CITY OF PAWTUCKET

REQUEST FOR PROPOSALS

Bid #16-055
Summit Street Park & Fallon School Playground

December 22, 2016

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1.0 - Bid/Solicitation Information

Schedule

Pre-Bid/Proposal Conference: ☐ No ✕ Yes

January 4, 2017 @ 10:00 AM

******* Meeting is Non-Mandatory *******

Location:

Pawtucket City Hall, Planning Department
Conference Room, First Floor to the right
137 Roosevelt Avenue
Pawtucket, RI 02860

Requests for Further Information:

January 17, 2017 @ 3:00 PM

Requests for information or clarification must be made electronically to the attention of:

Michael Wilcox, Project Engineer
E-mail: mwilcox@pawtucketri.com

Please reference the RFP / LOI number on all correspondence. Answers to questions received, if any, will be posted on the internet as an addendum to this bid solicitation.

RFP Submission Deadline:

January 26, 2017 at 10:00 AM

Late submittals will not be considered.

Proposals must be mailed or hand-delivered in a sealed envelope **marked with the RFP/Bid # and Project Name** to:

Pawtucket City Hall - Purchasing Office
137 Roosevelt Avenue
Pawtucket, RI 02860

Bonds/Surety Required

Bid Bond: ☐No ✕ Yes

Bidder is required to provide a bid surety in the form of a bid bond or certified check payable to the City of Pawtucket in an amount not less than five percent (5%) of the bid price.

Fidelity Bond: ☐ No ☐ Yes

Performance and Payment Bond: ☐ No ✕ Yes
(Submit upon award of contract)

Bidder is required to provide a performance and payment bond as outlined in the City's General Terms & Conditions of Purchase (Appendix B of this RFP) in an amount not less than one hundred percent (100%) of the bid price.

The successful bidder will be required to furnish all insurance documentation as outlined in the attached Purchasing Rules & Regulations and General Terms & Conditions of Purchase.

Miscellaneous

The bid process and resulting contract are subject to the Rules and Regulations and General Terms and Conditions of Purchase. Submission of a bid in response to this solicitation is acknowledgement and acceptance of these Rules and Regulations and General Terms and Conditions of Purchase.

The City of Pawtucket reserves the right to award on the basis of cost alone, accept or reject any or all bids, and to act in its best interest including, but not limited to, directly negotiating with any vendor who submits a proposal in response to this RFP and to award a contract based upon the results of those negotiations alone. Proposals found to be technically or substantially non-responsive at any point in the evaluation process will be rejected and not considered further. The City of Pawtucket may, at its sole option, elect to require presentations(s) by bidders clearly in consideration for award.

2.0 - Instructions and Notifications to Bidders

- It is the vendor's responsibility to examine all specifications and site conditions thoroughly, and comply fully with specifications and all attached terms and conditions. Vendors must comply with all Federal, State, and City laws, ordinances and regulations, and meet any and all registration requirements where required for contractors as set forth by the State of Rhode Island. Failure to make a complete submission as described herein may result in a rejection of the proposal.
- All costs associated with developing or submitting a proposal in response to this Request, or to provide oral or written clarification of its content shall be borne by the bidder. The City of Pawtucket assumes no responsibility for these costs.
- A submittal may be withdrawn by written request to the Purchasing Agent by the proposer prior to the stated RFP deadline.
- Prior to the proposal deadline established for this RFP, changes may be made to a proposal already received by the City if that vendor makes a request to the Purchasing Agent, in writing, to do so. No changes to a proposal shall be made after the RFP deadline.
- Proposals are considered to be irrevocable for a period of not less than ninety (90) days following the opening date, and may not be withdrawn, except with the express written permission of the Purchasing Agent. Should any vendor object to this condition, the vendor must provide objection through a question and/or complaint to the Purchasing Agent prior to the proposal deadline.
- All pricing submitted will be considered to be firm and fixed unless otherwise indicated herein.
- The vendor has full responsibility to ensure that the proposal arrives at the Purchasing Division Office prior to the deadline set out herein. The City assumes no responsibility for delays caused by the U.S. Postal Service or any other delivery service. Postmarking by the due date will not substitute for actual receipt of response by the due date. Proposals arriving after the deadline may be returned, unopened, to the vendor, or may simply be declared non-responsive and not subject to evaluation, at the sole discretion of the Purchasing Agent. **For the purposes of this requirement, the official time and date shall be that of the time clock in the City of Pawtucket's Purchasing Office.**
- At the time and place fixed for the opening of Bids, the Owner will cause to be opened and publicly read aloud every Bid received within the time set for receiving Bids, irrespective of any irregularities therein. Bidders and other persons properly interested may be present, in person or by representative.
- It is intended that an award pursuant to this Request will be made to a prime contractor, who will assume responsibility for all aspects of the work. Joint venture and cooperative proposals will not be considered, but subcontracts are permitted, provided that their use is clearly indicated in the bidder's proposal, and the subcontractor(s) proposed to be used are identified in the proposal.
- Bidders are advised that all materials submitted to the City of Pawtucket for consideration in response to this Request for Proposals shall be considered to be public records as defined in Title 38 Chapter 2 of the Rhode Island General Laws,

without exception, and may be released for inspection immediately upon request once an award has been made.

- Vendors are responsible for errors and omissions in their proposals. No such error or omission shall diminish the vendor's obligations to the City.
- The City reserves the right to reject any or all proposals, or portions thereof, at any time, with no penalty. The City also has the right to waive immaterial defects and minor irregularities in any submitted proposal at its sole discretion. All material submitted in response to this RFP shall become the property of the City of Pawtucket upon delivery to the Purchasing Agent.
- Bids will be opened publicly at a regularly scheduled purchasing board meeting, the date of which is the same as the RFP submission deadline provided in Section 1.0.
- Interpretations or Addenda: No oral interpretation will be made to any Bidder as to the meaning of the Contract Documents or any part thereof. Every request for such an interpretation shall be made in writing to the City of Pawtucket (hereinafter called the "Owner"). Any inquiry received seven or more days prior to the date fixed for opening of Bids will be given consideration. Every interpretation made to a Bidder will be in the form of an Addendum to the Contract Documents, and when issued, will be on file in the office of the Owner at least five days before Bids are opened. In addition, all Addenda will be mailed to each person holding Contract Documents, but it shall be the Bidder's responsibility to make inquiry as to the Addenda issued. All such Addenda shall become part of the Contract and all Bidders shall be bound by such Addenda, whether or not received by the Bidders.

- Each Bidder shall, upon request of the Owner, submit a detailed financial statement on a form furnish by the Owner for that purpose. The Owner shall have the right to take such steps as it deems necessary to determine the ability of the Bidder to perform his obligations under the Contract and the Bidder shall furnish the Owner all such information and data for this purpose as it may request. The right is reserved to reject any Bid where an investigation of the available evidence or information does not satisfy the Owner that the Bidder is qualified to carry out properly the terms of the Contract**.**

3.0 - Overview

3.1 Project Overview

The City of Pawtucket Department of Planning and Redevelopment (DPR or "the Owner") seeks lump sum bids from qualified construction contractors ("the Bidder" or "the Contractor") for construction of a new passive park and a new playground ("the Project") at two separate sites. The passive park will be located along the west site of Summit Street, south of Walcott Street and adjacent to the I-95 Northbound side of the freeway. The playground will be located at Fallon Elementary School, 62 Lincoln Avenue, Pawtucket, RI. ("the Sites"). The Project includes construction of a new concrete walks, lighting, landscaping, irrigation, site furnishings, playground structure, rubberized surfacing, and colored sports surfacing. Bidders must demonstrate, as part of their Bid, that they have successfully completed no fewer than four (4) similar projects. The Project must be substantially complete by September 30, 2017.

3.2 Project Background

The City along with the constituents of the nearby Quality Hill Historic District worked with Gifford Design Group on the design of the passive park. The playground project has been coordinated with the Parent Teachers Association, the school principal, teachers and various staff on the design of the playground.

Funding for both projects is provided by grants from the City of Pawtucket's Community Development Block Grants (CDBG) funds and are bound by certain requirements as noted throughout this RFP.

Permit Fees if required ***WILL NOT BE WAIVED*** for either site.

4.0 - Scope of Work

4.1 Location

The location of the proposed construction activity ("the Project") is shown on the Site Plans Issued for Bid included in this RFP as Appendix G. In general terms, the location of the Project can be described as follows:

- Summit Street Park- Located along the west side of Summit Street, south of Walcott Street, on Assessor's Plat 23 portion of Lot 529.
- Fallon School Elementary School, 62 Lincoln Avenue, Pawtucket, RI 02861. Playground will be located along the Tally Street side on the newly installed pavement.

4.2 Project Schedule

It is the City's desire to begin work on the playground so that is ready before the end of the current school session. Contractor can order equipment upon award of contract and prepare the site as soon as the weather allows. Summit Street Park will have a completion date of September 30, 2017.

4.3 General Requirements

4.3.1 Hours of Work

No construction activity may take place between the hours of 5:00 PM and 7:00 AM (i.e. overnight work) unless a permit to do so has been obtained from the Director of Public Works.

4.3.2 Pricing

UNIT PRICES: The unit price for each of the several items in the Proposal of each Bidder shall include its pro rata share of overhead and profit so that the sum of the products obtained by multiplying the quantity shown for each item by the unit price Bid represents the Total Bid. The price submitted for items requiring a lump sum Bid shall also include all overhead and profit and represents the total Bid. Any Bid not conforming to this requirement may be rejected as unresponsive. The special attention of all Bidders is called to this provision, for should conditions make it necessary to revise the quantities or unit price, no limit will be fixed for such increased or decreased quantities nor extra compensation allowed, provided the net monetary value of all such additive and subtractive changes in quantities of such items or work (i.e., difference in cost) shall not increase or decrease the original contract price by more than twenty-five percent (25%) except for work not covered in the Contract Documents.

4.3.3 Prevailing Wage Requirements

Bidders are advised that payment of the local prevailing wage, as established by the Rhode Island Department of Labor and Training, is a requirement of this project, as outlined in Appendix B. A copy of the current prevailing wage decision is included in this document as Appendix C. Bidders are advised that the City will not amend this document prior to the bid due date for the purpose of notifying bidders of a superseding wage decision(s). Bidders are expected to account for the prevailing wage rates applicable to this project in the formulation of their bid.

4.3.4 Payment Requisitions

The Contractor shall prepare draft requisitions for payment for the Project Engineer's review and approval and revise the requisitions as necessary prior to submission to the Owner. Payment requisitions shall be prepared using AIA Standard Forms G702 and G703.

The Owner reserves the right to withhold 5% of each progressive request for payment as retainage. The Owner shall release retainage payments per the terms outlined in Section 12.0 of this RFP.

4.4 Scope Detail

The scope of work is defined comprehensively in the Site Plans and Specifications issued for bid, which are incorporated into this RFP as Appendices F and G, respectively.

In general terms, the Project includes, but is not limited to, the following construction activities: Demolition, grading, concrete sidewalks, site furnishings, lighting and electrical, water service and irrigation, landscaping, gazebo, playground equipment, resilient surfacing, and fencing.

5.0 - Insurance

The vendor shall maintain and keep in force such comprehensive general liability insurance as shall protect them from claims which may arise from operations under any contract entered into with the City of Pawtucket, whether such operations be by themselves or by anyone directly or indirectly employed by them.

The amounts of insurance shall be not less than $1,000,000.00 combined single limit for any one occurrence covering both bodily injury and property damage, including accidental death.

The City of Pawtucket shall be named as additional insured on the vendor's General Liability Policy.

The vendor shall maintain and keep in force such Workers' compensation insurance limits as required by the statutes of the State of Rhode Island, and Employer's Liability with limits no less than $500,000.

6.0 - Acknowledgement of Risk & Hold Harmless Agreement

In addition to the indemnity provisions in the City of Pawtucket's Terms and Conditions of Purchase and to the fullest extent permitted by law, the selected vendor, its officers, agents, servants, employees, parents, subsidiaries, partners, officers, directors, attorneys, insurers, and/or affiliates (Releasors) agree to release, waive, discharge and covenant not to sue the City of Pawtucket, its officers, agents, servants or employees (Releasees) from any and all liability, claims, cross-claims, rights in law or in equity, agreements, promises demands, actions and causes of action whatsoever arising out of or related to any loss, damage, expenses (including without limitation, all legal fees, expenses, interest and penalties) or injury (including death), of any type, kind or nature whatsoever, whether based in contract, tort, warranty, or other legal, statutory, or equitable theory of recovery, which relate to or arise out of the Releasors use of or presence in and/or on City of Pawtucket property. The Releasors agree to defend, indemnify and hold harmless the Releasees from (a) any and all claims, loss, liability, damages or costs by any person, firm, corporation or other entity claiming by, through or under Releasors in any capacity whatsoever, including all subrogation claims and/or claims for reimbursement, including any court costs and attorneys fees, that may incur due to Releasors use of or presence in and on City of Pawtucket property; and (b) any and all legal actions, including third-party actions, cross-actions, and/or claims for contribution and/or indemnity with respect to any claims by any other persons, entities, parties, which relate to or arise out of Releasors use of or presence in and on City of Pawtucket property.

The Releasors acknowledge the risks that may be involved and hazards connected with use of or presence in and on City of Pawtucket property but elect to provide services under any contract with the City of Pawtucket with full knowledge of such risks. Releasors also acknowledge that any loss, damage, and/or injury sustained by Releasors is not covered by Releasees insurance. Releasors agree to become fully aware of any safety risks involved with the performance of services under any contract with the City of Pawtucket and any safety precautions that need to be followed and agree to take all such precautions.

The duty to indemnify and/or hold harmless the City of Pawtucket shall not be limited by the insurance required under the City of Pawtucket Terms and Conditions of Purchase.

7.0 - Additional Insurance Requirements

In addition to the insurance provisions in the City of Pawtucket Terms and Conditions of Purchase, the liability insurance coverage, except Professional Liability, Errors and Omissions or Workers' Compensation insurance required for performance of a contract with the City of Pawtucket shall include the City of Pawtucket, its divisions, officers and employees as Additional Insureds but only with respect to the selected vendor's activities under the contract. The insurance required through a policy or endorsement shall include:

A. a Waiver of Subrogation waiving any right to recovery the insurance company may have against the City of Pawtucket; and

B. a provision that the selected vendor's insurance coverage shall be primary with respect to any insurance, self insurance or self retention maintained by the City of Pawtucket and that any insurance, self insurance or self retention maintained by the City of Pawtucket shall be in excess of the selected vendor's insurance and shall not contribute.

There shall be no cancellation, material change, potential exhaustion of aggregate limits or non-renewal without thirty (30) days written notice from the selected vendor or its insurer(s) to the City of Pawtucket's Purchasing Agent. Any failure to comply with the reporting provision of this clause shall be grounds for immediate termination of the contract with the City of Pawtucket.

Insurance coverage required under the contract shall be obtained from insurance companies acceptable to the City of Pawtucket. The selected vendor shall pay for all deductibles, self insured retentions and/or self insurance included hereunder.

The City of Pawtucket's Purchasing Agent reserves the right to consider and accept alternative forms and plans of insurance or to require additional or more extensive coverage for any individual requirement.

8.0 - Proposal Content and Organization

All bids must be submitted on the forms supplied in Section 11.0 and shall be subject to all requirements of the Contract Documents, including these instructions to bidders. All bids must be regular in every respect and no interlineations, excisions or special conditions shall be made or included in the Bid Form by the Bidder. Pricing must include all costs as specified in this solicitation.

The Owner may consider as irregular any Bid on which there is an alteration of or departure from the Bid Form hereto attached and at its option may reject the same.

Bid Documents, including the Bid, the Bid Bond, the Non-Collusion Affidavit, the Anti-Kickback Acknowledgment, and the Statement of Bidder's Qualifications (if requested) shall be enclosed in a sealed envelope which shall be clearly labeled with the words, **"Summit Street Park & Fallon School Playground, Bid #16-055**", as well as name of Bidder, and date of bid opening.

All Bid Forms must be signed.

If the Contract is awarded, it will be awarded by the Owner to a responsible Bidder on the basis of the lowest qualified bid price and the selected Alternative Bid items, if any.

Vendors must include on the Bid Form a list of at least four (4) references with whom they have contracted to do similar work by including the company name, telephone number, contact person, and number of years they have served this customer. Preferably, references should be municipalities which are of approximate size as the City of Pawtucket, and a website address should be included if available.

Respondents must also include an overview of their company's experience including, but not limited to, the number of years the company has been providing these services, the size of the company (including the number of employees and locations), a description of work undertaken that is similar to what is being requested in this RFP, and, if applicable, certifications that show a knowledge of equipment that would be serviced or provided under this contract.

If any subcontractors are to be used in the performance of any work contracted for under this RFP, please list their name(s), contractor license #, address and phone number, and specific description of the subcontract work to be performed. See Proposed Subcontractors form.

Two (2) copies of your proposal—one (1) original hard copy and one digital (1) copy on CD or similar format—must be submitted at the time of submission. Proposals must be in the following format:

- Bid Form
- Company overview
  - Length of time your firm has been in business
  - Length of time at current address
- All licensing (List types and business license number(s)), certification and permits as required in the Scope of Work

Please state any and all additions, deletions, and exceptions, if any, that you are taking to any portion of this proposal. If not addressed specifically, the City of Pawtucket assumes that the vendor will adhere to all terms and conditions listed in this RFP.

Submission of a proposal is acknowledgement and acceptance of the City of Pawtucket's Purchasing Rules and Regulations and General Terms and Conditions of Purchase.

9.0 - Evaluation Criteria

The evaluation of proposals will be conducted in a time frame convenient to the City.

The City of Pawtucket reserves the right to award on the basis of cost alone, accept or reject any or all proposals, and to otherwise act in its best interest including, but not limited to, directly negotiating with any Vendor who submits a proposal in response to this RFP and to award a contract based upon the results of those negotiations alone. The City reserves the right to consider as unqualified to do the work of general construction any Bidder who does not habitually perform with his own forces the major portions of the work involved in construction of the Improvements embraced in this Contract.

Further, the City reserves the right to waive irregularities it may deem minor in its consideration of proposals.

Proposals found to be technically or substantially non-responsive at any point in the evaluation process will be rejected and not considered further. The City of Pawtucket may elect to require presentations(s) by vendors in consideration for award.

Proposals will be evaluated in three (3) phases:

1. The first phase is an initial review to determine if the proposal, as submitted, is complete. To be complete, a proposal must meet all the requirements of this RFP.
2. The second phase is an in-depth analysis and review based on criteria below and their associated weights.

Evaluation Criteria	Importance
Experience/Qualifications	20%
References	10%
Price	70%

3. The third is a comparison of each proposal's weighted evaluation relative to the costs proposed.

In the event that the City requires further information and/or a demonstration of any equipment or process offered in any proposal, all vendors asked for same will do so at no cost to the City.

10.0 - Miscellaneous

- Vendors shall at all times comply with all federal, state, and local laws, ordinances and regulations and shall defend, indemnify and save harmless the City of Pawtucket against any claims arising from the violation of any such laws, ordinances and regulations, including but not limited to challenges as to the legality of any and all vendor installations.

- The City is exempt from the payment of the Rhode Island State Sales Tax under the 1956 General Laws of the State of Rhode Island, 44-18-30, Paragraph 1, as amended. Further, the City is also exempt from the payment of any excise or federal transportation taxes. The proposal prices submitted must be exclusive of same, and will be so construed.
- The City of Pawtucket reserves the right to cancel an agreement with the Vendor with thirty (30) days written notice and to award the contract to the next highest evaluated bidder.
- The City of Pawtucket reserves the right to renegotiate the terms of this contract with the Vendor for subsequent years provided the Vendor agrees to the contract terms for the renewal period.
- The payment and performance of any obligations under this contract for years beyond the first fiscal year are subject to the availability of funds.
- The City reserves the right to pay the selected Vendor via credit card at its sole discretion.

11.0 – Bid Form

16-055 – Summit Street Park & Fallon School Playground Project

Date: _____

Submitted By: _____

(Include Name, Address and Telephone No.) _____

_____

_____

Name and remittance address that will appear on invoices:	Physical address of business:
_____	_____
_____	_____
_____	_____
_____	_____

General Information

Is your firm a sole proprietorship doing business under a different name? ____Yes _____ No

If yes, please indicate sole proprietorship, a name, and the name you are doing business under.

_____

_____

Is your firm incorporated? ____Yes _____ No

Will any of the work spelled out in this bid be outsourced? ____Yes _____ No

If so, please explain below:

_____

_____

_____

Have you or your firm been subject to suspension, debarment or criminal conviction by the City of Pawtucket, the State of Rhode Island, or any other jurisdiction?
Yes: _____ No: _____

Have the City of Pawtucket and/or the State of Rhode Island ever terminated contracts with your firm for cause?
Yes: _____ No: _____

Has your firm ever withdrawn from a contract with the City of Pawtucket and/or the State of Rhode Island during its performance?
Yes: _____ No: _____

Have you or your firm been involved in litigation against the City of Pawtucket and/or the State of Rhode Island.
Yes: _____ No: _____

If you answered yes to any of the foregoing, please explain the circumstances below. If you or your firm has been involved in litigation against the City of Pawtucket and/or the State of Rhode Island, please include the case caption, case number and status. (If more space is needed, please attach separate sheet and submit with the bid.)

_____

_____

_____

Is your company bonded? Yes ____ No ____

Please describe the nature and extent of all insurance coverage:

_____

_____

_____

Addenda

The following Addenda have been received. The noted modifications to the Bidding Documents have been considered and all costs are included in the Bid Sum.

Addendum #1, Dated:_____

Addendum #2, Dated:_____

Addendum #3, Dated:_____

References

Please list at least four (4) companies' with whom you have contracted to provide similar services. Preferably, references should be municipalities which are of approximate size as the City of Pawtucket, and a website address should be included if available.

Reference #1

Company Name:_____

Contact Person:_____Telephone #: _____

Contract Dates: _____ To _____

Website Address: _____

Reference # 2

Company Name:_____

Contact Person:_____Telephone #: _____

Contract Dates: _____ To _____

Website Address: _____

Reference # 3

Company Name:_____

Contact Person:_____Telephone #: _____

Contract Dates: _____ To _____

Website Address: _____

Reference # 4

Company Name:_____

Contact Person:_____Telephone #: _____

Contract Dates: _____ To _____

Website Address: _____

Pricing Proposal

Bid #16-055 – Summit Street Park & Fallon School Playground Project

1.00 OFFER:

A. Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by Gifford Design Group (Landscape Architect for the above mentioned project) and the City of Pawtucket, we, the undersigned, hereby offer to enter into a Contract to perform the Work, **(Summit Street Park & Fallon School Playground)**, for the amount indicated below, subject to the additions and deductions according to the terms of the Contract Documents and as stated below. The undersigned will provide all necessary and proper material, machinery, equipment, facilities, and means to complete the Work.

B. The undersigned hereby understands that the City of Pawtucket (Owner) has the right to reject any and all bids and to award the contract in the best interests of the Owner. The Owner reserves the right to award the entire project or delete portions of the work to funds available, whichever is in the best interest of the Owner.

C. The undersigned also understands that the contract must be carried out in strict accordance with the contract documents.

Total Price: $…….dollars,
(amount in words)

($.....) in lawful money of the United States of America and,
(in figures)

We have included herewith, the unit price bid forms, bid alternates information, and the required security deposit or Bid Bond as required by the Instruction to Bidders.

BID FORM

Title of Specifications: Summit Street Park & Fallon School Playground,
City of Pawtucket, RI.

Part A:

Pursuant to and in compliance with the invitation for bids of *Summit Street Park & Fallon School Playground* and in compliance with the Contractual Documents and the Specifications relating hereto, the undersigned, unless explicitly noted, hereby offers to furnish the items necessary, proper and incidental to this work, whether incorporated on the bid or not, FOR THE TOTAL BASE BID as follows:

_____ $_____
(written) (figures)

The bidder shall specify his bid price in both words and figures. All words and figures shall be in ink or typed. In case of a discrepancy between the written words and those in figures, the written word shall govern.

The Bidder is required to submit a bid based upon the products having the level of quality specified in the contract documents.

Project Bid Amount Allocations for each site:
One contract will be awarded for both sites. However, the funding for these the two sites come from two sources. Therefore, the bidder shall identify individual figures for each site:

Summit Street Park Allocation:_____

Fallon School Playground Allocation:_____

The sum of the above allocations shall be equal to the Base Bid Amount

Substitution Request Language:
The bidder shall identify and document cost implications involved in all substitution requests. Any and all cost savings shall be returned to the contract.

Addenda, if any, shall be issued by the owner and delivered to the undersigned by an appropriate traceable method.

The bid may be withdrawn prior to the scheduled time for opening of bids or any authorized postponement thereof.

Part B: Alternates

A. Alternates as quoted are for provision of Lump Sum adjustments to the Base Bid prior to Contract Award.

B. Alternates will be executed at the Owner's Option. One or more alternates may be chosen. Accepted Alternates will be listed in the Owner / Contractor Agreement.

Summit Street Park:

Alternate No. 1: DELETE Irrigation system in its entirety, including water service connection. (Include an appropriate budget for trucked water to allow plant establishment):

$ _____ _____ LS
DELETE (Lump Sum) In Words

Alternate No. 2: DELETE Light Poles, Footings, Trenching and Conduit (Conduit Trench B-B) serving the Light Poles:

$ _____ _____ LS
DELETE (Lump Sum) In Words

Alternate No. 3: DELETE Gazebo and Gazebo Light (gazebo pad, gazebo electric service and weather-proof receptacle shall remain).

$ _____ _____ LS
DELETE (Lump Sum) In Words

Alternate No. 4: ADD Water Pressure Booster Pump, (irrigation note #13)

$ _____ _____ LS
ADD (Lump Sum) In Words

Fallon School Playground:

Alternate No. 5: DELETE Fallon School Colored Falcon Logo Athletic Surface (Nova or equal):

$ _____ _____ LS
DELETE (Lump Sum) In Words

Alternate No. 6: DELETE all colored Athletic Surface (Nova or equal):

$ _____ _____ LS
DELETE (Lump Sum) In Words

Alternate No. 7: ADD Independent Cool Topper:

$ _____ _____ LS
ADD (Lump Sum) In Words

Alternate No. 8: ADD Integral "Wave Cool Toppers":

$ _____ _____ LS
ADD (Lump Sum) In Words

Alternate No. 9: ADD Two Benches:

$ _____ _____ LS
ADD (Lump Sum) In Words

Alternate No. 10: R&D Existing Chain Link Fence; ADD new 4' black CL Fence:

$ _____ _____ LS
ADD (Lump Sum) In Words

Part C: Unit Prices

In addition to stating the Base Bid, the Bidder shall state prices for the various unit items of work listed below. The Unit Prices as quoted are for computing adjustments to the Base Bid during the course of construction, based upon extra work ordered by the Owner, or for work countermanded, reduced, or omitted by the Owner. Unit Prices are to be a complete price to be added or deducted on the basis of quantities of work involved, for each work item in place in the unit.

1. Temporary Construction Fencing (6' Height):

   $_____ _____
   Cost per Linear Foot In Words Per LF

2. Siltation Fence/Erosion Control:

   $_____ _____
   Cost per Linear Foot In Words Per LF

3. Sawcut Existing Pavement:

   $_____ _____
   Cost per Linear Foot In Words Per LF

4. Remove and Dispose Existing Cement Concrete Pavement:

   $_____ _____
   Cost per Square Foot In Words Per SF

5. Remove and Dispose Chainlink Fence:

   $_____ _____
   Cost per Linear Foot In Words Per LF

6. Earthwork; Cut and Fill to Subgrade:

   $_____ _____
   Cost per Cubic Yard In Words Per CY

7. Broom Finish Cement Concrete Surface (RIDOT Std 43.1.0), including base:

   $_____ _____
   Cost per Square Yard In Words Per SY

8. Exposed Aggregate Cement Concrete Surface, including base:

$ _____ _____

Cost per Square Yard In Words Per SY

9. Concrete Sidewalk Infill, including decorative concrete edge, and base:

$ _____ _____

Cost per Linear Foot In Words Per LF

10. Poured-In-Place Resilient Play Surface, including base layer:

$ _____ _____

Cost per Square Yard In Words Per SY

11. Cut and Patch Existing Bituminous Concrete Pavement with in-kind, incl. base:

$ _____ _____

Cost per Square Yard In Words Per SY

12. Colored Athletic Surface (Nova or equal), in place:

$ _____ _____

Cost per Square Yard In Words Per SY

13. Service Connection to meter, Permit & Water Meter Enclosure, installed:

$ _____ _____

Cost per Unit In Words Per Unit

14. Irrigation Lateral Line PVC Class 200, 1”:

$ _____ _____

Cost per Linear Foot In Words Per LF

15. Irrigation Lateral Line PVC Class 200, 1.5”:

$ _____ _____

Cost per Linear Foot In Words Per LF

16. Irrigation Main Line PVC Class 200, 1.5”:

$ _____ _____

Cost per Linear Foot In Words Per LF

17. Service Connection to meter, Permit & Electric Utility Meter Enclosure, installed:

$ _____ _____

Cost per Unit In Words Per Unit

18. Conduit Trench A-A:

$ _____ _____

Cost per Linear Foot In Words Per LF

19. Conduit Trench B-B:

$ _____ _____

Cost per Linear Foot In Words Per LF

20. Conduit Trench C-C:

$ _____ _____

Cost per Linear Foot In Words Per LF

21. Light Post in place, with footing and lamp:

$ _____ _____

Cost per Unit In Words Per Unit

22. Cedar Gazebo, installed:

$ _____ _____

Cost per Unit In Words Per Unit

23. Smart Play "Venti" Structure, installed:

$ _____ _____

Cost per Unit In Words Per Unit

24. Single Post "Cool Topper" Structure, installed:

$ _____ _____

Cost per Unit In Words Per Unit

25. Four Foot (4') Chain Link Fence:

$ _____ _____

Cost per Linear Foot In Words Per LF

26. Four Foot (4') Ornamental Steel Fence:

$ _____ _____

Cost per Linear Foot In Words Per LF

27. Four Foot (4') Ornamental Steel Service Gate:

$ _____ _____

Cost Each In Words Per Unit

28. Dumor (or equal) Steel Bench:

$ _____ _____

Cost Each In Words Per Unit

29. Dumor (or equal) Steel Trash Receptacle:

$ _____ _____

Cost Each In Words Per Unit

30. Shredded Bark Mulch, in place:

$ _____ _____

Cost per Cubic Yard In Words Per CY

31. Loam and Seed, in place:

$ _____ _____

Cost per Square Yard In Words Per SY

32. A. saccharum 'Green Mountain' in place:

$ _____ _____

Cost Each In Words Each

33. Cornus florida rubra, in place:

$ _____ _____

Cost Each In Words Each

34. Hibiscus moscheutos 'Disco Pink Bell', in place:

$ _____ _____

Cost Each In Words Each

35. Hydrangea macrophylla ‘Pink Elf’, in place:

$ _____ _____
Cost Each In Words Each

36. Ilex crenata ‘hoogendoorn’, in place:

$ _____ _____
Cost Each In Words Each

37. Rhododendron maximum, in place:

$ _____ _____
Cost Each In Words Each

38. Rosa x ‘Knockout’ TM Pink, in place:

$ _____ _____
Cost Each In Words Each

39. Echinacea purpurea, in place:

$ _____ _____
Cost Each In Words Each

40. Lavandula angustifolia ‘Hidcote Blue’, in place:

$ _____ _____
Cost Each In Words Each

41. Hemerocallis x ‘Purple D’Oro’, in place:

$ _____ _____
Cost Each In Words Each

Part D: Allowances

A. As part of the base bid, the bidder agrees to carry a quantity of 30 Cubic Yards of unclassified excavation in the base bid of this contract. The owner reserves the right to remove these items from the contract, totally or in part, and to adjust the contract sum to reflect the actual costs of the construction authorized by the Owner, These 30 cubic yards are identified as follows:

1. Utility Trenching; Allowance for Removal of Unsuitable Material: The Base Bid Price listed in the Bid Proposal Form shall include the removal of a quantity of 10 cubic yards of unsuitable material, such as defective gravel bases, bricks, brick or stone and mortar walls, blocks, curbing, conduits, pavements and other waste materials or debris that is not scheduled for removal under other Sections of the Specifications (considered unclassified excavation). Contractor shall contact owner’s representative in the event that unsuitable material is encountered. Unsuitable material shall not be removed from site without inspection by Owner’s Representative and certification of quantities by Contractor. Unused allowances for unsuitable material removal shall be reimbursed to the Owner at the Contract Unit Price.

Removal of 10 Cubic Yards Unsuitable Material:

$ _____ _____

Lump Sum In Words LS

Unit Price for the Removal of Unsuitable Material:

$ _____ _____

Cost per Cubic Yard In Words Per CY

2. Playstructure Footings; Allowance for Removal of Unsuitable Material: The Base Bid Price listed in the Bid Proposal Form shall include the removal of a quantity of 5 cubic yards of unsuitable material, such as defective gravel bases, bricks, brick or stone and mortar walls, blocks, curbing, conduits, pavements and other waste materials or debris that is not scheduled for removal under other Sections of the Specifications (considered unclassified excavation). Contractor shall contact owner's representative in the event that unsuitable material is encountered. Unsuitable material shall not be removed from site without inspection by Owner's Representative and certification of quantities by Contractor. Unused allowances for unsuitable material removal shall be reimbursed to the Owner at the Contract Unit Price.

   Removal of 5 Cubic Yards Unsuitable Material:

   $ _____ _____

   Lump Sum In Words LS

   Unit Price for the Removal of Unsuitable Material:

   $ _____ _____

   Cost per Cubic Yard In Words Per CY

3. Utility Trenching; Allowance for Removal of Concrete Foundations and Footings that require jackhammer demolition: The Base Bid Price listed in the Bid Proposal Form shall include the removal of a quantity of 10 cubic yards of unclassified concrete requiring jackhammer demolition. Contractor shall notify Owner's Representative in the event that unclassified foundations or footings are encountered. Concrete or other rubble shall not be removed from site without inspection by Owner's Representative and certification of quantities by Contractor. Unused allowances for concrete removal shall be reimbursed to the Owner at the Contract Unit Price.

   Removal of 10 Cubic Yards of Concrete Foundations and Footings that require jackhammer demolition:

   $ _____ _____

   Lump Sum In Words LS

   Unit Price for the Removal of Concrete Foundations and Footings that require jackhammer demolition:

   $ _____ _____

   Cost per Cubic Yard In Words Per CY

4. Playstructure Footings; Allowance for Removal of Concrete Foundations and Footings that require jackhammer demolition: The Base Bid Price listed in the Bid Proposal Form shall

include the removal of a quantity of 5 cubic yards of unclassified concrete requiring jackhammer demolition. Contractor shall notify Owner's Representative in the event that unclassified foundations or footings are encountered. Concrete or other rubble shall not be removed from site without inspection by Owner's Representative and certification of quantities by Contractor. Unused allowances for concrete removal shall be reimbursed to the Owner at the Contract Unit Price.

Removal of 5 Cubic Yards of Concrete Foundations and Footings that require jackhammer demolition:

$ _____ _____

Lump Sum In Words LS

Unit Price for the Removal of Concrete Foundations and Footings that require jackhammer demolition:

$ _____ _____

Cost per Cubic Yard In Words Per CY

BID FORM SIGNATURE(S)

The Corporate Seal of

_____

(Bidder - please print the full name of your Proprietorship, Partnership, or Corporation)

was hereunto affixed in the presence of:

_____

(Authorized signing officer Title)

(Seal)

_____

(Authorized signing officer Title)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

State of_____)
) .ss
County of_____)

_____,
being first duly sworn, deposes and says that;

(1) He is_____(owner, partner, officer, representative or agent)_____of

_____, the BIDDER that has submitted the attached bid;

(2) He is fully informed respecting the preparation and contents of the attached Bid and all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham Bid;

(4) Neither the said BIDDER nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including the affiant, has in any way colluded, conspired or agreed, directly or indirectly, with any other BIDDER, firm or person to submit a collusive or sham bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such a contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other BIDDER, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other BIDDER, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Local Government or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the BIDDER or any of its agents, representatives, owners, employees or parties in interest including this affiant.

(Signed)_____

_____
(Title)

Subscribed and sworn to before me
This_____Day of_____, 20_____
_____
_____

My Commission Expires_____

CERTIFICATE OF COMPLIANCE WITH TAX LAWS

I, _____ of _____, certify under
(principal) *(corporation)*
pains and penalties of perjury that said corporation has complied with all the laws of the State of Rhode Island and Providence Plantations relating to taxes.

_____
Date

_____
Signature

_____
Title

_____
Federal Tax Identification Number

END OF SECTION

12 – General Conditions – AIA Document A201

GENERAL CONDITIONS

AIA DOCUMENT A201, 2007 EDITION

PART I – GENERAL

DESCRIPTION

A. AIA Document A201, General Conditions of the Contract for Construction, Sixteenth Edition, 2007.

DRAFT

AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

« -»
« »

THE OWNER:
(Name, legal status and address)

« »« »
« »

THE ARCHITECT:
(Name, legal status and address)

« »« »
« »

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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User Notes: (1198933826)

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION
Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION
In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE
§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM
If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER
§ 2.1 GENERAL
§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER
§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

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§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These

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obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

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§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

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.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

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§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

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§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

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§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods,

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techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

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§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- **.1** assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- **.2** assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

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§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

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§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- **.1** Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- **.2** Unit prices stated in the Contract Documents or subsequently agreed upon;
- **.3** Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- **.4** As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- **.1** Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- **.2** Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- **.3** Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- **.4** Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- **.5** Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be

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reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as

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the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to

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make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- **.1** defective Work not remedied;
- **.2** third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- **.4** reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- **.5** damage to the Owner or a separate contractor;
- **.6** reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- **.7** repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

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§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

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§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- **.1** liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents; or
- **.3** terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- **.1** employees on the Work and other persons who may be affected thereby;
- **.2** the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- **.3** other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

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§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from

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performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- **.1** Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- **.2** Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- **.3** Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- **.4** Claims for damages insured by usual personal injury liability coverage;
- **.5** Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- **.6** Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- **.7** Claims for bodily injury or property damage arising out of completed operations; and
- **.8** Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An

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additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

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§ 11.3.3 LOSS OF USE INSURANCE
The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION
The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

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§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct

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the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

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§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- **.1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- **.2** An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- **.3** Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- **.4** The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

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§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- **.1** repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- **.2** fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- **.3** repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- **.4** otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- **.1** Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- **.2** Accept assignment of subcontracts pursuant to Section 5.4; and
- **.3** Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- **.1** that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- **.2** that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- **.1** cease operations as directed by the Owner in the notice;
- **.2** take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- **.3** except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

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ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- **.1** damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- **.2** damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise,

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or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in th Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually

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agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

END SECTION AIA A201

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12.1 – Addendum To General Conditions – AIA Document A201

GENERAL CONDITIONS

A. Standard Form: The General Conditions of the Contract forming a part of the Contract Documents and of these Specifications, consists of AIA Document A201, 2007 Edition.

B. Modifications and Additions: Where Contract Documents refer to General Conditions, such reference shall be interpreted to include Addendum to General Conditions.

C. Where contract documents refer to “architect”, such reference shall be interpreted to be “engineer”.

CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

A. If conflicts or discrepancies occur in the Contract Documents, interpretations will be based on the following priorities:

1. Awarding Authority-Contractor Agreement.
2. Addenda, with those of later date having precedence over those of earlier date.
3. The Supplementary Conditions.
4. The General Conditions of the Contract for Construction.
5. Drawings and Specifications.

B. For an inconsistency between Drawings and Specifications or within either Document not clarified by Addendum, the better quality or greater quantity of work shall be provided according to the Architect's interpretation.

ARTICLE 2 - OWNER

Sub-paragraph 2.1.2- delete in its entirety

ARTICLE 7 – CHANGES IN THE WORK

Sub-paragraph 7.3.4- delete in its entirety

ARTICLE 11 – INSURANCE AND BONDS

Sub-paragraph 11.3- delete in its entirety.

13 – Supplementary Conditions

100.0 CLAIMS FOR EXTRA COST

100.1 If the Contractor claims that any instructions by Drawings or otherwise involve extra cost or extension of time, they shall, within ten (10) days after the receipt of such instructions, and in any event before proceeding to execute the work, submit their protest thereto in writing to the Owner stating clearly and in detail the basis of his objections. No such claim will be considered unless so made.

100.2 Claims for additional compensation for extra work, due to alleged errors in ground elevations, contour lines, site location, or bench marks, will not be recognized unless accompanied by certified survey data, made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted, or would result, in handling more material or performing more work than would be reasonably estimated from the Drawings and map issued.

100.3 Any discrepancies which may be discovered between actual conditions and those represented by the Drawings and maps shall at once be reported to the Owner and work shall not proceed except at the Contractor's risk, until written instructions have been received by them from the Owner.

100.4 If, on the basis of the available evidence, the Owner determines that an adjustment of the Contract Price and/or Time is justifiable, the procedure shall be as provided in Section 110 hereof.

101.0 TERMINATION, DELAYS, AND LIQUIDATED DAMAGES

101.1 Termination of Contract. If the Contractor refuses or fails to prosecute the work with such diligence as will insure its completion within the time specified in these Contract Documents, or as modified as provided in these Contract Documents, the Owner by written notice to the Contractor, may terminate the Contractor's right to proceed with the work. Upon such termination, the Owner may take over the work and prosecute the same to completion of the work and the Contractor shall also be liable to the Owner in its completion of the work and the Contractor shall also be liable to the Owner for liquidated damages for any delay in the completion of the work as provided below. If the Contractor's right to proceed is so terminated, the Owner may take possession of and utilize in completing the work, such materials, tools, equipment, and plant as may be on the site of the work and necessary therefore.

101.2 Liquidated Damages for Delays. If the work be not completed within the time stipulated in Section 402 hereof, including any extensions of time for excusable delays as herein provided, the Contractor shall pay to the Owner as fixed, agreed, and liquidated damages (it being impossible to determine the actual damages occasioned by the delay) for each calendar day of delay, until the work is completed, the amount as set forth in Section 403 hereof and the Contractor and his sureties shall be liable to the Owner for the amount thereof.

101.3 Excusable Delays. The right of the Contractor to proceed shall not be terminated nor shall the Contractor be charged with liquidated damages for any delays in the completion of the work due.

101.3.1 To any acts of the Government, including controls or restrictions upon or requisitioning of materials, equipment, tools, or labor by reason of war, National Defense, or any other national emergency.

101.3.2.1 To any acts of the Owner.

101.3.3 To causes not reasonably foreseeable by the parties to this Contract at the time of the execution of the Contract which are beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God or of the Public enemy, acts of another Contractor in the performance of some other contract with the Owner, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity such as hurricane, tornadoes, cyclones and other extreme weather conditions; and

101.3.4 To any delay of any subcontractor occasioned by any of the causes specified in subparagraphs 1, 2 and 3 of this paragraph 101.3.

Provided, however, that the Contractor promptly notify the Owner within ten (10) days in writing of the cause of the delay. Upon receipt of such notification, the Owner shall ascertain the facts and the cause and extent of delay. If, upon the basis of the facts and the terms of this contract, the delay is properly excusable, the Owner shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.

102.0 SAMPLES, CERTIFICATES AND TESTS

102.1 The Contractor shall submit all material or equipment samples, certificates, affidavits, etc. as called for in the contract documents or required by the Owner promptly after award of the Contract and acceptance of the Contractor's bond. No such material or equipment shall be manufactured or delivered to the site, except at the Contractor's own risk, until the required samples or certificates have been approved in writing by the Owner. Any delay in the work caused by late or improper submission of samples or certificates for approval shall not be considered just cause for an extension of the contract time.

Each sample submitted by the Contractor shall carry a label giving the name of the Contractor, the property for which it is intended, and the name of the producer. The accompanying certificate or letter from the Contractor shall state that the sample complies with contract requirements, shall give the name and brand of the products, its place or origin, the name and address of the producer and all specifications or other detailed information which will assist the Owner in passing upon the acceptability of the sample promptly. It shall also include the statement that all materials or equipment furnished for use in the project will comply with the samples and/or certified statements.

102.2 Approval of any materials shall be general only and shall not constitute a waiver of the Owner's right to demand full compliance with Contract requirements. After actual deliveries, the Owner will have such check tests made as they deem necessary in each instance and may reject materials and equipment and accessories for cause, even though such materials and articles have been given general approval. If materials, equipment or accessories, which fail to meet check tests have been incorporated in the work, the Owner will have the right to cause their removal and replacement by proper materials or to demand and secure such reparation by the Contractor as is equitable.

102.3 Except as otherwise specifically stated in the Contract, the costs of sampling and testing will be divided as follows:

102.3.1 The Contractor shall furnish without extra cost, including packing and delivery charges, all samples required for testing purposes except those samples taken on the project by the Owner;

102.3.2. The Contractor shall assume all costs of re-testing materials which fail to meet contract requirements;

102.3.3 The Contractor shall assure all cost of testing materials offered in substitution of those found deficient; and

102.3.4 The Owner will pay all other expenses.

103.0 PERMITS AND CODES

103.1 The Contractor shall give all notices required by and comply with all applicable laws, ordinances, and codes of the Local Government. All construction work and/or utility installations shall comply with all applicable ordinances, and codes including all written waivers. Before installing any work, the Contractor shall examine the Drawings and Technical Specifications for compliance with applicable ordinances and codes and shall immediately report any discrepancy to the Owner. Where the requirements of the Drawings and Technical Specifications fail to comply with such applicable ordinances or codes, the

Owner will adjust the Contract by Change Order to conform to such ordinances or codes (unless waivers in writing covering the difference have been granted by the governing body or department) and make appropriate adjustment in the Contract Price or stipulated unit prices.

Should the Contractor fail to observe the foregoing provisions and proceed with the construction and/or install any utility at the variance with any applicable ordinance or code, including any written waivers (notwithstanding the fact that such installation is in compliance with the Drawings and Technical Specifications), the Contractor shall remove such work without cost to the Owner, but a Change Order will be issued to cover only the excess cost the Contractor would have been entitled to receive if the Change had been made before the Contractor commenced work on the items involved.

103.2 The Contractor shall at their own expense, secure and pay to the appropriate department of the Local Government the fees or charges for all permits for street pavement, sidewalks, sheds, removal of abandoned water taps, sealing of house connection drains, pavement cuts, buildings, electrical, plumbing, water, gas and sewer permits required by the local regulatory body or any of its agencies.

103.3 The Contractor shall comply with applicable local laws and ordinances governing excavations and the disposal of surplus excavation, materials, debris and rubbish on or off the Project Area and commit no trespass on any public or private property in any operation due to or connected with the Improvements embraced in this Contract.

104.0 CARE OF WORK

104.1 The Contractor shall be responsible for all damages to person or property that occur as a result of their fault or negligence in connection with the prosecution of the work and shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance, whether or not the same has been covered in whole or in part by payments made by the Owner.

104.2 The Contractor shall provide, where necessary and as requested by the Owner, sufficient competent watchmen, both day and night, including Saturdays, Sundays, and holidays, from the time the work is commenced until final completion and acceptance.

104.3 In an emergency affecting and safety of life, limb or property, including adjoining property, the Contractor without special instructions or authorization from the Owner is authorized to act at their discretion to prevent such threatened loss or injury, and they shall so act. They shall likewise act if instructed to do so by the Owner. Any compensation claimed by the Contractor on account of such emergency work will be determined by the Owner as provided in Section 110 hereof.

104.4 The Contractor shall avoid damage as a result of their operations to existing sidewalks, streets, curbs, pavements, utilities, (except those which are to be replaced or removed), adjoining property, etc., and they shall at their own expense completely repair any damage thereto caused by their operations.

104.5 The Contractor shall shore up, brace, underpin, secure, and protect as may be necessary, all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be in any way affected by the excavations or other operations connected with the construction of the Improvements embraced in this Contract. The Contractor shall be responsible for the giving of any and all required notices to any adjoining or adjacent property Owner or other party before the commencement of any work. The Contractor shall indemnify and save harmless the Owner from any damages on account of settlements or the loss of lateral support of adjoining property and from all loss or expense and all damages for which the Owner may become liable in consequence of such injury of damage to adjoining and adjacent structures and their premises.

105.0 ACCIDENT PREVENTION

105.1 The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons or property, either on or off the site, which occur as a result of his prosecution of the work. The safety provisions of applicable laws and building and construction codes shall be observed and the Contractor shall take or cause to be taken such additional safety and health measures as the Owner may determine to be reasonably necessary. Machinery, equipment and all hazards shall be guarded in accordance with the safety provisions of the “Manual of Accident prevention in Construction” published by the Associates General Contractors of America, Inc., to the extent that such provisions are not in conflict with applicable local laws.

105.2 The Contractor shall maintain an accurate record of all cases of death, occupational disease, or injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. The Contractor shall promptly furnish the Owner with reports concerning these matters.

105.3 The Contractor shall indemnify and save harmless the Owner from any claims for damages resulting from property damage, personal injury and/or death suffered or alleged to have been suffered by any person as a result of any work conducted under this Contract.

106.0 USE OF PREMISES

106.1 The Contractor shall confine their equipment, storage of materials and construction operations to the Contract limits as shown on the Drawings and as prescribed by ordinances or permits, or as may be desired by the Owner and shall not unreasonably encumber the site or public rights of way with his materials and construction equipment.

106.2 The Contractor shall comply with all reasonable instructions of the Owner and the ordinances and codes of the Local Government, regarding signs, advertising, traffic, fires, explosives, danger signals, barricades and fire prevention.

107.0 REMOVAL OF DEBRIS, CLEANING, ETC.

The Contractor shall, periodically or as directed during the progress of the work, remove and legally dispose of all surplus excavated material and debris, and keep the Project Area and public rights of way reasonably clear. Upon completion of the work, the Contractor shall remove all temporary construction facilities, debris and unused materials provided for the work, and put

the work site of the work and public rights of way in a neat and clean condition. Trash burning on the site of the work will be subject to prior approval of the Owner and existing State and Local regulations.

108.0 INSPECTION

108.1 All materials and workmanship shall be subject to inspection, examination, or test by the Owner and the Engineer at any and all times during manufacture of construction and at any and all places where such manufacture or construction is carried on. The Owner shall have the right to reject defective material and workmanship or require its correction. Unacceptable workmanship shall be satisfactorily corrected. Rejected material shall be promptly segregated and removed from the Project Area and replaced with material or specified quality without charge therefore. If the Contractor fails to proceed at once with correction of rejected workmanship or defective material, the Owner may by Contract or otherwise have the defects remedied or rejected materials removed from the Project Area and charge the cost of the same against any monies which may be due the Contractor, without prejudice to any other rights or remedies of the Owner.

108.2 The Contractor shall furnish promptly all materials reasonably necessary for any tests, which may be required. (See Section 102 hereof). All tests by the Owner will be performed in such manner as not to delay the work unnecessarily and will be made in accordance with the provisions of the Technical Specifications.

108.3 The Contractor shall notify the Owner sufficiently in advance of backfilling or concealing any facilities to permit proper inspection. If any facilities are concealed without approval or consent of the Owner, the Contractor shall uncover for inspection and recover such facilities all at their own expense, when so requested by the Owner.

Should it be considered necessary or advisable by the Owner at any time before final acceptance of the entire work to make an examination of work already completed by uncovering the same, the Contractor shall on request promptly furnish all necessary facilities, labor, and material. If such work is found to be defective in any important or essential respect, due to fault of the Contractor or their subcontractors, the Contractor shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the actual cost of labor and material necessarily involved in the examination and replacement, plus 15 percent of such costs to cover superintendence, general expenses and profit, shall be allowed by the Contractor and they shall, in addition, if completion of the work of the entire Contract has been delayed thereby, be granted a suitable extension of time on account of the additional work involved.

108.4 Inspection of materials and appurtenances to be incorporated in the Improvements embraced in this Contract may be made at the place of production, manufacture of shipment, whatever the quantity justifies it, and such inspection and acceptance, unless otherwise stated in the Technical Specifications, shall be final, except as regards (1) latent defects, (2) departures from specific requirements of the Contract, (3) damage or loss in transit, or (4) fraud or such gross mistakes as amount to fraud. Subject to the requirements contained in the preceding sentence, the inspection of materials as a whole or in part will be made at the Project Site.

108.5 Neither inspection, testing, approval nor acceptance of the work in whole or in part, by the Owner or its agents shall relieve the Contractor of their sureties of full responsibility for materials furnished or work performed not in strict accordance with the Contract.

109.0 REVIEW BY THE OWNER

The Owner, its authorized representatives and agents and the Representative for the Secretary (as defined under GENERAL CONDITIONS, PART II) shall, at all times, have access to, and be

permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, material invoices, and other relevant data and records pertaining to this Contract, provided, however, that all instructions and approval with respect to the work will be given to the Contractor only by the Owner through its authorized representatives or agents.

110.0 FINAL INSPECTION

110.1 When the Improvements embraced in this Contract are substantially completed, the Contractor shall notify the Owner in writing that the work will be ready for final inspection on a definite date, which shall be stated in the notice. The notice will be given at least ten (10) days prior to the date stated for final inspection, and bear the signed concurrence of the representative of the Owner having charge of inspection. If the Owner determines that the status of the Improvements is as represented, it will make the arrangements necessary to have final inspection commenced on the date stated in the notice, or as soon thereafter as is practicable. The inspection party will include representatives of each department of the Local Government having in charge Improvements of like character when such Improvements are later to be accepted by the Local Government.

111.0 DEDUCTION FOR UNCORRECTED WORK

If the Owner deems it not expedient to require the Contractor to correct work not done in accordance with the Contract Documents, an equitable deduction from the Contract Price will be made by agreement between the Contractor and the Owner and subject to settlement, in case of dispute, as herein provided.

112.0 INSURANCE

See Section 5.0 Insurance for information.

113.0 PATENTS

The Contractor shall hold and save the Owner its officers, and employees, harmless from liability of any nature of kind, including costs and expenses, for, or on account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the Contract, including its use by the Owner unless otherwise specifically stipulated in the Technical Specifications.

114.0 WARRANTY OF TITLE

No material, supplies, or equipment to be installed or furnished under this Contract shall be purchased subject to any chattel mortgage or under a conditioned sale, lease-purchase or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. The Contractor shall warrant good title to all materials, supplies, and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed or placed thereon by them to the Owner free from any claims, liens, or charges. Neither the Contractor nor any person, firm or corporation furnishing any material or labor for any work covered by this Contract shall have any right to a lien upon any improvement or appurtenance thereon. Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any bond given by the Contractor for their protection or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this paragraph shall be inserted in all subcontracts and materials contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal Contract is entered into for such materials.

115.0 GENERAL GUARANTY

Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of the Improvements embraced in this Contract by the Owner or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of twelve (12) months from the date of final acceptance of the work. The Owner will give notice of defective materials and work with reasonable promptness.

116.0 CONTRACTOR TO MAKE OWN EXAMINATION

Plans, calculations, estimates of quantities, and any statements made in the Instructions to Bidders or otherwise as to the conditions under which the work is to be performed are not guaranteed by the Owner to be correct or to be a complete representation of all existing data on conditions affecting work, and the Contractor agrees that they have made their examination and will make no claim for damages on account of any errors, inaccuracies or omissions that may be found.

The Contractor shall not take any advantage or have any claim for damages on account of any discrepancy, error or omission in any plans, calculations, estimates of quantities, or any statement made in the Instructions to Bidders or otherwise as to the conditions under which the work is to be performed, and they shall report such discrepancy, error or omission to the Owner in writing as soon as it comes to their knowledge, and before proceeding with work related to such discrepancy, error or omission. Any correction or modification of the plans or specifications may be made by the Owner when necessary, in their opinion, for the proper fulfillment of their purpose or for their proper interpretation.

200.0 OMITTED

300.0 OMITTED

402.0 TIME FOR COMPLETION

The work which the Contractor is required to perform under this Contract shall be commenced at the time stipulated by the Owner in the Notice to Proceed to the Contractor.

The rate of progress shall be such that the whole work shall be performed in accordance with the terms of this contract within the number of calendar days after the date of execution of the contract as herein stipulated, unless the expected as any part may be delayed under the provisions of this contract. The work shall be pursued in a continuous, diligent, and uniform manner throughout the project until completion.

It is agreed that the rates of progress herein required has been purposely made low enough to allow for the ordinary delays incident to construction work of this character. No extension of time will be made for ordinary delays, inclement weather and accidents, and the occurrence of such will not relieve the Contractor from the necessity of maintaining this rate of progress.

If delays are caused by acts of God, acts of Government or State, strikes extra work, floods or other contingencies clearly beyond the control or responsibility of the Contractor, the Contractor shall be entitled to so much additional time wherein to perform and complete this contract on his part as the Engineer shall certify in writing to be just.

403.0 LIQUIDATED DAMAGES

In case the Contractor fails satisfactorily to complete the entire work contemplated and provided for under this contract on or before the date of completion determined as described above, the Owner shall deduct from the payments due to the Contractor each month the sum of $250.00 for each calendar day (Sundays and legal holidays excluded) of delay, which sum is agreed upon not as a penalty, but as fixed and liquidated damages, said damages shall be deducted from any other moneys due or to become due the Contractor, and in case such damages exceed the amount of all moneys due or to become due, the Contractor then the Contractor or his Surety shall pay the balance to the Owner.

404.0 RESPONSIBILITIES OF CONTRACTOR

404.1 Except as otherwise specifically stated in the Contract Documents, and Technical Specifications, the Contract shall provide and pay for all materials, tools, labor, equipment, water, light, heat, power, transportation, superintendence, temporary construction of every nature, charges, levies, fee or other expenses, and all other services and facilities of every nature whatsoever necessary for the performance of the Contract and to deliver all improvements embraced in this Contract complete in every respect within the specified time.

404.2 All materials, workmanship, methods and practices shall conform to the current Standards of the American Water Works Association, the Rhode Island Standard Specifications for Road and Bridge Construction, 2010 edition, including all corrections, all issued compilation of approved specifications, and addendum to date and all general requirements and special requirements contained in this project specifications. All work zone traffic control shall be in accordance with the manual on uniform traffic control devices, 2009 edition.

404.3 The Contractor shall be responsible for detailed layout, all stakeout and grade control, and shall employ a registered engineer or a registered land surveyor for this purpose as may be necessary. The Owner will provide engineering and inspection.

404.4 The Contractor shall verify dimensions shown on the plans and if any inconsistencies or discrepancies should be noted on the Drawings and the Specifications, he/she shall immediately notify the Owner. The Contractor will be held responsible for any errors resulting from his/her failure to exercise the aforementioned precaution.

404.5 As soon as the Contract is executed, the Contractor shall order any materials necessary and not supplied by the Owner, submit construction schedules as hereinafter specified, and otherwise anticipate the Notice to Proceed. When the Owner gives the Notice to Proceed, the work of construction shall begin at the time stipulated therein and shall be completed within the Time for Completion specified.

404.6 It is the Contractor's responsibility to make his/her own investigation and related assumptions and to *satisfy himself as to subsurface conditions and to insure that these are reflected in the prices bid*. No change or extra to the price will be accepted due to subsurface conditions or utility locations.

The determination of location and subsequent maintenance and protection of existing subsurface and above ground utilities are the sole responsibility of the Contractor; claims resulting from damage to such by the Contractor will be settled by the Contractor at his/her expense in accordance with the Contract.

404.7 The Contractor shall, at his/her own expense, take out all necessary permits from the county, municipal, or other public authorities; shall give all notices required by law or ordinances;

and shall post all bonds and pay all fees and charges incident to the due and lawful prosecution of the work covered by this Contract.

404.8 RESPONSIBILITY FOR MATERIAL FURNISHED BY OWNER: The Contractor's responsibility for material furnished by the Owner shall begin upon Contractor's acceptance at the point of delivery to him. All such material shall be examined, and material defective in manufacture and/or otherwise damaged shall be rejected by the Contractor at the time and place of delivery to him and replaced by the Owner. Material furnished by the Owner which is accepted by the Contractor, but is discovered prior to final acceptance of the work, (1) to be defective in manufacture, shall be replaced by the Owner; (2) to have been damaged before or after acceptance by the Contractor, shall be replaced by the Contractor. Once accepted by the Contractor at the point of delivery to him, all defective and/or damaged material discovered prior to final acceptance of the work shall be removed by the Contractor and he shall install, at his own expense, the material replaced, in its stead, by the Owner or Contractor. In such case, the Contractor shall furnish all labor, equipment, and material incidental to replacement and necessary for the completion of the work to the satisfaction of the Engineer.

404.9 RESPONSIBILITY FOR SAFE STORAGE: The Contractor shall be responsible for the safe storage of all material furnished to or by him and accepted by him until it has been incorporated in the completed project.

405.0 COMMUNICATIONS

405.1 All notices, demands, requests, instructions, approvals, proposals and claims must be in writing.

405.2 Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Agreement (or at such other offices as the Contractor may from time to time designate in writing to the Owner), or if deposited in the United States mail in a sealed, postage-prepaid envelope, or delivered with charges prepaid to any telegraph company for translation, in each case addressed to such office.

405.3 All papers; required to be delivered to the Owner shall, unless otherwise specified in writing to the Contractor, be delivered to the CITY OF PAWTUCKET, DEPARTMENT OF PUBLIC WORKS, 250 Armistice Boulevard, Pawtucket, Rhode Island, 02860; any notice to or demands upon the Owner shall be sufficiently given if so delivered, or if deposited in the United States mail in a sealed, postage-prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission to said Owner at such address, or to such other representative of the Owner or to such other address, as the Owner may subsequently specify in writing to the Contractor for such purpose.

