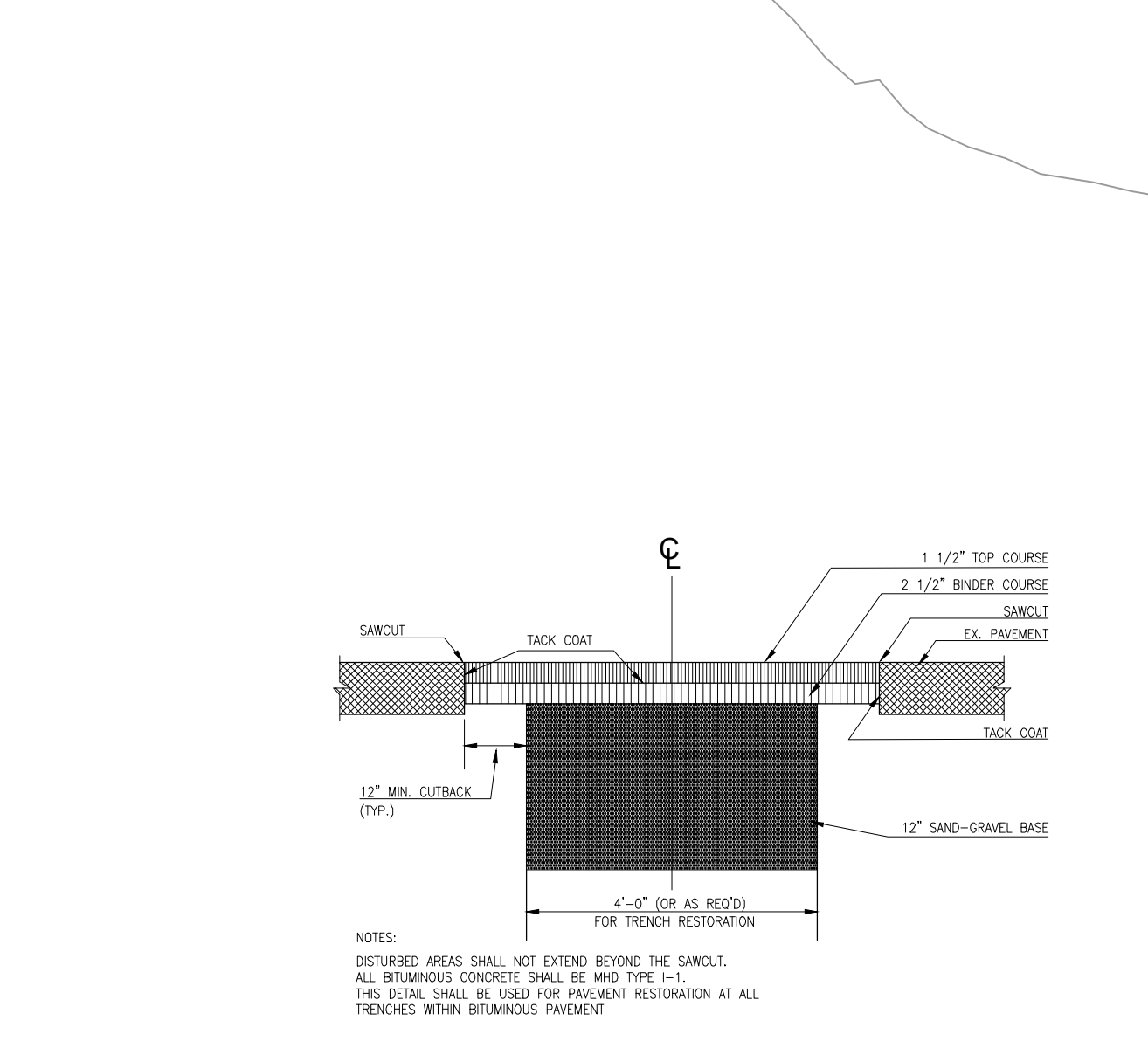
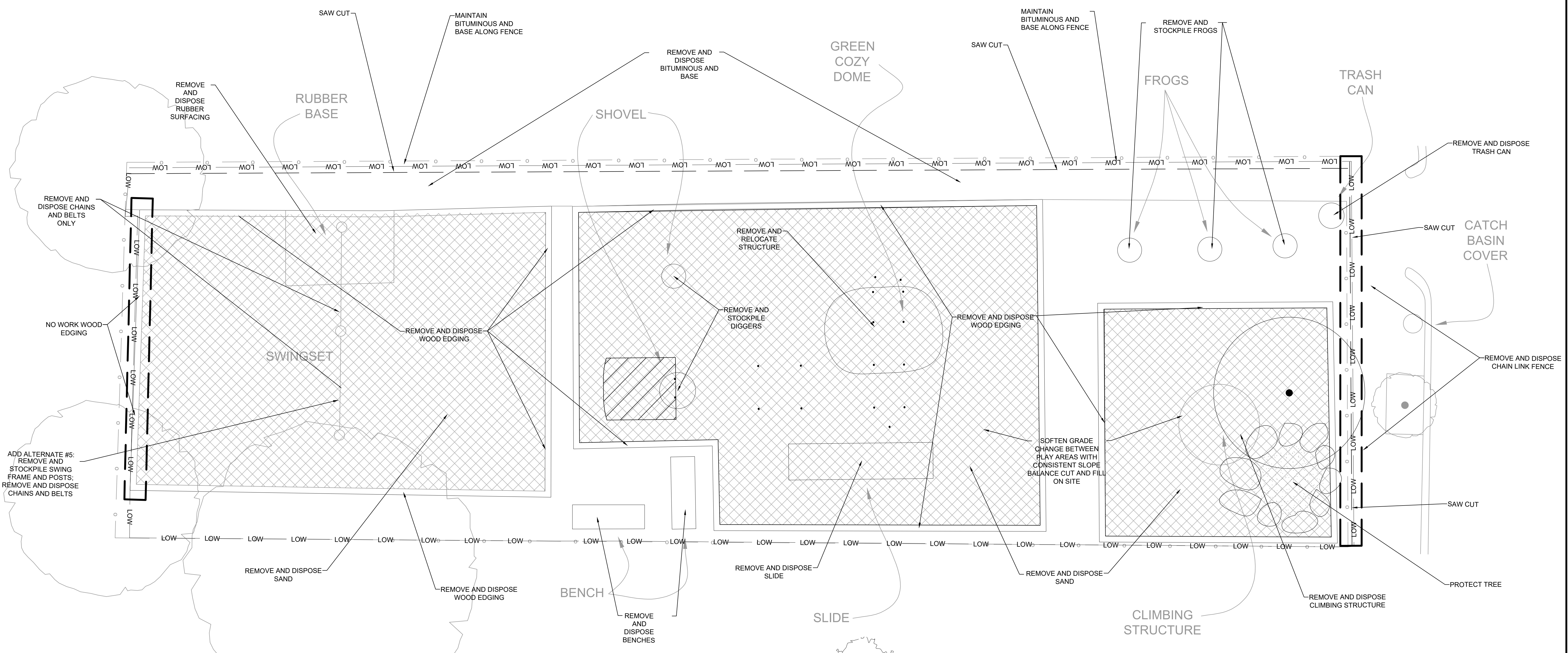
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Demo Plan

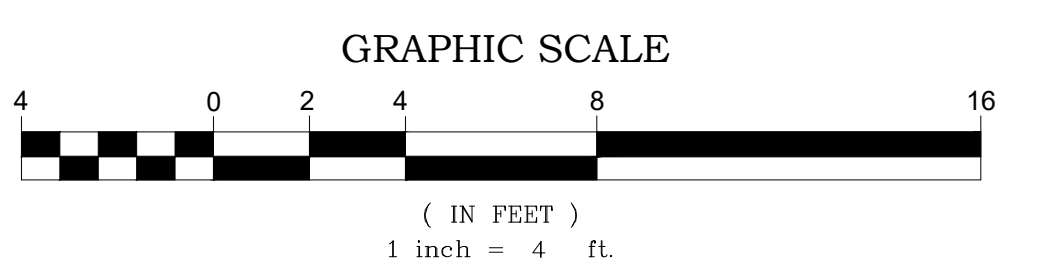
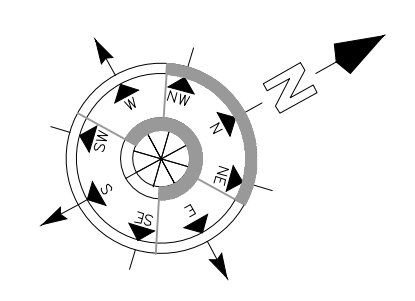


PROVIDENCE PARKS DEPARTMENT
Waldo Street Park Improvements
Providence, Rhode Island