405.4 Any such notice shall be deemed to have been given as of the time of actual delivery or (in the case of mailing when the same should have been received in due course of post, or in the case of telegram) at the time of actual receipt, as the case may be.

406.0 PARTIAL USE OF SITE IMPROVEMENTS

The Owner, at its elections may give notice to the Contractor and place in use those sections of the improvements which have been completed, inspected, and can be accepted as complying with the Technical Specifications and if in its opinion, each such section is reasonably safe, fit and convenient, for the use and accommodation for which it was intended, provided;

406.1 The use of such sections of the Improvements shall in no way impede the completion of the remainder of the work by the Contractor.

406.2 The Contractor shall not be responsible for any damages or maintenance costs due directly to the use of such sections.

406.3 The use of such sections shall in no way relieve the Contractor or his liability due to having used defective materials or to poor workmanship.

406.4 The period of guarantee shall not begin to run until the date of the final acceptance of all work which the Contractor is required to construct under this Contract.

407.0 OMITTED

408.0 OMITTED

409.0 EMPLOY SUFFICIENT LABOR AND EQUIPMENT

If, in the opinion of the Engineer, the Contractor is not employing sufficient labor or equipment to complete this contract within the time specified the Owner may, after giving written notice, require said Contractor to employ such additional labor and equipment as may be necessary to enable said work to progress properly.

410.0 INTOXICATING LIQUORS

The Contractor shall not sell and shall neither permit or suffer the introduction or use of intoxicating liquors upon or about the work embraced in this contract.

411.0 ACCESS TO WORK

The Owner and the Engineer, and their agents and employees may, for purposes already specified and for any other purpose, enter upon the work and the premises used by the Contractor, and the Contractor shall provide safe and proper facilities therefor.

412.0 TIME OF BEGINNING WORK

412.1 Except as herein provided, the Contractor shall commence work at such points as the Engineer may approve, within ten (10) days after the execution of this contract by the Owner.

412.2 Such time of starting may be postponed by written agreement between the Owner and the Contractor because of expected delays in receipt of materials and equipment, or if the season be unsuitable for commencement of the work, or because of other contingency clearly beyond the control or responsibility of the Contractor. Unless stipulated otherwise in said agreement, the Contractor shall commence work at such points as the Engineer may direct or approve, within 10 days after the receipt of a written order from the Owner to start work.

413.0 PROVISIONS FOR TRAFFIC

413.1 The Contractor shall not close or obstruct any portion of a street without obtaining permits for from the proper municipal authorities. If any street or private way shall be rendered unsafe by the Contractor's operations, he shall make such repairs or provide such temporary ways or guards as shall be acceptable to the Owner.

413.2 Streets, roads, private ways, and walks shall be maintained passable by the Contractor at his expense, and the Contractor shall assume full responsibility for the adequacy and safety of provisions made. He shall conduct his construction operations such that interference with the flow of traffic will be held to a minimum.

413.3 The Contractor shall cooperate in every way possible with the municipal authorities maintaining a flow of traffic through the site. The Contractor shall notify the Pawtucket Fire Department when any street is to be closed regardless of the length of time or time of day.

413.4 All detours shall be signed and lighted as directed by the City of Pawtucket.

414.0 COORDINATION WITH OUTSIDE PARTIES

414.1 The Contractor shall conduct his work so as to interfere as little as possible with private business and public travel. He shall at his own expense, wherever necessary or required, maintain fences, furnish watchmen, maintain lights and take such other precautions as may be necessary to protect life and property.

414.2 The Contractor shall take all responsibility for the protection of the work and for preventing injuries to persons and damage to property and utilities on or about the work. He shall not be relieved of his responsibility by any right of the City to give permission or issue orders relating to any part of the work, or by any such permission given or orders issued, or by failure of the Engineer to give such permission or issue such orders. The Contractor shall bear all losses resulting to him or to the Owner on account of the amount of character of the work, or because nature of the land in or on which the work is done is different from what was estimated or expected, or on account of the weather, elements or other causes. The Contractor shall assume the defense of all claims or whatsoever character against the Contractor of the Owner, and indemnify, save harmless and insure the Owner, its officers or agents, against all claims arising out of injury or damage to persons, corporation, or property, whether said claims are for unavoidable damage or not, and from all claims relating to labor and materials furnished for the work. The Contractor shall not be required to indemnify the Owner against damage or claims occasioned by acts of the Owner, except otherwise provided in the articles relative to patents and responsibilities.

415.0 DELAY BY OWNER

The Owner may delay the beginning of the work or any part thereof, if the necessary lands or rights-of-way, or materials for such work shall not have been obtained. The Contractor shall have no claim for damages on account of such delay, but shall be entitled to so much additional time wherein to perform and complete this contract on his part as the City shall certify in writing to be just.

416.0 OMITTED

417.0 PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the contract shall forthwith be physically amended to make such insertion.

418.0 SAFETY AND HEALTH REGULATIONS

These construction documents, and the joint and several phases of construction hereby contemplated are to be governed, at all times by applicable provisions of the Federal law(s), including but not limited to, the latest amendments of the following:

(1) Williams-Steiger Occupational Safety and Health Act of 1970, Public Law 91-596;

(2) Part 1910 - Occupation Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations;

(3) Part 1518 - Safety and Health Regulations for Construction, Chapter XIII of Title 29, Code of Federal Regulations.

In the event of any inconsistencies between the above laws and regulations and the provisions of these documents, the laws and regulations shall prevail.

419.0 NOTIFICATION OF EXCAVATION TO UTILITIES

The Contractor shall provide a minimum of two working days notice to "Dig Safe" (1-800-225-4977) and any other appropriate utility before the Contractor begins excavation.

14.0 – Special Conditions for CDBG Contracts

INTRODUCTION: The following special conditions are items which must be contained in contracts that are fully or partially paid with Community Development Block Grant (CDBG) funds. Some items such as bonding and insurance may also be included elsewhere in the contract documents. The Contractor must comply with those City requirements as well as these Federal requirements.

The Contractor shall comply with all applicable special conditions for CDBG contracts as contained herein and shall insert appropriate provisions in all subcontracts covering work under this contract to insure compliance by subcontractors with such regulations and shall be responsible for the submission of affidavits required of subcontractors there under except as the Secretary of Labor may specifically provide for variations of or exemptions from the requirements thereof.

The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

The Contractor must submit to the Project Manager or Representative, within ten (10) days of bid opening, the names and addresses of the subcontractors he/she proposes to utilize on the project in order for the Project Manager to approve utilization of said subcontractors. If other subcontractors are proposed during the construction phase, their names and addresses are to be submitted to the Project Manager prior to utilization for approval.

Complete language on the Federal labor laws is included in the attached HUD 4010, which is incorporated by reference.

Statements show in italics are instructions to the reader.

I. SPECIAL CONDITIONS FOR ALL CDBG CONTRACTS

A. HUD SECTION 3 CLAUSE

Because this project receives direct Federal financial assistance, compliance with Section 3 of the Housing and Development Act of 1968 and the regulation implementing that Section is required. The Contractor understands that this requires the project to make training, employment and contracting opportunities available, to the greatest extent feasible, to lower income City residents and businesses.

1. COMPLIANCE WITH HUD SECTION 3 CLAUSE

Compliance: Compliance with the provisions of Section 3, the regulations set forth in 24 CFR 135, and all applicable rules and orders issued hereunder prior to the execution of this contract, shall be a condition of the Federal financial assistance provided under this contract and binding upon the City of Pawtucket (City) and any of the City's sub-recipients and subcontractors. Failure to fulfill these requirements shall subject the City, the City's sub-recipients and subcontractors, their successors and assigns, to those sanctions specified by the Agreement through which Federal assistance is provided. The City certifies and agrees that no contractual or other disability exists which would prevent compliance with these requirements.

The Contractor further agrees to comply with these "Section 3" requirements and to include the following language in all subcontracts executed under this Agreement:

"The work to be performed under this contract is a project assisted under a program providing direct Federal financial assistance from HUD and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1988, as amended, 12 U.S.C. 1701. Section 3 requires that to the greatest extent feasible

opportunities for training and employment be given to low- and very low-income residents of the project area and contracts for work in connection with the project be awarded to business concerns that provide economic opportunities for low- and very low-income persons residing in the metropolitan area in which the project is located."

The Contractor further agrees to ensure that opportunities for training and employment arising in connection with a housing rehabilitation (including reduction and abatement of lead-based paint hazards), housing construction, or other public construction project are given to low- and very low-income persons residing within the metropolitan area in which the CDBG-funded project is located; where feasible, priority should be given to low- and very low-income persons within the service area of the project or the neighborhood in which the project is located, and to low- and very low-income participants in other HUD programs; and award contracts for work undertaken in connection with a housing construction, or other public construction project are given to business concerns that provide economic opportunities for low- and very low-income persons residing within the metropolitan area in which the CDBG-funded project is located; where feasible, priority should be given to business concerns which provide economic opportunities to low- and very low-income residents within the service area or the neighborhood in which the project is located, and to low- and very low-income participants in other HUD programs.

The Contractor certifies and agrees that no contractual or other legal incapacity exists which would prevent compliance with these requirements.

2. Notifications

The Contractor agrees to send to each labor organization or representative of workers with which it has a collective bargaining agreement or other contract or understanding, if any, a notice advising said labor organization or worker's representative of its commitments under the Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.

3. Subcontracts

The Contractor will include this Section 3 clause in every subcontract and will take appropriate action pursuant to the subcontract upon a finding that the subcontractor is in violation of regulations issued by the grantor agency. The City will not subcontract with any entity where it has notice or knowledge that the latter has been found in violation of regulations under 24 CFR 125 and will not let any subcontract unless the entity has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.

B. Remedies for Violation or Breach of Contract Terms

All claims, disputes and other matters in question between the parties to this agreement, arising out of or relating to this agreement or the breach thereof, shall be resolved as provided by Rhode Island law. Venue shall be in the County of Providence, Rhode Island. Failure to timely comply with the contract without approval from the City shall be deemed a breach of this agreement and the expenses and costs incurred by the City shall be the burden of the Contractor. Disputes regarding the interpretation of this contract shall be resolved in favor of the City.

C. Patent and Copyrights

The U.S. Department of Housing and Urban Development and the City of Pawtucket retain patent rights and copyrights on any project which involves research, developmental, experimental or demonstration work.

D. Adherence to State Energy Conservation Plan

The successful bidder shall recognize and adhere to mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).

E. Access to Records—*For all contracts other than those awarded under small purchase procedures:*

Providence County, the consultant operating on behalf of the City of Pawtucket, the State of Rhode Island, the U. S. Department of HUD, the Comptroller General of the United States or any of their authorized representatives, shall have access to any books, documents, papers and records of the Contractor which are directly pertinent to this contract, for the purpose of performing audit or project monitoring, and such records shall be subject to examination, copying, excerpting or transcribing.

F. Contract Work Hours and Safety Standards—*Applies to any contracts in excess of $2,000, which may involve the employment of mechanics or laborers. (These requirements do not apply to the purchase of supplies or materials or articles ordinarily available on the open market or contracts for transportation or transmission of intelligence.)*

The Contractor shall comply with Sections 103 and 107 of the Contractor Work Hours and Safety Standards Act (40 USC 327-330) as supplemented by Department of Labor Regulations (29 CFR, Part 5). Under Section 103 of the Act each Contractor shall be required to compute the wages of every mechanic and laborer on the basis of a standard work week of forty (40) hours. Work in excess of that standard work week is permissible provided that the worker is compensated at a rate of not less than 1½ times the basic rate of pay for all hours worked in excess of forty (40) hours in the work week. (This requirement applies to time spent on federally assisted contracts only.) Section 107 of the Act is applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor.

G. Federal Equal Opportunity Laws

1. **Certification of Non-Segregated Facilities** (for contracts over $10,000)

2. **Title VI, Civil Rights Act of 1964**
   Affirmatively furthering the policies of the Fair Housing Act

3. **Section 109 of the Housing and Community Development Act of 1974**
   No person in the United States shall on the grounds of race, color, national origin, religion or sex be excluded from participation in, be denied the benefits of or be subjected to discrimination under any program or activity receiving Federal financial assistance made available pursuant to the Act.

4. **Section 503 Handicapped** (for contracts $2,500 or over)

5. **Age Discrimination Act of 1975**
   Prohibits against discrimination on the basis of age

6. **Section 504 of the Rehabilitation Act of 1973**
   Prohibits against discrimination on the basis of disability

II. ADDITIONAL SPECIAL CONDITIONS FOR ALL CDBG CONSTRUCTION CONTRACTS

A. Copeland "Anti-Kickback Act"

The Contractor shall comply with the Copeland "Anti-Kickback Act" (18 USC 874) as supplemented in Department of Labor regulations (29 (CFR, Part 3). This Act provides that each Contractor or sub-grantee shall be prohibited from inducing, by any means, any person employed in the construction, completion or repair of public work, to give up any part of the compensation to which he is otherwise entitled. The City of Pawtucket shall report all suspected or reported violations to the U. S. Department of HUD.

B. All Construction Contracts Expected to be Over $2,000

Davis-Bacon Requirements

The Contractor shall comply with the Davis-Bacon Act (40 USC 276a to a-7) as supplemented by Department of Labor regulations (29 CFR, Part 5). Under this Act Contractors and subcontractors shall be required to pay wages to laborers and mechanics at a rate not less than the minimum wages specified in a wage determination made by the Secretary of Labor. In addition Contractors shall be required to pay wages not less often than once a week. A copy of the prevailing wage rates is included in this solicitation. Any known changes to these wage rates prior to award of contract shall be made known to offerers. In addition Contractors will be required to provide payroll information to the City of Pawtucket on a weekly basis for verification of compliance. Contractors and subcontractors to submit this information on Certified Payroll Forms as supplied by the State of Rhode Island Department of Labor and Training. The City of Pawtucket will report all suspected or reported violations of this condition to the U. S. Department of HUD and/or the U. S. Department of Labor.

--See attached copy of the applicable wage rates in Appendix C--

C. All Construction Contracts over $10,000

1. Contract Termination

This contract may be terminated upon thirty (30) days' written notice without cause. In the event this contract is terminated without cause, the Contractor shall be compensated for all services performed to termination date together with any expenses incurred to that date. This contract may be terminated by either party upon seven (7) days' written notice should the other party fail substantially to perform in accordance with its terms through no fault of the party initiating the termination. In the event the contract is terminated through fault of the Contractor, the Contractor shall bear all additional expenses incurred by the County for the completion of the contract, including those required to retain additional Contractors to complete the work.

2. Equal Employment Opportunity

Contractors shall comply with Executive Order 11246 entitled "Equal Employment Opportunity," as amended by Executive Order 11375 and as supplemented in Department of Labor regulations (41 CFR, Part 60).

The Contractor also agrees to ensure that Minority Business Enterprises, as defined in 49 CFR, Part 23, have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds provided under this agreement. In this regard the Contractor shall take all necessary

reasonable steps in accordance with 49 CFR, Part 23, to ensure that Minority Business Enterprises have the maximum opportunity to compete for and perform contracts.

D. All Construction Contracts over $100,000

1. Section 306 of the Clean Air Act, Section 508 of the Clean Water Act and EPA Regulations of Nonexempt Federal Contracts

The Contractor shall comply with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act (42 USC 1857(h)); Section 508 of the Clean Water Act (33 USC 1368), Executive Order 11738; and Environmental Protection Agency Regulations (40 CFR, Part 15), which prohibit the use under Nonexempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities. Violations will be reported to HUD and to the USEPA Assistant Administrator for Enforcement (EN-329).

2. Bonding and Insurance

The following bonding and insurance items are required:

a. A bid guarantee from the bidder equivalent to 5 percent of the bid price. The bid "guarantee" shall consist of a firm commitment such as a bid bond, certified check or other negotiable instrument accompanying the bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.

b. A performance bond on the part of the Contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the Contractor's obligations under such contract.

c. A payment bond on the part of the Contractor for 100 percent of the contract price. A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

III. RESTRICTION ON ALL PUBLIC WORKS PROJECTS

No Contractor, or subcontractor, of a foreign country included on the list of countries that discriminate against U. S. firms published by the Office of the United States Trade Representative (USTR) may be awarded a contract or a subcontract.

IV. ADDITIONAL REQUIRED INFORMATION ON ALL CONTRACTS

All contractors and their subcontractors are required to supply the following so that the City of Pawtucket submit quarterly and yearly reporting as required by the CDBG Grant.

- Data Universal Numbering System DUNS #
- Prime Contractor Identification number(Tax ID #)

- Sign “CERTIFICATION OF SPECIAL CONDITIONS FOR CDBG CONTRACTS” form supplied by the City upon award of contract.
- Sign “CERTIFICATIONS SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1968” form supplied by the City upon award of contract.

Appendix A

ANTI-KICKBACK ACKNOWLEDGMENT

ALL BIDDERS/OFFERORS MUST ATTEST TO THE FOLLOWING:

The vendor acknowledges, under the pains and penalties of perjury, that he/she has not been offered, paid, or solicited for any contribution or compensation, nor has he/she been granted a gift, gratuity, or other consideration, either directly or indirectly by any officer, employee or member of the governing body of the City of Pawtucket who exercises any functions or responsibilities in connection with either the award or execution of the project to which this contract pertains.

Further, the vendor acknowledges, under the pains and penalties of perjury, that he/she has not offered, paid, or solicited by way of any contribution or compensation, nor has he/she granted a gift, gratuity or other consideration either directly or indirectly to any officer, employee, or member of the governing body of the City of Pawtucket who exercises any functions or responsibilities in connection with either the award or execution of the project to which this project or contract pertains.

_____ _____

SIGNATURE OF OFFEROR DATE

_____

TITLE

_____

COMPANY

Title of RFP:

_____

Appendix B

CITY OF PAWTUCKET
GENERAL TERMS AND CONDITIONS OF PURCHASE

Preamble

The City of Pawtucket's Purchasing Office may, from time to time, make amendments to the General Terms and Conditions when the City of Pawtucket's Purchasing Agent determines that such amendments are in the best interest of the City of Pawtucket. Amendments shall be made available for public inspection at the Purchasing Office located in Pawtucket City Hall but shall not require formal public notice and hearing. Copies of the Terms and Conditions shall be provided to any individual or firm requesting them.

CITY OF PAWTUCKET'S PURCHASING OFFICE GENERAL CONDITIONS OF PURCHASE

All City of Pawtucket purchase orders, contracts, solicitations, delivery orders and service requests shall incorporate and be subject to the provisions of Rhode Island General Laws 8-15-4 and the City of Pawtucket purchasing rules and regulations adopted pursuant thereto, all other applicable provisions of the Rhode Island General Laws, the Pawtucket City Charter, specific requirements described in the Request or Contract, and the following General Conditions of Purchase:

1. GENERAL

   All purchase orders, contracts, solicitations, delivery orders, and service requests are for specified goods and services, in accordance with express terms and conditions of purchase, as defined herein. For the purposes of this document, the terms "bidder" and "contractor" refer to any individual, firm, corporation, or other entity presenting a proposal indicating a desire to enter into contracts with the City of Pawtucket, or with whom a contract is executed by the City of Pawtucket's Purchasing Agent, and the term "contractor" shall have the same meaning as "vendor".

2. ENTIRE AGREEMENT

   The City of Pawtucket's Purchase Order, or other City of Pawtucket contract endorsed by the City of Pawtucket Purchasing Office, shall constitute the entire and exclusive agreement between the City of Pawtucket and any contractor receiving an award. In the event any conflict between the bidder's standard terms of sale, these conditions or more specific provisions contained in the solicitation shall govern.

   All communication between the City of Pawtucket and any contractor pertaining to any award or contract shall be accomplished in writing.

   a. Each proposal will be received with the understanding that the acceptance, in writing, by contract or Purchase Order by the City of Pawtucket Purchasing Agent of the offer to do work or to furnish any or all the materials, equipment, supplies or services described therein shall constitute a contract between the bidder and the City of Pawtucket. This shall bind the bidder on his part to furnish and deliver at the prices and in accordance with the conditions of said accepted proposal and detailed specifications and the City of Pawtucket on its part to order from such contractor (except in case of emergency) and to pay for at the agreed prices, all materials, equipment, supplies or services specified and delivered. A contract shall be deemed executory only to the extent of funds available for payment of the amounts shown on Purchase Orders issued by the City of Pawtucket to the contractors.
   b. No alterations or variations of the terms of the contract shall be valid or binding upon the City of Pawtucket unless submitted in writing and accepted by the City of Pawtucket Purchasing Agent. All orders and changes thereof must emanate from the City of Pawtucket Purchasing Office: no oral agreement or arrangement made by a contractor with a department or employee will be considered to be binding on the City of Pawtucket Purchasing Agent, and may be disregarded.
   c. Contracts will remain in force for the contract period specified or until all articles or services ordered before date of termination shall have been satisfactorily delivered or rendered and accepted and thereafter until all terms and conditions have been met, unless:
      1. terminated prior to expiration date by satisfactory delivery against orders of entire quantities, or
      2. extended upon written authorization of the City of Pawtucket Purchasing Agent and accepted by the contractor, to permit ordering of the unordered balances or

additional quantities at the contract price and in accordance with the contract terms, or

3. canceled by the City of Pawtucket in accordance with other provisions stated herein.

d. It is mutually understood and agreed that the contractor shall not assign, transfer, convey, sublet or otherwise dispose of this contract or his right, title or interest therein, or his power to execute such contract, to any other person, company or corporation, without the previous consent, in writing, of the City of Pawtucket Purchasing Agent.

e. If, subsequent to the submission of an offer or issuance of a purchase order or execution of a contract, the bidder or contractor shall merge with or be acquired by another entity, the contract may be terminated, except as a corporate resolution prepared by the contractor and the new entity ratifying acceptance of the original bid or contract terms, condition, and pricing is submitted to the City of Pawtucket Purchasing Office, and expressly accepted.

f. The contractor or bidder further warrants by submission of an offer or acceptance of a purchase order or other contract that he has no knowledge at the time of such action of any outstanding and delinquent or otherwise unsettled debt owed by him to the City of Pawtucket, and agrees that later discovery by the City of Pawtucket Purchasing Agent that this warranty was given in spite of such knowledge, except where the matter is pending in hearing or from any appeal therefrom, shall form reasonable grounds for termination of the contract.

3. SUBCONTRACTS

No subcontracts or collateral agreements shall be permitted, except with the City of Pawtucket's express written consent. Upon request, contractors must submit to the City of Pawtucket Purchasing Office a list of all subcontractors to be employed in the performance of any Purchase Order or other contract arising from this Request.

4. RELATIONSHIP OF PARTIES

The contractor or bidder warrants, by submission of an offer or acceptance of a purchase order or other contract, that he is not an employee, agent, or servant of the City of Pawtucket, and that he is fully qualified and capable in all material regards to provide the specified goods and services. Nothing herein shall be construed as creating any contractual relationship or obligation between the City of Pawtucket and any sub-bidder, subcontractor, supplier, or employee of the contractor or offeror.

5. COSTS OF PREPARATION

All costs associated with the preparation, development, or submission of bids or other offers will be borne by the offeror. The City of Pawtucket will not reimburse any offeror for such costs.

6. SPECIFIED QUANTITY REQUIREMENT

Except where expressly specified to the contrary, all solicitations and contracts are predicated on a specified quantity of goods or services, or for a specified level of funding.

a. The City of Pawtucket reserves the right to modify the quantity, scope of service, date of delivery or completion, or funding of any contract, with no penalty or charge, by written notice to the contractor, except where alternate terms have been expressly made a part of the contract.

b. The City of Pawtucket shall not accept quantities in excess of the specified quantity except where the item is normally sold by weight (where sold by weight, the City of Pawtucket will not accept quantities greater than ten per cent [10%] of the specified quantity), or where the Request or Contract provides for awards for other than exact quantities.

c. Purchase Orders or other contracts may be increased in quantity or extended in term without subsequent solicit with the mutual consent of the contractor and the City of Pawtucket, where determined by the City of Pawtucket Purchasing Agent to be in the City of Pawtucket's best interest.

7. TERM AND RENEWAL

Where offers have been requested or contracts awarded for terms exceeding periods of twelve (12) months, it is mutually understood and agreed that the City of Pawtucket's commitment is limited to a base term not to exceed twelve (12) months, subject to renewal annually at the City of Pawtucket's sole option for successive terms as otherwise described, except where expressly specified to the contrary. Purchase orders appearing to commit to obligations of funding or terms of performance may be executed for administrative convenience, but are otherwise subject to this provision, and in such cases the City of Pawtucket's renewal shall be deemed to be automatic, conditional on the continued availability of appropriated funds for the purpose, except as written notice of the City of Pawtucket's intent not to renew is served.

8. DELIVERY/COMPLETION

Delivery must be made as ordered and/or projects completed in accordance with the proposal. If delivery qualifications do not appear on the bidder's proposal, it will be interpreted to mean that goods are in stock and that shipment will be made within seven (7) calendar days. If the project completion date is not specified in the proposal, the date shall be determined by the City of Pawtucket Purchasing Agent. The decision of the City of Pawtucket Purchasing Agent, as to reasonable compliance with the delivery terms, and date of completion shall be final. Burden of proof of delay in receipt of order shall rest with the contractor. No delivery charges shall be added to invoices except when authorized on the Purchase Order.

9. FOREIGN CORPORATIONS

In accordance with Title 7 Chapter 1.1 ("Business Corporations") of the General Laws of Rhode Island, no foreign corporation shall have the right to transact business in this state until it shall have procured a certificate of authority so to do from the Secretary of State.

10. PRICING

All pricing offered or extended to the City of Pawtucket is considered to be firm and fixed unless expressly provided for to the contrary. All prices shall be quoted F.O.B. Destination with freight costs included in the unit cost to be paid by the City of Pawtucket, except, where the Request or Contract permits, offers reflecting F.O.B. Shipping Point will be considered, and freight costs may then be prepaid and added to the invoice.

11. COLLUSION

Bidder or contractor warrants that he has not, directly or indirectly, entered into any agreements or participated in any collusion or otherwise taken any action in restraint of full competitive bidding. In special circumstances, an executed affidavit will be required as a part of the bid.

12. PROHIBITION AGAINST CONTINGENT FEES AND GRATUITIES

Bidder or contractor warrants that he has not paid, and agrees not to pay, any bonus, commission, fee, or gratuity to any employee or official of the City of Pawtucket for the purpose of obtaining any contract or award issued by the City of Pawtucket. Bidder or contractor further warrants that no commission or other payment has been or will be received from or paid to any third party contingent on the award of any contract by the City of Pawtucket, except as shall have been expressly communicated to the City of Pawtucket Purchasing Agent in writing prior to acceptance of the contract or award in question. Subsequent discovery by the City of Pawtucket of non-compliance with these provisions shall constitute sufficient cause for immediate termination of all outstanding contracts and suspension or debarment of the bidder(s) or contractor(s) involved.

13. AWARDS

Awards will be made with reasonable promptness and by written notice to the successful bidder (only); bids are considered to be irrevocable for a period of ninety (90) days following the bid opening unless expressly provided for to the contrary in the Request, and may not be withdrawn during this period without the express permission of the City of Pawtucket Purchasing Agent.

a. Awards shall be made to the bidder(s) whose offer(s) constitutes the lowest responsive price offer (or lowest responsive price offer on an evaluated basis) for the item(s) in question or for the Request as a whole, at the option of the City of Pawtucket. The City of Pawtucket reserves the right to determine those offers which are responsive to the Request, or which otherwise serve its best interests.

b. The City of Pawtucket reserves the right, before making award, to initiate investigations as to whether or not the materials, equipment, supplies, qualifications or facilities offered by

the bidder meet the requirements set forth in the proposal and specification, and are ample and sufficient to insure the proper performance of the contract in the event of award. If upon such examination it is found that the conditions of the proposal are not complied with or that articles or equipment proposed to be furnished do not meet the requirements called for, or that the qualifications or facilities are not satisfactory, the City of Pawtucket may reject such a bid. It is distinctly understood, however, that nothing in the foregoing shall mean or imply that it is obligatory upon the City of Pawtucket to make any examinations before awarding a contract; and it is further understood that if such examination is made, it in no way relieves the contractor from fulfilling all requirements and conditions of the contract.

c. Qualified or conditional offers which impose limitations of the bidder's liability or modify the requirements of the bid, offers for alternate specifications, or which are made subject to different terms and conditions than those specified by the City of Pawtucket may, at the option of the City of Pawtucket, be
   1. rejected as being non-responsive, or
   2. set aside in favor of the City of Pawtucket's terms and conditions (with the consent of the bidder), or
   3. accepted, where the City of Pawtucket Purchasing Agent determines that such acceptance best serves the interests of the City of Pawtucket.

   Acceptance or rejection of alternate or counter-offers by the City of Pawtucket shall not constitute a precedent which shall be considered to be binding on successive solicitations or procurements.

d. Bids submitted in pencil, or which do not bear an original signature, in ink, by an owner or authorized agent thereof, will not be accepted.

e. Bids must be extended in the unit of measure specified in the Request. In the event of any discrepancy between unit prices and their extensions, the unit price will govern.

f. The City of Pawtucket Purchasing Agent reserves the right to determine the responsibility of any bidder for a particular procurement.

g. The City of Pawtucket Purchasing Agent reserves the right to reject any and all bids in whole or in part, to waive technical defects, irregularities, and omissions, and to give consideration to past performance of the offerors where, in his judgment the best interests of the City of Pawtucket will be served by so doing.

h. The City of Pawtucket Purchasing Agent reserves the right to make awards by items, group of items or on the total low bid for all the items specified as indicated in the detailed specification, unless the bidder specifically indicates otherwise in his bid.

i. Preference may be given to bids on products raised or manufactured in the City of Pawtucket or State of Rhode Island, other things being equal.

j. The impact of discounted payment terms shall not be considered in evaluating responses to any Request.

k. The City of Pawtucket Purchasing Agent reserves the right to act in the City of Pawtucket's best interests regarding awards caused by clerical errors by the City of Pawtucket Purchasing Office.

14. SUSPENSION AND DEBARMENT

The City of Pawtucket Purchasing Agent may suspend or debar any vendor or potential bidder, for good cause shown:

a. A debarment or suspension against a part of a corporate entity constitutes debarment or suspension of all of its divisions and all other organizational elements, except where the action has been specifically limited in scope and application, and may include all known corporate affiliates of a contractor, when such offense or act occurred in connection with the affiliate's performance of duties for or on behalf of the contractor, or with the knowledge, approval, or acquiescence of the contractor or one or more of its principals or directors (or where the contractor otherwise participated in, knew of, or had reason to know of the acts).

b. The fraudulent, criminal or other serious improper conduct of any officer, director, shareholder, partner, employee, or any other individual associated with a contractor may be imputed to the contractor when the conduct occurred in connection with the individual's performance of duties for or on behalf of the contractor, or with the contractor's knowledge, approval or acquiescence. The contractor's acceptance of benefits derived from the conduct shall be evidence of such knowledge, approval, or acquiescence.

c. A vendor or contractor who knowingly engages as a subcontractor for a contract awarded by the City of Pawtucket to a vendor or contractor then under a ruling of suspension or debarment by the City of Pawtucket shall be subject to disallowance of cost, annulment or termination of award, issuance of a stop work order, or debarment or suspension, as may be judged to be appropriate by the City of Pawtucket's Purchasing Agent.

15. PUBLIC RECORDS

Contractors and bidders are advised that certain documents, correspondence, and other submissions to the City of Pawtucket's Purchasing Office may be voluntarily made public by the City of Pawtucket absent specific notice that portions of such submittals may contain confidential or proprietary information, such that public access to those items should be withheld.

16. PRODUCT EVALUATION

In all specifications, the words "or equal" are understood after each article when manufacturer's name or catalog are referenced. If bidding on items other than those specified, the bidder must, in every instance, give the trade designation of the article, manufacturer's name and detailed specifications of the item the bidder proposes to furnish; otherwise, the bid will be construed as submitted on the identical commodity described in the detailed specifications. The City of Pawtucket's Purchasing Agent reserves the right to determine whether or not the item submitted is the approved equal the detailed specifications.

a. Any objections to specifications must be filed by a bidder, in writing, with the City of Pawtucket's Purchasing Agent at least 96 hours before the time of bid opening to enable the City of Pawtucket's Purchasing Office to properly investigate the objections.
b. All standards are minimum standards except as otherwise provided for in the Request or Contract.
c. Samples must be submitted to the City of Pawtucket's Purchasing Office in accordance with the terms of the proposals and detailed specifications. Samples must be furnished free of charge and must be accompanied by descriptive memorandum invoices indicating whether or not the bidder desires their return and specifying the address to which they are to be returned (at the bidder's risk and expense), provided they have not been used or made useless by tests; and absent instructions, the samples shall be considered to be abandoned. Award samples may be held for comparison with deliveries.
d. All samples submitted are subject to test by any laboratory the City of Pawtucket's Purchasing Agent may designate.

17. PRODUCT ACCEPTANCE

All merchandise offered or otherwise provided shall be new, of prime manufacture, and of first quality unless otherwise specified by the City of Pawtucket. The City of Pawtucket reserves the right to reject all nonconforming goods, and to cause their return for credit or replacement, at the City of Pawtucket's option. Contract deliverables specified for procurements of services shall be construed to be work products, and subject to the provisions of this section.

a. Failure by the City of Pawtucket to discover latent defect(s) or concealed damage or non-conformance shall not foreclose the City of Pawtucket's right to subsequently reject the goods in question.
b. Formal or informal acceptance by the City of Pawtucket of non-conforming goods shall not constitute a precedent for successive receipts or procurements.
c. Where the contractor fails to promptly cure the defect or replace the goods, the City of Pawtucket reserves the right to cancel the Purchase Order, contract with a different contractor, and to invoice the original contractor for any differential in price over the original contract price.
d. When materials, equipment or supplies are rejected, the same must be removed by the contractor from the premises of the City of Pawtucket within forty-eight (48) hours of notification. Rejected items left longer than two days will be regarded as abandoned and the City of Pawtucket shall have the right to dispose of them as its own property.

18. PRODUCT WARRANTIES

All product or service warranties normally offered by the contractor or bidder shall accrue to the City of Pawtucket's benefit, in addition to any special requirements which may be imposed by the City of Pawtucket. Every unit delivered must be guaranteed against faulty material and

workmanship for a period of one year unless otherwise specified, and the City of Pawtucket may, in the event of failure, order its replacement, repair, or return for full credit, at its sole option.

19. PAYMENT

Unless otherwise provided for by the Request or Contract, payment shall not be made until delivery has been made, or services performed, in full, and accepted. Payment shall not be due prior to thirty (30) working days following the latest of completion, acceptance, or the rendering of a properly submitted invoice.

a. Payment terms other than the foregoing may be rejected as being nonresponsive.
b. No partial shipments, or partial completion will be accepted, unless provided for by the Request or Contract.
c. Where a question of quality is involved, or failure to complete a project by the specified due date, payment in whole or part against which to charge back any adjustment required, shall be withheld at the direction of the City of Pawtucket Purchasing Agent. In the event a cash discount is stipulated, the withholding of payments, as herein described, will not deprive the City of Pawtucket from taking such discount.
d. Payments for used portion of inferior delivery or late delivery will be made by the City of Pawtucket on an adjusted price basis.
e. Payments on contracts under architectural or engineering supervision must be accompanied by a Certificate of Payment and Statement of Account signed by the architect or engineer and submitted to the City of Pawtucket Purchasing Office for approval.

20. THIRD PARTY PAYMENTS

The City of Pawtucket recognizes no assigned or collateral rights to any purchase agreement except as may be expressly provided for in the bid or contract documents, and will not accede to any request for third party or joint payment(s), except as provided for in specific orders by a court of competent jurisdiction, or by express written permission of the City of Pawtucket's Purchasing Agent. Where an offer is contingent upon such payment(s), the offeror is obligated to serve affirmative notice in his bid submission.

21. SET-OFF AGAINST PAYMENTS

Payments due the contractor may be subject to reduction equal to the amount of unpaid and delinquent state taxes (or other just debt owed to the State), except where notice of delinquency has not been served or while the matter is pending in hearing or from any appeal therefrom.

22. CLAIMS

Any claim against a contractor may be deducted by the City of Pawtucket from any money due him in the same or other transactions. If no deduction is made in such fashion, the contractor shall pay the City of Pawtucket the amount of such claim on demand. Submission of a voucher and payment, thereof, by the City of Pawtucket shall not preclude the City of Pawtucket's Purchasing Agent from demanding a price adjustment in any case when the commodity delivered is later found to deviate from the specifications and proposal.

a. The City of Pawtucket's Purchasing Agent may assess dollar damages against a vendor or contractor determined to be non-performing or otherwise in default of their contractual obligations equal to the cost of remedy incurred by the City of Pawtucket, and make payment of such damages a condition for consideration for any subsequent award. Failure by the vendor or contractor to pay such damages shall constitute just cause for disqualification and rejection, suspension, or debarment.

23. CERTIFICATION OF FUNDING

The Director of Finance shall provide certification as to the availability of funds to support the procurement for the current fiscal year ending June 30th only. Where delivery or service requirements extend beyond the end of the current fiscal year, such extensions are subject to both the availability of appropriated funds and a determination of continued need.

24. UNUSED BALANCES

Unless otherwise specified, all unused Blanket Order quantities and/or unexpended funds shall be automatically canceled on the expiration of the specified term. Similarly, for orders encompassing

more than one fiscal year, unexpended balances of funding allotted for an individual fiscal year may be liquidated at the close of that fiscal year, at the City of Pawtucket's sole option.

25. MINORITY BUSINESS ENTERPRISES

Pursuant to the provisions of Title 37 Chapter 14.1of the General Laws, the City of Pawtucket reserves the right to apply additional consideration to offers, and to direct awards to bidders other than the responsive bid representing the lowest price where:

a. the offer is fully responsive to the terms and conditions of the Request, and
b. the price offer is determined to be within a competitive range (not to exceed 5% higher than the lowest responsive price offer) for the product or service, and
c. the firm making the offer has been certified by the R.I. Department of Economic Development to be a small business concern meeting the criteria established to be considered a Minority Business Enterprise.

26. PREVAILING WAGE REQUIREMENT

In accordance with Title 37 Chapter 13 of the General Laws of Rhode Island, payment of the general prevailing rate of per diem wages and the general prevailing rate for regular, overtime and other working conditions existing in the locality for each craft, mechanic, teamster, or type of workman needed to execute this work is a requirement for both contractors and subcontractors for all public works projects.

The rates of pay set forth under this contract, are the minimum to be paid during the life of the Contract. It is therefore, the responsibility of Bidders to inform themselves as to local labor conditions, such as the length of work day and work week, overtime compensation, health and welfare contributions, labor supply and prospective changes or adjustments of rates.

Certified weekly payrolls and statement of compliance forms are required from contractors and subcontractors. Submit on State of Rhode Island Department of Labor and Training forms.

27. EQUAL OPPORTUNITY COMPLIANCE, HANDICAPPED ACCESS AND AFFIRMATIVE ACTION

Contractors of the City of Pawtucket are required to demonstrate the same commitment to equal opportunity as prevails under federal contracts controlled by Federal Executive Orders 11246, 11625, 11375 and 11830, and Title 28 Chapter 5.1 of the General Laws of Rhode Island.
Affirmative action plans shall be submitted by the contractor for review by the State Equal Opportunity Office. A contractor's failure to abide by the rules, regulations, contract terms and compliance reporting provisions as established shall be grounds for forfeiture and penalties as shall be established, including but not limited to suspension.

28. DRUG-FREE WORKPLACE REQUIREMENT

Contractors who do business with the City of Pawtucket and their employees shall abide by the State's drug-free workplace policy and the contractor shall so attest by signing a certificate of compliance.

29. TAXES

The City of Pawtucket is exempt from payment of excise, transportation and sales tax imposed by the Federal or State Government. These taxes should not be included in the proposal price. Exemption Certificates will be furnished upon request.

30. INSURANCE

All construction contractors, independent tradesmen, or firms providing any type of maintenance, repair, or other type of service to be performed on City of Pawtucket premises, buildings, or grounds are required to purchase and maintain coverage with a company or companies licensed to do business in the state as follows:

a. Comprehensive General Liability Insurance
Combined Single Limit not less than $1,000,000 each occurrence for bodily Injury and property damage.
- Independent Contractors;
- Contractual - including construction hold harmless and other types of contracts or agreements in effect for insured operations;

- Products and Completed Operations;
- Personal Injury (with employee exclusion deleted)

b. Automobile Liability Insurance
Combined Single Limit not less than $1,000,000 each occurrence for bodily Injury and property damage including non-owned and/or hired vehicle coverage.

OR

Bodily Injury, per person, $500,000/ Bodily Injury, $1,000,000 per accident/ Property Damage, $500,000 per accident including non-owned and/or hired vehicle coverage.

c. Workers' Compensation Insurance
As required by the General Laws of Rhode Island.
- Employers liability $500,000

The City of Pawtucket shall be named as an additional insured on the vendor's Comprehensive General Liability Policy and Automobile Liability Policy.

The City of Pawtucket's Purchasing Agent reserves the right to consider and accept alternate forms and plans of insurance or to require additional or more extensive coverage for any individual requirement. Successful bidders shall provide certificates of coverage, reflecting the City of Pawtucket as an additional insured, to the City of Pawtucket Purchasing Office, forty-eight (48) hours prior to the commencement of work, as a condition of award. Failure to comply with this provision shall result in rejection of the offeror's bid.

31. BID SURETY
When requested, a bidder must furnish a Bid Bond or Certified Check for 5% of his bid, or for the stated amount shown in the solicitation. Bid Bonds must be executed by a reliable Surety Company authorized to do business in the State of Rhode Island. Failure to provide Bid Surety with bid may be cause for rejection of bid. The Bid Surety of any three bidders in contention will be held until an award has been made according to the specifications of each proposal. All others will be returned by mail within 48 hours following the bid opening. Upon award of a contract, the remaining sureties will be returned by mail unless instructed to do otherwise.

32. PERFORMANCE AND LABOR AND PAYMENT BONDS
A performance bond and labor and payment bond of up to 100% of an award may be required by the City of Pawtucket's Purchasing Agent. Bonds must meet the following requirements:

a. Corporation: The Bond must be signed by an official of the corporation above his/her official title and the corporate seal must be affixed over his/her signature.
b. Firm or Partnership: The Bond must be signed by all of the partners and must indicate that they are " Doing Business As (name of firm)."
c. Individual: The Bond must be signed by the individual owning the business and indicate "Owner."
d. The Surety Company executing the Bond must be licensed to do business in the State of Rhode Island or Bond must be countersigned by a company so licensed.
e. The Bond must be signed by an official of the Surety Company and the corporate seal must be affixed over his signature.
f. Signatures of two witnesses for both the principal and the Surety must appear on the Bond.
g. A Power of Attorney for the official signing of the Bond for the Surety Company must be submitted with the Bond.

33. SUSPENSION, DEFAULT AND TERMINATION
a. Suspension of a Contract by the City of Pawtucket
The City of Pawtucket reserves the right at any time and for any reason to suspend all or part of this contract, for a reasonable period, not to exceed sixty days, unless the parties agree to a longer period. The City of Pawtucket shall provide the contractor with written notice of the suspension order signed by the Purchasing Agent or his or her designee, which shall set forth the date upon

which the suspension shall take effect, the date of its expiration, and all applicable instructions. Upon receipt of said order, the contractor shall immediately comply with the order and suspend all work under this contract as specified in the order. The contractor shall take all reasonable steps to mitigate costs and adverse impact to the work specified in the contract during the suspension period. Before the order expires, the City of Pawtucket shall either:

1. cancel the suspension order;
2. extend the suspension order for a specified time period not to exceed thirty (30) days; or
3. terminate the contract as provided herein.

The contractor shall resume performance once a suspension order issued under this section is canceled or expires. If as a result of the suspension of performance, there is a financial or schedule impact upon the contract, an appropriate adjustment may be made by, or with the approval of, the City of Pawtucket's Purchasing Agent. Any adjustment shall be set forth in writing. After a suspension order has been canceled or expires, the contractor shall provide any request for adjustment to the City of Pawtucket's Purchasing Agent within thirty (30) days after resuming work performance.

b. Termination of a Contract by the City of Pawtucket

1. Termination for Default or Nonperformance

If, for any reason, the contractor breaches the contract by failing to satisfactorily fulfill or perform any obligations, promises, terms, or conditions, and having been given reasonable notice of and opportunity to cure such default, fails to take satisfactory corrective action within the time specified by the City of Pawtucket, the City of Pawtucket may terminate the contract, in whole or in part, the termination of all outstanding contracts or sub-contracts held by the contractor, and the suspension or debarment of the contractor from future procurements by giving written notice to the contractor specifying the date for termination. The City of Pawtucket shall endeavor to provide such notice at least seven (7) calendar days before the effective date of the termination.

A contractor who fails to commence within the time specified or complete an award made for repairs, alterations, construction, or any other service will be considered in default of contract. If contractor consistently fails to deliver quantities or otherwise perform as specified, the City of Pawtucket's Purchasing Agent reserves the right to terminate the contract and contract for completion of the work with another contractor and seek recourse from the defaulting contractor or his surety. In the event of a termination for default or nonperformance, in whole or in part, the City of Pawtucket may procure similar goods or services in a manner and upon terms it deems appropriate, and the contractor shall be liable for the excess costs incurred by the City of Pawtucket as a result of the contractor's default. The contractor, or its surety, agrees to promptly reimburse the City of Pawtucket for the excess costs, but shall have no claim to the difference should the replacement cost be less.

2. Termination Without Cause

The City of Pawtucket may terminate the contract in whole or in part without cause at any time by giving written notice to the contractor of such termination at least thirty (30) days before the effective date of such termination. The notice shall specify the part(s) of the contract being terminated and the effective termination date.

Within thirty (30) days of the effective date of the termination of the contract the contractor shall compile and submit to the City of Pawtucket an accounting of the work performed up to the date of termination. The City of Pawtucket may consider the following claims in determining reasonable compensation owed to the contractor for work performed up to the date of termination:

a. contract prices for goods or services accepted under the contract;
b. costs incurred in preparing to perform and performing the terminated portion of the contract; or

c. any other reasonable costs incurred by the contractor as a result of the termination.

The total sum to be paid to the contractor shall not exceed the total contract price, less any payments previously made to the contractor, the proceeds from any sales of goods or manufacturing materials, and the contract price for work not terminated.

3. Contractor's Obligations in the Event of Termination
If the contract is terminated for any reason, or expires pursuant to its terms, the contractor shall transfer and deliver to the City of Pawtucket in the manner and to the extent directed by the City of Pawtucket:
a. all finished or unfinished material prepared by the contractor; and
b. all material, if any, provided to the contractor by the City of Pawtucket.

For the purposes of the contract, "material" shall include, but is not limited to, goods, supplies, parts, tools, machinery, equipment, furniture, fixtures, information, data, reports, summaries, tables, maps, charts, photographs, studies, recommendations, files, audiotapes, videotapes, records, keys, security badges, and documents.

If the contract is terminated for cause, the contractor shall not be relieved of liability to the City of Pawtucket for damages sustained because of any breach by the contractor. In such event, the City of Pawtucket may retain any amounts which may be due and owing to the contractor until such time as the exact amount of damages due the City of Pawtucket from the contractor has been determined by the City of Pawtucket Purchasing Agent. The City of Pawtucket may also set off any damages so determined against the amounts retained.

Upon termination of the contract, the contractor shall stop performance on the date specified, terminate any outstanding orders and subcontracts applicable to the terminated portion of the contract, and shall incur no further commitments or obligations in connection with the terminated performance. The contractor shall settle all liabilities and claims arising out of the termination of subcontracts and order generating from the terminated performance. The City of Pawtucket may direct the contractor to assign the contractor's right, title and interest under terminated orders or subcontracts to the City of Pawtucket or a third party.

Terminations of Purchase Order Contracts or Master Pricing Agreements shall require the signature of the City of Pawtucket Purchasing Agent or his designee. Notice of termination by either party shall be submitted in writing to the other party in accordance with the termination clause of the contract, or where no specific termination clause is included, written notice shall be provided no later than thirty (30) days before the expiration of the contract.

34. INDEMNITY
The contractor guarantees:
a. To save the City of Pawtucket, its agents and employees, harmless from any liability imposed upon the City of Pawtucket arising from the negligence, either active or passive, of the contractor, as well as for the use of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article or appliance furnished or used in the performance of the contract of which the contractor is not the patentee, assignee or licensee.
b. To pay for all permits, licenses and fees and give all notices and comply with all laws, ordinances, rules and regulations of the City of Pawtucket and of the State of Rhode Island.
c. That the equipment offered is standard new equipment, latest model of regular stock product with all parts regularly used with the type of equipment offered; also, that no attachment or part has been substituted or applied contrary to manufacturer's recommendations and standard practice.

35. CONTRACTOR'S OBLIGATIONS
In addition to the specific requirements of the contract, construction and building repair contractors bear the following standard responsibilities:

a. To furnish adequate protection from damage for all work and to repair damages of any kind, for which he or his workmen are responsible, to the building or equipment, to his own work, or to the work of other contractors;

b. The contractor, its subcontractor(s) and their employees and/or agents, shall protect and preserve property in the contractor or subcontractor's possessions in which the City of Pawtucket has an interest, and any and all materials provided to the contractor or subcontractor by the City of Pawtucket;

c. To clear and remove all debris and rubbish resulting from his work from time to time, as directed or required, a completion of the work leave the premises in a neat unobstructed condition, broom clean, and in satisfactory order and repair;

d. To store equipment, supplies, and material at the site only upon approval by the City of Pawtucket, and at his own risk;

e. To perform all work so as to cause the least inconvenience to the City of Pawtucket, and with proper consideration for the rights of other contractors and workmen;

f. To acquaint themselves with conditions to be found at the site, and to assume responsibility for the appropriate dispatching of equipment and supervision of his employees during the conduct of the work;

g. To ensure that his employees are instructed with respect to special regulations, policies, and procedures in effect for any City of Pawtucket facility or site, and that they comply with such rules, including but not limited to security policies or practices and/or criminal background checks for any employees and/or subcontractors;

h. The contractor shall ensure that its employees or agents are experienced and fully qualified to engage in the activities and services required under the contract;

i. The contractor shall ensure that at all times while services are being performed under this contract at least one of its employees or agents on the premises has a good command of the English language and can effectively communicate with the City of Pawtucket and its staff;

j. The contractor and contractor's employees or agents shall comply with all applicable licensing and operating requirements required by federal or state law and shall meet accreditation and other generally accepted standards of quality in the applicable field of activity;

k. The contractor shall secure and retain all employee-related insurance coverage for its employees and agents as required by law; and

l. The contractor, subcontractor, and his or her employees and agents shall not disclose any confidential information of the City of Pawtucket to a third party. Confidential information means:

   (1) any information of a sensitive or proprietary nature, whether or not specially identified as confidential or proprietary; or

   (2) any information about the City of Pawtucket gained during the performance of a contract that
   is not already lawfully in the public domain.

36. FORCE MAJEURE

All orders shall be filled by the contractor with reasonable promptness, but the contractor shall not be held responsible for any losses resulting if the fulfillment of the terms of the contract shall be delayed or prevented by wars, acts of public enemies, strikes, fires, floods, acts of God, or for any other acts not within the control of the contractor and which by the exercise of reasonable diligence, the contractor is unable to prevent.

Appendix C

General Wage Rate Decision
Davis Bacon

The current wage determination (Heavy Construction, Providence County), as obtained from the Rhode Island Department of Labor and Training on December 15, 2016, is bound as part of this Project Manual.

General Decision Number: RI160001 12/02/2016 RI1

Superseded General Decision Number: RI20150001

State: Rhode Island

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

Counties: Rhode Island Statewide.

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

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the 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 $10.15 (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 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/08/2016
1	01/15/2016
2	01/29/2016
3	02/12/2016
4	02/19/2016
5	03/04/2016
6	03/11/2016
7	04/01/2016
8	05/06/2016
9	06/03/2016
10	06/10/2016
11	06/17/2016
12	06/24/2016
13	08/12/2016

14	09/02/2016
15	10/28/2016
16	11/11/2016
17	11/25/2016
18	12/02/2016

ASBE0006-006 06/01/2015

	Rates	Fringes
HAZARDOUS MATERIAL HANDLER (Includes preparation, wetting, stripping, removal scrapping, vacuuming, bagging & disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems)	$ 31.63	18.30

ASBE0006-008 09/01/2015

	Rates	Fringes
Asbestos Worker/Insulator Includes application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems	$ 39.43	25.65

BOIL0029-001 01/01/2016

	Rates	Fringes
BOILERMAKER	$ 41.62	24.42

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* BRRI0003-001 12/01/2016

	Rates	Fringes
Bricklayer, Stonemason, Pointer, Caulker & Cleaner	$ 37.38	25.30

BRRI0003-002 09/01/2016

	Rates	Fringes
Marble Setter, Terrazzo Worker & Tile Setter	$ 37.16	25.80

BRRI0003-003 09/01/2016

	Rates	Fringes
Marble, Tile & Terrazzo Finisher	$ 31.32	24.65

CARP0094-001 06/06/2016

	Rates	Fringes

CARPENTER (Includes Soft Floor Layer)	$ 34.91	25.85
Diver Tender	$ 35.91	25.85
DIVER	$ 46.71	25.85
Piledriver	$ 34.91	25.85
WELDER	$ 35.91	25.85

FOOTNOTES:

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

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

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

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

CARP1121-002 04/01/2016

	Rates	Fringes
MILLWRIGHT	$ 34.95	26.77

ELEC0099-002 06/01/2016

	Rates	Fringes
ELECTRICIAN	$ 36.83	58.39%
Teledata System Installer	$ 27.62	13.42%+13.57

FOOTNOTES:

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

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

ELEV0039-001 01/01/2016

	Rates	Fringes
ELEVATOR MECHANIC	$ 47.37	29.985+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.

ENGI0057-001 05/31/2016

	Rates	Fringes
Operating Engineer: (power plants, sewer treatment plants, pumping stations, tunnels, caissons, piers, docks, bridges, wind turbines, subterranean & other marine and heavy construction work)		
GROUP 1	$ 36.15	24.85+a
GROUP 2	$ 31.77	24.85+a
GROUP 3	$ 28.92	24.85+a
GROUP 4	$ 35.20	24.85+a
GROUP 5	$ 26.00	24.85+a
GROUP 6	$ 20.00	24.85+a
GROUP 7	$ 31.85	24.85+a
GROUP 8	$ 35.77	24.85+a

a. BOOM LENGTHS, INCLUDING JIBS:

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

a. PAID HOLIDAYS:
New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, Christmas Day. a: Any employee who works 3 days in the week in which a holiday falls shall be paid for the holiday.

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

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Digging machine, Ross Carrier, crane, lighter, locomotive, derrick, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, graders, front end loader (3 yds. and over), vibratory hammer & vacuum truck, roadheaders, forklifts, economobile type equipment, tunnel boring machines, concrete pump and on site concrete plants.

GROUP 2: Oilers on cranes.

GROUP 3: Oiler on crawler backhoe.

GROUP 4: Bulldozer, bobcats, skid steer loader, tractor, scraper, combination loader backhoe, roller, front end loader (less than 3 yds.), street and mobile-powered sweeper (3-yd. capacity), 8-ft. sweeper minimum 65 HP).

GROUP 5: Well-point installation crew.

GROUP 6: Utility Engineers and Signal Persons

GROUP 7: Heater, concrete mixer, stone crusher, welding machine, generator and light plant, gas and electric driven pump and air compressor.

GROUP 8: Boat & tug operator.

ENGI0057-002 11/07/2016

	Rates	Fringes
Power Equipment Operator (highway construction projects; water and sewerline projects which are incidental to highway construction projects; and bridge projects that do not span water)		
GROUP 1	$ 31.80	24.85+a
GROUP 2	$ 26.50	24.85+a
GROUP 3	$ 20.50	24.85+a
GROUP 4	$ 27.08	24.85+a
GROUP 5	$ 30.78	24.85+a
GROUP 6	$ 30.40	24.85+a
GROUP 7	$ 26.05	24.85+a
GROUP 8	$ 27.43	24.85+a
GROUP 9	$ 29.38	24.85+a

a. FOOTNOTE: a. Any employee who works three 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.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

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

GROUP 2: Well point installation crew

GROUP 3: Utlity engineers and signal persons

GROUP 4: Oiler on cranes

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

GROUP 6: Roller,skid steer loaders, street sweeper

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

GROUP 8: Stone crusher

GROUP 9: Mechanic & welder

ENGI0057-003 05/31/2016

BUILDING CONSTRUCTION

	Rates	Fringes
Power Equipment Operator		
GROUP 1	$ 35.42	24.85+a
GROUP 2	$ 35.20	24.85+a
GROUP 3	$ 31.20	24.85+a
GROUP 4	$ 28.35	24.85+a
GROUP 5	$ 34.50	24.85+a
GROUP 6	$ 34.07	24.85+a
GROUP 7	$ 31.39	24.85+a

a.BOOM LENTHS, INCLUDING JIBS:

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

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

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

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Digging machine, Ross carrier, crane, boomtrucks, lighter, locomotive, derrick, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, front end loader (3 yds. and over), vibratory hammer and vacuum truck

GROUP 2: Telehandler equipment, forklift, concrete pump & on-site concrete plant

GROUP 3: Fireman & oiler

GROUP 4: Oiler on crawler backhoe

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

GROUP 6: Well point installation crew

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

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IRON0037-001 03/16/2016

	Rates	Fringes
IRONWORKER	$ 34.01	25.22

LABO0271-001 06/05/2016

BUILDING CONSTRUCTION

	Rates	Fringes
LABORER		
GROUP 1	$ 29.20	23.80
GROUP 2	$ 29.45	23.80
GROUP 3	$ 29.95	23.80
GROUP 4	$ 30.20	23.80
GROUP 5	$ 31.20	23.80

LABORERS CLASSIFICATIONS

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

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

GROUP 3: Pre-Cast Floor & Roof Plank Erectors

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

GROUP 5: Toxic Waste Remover

LABO0271-002 06/05/2016

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
LABORER		
COMPRESSED AIR		
Group 1	$ 46.63	21.80
Group 2	$ 36.15	21.80
Group 3	$ 48.63	21.80
FREE AIR		
Group 1	$ 38.70	21.80
Group 2	$ 36.15	21.80
Group 3	$ 40.70	21.80
LABORER		
Group 1	$ 29.20	21.80
Group 2	$ 29.45	21.80
Group 3	$ 30.20	21.80
Group 4	$ 22.70	21.80
Group 5	$ 31.20	21.80
OPEN AIR CAISSON, UNDERPINNING WORK AND BORING CREW		
Bottom Man	$ 35.20	21.80
Top Man & Laborer	$ 34.25	21.80
TEST BORING		
Driller	$ 35.65	21.80
Laborer	$ 34.25	21.80

LABORER CLASSIFICATIONS

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

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

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

GROUP 4: Flagger & signaler

GROUP 5: Toxic waste remover

LABORER - COMPRESSED AIR CLASSIFICATIONS

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

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

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

LABORER - FREE AIR CLASSIFICATIONS

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

GROUP 2: Change house attendant, powder watchperson

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

PAIN0011-005 06/01/2015

	Rates	Fringes
PAINTER		
Brush, Roller, Taper, Wall Coverer	$ 31.52	19.35
Epoxy, Tanks, Towers, Swing Stage & Structural Steel	$ 33.52	19.35
Spray, Sand & Water Blasting	$ 32.52	19.35

PAIN0011-006 06/01/2016

	Rates	Fringes
GLAZIER	$ 35.58	20.15

FOOTNOTES:

SWING STAGE: $1.00 per hour additional.

PAID HOLIDAYS: Labor Day & Christmas Day.

PAIN0011-011 06/01/2016

	Rates	Fringes
Painter (Bridge Work)	$ 46.95	20.15

PAIN0035-008 06/01/2011

	Rates	Fringes
Sign Painter	$ 24.79	13.72

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* PLAS0040-001 12/01/2016

BUILDING CONSTRUCTION

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	$ 32.95	26.70

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

PLAS0040-002 07/24/2016

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	$ 29.65	21.45

PLAS0040-003 07/11/2016

	Rates	Fringes
PLASTERER.....	$ 33.25	26.20

PLUM0051-002 03/01/2016

	Rates	Fringes
Plumbers and Pipefitters.....	$ 37.38	28.20

ROOF0033-004 06/01/2016

	Rates	Fringes
ROOFER.....	$ 34.03	22.34

SFRI0669-001 04/01/2016

	Rates	Fringes
SPRINKLER FITTER.....	$ 42.62	20.77

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* SHEE0017-002 12/01/2016

	Rates	Fringes
Sheet Metal Worker.....	$ 35.20	32.81

TEAM0251-001 08/01/2015

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
TRUCK DRIVER		
GROUP 1.....	$ 26.71	21.3225+A+B+C
GROUP 2.....	$ 26.86	21.3225+A+B+C
GROUP 3.....	$ 26.91	21.3225+A+B+C
GROUP 4.....	$ 26.96	21.3225+A+B+C
GROUP 5.....	$ 27.06	21.3225+A+B+C
GROUP 6.....	$ 27.46	21.3225+A+B+C

GROUP 7	$ 27.66	21.3225+A+B+C
GROUP 8	$ 27.16	21.3225+A+B+C
GROUP 9	$ 27.41	21.3225+A+B+C
GROUP 10	$ 27.21	21.3225+A+B+C

FOOTNOTES:

A. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, plus Presidents' Day, Columbus Day, Veteran's Day & V-J Day, providing the employee has worked at least one day in the calendar week in which the holiday falls.

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

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

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

TRUCK DRIVER CLASSIFICATIONS

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

GROUP 2: Two-axle on low beds

GROUP 3: Two-axle dump truck

GROUP 4: Three-axle dump truck

GROUP 5: Four- and five-axle equipment

GROUP 6: Low-bed or boom trailer.

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

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

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

GROUP 10: Tractor trailer

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

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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.

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END OF GENERAL DECISION

Appendix D

Federal Labor Standards Provisions – Form HUD 4010

Applicability

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

A. 1. (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section I(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

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

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

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

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

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part

of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

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

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

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at *http://www.dol.gov/esa/whd/forms/wh347instr.htm* or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

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

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

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

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

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b).

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

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

4. Apprentices and Trainees.

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

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant ',to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by

the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

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

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

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

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

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

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

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

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1 01 0, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration..... makes, utters or publishes any statement knowing the same to be false..... shall be fined not more than $5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. The provisions of this paragraph B are applicable where the amount of the prime contract exceeds $100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in sub paragraph (1) of this paragraph.

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

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

C. Health and Safety. The provisions of this paragraph C are applicable where the amount of the prime contract exceeds $100,000.

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

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96). 40 USC 3701 et seq.

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

Appendix E

City of Pawtucket Standard Form of Agreement (Sample)

CONTRACT AGREEMENT
FOR:

PROJECT_TITLE

PAWTUCKET, RHODE ISLAND

PURCHASING DIVISION
137 ROOSEVELT AVE.
PAWTUCKET, RHODE ISLAND

MM/DD/YYYY

CONTRACT AGREEMENT

PROJECT_TITLE
Pawtucket, Rhode Island

1. AGREEMENT FOR SERVICES

This Agreement for Services (hereinafter the "Agreement" or "Contract") made this ##th day of #####, 2015 between the City of Pawtucket, a municipal corporation of the State of Rhode Island, with a business address of 137 Roosevelt Avenue, Pawtucket, Rhode Island (hereinafter the "City") and VENDOR, a company authorized to do business in the State of Rhode Island, with a business address of ########### (hereinafter the "Consultant").

2. SCOPE OF CONSULTANT SERVICES

This is a contract to provide the City with consulting services as specified herein and as set forth in the following Exhibits, all of which are attached hereto and incorporated into this Agreement by reference herein:

- Exhibit 1 – RFP #####;
- Exhibit 2 – Rhode Island Department of Labor and Training Municipal Contract Addendum;

and all addenda issued and any resulting negotiations, and the RFP response received by the City from the Consultant.

3. COMPENSATION FOR SERVICES

The City shall pay the Consultant in the following sums for work performed under this Agreement after the effective date as set out below:

$,######

The payment and performance of any obligations under this contract for years beyond the first fiscal year are subject to the availability of funds. Payment will not be made until services have been fully performed and accepted, and upon a properly submitted invoice. All invoices must clearly display the purchase order number.

4. RHODE ISLAND LAW AND FORUM

(a) This Agreement shall be construed according to the law of the State of Rhode Island.

(b) Any litigation between the City and the Consultant arising under this Agreement or out of work performed under this Agreement shall occur, if in the state courts, in the Providence County Superior Court, and in the federal courts, in the United States District Court for the District of Rhode Island.

5. NOTICE

Any notice provided for under this Agreement shall be sufficient if in writing and delivered personally to the following addressee or deposited in the United States mail, postage prepaid, certified mail, return receipt requested, addressed as follows, or to such other address as the receiving party hereafter shall specify in writing:

If to the City:

Andrew Silvia, PE, Chief of Project Development
250 Armistice Boulevard
Pawtucket, RI 02860

SAMPLE

If to the Consultant:

#######

6. **COMPLIANCE WITH LAWS**

Consultant shall materially comply with any and all Federal, state and local laws and regulations now in force and which may hereafter during the term of this contract, be enacted and become effected which are applicable, as well as obtaining any and all required permits and licenses.

7. **TIMEFRAME TO COMPLETE**

The Consultant shall complete the consulting services located in the City of Pawtucket, Rhode Island no later than #########.

8. **WAIVERS**

No waiver of any breach or any one or more of the conditions or covenants of this Contract by City or Consultant shall be deemed to imply or to constitute a waiver of any prior or succeeding breach; and the failure of City or Consultant to insist upon the strict performance of the terms, covenants, agreements and conditions herein contained or any one of them shall not constitute or be construed as a waiver or relinquishment of City's or Consultant's right to thereafter enforce any such default, or any term, covenants, agreement or condition.

SAMPLE

CONSULTANT (VENDOR)

_____ _____

WITNESS

Subscribed and sworn to before me in the _____

on this _____ day of _____, 2015.

_____

NOTARY PUBLIC

My Commission Expires:

CITY OF PAWTUCKET

_____ _____

WITNESS

Subscribed and sworn to before me in the _____

on this _____ day of _____, 2015.

_____

NOTARY PUBLIC

My Commission Expires:

EXHIBIT 1:

RFP ########

SAMPLE

EXHIBIT 2:

RHODE ISLAND DLT MUNICIPAL CONTRACT ADDENDUM

SAMPLE

MUNICIPAL CONTRACT ADDENDUM

RHODE ISLAND DEPARTMENT OF LABOR AND TRAINING

PREVAILING WAGE REQUIREMENTS
(37-13-1 ET SEQ.)

The prevailing wage requirements are generally set forth in RIGL 37-13-1 et seq. These requirements refer to the prevailing rate of pay for regular, holiday, and overtime wages to be paid to each craftsmen, mechanic, teamster, laborer, or other type of worker performing work on public works projects when state or municipal funds exceed one thousand dollars ($1,000).

All Prevailing Wage Contractors and Subcontractors are required to:

1. Submit to the Awarding Authority a list of the contractor's subcontractors for any part or all of the prevailing wage work in accordance with RIGL § 37-13-4;

2. Pay all prevailing wage employees at least once per week and in accordance with RIGL §37-13-7 (see Appendix B attached);

3. Post the prevailing wage rate scale and the Department of Labor and Training's prevailing wage poster in a prominent and easily accessible place on the work site in accordance with RIGL §37-13-11; posters may be downloaded at www.dlt.ri.gov/pw/Posters.htm.poster/htm or obtained from the Department of Labor and Training, Center General Complex, 1511 Pontiac Avenue, Cranston, Rhode Island;

4. Access the Department of Labor and Training website, at www.dlt.ri.gov on or before July 1st of each year, until such time as the contract is completed, to ascertain the current prevailing wage rates and the amount of payment or contributions for each covered prevailing wage employee and make any necessary adjustments to the covered employee's prevailing wage rates effective July 1st of each year in compliance with RIGL §37-13-8;

5. Attach a copy of this CONTRACT ADDENDUM and its attachments as a binding obligation to any and all contracts between the contractor and any subcontractors and their assignees for prevailing wage work performed pursuant to this contract;

6. Provide for the payment of overtime for prevailing wage employees who work in excess of eight (8) hours in any one day or forty (40) hours in any one week as provided by RIGL §37-13-10;

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7. Maintain accurate prevailing wage employee payroll records on a Rhode Island Certified Weekly Payroll form available for download at www.dlt.ri.gov/pw.forms/htm, as required by RIGL §37-13-13, and make those records available to the Department of Labor and Training upon request;

8. Furnish the fully executed RI Certified Weekly Payroll Form to the awarding authority on a monthly basis for all work completed in the preceding month.

9. For general or primary contracts one million dollars ($1,000,000) or more, shall maintain on the work site a fully executed RI Certified Prevailing Wage Daily Log listing the contractor's employees employed each day on the public works site; the RI Certified Prevailing Wage Daily Log shall be available for inspection on the public works site at all times; this rule shall not apply to road, highway, or bridge public works projects. Where applicable, furnish both the Rhode Island Certified Prevailing Wage Daily Log together with the Rhode Island Weekly Certified Payroll to the awarding authority.

10. Assure that all covered prevailing wage employees on construction projects with a total project cost of one hundred thousand dollars ($100,000) or more has a OSHA ten (10) hour construction safety certification in compliance with RIGL § 37-23-1;

11. Assure that all prevailing wage employees who perform work which requires a Rhode Island trade license possess the appropriate Rhode Island trade license in compliance with Rhode Island law; and

12. Comply with all applicable provisions of RIGL §37-13-1, et. seq;

SAMPLE

Any questions or concerns regarding this CONTRACT ADDENDUM should be addressed to the contractor or subcontractor's attorney. Additional Prevailing Wage information may be obtained from the Department of Labor and Training at www.dlt.ri.gov/pw.

CERTIFICATION

I hereby certify that I have reviewed this CONTRACT ADDENUM and understand my obligations as stated above.

By: _____

Title: _____

Subscribed and sworn before me this ____ day of _____, 20__.

_____
Notary Public
My commission expires: _____

SAMPLE

APPENDIX A

TITLE 37
Public Property and Works

CHAPTER 37-13
Labor and Payment of Debts by Contractors

SECTION 37-13-5

§ 37-13-5 Payment for trucking or materials furnished – Withholding of sums due. – A contractor or subcontractor on public works authorized by a proper authority shall pay any obligation or charge for trucking and material which have been furnished for the use of the contractor or subcontractor, in connection with the public works being performed by him or her, within ninety (90) days after the obligation or charge is incurred or the trucking service has been performed or the material has been delivered to the site of the work, whichever is later. When it is brought to the notice of the proper authority in a city or town, or the proper authority in the state having supervision of the contract, that the obligation or charge has not been paid by the contractor or subcontractor, the proper authority may deduct and hold for a period not exceeding sixty (60) days, from sums of money due to the contractor or subcontractor, the equivalent amount of such sums certified by a trucker or materialman creditor as due him or her, as provided in this section, and which the proper authority determines is reasonable for trucking performed or materials furnished for the public works.

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APPRENDIX B

TITLE 37
Public Property and Works

CHAPTER 37-13
Labor and Payment of Debts by Contractors

SECTION 37-13-7

§ 37-13-7 Specification in contract of amount and frequency of payment of wages. – (a) Every call for bids for every contract in excess of one thousand dollars ($1,000), to which the state of Rhode Island or any political subdivision thereof or any public agency or quasi-public agency is a party, for construction, alteration, and/or repair, including painting and decorating, of public buildings or public works of the state of Rhode Island or any political subdivision thereof, or any public agency or quasi-public agency and which requires or involves the employment of employees, shall contain a provision stating the minimum wages to be paid various types of employees which shall be based upon the wages that will be determined by the director of labor and training to be prevailing for the corresponding types of employees employed on projects of a character similar to the contract work in the city, town, village, or other appropriate political subdivision of the state of Rhode Island in which the work is to be performed. Every contract shall contain a stipulation that the contractor or his or her subcontractor shall pay all the employees employed directly upon the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment computed at wage rates not less than those stated in the call for bids, regardless of any contractual relationships which may be alleged to exist between the contractor or subcontractor and the employees, and that the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work; and the further stipulation that there may be withheld from the contractor so much of the accrued payments as may be considered necessary to pay to the employees employed by the contractor, or any subcontractor on the work, the difference between the rates of wages required by the contract to be paid the employees on the work and the rates of wages received by the employees and not refunded to the contractor, subcontractors, or their agents.

(b) The terms "wages", "scale of wages", "wage rates", "minimum wages", and "prevailing wages" shall include:

(1) The basic hourly rate of pay; and

(2) The amount of:

SAMPLE

(A) The rate of contribution made by a contractor or subcontractor to a trustee or to a third person pursuant to a fund, plan, or program; and

(B) The rate of costs to the contractor or subcontractor which may be reasonably anticipated in providing benefits to employees pursuant to an enforceable commitment to carry out a financially responsible plan or program which was communicated in writing to the employees affected, for medical or hospital care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity, or insurance to provide any of the foregoing, for unemployment benefits, life insurance, disability and sickness insurance, or accident insurance, for vacation and holiday pay, for defraying costs of apprenticeship or other similar programs, or for other bona fide fringe benefits, but only where the contractor or subcontractor is not required by other federal, state, or local law to provide any of the benefits; provided, that the obligation of a contractor or subcontractor to make payment in accordance with the prevailing wage determinations of the director of labor and training insofar as this chapter of this title and other acts incorporating this chapter of this title by reference are concerned may be discharged by the making of payments in cash, by the making of contributions of a type referred to in subsection (b)(2), or by the assumption of an enforceable commitment to bear the costs of a plan or program of a type referred to in this subdivision, or any combination thereof, where the aggregate of any payments, contributions, and costs is not less than the rate of pay described in subsection (b)(1) plus the amount referred to in subsection (b)(2).

(c) The term "employees", as used in this section, shall include employees of contractors or subcontractors performing jobs on various types of public works including mechanics, apprentices, teamsters, chauffeurs, and laborers engaged in the transportation of gravel or fill to the site of public works, the removal and/or delivery of gravel or fill or ready-mix concrete, sand, bituminous stone, or asphalt flowable fill from the site of public works, or the transportation or removal of gravel or fill from one location to another on the site of public works, and the employment of the employees shall be subject to the provisions of subsections (a) and (b).

(d) The terms "public agency" and "quasi-public agency" shall include, but not be limited to, the Rhode Island industrial recreational building authority, the Rhode Island economic development corporation, the Rhode Island airport corporation, the Rhode Island industrial facilities corporation, the Rhode Island refunding bond authority, the Rhode Island housing and mortgage finance corporation, the Rhode Island resource recovery corporation, the Rhode Island public transit authority, the Rhode Island student loan authority, the water resources board corporate, the Rhode Island health and education building corporation, the Rhode Island higher education assistance authority, the Rhode Island turnpike and bridge authority, the Narragansett Bay water quality management district commission, Rhode Island telecommunications authority, the convention center authority, the board of governors for higher education, the board of regents for elementary and secondary education, the capital center commission, the housing resources commission, the Quonset Point-Davisville management corporation, the Rhode Island children's crusade for higher education, the Rhode Island depositors economic protection corporation, the Rhode Island lottery commission, the Rhode Island

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partnership for science and technology, the Rhode Island public building authority, and the Rhode Island underground storage tank board.

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Appendix F

Technical Specifications Issued for Bid

Summit Street Park & Fallon School Playground

Pawtucket, RI

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SECTION 01010 - SUMMARY OF WORK

PART 1 - GENERAL:

1.1 - WORK COVERED BY CONTRACT/DOCUMENTS/REQUIREMENTS INCLUDED:

A. The work to be done under this Contract, *Summit Street Park & Fallon School Playground*, consists of recreation improvements to two separate sites within the City:

1. The Summit Street Park project will be a passive recreation facility. This project involves tree removal, site preparation, the construction of a pre-engineered gazebo structure, paved walkways, fencing improvements, lighting, irrigation, and landscape treatments, as specified and as shown on the Contract Drawings.

2. The Fallon School Playground project will be an active recreation facility. This project involves the construction of a pre-engineered playground structure, a resilient safety surface, decorative pavement markings, and site furnishings, as specified and as shown on the Contract Drawings.

1.2 - WORK SCHEDULE:

A. The Contractor is required to submit a detailed schedule of work sequence to the City after the preconstruction Conference and prior to the start of construction. The schedule shall be updated every two weeks. This sequence shall outline the exact construction schedule for the completion of the work embraced in this Contract.

B. The Contractor is advised of the following when preparing the work sequence:

1. The Contractor shall coordinate information from all his Subcontractors and Suppliers in the preparation of this schedule.

2. The Contractor's operations shall be coordinated with the City of Pawtucket Department Planning and Redevelopment.

3. Work at night, on Sundays or major Holidays will not be permitted without the Owner's Written Permission except in the case of emergency. If night work is required, the Contractor shall provide, at his own expense, all lighting, safety and other facilities necessary for the proper execution of the work.

1.3 - CONTRACT DRAWINGS AND SPECIFICATIONS - INTENT:

A. The Contract Drawings and Specifications are intended to compliment each other, and all work called for by either shall be as binding as if called for by both. The Contractor shall thoroughly acquaint himself with all the requirements of the Specifications and Contract Drawings. For convenience of reference, these Specifications are separated into sections. Such separations shall not operate to make the Owner's Representative an arbiter to establish jurisdictional limits, all sections are complimentary. All Drawings, Specifications and Memoranda relative to the work are the property of the Owner and shall be returned to the Owner's Representative at the completion or cessation of the work.

1.4 - OBLIGATIONS OF THE CONTRACTOR:

A. The contractor shall furnish all labor, materials, plant, supplies, equipment, tools and all other facilities necessary to the proper and complete construction of the project, as required by the Contract Drawings and as specified herein. Throughout the Contract, wherever it is specified that work is to be done, or labor, materials or equipment are to be furnished, it is understood to mean that the said work to be done or the labor, materials or equipment to be furnished is to be supplied or done by the Contractor at his own proper cost or expense.

1.5 - ERRORS AND/OR DISCREPANCIES:

A. The Contractor shall verify all quantities and measurements as may be shown on the Contract Drawings or called for in the Specifications and shall notify the Owner's Representative of all discrepancies, errors or omissions found therein. The Contractor shall notify the Owner's Representative immediately of any apparent ambiguity, error or omission in the Contract Drawings or Specifications. The failure to correctly or specifically mention or note any portion of the work, the proper performance of which is evidently necessary to fulfill the general intention of the Contract Drawings and Specifications, shall not act to release the Contractor from the proper performance of such work in the identical manner as if fully and correctly indicated and without expense to the Owner beyond the stipulated Contract price or prices. The forgoing shall not apply to additions, improvements or changes for which provisions have been otherwise made.

1.6 - PERMITS AND LICENSES:

A. The Contractor shall secure and pay for all local City, State, & Federal permits and licenses necessary for the execution of the work and give such notices, comply with all laws, ordinances, rules or regulations having bearing on the conduct of the work. The Contractor shall indemnify the Owner, its officers and agents against claim or liability arising from failure to comply with such rules, laws or ordinances by himself, his employees or Subcontractors. Fees shall be waived for City permits only.

1.7 - LAND AND RIGHT-OF-WAY:

A. The Owner will provide all land and easements necessary for the construction of all permanent structures called for by the Contract. The limits of the land acquired for the permanent construction are shown on the Contract Drawings.

1.8 - RESPONSIBILITIES OF OWNER'S REPRESENTATIVE:

A. The Owner's Representative shall be the interpreter of the requirements of the Contract Documents and the judge of the performance there under by both the Owner and Contractor. The Owner's Representative shall render interpretations necessary for the proper execution or progress of the work with reasonable promptness on written request of either the Owner or the Contractor, and shall render written decisions, within a reasonable time, on all claims, disputes and other matters in question between the Owner and the Contractor relating to the execution or progress of the work or the interpretation of the Contract Documents.

B. Interpretations and decisions of the Owner's Representative shall be consistent with the intent of and reasonably inferable from the Contract Documents and shall be in written or graphic form. In the capacity of interpreter and judge, the Owner's Representative shall endeavor to secure faithful performance by both the Owner and the Contractor, shall not show partiality to either, and shall not be liable for the result of any interpretation or decision rendered in good faith in such capacity.

C. The Owner's Representative shall have authority to reject work that does not conform to the Contract Documents. Whenever, in the Owner's Representative's reasonable opinion, it is necessary or advisable for the implementation of the intent of the Contract Documents, the Owner's Representative will have authority to require special inspection or testing of the work in accordance with the provisions of the Contract Documents, whether or not such work be the fabricated, installed or completed.

D. The Owner's Representative will not control over, take charge of or, be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, since these are solely the Contractor's responsibility.

1.9 - CONTRACTOR'S RESPONSIBILITIES:

A. Mutual Responsibility:

1. If the Contractors or Subcontractors suffer loss or damage to their work through acts of neglect on part of General Contractor, then General Contractor

agrees to satisfactorily arrange for settlement with other such Contractor or Subcontractor, if other such Contractor or Subcontractor will so settle.

2. If, however, such other Contractor or Subcontractor chooses to assert claim against Owner, on account of damage alleged to have been sustained, Owner shall notify Contractor, who shall defend, at his expense, any suit based on such claims, and, if judgment or claims against Owner shall be allowed, Contractor shall pay or satisfy such judgment or claims, and pay costs and expenses in connection with same.

B. Legal Address of the Contractor:

1. Both the address given in the Bid or Proposal submitted by the Contractor and the Contractor 's office at or near the site of the work are hereby designated as places to either of which notices, letters and other communications to the Contractor shall be certified, mailed or delivered. The delivering at the above-named place, or depositing in a postpaid wrapper directed to the first-named place, in any post office box regularly maintained by the Post Office Department, or any notice, letter or other communication to the Contractor, shall be deemed sufficient service thereof upon the Contractor and the date of said service shall be the date of such delivery or mailing. The first-named address may be changed at any time by an instrument in writing, executed and acknowledged by the Contractor and delivered to the Owner's Representative. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter or other communication upon the Contractor personally.

1.10 - EMPLOYEES OF THE CONTRACTOR:

A. The Contractor shall employ a competent, experienced Superintendent and Forman to represent him at the several parts of the work. These persons shall be present at all times while the work entrusted to them is in progress and shall be fully informed regarding it. The Superintendent shall be satisfactory to the Owner's Representative and shall represent and have full authority to act for the Contractor in his absence. All other persons employed on the work shall be competent and skillful persons.

1.11 - GENERAL PROTECTIVE MEASURES:

A. The Contractor shall, at his own expense, protect all work completed or partially completed under this Contract and shall be solely responsible for the care and protection of all materials covered by this Contract. Damage, loss, or injury from any cause whatsoever shall be made good by the Contractor at his own expense. The method of providing against such damage, loss or injury is left to the discretion of the Contractor. All damaged work must be replaced to the satisfaction of the Owner's Representative at no cost to the Owner.

1.12 - GENERAL SAFETY PRECAUTIONS:

A. The Contractor shall take all necessary precautions to conduct his operations in such a manner so as to provide maximum possible safety for all employees on the work and the public as well. The Contractor shall provide suitable barricades, bridges, railings and similar protection around and over excavations and open trenches so as to insure maximum protection. All State and Federal Laws applicable to the work shall receive compliance.

B. The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's Superintendent unless otherwise designated in writing by the Contractor to the Owner and the Owner's Representative.

1.13 - "DIG-SAFE' DAMAGE PREVENTION SYSTEM:

A. All Contractors or Subcontractors performing drilling, boring, augering, jetting, sheeting or pile installation, soil preloading for consolidation, demolition, excavation or like work shall, prior to commencement of these activities, contact utility companies having responsibility for underground transmission systems for information relative to locations of existing underground utilities and/or an appropriate dig safe damage prevention and notification agency.

1.14 - WEATHER CONDITIONS:

A. No work shall be done when in the opinion of the Owner's Representative the weather is unsuitable. In no instance shall concrete, earth backfill, paving or embankment be placed upon frozen material. The Contractor shall be responsible for the protection of all completed or partially completed work as a result of extreme weather conditions. The Contractor shall make him/herself fully aware of the extremes of weather conditions in the area in regards to the depth of snowfall and the degree and length of sub-freezing temperatures during the winter season. If there is delay or interruption in the work due to weather conditions, the necessary measures must be taken to bond new work to old. Only such work as will not suffer injury to workmanship or materials will be permitted in inclement weather.

B. Should tornado, hurricane, gale or heavy wind warnings be issued take every practicable precaution to minimize the danger to persons, to the work and to the adjacent property. Such damage caused to any part of the work shall be rectified or replaced to the complete satisfaction of the Owner's Representative and at no expense to the Owner. Injury to personnel or damage to adjacent property because of the work shall be the complete responsibility of the Contractor, and he accepts exclusive liability for same.

1.15 - LOADING:

A. No part of any work involved in this Contract shall be loaded during construction with a load greater than it is calculated to carry with safety. Should any accidents or damage occur through any violation of this requirement, the Contractor shall be held responsible under his Contract and Bond.

1.16 - PARTIAL OCCUPANCY:

A. The Owner shall have the right to take possession of or use any part of the completed or partially completed work prior to final acceptance.

B. Prior to incremental occupancy, Owner will give notice thereof to Contractor, and such occupancy shall be upon the following terms:

1. The general guarantee period, called for in General Conditions, for work substantially completed shall not begin to run until issuance of certificate by Owner's Representative.

2. The occupancy or use of any area shall not constitute acceptance of work not performed in accordance with the Contractor, nor relieve Contractor of liability to perform any work required by Contract but not completed at time of said occupancy.

3. Contractor shall be relieved of all maintenance costs on portions occupied under this Agreement.

4. Contractor shall not be responsible for wear and tear or damage resulting from said occupancy.

5. Owner shall assume risk of loss with respect to any portion occupied by it under the terms of this Agreement, Contractor shall assume full responsibility for loss or damage traceable to his fault or negligence in the performance of his Contract.

1.17 - MATERIALS AND WORKMANSHIP:

A. All work shall be done in a neat, workmanlike manner. All materials, equipment and workmanship shall fully conform to the requirements of the Contract Documents and shall be in every respect in accordance with the best modern practice. All materials and equipment shall be new and of standard first-grade quality and design. Materials and equipment shall be assembled and erected in a neat, workmanlike manner and in proper level and alignment.

1.18 - OTHER REQUIREMENTS:

A. Grades, Lines and Layout:

1. Grades, lines, levels, property lines and bench marks shall be established and maintained by the General Contractor, who shall be responsible for same. Verify grades, lines, levels, and dimensions indicated. Report errors or inconsistencies in above to Owner's Representative before commencing work.

2. Contractor shall furnish competent licensed engineering and licensed survey services for layout of pavement and site improvements, in accordance with elevations and locations indicated.

3. Deviation from established grades or lines will not be permitted except by written approval of Owner's Representative, or unless obvious error exists in designated grades or lines.

B. Existing Utilities and Structures:

1. Contractor shall be responsible for injury to water pipes, gas pipes, oil pipes, electrical wires, conduits, drains, sewers, fiber-optic cables and other structures that may be met within the project area, owned by individuals, by firms or corporations, or by the municipality. Contractor shall be liable for damages to public or private property resulting there from.

2. Shore or sling up in their places, without injury, gas pipes, water pipes, oil pipes, gasoline pipes, electrical conduits and other structures, public service owned, or controlled by individuals, firms or corporations, which may be intercepted during and by work under this Contract. Maintain them in constant operation except as may be required to connect and disconnect from them.

C. Test Pits:

1. The Contractor shall not proceed with the work at locations where new utilities are to connect to existing utilities until a test pit has been dug to determine the existing conditions. If existing conditions differ from those shown on the Drawings, such as inverts, size, etc., the Contractor shall notify the Owner's Representative so that the revisions can be made to suit conditions found. No test pits are to be excavated until the Owner's Representative has reviewed to his satisfaction. Compensation for test pits shall be considered as having been included in the prices stipulated for the appropriate items of utility work as listed in the Bid. Test pits shall be backfilled immediately after their purpose has been satisfied and the surface restored and maintained in a manner satisfactory to the Owner's Representative.

D. Disposal of Excess and Unsuitable Non-Hazardous Material:

1. The Contractor shall be responsible for the disposal of all excess and unsuitable non-hazardous material. The Owner's Representative may direct the Contractor to dispose material at a site selected by the Owner at no additional cost to the Owner.

E. Disposal of Excess and Unsuitable Contaminated Material:

1. The Contractor shall be responsible for the on-site disposal of all excess and unsuitable contaminated material in a manner acceptable to the Owner's Representative and in accordance to all R.I.D.E.M. (Rhode Island Department of Environmental Management) Regulations. The Owner's Representative may direct the Contractor to dispose of said material at no additional cost to the Owner.

F. Water:

1. The Contractor shall not operate any valves nor tie-into the water service unless approval has been received from the Pawtucket Water Department.

G. Electric:

1. The Contractor shall not tie-into the electric service unless approval has been received from all Appropriate Utility Companies.

H. Environmental Regulations:

1. The Contractor shall conform operations to all applicable environmental regulations.

END OF SECTION

SECTION 01035 - MODIFICATION PROCEDURES

PART 1 - GENERAL:

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 1 Section 01010 "Summary of Work" for requirements for the Contractor's Construction Schedule.

2. Division 1 Section 01631 "Substitutions" for administrative procedures for handling requests for substitutions made after award of the Contract.

1.03 MINOR CHANGES IN THE WORK

A. Owner’s Representative will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or Contract Time.

1.04 CHANGE ORDER PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: The Owner’s Representative will issue a detailed description of proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Proposal requests issued by the Owner’s Representative are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.

2. Within 1 day of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the Owner’s Representative for the Owner's review.

3. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.

4. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

5. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.

B. Contractor-Initiated Proposals: When latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Owner's Representative.

1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.

2. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.

3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

4. Comply with requirements in Section 01631 "Substitutions" if the proposed change requires substitution of one product or system for a product or system specified.

C. Change Order/Proposal Request Form: All Change Order Documentation shall be provided by contractor on appropriate standardized AIA forms or alternate approved forms approved by the Owner.

1.05 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: When the Owner and the Contractor disagree on the terms of a Proposal Request, the Owner's Representative may issue a Construction Change Directive on AIA Form G714. The Construction Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. The Construction Change Directive contains a complete description of the change in the Work. It also designates the method to be followed to determine change in the Contract Sum or Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and times adjustments to the Contract.

1.06 CHANGE ORDER PROCEDURES

A. Upon the Owner's approval of a Proposal Request, the Contractor will issue a Change Order for signatures of the Owner and the Owner's Representative. Use appropriate AIA standardized document G701-200 for Change Order Proposals, or an alternate approved form approved by the Owner.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01050 - FIELD ENGINEERING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. The Contractor shall aquire and bear the cost of, the services of a licensed Land Surveyor to establish the Benchmarks and position of the proposed new site features. Refer to the Construction Documents for further information.

B. General: This Section specifies administrative and procedural requirements for field-engineering services, when required throughout the construction of this project, including, but not limited to, the following:

1. Layout-engineering services.

C. Related Sections: The following Sections contain requirements that relate to this Section:

1. Section 01340 "Shop Drawings, Product Data, and Samples"
3. Section 01700 "Contract Closeout"
4. Section 01720 “Project Record Documents”
5. Structural drawings and Shop Drawings Provided by Contractor

1.03 SUBMITTALS

A. Certificates: Submit a certificate signed by the land surveyor or professional engineer certifying the location and elevation of improvements.

B. Project Record Documents: Submit a record of Work performed and record survey data as required under provisions of section 01700 "Project Closeout" and Section 01720 “Project Record Documents” Section.

1.04 QUALITY ASSURANCE

A. Survey Qualifications: Engage a surveyor licensed in Rhode Island, to perform required engineering services.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 EXAMINATION

A. Identification: The Surveyor will identify existing control points on the project site.

B. Verify layout information shown on the Drawings, in relation to the existing field conditions of the project site, before proceeding to lay out the Work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.

   1. Do not change or relocate benchmarks or control points without prior written approval. Promptly report lost or destroyed reference points or requirements to relocate reference points because of necessary changes in grades or locations.

   2. Promptly replace lost or destroyed Project control points. Base replacements on the original survey control points.

C. Establish and maintain a minimum of 2 permanent benchmarks on the site, referenced to data established by survey control points.

   1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

D. Existing Utilities and Equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction.

   1. Prior to construction, the Contractor shall verify the location of sanitary sewer, storm sewer, water-service piping, electric conduit and /or all other under ground components, so as to not impose damage to any existing under ground utilities and/or structures.

3.02 PERFORMANCE

A. Work from lines and levels established by the existing conditions survey. Establish benchmarks and markers to set lines and levels at each story of construction and elsewhere as needed to locate each element of the Project. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale Drawings to determine dimensions.

   1. Advise entities engaged in construction activities of marked lines and levels provided for their use.

   2. As construction proceeds, check every major element for line, level, and plumb.

B. Surveyor's Log: Maintain a surveyor's log of control and other survey work. Make this log available for reference.

   1. Record deviations from required lines and levels, and advise the Project Manager when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted and not corrected.

   2. On completion of construction, prepare a certified as-built survey showing dimensions, locations, angles, and elevations of construction and sitework.

C. Existing Utilities: Furnish information necessary to adjust, move, or relocate existing structures, utility poles, lines, services, or other appurtenances located in or affected by construction. Coordinate with local authorities having jurisdiction.

D. As-Built Survey: Prepare a final as-built survey showing significant features for the Project. Include on the survey a certification, signed by the surveyor, that principal metes, bounds, lines, and levels of the Project are accurately positioned as shown on the survey.

END OF SECTION

SECTION 01060 - REGULATORY REQUIREMENTS

1.0 - PART 1 - GENERAL:

1.1 - LABOR STANDARDS:

A. Submittal of Payrolls: Each Contractor or Subcontractor must submit monthly, a certified copy of the payroll to the person designated by the community. Payroll records shall contain the following:

1. The name and address of each employee.

2. Classifications.

3. Rate of pay.

4. Daily and weekly number of hours worked.

5. Deductions made. Each deduction must be shown separately and clearly explained.

6. Actual wages paid.

7. Fringe benefit deductions and payment of deductions and employer's contribution in cash or to the proper fund must be clearly detailed and explained.

B. Payroll Form and Certifications: Contractors are requested to contact the Pawtucket Department of Planning and Redevelopment for conformance to appropriate Payroll Forms and Certification procedure.

C. Apprentices: All apprentices employed by the Contractor or any Subcontractor must be registered under an approved apprenticeship training program. It is the responsibility of the Contractor to submit to the community evidence of such registration when requested, and the applicable wage rates, and to preserve the evidence in conjunction with the certified payrolls.

D. Retention of Payroll Records: Payroll records, including original field notes, will be maintained during the course of the work by the General Contractor, including a copy of the payroll of each Subcontractor, and they shall be preserved for a period of three (3) years thereafter.

E. Availability of Records: The Contractor shall make employment records available for inspection by the City and will permit employees to be interviewed during working hours by these representatives and by the community's representative.

F. Suspension of Payments or Termination of Contract: In the event of a violation of the Labor Standards Provision of the Contract by the General Contractor or Subcontractor, the community may, after notice to the Contractor, suspend further payments or proceed to terminate the Contract as provided in the Labor Standards Section of the Contract.

1.2 – PREVAILING WAGE RATES:

A. The Contractor shall abide by the wage rate requirements of the City of Pawtucket.

B. The State of RI Dept. of Labor, Division of Professional Regulation General Decision Modification document, current as the bid posting date for this project, is an integral part of the Bid Documents for use in fulfilling prevailing wage rate requirements. F**or more information or go to the following websites:**

RI Dept of Training Prevailing Wage	www.dlt.ri.gov/pw
Davis Bacon Reference Material	www.access.gpo.gov/davisbacon/referencemat.html
Davis Bacon Rates	www.access.gpo.gov/davisbacon/allstates.html

END OF SECTION

SECTION 01095 - REFERENCE STANDARDS AND DEFINITIONS

PART 1 – GENERAL:

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division #1 Specification Sections, apply to this Section.

1.02 DEFINITIONS

A. General: Basic contract definitions are included in the Conditions of the Contract.

1. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on the Drawings, or other paragraphs or Schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the reader locate the reference. Location is not limited.

2. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by the Owner's Representative, requested by the Owner's Representative, and similar phrases.

3. "Approved": The term "approved," when used in conjunction with the Owner's Representative's action on the Contractor's submittals, applications, and requests, is limited to the Owner's Representative's duties and responsibilities as stated in the Conditions of the Contract.

4. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

5. "Furnish": The term "furnish" means supply and deliver to the Project Site, ready for unloading, unpacking, assembly, installation, and similar operations.

6. "Install": The term "install" describes operations at the Project Site including the actual unloading, unpacking, assembly, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

7. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.

8. "Installer": An installer is the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, or similar operations. Installers are required to be experienced in the operations they are engaged to perform.

9. The term "experienced," when used with the term "installer," means having a minimum of 5 previous projects similar in size and scope to this Project, being familiar with the special requirements indicated, and having complied with requirements of authorities having jurisdiction.

10. Trades: Using terms such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

11. Assigning Specialists: Certain Sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in those operations. The specialists must be engaged for those activities, and their assignments are requirements over which the Contractor has no option. However, the ultimate responsibility for fulfilling contract requirements remains with the Contractor.

    a. This requirement shall not be interpreted to conflict with enforcing building codes and similar regulations governing the Work. It is also not intended to interfere with local trade-union jurisdictional settlements and similar conventions.

12. "Project Site" is the space available to the Contractor for performing construction activities, either exclusively or in conjunction, with others performing other work as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.

13. "Testing Agencies": A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

1.03 SPECIFICATION FORMAT AND CONTENT EXPLANATION

A. Specification Format: These Specifications are organized into Divisions and Sections based on CSI's 16-Division format.

B. Specification Content: This Specification uses certain conventions regarding the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:

C. Abbreviated Language: Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words will be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.

D. Streamlined Language: The Specifications generally use the imperative mood and streamlined language. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.

E. The words "shall be" are implied where a colon (:) is used within a sentence or phrase.

1.04 INDUSTRY STANDARDS

A. Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with the standards in effect as of the date of the Contract Documents.

C. Conflicting Requirements: Where compliance with 2 or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer to the Owner’s Representative before proceeding for a decision on requirements that are different but apparently equal, and where it is uncertain which requirement is the most stringent.

D. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum acceptable. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Owner's Representative for a decision before proceeding.

1. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

2. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source.

E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where such acronyms or abbreviations are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards-generating organization, authorities having jurisdiction, or other entity applicable to the context of the text provision. Refer to Gale Research Co.'s "Encyclopedia of Associations," available in most libraries.

1. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations, as referenced in the Contract Documents, are defined to mean the associated names. Names and addresses are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the date of the Contract Documents.

AIA	The American Institute of Architects 1735 New York Ave., NW Washington, DC 20006	(202) 626-7300
AISC	American Institute of Steel Construction One East Wacker Dr., Suite 3100 Chicago, IL 60601-2001	(312) 670-2400
AISI	American Iron and Steel Institute 1101 17th St., NW Washington, DC 20036-4700	(202) 452-7100
ANSI	American National Standards Institute	

	11 West 42nd St., 13th Floor New York, NY 10036	(212) 642-4900
ASTM	American Society for Testing and Materials 1916 Race St. Philadelphia, PA 19103-1187	(215) 299-5400
FM	Factory Mutual Systems 1151 Boston-Providence Turnpike P.O. Box 9102 Norwood, MA 02062	(617) 762-4300
NEC	National Electrical Code (from NFPA)	
NECA	National Electrical Contractors Assoc. 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814	(301) 657-3110
NFPA	National Fire Protection Assoc. One Batterymarch Park P.O. Box 9101 Quincy, MA 02269-9101	(617) 770-3000
UL	Underwriters Laboratories 333 Pfingsten Rd. Northbrook, IL 60062	(708) 272-8800

2. Federal Government Agencies: Names and titles of federal government standard- or Specification-producing agencies are often abbreviated. The following acronyms or abbreviations referenced in the Contract Documents indicate names of standard- or Specification-producing agencies of the federal government. Names and addresses are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the date of the Contract Documents.

OSHA	Occupational Safety and Health Administration (U.S. Department of Labor) 200 Constitution Ave., NW Washington, DC 20210	(202) 219-6091

1.05 SUBMITTALS

A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

1. - PART 1 - GENERAL:

1.1 - REQUIREMENTS INCLUDED:

A. Submit Shop Drawings, Product Data and Samples required by the Contract Documents.

1.2 - SHOP DRAWINGS:

A. Drawings shall be presented in a clear and thorough manner.

1. Details shall be identified by reference to sheet and detail or schedule shown on Contract Drawings.

B. Minimum Sheet Size: 8-1/2 inch by 11 inch.

1.3 - PRODUCT DATA:

A. Preparation:

1. Clearly mark each copy to identify pertinent products or models.

2. Show performance characteristics, capacities and efficiencies.

3. Show dimensions and clearances required.

4. Show wiring or piping diagrams and controls as may be applicable.

B. Manufacturer's Standard Schematic Drawings and Diagrams:

1. Modify Drawings and Diagrams to delete information which is not applicable to the work.

2. Supplement standard information to provide information specifically applicable to the work.

1.4 - SAMPLES:

A. Office samples shall be of sufficient size and quantity to clearly illustrate:

1. Functional characteristics of the product, with integrally related parts and attachment devices.

2. Full range of color, texture and pattern.

B. Field Samples and Mark-ups:

1. Contractor shall erect, at the project site, at a location acceptable to the Owner's Representative.

2. Size or Area: That specified in the respective Specification Section.

3. Fabricate each sample and mark-up complete and finished.

4. Remove mark-ups at conclusion of work or when acceptable to the Owner's Representative.

1.5 - CONTRACTOR RESPONSIBILITIES:

A. Review Shop Drawings, Product Data and Samples prior to submission.

B. Determine and verify:

1. Field measurements.
2. Field construction criteria.
3. Catalog numbers and similar data.
4. Conformance with Specifications.

C. Coordinate each submittal with requirements of the work and of the Contract Documents.

D. Notify the Owner's Representative in writing, at time of submission, of any deviations in the submittals from requirements of the Contract Documents, stating the difference in value between the Contract Requirements and that denoted by said Shop Drawings.

E. Begin no fabrication or work which requires submittals until return of the submittal(s) with Owner's Representative's review status.

1.6 – OWNER'S REPRESENTATIVE DUTIES:

A. The Owner's Representative will check and review Shop Drawings only for conformance with the Design Concept and for compliance with information given in the Contract Documents. Review by the Owner's Representative of Shop Drawings for any material, apparatus, device, etc., will not relieve the Contractor from responsibility for furnishing same of proper dimensions, size, quantity, and quality to effectively perform the work and carry out the requirements and intent of the Contract Documents. Such review will not relieve the Contractor from responsibility for errors of any sort in the Shop Drawings, nor for the proper coordination of any such submittal with all other work.

B. Affix stamp and initials or signature, and indicate disposition of each submittal in accordance with the following grading requirements:

1. "Furnish as Submitted" indicates that Owner's Representative notes no exception to the intent of the Contract Documents. Fabrication of item may commence.

2. "Furnish as Corrected" indicates that with minor corrections or additions, Owner's Representative notes no exception to the intent of the Contract Documents. Item may be fabricated on basis of corrections noted. No further checking will be required.

3. "Revise and Resubmit" indicates that no fabrication may be commenced.

4. "Rejected" indicates non-conformance with the Contract Requirements, or that too many corrections would be necessary. The Owner's Representative will state the reasons for rejection.

C. Return submittals to Contractor for distribution, or for resubmission.

1.7 - SUBMISSION REQUIREMENTS:

A. Make submittals promptly in accordance with reviewed schedule, and in such sequence as to cause no delay in the work or in the work of any other Contractor.

B. No submittals will be accepted by the Owner's Representative if transmitted via FAX Machine. Email transmission of pdf documents are acceptable, if the document does not exceed 8.5" by 11" in size.

C. The Contractor shall schedule the submission of Shop Drawings in proper sequence, in order of priority, reflecting the logical sequence of construction requirements. Such scheduling shall allow reasonable time for checking revisions, resubmission and rechecking where required, until material submitted is acceptable to Owner's Representative. It shall be the responsibility of the Contractor to establish submission dates which will allow the Owner's Representative adequate time for checking and processing, not exceeding three (3) weeks, and such date shall recognize the possibility of disapproval and required resubmission. Such schedules shall be subject to change from time to time, as required, by mutual agreement of the Owner's Representative and the Contractor. NOTE: The aforementioned three (3) weeks time provided the Owner's Representative for checking Shop Drawings is from the date of receipt of Shop Drawings by the Owner's Representative to the mailing date of Shop Drawings returned to the Contractor by the Owner's Representative.

D. No work shall be started in the shop or on the job or material delivered to the site until pertinent Shop Drawings have been reviewed by the Owner's Representative.

E. Specific manufacturers' names and catalog numbers are used herein to establish quality and design of a particular item.

F. Wherever in the Plans and Specifications any item of equipment or material is designated by reference to a particular brand, manufacturer, or trade name, it is understood that a reviewed equal product, acceptable to the Owner's Representative may be substituted by the Bidder or Contractor.

G. If the Contractor proposes to use a material which, while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, he shall inform the Owner's Representative in writing of the nature of such deviations at the time the material is submitted for review, and shall request a review of the deviation from the requirements of the Contract Documents.

H. In requesting a review of deviations or substitutions, the Contractor shall provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or deviation shall provide a result at least equal in quality to that specified. If, in the opinion of the Owner's Representative, the evidence presented by the Contractor does not provide a sufficient basis for such reasonable certainty, the Owner's Representative will reject such substitution or deviation without further investigation, in which case it shall be the responsibility of the Contractor to provide another product which is satisfactory to the Owner's Representative. A Contractor or Subcontractor who carries the cost of a substituted product in his Bid with no prior review by the Owner's Representative, does so at his own risk. The Owner's Representative is in no way obligated to review nor allow that speculative substitution to be furnished. The Contractor shall submit all requests for substitutions sufficiently ahead of need to cause no delay in the job because of the subsequent rejections and/or resubmissions.

I. Any additional cost, or any loss or damage arising from the substitution of any material or any method for those originally specified shall be borne by the Contractor, notwithstanding review or acceptance of such substitution by the Owner or the Owner's Representative, unless such substitution was made at the written initiation of the Owner. Any additional cost for redesign of any components for a substituted product shall be borne by the Contractor unless such substitution was initiated in writing by the Owner.

J. Only Shop Drawings received from the General Contractor will be considered for review by the Owner's Representative. All Shop Drawings prepared by Subcontractors shall be processed through the General Contractor in the same manner as stipulated in the paragraphs above. The General Contractor shall

check all Shop Drawings for conformity with the Contract Documents and particularly for field measurement and proper fit with adjoining work prior to submitting same to the Owner's Representative for review. Certification shall appear on each Shop Drawing stating that the General Contractor has made this check. The term "by others" shall not be used on Shop Drawings; the Contractor shall state by whom related items are to be furnished and/or installed, or the supplier or Subcontractor preparing said Drawings shall not related work as "not by (this supplier or Subcontractor)". The Owner's Representative reserves the right to reject and return to the Contractor, without examination, any Shop Drawings which have not been previously checked and certified as outlined above, which carry the term "by others" or other such vague reference, or which in any way obviously are not in conformity with Contract Requirements.

K. Shop Drawings:

1. Shop Drawings shall show the design, dimensions, connections, and other details necessary to insure that they accurately interpret the contract Documents and shall show adjoining work in such detail as required to provide proper connection with same. Where adjoining work required Shop Drawings, they shall be submitted for review at the same time so that connections can be accurately checked.

2. Submit three (3) legible blackline print of each Shop Drawing with sufficient blank space (minimum 4 inches by 3 inches) for the Owner's Representative's annotations and review stamp, except as otherwise called for herein. The Shop Drawing(s) shall be delivered to the Owner's Representative in flat or roll form. The Owner's Representative will make annotations directly on the blackline, stamp same with appropriate review, and return it to the Contractor.

3. Shop Drawings marked "Furnish as Submitted" or "Furnish as Corrected" shall be used by the General Contractor to obtain and distribute the prints necessary for fabrication and construction. They shall then be returned to vendor or Subcontractor from whom they were originally received.

4. Shop Drawings marked "Revise and Resubmit" or "Rejected" shall be used by the General Contractor to make a record print and then returned to vendor or Subcontractor who made the submittal for corrections required. Resubmittals shall conform to paragraphs K.1 and K.2 above. Submittals marked "Rejected" or "Revise and Resubmit" shall not be sent to job site or used for shop fabrication.

5. This procedure shall be repeated until all corrections are made to the satisfaction of the Owner’s Representative. The reviewed Shop Drawing(s) will be returned to the Contractor who in turn will be responsible for making prints in sufficient numbers for his own and his Subcontractors' use.

L. Product Data:

1. Submit five (5) legible copies with sufficient blank space (minimum 4 inches by 3 inches) for the Owner’s Representative's annotations and review stamp, except as otherwise called for herein.

2. Data sheets shall show illustrated cuts of item to be furnished, scale details, dimensions, capacity, performance, characteristics, efficiencies, wiring diagrams, controls, and other pertinent information, as applicable. If more than one type of size is shown on these sheets, the item being submitted shall be clearly denoted.

M. Samples:

1. Submit the number stated in each Specification Section.

2. Furnished samples (and related certificates if required) as stipulated under various sections to location designated by Owner’s Representative (i.e., to office, test lab or project site) in ample time for proper consideration and action. Samples requiring testing should be submitted approximately twenty (20) days submitted with Bid nor before Award of Contract and Acceptance of Construction Bonds.

3. Each sample shall be labeled to indicate material, trade name, place or origin, name of producer, name of Contractor, and name of project concerned. Pack paste or liquid samples in tight containers in manner to reach destination in good condition. Letter of transmittal shall accompany samples and shall include certificate as to compliance with Contract Requirements.

4. No material for which samples are required shall be delivered to site for use until representative samples have been reviewed in writing by Owner’s Representative.

5. Review of samples shall be deemed to be general only, and shall not constitute waiver of Owner's rights to demand full compliance with Contract Requirements. After actual delivery of material to site, Owner’s Representative will make such inspection and testing as deemed necessary, and may reject such materials, equipment and accessories for cause, even though such items may have been given general review.

6. When a sample has been designated "Furnish as Submitted" or "Furnish as Corrected", no change in brand or make may be made unless manufacturer fails to make satisfactory delivery or the delivered material fails to conform with Contract Requirements.

7. If materials, equipment or accessories which fail to meet check-tests have been incorporated in work, Owner shall have the right to cause their removal and replacement by proper materials, or to demand and secure such reparation by Contractor as is equitable.

8. Samples designated as "Furnish as Submitted" or “Furnish as Corrected" not subject to destruction tests will be retained by Owner’s Representative until completion of work. Certain samples may be built into work after substantial completion of work they represent. Rejected samples will be returned to Contractor upon request, and at his expense, within thirty (30) days after rejection.

N. Submittals, Unless Otherwise Noted, Shall Contain:

1. The date of submission and the dates of any previous submissions.
2. The project title and number.
3. Contract identification.
4. The names of:
   a) Contractor
   b) Supplier
   c) Manufacturer
5. Identification of the project, with the Specification Section Number.
6. Field dimensions, clearly identified as such.
7. Relation to adjacent or critical features of the work or materials.
8. Applicable standards, such as ASTM or Federal Specification Numbers.
9. Identification of deviations from Contract Documents.
10. Identification of revisions on resubmittals.
11. A 4" x 3" blank space for Owner’s Representative stamps.
12. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the work and of Contract Documents.

1.8 - RESUBMISSION REQUIREMENTS:

A. Make any corrections or changes in the submittals required by the Owner’s Representative and resubmit until they are denoted "Furnish as Submitted" or "Furnish as Corrected" by the Owner’s Representative.

B. Shop Drawings and Product Data:

1. Revise initial drawings or data and resubmit as specified for the initial submittal.

2. Indicate any changes which have been made other than those requested by the Owner's Representative.

C. Samples:

1. Submit new samples as required for initial submittal.

1.9 - DISTRIBUTION:

A. Distribute reproductions of Shop Drawings and copies of product data which carry the Owner's Representative stamp denoting "Furnish as Submitted" or "Furnish as Corrected" to:

1. Job Site File.
2. Record Documents File.
3. Other Affected Contractors.
4. Subcontractors.
5. Supplier or Fabricator.

B. Distribute samples which carry the Owner's Representative stamp denoting "Furnish as Submitted" or "Furnish as Corrected" as directed by the Owner's Representative.

1.10 - OPERATION AND MAINTENANCE MANUALS:

A. Two (2) bound copies of each Instruction and Maintenance Manual shall be furnished for each piece of equipment for review to Owner's Representative. Upon acceptance by the Owner's Representative, five (5) bound copies of the Manuals shall be submitted to the Owner's Representative.

B. All elements and components of the equipment of the system shall be included in the Manual including a description of how the equipment or complete system works. Additionally, where a number of components are furnished to provide a complete system, the operation of the components as they relate to the complete system shall be described.

C. The Manual shall include all necessary instruction for the maintenance and operation of the equipment or system in accordance with the manufacturer's recommendations. The Manuals shall include, but not limited to the following:

1. Index.
2. A complete written description of the operation.
3. Clear and concise maintenance instruction including schedules and types of finishes.
4. Detailed drawings.
5. Electrical diagrams and control schematics including connection diagrams.
6. Complete parts lists including the specific part or identification number utilized by the manufacturer of the parts. Arbitrary sequential numbers or letters keyed to a sectional diagram are not satisfactory.
7. Recommended spare parts list.
8. Current parts price list.
9. All calibrations and other data for future modifications, alterations or reconfigurations shall be completely indicated and described.
10. Pages are to be numbered consecutively in the upper right hand corner through all sections of the Manual.
11. Shop Drawing submittal data.

D. The Manual shall be customized in that only data pertaining to the specific equipment of system to be furnished shall be included. If a Standard Type Manual is utilized, it shall be neatly annotated to highlight the data pertaining to, and deleting the data not pertaining to, the specific equipment or system being furnished.

E. Each Manual shall be bound in a three (3) ring vinyl binder featuring heavy gauge vinyl overlay, front cover, back cover and spine, insurable at the top and two (2) interior vinyl pockets. The color of the vinyl binder will be chosen by the Owner.

F. Each Manual shall be identified by title sheets affixed to the front cover, back cover and spine and shall include the following information:

1. Name of Project.
2. City or Town Seal.
3. Common Name of Equipment or System.
4. Location of Equipment or System when applicable.

G. Two (2) copies of the Manual shall be submitted for approval no later than the time the equipment or system is delivered on-site. If the Manual is satisfactory, five (5) copies shall be submitted to the Owner's Representative. If the Manual is not satisfactory, one (1) copy will be returned to the Contractor. When unsatisfactory Manuals are resubmitted, two (2) copies will again be required.

END OF SECTION

SECTION 01370 - SCHEDULE OF VALUES

1. - PART 1 - GENERAL:

1.1 - RELATED REQUIREMENTS:

A. Conditions of the Contract between Owner and Contractor.

B. Section 01700 – Contract Closeout.

C. Section 01720 – Project Record Documents.

1.2 - FORM AND CONTENT OF SCHEDULE OF VALUES:

A. Submit Schedule of Values in duplicate, as soon as practicable after notification of selection for the award of Contract, and prior to the start of work.
B. Submit typed schedule on AIA Form G703 – Application and Certificate for Payment, Continuation Sheet. Identify schedule by including AIA Form G702, filling all the blanks in the upper portion.
C. Schedule shall list the installed value of the component parts of the work in sufficient detail to serve as a basis for computing values for progress payments during construction.
D. Follow the Table of Contents as it develops on this Project Manual as the format for listing and identifying component items.
E. For each major line item list sub-values of major products or operations under the line.
F. For the various portions of the work:
    a. Each item shall include a directly proportional amount of the Contractor's overhead and profit.
    b. For items on which progress payments will be requested for stored materials, break down the value into:
        i. The cost of materials, delivered and unloaded
        ii. The total installed value.
    c. Submit schedule values of work prior to application for payment for such work.
G. The sum of all values listed in the schedule shall equal the total Contract Sum.
H. Revise schedule to list approved Change Orders, with each Application for Payment.

END OF SECTION

SECTION 01400 - QUALITY CONTROL

1. - PART 1 - GENERAL:

1.1 - INSPECTION AND TESTS:

A. The Contractor shall not use any material or equipment in the work which has not been inspected and reviewed. Ample time and opportunity shall be given the Owner's Representative for testing materials to be used in the work. The Contractor shall promptly advise the Owner's Representative upon the placing of orders for materials so that arrangements may be made, if desired, for the testing of materials at the place of manufacture.

B. The Owner may decide to have some or all of the materials inspected or tested as required. The Contractor shall furnish all samples, labor, materials and equipment necessary for the inspection and tests required and should anticipate possible delays caused by this testing and acceptance procedure.

C. All piping, pumps and like equipment transporting liquid shall be first tested with water and then with the material they will carry when in final operation. The Contractor shall pay for all electric power and fuel necessary for the operation of all mechanical equipment prior to completion of the Contract. All water for testing purposes will be supplied by the Owner. All equipment and appliances shall be subject to acceptance tests prior to final payment.

D. The Owner's Representative or any person employed by him in connection with the work shall, at any time, have the right to enter upon the work and inspect the work and any materials being used in the work and the Contractor shall provide ample time and facilities for such inspection. The contractor also shall provide all reasonable facilities for viewing the work by the owner or any of his representatives or Agencies having jurisdiction in regard to the work.

1.2 - EXPERIENCE OF EQUIPMENT MANUFACTURER:

A. Whenever it is written that an equipment manufacturer must have a specified period of experience with his product, a manufacturer who does not meet with the specified experience period can be considered if the equipment supplier or manufacturer is willing to proved a Bond or Cash Deposit for the duration of the specified time period which will guarantee replacement of that equipment in the event of failure.

END OF SECTION

SECTION 01410 - TESTING LABORATORY

1. - PART 1 - GENERAL

1.1 - REQUIREMENTS INCLUDED:

A. Owner will employ and pay for the services of an independent testing laboratory, as recommended by the Owner's Representative, to perform specified testing.

1. Contractor shall cooperate with the laboratory to facilitate the execution of its required services.

2. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the work of the Contract.

B. Owner will employ services of an independent testing laboratory, as recommended by Owner's Representative to perform specified testing on any material which the Owner or Owner's Representative feels may not comply with Contract Document Requirements.

1. If results of these tests show that material does not conform to the requirements of the Contract Documents, the cost of testing shall be borne by the Contractor.

2. If results of these tests show the material does conform to the requirements of the Contract Documents, the cost of testing shall be borne by the Owner.

1.2 - QUALIFICATION OF LABORATORY:

A. Meet "Recommended Requirements For Independent Laboratory Qualification", Published by American Council of Independent Laboratories.

B. Meet basic qualifications of appropriate ASTM testing requirements.

C. Authorized to operate in the State, City or Town in which the project is located.

D. Submit copy of Report of Inspection of Facilities made by materials referenced laboratory of National Bureau of Standards during the most recent tour of inspection, with memorandum of remedies of any deficiencies reported by the inspection.

E. Testing Equipment:

1. Calibrated at reasonable intervals by devices of accuracy traceable to either:
   a) National Bureau of Standards
   b) Accepted values of natural physical constants

1.3 - LABORATORY DUTIES:

A. Cooperate with Owner's Representative and Contractor. Provide qualified personnel after due notice.

B. Notify Owner's Representative promptly after review of Contractor's proposed design mix for concrete and other material mixes which require control by the testing laboratory so that Owner's Representative can approve, disapprove or modify them.

C. Secure adequate quantities of representational samples of materials proposed to be used and which require testing. Furnish incidental labor and facilities to obtain and handle samples at the project site or at the source of the product to be tested.

D. Perform specified inspections, sampling and testing of materials and methods of construction:

1. Comply with specified standards.
2. Ascertain compliance of materials with requirements of Contract Documents.

E. Promptly notify Owner's Representative and Contractor of observed irregularities or deficiencies of work or products.

F. Work will be checked as it progresses, but failure to detect defective work or materials shall in no way prevent later rejection when such defect is discovered. Failure to detect defective work shall not obligate Owner's Representative for final review.

G. Promptly submit typed or legibly printed report of each test and inspection. Distribution of reports shall be as determined at a Preconstruction Meeting between the Owner's Representative, Contractor and Representative of the Testing Laboratory. Each report shall include:

1. Date Issued.
2. Project Title and Number.
3. Testing Laboratory Name, Address and Telephone Number.
4. Name and Signature of Laboratory Inspector.
5. Date and Time of Sampling or Inspection.

6. Record of Temperature and Weather Conditions.
7. Date of Test.
8. Identification of Product and Specification Section.
9. Location of Sample or Test in the Project.
10 Type of Inspection or Test.
11. Results of Tests and Compliance with Contract Documents.
12. Interpretation of Test Results, when requested by Owner's Representative.

H. Perform additional tests as required by Owner's Representative or Owner if there is cause for concern that a particular material may not comply with Contract Document Requirements.

1.4 - LIMITATIONS OF AUTHORITY OF TESTING LABORATORY:

A. Laboratory Is Not Authorized To:

1. Release, revoke, alter or enlarge on requirements of Contract Documents.
2. Approve or accept any portion of the work.
3. Perform any duties of the Contractor.

1.5 - CONTRACTOR'S RESPONSIBILITIES:

A. Use of testing services shall in no way relieve Contractor of responsibility to furnish materials and construction in compliance with Plans and Specifications.

B. Cooperate with laboratory personnel, provide access to work and to manufacturer's operations.

C. Provide to the laboratory and the Owner's Representative for review, the preliminary design mix proposed to be used for concrete and other materials mixes which require control by the testing laboratory.

D. Furnish copies of products test reports as required.

E. Furnish Incidental Labor and Facilities:

1. To provide access to work to be tested.
2. To facilitate inspections and tests.
3. For storage and curing of test samples.

F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignments of personnel and scheduling of tests. Procedure shall be as determined at a Preconstruction Meeting between Owner's Representative, Contractor and Testing Laboratory Representative.

G. When tests or inspections cannot be performed after such notice, promptly notify Owner's Representative and reimburse Owner for laboratory personnel and travel expenses incurred due to Contractor's negligence. No claims for delays shall be allowed if work must be rescheduled due to the unavailability of laboratory personnel.