DESIGNED BY	TDG	DWG SCALE	1/4" = 1'-0"
DRAWN BY	SJC	CONTRACT NO	
CHECKED BY	TDG	DATE	03.18.19



- GENERAL DEMOLITION NOTES**
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH PROVIDENCE PARKS DEPARTMENT SUPERVISOR AND STAFF, PROJECT PLANNER AND LANDSCAPE ARCHITECT TO DEVELOP A SUITABLE DEMOLITION PLAN, WHICH WILL MINIMIZE PARK DISTURBANCE AND ALLOW ALL FACILITIES TO REMAIN IN OPERATION DURING THE ENTIRETY OF CONSTRUCTION.
- UNLESS OTHERWISE NOTED, THE CONTRACTOR IS RESPONSIBLE FOR THE RELOCATION, DEMOLITION, REMOVAL AND DISPOSAL, IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES, OF ALL EXISTING SITE ELEMENTS AND STRUCTURES INCLUDING BUT NOT LIMITED TO BITUMINOUS CONCRETE, CEMENT CONCRETE, GRAVEL CURBS, WALKWAYS, SIDEWALKS, BERMS, FENCES, BOLLARDS, POSTS, PLANTING BEDS, TREES, SHRUBS, UTILITIES, DRAINAGE STRUCTURES AND ALL OTHER STRUCTURES SHOWN WITHIN THE LIMITS, AND WHERE NEEDED, TO ALLOW FOR NEW CONSTRUCTION. ALL ELEMENTS TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER SPECIFICATIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING OF THE DEBRIS IN A PROPER AND LEGAL MANNER.
 - THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES CONCERNING PORTIONS OF THE WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY AND IS RESPONSIBLE FOR PAYING ANY FEES AND CHARGES TO UTILITY COMPANY FOR THEIR SERVICES.
 - THE CONTRACTOR IS TO PROVIDE NOTICE TO ALL UTILITY COMPANIES REGARDING ALL WORK WITHIN THE VICINITY OF SERVICE LINE, AS REQUIRED, BEFORE PROCEEDING WITH THE WORK.
 - THE CONTRACTOR SHALL MAINTAIN CONTINUOUS ACCESS AND OPERATION FOR SURROUNDING FACILITIES, AS DEEMED BY THE OWNER, AT ALL TIMES DURING DEMOLITION OF THE EXISTING FACILITIES.
 - PRIOR TO DEMOLITION OCCURRING, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.



1 SAW CUT NOT TO SCALE

2 TREE PROTECTION 1 NOT TO SCALE

3 TREE PROTECTION 2 NOT TO SCALE

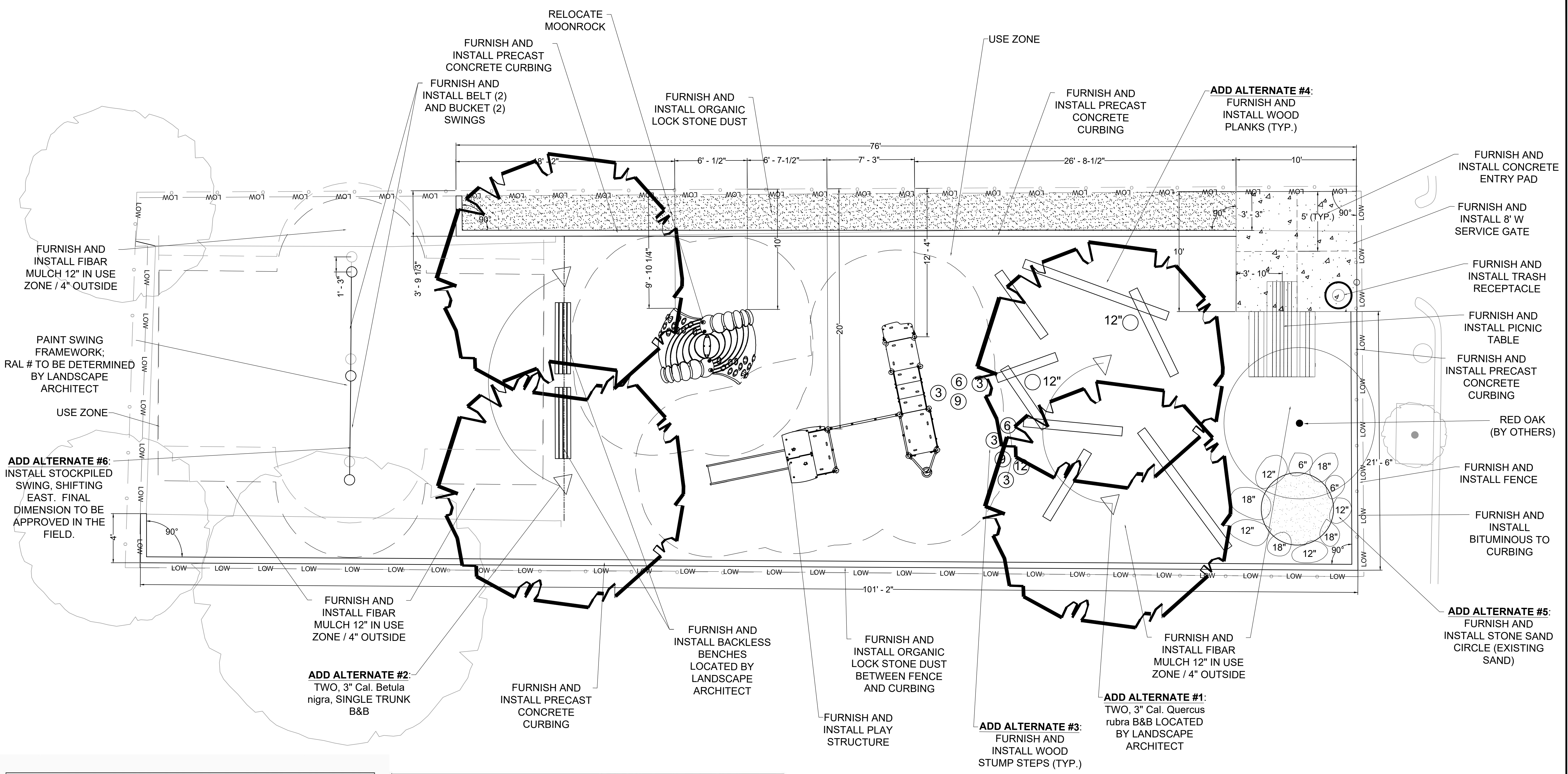
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Landscape
Plan



PROVIDENCE PARKS DEPARTMENT
Waldo Street Park Improvements
Providence, Rhode Island

DESIGNED BY	TDG	DWG SCALE	1/4" = 1'-0"
DRAWN BY	SJC	CONTRACT NO.	
CHECKED BY	TDG	DATE	03.18.19



Materials: 3/4" 9 gauge expanded metal wrap
12 gauge vertical support bands
12 gauge formed horizontal support bands

Unit is designed for portable or "bolt down" application. Unit should be secured to a location with use of the four (4) anchor holes.

THE CARY COMPANY
Est. 1995

DMF	55 GALLON TRASH RECEPTACLE
4/9/2009	
ETR55.0VW	

Note: 55 gallon barrel is required for DL32 to fit with the ETR55 apparatus

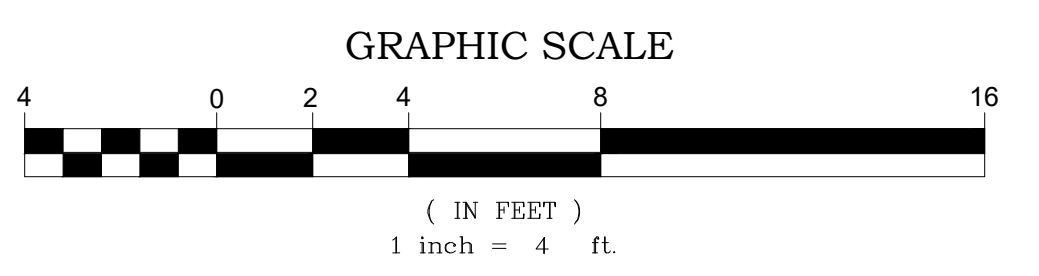
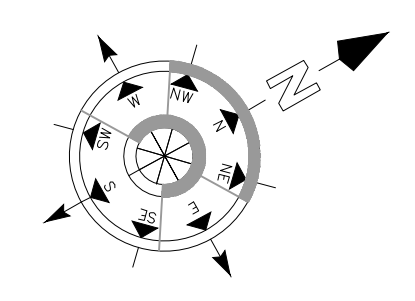
Materials: 3/4" 9 gauge expanded metal wrap
12 gauge vertical support bands
12 gauge formed horizontal support bands

Unit is designed for portable or "bolt down" application. Unit should be secured to a location with use of the four (4) anchor holes.