H. Employ and pay for the services of the same or a separate, equally qualified independent testing laboratory, approved by the Owner and Owner's Representative, to perform additional inspections, sampling and testing required:

1. For the Contractor's convenience.
2. When initial tests indicate work does not comply with Contract Documents.

1.6 - SPECIFIC TESTS, INSPECTIONS AND METHODS REQUIRED:

A. Refer to other Section of the Specifications for specific Testing and Inspection requirements.

END OF SECTION

SECTION 01500 - CONSTRUCTION FACILITIES & TEMPORARY CONTROLS

1.0 - PART 1 - GENERAL:

1.1 - REQUIREMENTS INCLUDED:

A. Furnish, install and maintain construction facilities and temporary controls required for construction, as specified herein, and remove on completion of work.

1.2 - REQUIREMENTS OF REGULATORY AGENCIES:

A. Comply with Federal, State and Local Codes, Laws, Ordinances and Regulations and with utility company requirements.

B. Comply with Remedial Approval Letter and Remedial Action Work Plan, as amended (See Regulatory Requirements, Section 01060 and Earthwork & Remediation Grading, Section 02200)

C. Comply with the stipulations identified in the RI Department of Environmental Management (RIDEM) Insignificant Alteration Wetlands Approval Letter.

2.0 - PART 2 - PRODUCTS:

2.1 - MATERIALS, GENERAL:

A. Material may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

B. Coordinate interruptions of permanent utilities with utility companies and affected users.

2.2 - TEMPORARY SANITARY FACILITIES:

A. Provide sanitary facilities in compliance with laws and regulations. Such facilities shall be properly secluded from public view.

B. Service, clean and maintain facilities and enclosures.

2.3 - HOISTING FACILITIES:

A. Provide hoisting facilities as required for the vertical movement of all materials.

B. Comply with OSHA and maintain the facilities in compliance with the law.

2.4 - TEMPORARY BARRIERS:

A. Contractor shall provide Temporary 6' Chain Link Construction Fencing with locking access gates as required at project site entrance(s) and as necessary for contractor to fully secure the project site during construction procedures.

B. Provide barricades, guards, coverings, lighting, warning lights and signs as required by State and Local Regulations to protect obstructions in streets and sidewalks, open trenches and pits, hazards and like items. Mark and light barricades and guards as required.

C. The Contractor shall, at times, employ watchmen when such action is required to prevent injury or damage to the public. The contractor shall indemnify and protect the Owner from any damage or injury caused by any act or neglect of the Contractor or his Subcontractors.

D. Comply with OSHA with regard to standards and requirements for guardrails, openings and stairways.

2.5 - PROTECTION:

A. The contractor shall at all times protect excavations, trenches, new construction, old construction, all job materials, apparatus and fixtures from rain, wind, snow, ice, dust, dirt, mud, ground water, back-up or leakage of sewers, drains, or other piping and from water of any other origin and shall remove promptly any accumulation of the above. He shall provide and operate all pumps, piping ad other equipment necessary to this end at no additional cost to Owner.

B. Thoroughly protect all completed work and all stored materials.

C. Provide boards, cloths, planks, waterproof paper, canvas or other approved protection and use as necessary to prevent any damage.

D. Provide protective measures to prevent damage to lawns, trees and shrubs to remain after project is complete.

E. Protect, at end of each day's work, such work that may be liable to damage by the elements.

F. Replace or rectify work or materials damaged by workmen, by the elements or by any other cause, to the satisfaction of the Owner's Representative at no additional expense to the Owner.

G. Repair streets, curbs, sidewalks, poles, grass, shrubs, trees or other existing site features, if disturbed by building operations. Leave them in as good condition as they were before being disturbed.

H. Do not allow workmen, including those of any Subcontractor or supplier mark finish surfaces with marking pens or other such devices which are not readily erasable.

2.6 - SAFETY TO TRAFFIC:

A. When portions of a traveled way are made dangerous for the movement of vehicles or pedestrians a sufficient number of uniformed police officers, flagmen or traffic men shall be employed to direct the traffic safely through the area as required by State and Local Regulations. If such conditions exist at the close of the working day, a watchman and a sufficient number of flagmen or police officers shall be assigned by the permitee to direct traffic at night. The work must be planned to avoid such conditions whenever possible. Cost for traffic control shall be included in the Base Bid.

2.7 - ROADS AND SIDEWALKS TO BE KEPT OPEN:

A. The Contractor shall at all times keep roads and sidewalks open for pedestrian and vehicular traffic. The Contractor shall bridge or construct plank crossings over trenches where directed by the Owner's Representative.

2.8 - SECURITY:

A. The Contractor shall take all precautions necessary to prevent loss or damage caused by vandalism, theft, burglary, pilferage, or unexplained disappearance of property of the Owner or this Contractor, whether or not forming part of the work, located with the limits of work. The contractor shall have full responsibility for the security of such property located in such areas and shall reimburse the Owner for any such loss, damage or injury, except such as may be directly caused by agents or employees of the Owner.

2.9 - PROJECT ACCESS:

A. Provide singular access from the adjacent road, and maintain in a safe condition throughout the construction process. Storage areas shall be as directed and approved.

2.10 - TEMPORARY CONTROLS:

A. Erosion Control: Sufficient precautions shall be taken during construction to minimize the run-off of polluting substances such as silt, clay, soils, fuels, oils, calcium chloride or other polluting materials harmful to humans, or other life, into supplies and surface waters of the State as required by Federal, State and Local Regulations.

B. Control of Snow and Ice: Remove snow and ice as required for safety, access and proper execution of work. Remove snow and ice build-ups which endanger structures during construction. No extra payment will be made for such work.

C. Dust Control: During periods of dry weather, water, spread calcium chloride or otherwise treat unpaved areas, within contract limit, which may be source of dust nuisance. Treatment shall be of sufficient effectiveness to allay dust nuisance.

D. Trash Control:

1. Maintain premises and properties free from accumulation of waste, debris and rubbish caused by operations.
2 Provide sufficient trash receptacles around site.
3. Collect and deposit debris in such collection facilities.
4. Remove all debris from the job site on a regular basis.

E. Hazards Control:

1. Store volatile wastes in covered metal containers and remove from promises daily.
2. Prevent accumulation of wastes which create hazardous conditions.
3. Provide adequate ventilation during use of volatile or noxious substances.
4. Any hazardous waste caused by the Contractor, the Contractor is to correct the situation in the proper manner at no loss to the Owner.

F. Cleaning and Disposal:

1. Conduct cleaning and disposal operations to comply with Local Ordinances and Anti-Pollution Laws.
2. Do not burn or bury rubbish on waste materials on project site.
3. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drain.
4. Do not dispose of wastes into streams or waterways.
5. Maintain cleaning until project or portion thereof is occupied by Owner.

G. Storage Areas:

1. Coordinate the allocation of storage areas to the various trades and Subcontractors.
2. Such storage areas shall be approved by the Owner's Representative.
3. Maintain such areas in a clean condition at all times.

4. Field houses, storage sheds and work facilities for workmen shall be the responsibility of each Subcontractor and shall be removed by them.

3.0 - PART 3 - EXECUTION:

3.1 - GENERAL:

A. Maintain and operate temporary utility systems to assure continuous service.

B. Modify and extend temporary utility systems as work progress requires.

3.2 - LENGTH OF TRENCH TO BE OPENED, MAINTAINING PREMISES FREE FROM OBSTRUCTIONS, CROSSOVERS, DIRECTIONAL SIGNS AND LIGHTS:

A. The length of trench opened at any time, from the point where ground is being broken to completed backfill and also the amount of space in streets or public and private lands occupied by equipment, trench and supplies, shall not exceed the length or space considered reasonably necessary for installation of work. In determining the length of open trench or spaces for equipment, materials, supplies and other necessities: The Contractor will consider the nature of the lands or streets where work is being done, types and methods of construction and equipment being used, inconvenience to the public or to private parties, possible dangers and other proper matters. All work must be constructed with a minimum of inconvenience and danger to the public and all other parties concerned.

B. Whenever any trench obstructs pedestrian and vehicular traffic in or to any public street, private driveway or property entrance, or on private driveway or property entrance, or on private property, the Contractor shall take such means as may be necessary to maintain pedestrian and vehicular traffic and access. Until such time as the work may have attained sufficient strength to support backfill, or if for any other reason it is not expedient to backfill the trench immediately, the Contractor shall construct and maintain suitable plank crossings and bridges to carry essential traffic in or to the street, driveway or property in question as specified or directed.

C. Suitable signs, lights and such required items to direct traffic shall be furnished and maintained by the Contractor.

D. The Contractor must keep streets and premises free from unnecessary obstructions, debris and all other materials. The Owner's Representative may, at any time, order all equipment, materials, surplus from excavations, debris and all other materials lying outside that length of working space promptly removed, and should the Contractor fail to remove such material within twenty four (24) hours after notice to remove the same, the Owner's Representative may cause

any part or all of such materials to be removed by such persons as he may employ, at the Contractor's expense and may deduct the cost thereof from payment which may be or may become due to the contractor under the Contract. In special cases, where public safety urgently demands it, the Owner's Representative may cause such materials to be removed without prior notice.

3.3 - INTERFERENCE WITH EXISTING STRUCTURES:

A. Whenever it may be necessary to cross or interfere with existing culverts, drains, water pipes or fixtures, guardrails, fences or other structures needing special care, due notice shall be given to the Owner's Representative and to the various public and private agencies or individuals responsible for the utility or structure that is interfered with. Whenever required, all objects shall be strengthened to meet any additional stress that the work herein specified may impose upon it, and any damage caused shall be thoroughly repaired. The entire work shall be the responsibility of the Contractor and the work shall be performed at no additional expense to the Owner. All damaged items of work or items required to be removed and replaced or repaired by the Contractor to the complete satisfaction of the property Owners and/or the Owner's Representative at no additional expense to the Owner.

3.4 - REMOVAL OF WATER AND PROTECTION FROM FLOODING:

A. The Contractor shall construct and maintain, at no additional expense to the Owner, all pumps, drains, well-points or any other facility for the control and collection of groundwater and/or surface water and provide all pumps and piping for the removal of water from the trenches and excavations so that all trenches and excavations may be kept at all times free from water and so that all construction work may be performed in the dry. Any damage resulting from the failure of the dewatering operations of the Contractor and any damage resulting from the failure of the Contractor to maintain the areas of all work in a suitable dry condition shall be repaired by the Contractor as directed by the Owner's Representative at no additional expense to the Owner. The Contractor's pumping and dewatering operations shall be carried out in such a manner as to prevent damage to existing structures and utilities an the contract work and so that no loss of ground will result from this operations. Precautions shall be taken to protect new and existing work and/or to maintain satisfactory progress. All pipe lines or structures not stable against uplift during construction or prior to completion shall be thoroughly braced or otherwise protected. Water from the trenches, excavations and drainage operations shall be disposed of in such a manner as will neither cause public nuisance nor cause injury to public health nor to public or private property nor to the work completed nor to work in progress. No extra payment will be made for the removal of water, protection from flooding, drainage work, diversion of existing water courses and such other work, but compensation therefore shall be considered as having been

included in the prices stipulated for the appropriate items of work as listed in the Bid.

3.5 - REMOVAL OF CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS:

A. Completely remove temporary materials and equipment when their use is no longer required.

B. Upon completion of work of all trades and before final acceptance of entire project, each trade shall remove, at it's own expense, all wiring, appurtenances and accessories used in performance of its respective work.

C. Temporary sheds, utilities, barricades, signs and other appurtenances related to prosecution of the work and not incorporated in the permanent construction shall be completely removed from the site prior to acceptance of work by Owner.

D. Clean and repair damage caused by temporary installations or use of temporary facilities.

END OF SECTION

SECTION 01600 - MATERIAL AND EQUIPMENT

1. - PART 1 - GENERAL:

1.1 - REQUIREMENTS INCLUDED:

A. Material and Equipment Incorporated Into the Work:

1. Conform to applicable Specifications and Standards.

2. Comply with size, make, type and quality specified or as specifically reviewed by the Owner's Representative.

B. Manufactured and Fabricated Products:

1. Design, fabricate and assemble in accordance with the best engineering and shop practices.

2. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.

3. Two (2) or more items of the same kind shall be identical by the same manufacturer.

4. Products shall be suitable for service conditions.

C. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically reviewed by Owner's Representative.

D. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

1.2 - MANUFACTURER'S INSTRUCTIONS:

A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including two (2) copies to Owner's Representative.

B. Maintain one (1) set of complete instructions at the job site during installation and until completion.

C. Handle, install, connect, clean, condition and adjust products in strict accord with such instructions and in conformity with specified requirements.

D. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Owner's Representative for further instructions.

E. Do not proceed with work without clear instructions.

F. Perform work in accord with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.3 - TRANSPORTATION AND HANDLING:

A. Arrange deliveries of products in accord with construction schedules, coordinate to avoid conflict with work and conditions at the site and also when two (2) or more trades, Contractors or suppliers are involved.

B. Transport all materials and equipment on legally approved conveyances as required or recommended by the respective manufacturer or supplier.

C. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.

D. Receive and handle all materials and equipment, at the project site, by conveyances or methods as recommended by the respective manufacturer or supplier to prevent damage to products.

E. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and reviewed submittals, and that products are properly protected and undamaged.

F. Remove from the site any material or item of equipment damaged during the transportation or handling process and immediately replace at no additional cost to the Owner.

1.4 - STORAGE AND PROTECTION:

A. Store products in accord with manufacturer's instructions with seals and labels intact and legible.

B. Store products subject to damage by the elements in weather tight enclosures.

C. Maintain temperature and humidity within the ranges required by manufacturer's instructions.

D. Maintain all storage areas in a clean and orderly condition at all times.

1.5 - EXTERIOR STORAGE:

A. Store fabricated products above the ground, on blocking and skids, prevent soiling or staining. Cover products which are subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation.

B. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.

C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.

D. Replace any material or item of equipment damaged, due to inadequate storage protection and immediately replace at no additional cost to the Owner.

1.6 - PROTECTION AFTER INSTALLATION:

A. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove when no longer needed.

1.7 - CERTIFICATES OF CONFORMANCE AND MANUFACTURE:

A. In addition to other requirements specified therein, the Contractor shall furnish to the Owner's Representative in the manner as directed, three (3) notarized certificates of conformance and manufacture that all materials and/or equipment to be furnished under this Contract meets the Specification Requirements. When directed, each shipment of material shall be accompanied by the manufacturer's notarized certificates of conformance and manufacture. Unless otherwise specifically specified, all testing of materials shall be provided by the Contractor at no additional expense to the Owner.

B. Each manufacturer's certificate shall be endorsed or accompanied by the Contractor's certificate that the material certified by the manufacturer will be the material incorporated in the work.

END OF SECTION

SECTION 01631 - SUBSTITUTIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes administrative and procedural requirements for handling requests for substitutions made after award of the Contract.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 1 Section 01340 “Shop Drawings, Product Data and Samples”

2. Division 1 Section 01600 “Materials and Equipment”

1.03 DEFINITIONS

A. Definitions in this Article do not change or modify the meaning of other terms used in the Contract Documents.

B. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests for substitutions. The following are not considered to be requests for substitutions:

1. Substitutions requested during the bidding period, and accepted by Addendum prior to award of the Contract, are included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.

2. Revisions to the Contract Documents requested by the Owner or Owner’s Representative.

3. Specified options of products and construction methods included in the Contract Documents.

4. The Contractor’s determination of and compliance with governing regulations and orders issued by governing authorities.

1.04 SUBMITTALS

A. Substitution Request Submittal: The Owner's Representative will consider requests for substitution if received within 14 days after commencement of the Work. Requests received more than 14 days after commencement of the Work may be considered or rejected at the discretion of the Owner's Representative.

1. Submit 3 copies of each request for substitution for consideration. Submit requests in the form and according to procedures required for change-order proposals.

2. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.

3. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:

   a. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate contractors, that will be necessary to accommodate the proposed substitution.

   b. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements, such as performance, weight, size, durability, and visual effect.

   c. Product Data, including Drawings and descriptions of products and fabrication and installation procedures.

   d. Samples, where applicable or requested.

   e. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.

   f. Cost information, including a proposal of the net change, if any in the Contract Sum.

   g. The Contractor's certification that the proposed substitution conforms to requirements in the Contract Documents in every respect and is appropriate for the applications indicated.

h. The Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.

4. Owner's Representative's Action: If necessary, the Owner's Representative will request additional information or documentation for evaluation within one week of receipt of a request for substitution. The Owner's Representative will notify the Contractor of acceptance or rejection of the substitution within 1 week of receipt of the request, or one week of receipt of additional information or documentation. Acceptance will be in the form of a change order.

   a. Use the product specified if the Owner's Representative cannot make a decision on the use of a proposed substitute within the time allocated.

PART 2 - PRODUCTS

2.01 SUBSTITUTIONS

A. Conditions: The Owner's Representative will receive and consider the Contractor's request for substitution when one or more of the following conditions are satisfied, as determined by the Owner's Representative. If the following conditions are not satisfied, the Owner's Representative will return the requests without action except to record noncompliance with these requirements.

1. Extensive revisions to the Contract Documents are not required.

2. Proposed changes are in keeping with the general intent of the Contract Documents.

3. The request is timely, fully documented, and properly submitted.

4. The specified product or method of construction cannot be provided within the Contract Time. The Owner's Representative will not consider the request if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.

5. The request is directly related to an "or-equal" clause or similar language in the Contract Documents.

6. The requested substitution offers the Owner a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities the Owner must assume. The Owner's additional responsibilities may include compensation to the Owner's Representative for redesign and evaluation services, increased cost of other construction by the Owner, and similar considerations. The specified product or method of

construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.

7. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.

8. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.

9. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.

10. Where a proposed substitution involves more than one prime contractor, each contractor shall cooperate with the other contractors involved to coordinate the Work, provide uniformity and consistency, and assure compatibility of products.

B. The Contractor's submittal and the Owner's Representative's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01700 - CONTRACT CLOSE-OUT

1. - PART 1 - GENERAL:

1.1 - REQUIREMENTS INCLUDED:

A. Comply with requirements stated in conditions of the Contract and in Specifications for administrative procedure in closing out the work.

1.2 - SUBSTANTIAL COMPLETION:

A. When Contractor considers the work is substantially complete, they shall submit to Owner's Representative:

1. A written notice that the work or designated portion thereof is substantially complete.

2. A list of items to be completed or corrected.

B. Within a reasonable time after receipt of such notice, Owner's Representative will review the work to determine the status of completion.

C. Should Owner's Representative determine that the work is not substantially complete:

1. Owner's Representative will promptly notify the Contractor in writing, giving the reasons therefore.

2. Contractor shall remedy the deficiencies in the work and send a second written notice of substantial completion to the Owner's Representative.

3. Owner's Representative will again review the work.

D. When Owner's Representative concurs that the work is substantially complete, he will:

1. Prepare a Certificate of Substantial Completion accompanied by Contractor's list of items to be completed or corrected, as verified and amended by the Owner's Representative.

2. Submit the Certificate to Owner, Contractor and Manufacturer for their written acceptance of the responsibilities assigned to them in the Certificate.

1.3 - FINAL REVIEW:

A. When Contractor considers the work is complete, he shall submit written certification that:

1. Contract Documents have been reviewed.

2. Work has been inspected for compliance with Contract Documents.

3. Work has been completed in accordance with Contract Documents.

4. Equipment and systems have been tested in the presence of the Owner's Representatives and are operational.

5. Work is complete and ready for final review.

B. Owner's Representative will make final review to verify that status of completion with reasonable promptness after receipt of such certification.

C. Should Owner's Representative consider that the work is incomplete or defective:

1. Owner's Representative will promptly notify the Contractor in writing, listing the incomplete or defective work.

2. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to Owner's Representative that the work is complete.

3. Owner's Representative will again review the work.

D. When the Owner's Representative finds that the work is acceptable under the Contract Documents and that all Punch List Items have been accomplished to his satisfaction, he shall request the Contractor to make close-out submittals.

1.4 - FEES FOR ADDITIONAL REVIEWS:

A. Should Owner's Representative perform additional reviews due to failure of the work to comply with the claims of status of completion made by the Contractor:

1. Owner will compensate Owner's Representative for such additional services.

2. Owner will deduct the amount of such compensation from the final payment to the Contractor.

1.5 - CONTRACTOR'S CLOSE-OUT SUBMITTAL TO OWNER'S REPRESENTATIVE:

A. Operating and Maintenance Data:

1. Instruct the Owner's Personnel with regard to equipment, systems and operating specialties which are installed as part of this project.

2. Submit brochures indicating operating instructions and maintenance schedules for all equipment, systems, operating devices and specialties.

3. Submit detail maintenance methods and schedules for all materials and equipment provided in this project.

B. Warranties, Guarantees and Bonds:

1. In addition to the Warranty and Guarantee Requirements of the General Conditions, provide all other guarantees, bonds, affidavits and certifications required throughout the Specifications.

C. Spare parts and maintenance materials for Owner.

1.6 - FINAL ADJUSTMENT OF ACCOUNTS:

A. Submit a final statement of accounting to Owner's Representative.

B. Statement shall reflect all adjustments to the Contract Sum:

1. The original Contract Sum.

2. Additions and deductions resulting from:

a) Previous Change Orders.
b) Allowances
c) Unit Prices
d) Deductions for non-corrected work
e) Penalties and Bonuses
f) Deductions for Liquidated Damages
g) Deductions for Re-inspection Payments
h) Other adjustments

3. Total Contract Sum, as adjusted.

4. Previous Payments

5. Sum Remaining Due

C. Owner's Representative will prepare a Final Change Order reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

1.7 - FINAL APPLICATION FOR PAYMENT:

A. Contractor shall submit the Final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

END OF SECTION

SECTION 01720 - PROJECT RECORD DOCUMENTS

1. - PART 1 - GENERAL:

1.1 - REQUIREMENTS INCLUDED:

A. Maintain at the site for the Owner one (1) record copy of:

1. Drawings
2. Specifications
3. Addenda
4. Change Orders and other Modifications to the Contract
5. Owner's Representative Field Orders or Written Instructions
6. Reviewed Shop Drawings, Product Data and Samples
7. Field Test Records

B. The Contractor will be required to furnish at no additional expense to the Owner, the services of a Surveyor and/or Engineer registered in the State where the project is located and under whose direction shall be obtained and recorded all surveys, measurements and such other data required for the determination of the as-built records of the construction of all site work.

1.2 - MAINTENANCE OF DOCUMENTS AND SAMPLES:

A. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

1.3 - MARKING DEVICES:

A. Provide felt tip marking pens for recording information in the color code designated by Owner's Representative.

1.4 - RECORDING:

A. Label each document "Project Record" in neat large printed letters.

B. Record information concurrently with construction progress.

C. Do not conceal any work until required information is recorded.

D. Drawings: Principal dimensions, elevations and other data, as required, shall be recorded for all work, such as:

1. Significant deviation of any nature made during construction.

2. Location of underground mechanical and electric services, pipe, valves, fittings and appurtenances, referenced to permanent surface improvements.
3. Location of mechanical and electrical services, utilities and appurtenances that are concealed in the building, referenced to accessible features of the building.
4. Field changes of dimension and detail.
5. Changes made by Field Order or by Change Order.
6. Details not on original Contract Drawings.

E. The marked-up prints shall be inspected weekly by the Owner's Representative and shall be corrected immediately if found either inaccurate or incomplete.

F. Specifications and Addenda: Legibly mark each section to record:

1. Manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed.

2. Changes made by Field Order or by Change Order.

1.5 - AS-BUILT DRAWINGS:

A. At the completion of the project, the record prints shall be submitted to the Owner's Representative for final review and comment.

B. The Contractor shall correct, amplify and do all other work as may be required by the Owner's Representative to complete the Drawings in a manner satisfactory to the Owner's Representative.

1.6 - SUBMITTAL:

A. At Contract Close-out, deliver record documents to Owner's Representative for the Owner.

B. Accompany submittal with transmittal letter in duplicate, containing:

1. Date
2. Project Title and Number
3. Contractor's Name and Address
4. Title and Number of Each Record Document
5. Signature of Contractor or his Authorized Representative

END OF SECTION

SECTION 02100 - SITE CLEARING and PREPARATION

PART 1 - GENERAL:

1.1 - 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.

B. This portion of the specifications shall conform to Section 201 - Site Preparation of the *Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 Edition,* as amended by the RIDOT, and as amended as follows:

   a. Delete Section 201.04 - Method of Measurement
   b. Delete Section 201.05 - Basis of Payment

1.2 - DESCRIPTION OF WORK:

A. Provide all materials, equipment and labor necessary to complete the work as indicated on the Drawings or as specified herein.

B. The principal work of this Section includes, but may not be limited to the following:

   1. Site clearing.
   2. Sawcutting existing pavement.
   3. Pavement removal.
   4. Dust control.

1.3 – REGULATORY REQUIREMENTS:

A. Conform to applicable codes for disposal of debris.
B. Comply with RIDEM Remedial Approval Letter
C. Comply with RIDEM Insignificant Alteration Wetlands Approval

PART 2 - PRODUCTS:

2.1 - CALCIUM CHLORIDE FOR DUST CONTROL:

A. Calcium chloride shall meet the requirements of RIDOT Standard Specifications.

B. Calcium chloride shall have weights marked on the shipping containers to be used, or if directed by Owner's Representative, scales shall be furnished by and at Contractor's expense to measure calcium chloride by the ton.

PART 3 - EXECUTION:

3.1 - PROTECTION:

A. As stipulated in section 01500, subsection 2.4A of this Project Manual, Contractor shall provide Temporary 6' Chain Link Construction Fencing with locking access gates as required at project site entrance(s) and as necessary for contractor to secure the entire project site throughout construction procedures.

B. Cut and remove all existing vegetation. Carefully remove the tree and shrub growth, including stumps located within the south region of the project site, with minimal damage to the trees that are flagged to remain.

D. Protect bounds and bench marks and existing work from damage or displacement.

3.2 - SITE CLEARING – General:

A. Clear areas required for access to site and execution of work as designated on Plans.

B. Establish Limits of Disturbance and place silt control.

C. Clear and grub designated areas of all stumps, roots and other objectionable material which shall be disposed of by removal from the site. Stumps including root system shall be removed to minimum six (6) inches below finish grade, where stump falls within landscape areas. Stumps including root system shall be removed entirely where they fall within designated pavement areas.

D. Any poison ivy, bull briar or other noxious weeds remaining in cleared areas shall receive a foliar spray of Round-Up or approved equal. Applied by licensed technician according to State Regulations.

E. Remove all debris not including existing topsoil, from this work to an off-site location, and dispose of legally.

3.3 - STRIPPING OF TOPSOIL:

A. All existing topsoil shall be retained on site and redistributed in accordance with the Grading Plan.

3.4 - SAW CUTTING:

A. Cut pavement and/or concrete structures to the full depth of the course or courses. In removing existing pavement, top course and/or base course, or combination thereof, the sections to be removed shall be cut to the neat lines shown on the Plans or as directed by the Owner's Representative. Portions of remaining pavements injured or destroyed by the Contractor's work shall be replaced by the Contractor without additional compensation. Saw cuts shall be neat and straight to the approval of the Owner. Additional saw cuts, to the approval of the Owner's Representative, shall be made at no additional cost when the initial cuts are unacceptable.

3.5 - PAVEMENT REMOVAL:

A. Where indicated on plans, remove with the proper equipment, bituminous concrete, oil penetration and/or portland cement concrete pavements in varying depths. Where a remainder of the pavement is to remain, a clean saw cut to the full depth of pavement shall be made to separate that pavement from the one being removed.

B. Where Bituminous Concrete Surfacing is specified to be Ground-in-place, it shall be done so in accordance with RIDOT standards, and the requirements of the RIDEM Remedial Approval Letter, as amended.

B. All utilities, gate hoses, catch basins, manholes, frames, covers and other miscellaneous items scheduled to remain or as directed by the Owner's Representative shall be protected from damage and shall be reset, repaired or replaced to grade as required by the Owner's Representative.

C. Immediately dispose of all waste material to an off-site location, in accordance with all local, state, and federal regulations (or as directed by the Owner's Representative to dispose of, spread, redistribute, and compact material within the project site in accordance with the Remediation Action Work Plan).

D. Remove to full depth, all pavement scheduled for removal. A maximum of one (1) inch below pavement of the base material shall be removed during this work when new paving shall be placed. Base material removed to a depth lower than one (1) inch shall be replaced, spread and compacted to the satisfaction of the Owner's Representative. Such work shall be at the Contractor's expense. No additional payment for this work will be made. In areas where no new paving shall be placed, remove pavement and base to a total minimum depth of twelve (12) inches below proposed final grades.

3.6 - UNCLASSIFIED EXCAVATION:

A. Excavate and Remove all unsuitable material such as defective gravel bases, bricks, brick or stone and mortar walls, blocks, curbing, conduits, pavements,

concrete foundations or footings that require jackhammer demolition, and any other waste materials or debris that is not scheduled for removal under other sections of the specifications, or as may be not visible at or above the existing surface grade of the project site. All materials similar to those described above, which are visible on or at the existing project surface grade, and are specified for removal on the contract drawings, shall be removed and disposed of as part of the base bid.

B. All unclassified materials are to be stockpiled and measured on site with the owner prior to removal. No material shall leave the site without the owner's permission.

C. Dispose of all unclassified excavation at an off-site location immediately following approval of Owner's Representative.

D. Contractor shall carry a quantity of 30 Cubic Yards of unclassified excavation in the base bid of this contract:

1. Removal of unsuitable material: The Base Bid Price listed in the Bid Proposal Form shall include the removal of a quantity of 15 cubic yards of unsuitable material, such as defective gravel bases, bricks, brick or stone and mortar walls, blocks, curbing, conduits, pavements and other waste materials or debris that is not scheduled for removal under other Sections of the Specifications (considered unclassified excavation). Contractor shall contact owner's representative in the event that unsuitable material is encountered. Unsuitable material shall not be removed from site without inspection by Owner's Representative and certification of quantities by Contractor. Unused allowances for unsuitable material removal shall be reimbursed to the Owner at the Contract Unit Price.

2. Removal of Concrete Foundations and Footings that require jackhammer demolition: The Base Bid Price listed in the Bid Proposal Form shall include the removal of a quantity of 15 cubic yards of unclassified concrete requiring jackhammer demolition (considered unclassified excavation). Contractor shall notify Owner's Representative in the event that unclassified foundations or footings are encountered. Concrete or other rubble shall not be removed from site without inspection by Owner's Representative and certification of quantities by Contractor. Unused allowances for concrete removal shall be reimbursed to the Owner at the Contract Unit Price.

3.7 – DUST CONTROL:

A. Provide all equipment, labor, materials and related work necessary for the prevention and control of dust resulting from operations in the performance of the work of this Contract and in accordance with additional requirements

specified herein. All costs in connection therewith shall be considered to be included in the various Unit and/or Lump Sum Prices Bid for the various items as listed in the Bid.

B. When in the opinion of the Owner's Representative, conditions at the site are such as to require dust control measures to supplement those required to be provided by the contractor as described in the preceding paragraph, the Owner's Representative may direct the Contractor to furnish and spread calcium chloride over certain designated areas at the site, by approved mechanical devices at the rate for each area as directed at no additional cost to the Owner.

C. Calcium Chloride shall meet the requirements of RIDOT Standard Specifications.

3.8 – PRUNING:

A. All pruning shall be performed by a Certified RI Arborist.

B. Contractor shall prune trees to remove suckers, interfering branches, dead or diseased wood, and broken or deformed branches and in such a manner as to preserve the natural character of the plant. Only approved methods and tools will be permitted. Use of axes for trimming or spurs for climbing will not be permitted.

   a. Shade trees should be single trunked and have a single recognizable leader, where appropriate to the species and age of the tree.

   b. All existing and proposed trees shall be free of branching to 6'-8" min.

   c. Trees shall be pruned for a minimum clearance of 18 inches around wires, in such a way as to allow wires to pass through the tree canopy rather than cropping foliage and branches

C. Perform all pruning with sharp tools, with cuts flush and clean

END OF SECTION

SECTION 02110 DEMOLITION

PART 1 GENERAL

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.

DESCRIPTION OF WORK:

A. Provide all materials, equipment and labor necessary to complete the work as indicated on the drawings or as specified herein.

B. The principal work if this section includes, but may not be limited to the following:

1. Identifying Existing Utilities.

2. Removal of existing site improvements.

3. Dust Control.

REGULATORY REQUIREMENTS:

A. All work shall be completed in accordance with the RIDEM Remedial Approval Letter, and Soil Management Plan (See section 01060 of these specifications). Conform to applicable codes for disposal of debris.

PART 2- PRODUCTS

CALCIUM CHLORIDE FOR DUST CONTROL:

A. Calcium chloride shall meet the requirements of Section m.10 of the RIDOT Standard Specifications.

B. Calcium chloride shall have weights marked on the shipping containers to be used, or if directed by Owner's representative, scales shall be furnished by and at Contractor's expense to measure calcium chloride by the ton.

PART 3- EXECUTION

IDENTIFYING EXISTING UTILITIES:

A. Retain Dig Safe (1-888-DIG-SAFE) to identify all utilities. Record locations of Project Record Documents form Dig Safe field location markings.

B. Disconnect, remove, and cap utility lines within demolition areas that are not planned to be used.

C. Mark location of disconnected utilities. Provide information on as built drawings for owner.

SELECTIVE DEMOLITION:

A. The Contractor shall prevent movement or settlement of adjacent structures and shall shore up, brace, underpin, and do whatever is necessary to protect adjacent structures.

B. Demolish indicated appurtenances in an orderly and careful manner so as to allow for minimal disturbance to adjacent areas.

C. Protect existing pavements, vegetation, appurtenances, and structures which are not denoted on plan to be demolished.

D. Cease operations and notify Owner's representative immediately in adjacent structures appear to be endangered. Do not resume operations until corrective measures have been taken.

E. Except where noted otherwise, immediately remove demolished material from site and dispose of legally offsite.

F. Relics, antiques, and similar objects, as indicated by the Owner's representative or as discovered or uncovered in the process of performing the Work of this Section, remain the property of the Owner. Notify Owner's representative prior to removal and obtain acceptance regarding method of removal.

G. Remove and promptly dispose of contaminated, vermin infested, or dangerous materials encountered.

H. Do not burn or bury materials on site.

I. Backfill areas excavated completely as a result of demolition.

J. Rough grade and compact areas affected by demolition to maintain site grades and contours.

K. Remove demolished materials from site as work progresses. Leave site in clean condition.

REMOVAL OF EXISTING SITE IMPROVEMENTS:

A. Storage Tanks:

Should below-ground storage tanks be found, work shall stop immediately, and contactor shall notify Owner or Owner's Representative.

B. Fencing:

Remove all fencing as indicated on the drawings and dispose of in accordance with all local, state, and federal regulations. All footings associated with fencing shall be removed and disposed of, unless otherwise noted on plan.

C. Footings, Foundations and Structures:

Demolition of this site includes demolition of the existing site elements as illustrated on contract plans and the satisfactory disposal of said site elements and all components thereof. All materials resulting from the demolition of said site elements shall become the property of the contractor and he/she shall dispose of the same outside of and away from the site.

Footings and foundations shall be removed to a minimum depth required for specified utility trenching, and installation of play structure footings. In certain locations, drawings may show excavation, grading operation, or other site improvements which require removal of footings and other unsuitable materials to full depth required to perform improvement work.

D. Curb:

Carefully remove, store and clean any curbing specified for resetting in a manner consistent with RIDOT standards.

DUST CONTROL:

A. Provide all equipment, labor, materials and related work necessary for the prevention and control of dust resulting from operation in the performance of the work of this contract and in accordance with additional requirements specified herein. All costs in connection therewith shall be considered to be included in the various unit and/or lump sum prices bid for the various items as listed in the bid.

B. When in the opinion of the Owner's representative, conditions at the site are such as to require dust control measures to supplement those required to be provided by the Contractor as described in the preceding paragraph, the Owner's representative may direct the Contractor to furnish and spread calcium chloride over certain areas at the site, at certain times and at specific rates of application. The mechanical devices at the rate for each areas as directed at no additional cost to the Owner.

C. Calcium Chloride shall meet the requirements of RIDOT M.10.02

END OF SECTION

SECTION 02200 - EARTHWORK & GRADING

PART 1 - GENERAL:

1.1 -RELATED DOCUMENTS:

A. The General Conditions, Supplementary Conditions and applicable portions of Division 1 of the Specification are a part of this Section, which shall consist of all labor, equipment and materials necessary to complete all excavating, filling and grading work indicated on the Drawings, herein specified, or both.

B. Strip and regrade on-site soil as herein specified or indicated.

C. No existing soil shall be removed from the site.

D. Excavation for footings, rough grading, utility services and extensions. Excavation of all trades is included herein.

E. Provide additional material hereinafter specified or needed for fills. Remove from site excess material and that which is unsuitable for filling and legally dispose it in accordance with Owners Representative, and the Remedial Action Work Plan.

F. Backfilling (including all trades).

G. Compact fills as hereinafter specified.

H. Repair any major deformations caused by the removal of large boulders, cave-in, etc., with concrete, bank run gravel or crushed stone.

1.2 - WORK UNDER OTHER SECTIONS:

A. Section 02210 Site Grading and Drainage

1.3 - PROTECTION AND PRECAUTIONARY MEASUREMENTS:

A. Carefully maintain benchmarks, monuments and other reference points. If disturbed or destroyed, replace as directed.

A. Protect active pipes, if encountered and notify persons owning same. If encountered, remove inactive utilities from within building lines. Plug or cap where indicated or directed.

B. Protect persons and property from damage and discomfort caused by dust. Water as necessary to quell dust.

D. Protect trees and associated root zones of trees designated for protection.

1.4 – EROSION CONTROL:

A. Employ satisfactory methods and operations to minimize erosion of soil during earthwork operations. Follow accepted standards of the RI Department of Transportation for erosion control.

PART 2 - ELEVATION AND OBSTRUCTIONS:

A. The Contract is based upon the following: That the surface elevations are as indicated; that no pipes or other artificial obstructions, except those indicated, will be encountered.

B. In case the actual conditions differ substantially from those stated, and/or shown, the Contract shall be adjusted in accordance with the Unit Prices submitted with the Bid.

2.1 - QUALITY ASSURANCE:

A. Materials, methods and compaction tests will be subject to approval of an approved Inspection Agency as specified in Sections 01400 and 01410 of this Project Manual.

2.2 - CODE AND STANDARDS:

A. Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction. The contractor is required to contact Dig-Safe prior to start of excavation.

PART 3 REQUIREMENTS:

3.1 - TRAFFIC:

A. Conduct operations and the removal of debris to ensure minimum interference with roads, streets, walks and other adjacent occupied or used facilities.

1. Do not close or obstruct streets, walks or other occupied or used facilities without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

2. Provide all traffic control required and pay all costs incurred.

3.2 - DAMAGES:

A. Promptly repair damages caused to adjacent facilities by operations, as directed by the Owner's Representative and at no additional cost.

3.3 - EXISTING SURFACE MATERIAL REMOVAL:

A. Stripping shall be limited to small areas at a time, immediately followed by filling, to avoid unnecessary disturbance to the subgrade.

C. If necessary, stockpile soils in storage piles in areas shown or where otherwise indicated. Construct storage piles to freely drain surface water. Cover storage piles if required to prevent windblown dust.

3.6 - GENERAL OPEN EARTH EXCAVATION:

A. Excavate as necessary for work shown or specified. Remove earth, rocks, boulders and other obstructions as herein defined.

B. Allow ample space for form work.

C. Leave bearing surfaces undisturbed, level and true. Excavate to solid bearing at elevations no higher than those shown.

B. Do all corrective work as specified above at no expense to the Owner.

3.7 - STABILITY OF EXCAVATIONS:

A. Slope sides of excavations to comply with Local Codes and Ordinances having jurisdiction. Shore and brace where sloping is not possible either because of space restrictions or stability of material excavated.

B. Maintain sides and slope of excavations in a safe condition until completion of backfilling.

3.8 - SHORING AND BRACING:

A. Brace and shore sides of excavation as necessary to prevent danger to persons or damage to structures, injurious caving or erosion.

B. Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and crossbraces, in good serviceable condition.

C. Provide shoring and bracing to comply with Local Codes and Authorities having jurisdiction.

D. Maintain shoring and bracing in excavation regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.

E. Repair slides and cave-ins should they occur.

F. Remove shoring and bracing before backfilling.

G. In removing shoring and bracing, exercise care to prevent voids. Immediately fill voids, if formed, with approved fill material.

3.9 - WATER AND FROST:

A. Keep earth under footings and slabs dry and free from frost. Should bearing surfaces be softened by water or frost, re-excavate to solid bearing and fill with concrete or gravel as directed by the Owner's Representative at no expense to Owner.

PART 4 - FILLING:

4.1 - GENERAL:

1. Remove debris and organic matter before filling.
2. Use approved materials only for fills.
3. Obtain Owner's Representative 's approval before filling.
4. Make fills as soon as feasible thereafter to insure maximum settlement and to avoid disturbance to the subgrade.
5. Do not place fill on frozen ground.
6. Provide all material free from frost, roots and other vegetable matter, large rocks, rubbish brick and other undesirable material.
7. Install fills in indicated thicknesses.
8. Provide neat, uniform side slopes (smooth and graded) to those excavations not required to be filled.

4.2 - FILL MATERIALS:

A. "Processed Gravel" in pipe trenches as roadway and sidewalk base course and other areas where indicated, shall be free from loam and other specified undesirable materials, conforming to the following analysis:

Sieve Size	% Passing
1-1/2"	100
1"	75-95

3/4"	60-85
3/8"	45-75
#4	30-65
#40	6-25
#200	0-4

On-site material may be used under building areas only after satisfactory test data has been submitted and only with the Owner's Representative approval.

B. "Bank Run Gravel" and/or "Gravel Borrow" under building slabs, in pipe trenches, around manholes and catch basins, against damp-proofed foundation walls, where indicated as "gravel fill", and where else shown, free from loam and other specified undesirable material, and conforming to the following analysis:

Sieve Size	% Passing
1"	100
1/2"	50-85
3/8"	50-80
#4	40-75
#40	15-35
#200	0-8

On-site material may be used, only after satisfactory test data has been submitted and only with the Owner's Representative's approval.

C. "Stone Fines" consisting of clean, inert, hard, durable grains of quartz or other hard durable rock; free from loam or clay, surface coatings and deleterious material; and conforming to the following analysis:

Sieve Size	% Passing
#8	100
#50	25-40
#100	0-10
#200	0-5

D. "Washed Crushed Stone" consisting of clean, inert, hard, durable grains of quartz or other hard durable rock; free from loam or clay, surface coatings and deleterious material; and having an aggregate size no greater than 3/4" and no less than 1/2".

PART 5 - COMPACTION:

5.1 - GENERAL:

1. Place fill in horizontal layers, beginning with the lowest areas and building up until the entire area to be filled is at a uniform elevation.

2. Compact each layer with an approved vibratory device to achieve minimum density requirements.

3. Continue compaction of each layer until there is no evidence of weaving or creeping. Compact places inaccessible to large equipment with approved mechanical tampers, as well as around the perimeter of foundations, walls and around column pedestals and footings.

4. Do not use rolling equipment in the area adjacent to retaining walls.

5. Earth in cut sections for paved areas shall be excavated to subgrade. The resulting surface of the cut shall be compacted as required, to not less than ninety five percent (95%) of maximum density.

A. Compact to ninety percent (90%) of maximum density in twelve (12) inch loose layers, except for two (2) six (6) inch layers directly over pipes.

B. Attention is directed to the grain size characteristics of the material and necessity for the difficulty of controlling and maintaining optimum moisture content during compaction. Material in each layer shall contain optimum moisture for maximum density compaction and the optimum moisture content shall be uniformly distributed throughout the layer. Harrowing or other working of the material may be required to produce uniformity and control of the water content.

C. Slope the surface of each layer one percent (1%) plus or minus, at the conclusion of each day's work to provide surface drainage.

D. Whenever in-place densities are below minimum acceptable limits, as determined by AASHTO T-191 or AASHTO T-205, additional compaction will be required to produce the specified densities, without additional cost to the Owner. When greater densities than the minimum specified are required by the Owner's Representative, the work will be subject to Contract Unit Prices.

E. When requested by the Owner's Representative, the Owner will retain a laboratory approved by the Owner's Representative to supervise and control the construction of the fill. This laboratory shall perform tests in accordance with AASHTO T-180 on the materials the Contractor proposed to use to establish the compacted dry weight at optimum moisture. Results of these tests shall be

submitted to the Owner's Representative for approval and work may start only after the Owner's Representative approves the test results.

F. The approved testing laboratory under the direction of the Owner's Representative shall provide continuous inspection of compacted fills.

G. Backfilling material shall conform to laboratory requirements herein specified and shall be soil obtained from a borrow pit approved by the Owner's Representative.

H. The area to be filled shall be cleared of all loose material and inspected and approved by the laboratory. Fill material shall be free from frost and shall not be placed on frozen ground. Fill shall be deposited in layers of such thickness as required by its nature or as directed, but the uncompacted thickness of each layer shall not exceed (12) inches. Each layer shall be separately compacted to a uniform solid mass by use of vibratory compactors or other approved equipment. Fill shall be placed in horizontal layers, beginning with the lowest areas and building up until the entire area to be filled is at a uniform elevation. The Contractor shall control the moisture content of the fill material, as directed by the laboratory to insure maximum density by either the addition of water, or by harrowing and working prior to compacting. Each layer shall be free of ruts and shall meet compaction requirements before a succeeding layer is placed. Compaction of each layer shall continue until no weaving or creeping takes place.

I. Backfill in areas excavated after construction of the fill shall be constructed in layers whose loose thickness shall not exceed six (6) inches and shall be thoroughly compacted with approved hand equipment to the density herein before specified.

J. Field tests of moisture content prior to compaction and dry weight after compaction shall be made by the laboratory to insure thorough and uniform compaction. Testing shall be performed on the layer immediately below the layer just compacted.

K. At least four (4) tests of moisture content shall be made each day. Additional tests shall be made if material or moisture conditions change.

END OF SECTION

SECTION 02210 - SITE DRAINAGE

PART 1 - GENERAL:

1.1 - RELATED DOCUMENTS:

A. The General Conditions, Supplementary Conditions and applicable portions of Division 1 of the Specifications are a part of this Section, which shall consist of trimming and grading of all shoulders, side slopes, sidewalks and subgrade whether in excavation or embankment, and the work shall be performed in a neat and workmanlike manner, to the lines and grades of the Typical Sections shown on the Plans and as the Owner's Representative may direct.

B. This item shall also include the grading and compaction of the subgrade upon which the sidewalks, pavements, and topsoils shall rest, to the lines and grades of the Plans and as the Owner's Representative may direct.

1.2 - WORK UNDER OTHER SECTIONS:

A. Earthwork and Remediation Grading: Section 02200.

PART 2 - MATERIALS:

(Not Applicable)

PART 3 - CONSTRUCTION METHODS:

A. The areas to be graded shall have all unsatisfactory material removed and shall then be rolled as directed to a tolerance of one (1) inch plus or minus, provided that this one (1) inch above and below grade is not maintained for a distance longer than one hundred (100) feet. Any depressions which may occur during the rolling shall then be filled with additional suitable material and the surface then regraded and rolled until true to the lines and grades as required.

B. All slopes shall be graded and finished to conform to the lines and grades indicated on the Plans and as directed to the tolerance of two (2) inches plus or minus.

C. Areas to be loamed shall be trimmed and graded to the lines and grades as indicated on the Plans or as directed, before any loam is placed.

D. All walks shall be set with positive drainage, resulting in no puddling.

END OF SECTION

SECTION 02270 - SLOPE PROTECTION AND EROSION CONTROL

PART 1 - GENERAL:

1.1 - RELATED DOCUMENTS:

A. Drawing and General Provisions of Contract, including General Conditions and Supplementary Conditions and Division 1 Specification Sections apply to work in this Section.

1.2 - DESCRIPTION OF WORK:

A. Furnish and install temporary control measures as needed during the progress of the work or as ordered by the Owner's Representative during the life of the Contract to control water pollution through use of baled hay checks and other erosion control devices and methods.

PART 2 - PRODUCTS:

2.1 - MATERIALS:

A. Haybales: Haybales shall be mowings of acceptable herbaceous growth reasonably free from noxious weeds or woody stems and shall be reasonably dry. Haybales shall be approximately 36" long x 18" wide x 24" high. Bales shall be anchored with 1" x 1" x 3' long wooden stakes.

B. Silt Fence: Shall be a synthetic non-degradable fabric capable of trapping and holding accumulations of water born siltation. Silt fence shall be mounted on wood stakes, and shall be no less than 30" high.

C. Erosion Control Fabric: Shall be an Excelsior or Jute fabric designed to be used on seeded slopes with a gradient of 3:1 or greater, or where specifically noted on the plans. Fabric shall remain in place and decompose naturally.

PART 3 - EXECUTION:

3.1 - PREPARATION:

A. General: All work shall be in accordance with the RIDEM Remedial Approval Letter and Remedial Action Work Plan, as amended (see section 01060 of these specifications).

B. The Contractor will be required to incorporate all erosion control features into the project at the earliest practicable time. Pollution control measures will be used to correct conditions that develop during construction, that were not foreseen during the design stage, that are needed prior to installation of permanent pollution control features, or that are needed temporarily to control erosion that develops during normal construction practices.

C. Contractor shall have on-site all necessary haybales prior to undertaking any work that may cause erosion.

D. If overland water flow becomes a problem in the construction progress then the Contractor shall take it upon himself to construct any and all ditches, temporary reads, fills and pipe culverts as necessary to alleviate a water problem which may affect progress of work. This work shall be performed at no additional expense to the Owner.

E. Erosion Control Fabric shall be used on all proposed loam & seed slopes with a gradient of 3:1 or greater, and where specifically noted on the plans. Fabric shall be installed in accordance with the manufacturer's instructions, and shall remain in place and decompose naturally.

3.2 - SPECIAL INSTRUCTIONS:

A. In the event that temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install controls as a part of the work as scheduled, and are ordered by the Owner’s Representative, such work shall be performed by the Contractor at his own expense.

B. It is also the Contractor's responsibility to maintain the placement of silt fence.

C. In case of repeated failures on the part of the Contractor to control erosion, pollution and/or siltation, the Owner’s Representative reserves the right to employ outside assistance or to use his own forces to provide the necessary corrective measures. Such incurred direct cost plus project engineering costs will be charged to the Contractor and appropriate deductions made from the Contractor's monthly progress payment.

D. Any erosion, siltation or general damage resulting from neglect by the Contractor to undertake erosion control measures as required or directed shall result in the responsibility of the Contractor to correct the areas as determined by Owner’s Representative.

E. Contractor shall also be required to install and maintain erosion control measures throughout the duration of the project.

F. The erosion control features installed by the Contractor shall be acceptably maintained by the Contractor.

G. Any requirements stipulated by environmental regulators arising from the contractor's negligence in properly maintaining erosion and sedimentation control measures shall be conducted by the contractor at no additional cost to the Owner.

3.3 - REMOVAL AND FINAL CLEANUP:

A. Upon complete stabilization of soils against erosion, remove sediment control devices and all accumulated silt. Dispose of silt and waste materials in proper manner.

END OF SECTION

SECTION 02615 – SPECIAL SURFACING

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Providing labor, materials, tools and equipment to furnish and install Poured in Place rubber resilient surface.

B. Providing labor, materials, tools and equipment to furnish and install color coated surface on existing asphalt.

1.02 RELATED SECTIONS

Section 02200 -- Earthwork

1.03 SUBMITTALS

A. Certified analysis of Poured-in-Place Resilient Surface.

B. Manufacturer's installation instructions and specifications.

PART 2 – PRODUCTS

2.01 Poured-in-Place Resilient Surface

A. Manufactured by (or equal):	Surface America, Inc. PO Box 157 Williamsville, NY 14231
B. Distributed by:	O'Brien & Sons 93 West Street Unit F Medfield, MA 02052 (508) 359-4200
C. Product:	"PlayBound" Poured-In-Place, or equal Colors: Yellow #200 & Sky Blue #180

2.02 Color Coating System

A. Three (3) coat, Novaplay color system as produced by Nova Sports, USA, or approved equal. Surface shall be multicolored, as specified in the plan set. Contractor shall order total quantity and colors of surfacing with sufficient lead time to ensure availability of material, and to not hinder construction schedule.

Color system coatings shall be pure acrylic, containing no asphaltic or tar emulsions, nor any vinyl, alkyd or non-acrylic resins. The color system shall be factory-mixed compounds in accordance with manufacturer's specifications. All materials shall be delivered to the jobsite in sealed containers with the manufacturer's label affixed.

Manufactured by: Nova Sports U.S.A.
6 Industrial Road, Bldg. #2
Milford, MA 01757
1-800-USA-NOVA

PART 3 – EXECUTION

3.01 Poured-in-Place Resilient Surface

A. Inspect and approve bituminous concrete substrate. Verify the grade, such that finish surface shall shed water away from the play structure.

B. Comply with the instructions and recommendations of the Poured-in-Place playground surfacing manufacturer.

3.02 Color Coating System

A. Make any corrections necessary to the bituminous base to insure proper pitch and grades. Allow surface to cure at least fourteen (14) days before applying the "Nova" (or equal) system.

B. Bituminous Pavement shall be thoroughly cleaned using a high pressure water, air broom, or hand broom to remove all oil, grease, dirt and other debris. Removal of grease and oil requires the use of a suitable detergent that will not damage the surface of the Bituminous pavement. After using detergents, completely flush the surface with water. If oil or grease has softened the pavement, remove the damaged pavement and repair with a suitable patch.

C. Contractor must notify the Owner's Representative of all applications, 48 hours prior to installation. The surface to be coated shall be inspected and made sure to be free of grease, oil, dust, dirt, and other foreign matter before starting work.

D. Application shall proceed only if the surface is dry and clean and the temperature is at least fifty degrees (50°F) Fahrenheit and rising, and the surface temperature is not in excess of one hundred forty degrees (140°F). Do not apply coatings when rain is imminent.

E. Install sleeves and fencing and have them approved by the Owner before application of the "Nova" (or equal) system.

1. Novasurface Acrylic Resurfacer
2. Novaplay surface

F. Mix the coating in accordance with manufacturer's specifications. Do not mix more material than will be used in 45 minutes.

F. Each coat in this system must dry completely before next application. Between each coat, inspect entire surface. Any defects should be repaired. Scrape surface to remove any lumps, and broom or blow off all loose matter.

F. Using a neoprene rubber squeegee, apply one (1) coat of Novasurface Acrylic Resurfacer diluted with one (1) part clean water to two (2) parts Novasurface, or as recommended by Manufacturer. Clean, bagged sand shall be incorporated into the diluted novasurface at the rate of five (5) to ten (10) lbs., per gallon, or as recommended by Manufacturer. Sand gradation shall be 50 to 60-mesh or as per manufacturer's specifications. Allow application to dry thoroughly.

G. Using a neoprene rubber squeegee, apply two (2) coats of Two Color Novaplay surface (color to be designated by owner) over the approved filler coat surface at a rate of .064-.069 gallons/SY per coat, 130-140 SF per gallon per coat, or as per manufacturer's recommendations. Allow each application to dry thoroughly. A small (not to exceed 8 fl. Oz. Per gallon) quantity of water may be used in diluting these coatings, only if coatings are drying too rapidly. Permission of the owner shall be obtained before adding additional water. The first coat shall be applied the length of the court surface and the second coat, the width.

H. Layout and mask edges of color areas. Utilize stencils as necessary to provide colored designs and/or lettering. Allow review of layout by Architect prior to application. Apply Nova system color areas without fogging, overspread, overspray or spattering. The edges between colors shall be sharp and distinct.

J. After application of Nova surface, the coating shall be protected from crossing pedestrians or vehicles for a time at least equivalent to the drying time of the coating.

3.03 Final Acceptance

A. Contractor shall allow review of color surfacing and lettering by Owner's Representative, following installation. All edges between colors shall be sharp and distinct. Smearing, splattering, or inconsistent surface shall be repaired by Contractor at no additional cost to the Owner. Owner's Representative shall review the surface an additional time following any repairs. Should additional repairs and reviews be needed due to failure of the work to comply with the standards of these specifications, Contractor shall perform these repairs at no additional cost to the Owner.

END OF SECTION

SECTION 02620 - CURBING

PART 1 GENERAL

1.01 SECTION INCLUDES:

A. Setting of old Concrete Curbs

B. Re-setting of existing Granite Curbs

1.02 RELATED SECTIONS

A. Sections

02100	Site Clearing and Preparation
02200	Earthwork and Remediation Grading
02600	Concrete Surfacing

1.03 REFERENCES

A. Comply with the provisions of Section 906 - Curbing for Roadways, *Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 Edition,* as amended by the RIDOT.

1.04 SUBMITTALS

A. Under provisions of Section 01340

1. Submit product data and materials list.

1.05 QUALITY ASSURANCE

A. Comply with the provisions of Section 906 - Curbing for Roadways, *Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 Edition,* as amended by the RIDOT.

Delete Sections 906.04 and 906.05: Basis of Payment

PART 2 PRODUCTS

2.01 GRANITE CURB

A. Old Granite Curb to match existing curb.

PART 3 EXECUTION

3.01 RESETTING OF CURBING:

1. Inspection:

   A. Verify that subgrade is ready to receive installation of curb work.

   B. Beginning curb installation work means acceptance of subgrade.

2. Installation:

   A. Match the lines and grades of the existing curb.

   B. As per applicable subsection of Section 906 of the RIDOT Standard Specifications.

END OF SECTION

SECTION 02710 - CHAIN LINK FENCING

PART 1 - GENERAL:

1.1 - SECTION INCLUDES:

A. Fence, framework, fabric and accessories.

B. Excavation and concrete work for post bases.

C. Site welding of steel eyelets to existing galvanized fence posts.

1.3 - REFERENCES:

A. American Society for Testing and Materials (ASTM) Standards:

1.4 - QUALITY ASSURANCE:

A. Manufacturer: Company specializing in commercial quality chain link fencing with a minimum of ten (10) years of experience.

B. Installation: ASTM F567 Installation of Chain Link Fence.

C. Installation in public use areas. Highest standards for recreation use.

1.5 - SUBMITTALS:

A. Submit Manufacturer's Certification that the material was produced in accordance with the applicable ASTM Standards as specified for all materials provided.

B. Submit sample of galvanized fence fabric.

PART 2 - PRODUCTS:

2.1 - MATERIALS:

A. Black Vinyl Polymer coated galvanized steel framework and fittings. Black vinyl Polymer coated steel chain link fabric.

B. Posts, gate frames, braces, rails, stretcher bars, truss rods and tension wire shall be of steel. Gate hinges, supporting arms, stretcher bar bands, shall be of steel or equal except that rail ends, ties and clips may be of aluminum.

C. Posts and Framework: ASTM F1083; Schedule 40, heavy wall steel pipe, standard weight, one piece without joints.

D. Standard Chain Link Fabric shall be 2” diamond mesh, 9 gauge galvanized wire with knuckled selvage.

2.2 - POST TOPS:

A. Post tops shall consist of ornamental tops. When so required, or when a top rail is to be provided, the top shall be provided with a hole suitable for the thorough passage of the top rail. The post tops shall fit over the outside of posts and shall exclude moisture from posts. Post tops shall be cast steel, hot dipped, galvanized, set screw retained.

2.3 - RAILS:

A. Top, center and bottom rails shall be 1 5/8 inch outside diameter.

B. Rails shall be in lengths not less than eighteen (18) feet and shall be fitted with couplings for connecting the lengths into a continuous run. The couplings shall not be less than six (6) inches long with .070 minimum wall thickness, and shall allow for expansion and contraction of the rail. Suitable ties or clips shall be provided in sufficient number for attaching the fabric securely to the top rail at intervals not exceeding twenty-four (24) inches. Means shall be provided for attaching the rails to each gate, corner, pull and end post.

2.4 - TENSION BARS:

A. Tension bars shall not be less than 3/16 by 3/4 inch and not less than two (2) inches shorter than the normal height of the fabric with which they are to be used. One (1) tension bar shall be provided for each end and gate post, and two (2) for each corner and pull post.

B. Tension bars shall be sized appropriately as per manufacturer’s recommended tension bar for the Chain Link Fabric used on each portion of fence.

2.5 - TIES OR CLIPS:

A. Aluminum 6 gauge ties or clips of adequate strength shall be provided in sufficient number for attaching the fabric to all line posts at intervals not exceeding fifteen (15) inches; and not exceeding twenty four (24) inches when attaching fabric to top rail or tension wire.

2.6 - BANDS OR CLIPS:

A. Bands and fittings of beveled galvanized steel per ASTM F-626 shall be provided in sufficient number for attaching the fabric and stretcher bars to all terminal posts at intervals not exceeding fifteen (15) inches. Tension bands shall be formed from beveled steel and shall have a minimum thickness after galvanizing of 0.078 inch; and minimum width of 3/4 inch for posts 4" O.D. or less; and 0.108 inch thickness by 7/8 inch for posts larger than 4" O.D. Brace bands shall be formed from beveled steel and shall have a minimum thickness of 0.108 inch after galvanizing; and minimum width of 3/4 inch for posts 4" O.D. or less standard mill tolerances of +/- 0.005 inch on thickness and .010 on width shall apply- attachment bolts shall be 5/16" x 1-1/4" galvanized carriage bolts with nuts.

2.7 – TENSION WIRE:

A. Tension wire shall be standard 7-gauge coil spring tension wire (CSTW)

PART 3 - EXECUTION:

3.1 - INSTALLATION:

A. Install fencing and accessories in accordance with ASTM F567.

B. Provide dimensions as indicated.

C. Space line posts at indicated intervals.

D. Excavation: Provide excavation as necessary to receive footings and backfill as specified on Drawings for all fence, backstop and gate posts. Tamp bottom of all post holes prior to installation of posts and concrete footings.