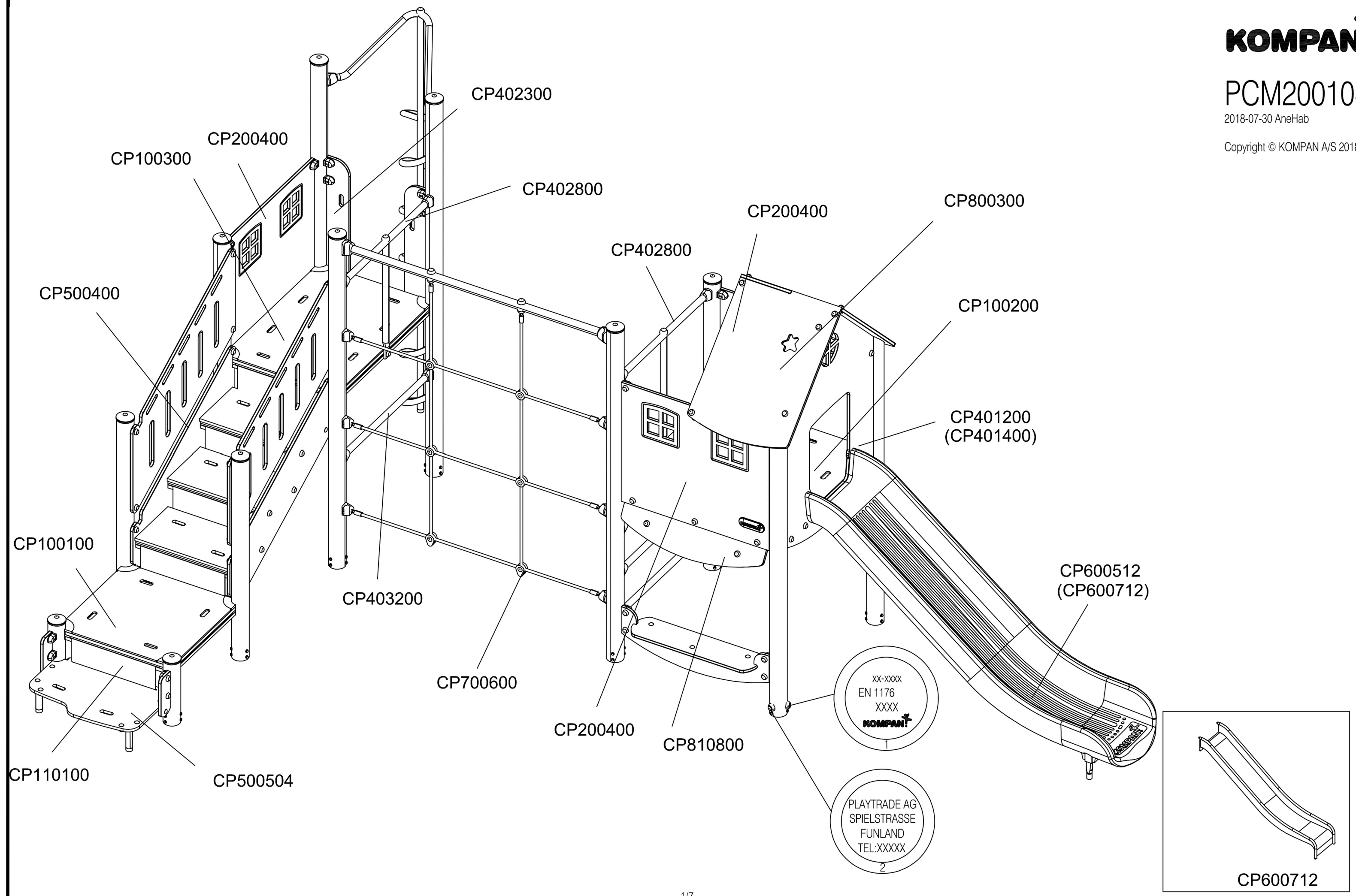
ETR55 with DL32 (55 gallon)
Shown with separately priced dome lid. (Container must have 55 gallon drum liner for dome lid to rest on.)

DMF	55 GALLON TRASH RECEPTACLE
4/9/2009	ETR55 / DL32
ETR55.0VW	

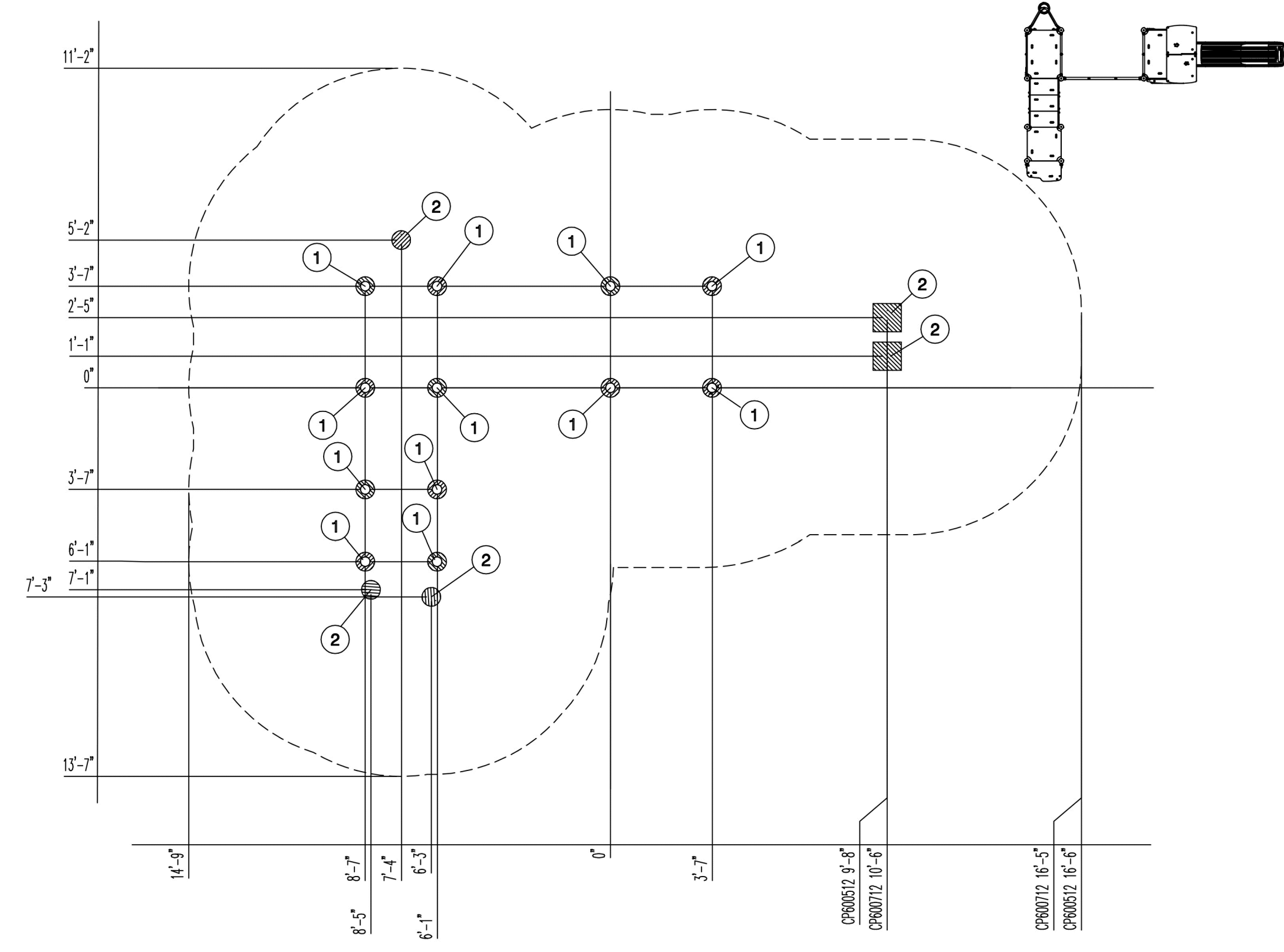
NOTE:
ALL ELEMENTS NOT DIMENSIONED SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION



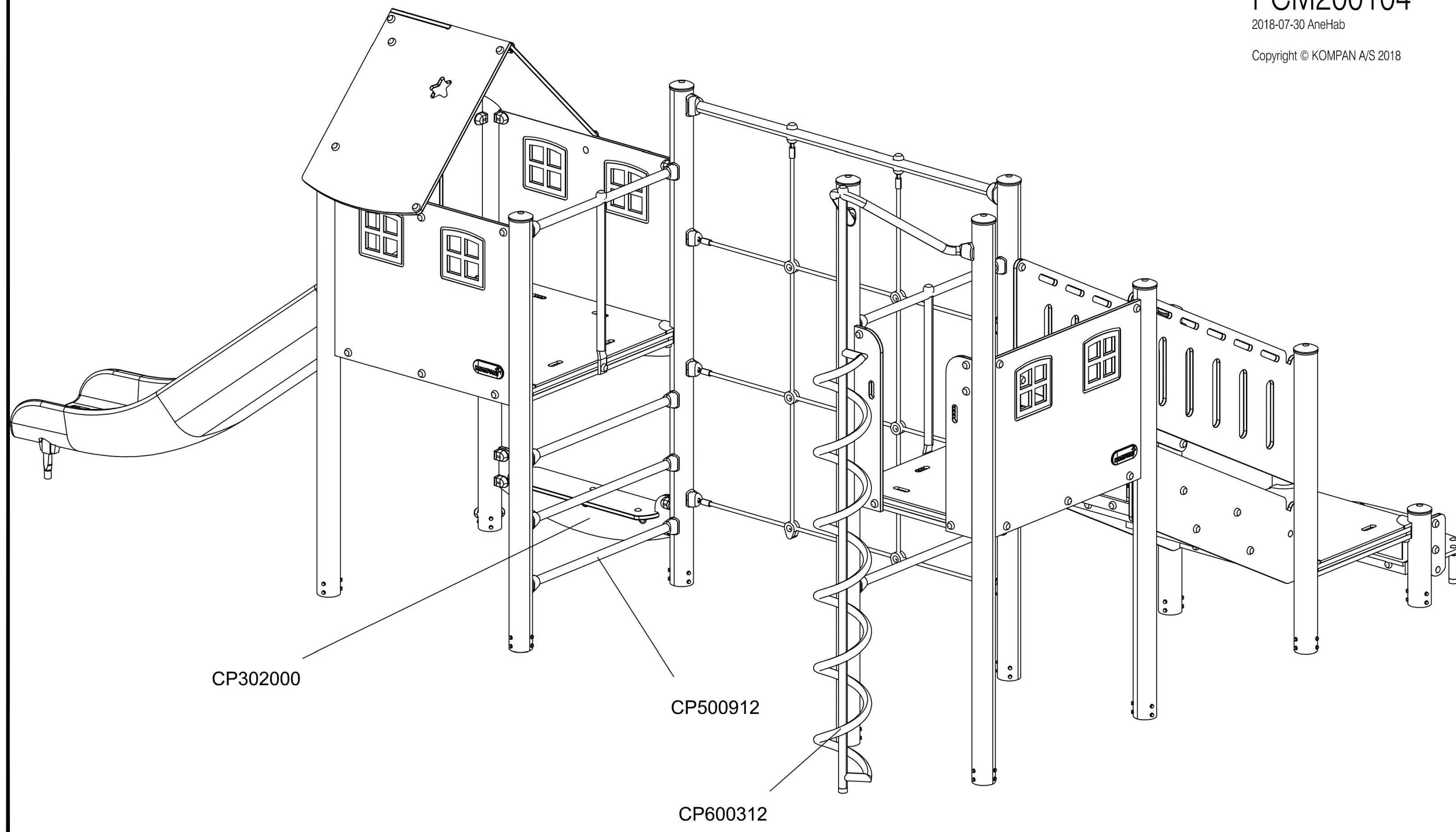
- LAYOUT NOTES**
- ALL LINES AND DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
 - STORAGE AREAS FOR CONTRACTOR'S EQUIPMENT AND MATERIALS SHALL BE ON AND WITHIN LIMITS OF WORK AS SHOWN ON THE PLANS AND AS APPROVED BY THE OWNER.
 - CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES IN THE PLAN TO THE ARCHITECT PRIOR TO STARTING WORK.
 - ALL LAYOUTS FOR WALKS, PATHS AND TERRACES SHALL BE ADEQUATELY STAKED BY THE CONTRACTOR AND APPROVED BY THE ARCHITECT PRIOR TO CONSTRUCTION.



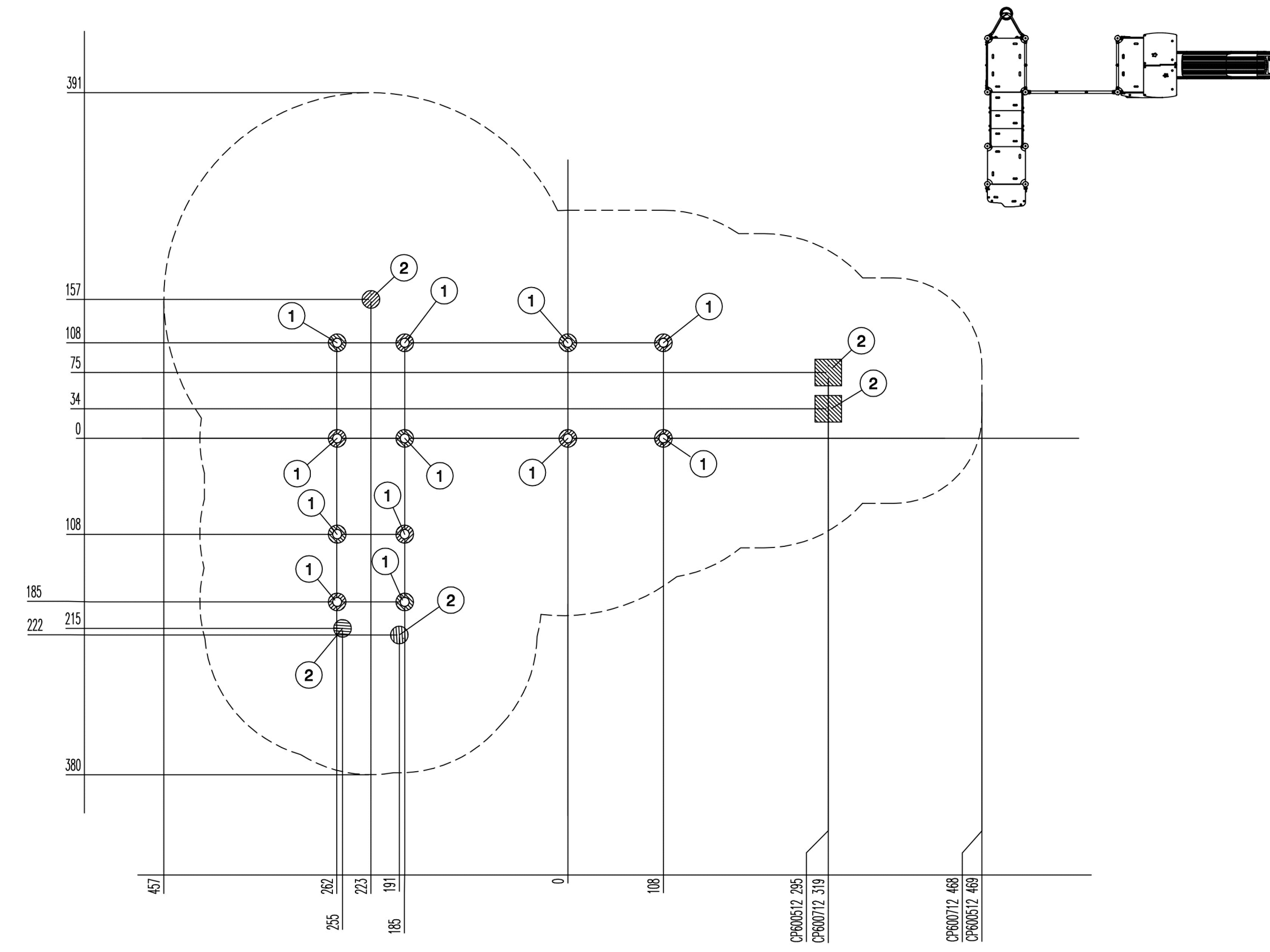
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NO.	REVISIONS	BY	DATE

Play Plan



PROVIDENCE PARKS DEPARTMENT
 Waldo Street Park Improvements
 Providence, Rhode Island

DESIGNED BY	TDG	DWG SCALE	1/4" = 1'-0"
DRAWN BY	SJC	CONTRACT NO.	
CHECKED BY	TDG	DATE	03.18.19

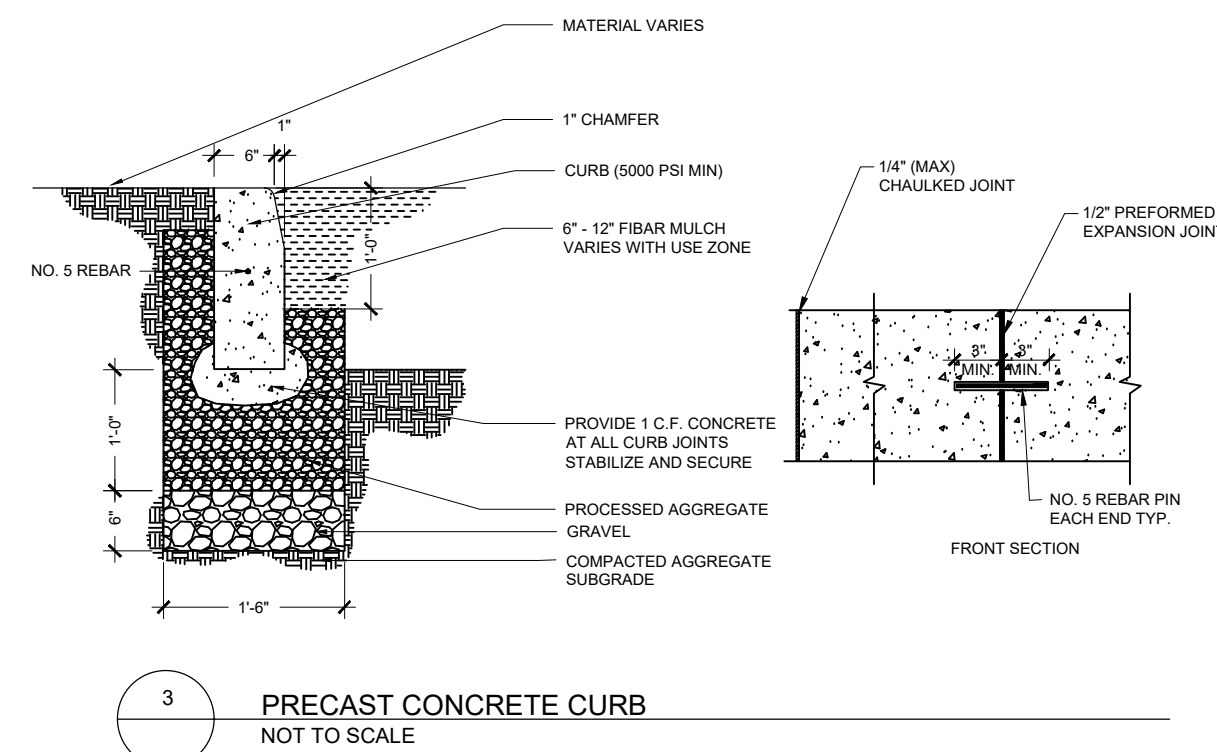
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PLANTING NOTES