E. Setting Posts:

1. Remove loose and foreign materials from sides and bottom of holes and moisten soil prior to placing concrete.

2. Center and align posts.

3. Place concrete around posts in a continuous pour and vibrate or tap for consolidation.

4. Check each post for vertical and top alignment and hold in position during placement.

5. Trowel tops of footings and slope or dome to direct water away from posts.

6. Keep exposed concrete surfaces moist for at least seven (7) days after placement.

F. Concrete Strength:

1. Allow concrete to attain at least seventy five percent (75%) of its minimum twenty eight (28) day strength before rails, tension wire and fabric is installed.

2. Do not in any case, install such items in less than seven (7) days after placement of concrete.

3. Do not stretch and tension fabric and wire until concrete has attained its full design strength.

G. Provide top rail through line post tops and splice with six (6) inch long rail sleeves.

H. Stretch fabric between terminal angle and corner posts. Install one (1) tension bar at each terminal and gate post and two (2) at each corner angle and pull post. Contractor shall use appropriate manufacturer recommended tension bars for the chain link fabric used on each portion of fence.

END OF SECTION

SECTION 02711 – ORNAMENTAL FENCE

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Ornamental fencing and accessories.

1.2 RELATED SECTIONS

A. Section 03300 - Cast in Place Concrete.

1.3 SUBMITTALS

A. Changes in specification may not be made after the bid date.

B. Shop Drawings: Layout of fence and gates with dimensions, details and finishes of component accessories and post foundations.

C. Product Data: Manufacturer's catalogue cuts indicating material compliance and specified options.

D. Samples: Color selections for polyester finishes. If requested, samples of materials, (e.g. finials, caps, and accessories).

1.4 SPECIAL WARRANTY

A. Provide manufacturer's standard limited warranty that its ornamental fence system is free from defects in material and workmanship including cracking, peeling, blistering and corroding for a period of **15 years** from the date of purchase.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Products from other qualified manufacturers having a minimum of 5 years experience manufacturing ornamental fencing may be reviewed in accordance with Section 01631 - Substitutions, and if they meet the following specifications for design, size, gauge of metal parts and fabrication.

B. Ornamental Fence:
Style: Imperial – Style D
Height: 48" as shown on plan.

C. Approved Manufacturer: Master Halco Inc., Orange, CA (or approved equal)
Phone (800) 229-5615 Fax (714) 385-0104

2.2 ORNAMENTAL FENCE

A. Pickets: Galvanized square steel tubular members manufactured per ASTM A-924/A-924M, having a 45,000 psi (310 MPa) yield strength and hot-dip galvanized per ASTM A653/A653M with a G90 zinc coating, 0.90 oz/ft^2 (0.27 kg/M^2. Minimum size pickets 3/4". Attach each picket to each rail with 1/4" (6 mm) industrial drive rivets. Size #4. Minimum gauge wall thickness14 gauge.

B. Rails: 1-1/2" (38mm) x 1-3/8" (35mm) x 1-1/2" (38mm), 11 gauge [0.120" (3.05mm)] thick galvanized steel "U" channel per ASTM A-653/A-653M, having a 50,000 psi (344 MPa) yield strength and G90 zinc coating, 0.90 oz/fl^2 (o.27 kg/M^2). Punch rails to receive pickets and rivets and attach rails to rail brackets with 2 each, 1/4" (6 mm) industrial drive rivets.

C. Posts: Galvanized square steel tubular members manufactured per ASTM A-653/A-653M having a 45,000 psi (310 MPa) yield strength and G90 zinc coating, 0.90 oz/fl^2). Zinc coating is(inside and outside), (**Posts zinc coated outside and painted inside, is unacceptable**). Minimum post size 2 ½", having 14 gauge wall thickness weighing 2.733 lb/ft.

D. Accessories: Assembled panels with ornamental accessories attached using industrial drive rivets to prevent removal and vandalism.

E. Finish: All pickets, channels, posts, fittings and accessories polyester coated individually after drilling and layout, to ensure maximum corrosion protection. **(Coating of assembled sections is unacceptable**). All components are given a 4-stage "Power Wash" pre-treatment process that cleans and prepares the galvanized surface to assure complete adhesion of the finish coat. All metal is then given a polyester resin based power coating applied by the electrostatic spray process, minimum 2.5 (.0635 mm) mils. The finish is then baked in a 450^{0}F (232^{0}C) (metal temperature) oven for 20 minutes. Color BLACK.

2.3 ACCESSORIES

A. Rail Attachment Brackets - die cast of zinc (ZAMAK #3 Alloy) per ASTM B86-83Z 33521. Ball and socket design capable of 30° swivel (up/down - left/right). Bracket to fully encapsulate rail end for complete security. (no substitution)

B. Industrial Drive Rivets: Of sufficient length to attach items in a secure nonrattling position. Rivet to have a minimum of 1100 lbs. (4894 N) holding power and a shear strength of 1500 lbs. (6674 N).

C. Ornamental Fence Accessories: Provide indicated items required to complete fence system. Galvanize each ferrous metal item in accordance with ASTM B695 and finish to match framing.

D. Post Caps: Formed steel, cast of malleable iron or aluminum alloy, weather tight closure cap. Provide one standard style post cap for each post.

E. Rings: Formed steel, cast of malleable iron or aluminum alloy. Color black

2.4 SETTING MATERIAL

A. Concrete: Minimum 28 day compressive strength of 3000 psi (20 MPa).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify areas to receive fencing are completed to final grades and elevations.

B. Ensure property lines and legal boundaries of work are clearly established.

3.2 INSTALLATION

A. Install fence in accordance with manufacturer's instructions.

B. Space posts uniformly at 7'8-3/4" (2356 mm) maximum face to face unless otherwise indicated.

C. Concrete Set Posts: Drill hole in firm, undisturbed or compacted soil. Holes shall have diameter 4 times greater than nominal outside dimension of post, and depths approximately 6" (152 mm) deeper than post bottom. Excavate deeper as required for adequate support in soft and loose soils, and for posts with heavy lateral loads. Set post bottom 36" (914 mm) below surface when in firm, undisturbed soil. Place concrete

around post in a continuous pour. Trowel finish around posts and slope to direct water away from posts.

1. Gate Posts and Hardware: Set keepers, stops, sleeves and other accessories into concrete.

D. Surface mount (wall mount) posts with mounting plates where indicated. Fasten with lag bolts and shields.

E. Check each post for vertical and top alignment, and maintain in position during placement and finishing operation.

F. Align fence panels between posts. Firmly attach rail brackets to posts with 1/4" (6 mm) bolt and lock nut, ensuring panels and posts remain plumb.

3.3 ACCESSORIES

A. Install post caps and other accessories to complete fence.

3.4 CLEANING

A. Clean up debris and unused material, and remove from site.

END OF SECTION

SECTION 02760 SITE FURNISHINGS & STRUCTURES

PART 1 - GENERAL

1.01 Drawings and general provisions of Contract, including General and Supplementary Conditions, Special Conditions, and related parts of the Technical Specifications apply to the work of this section.

1.02 SECTION INCLUDES:

A. Play Climbing Structure
B. Shade Roof Structures
C. Benches
D. Trash Receptacles
E. Gazebo

1.03 RELATED SECTIONS:

Section 01340	Shop Drawings, Product Data, and Samples
Section 02615	Special Surfacing

1.04 SUBMITTALS:

A. Submit manufacturers' product data and written installation instructions, and warrantee information for all site furnishings.

B. Submit color & material samples for all site furnishings

C. Approved products of equivalent or greater quality may be submitted for review.

D. Submit shop drawings for all product installations, in accordance with manufacturer's specifications.

PART 2 – PRODUCTS

2.01 FALLON SCHOOL PLAY CLIMBING STRUCTURE:

A. Manufactured by: Landscape Structures Inc., or approved equal
601 7th Street South
Delano, MN 55328

B. Distributed by: O'Brien & Sons
93 West Street Unit F
Medfield, MA 02052
(508) 359-4200

C. Product: Smartplay Venti Structure, or approved equal
Design #210739

D. Colors: Contractor to provide a diagram with an attractive color scheme for review by the City and Fallon PTO. The Fallon School colors are Blue and White.

2.02 FALLON SCHOOL INTEGRAL SHADE ROOF STRUCTURES (Add Alternate):

A. Manufactured by: Landscape Structures Inc., or approved equal
601 7th Street South
Delano, MN 55328

B. Distributed by: O'Brien & Sons
93 West Street Unit F
Medfield, MA 02052
(508) 359-4200

C. Products: Two (2) "Wave Cool Topper Roofs"

D. Colors: To conform to the main "Venti" play structure color scheme.

2.03 FALLON SCHOOL INDEPENDENT SHADE ROOF STRUCTURE (Add Alternate):

A. Manufactured by: Landscape Structures Inc., or approved equal
601 7th Street South
Delano, MN 55328

B. Distributed by: O'Brien & Sons
93 West Street Unit F
Medfield, MA 02052
(508) 359-4200

C. Product: One (1) Cool Topper Center Pole shade structure

D. Colors: To conform to the main "Venti" play structure color scheme.

2.04 FALLON SCHOOL BENCH (Add Alternate):

A. Manufactured by: DuMor, Inc., or approved equal
PO Box 142
Mifflintown, PA 17059

B. Distributed by: O'Brien & Sons
93 West Street Unit F
Medfield, MA 02052
(508) 359-4200

C. Product: Two (2) benches, 58 Series Steel Bench, or approved equal; Six (6) foot Length

D. Color: Match the vertical support pole color of Landscape Structures Venti play Structure

2.05 SUMMIT STREET PARK GAZEBO:

A. Manufactured and Distributed by:
The Cedar Store (www.CedarStore.com)
c/o Fifthroom.com
5410 Route 8
Gibsonia, PA 15044

Email: Mark.Winkelman@Fifthroom.com

Fax: 1-724-444-5301

C. Product: 18' Treated Pine Octagon Double Roof Gazebo (or approved equal)

Standard construction features
- No Deck
- Standard Braces
- Top Rail Sections
- Cupola
- No Screens
- No fan
- Straight Facia
- Straight Posts

- Standard Roof
- Surface mount hardware, & trim to hide hardware

Upgrades:
- 2x2 Square Railings
- Treated Pine Tongue and Grove Ceiling
- Navajo White Stain SW3005
- Cedar Shake Shingles
- Stainless Steel Hardware
- Sealed Cedar Shake Roof

D. Colors: Navajo White Solid Stain SW3005

2.06 SUMMIT STREET PARK BENCH:

A. Manufactured by: DuMor, Inc., or approved equal
PO Box 142
Mifflintown, PA 17059

B. Distributed by: O'Brien & Sons
93 West Street Unit F
Medfield, MA 02052
(508) 359-4200

C. Product: Two (2) benches, 58 Series Steel Bench, or approved equal; Six (6) foot Length

D. Color: Black

2.06 SUMMIT STREET PARK TRASH RECEPTACLE:

A. Manufactured by: DuMor, Inc., or approved equal
PO Box 142
Mifflintown, PA 17059

B. Distributed by: O'Brien & Sons
93 West Street Unit F
Medfield, MA 02052
(508) 359-4200

C. Product: One (1) trash receptacle, 87 Series Steel Receptacle, or approved equal

D. Color: Black

PART 3 - EXECUTION

3.01 GENERAL:

A. Field stake and label locations of all site furnishings as shown on the Drawings. Adjust as directed by the Owner's Representative. Re-field stake and label locations as necessary.

B. Work shall be done by experienced workmen.

C. All work shall be done in accordance with manufacturer's recommendations for installation.

D. Set units true and plumb. Perform final adjustments as required for use.

E. Install concrete foundations, footings and related anchoring per manufacturer's recommendations for this geographic area. Manufacturer's recommendations must be approved in writing by the Owner's Representative prior to installation.

F. Concrete foundations and steel posts and supports shall be installed true level to proper elevation prior to installation of any finish paving. Patching around the anchored site furnishing will not be permitted.

G. Touch-up of all finishes shall be required to the approval of the Owner's Representative. If an excessive amount of touch-up is required due to the Contractor's handling, the entire unit shall be refinished at no additional cost to the Owner.

END OF SECTION

SECTION 02810 - SOIL PREPARATION FOR LAWN ESTABLISHMENT

PART 1 - GENERAL:

1.1 - RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Section apply to work of this Section.

1.2 - DESCRIPTION OF WORK

A. Provide all materials, equipment and labor necessary to complete the work as indicated on the Drawings or as specified herein.

B. The principal work of this Section includes, but may not be limited to the following:

1. Grading and Spreading Topsoil.
2. Grading and Spreading Top Dressing.
3. Preparation of Areas for Seeding
4. Application of Lime Stone.
5. Application of Lawn Starter Fertilizer.
6. Application of Turf Maintenance Fertilizer.

1.3 - QUALITY ASSURANCE

A. Subcontract work to a firm specializing in such work unless Contractor is fully experienced and qualified.

B. Do not make substitutions without written approval. If specified materials are not available, obtain approval for substitution from the Owner's Representative.

C. Contractor shall provide documentation ensuring only vehicles equipped with floatation tires or tracked vehicles that exert no more than eight (8) pounds per square foot of pressure on the ground surface shall be allowed on any proposed or existing turf areas.

1.4 - SUBMITTALS

A. Certified analysis of on-site topsoil to be provided. Certification shall list soil additives to topsoil including rates and type.

B. Certified analysis and source of off-site topsoil to be provided. Certification shall list soil additives to topsoil including rates and type.

C. Certifications and/or labels of proposed soil additives stating names of each.

1.5 - PRODUCT DELIVERY, STORAGE AND HANDLING

A. Protect all products from weather or other damaging or deteriorating conditions.

PART 2 - PRODUCTS:

2.1 - TOPSOIL

A. For use in all planting and lawn areas

B. Off-Site Topsoil shall be fertile, friable, medium textured sandy loam with no admixture of refuse or any natural or introduced material toxic to plant growth and free from subsoil and weeds, stumps, roots, brush, stones, clay lumps or other extraneous matter over 1" in diameter. Sandy loam shall posses good filtration and permeability rates, and shall conform to the requirements defined below:

1. Topsoil shall be typical of cultivated topsoils of the locality, containing not less than 3.5% or more than 8% by weight, of decayed organic matter (humus), as determined by ASTM F-1647. Topsoil shall be taken from a well-drained, arable site, free of sub-soil, large stones, earth clods, sticks, stumps, clay lumps, roots or other objectionable, extraneous matter or debris. Topsoil shall also be free of Quackgrass rhizomes, Agropyron Repens, and the nut-like tubers of Nutgrass, Cyperus Esculentus, and all other primary noxious weeds. Topsoil shall not have a pH factor of less than 6.0 or greater than 7.0. Topsoil shall not be delivered or used for planting while in a frozen or muddy condition. If determined by a soil test the existing topsoil that was stripped does not meet these specifications, the topsoil shall be amended with a washed screened sand to provide an acceptable topsoil for use. The sand shall be approved by the Owner's Representative prior to use after review of a test report. Topsoil shall conform to the particle size distribution with a maximum three eights (3/8") inches largest dimension, as determined by pipette method in compliance with ASTM F-1632:

Sand	40-60%
Silt	30-40%
Clay	5-20%

If organic amendments are needed to obtain the specified matter content of the topsoil, the organic matter source may be a peat or compost material meeting the criteria for the organic amendments as listed in this Section.

2. Organic matter for soil amendment shall be one of the following:

   a. Processed Canadian sphagnum peat having an ash content not exceeding 15% as determined by ASTM D-2974 and a moisture content of 40-70%.

   b. Compost shall be Agresoil or other commercially available compost mix aged for one (1) year in an in-vessel system, having a total ash content of no more than 40%, and should be proven to be non-phytotoxic.

D. Acidity range of approximately 6.0 pH to 7.0 pH when tested according to methods of testing of A.O.A.C. and organic content not less than three percent (3%) not more than twenty percent (20%) as determined by wet combustion method (Chromic acid reduction). Topsoil may be amended to meet such requirements. Provide analysis prior to delivering topsoil to site, including recommended rates and types of soil additives to achieve desired mix.

2.2 - PEAT HUMUS

A. Natural peat humus, free from excessive amounts of zinc, low in wood content, free from hard lumps and in a shredded or granular form; organic matter not less than eighty five percent (85%), minimum water absorbing ability shall be two hundred percent (200%) by weight on an oven dry basis.

2.3 - LIMESTONE

A. Lime shall be an approved agricultural limestone containing no less than fifty (50) percent of total carbonates and twenty-five (25%) percent total magnesium with a neutralizing value of at least one hundred (100%) percent. The material shall be ground to such a fineness that forty (40%) percent will pass through a Number 100 U.S. Standard Sieve, and ninety-eight (98%) will pass through a Number 20 U.S. Standard Sieve. The lime shall be uniform in composition, dry and free flowing and shall be delivered to the site in the original, unopened containers, each bearing the manufacturer's guaranteed analysis. Any lime which becomes caked or otherwise damaged making it unsuitable for use, will be rejected.

2.4 - SUPERPHOSPHATE

A. Superphosphate shall be composed of finely ground phosphate rock as commonly used for agricultural purposes, and containing not less than twenty (20%) percent available phosphoric acid. The superphosphate shall be delivered to the original, unopened containers, each bearing the manufacturer's guaranteed analysis and submitted to the Owner's Representative for approval. Any superphosphate which becomes caked or otherwise damaged making it unsuitable for use, will be rejected.

2.5 - LAWN STARTER FERTILIZER

A. Complete fertilizer in granular form, from commercial sources bearing manufacturer's analysis; 10-20-10 ratio of N-P-K, or as recommended by soil analysis.

2.6 - TURF MAINTENANCE FERTILIZER

A. Complete fertilizer in granular form, from commercial sources bearing manufacturer's analysis 20-5-10 ratio of N-P-K, or as recommended by soil analysis.

2.7 - HERBICIDES, PESTICIDES AND FUNGICIDES

A. Herbicides, pesticides, and fungicides may be used subject to the approval of the Owner's Representative, and handled by State Licensed operators only.

2.8 - WATER

A. Clean, fresh, potable water.

PART 3 - EXECUTION:

3.1 - GRADING AND SPREADING

A. Remove existing turf, weeds, and roots. Remove all debris and other inorganic materials on any prepared subgrades and reshape and dress any damaged or eroded slopes, swales and other areas. Scarify and loosen subgrade to a friable condition in any areas where compaction may have occurred. Topsoil shall not be placed until subgrade is in suitable condition and free of excessive moisture or frozen materials. Stockpiled and off-site topsoil shall be spread as required on all disturbed and bare areas to produce a total depth of six (6) inches. Fill all depressions in existing grades with suitable fill material as specified in Section 02200, to within six (6) inches of finished grades, prior to spreading of topsoil, then shape and finish grade to depth of topsoil required.

B. Area shall be progressively fine graded and machine and hand raked, with stockpiled and off-site topsoil added as required to correct depressions and other irregularities, to produce smooth and unbroken finish grades and the depth of topsoil required. Where additional topsoil is placed on existing topsoil disc harrow to mix top four (4) inches.

C. Finish grades shall conform to lines, grades, sections and shapes of lawn areas as required. Provide positive drainage. Provide smooth, uniform, rounded transitions at all changes and breaks in grade. Topsoil is to be a consistent depth of 1/2" below adjacent pavement surfaces.

D. Starter Fertilizers: All required materials shall be spread and distributed into the soil at rates and amounts specified herein.

E. After establishment of finish grade, entire area shall be hand raked and rolled using a light roller.

3.2 - PREPARATION OF AREAS FOR SEEDING

A. General Description: This work shall consist of the preparation of the seed bed. Work shall consist of as described herein:

1. Areas shall be finely raked to a finished grade. Substantially, all sticks, litter, wire, weeds, cable or stones larger than one (1) inch in greatest dimension shall be removed and disposed of as directed.

2. Where the soil has become compacted, prior to fine raking, areas to be seeded shall be scarified by discing, york raking or other approved method to a minimum depth of two (2) inches.

3. No seeding will be permitted on area where the seed bed has not been properly prepared or where the soil is compacted or frozen.

3.3 - SOIL pH

A. Contractor to have the seed bed tested for soil pH by an Approved Soil Testing Laboratory, and a complete soil amendment program will be recommended by the testing laboratory and Owner's Representative.

B. The amount of lime or sulfur required to change pH should be based on the approved soil test. Spread ground limestone or sulfur as recommended by soil testing evenly over the lawn areas to achieve acceptable pH range. Unless otherwise directed by approved soil testing laboratory, do not apply sulfur during mid-summer stress periods, and do not exceed five (5) pounds per one thousand (1,000) square feet per year. On sandy soils, apply sulfur as a split application.

C. When applied dry, limestone shall be spread evenly and incorporated thoroughly into the soil by discing or other approved means.

D. When applied hydraulically, no discing will be necessary.

E. Granular treatment to be applied as required by soil pH test, to produce a pH of 6.5 to 7.5.

3.4 - APPLICATION OF LAWN STARTER FERTILIZER

A. Contractor to have the seed bed tested for soil fertility by an Approved Soil Testing Laboratory, and a complete fertilization program will be recommended by the testing laboratory and Owner's Representative for the initial fertilization.

B. After the incorporation of ground limestone into the seed bed, then apply the fertilizer.

C. Fertilizer shall be applied at a rate required by soil fertility test.

D. Apply fertilizer according to manufacturer's recommendations.

3.5 - APPLICATION OF TURF MAINTENANCE FERTILIZER

A. One (1) application of turf maintenance fertilizer will be required before final acceptance of seeded areas. Contractor to have the seed bed tested for soil fertility by an Approved Soil Testing Laboratory, and a complete fertilization program will be recommended by the testing laboratory and Owner's Representative for fertilization.

B. Fertilizer shall be applied at a rate as required by soil fertility test, after seeding has been established.

C. Fertilizer should be applied at a time, which shall be requested in writing by the Contractor, and approved in writing by the Owner's Representative.

END OF SECTION

SECTION 02820 - SEEDING

PART 1 - GENERAL:

1.01 RELATED DOCUMENTS:

A. Drawings and General Provisions of Contract, including General and Supplementary conditions and Division 1 Specification Section apply to work of this Section.

1.02 DESCRIPTION OF WORK:

A. Provide all materials, equipment and labor necessary to complete the work as indicated on the Drawings or specified herein.

B. All new grass areas should be temporarily fenced off to allow them to become established before traffic is allowed on them.

C. The principal work of this Section includes, but may not be limited to the following:

1. Application of Seed.
2. Application of Weed Control.
3. Acceptance of Seeding.

1.03 MATERIAL TESTING:

A. Approved Soil Testing Laboratories: Testing of topsoil shall be performed by an approved laboratory certified by the USGA.

1.04 QUALITY ASSURANCE:

A. Work under this section shall be completed by skilled workers who are completely familiar with the specific requirements and methods needed for the proper completion of the work of this section. Subcontract seeding work to a firm specializing in such work unless Contractor is fully experienced and qualified.

B. Each seed bag or container shall display a label which identifies the contents as a true representation of the seed mix and percentages required by specification. No seed shall be applied to a site until the Owner's Representative has determined the mixture meets all requirements.

C. Contractor shall provide documentation ensuring only vehicles equipped with floatation tires or tracked vehicles that exert no more than eight (8) pounds per square foot of pressure on the ground surface shall be allowed on any proposed or existing turf areas.

D. Contractor shall submit the seed mixture to the Owner's Representative for approval. No seed shall be applied to the site until the Owner's Representative has determined the mixture meets all requirements.

E. Do not make substitutions without written approval. If specified seed mixes are not available, obtain approval for substitution from the Owner's Representative.

1.05 SUBMITTALS:

A. Certifications and/or labels of proposed seed mixtures stating common and scientific names of grasses, percentages by weight and percentages of purity and germination.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Protect all products from weather or other damaging or deteriorating conditions.

B. Seed mixes which have been damaged or have deteriorated in transit or storage are not acceptable.

C. Seeding Schedule: Prepare a proposed seeding schedule. Schedule dates for each type of landscape work during normal seasons for such work:

Acceptable Dates of Seeding:	April 1 – June 1 August 15 – October 15

D. Correlate with specified maintenance periods to provide maintenance until date of acceptance. Once the schedule is accepted, revise dates only as approved in writing, after documentation of reasons for delays.

1.07 WARRANTY:

A. Warranty seeding until final acceptance of grass stand.

1.08 MAINTENANCE:

A. Maintenance of seeding to be performed by the installer includes:

1. Watering.
2. Regrading and replanting eroded areas.
3. Seeding and patching sparse or bare areas.
4. Mowing.

B. Maintain seeded areas immediately after placement until grass is accepted.

PART 2 - PRODUCTS:

2.01 SEED:

A. General: Pure, live, fresh seed from commercial sources meeting and labeled in accordance with State and Federal Laws, Rules and Regulations.

1. New seeding mixture shall be 'URI #2 Improved Seed Mix' as available through:

Allen's Seed Store, Inc.
693 South County Trail (Rt. 2)
Exeter, RI 02822
Tel: (401) 294-2722,
or approved equal

2. New seeding mixture shall conform to the following grass types and percentages recommended:

40% Creeping Red Fescue
20% Improved Perennial Ryegrass
20% Improved Kentucky Bluegrass
20% Kentucky Bluegrass 98/85

Application Rate: 6 lbs. per 1,000 square feet.

2.02 WEED CONTROL:

A. Post emergent to weed control for seeding apply "Trimec", or approved equal.

2.03 WATER:

A. Clean, fresh potable water.

PART 3 - EXECUTION:

3.01 APPLICATION OF SEED:

A. The approved seed mixture shall be applied at a rate of 6 lbs./1,000, or as recommended by seed supplier by means of a hydroseeder device. Provide fiber mulch and fertilizer mix.

3.02 FERTILIZING:

A. Contractor to have the topsoil tested for soil fertility by an Approved Soil Testing Laboratory, and a complete fertilization program will be recommended by the testing laboratory and Owner's Representative for the initial fertilization.

B. Apply fertilizer in accordance with fertilization program recommendations by the testing laboratory and Owner's Representative.

3.03 APPLICATION OF WEED CONTROL:

A. Apply post-emergent weed control to new seeding areas only.

B. Apply post-emergent weed control at 1.2 to 1.5 ounces per 1,000 square feet.

C. Apply post-emergent weed control according to manufacturer's recommendations.

3.04 ACCEPTANCE OF SEEDING:

A. The Owner's Representative shall inspect the seeded lawn area for acceptance upon written request by the Contractor. The request shall be received at least ten (10) days before the anticipated date of inspection.

B. Final acceptance will not be granted until all seeded lawn areas are in satisfactory condition.

C. Contractor to provide a minimum of one (1) mowing with sharp, reel type mowing units one day prior to the Owner's Representative anticipated date of inspection. Mowing shall not remove more than one third of the grass blade.

D. If the seeded lawn area is in satisfactory condition, Provisional Acceptance will be obtained, and the Contractor's care and maintenance responsibilities will end. If the growth of grass is unsatisfactory, the Contractor shall reseed until an acceptable stand of grass is achieved. The Contractor shall fertilize the seeded areas if, in the Owner's

Representative's opinion, it is needed in order to achieve an acceptable lawn area.

1. Provisional Acceptance: Provisional acceptance period shall be defined as the time following the application of weed control and when a good, healthy uniform growth of grass has been established.

   a. Provisional acceptance will not occur until the seeded areas are well established, exhibiting a vigorous growing condition, devoid of bare spots greater than one (1) square foot and have been mown at least twice.

   b. It will be the Contractor's responsibility to maintain seeding in an approved condition until provisional acceptance.

   c. The Contractor shall keep all seeded areas watered and in good condition, reseeding if and when necessary during the period leading to provisional acceptance. During this time, the contractor shall be responsible for the cost of water utilized to obtain an acceptable stand of grass.

   d. Mowing of seeded areas:

      1.) Initial or Spring Mowing: Shall take place when lawn areas (new seeding, established lawns) have grown to a blade height of 2". Turf shall be cut using a mower with sharp cutting blades. Height of cut shall be set at 1-1/2". This height of cut shall be maintained through spring period of growth (April through mid-June). Frequency of mowing during this growth period shall be at every seven (7) days, or whenever grass growth exceeds 1-1/2". Regardless of how quickly the turf grows during this period, NO MORE THAN ONE THIRD of the leaf shall be removed in any one mowing. Adherence to this procedure shall require additional and more frequent mowings beyond the established regimen (once every seven (7) days, etc.), especially during and after rainy periods, or climatic conditions promoting rapid growth.

      2.) Summer: The height of cut shall be raised to 2-1/2" commencing with the start of summer. This height of cut shall be maintained until the return of cooler temperatures in early September. Frequency of mowing during this summer period shall be once

every seven (7) to ten (10) days. A longer interval than seven (7) days may be necessary if turf growing rate slows down in response to summer heat, drought, etc.; Contractor shall be responsible for determining the proper cutting interval that conforms best to local growing conditions and climatic factors, but period between cuts shall not exceed ten (10) days without prior approval of Owner.

3.) Fall: The height of cut shall be reduced to 1-1/2" in mid-September when there is a noticeable change towards cooling daytime temperatures, usually between September 10 and 20. Beginning on September 10 the frequency of cut shall be set at one (1) cut every seven (7) days. This schedule shall remain in effect until mid-October.

4.) Late Fall: Between mid-October (October 15) and November 10, the Contractor shall begin to lower the height of cut in incremental stages so that the final cut shall establish the winter dormant height of turf at one (1) inch. Mowing frequency during this period shall be set at one (1) cut every twelve (12) to fifteen (15) days depending on turf growth rates. Starting on October 15, it is expected that the lower the grass to its final height of one (1) inch. No more than one-third of the leaf shall be removed in any one mowing operation. Final cut shall be performed on or prior to November 10, unless an extension date is approved by Owner.

e. Watering of seeded areas:

1.) During this period leading to provisional acceptance, water turf as necessary to maintain an adequate supply of moisture within the root zone. An adequate supply of moisture is the equivalent of one (1) inch of absorbed water per week that is delivered at weekly intervals in the form of natural rain or is augmented as required by periodic waterings. During this time, the contractor shall be responsible for the cost of water utilized to obtain an acceptable stand of grass.

E. Final Acceptance: Final acceptance period shall be defined as the elapsed time between provisional acceptance and final close-out of the project.

1. All seeded areas shall be guaranteed by the Contractor for not less than one (1) growing season from the time of provisional acceptance. Growing season shall be defined as follows:

   a) If provisional acceptance is received during April, May, June, or July, next growing season shall end on October 15.
   b) If provisional acceptance is received during September, October, November or December, next growing season shall end on June 1.

2. At the end of the guarantee period, inspection will be made by the Owner's Representative upon written request submitted by the Contractor at least ten (10) days before the anticipated date. Lawn areas not demonstrating satisfactory stands as outlined above (except if damaged by vandalism) as determined, by the Owner's Representative shall be renovated, reseeded and maintained meeting all requirements as specified herein.

3. After all necessary corrective work has been completed, the Owner's Representative shall certify in writing the final acceptance of the lawn area.

4. Decision of Owner as to necessity to replace lawns or repair any defects on workmanship or cause of any destruction or loss, impairment or failure to flourish, shall be conclusive and binding upon Contractor. Replacements shall be the same as specified. All replacements shall be planted as specified herein at Contractor's expense.

5. "Vandalism", as noted above, is intended to mean any acts, whether intentional or accidental, by other persons, which clearly result in damage, and which may reasonably be considered to be beyond the Contractor's reasonable control, as determined by the Owner's Representative.

3.06 CLEAN UP:

A. Absolutely no debris may be left on the site. Excavated material shall be removed as directed. Repair any damage to site or structures to restore them to their original condition, as directed by the Owner's Representative, at no cost to the Owner.

END OF SECTION

SECTION 02830 - PLANTINGS

PART 1 - GENERAL:

1.1 - 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.

1.2 - DESCRIPTION OF WORK:

A. Provide all materials, equipment and labor necessary to complete the work as indicated on the Drawings or as specified herein.

B. The principal work of this Section includes, but may not be limited to the following:

1. Planting.
2. Setting Plants.
3. Pruning of New Plant Material
4. Spraying.
5. Fertilizing.
6. Guying and Staking.
7. Tags and Labels
8. Mulching Plants.
9. Watering.
10. Maintenance.
11. Plant Replacement Guarantee.

C. All work shall be conducted in accordance with the RIDEM Remedial Action Work Plan and Approval Letter (see section 01060 of these specifications).

1.3 - REFERENCES:

A. ANSI Z260.1 - Nursery Stock, latest edition (American Association of Nurserymen, Inc.).

B. Section 01060: Regulatory Requirements, of these specifications.

1.4 - QUALITY ASSURANCE:

A. Subcontract planting work to a firm specializing in such work unless Contractor is fully experienced and qualified.

B. An arborist, licensed by the State in which the work is to be performed, is required for all pruning work.

C. All plants are to be tagged and other standard products sealed and delivered unbroken.

D. Do not make substitutions without written approval. If specified landscape material is not available, obtain approval for substitution from the Owner's Representative.

1.5 - SUBMITTALS:

A. Certified analysis and source of off-site topsoil to be provided. Certification shall list soil additives to topsoil, rates and type.

B. Certifications and/or labels of proposed plant material substitutions common and scientific names of each.

1.6 - PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Protect all products from weather or other damaging or deteriorating conditions.

B. Plants which have been damaged or have deteriorated in transit or storage are not acceptable.

C. Keep plants moist, fresh and protected against exposure to sun, wind, and freezing temperatures whether in the receiving yard, in transit, while being handled or at the job site awaiting planting.

D. Deliver trees and shrubs after preparations for planting have been completed and plant immediately.

E. Planting Schedule: Prepare a proposed planting schedule. Schedule dates for each type of landscape work during normal seasons for such work.

Planting:	March 1 - June 15 October 15 - December 1

F. Correlate with specified maintenance periods to provide maintenance to date of acceptance. Once the schedule is accepted, revise dates only as approved in writing after documentation of reasons for delays.

G. Coordination with Lawns: Plant trees and perennials after final grades are established and prior to planting of lawns, unless otherwise acceptable to Owner's Representative. If planting of trees and perennials occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations.

1.7 - WARRANTY:

A. Provide a warranty for tree and shrub plantings for a minimum of two (2) years including two (2) continuous growing seasons. Commence warranty on date identified in the Certificate of Final Completion.

B. Warranty: Include coverage of plants from death or unhealthy conditions for a period of two years (see 3.11, this section).

C. Replacements: Plants of same size and species as specified, planted in the next growing season, with a new warranty and an extended maintenance service commencing on date of replacement.

1.8 - MAINTENANCE:

A. Maintenance of tree and shrub planting to be performed by Installer include:

1. Watering, cultivating and mulching.
2. Tightening and repairing of stakes.
3. Replacing of dead material.
4. Resetting plants to proper grades or to upright position.

PART 2 - PRODUCTS:

2.1 - PLANTABLE SOIL:

A. As defined by RIDOT.

2.2 - PEAT HUMUS:

A. Natural peat humus, free from excessive amounts of zinc, low in wood content, free from hard lumps and in a shredded or granular form; organic matter not less than eighty five percent (85%), minimum water absorbing ability shall be two hundred percent (200%) by weight on an oven-dry basis.

2.3 - TREE FERTILIZER:

A. Complete water soluble controlled release fertilizer, agriform planting tablets or approved equal bearing manufacturer's analysis; 20-10-5 ratio of N-P-K applied according to manufacturer's recommendation.

2.4 - MULCH:

A. Clean, well aged shredded pine bark free from weeds or other extraneous material.

2.5 - WATER RETENSION GEL:

A. Water Retention Polymer Gel such as “Hydrocel” or “Horta-sorb” or equal.

2.6 - ANTIDESICCANT:

A. Emulsion which provides a protective film over plant surfaces, delivered in containers of the manufacturer and mixed according to manufacturer's direction, "Wiltproof" or equal approved in advance by the Owner's Representative.

2.7 – STAKING MATERIALS:

A. Guy Material: Use guy webbing as per RIDOT Specifications.

B. Stakes (Upright): 2” x 2” x 8’ hardwood, free from knots or other imperfections.

2.8 – WATER:

A. Clean, free potable water.

2.9 - PLANT MATERIALS:

A. Plant materials shall be of size and caliper required and comply with the Horticultural Standards of The American Association of Nurserymen (ANSI 2260-1) in all respects.

B. Plants of other kinds than those named in the Plant Schedule on the Drawings shall not be accepted.

C. Unless otherwise approved by the Owner’s Representative, all plants shall be nursery grown in accordance with good horticultural practices and shall have been grown under climatic conditions similar to those in the locality of the project for at least two (2) years. They shall have been transplanted or root pruned at least nine (9) months previous to moving to the site.

D. Replacement plants larger in size than existing may be used if approved by the Owner’s Representative, provided use of larger plants does not increase Contract Price.

E. If use of larger plants is approved, increase ball of earth of spread of roots in proportion to size of plant.

F. Pruning: All plants and all tree trunks shall be measured when branches are in the normal position. Dimensions for height and requirements for spread, where specified, refer to main body of plant and not from branch-tip to branch-tip. Desired clear unbranched height of tree trunks may be created provided necessary pruning of lower branches does not leave unsightly scars or otherwise damaging trunk.

PART 3 - EXECUTION:

3.1 - PLANTING:

A. Layout: Plant pit and bed locations shall be staked on ground by Contractor and approved prior to excavation. Adjustments in locations and outline shall be made as directed infield. Labor, equipment and new smooth stakes are to be furnished by the Contractor for this purpose.

B. Excavation: Planting beds and pits shall conform to the approved staked locations and outlines. Latter shall be neatly formed by means of spades and/or other approved tools. Remove from the site immediately, sod, weeds, roots and other objectionable excavated material unsuitable for backfill.

C. Pits and Beds: Size of pits shall be as indicated on Detail Drawings: Any excavation in excess of that required shall be replaced with planting soil.

D. Planting Mixture: Add peat humus to loam to create loam mix for planting pits. Loam mix shall be at least twenty five percent (25%) peat humus.
In tree well planting locations throughout the parking area, a water retaining polymer gel shall be added to the planting mixture as per manufacturer's recommendation.

3.2 - SETTING PLANTS:

A. Set plants plumb and at such a level that after settlement they bear the same relation to the surrounding ground as they bore to the ground from which they were dug. Settle backfill material for plants, thoroughly and properly, by firming or tamping. Accompany backfilling with thorough watering unless otherwise approved. Form saucer capable of holding water around individual plants, exclusive of plant beds, by placing ridges of planting soil around each or as directed by the Owner's Representative.

B. Place balled or burlapped plants carefully in the prepared pits so that the ball rests on undisturbed subsoil. Then partially fill new clean backfill around the plant and thoroughly tamp. Loosen the burlap around the top 1/3 of root ball and spread it out away from the plants. Synthetic "burlap" shall be cut away and removed without damage to the root ball. The remainder of new, clean backfill shall then be placed in the hole and firmed.

C. Spread out roots of the bare root plants in a natural position over mound in pit. Cut off broken or frayed roots cleanly. New, Clean backfill shall be sifted through them and solidly firmed.

D. Container Grown Materials: Remove plant from container and "butterfly" root ball or otherwise spread out roots on setting mound. New, clean backfill shall be sifted through them and solidly firmed.

3.3 - PRUNING OF NEW PLANT MATERIAL:

A. After planting prune only broken or deformed branches and in such manner as to preserve natural character of plant.

B. Perform all pruning with sharp tools, with cuts flush and clean.

C. Trees which have had their leaders cut, or so damaged that cutting is necessary, will not be accepted. There shall be no abrasion of bark, nor fresh cuts of limbs over 1/2".

3.4 - SPRAYING:

A. Spray with antidesiccant with discretion and as approved by the Owner.

3.5 - FERTILIZING:

A. During backfill operations, place plant tablets in upper foot of backfill around perimeters at a rate of one (1) tablet per 1/2" of caliper or as recommended by manufacturer.

3.6 - GUYING AND STAKING:

A. Immediately after planting, stake trees as indicated on Detail Drawing indicated or approved by the Owners Representative.

B. Place stakes exercising care not to damage ball of earth.

C. Guy trees to each stake near top of stake, with arbor tape or guy webbing, where they come in contact with trunk or where necessary to prevent damage to bark of tree. Draw guys taut, through use of turnbuckles installed and securely fastened to guys.

3.7 - TAGS AND LABELS:

A. Leave all tree tag and label seals unbroken and visible on plant material until final inspection. Remove all seals immediately after final inspection.

3.8 - MULCHING PLANTS:

A. Application of mulch should only occur after planting operations have been completed and initial watering has taken place.

B. Mulch shall be applied a minimum of three (3) inches in depth in all planting beds, as indicated on the Drawings.

3.9 - WATERING:

A. The plants shall be watered immediately following planting, preferably when two thirds of the backfill has been placed so all air pockets are removed and the plant property set.

B. Soak the plants thoroughly again within a twenty four (24) hour period after the initial planting.

C. Additional waterings shall be made at least once every three (3) weeks unless otherwise directed until final acceptance of the plant material.

3.10 - MAINTENANCE:

A. Contractor is responsible for protection and maintenance of all work prior to final acceptance. No plants will be accepted unless they show a healthy growth and satisfactory condition.

3.11 - PLANT REPLACEMENT GUARANTEE:

A. Guarantee that, upon completion and final acceptance, tree, shrub and ground cover planting conforms to requirements of Contract Documents and that all plants are healthy and will remain so for a period of two (2) years. Such period shall commence with date of final acceptance.

B. At any time within period of guarantee, Contractor shall replace any plantings which for any reason, other than vandalism, has died or is in a dying condition, or which has failed to flourish in such a manner or to such a degree that its usefulness or appearance has been impaired.

C. The Owner will not maintain plantings until after guarantee period. Contractor shall not have any claim that materials have failed to flourish as a result of Owner's maintenance operations, or lack of maintenance and shall abide by terms stated herein for guarantee and replacement of plant materials.

D. Decision of Owner as to necessity to replace any plant materials or repair any defects on workmanship, or cause of any destruction or; loss, impairment or failure to flourish, shall be conclusive and binding upon Contractor. Replacements shall be of same species and size as specified on Plant List. All

plant replacement shall be inspected, sealed, furnished, planted and mulched as specified herein at Contractor's expense.

E. "Vandalism", is intended to mean any acts, whether intentional or accidental, by other persons occurring following final acceptance, which clearly result in breakage or other damage to individual plants or plant beds, and which may reasonably be considered to be beyond contractor's reasonable control, as determined by the Owner's Representative.

END OF SECTION

SECTION 02850 - WATER SERVICE and IRRIGATION

Part 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. The scope of work for this project shall include but not be limited to the complete installation of a functioning irrigation system and water metering requirements as described within these documents.

B. Coordination with the Pawtucket Water Supply Board and Narragansett Electric (National Grid).

Contractor shall apply for water service connection. ***Contractor shall inform the Pawtucket Water Supply Board of the special decorative concrete edging required to replace the sidewalk.***

C. It is the intent of these specifications to identify all aspects of the irrigation system. Any materials inadvertently left out of these specifications shall be installed as required by the contractor to provide a fully operating irrigation system.

D. Water Service:

1. 2” Tap from existing Water Main in Summit Street
2. Backflow preventer device and meter assembly
3. Piping and Accessories
4. Water Meter Enclosure

E. Irrigation System:

1. Piping
2. Gate valves and boxes
3. Sprinklers
4. Coupling valves and boxes
5. Electric valves
6. Controller
7. Rain sensors
8. Electrical service

1.02 SITE INSPECTION

A. The contractor shall visit the site of the proposed water service and irrigation system and familiarize himself with the existing conditions relating to the construction and labor involved in the project.

B. Contractor to perform test pit study, as needed, to confirm existing conditions in accordance with Section 01010.

1.03 UTILITIES

The contractor shall be responsible for locating and protecting all utilities on the site. All associated utility company charges shall be included in the base bid.

1.04 QUALIFICATIONS

The contractor shall provide with their bid a list of three (3) references for work of this size and type including names and phone numbers of contact persons.

1.05 QUALITY ASSURANCE

All work is to be in compliance with all Local, State, and Federal codes and ordinances

Applicable requirements of accepted Standards and Codes shall apply to the work of these specifications:

American Society for Testing & Materials
National Plumbing Cope (NPC)
National Electric Code (NEC)
National Sanitary Foundation (NSF)
American Society of Agricultural Engineers (ASAE)
Underwriters Laboratory (UL)

The contractor shall use the materials specified unless the term "or equal" applies. Contractors submitting bids with unspecified materials shall provide three (3) copies of manufactures technical specifications for the substitution and a written analysis showing both products as equal, with their bid.

Part 2 - PRODUCTS

2.01 WATER SERVICE

A. Copper Piping:

All piping from the point of connection to the meter shall be Type K copper and approved by the Pawtucket Water Supply Board. Plastic pipe shall not be acceptable upstream of the meter.

B. Water Meter

Water meter shall be sized accordingly and supplied by the Pawtucket Water Supply Board.

C. Backflow Preventer

The fixture shall be a 975XL1 reduced pressure backflow preventer, 2" as manufactured by WILKINS or approved equal.

D. Water Service Meter Box

1. To be an insulated Stainless Steel enclosure with lockable access panels, mounted on concrete. Enclosure shall be "Safe-T-Cover," Model # 300-SS03, as manufactured by HYDROCOWL or approved equal. Inside dimensions shall be 24"W x 66"L x 44"H. Contractor to ensure that the box is sized appropriately to house all necessary components and to coordinate service connection requirements with the Pawtucket Water Department. Contractor to provide shop drawings for approval by Owner's Representative.

   Concrete Pad shall be 34" by 78" by 6"

2. Quality Assurance:

   Qualifications: The backflow prevention assembly enclosure manufacturer shall be a company specializing in the manufacture of backflow prevention assembly enclosures with at least 5 years of successful experience.

3. Materials Of Fabrication:

   a. Material of fabrication shall be Type 304, #3 Polish, ASTM A-240, 22 ga. Stainless Steel.

   b. Insulation shall be 1.5" (10.0 "R" value) minimum thickness polyisocyanurate foam laminated to a glass fiber reinforced facer (each side). The insulation shall have the following properties:

      1. Dimensional Stability-Less than 2% linear change;
      2. Compressive Strength-20PSI:
      3. Water Absorption-Less than 1% by volume;
      4. Moisture Vapor Transmission-Less than one (1) perm;
      5. Density-Nominal 2.0 lbs. per cubic foot;
      6. Flame Spread-25;
      7. Service Temperature- -100^{0}F to +250^{0}F maximum.
      8. The insulation shall be of uniform thickness.

c. Structural members shall be redwood.

4. Roof, Walls & Panels:

a. The roof, walls & panels of the enclosure shall be constructed of Type 304, #3 Polish, 22 ga. Stainless Steel, ASTM A-240, outside with insulation 1 1/2" (10.0 "R" value) thick in the walls and panels and 3" (20.0 "R" value) thick in the roof. The inside of the enclosure shall also be lined with Type 304, #3 Polish, 22 ga. Stainless Steel, ASTM A-240.

b. The stainless steel, insulation and redwood shall be securely bonded together to form a composite panel.

c. The roof shall be securely attached to the walls with outside screws and inside roof clips.

d. All screws shall attach to redwood members.

e. The walls of the enclosure shall be securely attached to the concrete base with outside corner anchoring brackets and inside anchoring brackets.

f. Removable access panels shall be Two (2) in number. One access panel shall contain the drain panel.

g. Access panels shall be provided with built-in pad lockable folding T-handles.

h. Drain panel shall have a stainless steel hinge and a stainless steel spring as a positive means of closure so that it will not be activated by wind.

i. Drain panel shall be designed to remain closed except when device is discharging water.

5. Heating Equipment:

a. Heating equipment shall be furnished and designed by the manufacturer of the enclosure to maintain an interior temperature of +40^{0}F with an outside temperature of -30^{0}F and a wind velocity of 15 miles per hour. Install heater as per manufacturer's instructions and governing local and national codes.

b. Heating element to be Model No. HCHS1000-120 slab mounted heater as manufactured by HYDROCOWL, Inc., or approved equal.

1. Materials:

   a. Heating Element - steel sheathed: casted in type 380 aluminum; rated 2000W @ 120/240 Vac
   b. High Temperature Wire – type MGT or equal; 10 AWG; rated 600V, 450°C
   c. Ring Terminal – rated 600V, 900°F
   d. Junction well – group B, C, D, E, F; Class I, Division II; rubber seal provided with cover
   e. Conduit, conduit fittings, thermostat – liquid-tight

2. Standards:

   a. Conforms to UL-2021
   b. Certified to CAN/CSA C22.6 No. 46
   c. ETL Listed 108666

6. Mounting Hardware:

   a. Mounting hardware shall be furnished and shall be 300 series stainless steel.

   b. All threaded fasteners shall be furnished and shall be 300 series stainless steel.

   c. All masonry fasteners shall be metal hit anchors.

   d. Screw fasteners No. 12 or larger shall be hex head.

   e. All necessary drill bits shall be furnished.

   f. Enclosure shall be assembled and mounted to concrete pad in such a way that it will remain locked and secured to pad even if outside screws are removed.

2.02 IRRIGATION SYSTEM

A. PVC Pipe:

PVC pipe sizes up to and including 2.5" shall be Class 200,SDR 21, Solvent-Weld, as manufactured by Crestline or approved equal.

B. Sprinklers:

The sprinkler shall be a gear driven rotary type sprinkler available in both full-circle and adjustable part-circle configurations. The body of the head shall be constructed of non-corrodible, heavy-duty A.B.S. The sprinkler will come with a five (5) year warranty.

As shown on the irrigation plan, the rotary heads shall be I-25 gear-driven rotor, with #13 Nozzle, as manufactured by Hunter, or approved equal. All Rotors and Spray Pop-Ups shall be installed on swing joints

C. Quick Coupling Valve:

The quick coupling valve shall be a Rainbird 5RC, 1” as manufactured by Rainbird, or approved equal. All quick coupling valves shall be installed on 3-elbow PVC swing joints.

D. Valve Boxes:

Electric Control Valves and Mainline Isolation Valves shall be installed in a rectangular plastic valve box in accordance with valve manufacturer’s installation specifications. All valve boxes should be covered by the manufacturer’s approved vandal proof cover.

Quick Coupling Valves shall be installed in a round plastic valve box in accordance with valve manufacturer’s installation specifications. All valve boxes should be covered by the manufacturer’s approved vandal proof cover.

Grounding Rods shall be installed in a round plastic valve box 9" in depth and 7" in diameter. Valve box shall be a 608-12 as manufactured by Carson, or equal.

E. Controller:

The controller will come with a three (3) year warranty. The controller shall be a Rainbird, ESP 20 LX Plus, Automatic Controller by Rainbird, or equal. 120V to controller and copper stub to be by other than irrigation contractor.

F. Rain Sensor:

The rain sensor shall be adjustable from 1/8" to 1" of rainfall. The sensor shall be UL listed. The rain sensor will come with a five- (5) year warranty. The rain sensor shall be a Rainbird, RSD, Automatic Rain Sensor as manufactured by Rainbird, or approved equal.

G. Grounding:

Comply with manufacture's requirements for New England Region.

H. Wire:

All valve power and common wires shall be minimum # 14 gauge, single strand, solid copper, 600v, direct burial and shall meet all state and local codes for this service. Individual wires must be used for each valve. Common wire shall be white in color. Power wires shall be red in color. Spare power wires shall be blue in color.

In ground wire connectors shall be UL listed, 3M DBY.

I. Electric Valves

Rainbird, 150 PGA, Electric Valve 1.5”, as manufactured by Rainbird or approved equal.

J. Isolation Gate Valve

To be sized in accordance with the mainline size of the Irrigation System

K. Spare Parts

In addition to the materials needed for installation the contractor shall provide for in their bid the following spare parts:

1. One of each type of sprinkler supplied
2. Sets of keys for the controller
3. Adjustment tools for heads supplied
4. Quick coupling keys w/ hose swivels 1x3/4"
5. One of each type of valve box supplied

Part 3 - EXECUTION

3.01 OVERALL EXECUTION SPECIFICATIONS

A. All work is to be in compliance with local, state and federal codes and ordinances.

B. Contractor to coordinate metering and installation requirements with the City of Pawtucket Water Department and Narragansett Electric (National Grid) for connection to utility services.

C. All work shall be done as directed by the Pawtucket Water Supply Board.

D. Connect to existing Water Main within Summit Street as indicated on drawings.

E. Heated Enclosure: Install meter and backflow preventor in heated enclosure. Provide complete operational system to the satisfaction of Pawtucket Water Supply Board. Enclosure shall be mounted on a 6" thick concrete pad and assembled and mounted to concrete pad according to manufacturer's instructions.

F. Contractor to verify water pressure and availability prior to installation. A booster pump may be required if the system does not meet the design pressure.

H. Any irrigation piping shown outside of curbs for clarity only. Any changes in availability of supply should be noted and modifications to the design should be made.

3.02 PIPE INSTALLATION

All trenches shall be excavated to the proper depth and leveled to allow for piping. Use of a vibratory plow will be allowed only in favorable soil conditions.

3.03 VALVE INSTALLATION

Per Manufacturer's instructions

3.04 IRRIGATION HEADS

Install all irrigation heads as per manufacturer's instructions. All small Rotors and Spray Pop-Ups shall be installed on swing pipes. All large Rotors shall be installed on swing joints.

3.05 WIRE INSTALLATION

All underground electrical connections are to be made with 3-M wire connectors, direct bury. All control wiring downstream of the controller is to be 14 AWG, UL approved for direct bury.

Wires shall be installed along with the main line. Multiple wire bundles shall be cinched together at maximum 12-foot centers using plastic cable ties. Provide an additional 8 to 12 inches of slack at all changes of direction to allow for expansion.

Two- (2) blue, spare wires shall be laid to each end of the main line from the controller.

3.06 RAIN SENSOR

Install rain sensor as per manufacturer's instructions, where sprinklers will not hit it and where rain can easily be collected.

3.07 BALANCING AND ADJUSTMENT

Balancing of the system and adjusting shall be made prior to final inspection

3.08 TESTING AND START-UP

Test all lines for leaks under operating pressure. Repair all leaks and retest.

3.09 LANDSCAPE REPAIRS

Repair all damage to the acceptance of Owner.

3.10 ACCEPTANCE AND OPERATION BY OWNER

Provide demonstration of system, diagrams, instructions and Operations Manual.

Final acceptance of irrigation system shall not be given until provisional acceptance of loam and seed/sod is obtained (see section 02820, subsection 3.4, of this Project Manual).

3.11 WARRANTY

The contractor shall honor all expressed manufacturer's warranties against factory defects. In addition the contractor shall warranty all parts and labor for a minimum period of one (1) year from the date of acceptance. Included in this warranty will be one (1) Fall Winterization and one (1) Spring Start-up at no additional cost to the owner.

3.12 LIMITED SERVICE

Included in this system will be one (1) first year Fall Winterization and one (1) first year Spring Start-up at no additional cost to the owner.

END OF SECTION

SECTION 03300 - SITE CONCRETE WORK - GENERAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions, Special Conditions and related parts of the Technical Specifications apply to the work of this section.

1.02 DESCRIPTION OF WORK:

A. All Non-Structural Load Bearing Concrete footings or slab surfaces.

1.03 QUALITY ASSURANCE:

A. Codes and Standards: Comply with provisions of following codes, specifications and standards, except where more stringent requirements are shown or specified:

1. RIDOT Standard Specifications.

B. Materials and installed work may require testing and retesting, as directed by Owner's Representative at any time during progress of work. Allow free access to material stockpiles and facilities. Tests, not specifically indicated to be done at Owner's expense, including retesting of rejected materials and installed work, shall be done at Contractor's expense.

1.04 SUBMITTALS:

A. Product Data: Submit data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, curing compounds and others as requested by the Owner's Representative.

PART 2 - PRODUCTS

2.01 FORM MATERIALS:

A. Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.

B. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

2.02 CAULKING

A. Provide self-leveling caulk over felt expansion material. Color to match concrete.

2.03 CONCRETE MATERIALS:

A. All Non-Structural Load Bearing Concrete footings or slab surfaces:

1. Portland Cement: ASTM-C 150, Type I, unless otherwise acceptable to Owner's Representative.

2. Use one brand of cement throughout project.

3. Normal Weight Aggregates: ASTM C 33, and as herein specified. Provide aggregates from a single source for exposed concrete.

4. For exterior surfaces, do not use fine or course aggregates containing appalling-causing deleterious substances.

5. Water: Drinkable.

6. Air-Entraining Admixture: ASTM C 260.

7. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to the following:

Products: Subject to compliance with requirements, provide one of the following:

"Sika Top" – additive for rubbed finish, manufactured by Sika Corp., or approved equal.

8. ***Tinted Concrete Decorative Curb Edge:*** Brick color to match existing decorative concrete edge. Utilize integral coloring agent such as Chromix or equal.

2.04 PROPORTIONING AND DESIGN OF MIX:

A. Structural Footing for Historic Ornamental Utility Pole w/c max 0.40

B. Prepare design mix for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301.

C. Design mixes to provide normal weight concrete with the following properties, as indicated on drawings and schedules:

4,000 psi 28-day compressive strength.

D. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant, at no additional cost to Owner and as accepted by Owner's Representative. Laboratory test data for revised mix design and strength results must be submitted to and accepted by owner's Representative before using in work.

E. Admixtures: Use air-entraining admixture in exterior exposed concrete, unless otherwise indicated. Add air-retraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having air content with a tolerance of plus or minus 1-1/2% within following limits:

1. Concrete structures and slabs exposed to freezing and thawing, deicer chemicals or subjected to hydraulic pressure, footings:

4.5% (moderate exposure): 5.5% (severe exposure) 1-1/2" max. aggregate
4.5% (moderate exposure): 6.0% (severe exposure) 1" max. aggregate.
5.0% (moderate exposure): 6.0% (severe exposure) 3/4" max. aggregate.
5.5% (moderate exposure): 7.0% (severe exposure) 1/2/2 max. aggregate.

2. Other Concrete: 2% to 4% air.

F. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:

1. Ramps and sloping surfaces: Not more than 3".

2. Reinforced foundation systems: Not less than 1" and not more than 3".

3. Other concrete: Not more than 4"

2.05 CONCRETE MIXES:

A. Ready-Mix Concrete: comply with requirements of ASTM C 94, and as herein specified.

B. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.

C. When air temperature is between 85 degrees F (30 degrees C) and 90 degrees F (32 degrees C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90 degrees F (32 degrees C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.01 FORMS:

A. Structural Footing for Historic Ornamental Utility Pole Foundation: Use 24" dia. sonotube to construct footing.

B. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.

C. Design formwork to be readily removable without impact, shock or damage to cast-in-place concrete surfaces and adjacent materials.

D. Construct forms to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished moldings, rustications, reglets, chamfers blocking, screeds, bulkheads, anchorages, and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up at joint to prevent leakage of cement paste.

E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where striping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, recesses, and the like, to prevent swelling and for easy removal.

F. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set

tightly to forms to prevent loss of concrete mortar. Locate temporary opening on forms at inconspicuous locations.

G. Chamfer exposed corners and edges as indicated, using wood, metal, PVC or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.

H. Form Ties: Factory-fabricated, adjustable-length, removable or snap-off metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces upon removal.

I. Unless otherwise indicated, provide ties so portion remaining within concrete after removal is at least 1” diameter in concrete surface.

J. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.

K. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt and other debris just before concrete is placed. Retighten forms and bracing after concrete placement is required to eliminate mortar leaks and maintain proper alignment.

3.02 INSTALLATION OF EMBEDDED ITEMS:

A. General: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions and directions provided by suppliers of items to be attached thereto.

B. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface.

C. Structural Footing for Historic Ornamental Utility Pole Foundation: Prior to setting and supporting embedded prefabricated studded channels, verify back-to-back dimension of existing utility pole channel, and submit shop drawing for review and approval of dimension, location, and supporting method. Channels to be hot-dip galvanized full-length prior to embedment in concrete.

3.03 PREPARATION OF FORM SURFACES:

A. Clean re-used forms of concrete matrix residue, repair and patch as required to return forms to acceptable surface condition.

B. Coat contact surfaces of forms with a form-coating compound before reinforcement is placed.

C. Thin form-coating compounds only with thinning agent of type, and in amount, and under conditions of form-coating compounded manufacturer's directions. Do not allow excess form-coating material to accumulate in forms or to come into contact with ion-place concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.

D. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust-stained steel formwork is not acceptable.

3.04 CONCRETE PLACEMENT:

A. Pre-placement Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast-in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete where form coatings are not used.

B. Coordinate the installation of joint materials and moisture barriers with placement of forms and reinforcing steel.

C. General: Comply with ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete," and as herein specified.

D. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation.

E. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to void inclined construction joints. adhere placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

F. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and

procedures for consolidation of concrete in accordance with ACI recommended practices.

G. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not father than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6” into concrete that has begun to set. At each insertion limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.

H. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of the panel or section is completed.

I. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.

J. Bring slab surfaces to correct level with straightedge and strike-off. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.

K. Maintain reinforcing in proper position during concrete placement operations.

L. Cold Weather Placing: protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.

M. When air temperature has fallen to or is expected to fall below 40 degrees F (4 degrees C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 degrees F (10 degrees C), and not more than 80 degrees F 927 degrees C) at point of placement.

N. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.

O. Do not use calcium chloride, salt and other materials containing antifreeze agents or chemical accelerators, unless otherwise accepted in mix designs.

P. Hot Weather Placing: when hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.

Q. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 degrees F (32 degrees C). Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing water. Use of liquid nitrogen to cool concrete is contractor's option.

R. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.

S. Fog spray forms, reinforcing steel and subgrade just before concrete is placed.

3.05 FINISH OF FORMED SURFACES:

A. Not Exposed-to-view Surfaces: Rough Form Finish, for formed concrete surfaces not exposed-to-view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing material used, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4" in height rubbed down or chipped off.

3.06 SLAB FINISHES:

A. After placing slabs, plane surface to a tolerance not exceeding 1/2" in 10' when tested with a 10' straightedge. Slope surfaces uniformly to drains where required. After leveling, roughen surface before final set, with stiff brushes, brooms or rakes.

B. After screening, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats, or by hand-floating if area is small or inaccessible to power units. Check and level surface plane so that depressions between high spots do not exceed 5/16" under a 10' straightedge. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, re-float surface to a uniform, smooth, granular texture.

C. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produced a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and with a surface plane tolerance not exceeding 1/8" under a 10' straightedge. Grind smooth surface defects which would telegraph through applied floor covering system.

D. ***Non-Slip Broom Finish:*** Apply non-slip stiff broom finish to exterior concrete walkways. Avoid residue falling on adjacent brick surfaces. Broom texture is to be even and uniform from one pour to the next.

E. ***Tinted Concrete Decorative Curb Edge Finish:*** Avoid residue falling on adjacent curb surfaces. Texture and score pattern is to match existing decorative edge, which simulates a brick pattern.

3.07 CLEANING:

A. Remove excess concrete and smears on adjacent brick surfaces.

B. Clean soiled surfaces with a water wash while soiling is still wet. Do not use acid wash, or any abrasives to wash brick.

3.08 CONCRETE CURING AND PROTECTION:

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.

C. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

D. Curing Methods: Perform curing of concrete by moist curing, by moisture-retaining cover curing, by curing compound, and by combinations thereof, as herein specified.

E. Provide moisture curing by following methods:

1. Keep concrete surface continuously wet by covering with water.
2. Continuous water-fog spray.
3. Covering concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4” lap over adjacent absorptive covers.

F. Provide moisture-cover curing as follows:

1. Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3” and sealed by waterproof tape or adhesive.

Immediately repair any holes or tears during curing period using cover material and waterproof tape.

G. Do not use membrane curing compounds on surfaces which are to be covered with coating material applied directly to concrete, liquid hardener, waterproofing, dampproofing, painting, and other coating and finish materials, unless otherwise acceptable to Owner's Representative.

H. Curing Formed Surfaces: Cure formed concrete surfaces, including undersides of beams, supported slabs and other similar surfaces by moist curing with forms in place for full curing period.

I. Curing Unformed Surfaces: Cure unformed surfaces, such as slabs, floor topping, and other flat surfaces by application of appropriate curing method.

J. Final concrete slab surfaces to receive weather proofing and sealant.

K. All residue falling on adjacent brick surfaces shall be removed.

3.09 REMOVAL OF FORMS:

A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 degrees F (10 degrees C) for 24 hours after placing concrete provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protections operations are maintained.

B. Formwork supporting weight of concrete, such as beams, walls, columns, and similar parts of the work, may not be removed in less than 14 days and until concrete has attained design minimum compressive strength at 28 days.

C. Determine potential compressive strength of in-place concrete by testing field-cured specimens representative of concrete location or members.

D. Form facing material may be removed 4 days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

3.10 RE-USE OF FORMS:

A. Clean and repair surfaces of forms to be re-used in work. Split, frayed, delaminated or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork.

B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Owner's Representative.

END OF SECTION

SECTION 03310 - EXPOSED AGGREGATE CONCRETE PAVING

PART 1 –GENERAL

1.1 GENERAL PROVISIONS

A. All Documents, as listed on the Table of Contents, and applicable parts of General Conditions and Special Conditions, shall be included in and made a part of this Section.

B. Information provided herein shall not conflict with information contained elsewhere in Section 02200 EARTHWORK, or 03300 SITE CONCRETE WORK - GENERAL. Notify Owner's representative of any discrepancies.

C. Refer to the full Contract Documents and all other Sections of the Specifications for additional requirements therein affecting the work of this trade.

1.2 SUMMARY

A. The work of this Section consists of providing all labor, equipment, materials, incidental work, and construction methods necessary to purchase, deliver and install concrete surfaces indicated on the plans. The surfaces consist of the following:

Exposed Aggregate Concrete sidewalks consisting of the Landmark Walk, Compass Rose, Roadside Walk, and flatwork under Detectable Warning Plates.

1.3 RELATED WORK UNDER OTHER SECTIONS

A. The following items of related work are specified and included in other Sections of the Specifications:

1 Section 02200 Earthwork
2 Section 02820 Loaming and Seeding
3 Section 03300 Site Concrete

1.4 REFERENCES

The following standards shall apply to the work of this Section.

1. American Concrete Institute (ACI):
306R Cold Weather Concreting

316R Recommendations for Construction of Concrete Pavements and Concrete Bases.

2. American Society for Testing and Materials (ASTM):

A 185 Specification for Steel Welded Wire Fabric. Plain, for Concrete Reinforcement
A 615 Specification for Deformed and Plain Billet -Steel Bars for Concrete Reinforcement
C 33 Specifications for Concrete Aggregates
C 94 Specifications for Ready-Mixed Concrete
C 143 Test Method for Slump of Hydraulic Cement Concrete
C 150 Specification for Portland Cement
C 171 Specification for Sheet Materials for Curing Concrete
C 231 Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
C 309 Specification for Liquid Membrane-Forming Compounds for Curing Concrete
C 494 Specification for Chemical Admixtures for Concrete
D 226 Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
D 545 Test Methods for Preformed Expansion Joint Fillers for Concrete Construction (Non-extruding and Resilient Types)
D 1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort [56,000 ft-lbf/ft3 (2,700 kN-m/m3)]
D 1752 Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction
RIDOT Standard Specifications for Highways and Bridges.

1.5 SUBMITTALS

A. The Contractor shall provide a description of Methods and Sequence of Placement. Description of methods and sequence of the placement of each pour shall be provided for each type of concrete and finish.

B. Submit manufacturer's product data for the following:

1. Proposed Expansion joint products

C. Provide Product data for all materials and items, including reinforcing, forming accessories, aggregates, admixtures, joint systems curing compounds and all other incidental materials that may produce the surface finish.

D. Construct Concrete Sample Panels:

1. Construct a 6 foot x 6 foot Exposed Aggregate Concrete sample panel of finished six (6) inch thick concrete pavement, for review and approval, at least 15 days prior to final concrete paving work. Samples shall be constructed within the area of proposed finish work. The samples shall demonstrate the typical installation of concrete, including score lines, expansion joint, any sealant, curing and finishing material, surface texture, color, and edge treatment. The accepted sample, upon approval, shall be maintained as the standard of minimal quality for approval of all proposed concrete pavement work required for the project. Unacceptable sample panels shall immediately be removed from the site at the Contractor's expense. New sample panels shall be constructed until approval is obtained.

1.6 CONTRACTOR PERFORMANCE REQUIREMENTS

A. Qualifications: Due to the nature of the project, the installer must provide 10 years of proven experience. Submit experience, qualifications and lists of installations, locations, owners and date of installation. The job foreman responsible for operations and the laborers must have no less than 5 years of minimum proven experience in the required paving techniques.

B. The Contractor is referred to State Owned Fort Adams State Park. RIDEM has installed exposed aggregate walks at the Eisenhower house that exhibit a surface finish that is considered a desirable finish for the walks in this location.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Protect reinforcing steel, aggregates, dowels, form work and panels from the weather, vandalism and theft.

PART 2 -PRODUCTS

2.1 MATERIALS

A. Formwork: The dimensions of the lumber used to form concrete pavements shall not be less than 2 inches nominal thickness by the required pavement depth of 5, or 12 inches, and as shown on the Drawings. Use smooth form boards for exposed vertical surfaces of concrete pavement.

B. Steel Reinforcement:

1 Welded wire fabric (WWF) reinforcement shall be Grade 60 six by six (6x6) W5.5xW5.5 welded wire fabric, Conforming to the applicable requirements of ASTM A 185. Fabric reinforcement shall be furnished in flat sheets. Fabric reinforcement in rolls will not be permitted

2 Deformed steel rebar ASTM 615, Grade 60

C. Portland Cement Concrete: ASTM C 150 Type 1 Portland Cement. All Cast-in-place concrete shall be air-entrained concrete with minimum 28-day compressive strength of 4,000 pounds per square inch. Utilize the same mix for entire project.

1 Air Entrainment: Concrete shall be air-entrained 4-6 percent +/-1 percent, by volume.
2 Slump: Concrete shall have a slump of 2 inches to 4 inches slump.
3 Maximum Aggregate Size: Aggregate size shall be a maximum of ½" inch.
4 Thickness of Concrete shall be 6" thick.

E. Expansion Joints: Provide expansion joints as indicated and in accordance with the following:

1. Unless otherwise indicated on the Drawings, expansion joints shall be located 20 feet on-center, maximum.

F. Expansion Joints:

1. Compressible, preformed bituminous joint filler, utilized at structures, and rated based on based on compression requirement of 10 pounds per square inch minimum and 25 pounds per square inch maximum. Recovery rate following 50 percent compression shall exceed 99 percent recovery, per ASTM D 545. or an approved equal.

G. Aggregate: 100% passing 1/2" sieve, quarried, crushed, washed, aggregate shall be hard, sound, durable, and clean. Warm gray in color, no white.

H. Retarder: Surface retarder shall be one of the following products. Contractor must follow the manufacturer's products recommendations.

1 The Burke Company: "True Etch Surface Retarder" (or approved equal)
2 Anti-hysro: "Spec No. 8-8A – Concrete Surface Retarder".
3 Sika Corp. "Rugasol-S".

I. Surface sealer: Sealer shall be THORO® ENVIROSEAL 20 (Also internationally known as Masterseal 303) or approved equal. The Contractor must follow the manufacturer's product recommendations. THORO® ENVIROSEAL 20 shall be stored under cover, clear of the ground and stacked not more than 2 containers high and shall be protected from freezing.

PART 3 -EXECUTION

3.1 CONSTRUCTION METHODS

General

A. All surfaces shall be stable, firm and slip resistant. Construct walkway so that water does not accumulate on any surfaces.

B. Paving work shall be done only after excavation and construction work which might injure them have been completed. Damage caused during construction shall be repaired before acceptance.

C. Pavement, base, and/or sub base shall not be placed on a muddy or frozen sub-grade.

Specific

A. Preparation of Subgrade

1. Areas to be paved shall be compacted and brought to proper subgrade elevations. All work specified and performed under this and Section 03000, EARTHMOVING before any finish work described in this Section is performed. Final fine grading, filling, and compaction of areas that will receive paving, are first required to have a firm, uniform, accurate, and unyielding subgrade at required elevations and to required lines.

The Sub-grade support required shall be obtained by heavy surface compaction with a minimum of 6 passes from a vibratory roller having a minimum drum weight of 10,000 lbs. (5 Ton) and a dynamic force of at least 20,000 lbs. (10 Ton) prior to placement of any site fill or sub-base material.

2. Existing subgrade material that will not readily compact as required shall be removed and replaced with satisfactory materials. On-site Type 1 Soils shall be evaluated for re-use and suitability. If additional fill materials are needed to bring subgrade to required line and grade and to replace unsuitable material, the material removed shall be tested and disposed of, new material tested, and upon passing furnished and installed at the job site.

3. Subgrade of areas to be paved shall be re-compacted as required to bring top 8 inches of material immediately below the Sand-Gravel Fill base course to a compaction at optimum moisture of at least 95 percent of maximum dry density, as determined by ASTM D 1557. Subgrade compaction shall extend for a distance of at least 12 inches beyond proposed pavement edge.

4. Excavation required in pavement subgrade shall be completed before fine

grading and final compaction of subgrade are performed. Where excavation must be performed in completed and compacted subgrade, subbase, base, or pavement, subsequent backfill and compaction shall be performed in accordance woth these specifications or as directed by the Owner's Representative. Uniformly and properly grade all such completed subgrade areas after filling.

5. Areas being graded or compacted shall be kept shaped and drained during construction. Ruts greater than or equal to 2 inches deep in subgrade, shall be graded out, reshaped as required, and re-compacted before placing pavement as specified. If working in wet conditions use caution not to soften subgrade.

6. New aggregate materials shall not be stored or stockpiled on subgrade.

7. Disposal of debris and other material excavated under Section 02300, Earthwork Specification, and material unsuitable for or in excess of requirements for completing work of Section 023000.

8. Prepared subgrade will be inspected by the Owner's Representative.. Contractor shall arrange to have the Owner's Representative or Engineer visit the site to inspect and approve subgrade. Disturbance to subgrade caused by inspection procedures shall be repaired as specified, performed and paid for as part of the job.

3.2 Sub-base and Base Courses:

1 Where additional fill to change the grade above native soil subgrade is required, provide a Subbase course which shall consist of Granular Fill as specified under Section 02300 EARTHWORK

2 Base course for exposed aggregate concrete paving shall be a minimum of 8" thick of processed gravel as specified under the Section 02215 Aggregates and 02300 Earthwork.

3 Subbase and Base course placement shall occur in 4" lifts.

3.3 Formwork

1 All forms shall be joined neatly and tightly, shall be set true to line and grade, well staked and braced, and shall have uniform bearing throughout their length. Remove all forms and miscellaneous appurtenances from pavement edges and dispose of all formwork and appurtenances at the end of the construction project.

2 Forms shall not be moved for 72 hours after the concrete has been placed, or for a longer period if directed by the Owner's Representative.

3 Remove all forms. Extreme care shall be taken in removing forms in order that no damage will be done to the concrete.
4 Under no condition shall any bar, pick or other tool be used which depends upon leverage on the concrete for removal of the forms.

3.4 Steel Reinforcement

A. Before being placed in position, reinforcing for reinforced concrete shall be thoroughly cleaned of loose mill and rust scale, dirt, ice, and other foreign material which may reduce the bond between the concrete and reinforcing. Where there is delay in placing concrete after reinforcement is in place, bars shall be re-inspected and cleaned when necessary.

B. Welded Wire Mesh: W5.5 X W5.5 Wire mesh used for reinforcement shall be spread flat before placing concrete. Mesh reinforcement shall be held firmly in place against vertical or transverse movement by means of satisfactory devices. Where mesh reinforcement is spliced, it shall be lapped at least 12 inches.

1 Unless designated otherwise on the Drawings, wire mesh shall be placed midway within the depth, and parallel to the finished surface of concrete pavements.
2 Do not pour concrete over top of reinforcement unless it is supported underneath.
3 Contractor shall pull reinforcement up immediately after pouring concrete to make sure that the reinforcement is in the middle of the slab and not sitting on the bottom.

3.5 Joints

A. Expansion joints shall be 3/8 inches wide and shall be as located on the Drawings or as directed. Expansion joint shall be formed in the concrete to required width with preformed joint filler in place. Joint filler shall extend the full depth of the slab. Joint filler shall extend the full length of the expansion joint.

1. For concrete banding and concrete pavements and pads, the edges of the EJ shall be tooled. .

B. Place expansion joints spaced approximately on 15-foot centers. Expansion joints shall be placed where pavement meets flush foundations and footings, concrete or bituminous concrete curbing or other vertical structures, including light bases, hydrants, walls, buildings, piers and walls, and at other conditions as shown on the Drawings. Joint alignment shall be straight and true.

C. Saw-cut control joints as indicated on the plans

3.6 Portland Cement Concrete Paving

A. Concrete Paving mix, equipment, methods of mixing and placing, and precautions to be observed as to weather, condition of base and the like, shall meet the requirements of ACI 316R. Pavement shall be constructed in accordance with the Drawings.

B. The Owner's Representative shall be notified of concrete placement sufficiently in advance of start of operation to allow his representative to complete preliminary inspection of the work, including subgrade, forms, and reinforcing steel, if used.

1. No concrete shall be deposited until the Owner's Representative Landscape Architect has inspected the placing of reinforcement and given permission to place concrete.

C. Normal concrete placement procedures shall be followed. Concrete shall arrive at the job site so that no additional water will be required to produce the desired slump. When conditions develop that required addition of water to produce the desired slump, permission of the Owner must be obtained. The concrete shall be transported from the mixer to its place of deposit by a method that will prevent segregation or loss of material.

1 Concrete pavement shall be placed in a series of alternate pours such that every other panel bounded by expansion joints shall be poured first.
2 The intervening panels shall then be poured as a secondary operation only after the first panels have hardened sufficiently to allow the removal of all temporary transverse forming supports.
3 Concrete shall be placed in one course, to full depth, as detailed on the Drawings.

D. Work shall not be performed during rainy weather or when temperature is less than 40 degrees Fahrenheit. In the event that unforeseen rain occurs, cover all broom finished concrete surfaces with plastic sheet covering to prevent alteration of texture. Concrete slabs with textured concrete surfaces altered by rain shall be removed from the site as directed by the Landscape Architect.

E. Adjacent work shall be protected from stain and damage during entire operation. Damaged and stained areas shall be replaced or repaired to equal their original conditions.

F. Existing concrete, earth, and other water-permeable material against which new concrete is to be placed shall thoroughly damp when concrete is placed. There shall be no free water on surface.

G. Concrete which has set or partially set before placing shall not be employed. Re-

tempering of concrete shall not be permitted.

H. Concrete shall be thoroughly spaded and tamped to secure a solid and homogeneous mass, thoroughly worked around reinforcement and into corners of forms.

I. When joining fresh concrete to concrete which has attained full set, latter shall be cleaned of foreign matter, and mortar scum and laitance shall be removed by chipping and washing. Laitance is the accumulation of fine particles on the surface of freshly poured concrete caused by an upward movement of water through the concrete. This can be caused by too much mixing water, by excessive tamping, or by vibration of the concrete. Clean, roughened base surface shall be saturated with water, but shall have no free water on surface. A coat of 1:1 cement-sand grout, approximately 1/8 inches
(3.2 mm) thick, shall be well scrubbed into thoroughly dampened concrete base. New concrete shall be placed immediately, before grout has dried or set.

3.7 Finishing

A. Concrete flatwork surfaces shall be screeded off and hand floated and finished true to line and grade, and free of hollows and bumps. Surface shall be dense, smooth, and at exact level and slope required.

B. Horizontal surfaces of concrete pavement which will be exposed shall be given an exposed aggregate finish.

1 The finished surface shall be uniform, with no smooth, unduly rough or porous spots, or other irregularities. Coarse aggregate shall not be dislodged by brooming operation.

2 The Contractor shall construct a 6’ x 6’ panel as an example of the finished sidewalk PRIOR TO THE PALCEMENT OF ANY FINISHED WORK and shall have this panel approved by the Engineer before completing the rest of the sidewalks. This panel shall remain on site until the sidewalk work has been completed.

3 Unless otherwise indicated, exposed vertical concrete surfaces shall be ground and/or rubbed smooth unless otherwise directed by the Owner’s Representative.

4 For Exposed Aggregate Concrete: The method employed to achieve the desired results shall be in applying a chemical concrete set retarder admixture to the surface of the concrete immediately following the trowel finishing operations. The amount of retardant applied will be sufficient to expose 1/8 inch of the coarse aggregate using a water spray and provide an overall surface with a rough texture. Use care to monitor the initial power-washing and ‘release’ process and then repeat the process for subsequent pours to maintain a consistent appearance.

5. The Contractor shall follow the manufacturer's recommendations for using the set retarder to attain the desired results with consideration given to the concrete mix, ambient, curing temperatures, and recommended curing time before performing the mortar procedure.

C. Surface Preparation: New concrete surfaces shall be cleaned of all sand, surface dust/dirt, oil, grease, chemical films/coatings and other contaminants before applications. A complete water, sand, or shot blast may be needed to achieve the desired surface condition. Crack control. Caulking, patching and expansion joint sealants can be installed before and after application of the sealer. Cure in accordance with manufacturer's instructions.

D. Sealer Application Surface, air and material temperature should be between 50 and 35°C during application. Surfaces to be treated shall be dry. THORO® ENVIROSEAL 20 should not be applied if frost, ice or standing water are visible on the surface to be treated. All vegetation shall be protected from over-spray of this product. Test a small area of the concrete surface before starting general application of any clear, penetrating sealer to assure desired results and coverage rates.

1. Stir material thoroughly before and during application. Apply to saturation. This may be done with a low-pressure spray, or by pouring, followed by brooming for even distribution on horizontal surfaces. Normal coverage rates are approximately 3 to 5 m^2/ltr. The surfaces treated shall be left for 4 hours for proper penetration and shall be opened to pedestrian traffic until completely dry.

E. Immediately following finishing operations, arrises' at edges and both sides of expansion joints shall be rounded to a 1/4 inches radius.

F. All scoring, tooling and finishing of the concrete shall be subject to the review and approval of the Owner's Representative at any time during the construction project. The Contractor shall remove and replace, at no additional cost to the Owner, all concrete which is not acceptable to the Owner's Representative.

3.8 Curing

A. It is essential that concrete be kept continuously damp from time of placement until end of specified curing period. It is equally essential that water not be added to surface during floating and troweling operations, and not earlier than 24 hours after concrete placement. Between finishing operations surface shall be protected from rapid drying by a covering of waterproofing paper. Surface shall be damp when the covering is placed over it, and shall be kept damp by means of a fog spray of water, applied as often as necessary to prevent drying, but not sooner than 24 hours after placing concrete. None of the water so applied shall be

troweled or floated into surface. Where finishing is performed before end of curing period, concrete shall not be permitted to dry out, and shall be kept continuously moist from time of placing until end of curing period, or until curing membrane is applied

B. Concrete surfaces shall be cured by completely covering with curing paper or application of a curing compound.

1 Concrete cured using waterproof paper shall be completely covered with paper with seams lapped and sealed with tape. Concrete surface shall not be allowed to become moistened between 24 and 36 hours after placing concrete. During curing period surface shall be checked frequently, and sprayed with water as often as necessary to prevent drying, but not earlier than 24 hours after placing concrete.

2 If concrete is cured with a curing compound, compound shall be applied at a rate of 200 square feet per gallon, in two applications perpendicular to each other.

3 Curing period shall be seven days minimum.

3.9 Cold Weather Concreting

A. Materials for concrete shall be heated when concrete is mixed, placed, or cured when the mean daily temperature is below 40 degrees Fahrenheit or is excepted to fall to below 40 degrees Fahrenheit within 72 hours, and the concrete after placing shall be protected by covering, heat, or both.

B. Details of handling and protecting of concrete during freezing weather shall be subject to the approval and direction of the Owner's Representative. Procedures shall be in accordance with provisions of ACI 306R.

3.10 Hot Weather Concreting

A. Concrete just placed shall be protected from the direct rays of the sun and the forms and reinforcement just prior to placing shall be sprinkled with cold water. Every effort shall be made to minimize delays which will result in excessive mixing of the concrete after arrival on the job.

B. During periods of excessively hot weather (95 degrees Fahrenheit, or above) ingredients in the concrete shall be cooled insofar as possible and cold mixing water shall be used to maintain the temperature of the concrete at permissible levels all in accordance with the provisions of ACI 305. Any concrete ready for placement with a temperature above 95 degrees Fahrenheit will not be acceptable and will be rejected.

C. Temperature records shall be maintained throughout the period of hot weather giving air temperature, general weather conditions (calm, windy, clear, cloudy, and the like.) and relative humidity. Records shall include checks on temperature of concrete as delivered and after placing in forms. Data should be correlated with the progress of the work so that conditions surrounding the construction of any part of the structure can be ascertained.

3.11 Cleaning and Protection

A. Remove smears from adjacent surfaces immediately, as the work progresses. Exercise particular care to prevent smearing or staining of surrounding surfaces which will be exposed in the finished work, and repair any damage done to same as result of this work without additional cost to Owner.

B. Clean adjacent surfaces using materials and methods recommended by sealant manufacturer. Where required, high pressure washing or the use of chemical cleaners shall be employed to clean adjacent surfaces.

C. Remove and replace work that cannot be successfully cleaned or work that is damaged or deteriorated.

D. Provide temporary protection to ensure sealant work is not damaged following acceptance of sealant work. Protection may include covering of joints subject to damage during remainder of construction period. Remove protection immediately before final acceptance.

3.12 Protection of Concrete Surfaces

A. Concrete surfaces shall be protected from traffic or damage until surfaces have hardened sufficiently. If necessary 1/2 inches, thick plywood sheets shall be used to protect the exposed surface.

B. The Contractor shall provide adequate surveillance for all poured-in-place concrete pavements until concrete has set firmly, to prevent unwarranted markings of the concrete surface. Any unauthorized marking or graffiti in the finished surfaces shall be a cause for rejection by the Owner and replacement by the Contractor.

3.13 Acceptance Standards

A. The following acceptance standards shall be applied to this Contract. These standards are considered superior to typical industry standards:

1 Pavement surfaces shall be free of all cracking
2 Pavement surfaces shall not pond water
3 Pavement surfaces shall be free of visible high and low spots
4 Steel mesh reinforcing shall not penetrate the surfaces or sides of the

concrete slab.

5 Saw-cut, tooled joints and all expansion joints shall be straight, true, uniform in width and free from twists, bends, kinks and misalignments

6 Saw cut joints shall be complete in length, and free of chips and spalling at joint edges.

7 Tooled edges and the associated dimensioned, walkway ‘panels’ and appurtenant patterns shall be consistent, true, crisp and complete.

8 Exposed Aggregate Surface shall be ADA compliant in profile, and aggregate shall not be too ‘proud’ of the surface plane in the opinion of the Owner’s Representative.

9 Broom finish shall not be too coarse in the opinion of the Owner’s representative.

10 Broom finish shall be constant and complete between joints without bare spots, lifts or disconnections in broom pattern

11 Pavement shall show no graffiti. Pavement shall show no rubbed surfaces indicative of attempts to erase graffiti

12 Expansion joints and score joints shall be placed as required by the Drawings

13 Concrete surfaces shall be free of all stains, including those created during the course of the construction by the Contractor, caused by natural events, or caused by vandalism

14 All tooled joints and expansion joints shall be flush with finished surface

15 Pours shall not differ in color as determined by the Owner’s Representative.

16 Pours without proper expansion joints cast into them will be rejected.

17 Pours not conforming to the ’panels’ or pattern on the Drawings will be rejected.

B. Any portion of the concrete paving that does adhere to these required acceptance standards shall be considered no-compliant and shall be removed at the discretion of the Owner’s representative. Saw-cut pavement at nearest adjacent tooled joint, remove concrete pavement and discard off site in a legal manner. Replace/reconstruct reinforcing if necessary and re-install the new concrete pavement meeting the requirements of this Section.

END OF SECTION

SECTION 10400 - SIGNAGE

PART 1 GENERAL

1.01 Drawings and general provision of Contract, including General and Supplementary Conditions, Special Conditions and related parts for the Technical Specifications apply to the work of this section.

1.02 SECTION INCLUDES:

A. Temporary Project Signs

1.03 RELATED SECTIONS

Section 01060 - Regulatory Requirements
Section 02200 – Earthwork and Remediation Grading

1.04 QUALITY ASSURANCE

A. Fabrication by journeymen sign painters.

1.05 SUBMITTALS

A. Submit proofs of each sign.
B. Submit color chips.

1.06 SIGN TEXT

A. Text for each Temporary Project sign shall bare the name of the project on top, as follows:

Summit Street Park (or)

Fallon School Playground

Followed by the following:

Graphic of the City Seal

Donald R. Grebien, Mayor, City of Pawtucket

Designed by:
THE GIFFORD DESIGN GROUP, Inc.
Cumberland, Rhode Island
Diane C. Soule & Associates
Smithfield, Rhode Island

Constructed By:
(CONTRACTOR'S NAME AND LOCATION)

PART 2 PRODUCTS

2.01 TEMPORARY PROJECT SIGN

A. Contractor shall furnish, install and maintain two (2) single sided project signs (one for each site). Each sign shall be 4' x 8' in size. Each sign shall be installed within seven (7) calendar days of the date of commencement in location to be selected by the Owner.

B. Project signs shall be constructed out of 3/4" aluminum skinned plywood panels, all sides painted blue with a white 'snap' strip around entire perimeter of the panel, with white vinyl lettering and graphics. Secure sign to three 4 x 4 x 12' pressure-treated wood posts with tamper-resistant fasteners. Locate as directed by Owner's representative and install no later than 7 days following notice to proceed.

C Digital copy of City Seal to be provided by Owner's Representative in .JPG or similar digital format

D. Metal Fasteners and Screws

1. All metal fasteners shall be heavy-duty stainless steel. All accessible fasteners shall be tamper-resistant type fasteners. Provide shop drawings and / or samples of method of attachment of Temporary Project Sign.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. Contractor to provide proof of sign design based on Owner's Representative's layout instructions.

B. Field stake temporary sign location for approval by Owner prior to installation or disturbance.

C. Fabrication and installation to meet highest standards of quality for this work. Set signs square and level. Set posts plumb.

D. No patching or field cutting shall be performed. Products may be rejected by the Owner if not properly fabricated to fit the conditions. Replacement products shall be furnished and installed at no additional cost to the Owner.

E. Use cleaning methods and materials to leave the work neat and free of blemishes, stains or scratches.

3.02 TEMPORARY PROJECT SIGN LAYOUT CONCEPT:

Fallon School Playground

Pawtucket, RI

Donald R. Grebien, Mayor, City of Pawtucket

Designed By:
THE GIFFORD DESIGN GROUP, Inc.
Cumberland, Rhode Island
Diane C. Soule & Associates
Smithfield, Rhode Island

Constructed By:
(CONTRACTOR'S NAME)
(Contractor's Business Location)

Summit Street Park

Pawtucket, RI

Donald R. Grebien, Mayor, City of Pawtucket

Designed By:
THE GIFFORD DESIGN GROUP, Inc.
Cumberland, Rhode Island
Diane C. Soule & Associates
Smithfield, Rhode Island

Constructed By:
(CONTRACTOR'S NAME)
(Contractor's Business Location)

END OF SECTION

SECTION 16000 ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED SECTIONS

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this section.

B. Examine all drawings and all other sections of the specifications for requirements therein affecting the work of this trade.

C. These documents are not intended to be complete construction documents. These documents, do, however, show the systems required and approximately where the larger equipment is to be located. This contractor shall include allowances in his estimates to fully complete the system including all interconnecting, coordination and installation details and components and extending the system into and throughout all spaces. This Contractor shall also include allowances for startup and for making the systems fully operational, and for scope and design contingencies. Future changes in price for items not shown on these drawings will not be allowed if the system itself is shown on these Drawings.

D. Give notices, file plans, obtain permits and licenses, pay fees and back-charges, and obtain necessary approvals from authorities that have jurisdiction as required to perform work in accordance with all legal requirements and with Specifications, Drawings, Addenda and Change Orders, all of which are part of Contract Documents.

1.2 SUMMARY

A. This Section specifies the basic requirements for electrical installations and includes requirements common to more than one section of Division 16. It expands and supplements the requirements specified in sections of Division 1.

B. These documents have been prepared with the intention that they call for finished, tested work, in full operating condition and complete with necessary accessories.

C. The contract drawings are generally diagrammatic and convey the scope of work and general arrangement of apparatus and equipment. The locations of all items shown on the drawings or called for in the specifications that are not definitely fixed by dimensions are approximate only. The exact locations necessary to secure the best conditions and results must be determined at the project and shall

have the approval of the Architect/Engineer before being installed. The Contractor shall follow the drawings in laying out work and shall check drawings of the other trades to verify spaces in which work will be installed. Maintain maximum headroom and space conditions at all points. If directed by the General Contractor, Engineer and/or Architect, the Contractor shall, without extra charge, make reasonable modifications in the layout as needed to prevent conflict with work of other trades or for proper execution of the work.

D. These contract documents are complementary. What is called for by one shall be as binding as if called for by all. Materials or work described in words, which have well-known technical, or trade meaning shall be held to refer to such recognized standards. Incidental devices and accessories needed for complete, operational systems shall be provided even though they may not be indicated or identified in the documents.

E. If apparatus have been omitted, notify the Architects/Engineers of such belief. It is understood that bidder has included all required items and work in his bid, and will not if bid is successful, claim extra compensation for furnishing a complete and satisfactory system. If a particular item is called for or specified more than once in these contract documents, the higher grade shall be considered specified.

F. Should it appear that the character of the work is not sufficiently explained in these specifications or on the drawings, apply to the A/E for further information. Conform to the A/E's decision and directions as shall become part of these contract documents. The A/E reserves the right to be sole interpreter of the drawings and specifications, and all decisions shall be conclusive, final and binding on the parties.

G. Materials called for in these documents shall be new, unused equipment and of the latest recognized standards.

H. The work to be done under Division 16 is shown on the drawings numbered: E-1 through E-3.

1.3 OUTLINE SCOPE OF WORK

A. The work under this contract, without limiting the generality thereof, includes all materials, labor, equipment, services, and transportation, unless otherwise specified, necessary to complete all systems of electrical wiring and equipment required by the drawings and/or as specified herein. It is the intent of this section and accompanying electrical drawings that these systems be furnished complete in every respect. The Electrical Contractor shall furnish all wiring, equipment and labor needed for a complete operating installation.

B. The Electrical Contractor shall fully indemnify the Owner against any damages, removals and alteration work. This is in addition to the requirements of the General Conditions of the Specifications.

1.4 ROUGH-IN

A. Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected.

B. Refer to equipment specifications in for rough-in requirements.

C. (not used)

1.5 SURVEYS AND MEASUREMENTS

A. Base measurements, both horizontal and vertical, on established bench marks. Work shall agree with these established lines and levels. Verify measurements at site and check the corrections of same as related to the work.

B. Should the Contractor discover any discrepancy between actual measurements and those indicated, which prevents following good practice or the intent of the drawings and specifications, he shall notify the A/E.

1.6 EXAMINATION OF SITE

A. Prior to submitting bid, visit the site where the work is to be performed and the materials are to be delivered. Failure in this respect shall not excuse the Contractor from his obligation to supply and install the work in accordance with the plans and specifications and under all conditions, as they exist.

B. By submitting a bid, this Contractor warrants that all specification sections and drawings showing equipment for plumbing, heating, ventilation, air conditioning, electrical, and architectural, have been examined and is familiar with the conditions and extent of work affecting this contract.

1.7 EQUIPMENT AND MATERIALS

A. All equipment and materials for permanent installation shall be the products of recognized manufacturer's and shall be new, unless noted for re-use, without damaged, functional or aesthetic components.

B. New equipment and materials shall:

1. Be Underwriters Laboratories, Inc. (UL) labeled and/or listed where specifically called for, or where normally subject to such UL labeling and/or listing services.

2. Be without blemish or defect.

3. Be in accordance with the latest applicable NEMA standards.

4. Be products, which will meet with the acceptance of the agency inspecting the electrical work. Where such acceptance is contingent upon having the products examined, tested and certified by UL or other recognized testing laboratory, the product shall be so examined, tested and certified.

C. For items of equipment, which are to be installed but not purchased as part of the electrical work, the electrical work shall include:

1. The coordination of their delivery.

2. Their unloading from delivery trucks driven in to any point on the property line at grade level.

3. Their safe handling and field storage up to the time of permanent placement in the project.

4. The correction of any damage, defacement or corrosion to which they may have been subjected.

5. Their field make-up and internal wiring as may be necessary for their proper operation.

6. Their mounting in place, including the purchase and installation of all dunnage, supporting members and fastenings necessary to adapt them to architectural and structural conditions.

D. Items of equipment, which are to be installed but not purchased as part of the electrical work, shall be carefully examined upon delivery to the project. Claims that any of these items have been received in such condition that their installation will require procedures beyond the reasonable scope of the electric work will be considered only if presented in writing within one week of the date of delivery to the project of the items in question. The electric work includes all procedures, regardless of how extensive, necessary to put into satisfactory operation, all items for which no claims have been submitted as outlined above.

1.8 ELECTRICAL INSTALLATIONS

A. All materials and labor called for, specified in Division 16 of the specifications, and or shown on the electrical drawings furnished under this contract shall be provided under Division 16 unless called for otherwise in the Division 16 documents. The word "provide" as used in the Division 16 documents, shall mean to furnish, install, connect up, complete with all accessories ready for operation and warranted.

B. Coordinate electrical equipment and materials installation with other building components. Fully coordinate work with that of other trades. Furnish information in writing that is needed for the coordination of clearances, etc., with the work of others, and such information shall be given in a timely fashion so as not to impede the progress of two or more trades. Confer and resolve the conflict immediately. If so directed by the A/E, prepare composite drawings to resolve any space or clearance conflict.

C. Verify all dimensions by field measurements.

D. Arrange for chases, slots, and openings in other building components to allow for electrical installations.

E. Coordinate the installation of required supporting devices and sleeves to be set in poured in place concrete and other structural components, as they are constructed.

F. Sequence, coordinate, and integrate installations of electrical materials and equipment for efficient flow of the Work. Give particular attention to large equipment requiring positioning prior to closing-in the building.

G. Coordinate the cutting and patching of building components to accommodate the installation of electrical equipment and materials.

H. Where mounting heights are not detailed or dimensioned, the exact location shall be determined by the A/E, install electrical services and overhead equipment to provide the code and/or utility requirements.

I. Install electrical equipment to facilitate maintenance and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations.

J. Coordinate the installation of electrical materials and equipment above ceilings with suspension systems, mechanical equipment and systems, and structural components.

K. Coordinate connection of electrical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.

L. Attention is directed to areas and items indicated on the drawings by the notations "HOLD", "N.I.C.", "BY OTHERS" and words of similar intent. The work indicated in these areas is shown for information and continuity only. Work or items furnished and installed in these areas solely for the convenience of this Contractor or others, without prior written approval of the Owner, shall be removed at the option of the Owner and at the Contractor's expense.

M. Provide all required staging and scaffolding for all the work under this section.

1.9 (not used)

1.10 CUTTING AND PATCHING

A. Cutting and patching of electrical equipment, components, and materials specified under Division 16 (conduit, sleeves, equipment, etc.) shall be performed by Electrical Contractor.

B. Refer to the Conditions of the Contract (General and Supplementary) and Division 1 Section: "Cutting and Patching" for definitions, requirements, and procedures.

C. Cutting and patching of existing structures (thru walls, floors, ceilings, etc.) to accommodate equipment, components, and materials of all Contractors, including Mechanical and Electrical Contractors, shall be performed by General Contractor and/or his designated Subcontractor.

D. Cutting and patching of new structures (thru walls, floors, ceilings, etc.) to accommodate installation of ill-timed work or removal and replacement of defective work or work not conforming to requirements of Contract Documents, shall be performed by General Contractor and/or his designated Subcontractor and costs shall be back charged to appropriate trade Contractor.

E. Do not endanger or damage installed work through procedures and processes of cutting and patching.

F. Arrange for repairs required to restore other work, because of damage caused as a result of electrical installations.

G. Arrange to have ducts, raceways, conduit, panelboards, boxes, and such other pertinent parts, set in place ahead of construction work so that they will be built-in with structures and eliminate need for cutting and patching. Failure to conform to this paragraph will require that this Contractor perform any cutting and patching required for his work at his expense. Cutting shall be neatly finished to match adjoining work in a manner acceptable to the A/E. Cutting and patching shall not affect the fire rating of walls or structural parts. Cutting and patching required to correct work, due to error or negligence of the Contractor, or to defects in his material or workmanship, shall be corrected at no additional cost to the Owner. Patching shall meet or exceed quality of adjacent surfaces. Cutting must be accomplished as not to weaken adjacent structural members and must be approved by the Structural Engineer before proceeding.

H. Perform cutting, fitting, and patching of electrical equipment and material required to:

1. Uncover work to provide for installation of ill-timed work.
2. Remove and replace defective work.
3. Remove and replace work not conforming to requirements of the contract documents.
4. Remove samples of installed work as specified for testing.
5. Install equipment and materials in existing structures.
6. Upon written instructions from the A/E, uncover and restore work to provide for A/E observation of concealed work.

I. Cut, remove and legally dispose of selected electrical equipment, components and materials as indicated, including, but not limited to, removal of electrical items indicated to be removed and items made obsolete by the work.

J. Protect the structure, furnishing, finishes, and adjacent materials not indicated or scheduled to be removed. Protect the electrical work and the work of others in a manner best suited to the particular case. Correct any damage done to any work at no additional cost.

K. Provide and maintain temporary partitions or dust barriers adequate to prevent the spread of dust and dirt to adjacent areas.

L. Locate, identify, and protect electrical services passing through areas that are to under go remodeling or demolition. Electrical services serving other areas required to be maintained, and transit services must be interrupted, provide temporary services for the affected areas and notify the Owner prior to changeover.

1.11 SUBMITTALS

A. Within fifteen (15) days after the date of notice to proceed and before purchasing any materials or equipment, submit for approval a complete list, in six (6) copies, of all materials to be incorporated in the work.

B. Shop drawings/manufacturer's cuts are required for:

1. Conduit, Wire & Cable.
2. Lighting Fixtures.
3. Switchboard, Panelboards, Transformers.
4. Disconnect Switches.
5. Wiring Devices and Plates.
6. Fire Alarm System.
7. Generators and Transfer Switches.
8. Fire Stopping Materials.
9. Seismic Restraint Components.

C. After the list has been processed, submit complete shop drawings of all equipment. These shop drawings submittals shall be submitted within thirty days after the processing date of the original submittal.

D. All submittals shall be complete and shall be in three-ring loose-leaf binders. No consideration will be given to partial submittals except with prior approval. No consideration will be given to faxed submittals.

E. Explanation of Shop Drawing Stamp:

1. Approved: indicates that we have not found any reason why this item should not be acceptable within the intent of the documents.

2. Approved with Comments: indicates that we have found questionable components which, if corrected or otherwise explained, make the product acceptable.

3. Resubmit for Final Review: indicates that this item should be resubmitted for approval before further processing.

4. Does Not Conform: indicates that the item will not meet the intent of the Contract.

F. No shop drawing stamp or note shall constitute an order to fabricate or ship. Such notification can only be performed by the Project Manager for construction, the Contractor scheduling his own work, or the Owner.

G. Submittal of shop drawings, product data, will be reviewed only when submitted by the Contractor. Data submitted from Sub-contractors and material suppliers directly to the A/E will not be processed.

H. If shop drawing is not in compliance after two submissions, a third submission for the same manufacturer will not be considered for review.

I. Check shop drawings and other submittals to assure compliance with contract documents before submittal to A/E.

J. Review of shop drawings is final and no further changes shall be considered without written application. Shop drawing review does not apply to quantities, dimensions, nor relieve this Contractor of his responsibility for furnishing materials or performing his work in full compliance with these contract drawings and specifications. Review of these shop drawings shall not be considered a guarantee of the measurements of this building or the conditions encountered.

K. General requirements for the substitution of equipment and submittal of shop drawings as follows. If apparatus, systems or materials are substituted for those specified, and such substitution necessitates changes in, or additional connections, wiring, supports, or construction, it shall be provided by this Contractor at no additional cost to the Owner. This Contractor shall assume all cost and entire responsibility thereof. The approval of substituted equipment does not relieve the contractor of his/her responsibility of shop drawing errors related to details, sizes, quantities, wiring diagram arrangements and dimensions which deviate from the Specifications, and/or job conditions as they exist. It is the contractor's responsibility to submit only those items that meet the specified apparatus, systems and material. Should any non-conformance code items be installed, they shall be replaced by this Contractor at no additional cost to the Owner. The construction means and methods used in the project shall be reviewed and approved through the local building department or a deputy inspector to insure compliance with the current codes, project specifications and general building practices.

L. Coordination drawings shall be submitted and shall show all HVAC, Electrical, Plumbing and Fire Protection systems superimposed in order to identify conflicts and ensure inter-coordination of all trades. Coordination drawings shall be initiated under this Section of the Specifications. It is this Contractors responsibility for preparation of project coordination drawings showing the installation of all electrical equipment, switchgear, motor control centers, panelboards, transformers, transfer switches, disconnect switches, enclosed circuit breakers, conduits, outlets, switches and accessories to be provided under this Section of the Specifications. These drawings shall be prepared at not less

than 3/8 in. = 1 ft. scale, and shall show building room layouts, structural elements, ductwork and lighting layouts of function. A reproducible copy of each drawing prepared shall then be submitted to the Mechanical, Plumbing and Sprinkler Contractors, who shall be responsible to coordinate his equipment and systems and shall show these on the drawings submitted. After this Contractor has fulfilled his obligation, he shall notify all other Contractors. After each drawing has been coordinated between trades, each trade shall sign each drawing, indicating acceptance of the installation. This Contractor shall then print the coordination original and these prints submitted through the General Contractor to the architect for review and comment, similar to shop drawings. Comments made on these drawings shall result in a correction and re-submittal of the drawings. A Subcontractor who fails to promptly review and incorporate his work on the drawings shall assume full responsibility of any installation conflicts affecting his work and of any schedule ramifications. Review of coordination drawings shall not diminish responsibility under this Contract for final coordination of installation and maintenance clearances of all systems and equipment with Architectural, Structural, Mechanical, and Electrical Contractors.

1.12 NOT USED

1.13 NAMEPLATE DATA

A. Provide permanent operational data nameplate on each item of power operated equipment, indicating manufacturer, product name, model number, serial number, capacity, operating and power characteristics, labels of tested compliances, and similar essential data. Locate nameplates in a readily accessible location.

1.14 DELIVERY, STORAGE AND HANDLING

A. Deliver products to project properly identified with names, model numbers, types, grades, compliance labels, and similar information needed for distinct identifications; adequately packaged and protected to prevent damage during shipment, storage, and handling.

B. Store equipment and materials at the site, unless off-site storage is authorized in writing. Protect stored equipment and materials from damage. All devices shall be stored in a locked room. Assume responsibility for the devices until the date of final inspection.

C. Coordinate deliveries of electrical materials and equipment to minimize construction site congestion. Limit each shipment of materials and equipment to the items and quantities needed for the smooth and efficient flow of installations.

1.15 RECORD DOCUMENTS

A. As work progresses and for the duration of Contract, maintain a complete and separate set of prints of Contract Drawings at job site at all times. Record work completed and all changes from original Contract Drawings clearly and accurately including work installed as a modification or addition to the original design. Work shall be updated on a weekly basis and shall be made available for review by Architect. Failure to perform this work shall be reason for withholding requisition payments. In addition, take photographs of all concealed equipment in gypsum board ceilings, shafts, and other concealed, inaccessible work. At completion of work, make copies of photographs with written explanation on back. These shall become part of Record Documents.

B. At completion of work prepare a complete set of Record Drawings in CAD format & paper copy, showing all systems as actually installed, including all fire alarm and electrical circuitry. The design tracings will be made available for the Electrical Contractor's copying, at his expense, onto CAD reproducibles to serve as backgrounds for the drawings. The quantity of design tracings which are made available shall in no way be interpreted as setting a limit to the number of drawings necessary to show the required information. The Electrical Contractor's professional draftperson shall transfer changes to CAD files; submit CAD files and three (3) sets of prints to Architect for comments as to compliance with this section.

C. The Architect will not certify the accuracy of the Record Drawings. This is the sole responsibility of the Electrical Contractor.

D. This trade shall submit the record set for approval by the Fire and Building Departments in a form acceptable to the departments, when required by the jurisdiction.

E. Drawings shall show record condition of details, sections, riser diagrams, control changes and corrections to schedules. Schedules shall show actual manufacturer and make and model numbers of final equipment installation.

1.16 WARRANTIES

A. Refer to the Conditions of the Contract (General and Supplementary) and Division 1 for definitions, requirements, and procedures.

B. All work and equipment furnished under this Section shall be guaranteed free from defects in workmanship or materials for a period of one (1) year, unless specifically noted otherwise for a particular system, from the date of final acceptance of the systems as set forth in this Contract. The Subcontractor shall replace any defective work developing during this period, unless such defects are clearly the result of misuse of equipment by persons not under the control of the Subcontractor, without cost to the Owner. Where such defective work results in damage to work of other Sections, all such work shall be restored to its original condition by mechanics skilled in the affected trade, at the expense of the Subcontractor. The Subcontractor shall submit a separate written guarantee stipulating the aforesaid conditions.

C. Prior to or at the time of Substantial Completion for the work and during administrative close-out of the project, submit one (1) copy of all specified warranties and guarantees to the Architect for review, approval and subsequent transmittal to the Owner.

D. Warranties and guarantees, including those specified in excess of the general one (1) year guarantee, shall be complete for all specific materials, systems, sub-systems, equipment, appliances and products specified and required by the Contract Document.

E. Warranties and guarantees shall clearly define what is to be guaranteed; the extent, terms, conditions, time and effective dates.

F. Copies of the same warranties and guarantees shall be included in the “Operating and Maintenance Manual” as specified herein.

1.17 CLEANING

A. Refer to the Conditions of the Contract (General and Supplementary) and Division 1 for definitions, requirements, and procedures.

B. Upon completion of work, the Contractor shall clean, polish and leave bright, fixtures and lamps, and shall remove dust, dirt, debris and loose plaster from panelboards, controls, and switchboards. Unused openings in pull boxes, junction boxes, equipment and raceways shall be capped or closed by an approved means. Replace all inoperative lamps.

1.18 DEFINITION OF TERMS

A. "This Contractor" or "E.C." specifically means, the Electrical Contractor working under this section of the specifications.

B. "Concealed" means hidden, in chases, furred spaces, walls, above ceilings or enclosed in construction.

C. "Exposed" means visible in sight or not installed "concealed" as defined above.

D. "Approved Equal" means any equipment or material which is approved by the Engineer and equal in quality, durability, appearance, strength, design and performance to the equipment or material originally specified.

E. "Conduit" shall mean all conduit including fittings, joints, hangers and supports.

F. "Furnish" shall mean to purchase and deliver to the project site complete with every necessary appurtenance and support, all as part of the electrical work.

G. "Install" shall mean to perform every operation necessary to establish secure mounting and correct operation at the proper location in the project, all as part of the electrical work.

H. "Provide" shall mean to furnish and install.

1.19 QUALITY ASSURANCE

A. Obtain services of manufacturer's representatives of electrical equipment, during erection and construction of their respective equipment to insure proper installation of same.

B. A letter is required from each system manufacturer's representative certifying to the A/E that requirements have been checked and are properly installed and operating.

1.20 PERFORMANCE TESTS - ELECTRICAL

A. Test and adjust the electrical systems and equipment during the progress of the work.

B. Upon completion of work and after preliminary tests to assure that all systems are complete and in proper working order, arrange with the A/E to conduct performance tests of the electrical systems. These tests may be witnessed by the A/E prior to acceptance of systems and shall be arranged for the purpose of demonstrating compliance with contract documents. During this period, visually inspect all electrical equipment. Lighting fixtures shall be tested with specified lamps in place for not less than six (6) hours. Check voltages to assure that all transformer taps are properly set.

C. General operating tests shall be performed under as near design conditions as possible, for a period of not less than one (1) hour for each system, and shall demonstrate that all equipment is functioning in accordance with specifications. Furnish all instruments, ladders, test equipment and personnel required for tests. Any equipment or systems found by test to be deficient or unsatisfactory shall be replaced and tests repeated as often as necessary to assure compliance with contract documents.

D. Test all feeders, sub-feeders and all branch wiring for amperage, voltage, phase balance, phase sequence of A,B,C and insulation resistance, then submit the results of this test to the A/E neatly typed in triplicate for review. This test may be conducted at any time up to, through and including, the guarantee period if requested by the A/E, at no additional cost to the Owner.

E. Phase balance the complete electrical system, phase balance all panels as near as loads will permit under normal working conditions.

F. Test all ground conductors for current flow, as near design operating conditions as possible. If any measured current exceeds one (1) ampere, determine and correct the cause.

1.21 SEISMIC RESTRAINT

A. General

1. All equipment, conduit and pull boxes shall be adequately restrained to resist seismic forces. Restraint devices shall be designed and selected to meet seismic requirements as defined in the latest issue of the BOCA National Building Code in accordance with Seismic Zone 2A with a minimum restraint capability of 4.
2. Anchor bolt calculators, signed and stamped by a registered professional engineer, shall be submitted showing adequacy of the bolt sizing and type. Stamped calculations shall also be furnished for anchors on restraint devices, cables, isolators and rigidly mounted equipment.

B. Products

1. Type SWSR - A unitized adjustable open spring isolator and a welded steel housing, designed to resist seismic forces in all directions. Restraint surfaces forces in all directions. Restraint surfaces which engage under seismic motion shall be cushioned with a resilient elastomer, neoprene or equal, to protect equipment. Restraints shall allow a maximum of 1/4" movement before engaging and shall allow for the spring to be changed if required.

Isolator shall be a stable spring with a minimum Ky/Ky of 1.0 and the spring shall be isolated from the housing by an internal elastomeric pad on its base for sound absorption. Nuts and bolts shall be zinc-electroplated to prevent corrosion. Bolting equipment to isolator with bolts smaller than main adjusting bolt will not be allowed.

Baseplate shall have adequate means of bolting to the structure. IF elastomeric pad for sound absorption is on baseplate of housing, anchor bolts are to be isolated with elastomeric grommets.

2. Type CTER - A unitized adjustable, stable open spring isolator and seismic restraint housing which serves as a blocking device during equipment installation. The spring package shall be isolated from the housing by an internal elastomeric pad for sound absorption. Nuts, adjusting bolts and washers shall be zinc-electroplated to prevent corrosion.

   The spring assembly shall be removable and shall fit within a welded steel enclosure consisting of a top plate and rigid lower housing. Isolated seismic restraint bolts shall connect top plate to lower housing to resist seismic forces in all directions. Surfaces which engage under seismic elastomer, neoprene or equal, to protect equipment. Top plate shall have adequate means for fastening to the equipment, and baseplate shall have adequate means for bolting to structure. If elastomeric pad for sound absorption is on baseplate of housing, anchor bolts are to be isolated with grommets.

3. Type ER - A restraint assembly for floor mounted equipment consisting of welded steel interlocking assemblies welded or bolted securely to the equipment or the equipment bases and to the supporting structure. Restraint assembly surfaces, which engage under seismic motion, shall be lined with a resilient elastomer, neoprene or equal, to protection equipment. Restraints shall be field adjustable and be positioned for 1/4" clearance both vertically and horizontally or clearance as required to prevent interference during normal operation.

   Restraint assembly shall have minimum rating of 3 times the catalog rating as certified by independent laboratory test.

4. Cables - A restraint assembly for suspended equipment, conduit or pull boxes consisting of galvanized steel aircraft cable attached to steel thimbles with neoprene sleeve (isolated piping only), brackets and bolts

all specifically designed for cable service and securely fastened to the equipment, or the equipment base and the building structure.

Cables shall be sized for a force as listed on SSR-9108-1 for buildings for appropriate zone with minimum safety factor of 2 based upon independent test data. Cables shall be installed to prevent excessive seismic motion and so arranged that they do not engage during normal operation.

C. Application

1. Isolated Equipment

a. Floor mounted isolated equipment which weights over 300 pounds including base shall be protected with type SWSR or type CTER unitized isolator and restraint or with separate type ER restraints (minimum of 4) and non-seismic isolators. For equipment with high center of gravity, additional cable restraints shall be furnished, as required, to limit forces and motion caused by rocking.

b. All suspended isolated equipment and vessels shall be protected with cable restraints. Cables shall be installed to prevent excessive seismic motion and so arranged that they do not engage during normal operation.

2. Isolated Piping

a. All isolated conduit 2-1/2" and over shall be protected in all planes by cable restraints, designed to accommodate thermal movement as well as restrain seismic motion. Control rods should be used on flexible connectors in system. Pull or junction boxes connected to isolated conduit shall be restrained same as the conduit. Locations shall be as determined by the isolator supplier and shall include, but not be limited to:

1) At all drops to equipment connections.

2) At changes in direction of conduit.

3) At horizontal runs of conduit, not to exceed the following spacing as presented in Amber/Booth, design criteria 3. Isolated Equipment.

b. Isolated equipment 6 square feet and larger in cross sectional area or 28" diameter and larger shall be protected in all planes by cable restraints. Locations shall be determined by the isolator supplier and shall include but not be limited to:

1) At all equipment connections.

2) At all equipment runs and equipment run ends transverse bracing and longitudinal bracing not to exceed previously specified spacing).

c. Isolated equipment under 4 square feet in cross sectional area or under 26" diameter need not be additionally restrained.

3. Rigidly Mounted Equipment - Floor mounted and suspended equipment and vessels which weight over 300lbs shall be protected by properly sized anchor bolts or hanger rods and bracing. The need for restraints in addition to anchor bolts shall be determined by and, if required, furnished by the supplier of the seismic restrains of the isolated equipment.

4. Rigidly Mounted Conduit - All uninsolated conduit 2-1/2" inside diameter and larger shall be protected in accordance with the Amber/Booth Guidelines. Conduit suspended by hangers 12" or less in length from the top of the conduit to the bottom of the support for the hanger need not be restrained.

5. Rigidly Mounted Pull or Junction Boxes - All pull or junction boxes shall be protected as for rigidly mounted conduit.

D. Installation

1. All seismic restrains are to be securely anchored or fastened to the equipment and supporting structure in accordance with the approved submittal data.

2. Operating clearances are to be adjusted so that restraints do not interfere during normal operation of the equipment.

3. Upon completion of the installation, the supplier of the seismic restrains shall inspect and certify in writing to the architect that restraints have been installed properly and in accordance with the approved submittal.

1.22 TEMPORARY LIGHT & POWER

A. Under this Section of the specifications, this Contractor shall provide temporary electric service, sized suitable for construction for each trade. This contractor

shall provide all material and labor for temporary electrical service per the local power company's requirements and standards with all necessary panelboards, disconnect switches, transformers, conduit, wiring, etc. as required. This contractor shall pay all associated costs, up front.

B. Where temporary electrical service cannot be obtained from the local power company, this contractor shall provide a temporary, on-site, electric generator with all necessary panelboards, disconnect switches, transformers, conduit, wiring, etc. as required. The fuel used for the generator shall be provided and paid for by this Contractor.

C. This contractor shall provide a distribution system with circuits for receptacles and lighting as required for construction. This contractor shall maintain the temporary electrical system during construction and remove the system when construction is complete.

D. Under this section of the specifications, this Contractor shall provide and maintain temporary lighting based on using not less than one 100-watt lamp for each 100 square feet of building floor area and one duplex GFCI receptacle for each 200 square feet of building floor area. Where higher lighting intensities are required by Federal or State laws or otherwise specified, the above specified wattage shall be increased to provide the increase intensities.

E. This contactor shall provide temporary power and telephone services from the local telephone company for site trailers, fax machines, computers, etc., per the general contractor's direction.

F. The service shall incorporate ground fault protection and comply with NEC Article 590 and OSHA requirements.

1.23 PERMITS

A. Obtain all required electrical permits and pay all fees for same.

B. Provide to Engineer, in duplicate, a certificate of final inspection from the authority having jurisdiction for the electrical and systems.

1.24 INSPECTION AND TESTS

A. During the progress of the work it shall be subject to the inspection of the Owner and to such other inspectors, as may have jurisdiction, including those of the Electric Company, Fire Department and the Telephone Company.

B. The Contractor shall be responsible for correct voltages, tap settings, trip settings and

correct phasing on all equipment. Secondary voltages shall be measured at the line side of the main breakers with the breakers in an open position, at panelboards, and at such other location on the distribution systems and branch circuits as directed by the Engineer.

C. At completion of the work, Contractor shall submit to the Owner's representative in writing a statement stating: (1) that the work is complete; (2) that the entire installation is in accordance with the drawings and specifications; (3) that preliminary tests have been made; and (4) that the work is ready for final inspection and test.

D. A final inspection of the installation to determine compliance with the drawings and specifications will be made by the Owner's representative. Work will be checked for quality of materials, quality of workmanship, proper installation and finished appearance. The electrical contractor shall provide the services of the project electrical foreman for inspection purposes. The foreman shall remove and reinstall wiring devices, junction box covers, panelboard trims, switchboard covers, terminal box covers, ceiling tiles, lighting fixtures, etc. as required to facilitate any inspections required by the Owner's representative.

E. The Contractor shall arrange and conduct operating tests on all equipment in the presence of the Owner's representative. The components parts of systems and the various systems shall be demonstrated to operate in accordance with the requirements and intent of this specification. Any non-complying or defective materials or workmanship disclosed as a result of the inspection and tests shall be corrected promptly by the Contractor, and the tests repeated as often as necessary until approved and accepted by the Owner's representative.

F. The Contractor shall visit the site to acquaint himself with existing conditions. No extra compensation will be paid for failure to comply with this paragraph.

1.25 DRAWINGS

A. The drawings show the layout of the electrical systems and indicate the approximate locations of outlets, apparatus, and equipment. The runs of feeders and branches as shown on the drawings are schematic only. The exact routing of branch circuits and feeders shall be determined by the structural conditions and possible obstructions. This shall not be construed to mean that the design of the systems may be changed, but refers only to exact runs between given points. The Engineer reserves the right to revise the drawings from time to time to indicate changes in the work.

B. The Contractor shall consult and review all contract and reference drawings which may affect the location of any outlets, apparatus and equipment to avoid any possible interference and permit full location of outlets, apparatus and equipment up to the time of rough-in is reserved by the Engineer and such change shall be made without

additional expense to the Owner.

C. It shall be the responsibility of this Contractor to see that all electrical equipment such as junction and pull boxes, panelboards switches, controls and such other apparatus as may require maintenance and operation from time to time is made accessible. Although the equipment may be shown on the drawings in certain locations, the construction may disclose the fact that such locations do make its position accessible. In such cases this Contractor shall call the attention of the Engineer to the condition before advancing the construction to a state where a change will reflect additional expense to the Owner.

1.26 OPERATING, INSTRUCTION AND MAINTENANCE MANUALS

A. Refer to Section 01700 – CONTRACT CLOSEOUT for submittal procedures pertaining to operating and maintenance manuals.

B. Each copy of the approved operating and maintenance manual shall contain copies of approved shop drawings, equipment literature, cuts, bulletins, details, equipment and engineering data sheets and typewritten instructions relative to the care and maintenance for the operation of the equipment, all properly indexed. Each manual shall have the following minimum contents:

1. Table of Contents.

2. Introduction:

   a. Explanation of manual and its purpose and use.
   b. Description of the electrical systems.
   c. Safety precautions necessary for equipment.
   d. Illustrations, schematics and diagrams.
   e. Installation drawing.

3. Maintenance:

   a. Maintenance and lubricating instructions.
   b. Replacement charts.
   c. Trouble-shooting charts for equipment components.
   d. Testing instructions for each typical component.
   e. Two (2) typed sets of instructions for ordering spare parts. Each set shall include name, price, telephone number and address of where they may be obtained.

4. Manufacturer's Literature:

   a. All of the equipment for which shop drawings have been submitted and

approved.

1.27 MATERIALS

A. All materials furnished under this Division shall be U.L. listed, labeled and approved for the use intended.

B. All computerized equipment shall be year 2000 (Y2K) compliant.

1.28 BIDDER'S REPRESENTATION

A. By the act of submitting a bid for the proposed contract, the Bidder represents that:

1. The Bidder and all subcontractors the Bidder intends to use have carefully and thoroughly reviewed the drawings, specifications and other construction contract documents and have found them complete and free from ambiguities and sufficient for the purpose intended; further that,

2. The Bidder and workmen, employees and subcontractors the Bidder intends to use are skilled and experienced in the type of construction represented by the construction contract documents bid upon; further that,

3. Neither the Bidder nor any of the Bidder's employees, agents, intended suppliers or subcontractors have relied upon any verbal representations, allegedly authorized or unauthorized from the Owner, or the Owner's employees or agents including architects, engineers or consultants, in assembling the bid figure; and further that,

4. The bid figure is based solely upon the construction contract documents and properly issued written addenda and not upon any other written representation.

1.29 UTILITY COMPANY COORDINATION

A. This section includes, but is not limited to coordination with the following utilities, agencies and authorities having jurisdiction:

1. Power Company: This Contractor shall coordinate with the local utility power company and provide all material & labor required to comply with the utility power company's requirements and standards, prior to ordering any electrical equipment, such as, switchgear, panels, transformers, disconnect switches, TVSS, etc. This Contractor shall confirm metering sequence (hot or cold) and make the appropriate provisions and/or changes for the utility companies approved metering sequence arrangement. Notify Engineer of discrepancies between the plans and the local utility company’s standards.

No extra compensation will be given for corrections required to this Contractor for failure to coordinate with the utility company, but corrections shall be made. All A.I.C. ratings, grounding, bonding, concrete pads & curbs, protective bollards, raceways, ductbank, manholes, etc., shall be in accordance with the utility company's standards.

2. Telephone Company: This Contractor shall coordinate with the local telephone company and provide all material & labor required to comply with the telephone company's requirements and standards, prior to ordering any electrical or telephone equipment, such as, terminal boards, grounding systems, raceways, ductbanks, manholes, etc. This Contractor shall confirm the telephone companies requirements and provide as necessary. Notify Engineer of discrepancies between the plans and the telephone company’s standards. No extra compensation will be given for corrections required to this Contractor for failure to coordinate with the telephone company, but corrections shall be made.
3. Cable TV Company: This Contractor shall coordinate with the local cable TV company and provide all material & labor required to comply with the cable TV company's requirements and standards, prior to ordering any electrical or cable TV equipment, such as, terminal boards, grounding systems, raceways, ductbanks, manholes, etc. This Contractor shall confirm the cable TV company’s requirements and provide as necessary. Notify Engineer of discrepancies between the plans and the cable TV company’s standards. No extra compensation will be given for corrections required for failure to coordinate with the cable TV company, but corrections shall be made.
4. Local Fire Marshal: This contractor shall verify with the local fire alarm official, the type of master-box or municipal connection required for this project. This contractor shall provide all material & labor to comply with the local municipality. Notify Engineer of discrepancies between the plans and the municipality’s standards. No extra compensation will be given for corrections required for failure to coordinate with the municipality, but corrections shall be made.
5. Electrical Inspector: Review plans and specifications with the local electrical and/or wiring inspector(s). Obtain and pay for all permits.
6. Building Inspector: Review plans and specifications with the local building inspector, if not done so by the General Contractor.
7. OSHA Representative: Review plans and specifications with the local OSHA representative, if not done so by the General Contractor.
8. Dig Safe: This contractor shall notify and coordinate with Dig Safe prior to any excavation; digging; trenching; grading; tunneling; augering; boring; drilling; pile driving; plowing-in or pulling-in pipe, cable, wire, conduit, or other sub-structure; backfilling; demolition; and blasting related to this Contractor.

B. The Electrical Contractor shall pay for all permits, inspections, labor, material and fees associated with the various Utility Companies coordination requirements mentioned in this section and for this Contractor's work under this project. **Note - The Electrical Contractor shall provide <u>an allowance</u> in his/her bid to coordinate, furnish and install the required services per the Utility Provider's specifications and/or direction.**

C. HVAC, Plumbing, Fire Protection, and Electrical Drawings are diagrammatic. They indicate general arrangements of mechanical and electrical systems and other work. They do not show all offsets required for coordination nor do they show the exact routings and locations needed to coordinate with structural and other trades and to meet Architectural requirements.

D. In all spaces, prior to installation of visible material and equipment, including access panels, review Architectural Drawings for exact locations and where not definitely indicated, request information from Architect. Where the electrical work shall interfere with the work of other trades, assist in working out the space conditions to make satisfactory adjustments before installation. Without extra cost to the Owners, make reasonable modifications to the work as required by normal structural interferences. Pay the General Contractor for additional openings, or relocating and/or enlarging existing openings through concrete floors, walls, beams and roof required for any work which was not properly coordinated. Maintain maximum headroom at all locations. All piping, duct, conduit, and associated components to be as tight to underside of structure as possible.

E. If any electrical work has been installed before coordination with other trades so as to cause interference with the work of such trades, all necessary adjustments and corrections shall be made by the trades involved without extra cost to the Owners.

F. Where conflicts or potential conflicts exist and engineering guidance is desired, submit sketch of proposed resolution to Architect and Engineer for review and approval.

1.30 NOT USED

1.31 <u>DEMOLITION</u>

A. Prior to submitting bid, visit site and identify existing conditions and difficulties that will affect work of this section. Renovation work will require careful site examination prior to bidding. No compensation will be granted for additional work caused by unfamiliarity with site conditions that are visible or readily construed by an experienced observer. Field verify measurements and circuiting arrangements that are as shown on Drawings. The electrical contractor shall review all of the architects and other trades drawings to verify all areas of

renovation and to get a complete understanding of the demolition work required by this project.

B. Field verify that abandoned wiring and equipment serve only abandoned facilities.

C. Demolition drawings are based on casual field observation and existing record documents. Report discrepancies to Architect/Engineer before disturbing existing installations. These drawings have been compiled from the best available information and are not intended to limit the scope of the work. The electrical contractor may encounter hidden or covered conditions, not indicated in these documents, requiring the electrical contractor to provide additional work for the completion of his or her contract. It will be assumed that the contractor has inspected the site prior to bidding and verified the information supplied herein and additional work required. Beginning of demolition means the contractor accepts existing conditions. Refer to all construction documents to gain a complete understanding of the demolition work required.

D. Cut, remove and legally dispose of selected electrical equipment, components and materials as indicated, including, but not limited to, removal of electrical items indicated to be removed and items made obsolete by the work. Disconnect and remove all fixtures, wiring devices, conduit and fittings, wiring & cable, fire alarm devices/components, hangers, supports, wireways, and all other electrical components made obsolete by this project. The Owner reserves the option of salvage rights to demolished material and removed equipment. The contractor shall coordinate with the owner's representative to obtain a list of materials and removed equipment to be turned over to the Owner. All other material and removed equipment not being salvaged by the Owner shall be disposed of by the contractor. Place all demolished electrical materials except hazardous materials (PCB lighting ballasts, fluorescent lamps, etc.) as determined by the Authority having jurisdiction in General Contractor’s dumpster. All hazardous electrical materials shall be legally disposed of by the Electrical Subcontractor.

E. Disconnect electrical systems in walls, floors, and ceilings scheduled for removal.

F. Maintain access to existing electrical installations which remain active. Modify installation or provide access panels as appropriate. Temporary wall openings and/or modifications required for removal/installation of equipment shall be provided as needed and coordinated with the General Contractor. All HVAC units scheduled to be removed or re-located shall be done so by the HVAC contractor. The electrical contractor shall disconnect and make-safe for removal.

G. Provide temporary wiring and connections to maintain existing systems in

service during construction. When work must be performed on energized equipment or circuits use personnel experienced in such operations.

H. Existing Electrical Service: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Obtain permission from Owner and Architect/Engineer at least 72 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area as required.

I. Existing Fire Alarm System: Maintain the existing system in service until the modified/expanded system is tested and accepted by the fire department. Disable system only to make switchovers and connections. Notify Owner, Architect/Engineer and local fire department at least ten days before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area as required or provide a "fire-watch" system coordinated with the local fire department.

J. Existing Telephone System: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Notify Owner, Architect/Engineer and Telephone Utility Company at least 72 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area.

K. Extend existing electrical installations as called for on the drawings.

L. Remove, relocate, and extend existing installations to accommodate new construction.

M. Remove abandoned wiring to source of supply.

N. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.

O. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets which are not removed.

P. Disconnect and remove abandoned panelboards and distribution equipment.

Q. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.

R. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers, and other accessories.

S. Disconnect and remove other systems and equipment within the work area made obsolete by this work.

T. Protect all existing walls, floors, ceilings, light fixtures, etc. which are to remain & to prevent damage during all construction phases. Repair adjacent construction and finishes damaged during demolition and extension work. Provide and maintain temporary partitions or dust barriers adequate to prevent the spread of dust and dirt to adjacent areas. Protect the structure, furnishings, finishes, and adjacent materials not indicated or scheduled to be removed. Protect the electrical work and the work of others in a manner best suited to the particular case. Correct any damage done to any work at no additional cost.

U. Maintain access to existing electrical installations which remain active. Modify installation or provide access panel as appropriate.

V. Extend existing installations using materials and methods compatible with existing electrical installations, or as specified.

W. Clean and repair existing materials and equipment which remain or are to be reused.

X. Panelboards: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide typed circuit directory showing revised circuiting arrangement.

Y. Luminaires: Remove existing luminaires for cleaning. Use mild detergent to clean all exterior and interior surfaces; rinse with clean water and wipe dry. Replace lamps ballasts and broken electrical parts.

PART 2 - PRODUCTS

2.1 CONDUIT

A. Minimum Size: ¾-inch, unless otherwise specified.

B. Underground Installations:

1. More than Five Feet from Foundation Wall: Use thick wall nonmetallic conduit concrete encased.

2. Within Five Feet from Foundation Wall: Use rigid steel conduit concrete encased.
3. In or Under Slab on Grade: Use plastic coated conduit.
4. Minimum Size: 1-inch.

C. Outdoor Locations, Above Grade: Use rigid steel conduit.

D. In Slab Above Grade:
1. Use rigid steel conduit.
2. Maximum Size Conduit in Slab: ¾ inch (19 mm); ½ inch (13 mm) for conduits crossing each other.

E. Wet and Damp Locations: Use rigid aluminum conduit.

F. Dry Locations:
1. Concealed and in Cable-Tray: Use metal clad (MC) cable (see Division 1).
2. Exposed: (Unfinished or utility spaces) Use electrical metallic tubing.

G. Metal conduit: Rigid Steel Conduit shall comply with ANSI C80.1 and be heavy wall zinc coated steel. Rigid Aluminum Conduit shall comply with ANSI C80.5. Intermediate Metal Conduit (IMC) shall be rigid steel. Fittings and Conduit Bodies shall comply with ANSI/NEMA FB 1 and material to match conduit. Acceptable manufacturers are Western Tube and Conduit Company, Allied Tube and Conduit Company and Triangle Wire and Cable, Inc.

H. Flexible metal conduit shall be interlocked aluminum contruction. Fittings shall comply with ANSI/NEMA FB 1. Acceptable manufacturers are AFC Cable Systems, Electri-Flex Company and Eastern Flexible Conduit Technologies. All flexible conduits shall include a grounding conductor.

I. Electrical metallic tubing (EMT) shall comply with ANSI C80.3; galvanized zinc coated steel tubing. Fittings and Conduit Bodies shall comply with ANSI/NEMA FB 1; steel, compression or set screw type. Acceptable manufacturers are Western Tube and Conduit Company, Allied Tube and Conduit Company and Triangle Wire and Cable, Inc.

J. Nonmetal conduit shall comply with NEMA TC 2; Schedule 40 PVC, or as indicated on plans. Fittings and Conduit Bodies shall comply with NEMA TC 3. Acceptable manufacturers are Carlon or approved equal.

K. Flexible nonmetallic conduit (Sealtite) shall be UL and CSA listed for purpose specified and shown. Acceptable manufacturers are Carlon or approved equal.

L. Install conduit in accordance with NECA "Standard of Installation." Install nonmetallic conduit in accordance with manufacturer's instructions.

M. Arrange supports to prevent misalignment during wiring installation. Support conduit using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers. Group related conduits; support using conduit rack. Construct rack using steel channel; provide space on each for 25 percent additional conduits. Fasten conduit supports to building structure and surfaces under provisions of Division 1. Do not support conduit with wire or perforated pipe straps. Remove wire used for temporary supports. Do not attach conduit to ceiling support wires.

N. Arrange conduit to maintain headroom and present neat appearance. Route exposed conduit parallel and perpendicular to walls. Route conduit installed above accessible ceilings parallel and perpendicular to walls. Route conduit in and under slab from point-to-point. Do not cross conduits in slab.

O. Maintain adequate clearance between conduit and piping. Maintain 12-inch (300 mm) clearance between conduit and surfaces with temperatures exceeding 104 degrees F (40 degrees C).

P. Cut conduit square using saw or pipe cutter; de-burr cut ends. Bring conduit to shoulder of fittings; fasten securely. Join nonmetallic conduit using cement as recommended by manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for 20 minutes, minimum. Use conduit hubs or sealing locknuts to fasten conduit to sheet metal boxes in damp and wet locations and to cast boxes.

Q. Install no more than equivalent of three 90-degree bends between boxes. Use conduit bodies to make sharp changes in direction, as around beams. Use hydraulic one-shot bender to fabricate or factory elbows for bends in metal conduit larger than 2 inch (50 mm) size.

R. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system. Provide suitable fittings to accommodate expansion and deflection where conduit crosses seismic, control and expansion joints. All expansion and deflection fittings shall have a ground strap. Provide suitable pull string in each empty conduit except sleeves and nipples. Use suitable caps to protect installed conduit against entrance of dirt and moisture.

S. Ground and bond conduit under provisions of NEC 250.

2.2 NOT USED

2.3 NOT USED

2.4 NOT USED

2.5 WIRE & CABLE

A. Building Wire and Cable shall be copper with 600V insulation rated at 75°C minimum, Type XHHW insulation for feeders and branch circuits larger than #3 AWG; Type THHN/THWN insulation for feeders and branch circuits #4 AWG and smaller.

B. Conductors shall be of soft drawn 98% minimum conductivity properly refined copper, solid construction where No. 10 AWG and smaller, stranded construction where No. 8 AWG and larger.

C. Exterior of wires shall bear repetitive markings along their entire length indicating conductor size, insulation type and voltage rating.

D. Exterior of wires shall be color coded, so as to indicate a clear differentiation between each phase and between each phase and neutral. In all cases, grounded neutral wires and cables shall be identified by the colors “white” or “gray”. In sizes and insulation types where factory applied colors are not available, wires and cables shall be color coded by the application of colored plastic tapes in overlapping turns at all terminal points, and in all boxes in which splices are made. Colored tape shall be applied for a distance of 6 inches along the wires and cables, or along their entire extensions beyond raceway ends, whichever is less.

E. Final connections to motors shall be made with 18” of neoprene sheathed flexible conduit.

F. Minimum branch circuit conductor size shall be No. 12 AWG installed in conduit. Motor control circuit wiring shall be minimum No. 14 AWG installed in conduit.

G. Fire alarm and security system wiring shall be No. 16 twisted non-shielded pairs for alarm and trouble circuits and a minimum of #14 AWG for device power, control and alarm annunciation circuits.

H. Other wires and cables required for the various systems described elsewhere in this section of the Specifications shall be as specified herein, as shown on the

Contract Drawings, or as recommended by the manufacturer of the specific equipment for which they are used, all installed in conduit.

I. Metal clad sheathed cable NFPA 70, type MC may be used for branch circuitry where shown and where run concealed and not subject to physical damage. All branch circuits shall be run in conduit from the panelboard to the first outlet. All type MC cable used shall contain a full size insulated ground conductor. All conductors shall be copper. All type MC cable insulation used shall have voltage rating of 600 volts, shall have a temperature rating of 75° C, and shall be thermoplastic material. Armor material shall be steel and armor design shall be interlocked metal tape. Fire alarm rated MC cable may be used for fire alarm work where concealed and approved by the local Fire Marshal.

J. Metal-Clad cable (Type MC) for circuits supplying computer equipment, electronic discharge lighting and other sensitive electronic equipment shall consist of 90°C THHN copper conductors with insulated ground and oversized neutral conductor (or one full size neutral conductor for each phase conductor). Cable shall be U.L. listed/labeled, and shall meet the requirements of NEC Art. 334 and 675.

K. Use armored cable (AFC Type HCF-90 or equal) for branch circuits and feeders in areas of patient care in hospitals, nursing homes and medical centers, medical office buildings and nurses' office areas of schools. This cable shall consist of 90°C THHN copper conductors with combined armor/bond wire (equipment) plus a green insulated ground (redundant). Use insulated bushings. Cable shall be U.L. listed/labeled, and shall meet the requirements of NEC Art. 333, 517 and 645.

L. Use armored cable (AFC Type HCF-90 or equal) for branch circuits and feeders in all buildings in the following areas; data processing systems, places of assembly, under raised floors, above suspended ceilings and in other environmental air-handling spaces. This cable shall consist of 90°C THHN copper conductors with combined armor/bond wire (equipment) plus a green insulated ground (redundant). Use insulated bushings. Cable shall be U.L. listed/labeled, and shall meet the requirements of NEC Art. 333, 517 and 645.

M. Mineral-insulated metal-sheathed fire-resistive cables, type MI, shall consist of a factory assembly of one or more solid copper conductors insulated with highly-compressed magnesium oxide and enclosed in a seamless, liquid and gas-tight continuous copper sheath. Cables shall be rated for 600 volts. Cable shall comply with Article 330 of the National Electrical Code. Cables shall be classified by Underwriters Laboratories, Inc. as having a 2-hour fire resistive rating. Cable terminations shall be made with UL listed mineral-insulated cable fittings. Installation of MI cables shall be in accordance with the manufacturer's

instructions. Cables shall be as manufactured by Pyrotenax USA, Inc., or approved equal.

N. Wiring materials except MI cable shall be manufactured by Triangle, Essex, General Cable, AFC, Southwire or equal.

O. Concealed Dry Interior Locations: Use only building wire Type THHN/THWN or XHHW insulation in raceway, or metal clad cable where concealed and code acceptable.

P. Exposed Dry Interior Locations: Use only building wire, Type THHN/THWN or XHHW insulation, in raceway.

Q. Above Accessible Ceilings: Use only building wire, Type THHN/THWN or XHHW insulation, in raceway or metal clad cable where code acceptable.

R. Wet or Damp Interior Locations: Use only building wire, Type THHN/THWN or XHHW insulation, in raceway.

S. Exterior Locations: Use only building wire, Type THHN/THWN or XHHW insulation, in raceway.

T. Underground Installations: Use only building wire, Type THHN/THWN or XHHW insulation, in raceway.

U. Wiring methods, in general, are as follows:

1. Galvanized rigid steel conduit shall be used for telephone system sleeves for main cable runs between floors, closets, etc. and for sweeps, bends, etc. in ductbanks and as specifically noted on the plans. EMT shall be used generally for exposed circuiting in unfinished spaces. Metal clad cable (type MC) may be used for branch circuiting and fire alarm rated MC cable for fire alarm circuiting where run concealed and where code acceptable.

2. To prevent transmittal of vibration to conduit, connections to any vibration producing equipment (i.e. transformers, motors, etc.) shall be terminated by 18 inches of flexible metal conduit. Where flexible connections are exposed to grease and oil, liquid-tight flexible metal conduit shall be used.

3. In general, no splices or joints shall be permitted in either feeders or branches except at outlets or accessible junction boxes. Splices in wire #8 AWG and smaller shall be pigtail type, made mechanically tight. All conduit systems shall be complete.

4. Raceway, boxes, etc., run on walls in wet areas which are subject to being washed down, shall be mounted on the walls with 1/4" stand-offs. All boxes shall be cast type.

V. Route wire and cable as required to meet the Project Conditions. Install cable in accordance with the NECA "Standard of Installation." Use solid conductor for feeders and branch circuits 10 AWG and smaller. Use stranded conductors for control circuits. Use conductor not smaller than 12 AWG for power and lighting circuits. Use conductor not smaller than 16 AWG for control circuits. Use 10 AWG conductors for 20 ampere, 120 volt branch circuits longer than 75 feet (25 m). Use 10 AWG conductors for 20 ampere, 277 volt branch circuits longer than 200 feet (160 m). Pull all conductors into raceway at same time. Use suitable wire pulling lubricant for building wire 4 AWG and larger. Protect exposed cable from damage.

W. Support cables above accessible ceiling, using spring metal clips or metal cable ties to support cables from structure or ceiling suspension system, cables that are not part of the ceiling system cannot be supported from ceiling supports. Do not rest cable on ceiling panels. Use suitable cable fittings and connectors. Neatly train and lace wiring inside boxes, equipment, and panelboards.

X. Clean conductor surfaces before installing lugs and connectors. Make splices, taps, and terminations to carry full ampacities of conductors with no perceptible temperature rise. Use suitable reducing connectors or mechanical connector adapters for connecting aluminum conductors to copper conductors. Use split bolt connectors for copper conductor splices and taps, 6 AWG and larger. Tape un-insulated conductors and connector with electrical tape to 150 percent of insulation rating of conductor. Use solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller. Use insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller. Identify and color code wire and cable. Identify each conductor with its circuit number or other designation indicated.

2.6 BOXES

A. Outlet Boxes:

1. Each outlet in wiring or raceway systems shall be provided with an outlet box to suit conditions encountered. Boxes installed in normally wet locations shall be of cast-metal type having hubs. Concealed boxes shall be cadmium plated or zinc coated sheet metal type. Old work boxes with Madison clamps are not allowed in new construction.

2. Each box shall have sufficient volume to accommodate number of conductors in accordance with requirements of NFPA 70. Boxes shall not be less than 1-1/2” deep unless shallower boxes are required by structural conditions and are specifically approved by Architect. Ceiling and bracket outlet boxes shall not be less than 4” octagonal except that smaller boxes may be used where required by particular fixture to be installed. Flush or recessed fixtures shall be provided with separate junction boxes when required by fixture terminal temperature requirements. Switch and receptacle boxes shall be 4” square or of comparable volume. Luminaire and equipment supporting boxes shall be rated for weight of equipment supported; include 1/2 inch (13 mm) male fixture studs where required.

3. Acceptable Manufacturers:

   a. Appleton
   b. Crouse Hinds
   c. Steel City
   d. RACO

B. Pull and Junction Boxes: Where necessary to terminate, tap off, or redirect multiple raceway runs or to facilitate conductor installation, furnish and install appropriately designed boxes. Boxes shall be fabricated from code gauge steel assembled with corrosion resistant machine screws. Box size shall be as required by Code. Where intermediate cable supports are necessary because of box dimensions, provide insulated removable core brackets to support conductors. Junction boxes are to be equipped with barriers to separate circuits. Where splices are to be made, boxes shall be large enough to provide ample work space. All conductors in boxes are to be clearly tagged to indicate characteristics. Boxes shall be supported independently of raceways. Junction boxes in moist or wet areas shall be galvanized type. Boxes larger than 4 inches square shall have hinged covers. Boxes larger than 12 inches in one dimension will be allowed to have screw fastened covers, if a hinged cover would not be capable of being opened a full 90 degrees due to installation location.

C. Fiberglass Handholes shall be die molded glass fiber. Cable Entrance shall be pre-cut 6-inch x 6-inch (150 mm x 150 mm) cable entrance at center bottom of each side. Cover shall be glass fiber weatherproof cover with nonskid finish.

D. Install boxes in accordance with NECA "Standard of Installation." Install in locations as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.

E. Set wall mounted boxes at elevations to accommodate mounting heights indicated or specified in section for outlet device. Electrical boxes are shown on

drawings in approximate locations unless dimensioned. Adjust box location up to 10 feet (3m) if required to accommodate intended purpose. Orient boxes to accommodate wiring devices. Maintain headroom and present neat mechanical appearance.

F. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches (150 mm) from ceiling access panel or from removable recessed luminaire. Install boxes to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Division 7.

G. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes. Locate outlet boxes to allow luminaires positioned as shown on reflected ceiling plan. Align adjacent wall mounted outlet boxes for switches, thermostats, and similar devices.

H. Use flush mounting outlet box in finished areas. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening. Do not install flush mounting box back-to-back in walls; provide minimum 6 inches (150 mm) separation. Provide minimum 24 inches (600 mm) separation in acoustic rated walls. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness. Use stamped steel bridges to fasten flush mounting outlet box between studs. Install flush mounting box without damaging wall insulation or reducing its effectiveness.

I. Use adjustable steel channel fasteners for hung ceiling outlet box. Do not fasten boxes to ceiling support wires. Support boxes independently of conduit. Use gang box where more than one device is mounted together. Do not use sectional box. Use gang box with plaster ring for single device outlets. Use cast outlet box in exterior locations exposed to the weather and wet locations. Use cast floor boxes for installations in slab on grade; formed steel boxes are acceptable for other installations. Set floor boxes level.

J. Large Pull Boxes: Use hinged enclosure in interior dry locations, surface-mounted cast metal box in other locations.

K. Adjust floor box flush with finish flooring material. Adjust flush-mounting outlets to make front flush with finished wall material. Install knockout closures in unused box openings.

2.7 WIRING DEVICES

A. Provide wiring device type plates for all wall-mounted devices. All wall plates shall be either brushed aluminum or smooth high impact nylon for all public areas as directed by the Architect. Provide galvanized steel for all Utility, Electric and Mechanical Rooms. Colors of wall plates as directed by the Architect.

B. Wiring devices standard for the project (i.e., with no specific type indicated) shall conform to the following:

   1. Visible part colors of wiring devices shall be as directed by the Architect for all public areas. Provide Ivory colored devices for all Utility, Electrical and Mechanical rooms.

   2. Exclude compact type devices.

C. Wiring device switches shall be toggle type, A.C. quiet design, specification grade, 20 amps on 120 volt circuits. Switches shall be mounted 48" to center line above finished floor unless noted otherwise. Equivalent 277 volt 20 amp switches shall be used where required.

   1. Single pole switch shall be equal to Hubbell No. HBL 1221.

   2. Double pole switch shall be equal to Hubbell No. HBL 1222.

   3. Three-way switch shall be equal to Hubbell No. HBL 1223

   4. Four-way switch shall be equal to Hubbell No. HBL 1224

   5. Single pole pilot light switch shall be equal to Hubbell No. HBL 1221PL.

D. Standard duplex convenience receptacles shall be 125 volt, 20 amps, three wire (two circuit wires plus ground), "U-slot" ground NEMA configuration 5-20R, specification grade. Receptacles shall be mounted 18" to center line above finished floor unless noted otherwise.

   1. Equal to Hubbell No. 5362.

   2. Where indicated on plans provide receptacles with ground fault current interrupters, UL Class A; 20A, 125V to be equal to Hubbell No. GF5362.

E. Non-standard convenience receptacles and special purpose power supply receptacles shall be as listed on plans.

F. Weatherproof Receptacle Enclosures shall be NEMA 3R rated for rain-tight while-in-use, gasketed, impact resistant thermoplastic with hinged gasketed device cover.

G. Provide extension rings to bring outlet boxes flush with finished surface. Clean debris from outlet boxes. Install devices plumb and level. Install receptacles with grounding pole on top. Connect wiring device grounding terminal to branch circuit equipment grounding conductor. Use jumbo size plates for outlets installed in masonry walls. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.

H. Install wall switch 48 inches above finished floor to top of handle. On position shall be up. Install convenience receptacles 18 inches above finished floor. Install convenience receptacle 6 inches above backsplash of counter. Install dimmer switches 48 inches above finished floor to top.

I. Coordinate all devices & outlets above, below or on casework with Architect & Owner in order to position at the proper height and proper location.

J. Verify that each receptacle device is energized. Test each receptacle device for proper polarity. Test each GFCI receptacle device for proper operation.

K. NOT USED

L. Receptacles fed from an alternate power source shall have an illuminated face, or indicator light to indicate power to the receptacle.

2.8 CABINETS & ENCLOSURES

A. Cabinets shall be as follows: Boxes: Galvanized steel. Box Size: As required and/or indicated on plans. Backboard: Provide 3/4-inch thick plywood backboard for mounting terminal blocks. Paint matte white. Fronts: Steel, flush type with concealed trim clamps, door with concealed hinge, and flush lock keyed to match branch circuit panelboard. Finish with gray baked enamel. Knockouts: As required and/or indicated on plans. Provide metal barriers to form separate compartments wiring of different systems and voltages. Provide accessory feet for free-standing equipment.

B. Hinged Cover Enclosures shall be as follows: Construction: NEMA 250, Type 1, 3R, or 4 steel enclosure, as required and/or indicated on plans. Covers: Continuous hinge, held closed by flush latch operable by key or hasp and staple for padlock. Provide interior plywood panel for mounting terminal blocks and electrical components; finish with white enamel. Enclosure Finish: Manufacturer's standard enamel.

C. Install in accordance with NECA "Standard of Installation." Install enclosures and boxes plumb. Anchor securely to wall and structural supports at each corner under the provisions of Section 16190. Install cabinet fronts plumb.

D. Clean electrical parts to remove conductive and harmful materials. Remove dirt and debris from enclosure. Clean finishes and touch up damage.

NEMA

E. ICS 4 - Terminal blocks for industrial control equipment and systems. Power Terminals: Unit construction type with closed back and tubular pressure screw connectors, rated 600 volts. Signal and Control Terminals: Modular construction type, suitable for channel mounting, with tubular pressure screw connectors, rated 300 volts. Provide ground bus terminal block, with each connector bonded to enclosure.

F. Provide grounding provisions for all cabinets/enclosures and bond to grounding system as required per Code.

2.9 GROUNDING & BONDING

A. Ground all systems and equipment in accordance with best industry practice, the requirements of NFPA 70 and the following:

1. The ground bus of the main switchboard shall be connected to the main grounding electrode specified below by means of insulated conductors run in conduit.

2. The main grounding electrode shall be an accessible point on the nearest metallic main water service pipe. Connection shall be made on the street side of the main valve utilizing a ground clamp of a type specifically manufactured for the purpose. Bonding jumpers shall be provided around the water meters and around insulating joints and/or sections.

3. Establish a ground bonding connection from the effectively grounded structural building steel to each cold water main entering the building. Each bonding connection shall consist of insulated conductors run in conduit.

4. The water pipe ground shall be supplemented by:
   a. Additional electrodes (minimum of one setup) consisting of three (3) buried 3/4" diameter by 10’-0” long copperweld ground rods spaced 10’-0” apart, and provided in sufficient quantity so as to have measured resistance to ground of not more than 10 ohms. Provide independent certification confirming ground resistance at each test location. Establish a bonding connection from the electrode consisting of green insulated conductors run in conduit and sized as indicated hereinafter for main and supply side of service bonding jumpers.

b. Ground ring conductor (counterpoise) extending around the perimeter of the building. Bury counterpoise not less than 30 inches below grade and 10 feet from building foundation. Use tinned-copper conductor not less than #2/0AWG for counterpoise and for the tap to building steel. The counterpoise conductor trench shall be filled with 1” of Erico G.E.M. above and below the conductor.
c. Ground the steel framework of the building with a ground rod at every column and at every other exterior column. The ground rods shall be located in the counterpoise trench and shall be attached to the counterpoise. The top of the ground rods shall not be less than 24” below grade.

5. Provide grounding bonds between all metallic conduits of the light and power system which enter and leave cable chambers or other non-metallic cable pulling and splicing boxes. Accomplish this by equipping the conduits with bushings of the grounding type individually cross connected.

6. Bond metallic conduits containing grounding electrode conductors and main bonding conductors to the ground bus service enclosure and/or grounding electrode at both ends of each run utilizing grounding bushings and jumpers.

7. Provide grounding bonds for all metallic conduits of the light and power system which terminate in pits below equipment for which a ground bus is specified. Accomplish this by equipping the conduits with bushings of the grounding type connected individually to the ground bus.

8. Provide supplementary ground bonding where metallic conduits terminate at metal clad equipment (or at the metal pull box of equipment) for which a ground bus is specified. Accomplish this be equipping the conduits with bushings of the grounding type connected individually by means of jumpers to the ground bus. Exclude the jumpers where directed. This exclusion will be required where an isolated ground for electronic equipment is to be maintained.

9. Each grounding type bushing shall have the maximum ground wire accommodation available in standard manufacture for the particular conduit size. Connection to bushing shall be with wire of this maximum size.

10. Bonding conductors on the load size of the service device and equipment grounding conductors shall be sized in relation to the fuses or trip size of the overcurrent device supplying the circuit.

11. The central equipment for the fire protective alarm system, telephone system, data system (Data Rooms) and security system shall have its grounding terminal connected to the grounding electrode by means of a No. 6 green coded insulated conductor, run in 3/4" conduit. Utilize a ground clamp of a type specifically manufactured for the purpose.

12. Install rod electrodes per this section & in compliance with Code. Install additional rod electrodes as required to achieve specified resistance to ground. Install 4/0 AWG bare copper wire in foundation footing as required. Provide isolated grounding conductor for circuits supplying personal computers as indicated on the plans. Equipment Grounding Conductor: Provide separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing. Provide a 3/4" raceway with #6 AWG ground wire from main telephone terminal board to the service ground.

13. Perform inspections and tests listed in NETA ATS, Section 7.13. Document test results in Record Documents.

14. Swimming Pools, fountains & similar installations: Refer to NEC 680 for requirements for grounding and bonding. Provide all grounding and bonding per NEC 680 and 250.

15. Provide a #6AWG insulated grounding conductor in 3/4" conduit to electrical service grounding electrode system. Leave 10'-0" of grounding conductor coiled at backboard.

16. In raceways, use insulated equipment grounding conductors.

17. Exothermic-welded connections shall be used for all connections to structural steel, ground rods, signal reference grid, counterpoise conductors and all underground connections, except those at test wells.

18. Compression connectors (Ilsco type CRA or equal) shall be used for all equipment grounding conductor terminations.

19. Provide an equipment grounding conductor to duct mounted electrical devices operating at 120volts and above, including pumps, fans, lowers, air cleaners and heaters. Bond conductor to each unit and to air ducts. Use braided-type bonding straps.

20. Provide a separate equipment grounding conductor to each electric water heater, heat-tracing assembly and anti-frost heating cable. Bond conductor to heater units, piping, connected equipment and components.

21. Record locations of all ground rods, ground ring and water pipe connections on a set of as-built plans and submit to the Architect and building Owner along with test certification.

2.10 NOT USED

2.11 SUPPORTING DEVICES

A. Materials and Finishes: Provide adequate corrosion resistance. Provide materials, sizes, and types of anchors, fasteners and supports to carry the loads of equipment and conduit. Consider weight of wire in conduit when selecting products. Steel channel shall be galvanized.

B. Anchors and Fasteners:
1. Concrete Structural Elements: Use precast insert system, expansion anchors.
2. Steel Structural Elements: Use beam clamps, or welded fasteners.
3. Concrete Surfaces: Use self-drilling anchors or expansion anchors.
4. Hollow Masonry, Plaster, and Gypsum Board Partitions: Use toggle bolts or hollow wall fasteners.
5. Solid Masonry Walls: Use expansion anchors or preset inserts.
6. Sheet Metal: Use sheet metal screws.
7. Wood Elements: Use wood screws.

C. Installation: Install products in accordance with manufacturer's instructions. Provide anchors, fasteners, and supports in accordance with NECA "Standard of Installation". Do not fasten supports to pipes, ducts, mechanical equipment, and conduit. Do not use spring steel clips and clamps. Do not use powder-actuated anchors. Do no drill or cut structural members. Fabricate supports from structural steel or steel channel. Rigidly weld members or use hexagon head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts. Install surface-mounted cabinets and panelboards with minimum of four anchors. In wet and damp locations use steel channel supports to stand cabinets and panelboards one inch off wall. Use sheet metal channel to bridge studs above and below cabinets and panelboards recessed in hollow partitions.

2.12 ELECTRICAL IDENTIFICATION

A. Nameplates: Engraved three-layer laminated plastic, black letters on white background. Locations: Each electrical distribution and control equipment enclosure, communication cabinets and power outlet faceplates indicating panel & circuit number the outlet is fed from. Letter Size: Use 1/8 inch letters for identifying individual equipment and loads. Use 1/4 inch letters for identifying grouped equipment and loads.

B. Labels: Embossed adhesive tape, with 3/16 inch white letters on black

background. Use for identification of individual wall switches and receptacles and control device stations. In addition to nameplates as described above, use labels on all panelboards, disconnect switches and enclosed circuit breakers to identify where the equipment is fed from, voltage & phase.

C. Wire markers: Tape, or tubing type wire markers. Locations: Each conductor at panelboard gutters, pull boxes, outlet and junction boxes, and each load connection. Power and Lighting Circuits shall be marked with panel and branch circuit or feeder number as indicated on drawings. Control Circuits shall be marked with control wire number indicated on schematic and interconnection diagrams on drawings.

D. Conduit markers: Corrosion and abrasion resistant. Location: Furnish markers for each conduit longer than 6 feet (2 m). Spacing: 20 foot on center. Indicate voltage and phase.

E. All panelboards shall be provided with a typed (hand written is not allowed) circuit directory indicating the load fed by each circuit breaker and it's location in the building.

2.13 UTILITY SERVICE ENTRANCE

A. Arrange with local Electric Utility Company to obtain permanent electric service. Install transformer pad, oil curb, metering transformer cabinets and meter base as required by Utility Company. Verify hot or cold sequence with the Utility Company and make provisions in switchgear to accommodate hot or cold sequence as required.

B. Arrange with local Telephone Utility Company to obtain permanent telephone service to the building. Provide all conduits, ductbank, terminal boards, grounding, and all material & labor as required by the Telephone Company.

C. Arrange with local Cable Television (CATV) Utility Company to obtain permanent CATV service to the building. Provide all conduits, ductbank, terminal boards, grounding, and all material & labor as required by the CATV Company.

2.14 SWITCHBOARD

A. Description: NEMA PB 2 switchboard with electrical ratings and configurations as indicated and specified. The dimensions shown in the detail are based on Cutler-Hammer. The electrical contractor (E.C.) shall be responsible for verifying physical sizes of any substituted equipment and ensure the equipment will fit in the space shown with all required clearances prior to submitting

substituted equipment shop drawings. Bracing and protective devices shall be such as to withstand and interrupt short circuit stresses of 65,000 amps symmetrical or available short circuit whichever is larger. The main switchboard shall be listed with an Underwriters label attesting to its suitability as service entrance equipment. Acceptable manufacturers are Cutler-Hammer, Square D, Siemens or General Electric.

B. Ratings:
   1. Voltage: 480Y/277 or 208Y/120 volts as required.
   2. Configuration: Three-phase, four wire, grounded.
   3. Main Bus: 4000 amperes.
   4. Integrated Equipment Rating: As noted on the plans.

C. Main Section Devices: Individually mounted.

D. Distribution Section Devices: Group mounted.

E. Auxiliary Section Devices: Individually mounted.

F. Bus Material: Copper with tin plating, standard size.

G. Bus Connections: Bolted, accessible from front for maintenance.

H. Ground Bus: Extend length of the switchboard.

I. Molded Case Circuit Breakers: (distribution feeders) molded case breakers with inverse time and instantaneous tripping characteristics. Provide circuit breakers UL listed as Type HACR for air-conditioning equipment branch circuits. Circuit breakers shall have thermal-magnetic trip units and inverse time-current characteristics.

J. Molded Case Circuit Breakers: (main breaker) Inverse time, instantaneous tripping characteristics and ground fault protection shall be provided.

K. Line and Load Terminations: Accessible from the front only of the switchboard, suitable for the conductor materials and sizes indicated.

L. Pull /Tap Section: Size as required. Depth and height to match switchboard.

M. Future Provisions: Fully equip spaces for future devices with bussing and bus strap connections for maximum CB listed, suitably insulated and braced for short circuit currents. Provide continuous current rating as indicated.

N. Pull Box: If required, shall have removable top and sides, same construction as switchboard, size as shown on Drawings. Provide insulating, fire-resistive bottom with separate openings for each circuit to pass into switchboard.

O. E.C. shall coordinate with general and mechanical contractors prior to installation of the switchboard or any mechanical systems to verify and ensure all systems, piping, ductwork, etc... foreign to switchboard will comply with NEC article 110 for "working space" and "dedicated electrical space".

P. The switchboard shall be provided with an engraved nameplate on the front indicating the designation, voltage, rating of main circuit breaker or main lugs and source of supply. In addition, all branch circuit breakers shall be provided with engraved nameplates indicating the designation of the load being fed (i.e. "Panel LB-1").

Q. Enclosure: Type 1 - General Purpose.
   1. Align sections at front and rear.
   2. Switchboard Height: 90 inches, excluding floor sills, lifting members and pull boxes.
   3. Finish: Manufacturer's standard light gray enamel over external surfaces. Coat internal surfaces with minimum one coat corrosion-resisting paint, or plate with cadmium or zinc.

R. Provide a micro-processor based monitoring device that provides simultaneous current, voltage, and frequency metering. 1% accuracy for AC amperes and AC voltage and 0.5% accuracy for frequency.

S. Current Transformers: ANSI C57.13, 5 ampere secondary, wound or window type, with single secondary winding and secondary shorting device, primary/secondary ratio as required, burden and accuracy consistent with connected metering and relay devices, 60 hertz.

T. Potential Transformers: ANSI C57.13, 120 volt single secondary, disconnecting type with integral fuse mountings, primary/secondary ratio as required, burden and accuracy consistent with connected metering and relay devices, 60 Hertz.

U. Tighten accessible bus connections and mechanical fasteners after placing switchboard. Adjust all operating mechanisms for free mechanical movement. Tighten bolted bus connections in accordance with manufacturer's instructions. Adjust circuit breaker trip and time delay settings to values as required by manufacturer.

2.15 ENCLOSED SWITCHES

A. Fusible Switch Assemblies shall be provided in accordance with the following. Description: NEMA KS 1, Type GD with externally operable handle interlocked to prevent opening front cover with switch in ON position, enclosed load interrupter knife switch. Handle lockable in OFF position. Fuse clips: Designed to accommodate NEMA FU1, Class R fuses. Provide NEMA 3R where located outdoors, kitchens or other interior wet areas.

B. Non-fusible switch assemblies shall be provide in accordance with following. Description: NEMA KS 1, Type GD with externally operable handle interlocked to prevent opening front cover with switch in ON position enclosed load interrupter knife switch. Handle lockable in OFF position. Provide NEMA 3R where located outdoors, kitchens or other interior wet areas.

C. Install in accordance with NECA "Standard of Installation". Install fuses in fusible disconnect switches. Apply adhesive tag on inside door of each fused switch indicating NEMA fuse class and size installed.

2.16 NOT USED

2.17 PANELBOARDS

A. Description: NEMA PB1, circuit breaker type, lighting and appliance branch circuit panelboard.

B. Panelboard Bussing: Bus bars shall be copper. Provide copper ground bus bar in all panelboards. Provide additional 200% rated neutral bus bar and isolated ground bus bar as indicated on plans, schedules, etc.

C. Minimum Integrated Short Circuit Rating: 10,000 amperes RMS symmetrical for 240 volt panelboards; 65,000 amperes RMS symmetrical for 480 volt panelboards, or as indicated.

D. Molded Case Circuit Breakers: NEMA AB 1, bolt-on type thermal magnetic trip circuit breakers, with common trip handle for all poles, listed as Type SWD for lighting circuits, Type HACR for air conditioning equipment circuits, Class A ground fault interrupter circuit breakers where scheduled. Do not use tandem circuit breakers.

E. Current Limiting Molded Case Circuit Breakers: NEMA AB 1, circuit breakers with integral thermal and instantaneous magnetic trip in each pole, coordinated with automatically resetting current limiting elements in each pole. Interrupting rating 100,000 symmetrical amperes, let-through current and energy level less than permitted for same size Class RK-5 fuse.

F. Enclosure: NEMA PB 1, Type 1.

G. Cabinet Box: 6 inches (153 mm) deep, 20 inches (508 mm) wide for 240 volt and less panelboards, 20 inches (508 mm) wide for 480 volt panelboards.

H. Cabinet Front: Flush or Surface cabinet front as scheduled with concealed trim clamps, concealed hinge, metal directory frame, and flush lock all keyed alike. Finish in manufacturer's standard ANSI 49 enamel.

2.18 ENCLOSED CIRCUIT BREAKERS

A. Enclosed Molded Case Circuit Breaker: Comply with NEMA AB 1. Service Conditions: 86 degrees F. and altitude of 1000 feet. Include provisions for padlocking. Provide insulated grounding lug in each enclosure. Provide Products suitable for use as service entrance equipment where so applied. Fabricate enclosure from steel.

B. Install enclosed circuit breakers where indicated, in accordance with manufacturer's instructions. Install enclosed circuit breakers plumb. Provide supports in accordance with these specifications. Height: 5 ft (1.6 M) to operating handle. Provide engraved plastic nameplates.

C. Inspect each circuit breaker visually. Perform several mechanical ON-OFF operations on each circuit breaker. Verify circuit continuity on each pole in closed position. Determine that circuit breaker will trip on overcurrent condition, with tripping time to NEMA AB 1 requirements. Include description of testing and results in test report.

D. Adjust trip settings so that circuit breakers coordinate with other overcurrent protective devices in circuit. Adjust trip settings to provide adequate protection from overcurrent and fault currents.

2.19 FUSES

A. Cartridge fuses shall be as follows:

1. Provide a complete set of fuses for each item of fusible type equipment. Fusible equipment furnished by other contractors will be complete with fuses.

2. Secondary system fuses, rated at 600 volts or less, shall be UL listed and constructed in conformance with the applicable standards set forth by NEMA and ANSI. All fuses of a particular class shall be of same manufacturer.

3. Regardless of actual fault current, they shall, at full recovery voltage, be capable of safely interrupting fault currents of 200,000 amperes RMS symmetrical or 340,000 amperes RMS asymmetrical, deliverable at the line side of the fuse.

4. Circuits 0-600 amperes shall be protected by the equal of Bussman "Low Peak" current limiting fuses, LPN-RK (250 volts), LPS-RK (600 volts), UL class RK-1.

5. Fuses shall be suitable for application to fuse gaps which reject other types of fusing.

6. Supply 10% spare fuses of each size and type 60 amps and less. Supply three (3) spare fuses for each size and type over 60 amps.

B. Cartridge fuses shall be manufactured by Bussman, Gould or Littlefuse.

C. Install fuse with label oriented such that manufacturer, type, and size are easily read.

2.20 (NOT USED)

2.21 (NOT USED)

2.22 (NOT USED)

2.23 <u>ENCLOSED CONTACTORS</u>

A. General purpose contactors: NEMA ICS 2, AC general purpose magnetic contactor. Coil Voltage as indicated. Poles as indicated. Size as indicated. Enclosure per ANSI/NEMA ICS 6, Type as scheduled.

B. Lighting contactors: NEMA ICS 2, magnetic lighting contactor. Coil Voltage as indicated. Poles as indicated. Size as indicated. Contact Rating shall match branch circuit overcurrent protection, considering de-rating for continuous loads.

C. Accessories: Provide Pushbuttons and Selector Switches per NEMA ICS 2, heavy duty type. Provide indicating lights per NEMA ICS 2, push-to-test type. Provide auxiliary contacts per NEMA ICS 2, Class A300 or A600 as required per equipment served.

2.24 (NOT USED)

2.25 (NOT USED)

W. GUARANTEE AND FINAL TEST

1) All testing (pre-testing, final testing, quarterly testing and program change testing) to be coordinated with the owner and scheduled in advance so that owners and personnel can be present during testing. Contractor to certify that all tests comply with the "Rhode Island Fire Laws and Rules", latest edition.

2) Before this installation shall be considered complete and acceptable to the awarding authorities, a complete test on the system shall be performed as follows:

   a. A pre-test will be held by the electrical contractor with the manufacturer's authorized representative present. After certification of a complete pre-test, the installing contractor shall inform the authority having jurisdiction of the outcome of the test and will re-inspect in the presence of the authority having jurisdiction and the manufacturer's authorized representative.

   b. Final test: The electrical contractor in the presence of authorized representative of the manufacturer and the fire department shall operate every manual station, smoke detector, and thermodetector. Each station/detector circuit and horn circuit shall be opened in at least two locations to check for the presence of correct supervisory circuitry. When this testing ahs been completed to the satisfaction of both the electrical contractor's job foreman and the representative of the manufacturer, a letter from the contractor cosigned by the manufacturer attesting t the satisfactory completion of said testing, shall be forwarded to the owner.

3) The electrical contractor shall guarantee all equipment and wiring to be free from inherent mechanical and electrical defects for a period of one year from the date of final acceptance.

4) The equipment supplier shall provide the owner with a formal written equipment guarantee upon completion of the installation and testing of the system. The guarantee period shall begin on the day of the first beneficial use of the system by the owner or acceptance of the system by the architect which ever comes first and shall provide for a period of one year. This guarantee shall be indicated in the manufacturer's submission prior to approval. This guarantee shall be as normal policy by the equipment manufacturer and not the supplier.

5) The equipment supplier shall maintain a full-time service and parts facility, with seven days per week, 24 hour per day service available.

6) The equipment supplier shall be an authorized representative of the manufacturer with the territory the project is located. The supplier shall provide a service staff

under their direct employ. Service subcontracted to companies outside the supplier's organization shall not be acceptable. All service technicians shall be licensed by the State of Rhode Island covering service and maintenance of systems (Class BF).

7) Service calls resulting from acts of vandalism, acts of nature, or acts which are beyond the control of the equipment manufacturer are excluded under the guarantee and shall be considered a billable call.

8) Include as part of the contract, the four quarterly tests following the final acceptance test. Provide quarterly testing in conformance with the "Rhode Island Fire Laws and Rules," latest edition.

2.26 NOT USED

2.27 (NOT USED)

2.28 (NOT USED)

2.29 (NOT USED)

PART 3 – EXECUTION

3.01 BASIC REQUIREMENTS

A. Adhere to best industry practice and the following:

1. All work shall be concealed.

2. Route circuitry runs embedded in concrete to coordinate with structural requirements.

3. Equip each raceway intended for the future installation of wire or cable with a nylon pulling cord 3/16" in diameter and clearly identify both ends of the raceway.

4. Provide all outlet boxes, junction boxes, and pull boxes for proper wire pulling and device installation. Include those omitted from the drawings due to symbolic methods of notation.

5. Utilize lugs of the limited type to make connections at both ends of cables installed on the line side of main service overcurrent and switching devices. Provide cable limiters for each end of each service entrance cable.

6. Beyond the termination of raceways, fireproof the following:

    a. All wires and cables within pad-mounted transformer enclosure.

    b. All service feeder cables ahead of main service overcurrent protection devices, and elsewhere where not in raceways.

    c. Fireproofing of wires and cables shall be by means of a half-lapped layer of arcproof or by means of sleeving of a type specifically manufactured for the purpose. Ends of tape or sleeving shall be severed with twine. Fireproofing shall be extended up into raceways. After conductors have been finally shaped into their permanent configuration, fireproofing tape or sleeving shall be coated with silicate of soda (water glass). Fireproofing shall be applied in an overall manner to raceway groupings of conductors.

7. Provide all sleeves through fireproof and waterproof slabs, walls, etc., required for electric work.

    a. Provide waterproof sealing for the sleeves through waterproof slabs, walls, etc.

    b. Provide fireproof sealing for the sleeves through fireproof walls, slabs, etc.

    c. Provide fireproof sealing for the openings in fireproof walls, slabs, etc., resulting from removal of existing electrical sleeves, conduits, poke-thru's etc.

8. No splicing of wires will be permitted in Fire Alarm System.

9. Bundle wiring passing through pull boxes and panelboards in a neat and orderly manner with plastic cable ties. Cable ties shall be by Ty-Raps as manufactured by Thomas & Betts, Holub Industries Inc., Quick Wrap, Bundy Unirap, or equal.

10. Turn branch circuits and auxiliary system wiring out of wiring gutters at 90 degrees to circuit breakers and terminal lugs.

3.02 TESTING REQUIREMENTS & INSTRUCTIONS

A. The Electrical Subcontractor shall provide supervision, labor, materials, tools, test instruments and all other equipment or services and expenses required to test, adjust, set, calibrate, and operationally check work and components of the electrical systems and circuitry throughout Division 16 work.

B. The Electrical Subcontractor shall pay for all tests specified in Division 16, including expenses incident to retests occasioned by defects and failures of equipment to meet

specifications, at no additional cost to the Owner. Any defects or deficiencies discovered in any of the electrical work shall be corrected.

1. The Electrical Subcontractor shall:

a. Replace wiring and equipment found defective (defined as failing to meet specified requirements) at no additional cost to the Owner.

b. Submit three (3) copies of test results to the Engineer.

C. Do not void equipment warranties or guarantees by testing and checkout work. Checks and tests shall be supplemental to and compatible with the Manufacturer's installation instructions. Where deviations are apparent, obtain the Manufacturer's approved review of procedures prior to testing. Where any repairs, modifications, adjustments, tests or checks are to be made, the Contractor shall contact the Engineer to determine if the work should be performed by or with the Manufacturer's Representative.

D. Tests are to:

1. Provide initial equipment/system acceptance.

2. Provide recorded data for future routine maintenance and trouble-shooting.

3. Provide assurance that each system component is installed satisfactorily and can be expected to perform, and continue to perform its specified function with reasonable reliability throughout the life of the facility.

E. At any stage of construction and when observed, any electrical equipment or system determined to be damaged, or faulty, is to be reported to the Engineer. Corrective action by the Contractor requires prior Engineer approval, retesting, and inspection.

F. Prior to testing and start-up, equipment and wiring shall be properly and permanently identified with nameplates, and other identification as specified in Section 3.7. Check and tighten terminals and connection points, remove shipping blocks and thoroughly clean equipment, repair damaged or scratched finishes, inspect for broken and missing parts and review and collect Manufacturer's drawings and instructions for delivery to the Engineer. Make routine checks and tests as the job progresses to ensure that wiring and equipment is properly installed.

G. Testing and checkout work is to be performed with fully qualified personnel skilled in the particular tests being conducted. Personnel are to have at least five (5) years of experience with tests of same type and size as specified.

H. Inspections and tests shall be in accordance with the following applicable codes and standards as amended to date, unless otherwise specified.

1. National Electrical Manufacturer's Association – NEMA.
2. American Society for Testing and Materials _ ASTM.
3. Institute of Electrical and Electronic Engineers – IEEE.
4. National Electrical Testing Association – NETA.
5. American National Standards Institute – ANSI.
   a. C2: National Electrical Safety Code.
   b. Z244-1: American National Standard for Personnel Protection.
6. Insulated Cable Engineers Association – ICEA.
7. Association of Edison Illuminating Companies – AEIC.
8. Occupational Safety and Health Administration – OSHA.
   a. OSHA Part 1910; Subpart S, 1910.308.
   b. OSHA Part 1926; Subpart V, 1926.950 through 1926.960.
9. National Fire Protection Association – NFPA.
   a. 70B: Electrical Equipment Maintenance.
   b. 70E: Electrical Safety Requirements for Employer Workplaces.
   c. 70: National Electrical Code.
   d. 78: Lightning Protection Code.
   e. 101: Life Safety Code.
10. Inspections and tests shall utilize the following references:
    a. Contract Drawings and Specifications.
    b. Contractor's Short Circuit and Construction Study, in accordance with Section 16100.
    c. Manufacturer's printed test procedures for respective equipment.

I. Test Equipment:

1. Test equipment used by the Contractor is to be inspected and calibrated.

2. Perform calibration and setting checks with calibrated test instruments of at least twice that of the accuracy of the equipment, device, relay or meter under test. Dated calibration labels shall be visible on test equipment. Calibrations over six (6) months old are not acceptable on field test instruments. Inspect test instruments for proper operation prior to proceeding with the tests. Record serial and model numbers of the instruments used on the test forms.

J. Test Procedures:
1. The Electrical Subcontractor is responsible for the preparation of the procedures and schedules for the work specified herein. This work is to be coordinated and compatible with both the work and schedule of the other crafts. Sequence the tests and checks so that the equipment can be energized immediately after the completion of the application tests.

2. Submit proposed testing and checkout forms. The procedures shall provide specific instructions for the checking and testing of each electrical component of each system. Schedule tests and inspections as the job progresses. Test procedures submitted shall include job safety rules.

K. After each electrical system installation is complete, perform the tests to determine that the entire system is in proper working order and in accordance with applicable codes, Manufacturer's instructions, drawings, and specifications. Tests are in addition to shop tests of individual items at the Manufacturer's plant. Perform insulation and ground resistance tests before operating tests.

L. Perform insulation tests on electrical equipment, apparatus, cables, motors, generators, transformers, circuit breakers and switches, switchgear, motor control centers, and similar electrical equipment, at the following items and conditions:

1. Prior to energization and/or placing into service.
2. When damage to the insulation is suspected or known to exist.
3. After repairs or modifications to the equipment affecting the insulation.
4. Where lightning or other surge conditions are known to have existed on the circuit.

M. Make openings in circuits for test instruments and place and connect instruments, equipment, and devices, required for the tests. Upon completion of tests, remove instruments and instrument connections and restore circuits to permanent condition.

N. List each circuit and measured resistance as test data. Maintain record of insulation resistance values. Identify conductor, or equipment, date that value was taken and resistance value. Arrange information in tabular form and submit to Engineer.

O. Report inspections, tests, and calibrations in writing on Engineer approved reports/forms. The recorded data form shall have the signatures of the persons conducting the tests, authorized witnesses and the Engineer. The forms shall serve as the test and inspection checklist.

P. When the electrical tests and inspections specified or required within Division 16 are completed and results reported, reviewed, and approved by the Engineer, the Contractor may consider that portion of the electrical equipment system or installation electrically complete. The Contractor will then affix appropriate, approved, and dated completion or calibration labels to the tested equipment and notify the Engineer of electrical completion. If the Engineer finds completed work unacceptable, he will notify the Contractor in writing of the unfinished or deficient work, with the reason for his rejection, to be corrected by the Contractor. The Contractor will notify the Engineer in writing when exceptions have been corrected. The Contractor will notify the Engineer in writing when exceptions have been corrected. The Contractor will prepare a "Notification or Substantial Electrical

Completion" for approval by the Engineer following Engineer's acceptance of electrical completion. If later in-service operation or further testing identified problems attributable to the Contractor, these will be corrected by the Contractor, at no additional cost to the Authority.

Q. Specific Tests:

1. Perform the following specified tests. De-energize and isolate equipment and cable prior to performing the tests.

2. NOT USED:

3. Grounding Systems:

   a. Test main loops and major equipment grounds to remote earth, directly referenced to an extremely low resistance (approximately 1 ohm) reference ground benchmark. Perform a visual inspection of the systems, raceway and equipment grounds to determine the adequacy and integrity of the grounding. Ground testing results shall be recorded, witnesses, and submitted to the Engineer.

   b. Perform ground tests using a low resistance, null-balance type ground testing ohmmeter, with test lead resistance compensated for. Use the type of test instrument which compensates for potential and current rod resistances.

   c. Test each ground rod and measure ground resistance. If resistance is not 25 ohms or less, drive additional rods to obtain a resistance of 25 ohms or less. Submit tabulation of results to Engineer. Include identification of electrode, date of reading and ground resistance valve in the test reports.

   d. Test each building and major equipment grounding system for continuity of connections and for resistance. Ground resistance of conduits, equipment cases, and supporting frames, shall not exceed 5 ohms to ground. Submit all readings to the Engineer.

   e. Where ground test results identify the need for additional grounding conductors or rods that are not indicated or specified, design changes will be initiated to obtain the acceptable values. The Contractor is responsible for the proper installation of the grounding indicated and specified.

4. Wire and Cable: (All conductors originating from main switchboard and distribution panels).

a. Before energizing any cable or wire, megger the insulation resistance of every external circuit wire to each other and to ground. Tests shall be conducted at voltages of 500 volts or lower. Continuity test each wire and cable to verify the field-applied tag per conductor. Continuity test each wire and cable to verify the field-applied tag per conductor. Minimum insulation resistance valves shall not be less than two (2) megohms.

b. Take insulation resistance measurements for motor feeders. With motors disconnected, measure insulation resistance from load side of contactors or circuit breakers.

c. Check cables and wires for the proper identification numbering and/or color coding.

d. Inspect cables for physical damage and proper connection in accordance with single line diagram.