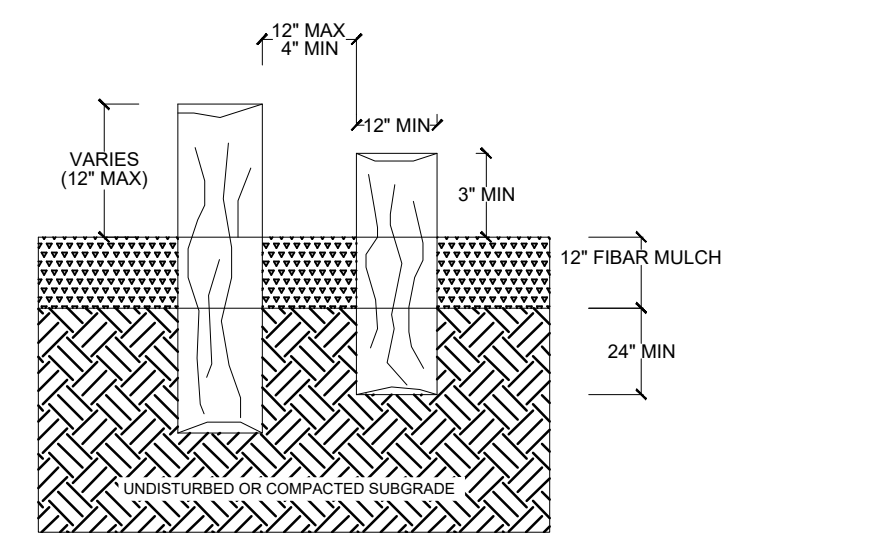
1. ALL NEW PLANT MATERIALS SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN ADDITION, ALL NEW PLANT MATERIAL FOR THE PROJECT SHALL BE OF SPECIMEN QUALITY.
2. ALL NEW PLANTS TO BE BALLED AND BURLAPPED OR CONTAINER GROWN, UNLESS OTHERWISE NOTED ON THE PLANT LIST.
3. THE CONTRACTOR SHALL SUPPLY ALL NEW PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON THE DRAWINGS.
4. ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE, AND ONLY AFTER WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT.
5. ALL NEW PLANTS SHALL BE TAGGED AND APPROVED BY THE LANDSCAPE ARCHITECT AT THE NURSERY PRIOR TO DIGGING OR DELIVERY TO THE SITE.
6. CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITY LINES PRIOR TO PLANTING AND SHALL REPORT ANY CONFLICTS TO THE LANDSCAPE ARCHITECT.
7. STAKE LOCATIONS OF ALL PROPOSED PLANTING FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF PLANTING. INDIVIDUAL STAKES SHALL BE PLACED FOR TREES AND SHRUBS. EDGE OF PLANTING BEDS SHALL BE PAINTED. NOTIFY LANDSCAPE ARCHITECT 24 HOURS PRIOR TO DESIRED APPROVAL.
8. ALL NEW PLANTS SHALL BE SUPPLIED AND INSTALLED DURING THE PERIODS OF APRIL 1 - JUNE 15 AND/OR SEPTEMBER 1 - DECEMBER 1.
9. PREPARE ALL SHRUB PLANTING BEDS TO A MINIMUM DEPTH OF EIGHTEEN INCHES (18") WITH SPECIFIED PLANTING MIX: 16" SCREENED LOAM, 2" COMPOST. BLEND COMPOST INTO TOP 4" OF SOIL. PLANTING MIX SHALL BE FREE OF SUBSOIL, LUMPS, STONES, PLANTS, ROOTS, AND OTHER FOREIGN MATTER.
10. ALL SHRUB BEDS AND INDIVIDUAL TREE PITS SHALL RECEIVE THREE INCHES (3") OF BARK MULCH PER SPECIFICATIONS. PERENNIAL AND GROUND COVER BEDS SHALL RECEIVE TWO INCHES (2"). PROVIDE LANDSCAPE ARCHITECT WITH SAMPLE FOR APPROVAL.
11. ALL BURLAP, TWINE AND WIRE SHALL BE COMPLETELY REMOVED OR CUT AWAY AT TIME OF INSTALLATION.
12. PLANT WARRANTY SHALL BE FOR ONE FULL GROWING SEASON FROM THE TIME OF INSTALL.
13. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL DAMAGED, STOLEN, DEAD, DECLINING OR LOST MATERIAL UNTIL COMPLETION OF MAINTENANCE PERIODS OR WARRANTY PERIODS.
14. IF NO IRRIGATION SYSTEM IS PLANNED, CONTRACTOR SHALL INFORM OWNER OF WATERING REQUIREMENTS.
15. ALL AREAS TO BE SEED OR SODDED SHALL RECEIVE SIX INCHES (6") OF LOAM, MEASURED AFTER INSTALLATION, PRIOR TO SEEDING.
16. SEED MIXTURE SHALL BE RI BLACK BEAUTY MIX BY JONATHAN GREEN OR APPROVED EQUAL. 85% TALL TURF FESCUE, 15% KENTUCKY BLUE GRASS. 6.5 LBS/1000SF.
17. PRUNE TREES IN ACCORDANCE WITH THE SPECIFICATIONS.
18. ALL EXISTING LAWN AREAS DESIGNED TO REMAIN SHALL BE AERATED, FERTILIZED AND OVERSEED, AS DIRECTED BY THE LANDSCAPE ARCHITECT.
19. IN ADDITION TO LOCATIONS DEFINED FOR SEED ON THE PLANTING PLAN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEDING ANY DISTURBED AREAS.
20. ALL VEGETATION AND DEBRIS SHALL BE REMOVED FROM PROPOSED PLANTING AREAS PRIOR TO PLANTING AND BACKFILLING. CONTRACTOR SHALL REMOVE ALL DEBRIS FROM SITE AS WORK PROGRESSES.
21. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING CLOSE COORDINATION WITH OWNER, GENERAL CONTRACTOR, RELATED SUBCONTRACTORS, LANDSCAPE ARCHITECT, AND ALL SITE WORK RELATED ITEMS.

GENERAL NOTES:

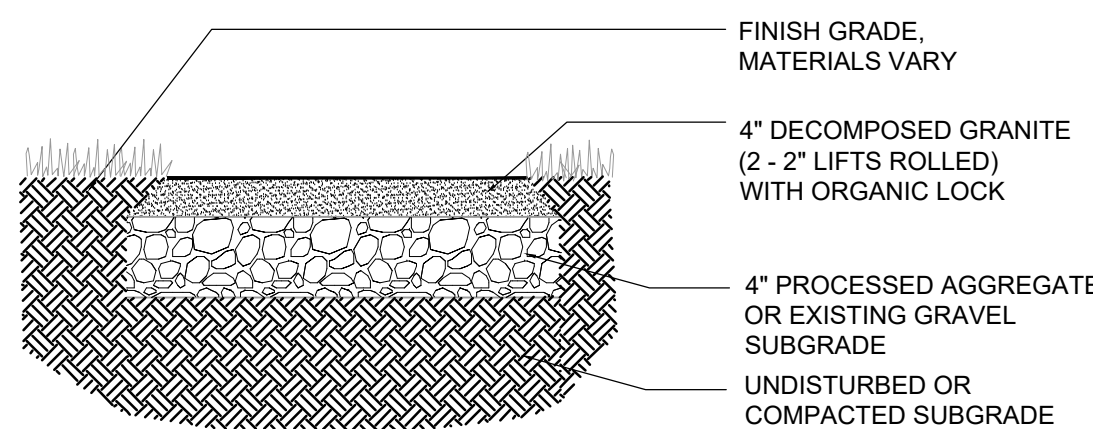
1. ALL DISTURBED AREAS SHALL BE REPLACED IN KIND UNLESS OTHERWISE SHOWN.
2. THE DRAINAGE SYSTEM SHALL BE CLEANED BY THE CONTRACTOR PRIOR TO ACCEPTANCE OF THE PROJECT AT NO ADDITIONAL COST.
3. FOR ALL EXCAVATION AND PLACEMENT OF FILL, THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE RHODE ISLAND STANDARD SPECIFICATION SECTION 202.
4. IN ADDITION TO THE CONTRACT DOCUMENT, SPECIFICATIONS TO GOVERN THIS PROJECT ARE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1997 EDITION INCLUDING ALL REVISIONS AND SUPPLEMENTAL SPECIFICATIONS. STANDARD DETAILS FOR THIS PROJECT ARE RHODE ISLAND STANDARD DETAILS.
5. WORK SHOWN ON THE PLANS FOR WHICH THERE ARE NO PARTICULAR DETAILS, "CALL-OUTS" OR SPECIFICATIONS DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING THE WORK. THE CONTRACTOR SHALL THOROUGHLY EXAMINE DETAILS, THE CONTRACT DOCUMENTS AND PLANS AND INSPECT THE SITE, AND THE BID PRICE SHALL INCLUDE ALL SERVICES AND MATERIALS NECESSARY TO COMPLETE THE PROJECT. ANY CHANGES TO THE PROJECT OR THE INSTALLATION OF AN ITEM FOR WHICH NO PARTICULAR DETAIL OR SPECIFICATION WAS PROVIDED MUST BE REVIEWED BY AND MUST BE ACCEPTABLE TO THE LANDSCAPE ARCHITECT.
6. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE CONDITIONS OF ALL PERMITS, SPECIFICATIONS, AS WELL AS FEDERAL, STATE AND LOCAL REGULATIONS ARE STRICTLY ENFORCED. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ALL ASPECTS OF ON-SITE SAFETY.
7. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING DRAINAGE & UTILITIES, BOTH UNDERGROUND AND OVERHEAD, BEFORE EXCAVATION BEGINS IN ACCORDANCE WITH DIGSAFE AND BY CONTACTING THE INDIVIDUAL UTILITY COMPANIES. EXCAVATION SHALL BE IN ACCORDANCE WITH ALL STATUTES, ORDINANCES, RULES AND REGULATIONS OF ANY CITY, STATE OR FEDERAL AGENCY THAT MAY BE APPLICABLE. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING POLICE PROTECTION. ALL TEMPORARY CONSTRUCTION SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
9. ALL REQUIRED AUTHORIZATION TO PERFORM WORK MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
10. THE SITE IS A PART OF A PREVIOUSLY DEVELOPED SITE WHOSE BUILDINGS WERE DEMOLISHED. GARDNER+GERRISH, LLC DOES NOT MAKE ANY CLAIMS AS TO THE SURFACE MATERIAL OR CONDITIONS.
11. CONSTRUCTION INDICATED ON THESE PLANS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF AND MODIFICATIONS TO THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE SPECIFICATIONS ACCOMPANYING THESE PLANS. IN CASE OF CONFLICT, THE SPECIAL PROVISIONS OF THE SPECIFICATIONS ACCOMPANYING THESE PLANS SHALL GOVERN.
12. ALL ITEMS NOT REFERENCED FOR MODIFICATION WILL BE 'EXISTING TO REMAIN' UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT.
13. ANY EXISTING PROPERTY THAT WAS NOT PROPOSED TO BE MODIFIED THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY OF PROVIDENCE.
14. THE CONTRACTOR SHALL NOT BE ALLOWED TO STOCK PILE CONSTRUCTION MATERIALS WITHIN THE CLEAR ZONE DURING NON-WORKING HOURS. THE CONTRACTOR SHALL PLACE ALL STOCKPILED MATERIAL IN A PLACE DESIGNATED BY THE LANDSCAPE ARCHITECT SO AS NOT TO CAUSE A SAFETY HAZARD.
15. THE FREQUENCY AND APPLICATION RATES FROM DUST CONTROL ITEMS WILL BE DETERMINED BY THE CONTRACTOR. CALCIUM CHLORIDE SHALL NOT BE USED FOR DUST CONTROL.
16. DIMENSIONS SHOWN ON THE PLANS ARE APPROXIMATE.
17. ANY SIDEWALK OR ROADWAY DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST. THE COST SHALL BE CONSIDERED INCIDENTAL TO THE PRICE BID FOR THE ASSOCIATED WORK ITEM CAUSING THE DAMAGE. ANY SIDEWALKS OR ROADWAYS DAMAGED, OR TO BE RESTORED SHALL MATCH THE SAME MATERIAL THAT EXISTS, INCLUDING CONCRETE BASE, UNLESS OTHERWISE INDICATED ON THE PLANS.
18. BUILDING SERVICE CONNECTIONS (ELECTRIC, WATER AND SANITARY) ARE SHOWN WHEREVER POSSIBLE. THE CONTRACTOR IS TO ASSUME THAT SERVICES ARE PRESENT TO ALL BUILDINGS. THEIR LOCATIONS ARE TO BE CHECKED WITH THE APPROPRIATE UTILITY COMPANIES.
19. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO WALLS, LOT CURBS AND FENCES ABUTTING SIDEWALKS DESIGNATED FOR REPLACEMENT OR REMOVAL. WHERE DIRECTED, NEW SIDEWALKS SHALL MEET SAID WALLS AND FENCES. PRIOR TO SIDEWALK REMOVAL, A SAW CUT SHALL BE PROVIDED IN ALL SIDEWALKS TO BE REMOVED A DISTANCE, TO BE DETERMINED BY THE LANDSCAPE ARCHITECT (6 INCHES MINIMUM) FROM THE FACE OF ADJACENT BUILDINGS, RETAINING WALLS, LOT CURBS AND FENCES. THE FINAL SIX INCHES (MINIMUM) OF SIDEWALK SHALL BE REMOVED WITH CAUTION UNDER THE RESIDENT ENGINEERS SUPERVISION. THERE WILL BE NO ADDITIONAL PAYMENT FOR ANY LABOR OR EQUIPMENT NECESSARY TO MEET THIS "REMOVE WITH CAUTION" REQUIREMENT. PAYMENT OF THE REMOVAL OF THE FINAL (6" MINIMUM) OF SIDEWALK WILL BE INCLUDED UNDER CODE 201.0403 "REMOVE AND DISPOSE SIDEWALKS". THE REQUIRED SAW CUT WILL BE PAID FOR UNDER 932.020 "FULL DEPTH SAW CUT OF PORTLAND CEMENT CONCRETE SIDEWALK/DRIVEWAY" WHICH EVER APPLICABLE.



3 PRECAST CONCRETE CURB NOT TO SCALE

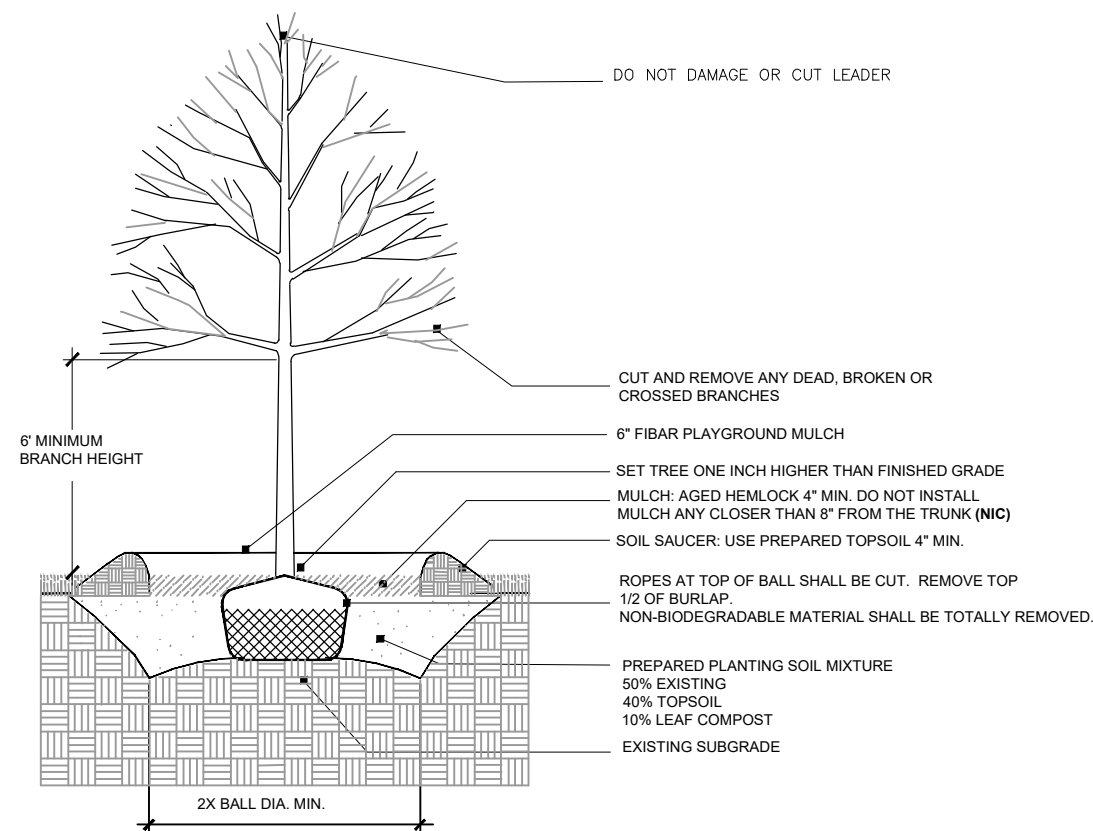


4 WOOD STEPS - ADD ALTERNATE #3 NOT TO SCALE

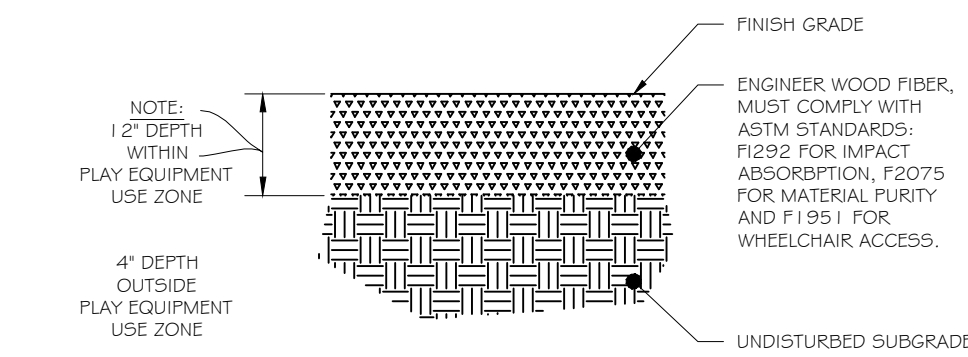


NOTE: GRADATION COLOR

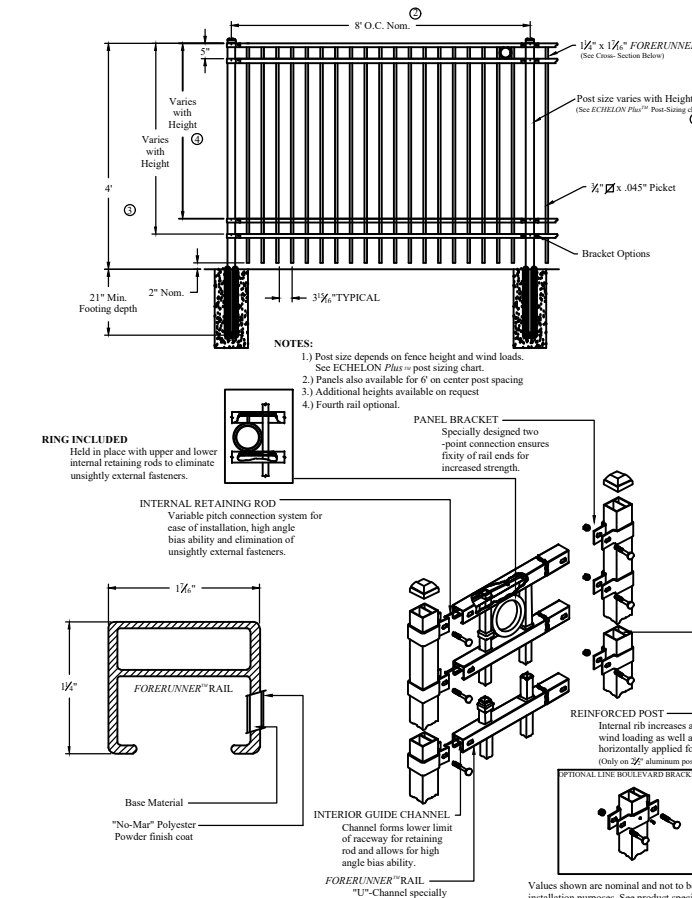
5 STONE DUST PATH NOT TO SCALE



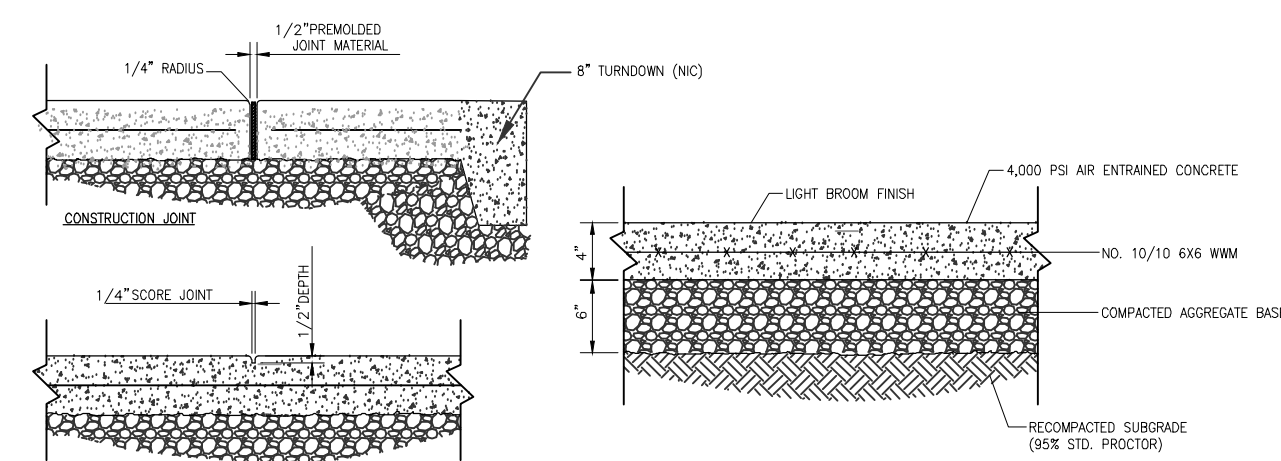
8 TREE PLANTING - ADD ALTERNATE #1 AND #2 NOT TO SCALE



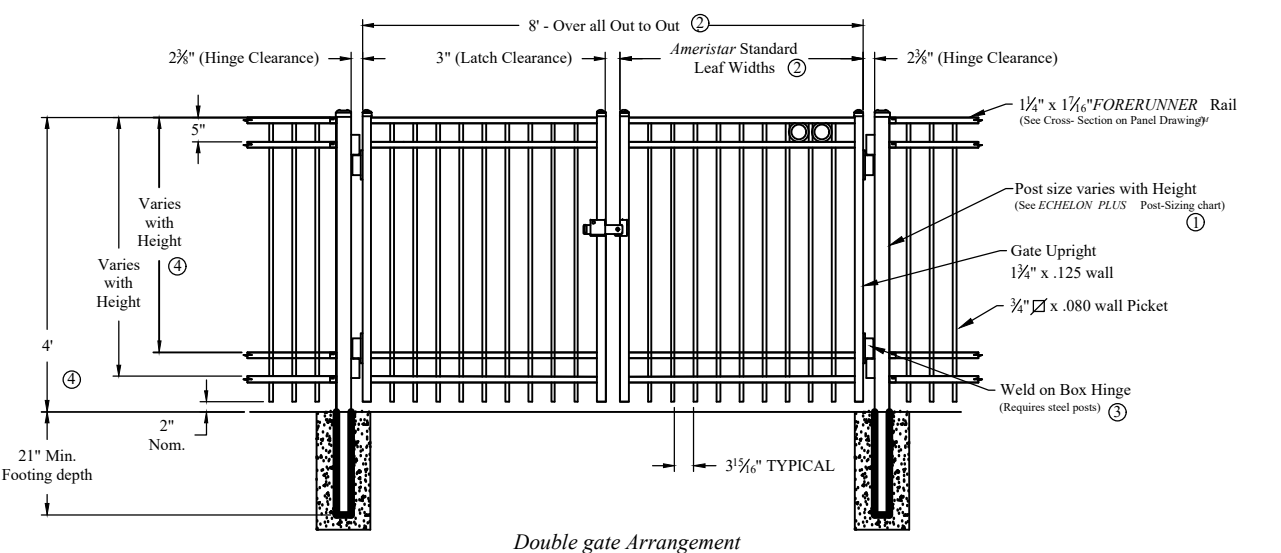
1 FIBAR MULCH NOT TO SCALE



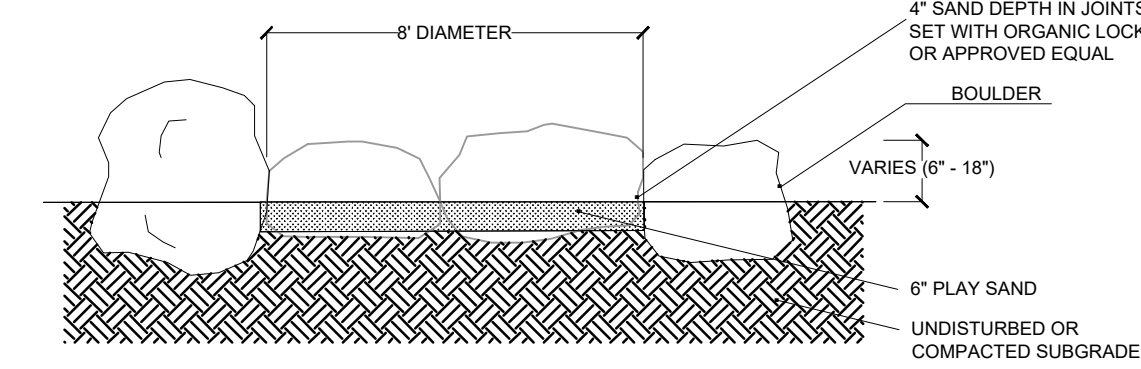
2 ECHOLON - MAJESTIC FENCE SECTION NOT TO SCALE



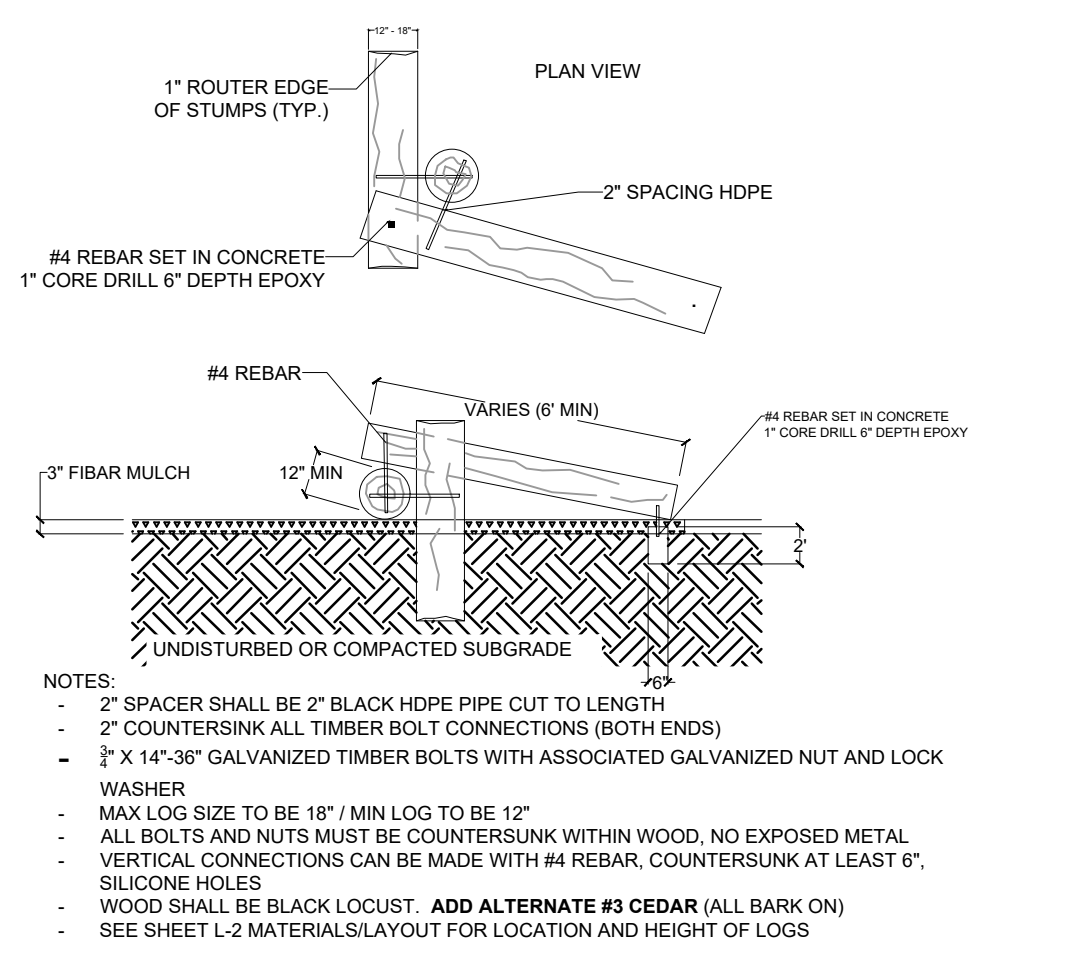
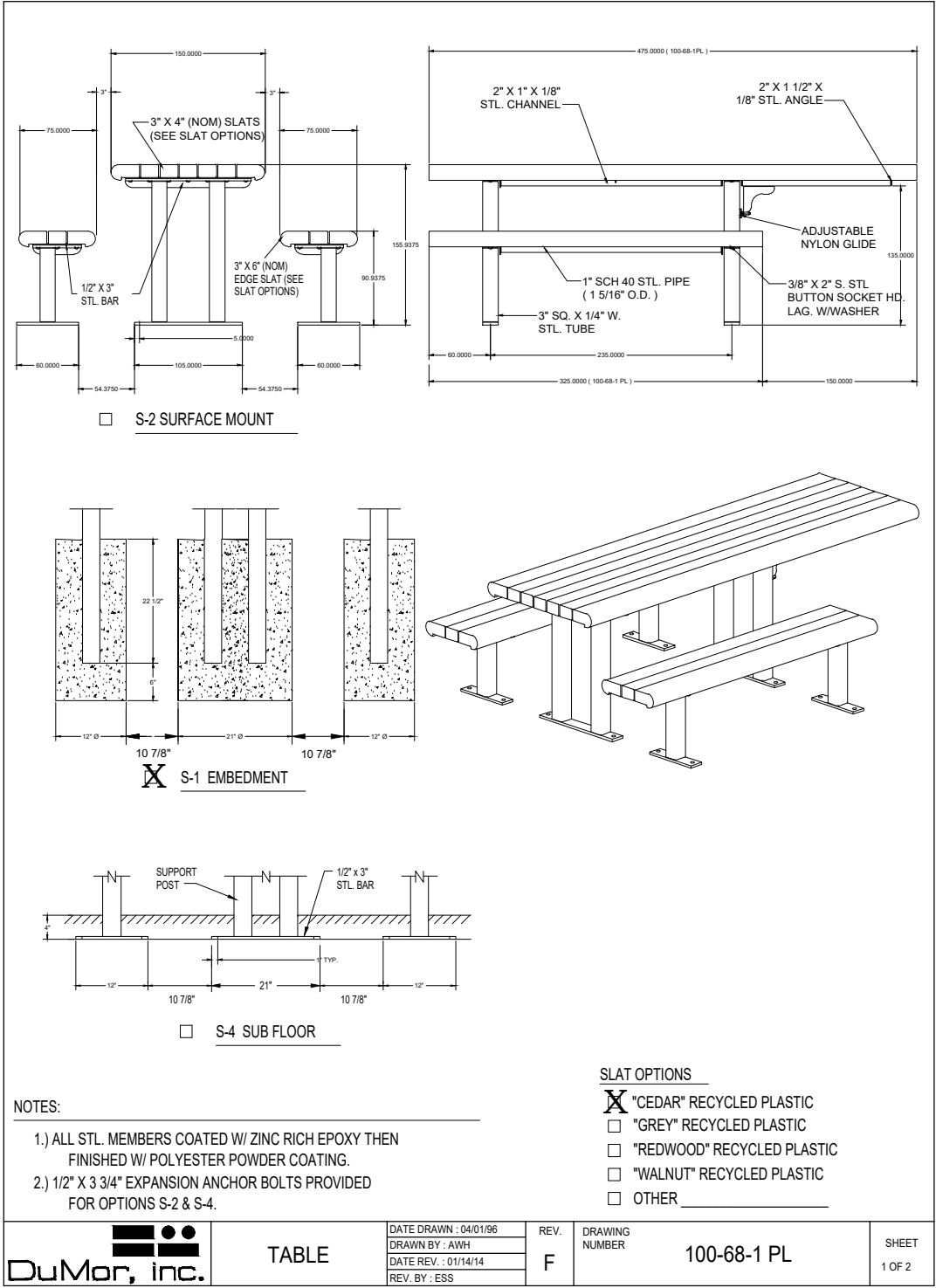
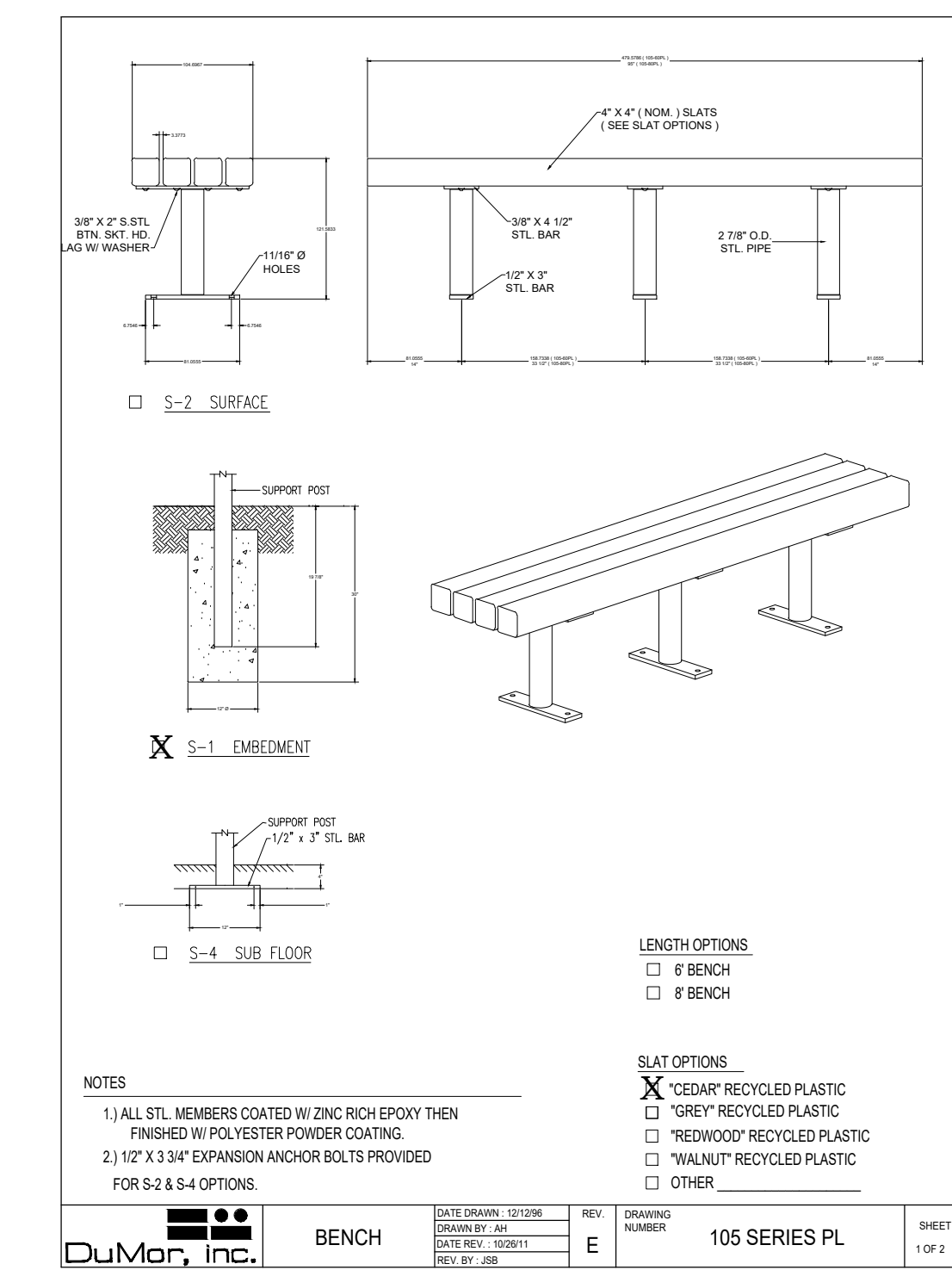
6 CONCRETE PAD NOT TO SCALE



7 ECHOLON - MAJESTIC FENCE - GATE SECTION NOT TO SCALE



10 STONE SAND PLAY CIRCLE - ADD ALTERNATE #5 NOT TO SCALE



9 TIMBER PLAY PLANKS - ADD ALTERNATE #4 NOT TO SCALE



NO.	REVISIONS	BY	DATE

Details Plan

PROVIDENCE PARKS DEPARTMENT
Waldo Street Park Improvements
Providence, Rhode Island

DESIGNED BY	TWIG SCALE
DRAWN BY	1/4" = 1'-0"
CHECKED BY	SJC CONTRACT NO
TWIG	DATE
	03.18.19

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