5. Power Distribution System:

a. Main Switchboard:

b. Inspect for physical, electrical and mechanical condition.

c. Compare equipment nameplate information with latest single-line diagram and report discrepancies in writing to Engineer within 24 hours.

d. Check for proper anchorage, required area clearance, physical damage, and proper alignment.

e. Inspect all doors, panels and sections for paint, dents, scratches, fit and missing hardware.

f. Verify that fuse and/or circuit breaker sizes and types correspond to drawings. Report deviations to Engineer in writing within 24 hours.

g. Inspect all bus connections for high resistance. Use low resistance ohmmeter, or check tightness of bolted bus joints by calibrated torque wrench method. Refer to manufacturer's instructions for proper torque levels.

h. Clean entire switchgear using manufacturer's approved methods and materials prior to energizing system and a second time just prior to turning over system to Owner.

i. Inspect insulators for evidence of physical damage or contaminated surfaces.

j. Verify proper barrier and shutter installation and operation.

k. Verify appropriate contact lubricant on moving current carrying parts.

l. Exercise all active components.

m. Inspect all indicating devices for proper operation.

n. Perform ground resistance tests.

o. Perform insulation resistance tests on each bus section, phase-to-phase and phase-to-ground for one (1) minute. Test voltage shall be 1000 volts minimum, and insulation resistance shall be 100 megohms minimum.

p. Perform an over-potential test on each bus station, each phase-to-ground, for five (5) minutes at manufacturer's recommended potential. Test results are evaluated on a go, no-go basis by slowly raising the test voltage to the required value. The final test voltage shall be applied for five (5) minutes for DC test potentials, and one (1) minute for AC test potentials.

6. NOT USED

7. Circuit Breakers – Molded Case.

a. Thoroughly clean unit.

b. Circuit breaker shall be checked for proper mounting, conductor size and feeder designation.

c. Operate circuit breaker to ensure smooth operation.

d. Inspect case for cracks or other defects.

e. Check tightness of connections with calibrated torque wrench. Refer to manufacturer's instruction for proper torque levels.

f. Perform a contract resistance test or measure millivolt drop at rated current.

g. Perform an insulation resistance test at 1000 volts DC for one (1) minute from pole-to-pole and from each pole-to-ground with breaker closed and across open contract in each phase – 500V DC if circuit breaker is solid state.

h. Adjustable trip breakers shall have minimum pickup current determined by primary current injection where applicable.

i. Perform long time delay time-current characteristic tests by passing 300% rated current through each pole separately. Determine trip time.

j. Determine short time pickup and delay by primary current injection if applicable to the particular breaker.

k. Determine ground fault pickup and time delay by primary current injection if applicable to the particular breaker.

l. Determine instantaneous pickup currently by primary injection using run-up or pulse method. Clearing times shall be within four (4) cycles.

m. Verify trip unit reset characteristics.

n. Perform adjustments for final settings in accordance with breaker setting sheet if applicable to the particular breaker.

o. Compare contract resistance or millivolt drop valves to adjacent poles and similar breakers. Investigate deviations of more than 50%. Investigate any value exceeding Manufacturer's recommendations.

p. Insulation resistance shall not be less than 100 megohms.

q. Trip characteristics of adjustable trip breakers shall fall within Manufacturer's published time-current characteristic tolerance band.

r. All circuit breakers mounted in switchboards and distribution boards shall be time-current tested by primary current injection

where possible, and also any remotely mounted breakers of frame size 400 ampere and larger.

s. Adjust settings and calibrate all circuit breakers as recommended in the short circuit analysis and coordination study.

8. NOT USED

9. NOT USED

10. Panelboards:

a. Inspect for physical damage and proper grounding.

b. Compare nameplate information with schedules and report any discrepancies.

c. Inspect all panelboards for cleanliness, workmanship, etc.

11. NOT USED
12. NOT USED

13. Operating Instructions: Furnish operating instructions to Owner's designated representative with respect to operations, functions and maintenance procedures for equipment and systems installed. Cost of such instruction up to a full five (5) days of Electrical Subcontractor's time shall be included in contract. Cost of providing a Manufacturer's Representative at site for instructional purposes shall also be included.

3.03 BRANCH CIRCUITRY

A. For all lighting and appliance branch circuitry, raceway sizes shall conform to industry standard maximum permissible occupancy requirements except where these are exceeded by other requirements specified elsewhere.

B. Circuits shall be balanced on phases at their supply as evenly as possible.

C. Feeder connections shall be in the phase rotation which establishes proper operation for all equipment supplied.

D. Reduced size conductors indicated for any feeders shall be taken as their grounding conductors.

E. Feeders consisting of multiple cables and raceways shall be arranged such that each raceway of the feeder contains one (1) cable for each leg and one (1) neutral cable, if any.

F. For circuitry indicated as being protected at 20 Amps or less, abide by the following:

1. All 20 amp, 120/208 volt, 3-phase, 4-wire combined branch circuit homeruns shall be provided with a #8 AWG neutral conductor.

2. Minimum conductor size shall be No. 12 AWG cooper.

3. Conductors operating at 120 volts extending in excess of 100 ft. or at 277 volts extending in excess of 200 ft., or the last outlet or fixture tap shall be No. 10 AWG cooper throughout.

4. Lighting fixtures and receptacles shall not be connected to the same circuit.

5. Circuits shall be balanced on phases at their supply point as evenly as possible.

G. Type MC Cable Installation:

Where cable is permitted under the products section, the installation of same shall be done in accordance with code and the following:

Cable shall be supported in accordance with code. Tie wire is not an acceptable means of support. Cable supports such as Caddy WMX-6, MX-3, and clamps such as Caddy 449 shall be used. Where cables are supported by the structure and only need securing in place, then ty-raps will be acceptable. Ty-raps are not acceptable as a means of support. All fittings, hangers, and clamps for support and termination of cables shall be of type specifically designed for use with cable, i.e., romex connectors not acceptable.

Armor of cable shall be removed with rotary cutter device equal to roto-split by Seatek Co.; not with a hacksaw.

Use split “Insuliner” sleeves at terminations.

3.04 <u>REQUIREMENTS GOVERNING ELECTRICAL WORK IN DAMP OR WET LOCATIONS</u>

A. Outlets and outlet size boxes shall be of galvanized cast ferrous metal only.

B. The finish of threaded steel conduit shall be galvanized only.

C. Wires for pulling into raceways for lighting and appliance branch circuitry shall be limited to “THWN”.

D. Wires for pulling into raceways for feeders shall be limited to “THWN”.

E. Plates for toggle switches and receptacles shall have gasketed snap shut covers suitable for wet locations while in use.

F. Final connections of flexible conduit shall be neoprene sheathed.

G. Apply one (1) layer of half looped plastic electric insulating tape over wire nuts used for joining the conductors of wires.

H. Enclosures, junction boxes, pull boxes, cabinets, cabinet trims, wiring troughs and the like, shall be fabricated of galvanized sheet metal, shall conform to the following:

   1. They shall be constructed with continuously welded joints and seams.

   2. Their edges and weld spots shall be factory treated with cold galvanizing compound.

   3. Their connection to circuitry shall be by means of watertight hub connectors with sealing rings.

I. Enclosures for individually mounted switching and overcurrent devices shall be NEMA Class IV weatherproof construction.

J. The covers, doors and plates and trims used in conjunction with all enclosures, pull boxes, outlet boxes, junction boxes, cabinets and the like shall be equipped with gaskets.

K. Panels shall be equipped with doors without exception.

L. The following shall be interpreted as damp or wet locations within building confines:

   1. Spaces where any designations indicating weatherproof (WP) or vapor proof appear on the drawings.

   2. Below waterproofing in slabs applied directly on grade.

   3. Spaces defined as wet or damp locations by Article 100 of the National Electric Code.

3.05 NOT USED

3.06 UNDERGROUND CONDUIT BANKS

A. The electrical work required in conjunction with underground conduit banks shall include providing all conduits.

B. Conduits for underground banks shall be:

1. Trade diameter size as indicated but in no case less than one inch.

2. Polyvinyl chloride Schedule 40 (approved for encased burial) duct, rigid steel conduit for vertical elbows and straight sections used to penetrate equipment pads, building foundation walls and concrete slabs.

C. All conduits indicated as being incorporated into conduit banks unless specifically noted as rigid steel conduits shall be encased in a concrete envelope which accommodates the indicated configuration of conduits and which encompasses dimensions as follows:

1. Outside surfaces of conduits to outside surface of envelope where reinforcement of encasement is required – 6” minimum.

2. Outside surfaces of conduits to outside surface of envelope where no reinforcement of encasement is required – 3” minimum.

3. Spacing between centerlines of conduits assigned to different categories of use primary feeders, secondary feeders, communications and signaling – 10-1/2” minimum.

4. Spacing between centerlines of conduits assigned to the same category of use – 7-1/2” minimum.

D. Reinforcement of the concrete encasement for conduit banks where required shall consist of No. 4 longitudinal reinforcing bars located 3” from the outside surface of the envelope and spaced 6” on centers all around. No. 8 wire reinforcing hoops set 8” apart shall be used to tie the longitudinal bars together.

E. Install conduit in such a manner as to provide a minimum cover of 30 inches after final grading except the cover may be reduced to a minimum of 18 inches to:

1. Tie into existing work.

2. Pass over other underground utilities.

3. Pass over underground obstructions.

4. Assist in the avoidance of low points.

F. Increase the minimum cover where required by field conditions.

G. Lay conduit to avoid low points during run. Pitch at a minimum of 3 inches per 100 feet away from building.

H. Provide reinforcement for the concrete encasement of a conduit bank where:

1. It passes under or over underground utilities.

2. It passes under or over underground obstructions.

3. Its cover is reduced to less than 30 inches.

4. It runs through foundation walls and other building construction.

I. Concrete encasement reinforcing shall extend in each case 5 feet beyond the points at which the determining conditions terminate.

J. Bends in conduit shall have minimum radii as follows:

1. For primary feeder 15’-0” except where specifically indicated otherwise or where turning up at termination point.

2. For primary feeder turning up at termination point – 4’-0”.

K. Install conduit so that adjacent joints are staggered at least 6 inches from one another.

L. Offsets to accommodate field conditions shall be accomplished with two (2) bends of not more than ten (10) degrees each.

M. Plug both ends of all conduit stubs.

N. Seal the end of each conduit run terminating inside a building utilizing a water and gas-tight sealant manufactured specifically for the purpose.

O. After conduit has been installed with concrete encasement completed, clear each conduit of all obstructions and foreign matter by pulling a flexible mandrel (12” minimum length and a diameter 1/4" less than that of the conduit) and brush through it. In the event that obstructions are encountered in any conduit which will not permit the mandrel

to pass, remove and replace the blocked section. Include in the electric work all excavation, backfilling, repair of concrete encasement and restoration of surface at grade involved in the conduit replacement.

P. Provide a nylon cord for the pulling of cable in each conduit in which no cable is to be installed as part of the electric work.

Q. The Electrical Sub-Contractor shall provide all insulated racks as required for proper support of all cables and wires.

R. Provide a continuous nylon warning tape above each full length of duct bank 12 inches below grade.

3.07 IDENTIFICATION AND TAGGING

A. Identify individually:

1. Each transformer.

2. Each panelboard.

3. Each switch and circuit breaker.

4. Each feeder, wire or cable or all systems.

5. Each switchboard.

6. Each end of nylon pullwire in empty conduit.

B. Each wire or cable in a feeder shall be identified at its terminal points of connection and in each pullbox, junction box and panel gutter through which it passes.

C. The nomenclature used to identify panelboards or load center shall designate the numbers assigned to them.

D. The nomenclature used to identify switches or circuit breakers shall:

1. Where they disconnect mains or services designate this fact.

2. Where they control feeders, designate the feeder number and the name of the load supplied.

3. Where they control lighting and appliance branch circuitry, designate the name of the space and the load supplied.

E. The nomenclature used to identify feeder wires and cables shall designate the feeder number.

F. Identification for panelboards or load centers shall be by means of engraved lamacoid nameplates showing 1/4" high white lettering on a black background fastened to the outside face of the front.

G. Identification for switches or circuit breakers shall be by means of the following:

1. Where individually enclosed – engraved lamacoid nameplates showing 1/8” high white lettering on a black background fastened on the outside front face of the enclosure.

2. Where in panelboards or load centers without doors – same as for individually enclosed.

3. Where in panelboards or load centers with doors – typewritten directories mounted behind transparent plastic covers, in metal frames fastened on the inside face of the doors.

H. Identification for wires and cables shall be by means of wrap around “brady” type labels.

I. Device plates for local toggle switches, toggle switch type motor starters, pilot lights and the like, whose function is not readily apparent shall be engraved with 1/8” high letters suitably describing the equipment controlled or indicated.

J. Phase identification letters shall be stamped into the metal of the bus bars of each phase of the main busses of each switchboard and each panelboard. The letters shall be visible from at least one (1) “normal posture” location without having to demount any current carrying or supporting elements.

K. Equip the front face of all switchboard pull boxes junction boxes and the like containing cables, busing or devices operating in excess of 600 volts with enameled sheetmetal “red on white” signs reading “DANGER-HIGH VOLTAGE.”

L. Equip all electric closets and the like with enameled sheet metal “red on white” signs reading “Electrical Equipment Room – No Storage Permitted”. Signs shall be mounted at clearly visible locations within the rooms.

M. Provide a sign at the service entrance equipment room indicating the type and location of all on-site emergency or standby power sources.

N. Identify each outlet box, junction box, and cabinet used in conjunction with empty raceway for wires of a future system by means of indelible markings on the inside denoting the system.

O. Prior to installing identifying tags and nameplates, submit their nomenclature for approval. Conform to all revisions issued by the Architect.

3.08 LIMITING NOISE PRODUCED BY ELECTRICAL INSTALLATION

A. Perform the following work, in accordance with field instructions issued by the Architect to assure that minimal noise is produced by electrical installations due to equipment furnished as part of the electrical work.

B. Check and tighten the fastenings of sheet metal plates, covers, doors and trims used in the enclosures of electrical equipment.

C. Remove and replace any individual device containing one or more magnetic flux path metallic cores (e.g., discharge lamp ballast, transformer, reactor, dimmer, solenoid) which is found to have a noise output exceeding that of other identical devices installed at the project.

3.09 SUPPORTS AND FASTENINGS

A. Support work in accordance with best industry standards, Local Electric Code and the following:

1. Include supporting frames or racks for equipment, intended for vertical surface mounting, which is required in a free standing position.

2. Supporting frames or racks shall be of standard angle, standard channel or specialty support system steel members. They shall be rigidly bolted or welded together and adequately braces to form a substantial structure. Racks shall be of ample size to assure a workmanlike arrangement of all equipment mounted on them.

3. No work intended for exposed installation shall be mounted directly on any building surface. In such locations, flat bar members or spaces shall be used to create a minimum of ¼” air space between the building surfaces and the work. Provide ¾” thick exterior grade plywood painted with two (2) coats of fire-retardant gray paint for mounting of panelboards.

4. Nothing (including outlet, pull and junction boxes and fittings) shall depend on electric conduits, raceways or cables for support.

5. Nothing shall rest on, or depend for support on, suspended ceiling media.

6. Support less than 2” trade size, vertically run, conduits at intervals no greater than 8’. Support such conduits, 2-1/2” trade size or larger, at intervals no greater than they story height, or 15’, whichever is smaller.

7. Where they are not embedded in concrete, support less than 1” trade size, horizontally run, conduits at intervals no greater than 7’. Support such conduits, 1” trade size or larger, at intervals no greater than 10’.

8. Support all lighting fixtures directly from structural slab, deck or framing member.

9. Where fixtures and ceilings are such as to require fixture support from ceiling openings frames, include in the electric work the members necessary to tie back the ceiling opening frames to ceiling suspension members or slabs so as to provide actual support for the fixtures noted above.

10. As a minimum procedure, in suspended ceilings support smalls runs of circuitry (e.g., conduit not in excess of 1” trade size) from ceiling suspension members as defined above. Support larger runs of circuitry directly from structural slabs, decks or framing members.

11. Fasten electric work to building structure in accordance with the best industry practice.

12. Floor mounted equipment shall not be held in place solely by its own dead weight. Include floor anchor fastenings in all cases.

13. For items which are shown as being ceiling mounted at locations where fastenings to the building construction element above is not possible, provide suitably auxiliary channel or angle iron bridging tying to building structural elements.

14. As a minimum procedure, where weight applied to the attachment points is 100 lbs. or less, fasten to concrete and solid masonry with bolts and expansion shields.

15. As a minimum procedure, where weight applied to building attachment points exceed 100 lbs., but is 300 lbs. or less, conform to the following:

    a. At field poured concrete slabs, utilize inserts with 20’ minimum length slip-through steel rods, set transverse to reinforcing steel.

3.10 <u>SPLICING AND TERMINATING WIRES AND CABLES</u>

A. Maintain all splices and joints in removable cover boxes or cabinets where they may be easily inspected.

B. Locate each completed conductor splice or joint in the outlet box, junction box, or pull box containing it, so that it is accessible from the removal cover side of the box.

C. Join solid conductors No. 8 AWG and smaller by securely twisting them together and soldering, or by using insulated coiled steel spring “wire nut” type connectors. Exclude “wire nuts” employing non-expandable springs. Terminate conductors No. 8 AWG and smaller by means of a neat and fast holding application of the conductors directly to the binding screws or terminals of the equipment or devices to be connected.

D. Join, tap and terminate standard conductors No. 6 AWG and larger by means of solder sleeves, taps, and lugs with applied solder or by means of bolted saddle type or pressure indent type connectors, taps and lugs. Exclude connectors and lugs of the types which apply set screws directly to conductors. Where equipment or devices are equipped with set screw type terminals which are impossible to change, replace the factory supplied set screws with a type having a ball bearing tip. Apply pressure indent type connectors, taps and lugs utilizing tools manufactured specifically for the purpose and having features preventing their release until the full pressure has been exerted on the lug or connector.

E. Except where wire nuts are used, build up insulation over conductor joints to a value, equal both in thickness and dielectric strength, to that of the factory applied conductor insulation. Insulation of conductor taps and joints shall be by means of half-lapped layers of rubber tape, with an outer layer of friction tape; by means of half-lapped layers of approved plastic electric insulating tape; or by a means of split insulating casings manufactured specifically to insulate the particular connector and conductor, and fastened with stainless steel or non-metallic snaps or clips.

F. Exclude splicing procedures for neutral conductors in lighting and appliance branch circuitry which utilize device terminals as the splicing points.

G. Exclude joints or terminations utilizing solder in any conductors used for grounding or bonding purposes.

H. Exclude all but solder or pressure indent type joints in conductors used for signaling or communication purposes.

I. Lugs for conductors used to make phase leg connections on the line side of the main service overcurrent and switching device shall be of the limiter type.

3.11 PULLING WIRES INTO CONDUITS AND RACEWAYS

A. Delay pulling wires or cables in until the project has progressed to a point when general construction procedures are not liable to injure wires and cables, and when moisture is excluded from raceways.

B. Utilize nylon snakes or metallic fish tapes with ball type heads to set up for pulling. In raceways 2" trade size and larger, utilize a pulling assembly ahead of wires consisting of a suitable brush followed by a 3-1/2" diameter ball mandrel.

C. Leave sufficient slack on all runs of wire and cable to permit the secure connection of devices and equipment.

D. Include circular wedge-type cable supports for wires and cables at the top of any vertical raceway longer than 20 feet. Also include additional supports spaced at intervals which are no greater than 10'. Supports shall be located in accessible pull boxes. Supports shall be of a non-deteriorating insulating material manufactured specifically for the purpose.

E. Pulling lubricants shall be used. They shall be products manufactured specifically for the purpose.

F. Slack on wires and cables located in cabinets and pull boxes shall be formed and set in place in groupings corresponding to their occupancy of raceways. They shall also be arranged, with insulators and supports provided where necessary, such that cable shims or other such temporary expedients do not have to be left permanently in place to prevent the wires and cables from shifting when covers or trims are removed.

3.12 REQUIREMENTS FOR THE INSTALLATION OF JUNCTION BOXES, OUTLET BOXES AND PULL BOXES

A. Flush wall-mounted outlet boxes shall not be set back to back but shall be offset at least 12" horizontally regardless of any indication on the drawings.

B. Locate all boxes so that their removable covers are accessible without necessitating the removal of parts of permanent building structure, including piping, ductwork, and other permanent mechanical elements.

C. In conjunction with concealed circuitry, abide by one of the following instructions (as may be applicable to the conditions) in order to assure the aforementioned accessibility. (Not required for circuitry concealed by removable suspended ceiling tiles.)

1. For a small (outlet size) box on circuitry concealed in a partition or wall, locate box or fitting so that its removable cover side, (or the face of any applied raised cover) penetrates through to within 1/8" of the exposed surface of the building materials

concealing the circuitry and apply a blank or device plate to suit the functional requirements.

2. For a large box on circuitry concealed in a partition, suspended ceiling, or wall, locate box totally hidden but with its removable cover directly behind an architectural access door or panel (included for the purpose, separate from the electric work) in the building construction which conceals the circuitry.

3. For a small (outlet size) box on circuitry concealed above and intended as an outlet for a surface mounted lighting fixture or other such electrical item, locate box so that its removable cover side penetrates through to the exposed surface of the building materials concealing the circuitry. Arrange the mounting of the lighting fixture or other item so that it completely covers the opening in the building construction caused by the box.

4. For a small (outlet size) box on circuitry concealed in a suspended ceiling, and intended as an outlet for a non-demountable type of recessed lighting fixtures or other such electrical items, locate box totally hidden but with its removable cover not more than 1' away from the building construction opening occupied by the demountable items.

D. Apply junction and pull boxes in accordance with the following:

1. Include all pull boxes in long straight runs of raceway to assure that cables are not damaged when they are pulled in.

2. Include junction and pull boxes to assure a neat and workmanlike installation of raceways.

3. Include junction and pull boxes to fulfill requirements pertaining to the limitations to the number of bends permitted in raceway between cable access points, the accessibility of cable joints and splices, and the application of cable supports.

4. Include all required junction and pull boxes regardless of indications on the drawings (which, due to symbolic methods of notation, may omit to show some of them).

E. Apply outlet boxes in accordance with the following:

1. Unless noted below or otherwise specifically indicated, include a separate outlet box for each individual wiring device, lighting fixture and signal or communication system outlet component. Outlet boxes supplied attached to lighting fixtures shall not be used as replacements for the boxes specified herein.

2. A continuous row of fixtures of the end-to-end channel type, designed for “through wiring”, and wired in accordance with the specification hereinafter pertaining to circuitry through a series of lighting fixtures, may be supplied through a single outlet box.

3. A series of separate fixtures, designed for “through wiring”, spaced not more than 4’ apart, and inter-connected with conduit or raceway and circuitry which is in accordance with the specifications hereinafter pertaining to circuitry through a series of lighting fixtures, may be supplied through a single outlet box.

4. Connection to recessed ceiling fixtures supplied with pigtails may be arranged so that more than one (1), but not more than four (4) such fixtures are connected into a single outlet box. When adopting this procedure:

   a. Utilize an outlet box no smaller than 5” square by 2-1/2” deep.
   b. Allow no fixture to be supplied from an outlet box in another room.

5. Multiple local switches indicated at a single location shall be gang-mounted in a single outlet box.

6. Include all required outlet boxes regardless of indications on the drawings (which due to symbolic methods of notation, may omit to show some of them).

F. Install junction boxes, pull boxes and outlet boxes in conjunction with concealed circuitry.

1. Exclude surface-mounted outlet boxes in conjunction with concealed circuitry.

2. Exclude unused circuitry openings in junction and pull boxes. In larger boxes each such opening shall be closed with a galvanized sheet steel plate fastened with a continuous weld all around. In small outlet type boxes, utilize plugs as specified for such boxes.

3. Close up all unused circuitry openings in outlet boxes. Unused openings in cast boxes shall be closed with approved cast metal threaded plugs. Unused openings in sheet metal boxes shall be closed with sheet metal knock-out plugs.

4. Outlet boxes for switches shall be located at the strike side of doors. Indicate door swings are subject to field change. Outlet boxes shall be located on the basis of final door swing arrangements.

5. Boxes and plaster covers for duplex receptacles shall be arranged for vertical mounting of the receptacle.

6. Equip outlet boxes used for devices which are connected to wires of systems supplied by more than one set of voltage characteristics with barriers to separate the different systems.

G. Barriers in junction and pull boxes of outlet size shall be of the same metal as the box.

H. Barriers in junction and pull boxes which are larger than outlet size shall be of the polyester resin fiberglass of adequate thickness for mechanical strength, but in no case less than 1/4" thick. Each barrier shall be mounted, without fastenings, between angle iron guides so that they may be readily removed.

3.13 LOCATING AND ROUTING OF CIRCUITRY

A. In general, all circuitry shall be run concealed except that it shall be run exposed where the following conditions occur:

1. Horizontally at the ceiling of permanently unfinished spaces which are not assigned to mechanical or electrical equipment.

2. Horizontally and vertically in mechanical equipment spaces.

3. Horizontally and vertically in electric equipment rooms.

B. Concealed circuitry shall be so located that building construction materials can be applied over its thickest elements without being subject to spalling or cracking.

C. All circuitry and raceways shall not be run within slabs. If field conditions requires raceways to be embedded in field-poured structural building construction concrete fill or slab shall conform to the following:

1. All proposed embedded raceways shall be indicated on plan and elevation and submitted to the Architect and Structural Engineer for review and written approval prior to installation. Any costs associated with the review and approval shall be borne by the Electrical Subcontractor.

2. They shall be run “single layer” with their outside surface no closer than 1” to any surface of the structural concrete.

3. They shall not be located in any configuration which places the outside surface of one closer than 3” to outside surface of another, except at tees, crosses or other single level wide angle junction points.

4. Where crossovers or close grouping are unavoidable, circuitry shall be carefully field coordinated so as not to cause structural weakness.

5. Where turned up or down into a wall or partition they shall, before entering same, be routed parallel for a long enough distance to assure that no relocation of the wall or partition will be necessary to conceal the required bend.

6. They shall be routed in such a manner as to coordinate with the structural requirements of the building.

7. They shall be routed in accordance with field instructions issued by the Architect where such instructions differ from specifications set forth herein.

D. Circuitry run exposed shall be routed parallel to building walls and column lines.

E. Exposed circuitry located overhead shall be run in a completely accessible manner on the underside of all piping and ductwork.

F. Circuitry run in suspended ceilings shall be routed parallel to building walls, column lines, etc.

G. Circuitry shall be routed so as to prevent electric conductors from being subject to high ambient temperature. Minimum clearances from heated lines or surfaces shall be maintained as follows:

1. Crossing where uninsulated: 3”.

2. Crossing where insulated: 1”

3. Running parallel where uninsulated: 36”.

4. Running parallel where insulated: 6”.

H. Circuitry shall not be run in elevator shafts, hoistways, and the like. Where outlets for trail cables, pit lights, run be level lights, and the like, are involved, only the “final connection” outlet boxes themselves shall be located within or open into, the confines of the shaft.

I. Circuitry for miscellaneous systems indicated without notation as to location and routing shall be run as per the requirements and notations governing the adjacent light and power circuitry.

3.14 INSTALLING CIRCUITRY

A. The outside surface of circuitry, which is to be embedded in cinder concrete, shall be coated with asphaltum paint.

B. In runs of conduit or raceway including flexible limit the number of bends between cable access points to a total which does not exceed the maximum specified for the particular system. Where no such maximum is specified, limit the number to four (4) right angle bends or the equivalent thereof.

C. In each conduit or raceway assigned for the future pulling in of wires, include a nylon drag cord. In raceways 2" trade size and larger, the cord shall be pulled in utilizing a suitable brush, followed by an 85% diameter ball mandrel ahead of the cord in the pulling assembly. In the event that obstructions are encountered, which will not permit the drag cord to be installed, the blocked section of raceway shall be replaced and any cutting and patching of the structure involved in such replacement shall be included as part of the electric work.

D. Circuitry shall be arranged such that conductors of one feeder or circuitry carrying "going" current are not separated from conductors of the same feeder or circuitry carrying "return" current by any ferrous or other metal. Where not within raceways, all "going" and "return" current conductors of one feeder or circuit shall be laced together so as to minimize induction heating of adjacent metal components.

E. Sleeves used where circuitry is to penetrate waterproof slabs, decks and walls, shall be of a type selected to suit the water condition encountered in the field.

3.15 PHYSICAL SEPARATION OF NORMAL, OPTIONAL STANDBY, AND EMERGENCY SYSTEMS

A. ALL emergency system generation and distribution equipment shall be installed within dedicated two-hour fire rated rooms, closets or shafts. All equipment, conduit, piping, ductwork, etc., alien to the emergency system shall not be located within these rooms, closets, or shafts except the equipment that serves these rooms, closets or shafts.

B. All emergency equipment such as transfer switches, switchboards, transformers, and panelboards, shall be installed in two-hour fire rated rooms. The two-hour fire rated rooms shall be provided by the General Contractor.

C. All portions of the emergency system, such as feeders, located outside of rooms, closets, or shafts described in paragraph "B" shall also be enclosed within two-hour fire rated enclosures, provided by the Electrical Subcontractor. Type, method and material of two-hour rated enclosures shall be approved by the local Electrical Inspector.

D. Emergency system shall be kept entirely independent of all other wiring, devices and equipment, and shall not enter the same raceways, boxes or cabinets with each other or other wiring, except in transfer switches.

E. The Electrical Subcontractor has the option of using UL listed two-hour fire rated MI cable systems only if approved by the local Electrical Inspector. The Electrical Subcontractor shall be responsible for sizing, routing, installation, supports, etc., of this cable in accordance with manufacturer's requirements. Submit for Architect conductor sizing calculations, voltage drop calculations, etc. for review and approval.

3.16 GRADING AND PLANTING

A. Restore surface features, including vegetation, at areas disturbed by electrical work performed by this Contractor. Reestablish original grades, except as otherwise indicated. Where sod has been removed, replace it as soon as possible after backfilling is completed. Restore areas disturbed by trenching, storing of dirt, storing of material, cable laying, vehicles, equipment and other activities to their original condition. Include top-soiling, fertilizing, liming, seeding, sodding, sprigging, and mulching as required.

B. Comply with other divisions of this specification. Maintain restored surfaces. Restore disturbed paving as required.

END OF SECTION

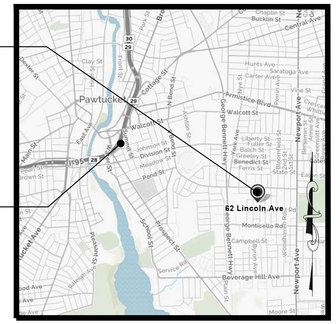
Appendix G

Plan s Issued for Bid

List of Drawings

Sheet 1 of 11:	Cover Sheet / Locus Maps
Sheet 2 of 11:	Summit Street; Existing Conditions and Site Preparation Plan
Sheet 3 of 11:	Summit Street; Layout & Grading Plan
Sheet 4 of 11:	Summit Street; Irrigation Plan
Sheet 5 of 11:	Summit Street; Landscape Plan
Sheet 6 of 11:	Fallon School; Existing Conditions Plan
Sheet 7 of 11:	Fallon School; Site Layout Plan
Sheet 8 of 11:	Details
Sheet 9 of 11:	E1 – Summit Street Electrical Legends, Details & Notes
Sheet 10 of 11:	E2 – Summit Street Electrical Site Plan
Sheet 11 of 11:	E3 – Summit Street Electrical Legends, Details & Notes

SUMMIT STREET PARK & FALLON SCHOOL PLAYGROUND
PAWTUCKET, RHODE ISLAND



CITY OF PAWTUCKET, RHODE ISLAND
LOCUS MAP
NOT TO SCALE

Administered by:
CITY OF PAWTUCKET, RI

Donald R. Grebien, Mayor
Susan Mara, Acting Director, Planning & Redevelopment
Michael Wilcox, Project Engineer, Planning & Redevelopment

Prepared by:
THE GIFFORD DESIGN GROUP, Inc.
LANDSCAPE ARCHITECTURE ENVIRONMENTAL PLANNING
DIANE C. SOULE & ASSOCIATES
LANDSCAPE ARCHITECTURE

TABLE OF CONTENTS:

SHEET 1 of 11: COVER SHEET/LOCUS MAPS
SHEET 2 of 11: SUMMIT STREET: EXISTING CONDITIONS & SITE PREPARATION
SHEET 3 of 11: SUMMIT STREET: SITE LAYOUT PLAN & GRADING PLAN
SHEET 4 of 11: SUMMIT STREET: IRRIGATION PLAN
SHEET 5 of 11: SUMMIT STREET: LANDSCAPE PLAN
SHEET 6 of 11: FALLON SCHOOL: EXISTING CONDITIONS PLAN
SHEET 7 of 11: FALLON SCHOOL: SITE LAYOUT PLAN
SHEET 8 of 11: DETAILS
E1: SUMMIT STREET, ELECTRICAL, LEGENDS DETAILS & NOTES
E2: SUMMIT STREET, ELECTRICAL SITE PLAN
E3: SUMMIT STREET, ELECTRICAL, LEGENDS, DETAILS & NOTES

DRAWING 1 OF 11

DRAWING NO:

DECEMBER 2016

1

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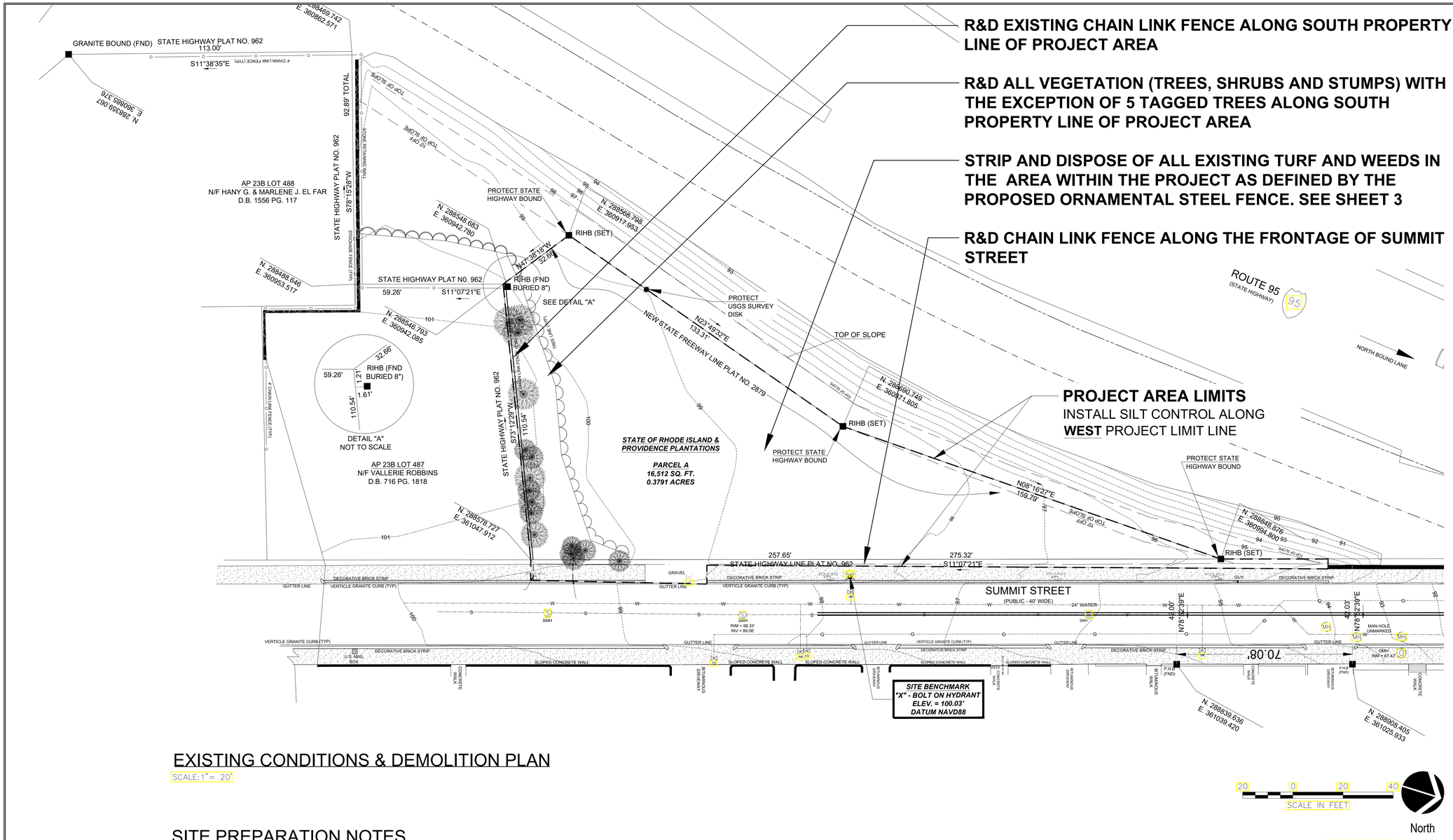

EXISTING CONDITIONS & DEMOLITION PLAN

SCALE: 1" = 20'

20 0 20 40
SCALE IN FEET

North

SITE PREPARATION NOTES

STATE LAW REQUIRES THAT DIG-SAFE AND UTILITY COMPANIES BE ADVISED PRIOR TO ANY WORK BEING DONE. CALL (888) 344-7233. RECORD ALL BURIED UTILITIES AND ADVISE OWNER OF ANY DISCREPANCIES. ALTERNATE DIG-SAFE PHONE NUMBER 1-617-721-0990.

1. LOCATION OF UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR USING SENSORS. THE LOCATION OF ANY UNDERGROUND OBJECTS SHOWN ARE NOT WARRANTED TO BE CORRECT OR COMPLETE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.

2. CONTRACTOR SHALL FAMILIARIZE HIM/HERSELF WITH ALL EXISTING SITE CONDITIONS PRIOR TO PREPARING AND SUBMITTING A BID.

3. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL SURVEY INFORMATION, INCLUDING EXISTING OR UNDERGROUND UTILITIES, PRIOR TO THE COMMENCEMENT OF ANY WORK.

4. CONTRACTOR IS REQUIRED TO COORDINATE AND COOPERATE WITH OWNER AT ALL TIMES REGARDING ACCESS, AND RESTRICTIONS ON CONTRACTOR'S PERSONNEL, VEHICLES, AND EQUIPMENT.

5. INSTALL ALL REQUIRED SILTATION/EROSION CONTROL MEASURES AND TREE/ROOT ZONE PROTECTION DEVICES PRIOR TO COMMENCING DEMOLITION ACTIVITIES. MAINTAIN IN SERVICEABLE CONDITION DURING AND REMOVE AFTER CONSTRUCTION PERIOD.

6. CLASS II PRUNING ALL TREE TO REMAIN LARGER THAN 6" BREAST HEIGHT DIAMETER. SEE SPECIFICATIONS.

7. STRIP, SCREEN, AND STORE ALL TOP SOIL WITHIN THE LIMITS OF DISTURBANCE. ALL DISTURBED AREA SHALL BE SEEDED IN ACCORDANCE WITH THE BID SPECIFICATIONS. REMOVE ALL VEGETATION FROM EXISTING TOP SOIL.

8. THERE SHALL BE NO STORAGE OF MATERIALS OR EQUIPMENT, NOR USE CONSTRUCTION EQUIPMENT WITHIN THE DESIGNATED ROOTZONE PROTECTION AREAS.

NOTES:

1. LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 72-HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG-SAFE (1-888-344-7233) A MINIMUM OF 72 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG-SAFE, IF IT IS DIFFERENT FROM THE CALLER.

LEGEND

- Utility Pole
- HYD. Hydrant
- SMH Sewer Manhole
- WG Water Gate
- Hay Bale
- Tree
- OHW Overhead Wire
- Property Line
- Curb Line
- Edge Of Concrete
- Contour
- R&D Remove & Dispose
- A.P. Assessor's Plat
- Project Limits Limits of Disturbance

No:	Revision:	Date:

REFERENCES:

EXISTING CONDITIONS BASED ON FIELD SURVEY PREPARED BY THE NATIONAL LAND SURYEYORS. THE ELEVATIONS AND CONTOURS SHOWN BASED ON NAVD-88 DATUM. SURVEY DATED FEBRUARY 2014.

1-888-DIG-SAFE
PROJECT NUMBER - DIGS TWO
WORKING DAYS NOTICE

SUMMIT STREET PARK and FALLON SCHOOL PLAYGROUND

SUMMIT STREET &
62 LINCOLN AVENUE
PAWTUCKET, RI

THE GIFFORD
DESIGN GROUP, Inc.
LANDSCAPE ARCHITECTURE
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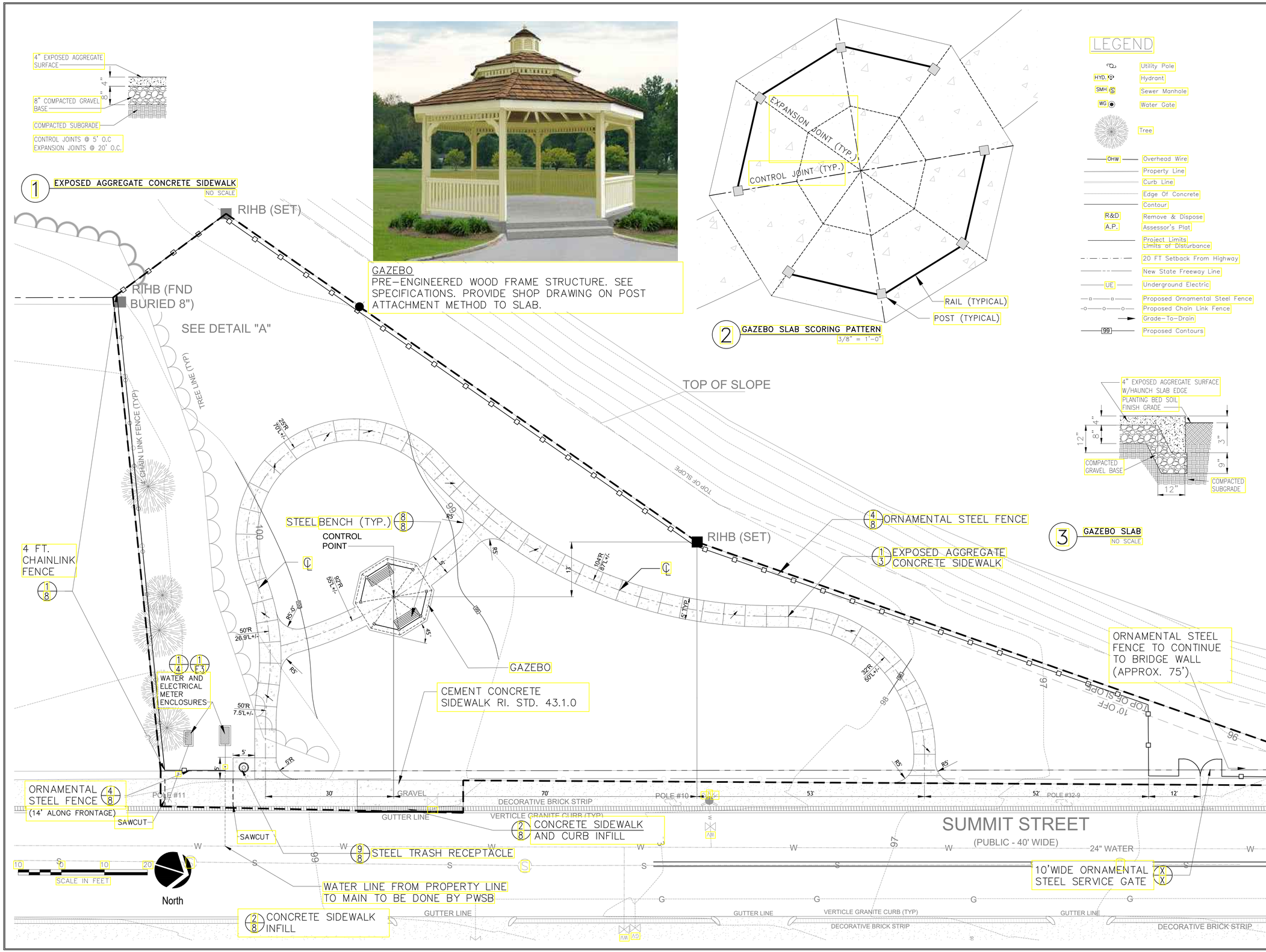
REGISTERED LANDSCAPE ARCHITECT
Gregg H. Gifford, II
No. 182
12-19-16

SUMMIT STREET: EXISTING CONDITIONS and DEMOLITION PLAN

PROJECT NO. 126.812	DRAWING 2 OF 11
DATE: DECEMBER 2016	DRAWING NO: 2
SCALE: AS SHOWN	
DRAWN BY: DCS	
CHECKED BY: GHG	



No:	Revision:	Date:

REFERENCES:

EXISTING CONDITIONS BASED ON FIELD SURVEY PREPARED BY THE NATIONAL LAND SURYEYORS. THE ELEVATIONS AND CONTOURS SHOWN BASED ON NAVD-88 DATUM. SURVEY DATED FEBRUARY 2014.

1-888-DIG-SAFE
PROJECT REQUIRES AT LEAST TWO WORKING DAYS NOTICE

SUMMIT STREET PARK and FALLON SCHOOL PLAYGROUND

SUMMIT STREET &
62 LINCOLN AVENUE
PAWTUCKET, RI

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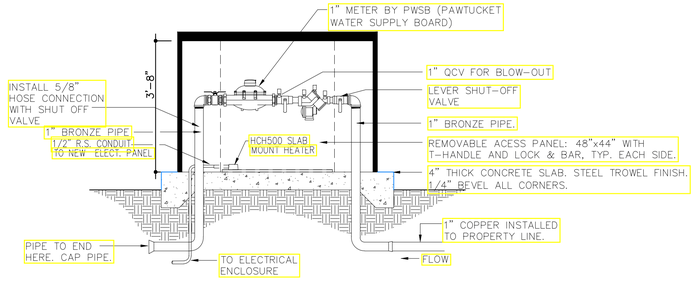
REGISTERED LANDSCAPE ARCHITECT
Gregg R. Gifford, III
No. 182
12-14-16

SUMMIT STREET:
SITE LAYOUT AND GRADING PLAN

PROJECT NO. 126.812
DATE: DECEMBER 2016
SCALE: AS SHOWN
DRAWN BY: DCS
CHECKED BY: GHG

DRAWING 3 OF 11
DRAWING NO: 3

SiteOne™
Project Services
1-800-347-4272
http://www.projectservices.siteone.com



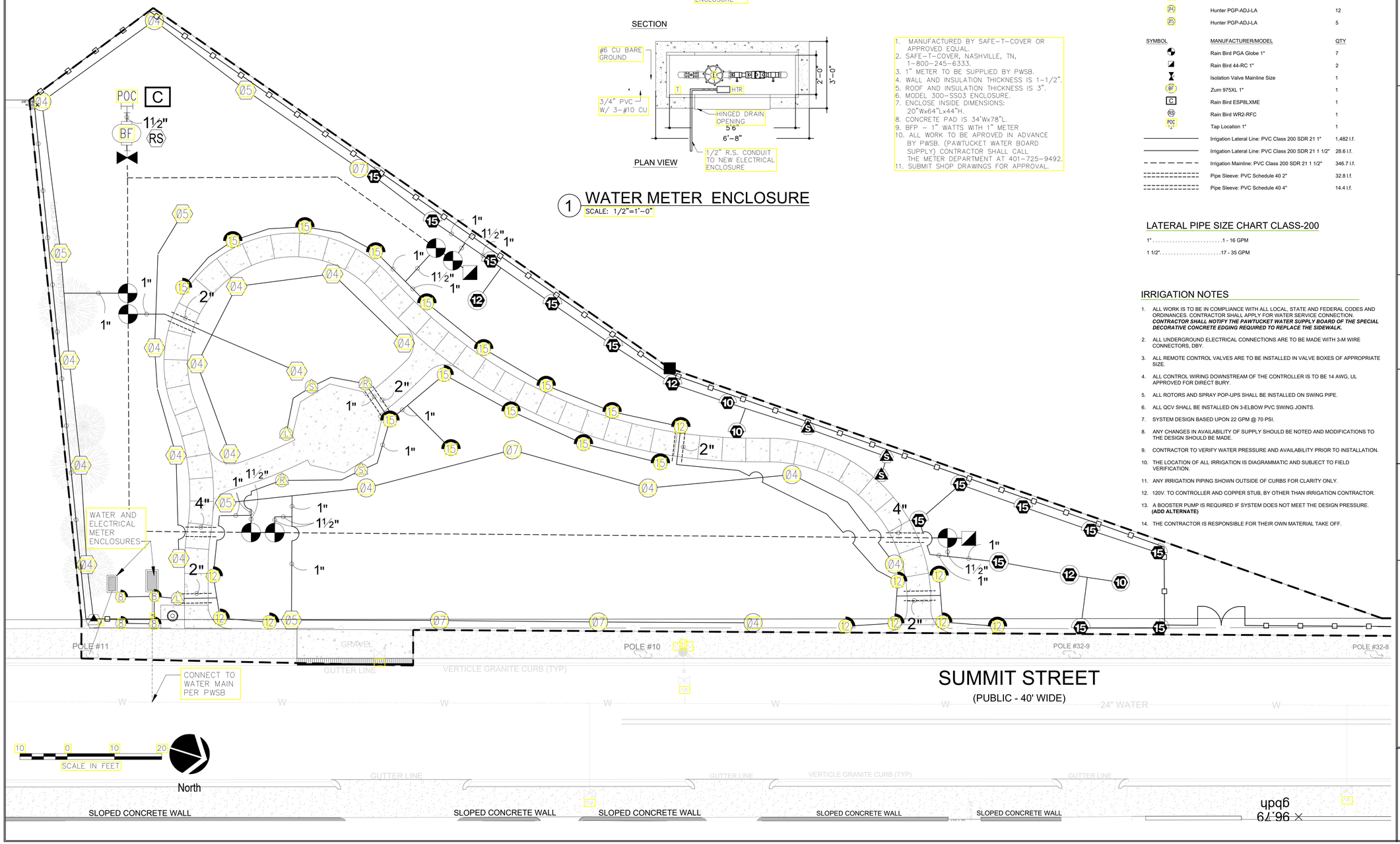
SECTION

PLAN VIEW

1. MANUFACTURED BY SAFE-T-COVER OR APPROVED EQUAL.
2. SAFE-T-COVER, NASHVILLE, TN, 1-800-245-6333.
3. 1" METER TO BE SUPPLIED BY PWSB.
4. WALL AND INSULATION THICKNESS IS 1-1/2".
5. ROOF AND INSULATION THICKNESS IS 3".
6. MODEL 300-SS03 ENCLOSURE.
7. ENCLOSE INSIDE DIMENSIONS: 20"Wx64"Lx44"H.
8. CONCRETE PAD IS 34'Wx78"L.
9. BFP - 1" WATTS WITH 1" METER
10. ALL WORK TO BE APROVED IN ADVANCE BY PWSB. (PAWTUCKET WATER BOARD SUPPLY) CONTRACTOR SHALL CALL THE METER DEPARTMENT AT 401-725-9492.
11. SUBMIT SHOP DRAWINGS FOR APPROVAL.

1 WATER METER ENCLOSURE

SCALE: 1/2"=1'-0"



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY
ES LCS HCS CS SS	Hunter PROS-04 5' strip spray	3
Q T H F	Hunter PROS-04 10' radius	3
Q T H F	Hunter PROS-04 12' radius	3
Q T H F	Hunter PROS-04 15' radius	13
ES LCS HCS CS SS	Hunter PROS-12 5' strip spray	6
Q T H F	Hunter PROS-12 8' radius	4
Q T H F	Hunter PROS-12 12' radius	10
Q T H F	Hunter PROS-12 15' radius	14
LST PST SST	Hunter MP Strip PROS-04-PRS40-CV	1

SYMBOL	MANUFACTURER/MODEL	QTY
Ø4	Hunter PGP-ADJ	7
Ø7	Hunter PGP-ADJ	4
Ø4	Hunter PGP-ADJ-LA	12
Ø5	Hunter PGP-ADJ-LA	5

SYMBOL	MANUFACTURER/MODEL	QTY
	Rain Bird PGA Globe 1"	7
	Rain Bird 44-RC 1"	2
	Isolation Valve Mainline Size	1
BF	Zurn 975XL 1"	1
C	Rain Bird ESP8LXME	1
RS	Rain Bird WR2-RFC	1
POC	Tap Location 1"	1
	Irrigation Lateral Line: PVC Class 200 SDR 21 1"	1,482 l.f.
	Irrigation Lateral Line: PVC Class 200 SDR 21 1 1/2"	28.6 l.f.
	Irrigation Mainline: PVC Class 200 SDR 21 1 1/2"	346.7 l.f.
	Pipe Sleeve: PVC Schedule 40 2"	32.8 l.f.
	Pipe Sleeve: PVC Schedule 40 4"	14.4 l.f.

LATERAL PIPE SIZE CHART CLASS-200

1" . . . . . 1 - 16 GPM

1 1/2" . . . . . 17 - 35 GPM

IRRIGATION NOTES

1. ALL WORK IS TO BE IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL CODES AND ORDINANCES. CONTRACTOR SHALL APPLY FOR WATER SERVICE CONNECTION. ***CONTRACTOR SHALL NOTIFY THE PAWTUCKET WATER SUPPLY BOARD OF THE SPECIAL DECORATIVE CONCRETE EDGING REQUIRED TO REPLACE THE SIDEWALK.***
2. ALL UNDERGROUND ELECTRICAL CONNECTIONS ARE TO BE MADE WITH 3-M WIRE CONNECTORS, DBY.
3. ALL REMOTE CONTROL VALVES ARE TO BE INSTALLED IN VALVE BOXES OF APPROPRIATE SIZE.
4. ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 14 AWG, UL APPROVED FOR DIRECT BURY.
5. ALL ROTORS AND SPRAY POP-UPS SHALL BE INSTALLED ON SWING PIPE.
6. ALL QCV SHALL BE INSTALLED ON 3-ELBOW PVC SWING JOINTS.
7. SYSTEM DESIGN BASED UPON 22 GPM @ 70 PSI.
8. ANY CHANGES IN AVAILABILITY OF SUPPLY SHOULD BE NOTED AND MODIFICATIONS TO THE DESIGN SHOULD BE MADE.
9. CONTRACTOR TO VERIFY WATER PRESSURE AND AVAILABILITY PRIOR TO INSTALLATION.
10. THE LOCATION OF ALL IRRIGATION IS DIAGRAMMATIC AND SUBJECT TO FIELD VERIFICATION.
11. ANY IRRIGATION PIPING SHOWN OUTSIDE OF CURBS FOR CLARITY ONLY.
12. 120V. TO CONTROLLER AND COPPER STUB, BY OTHER THAN IRRIGATION CONTRACTOR.
13. A BOOSTER PUMP IS REQUIRED IF SYSTEM DOES NOT MEET THE DESIGN PRESSURE. **(ADD ALTERNATE)**
14. THE CONTRACTOR IS RESPONSIBLE FOR THEIR OWN MATERIAL TAKE OFF.

No:	Revision:	Date:

REFERENCES:

EXISTING CONDITIONS BASED ON FIELD SURVEY PREPARED BY THE NATIONAL LAND SURYEYORS. THE ELEVATIONS AND CONTOURS SHOWN BASED ON NAVD-88 DATUM. SURVEY DATED FEBRUARY 2014.

1-888-DIG-SAFE
PROJECT #13-8900-7 CALL TWO WORKING DAYS NOTICE

SUMMIT STREET PARK and FALLON SCHOOL PLAYGROUND

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PAWTUCKET, RI

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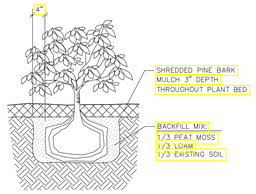
422 Farnum Pike
Smithfield, Rhode Island 02917
www.dianesouleandassociates.com
401.231.0736
email: diane@dcsa.ws

REGISTERED LANDSCAPE ARCHITECT
Gregg H. Gifford, III
No. 182
12-19-16

SUMMIT STREET:
IRRIGATION PLAN

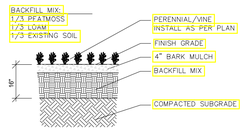
PROJECT NO. 126.812
DATE: DECEMBER 2016
SCALE: AS SHOWN
DRAWN BY: SITE ONE
CHECKED BY: GHG

DRAWING 4 OF 11
DRAWING NO: 4



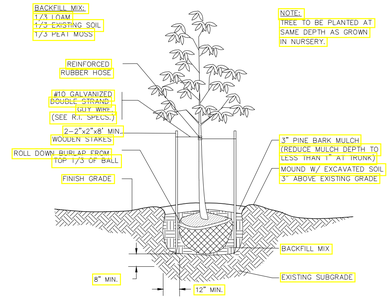
1 SHRUB PLANTING

NOT TO SCALE



2 PERENNIAL/VINE PLANTING

NOT TO SCALE



3 TREE PLANTING & STAKING

NOT TO SCALE

PLANT SCHEDULE

DECIDUOUS TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONTAINER/B&B	CAL
	AS6	2	Acer saccharum `Green Mountain` TM / Green Mountain Sugar Maple	B & B	2"Cal

FLOWERING TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONTAINER/B&B	CAL
	CR8	4	Cornus florida rubra / Pink Flowering Dogwood	B & B	2.5" - 3" Cal.

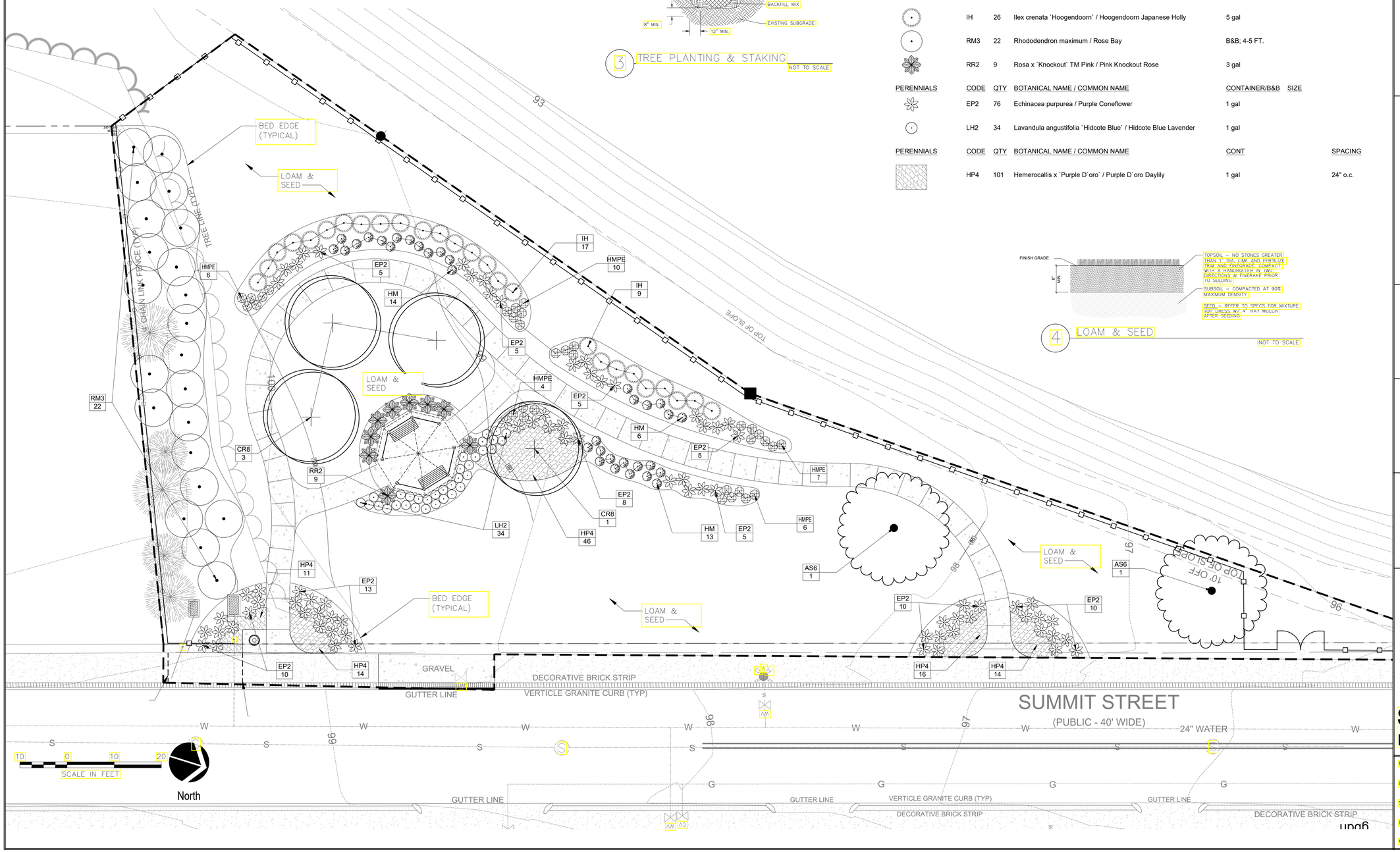
SHRUBS	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONTAINER/B&B	SIZE
	HM	33	Hibiscus moscheutos `Disco Bell Pink` / Rose Mallow	5 gal	
	HMPE	33	Hydrangea macrophylla `Pink Elf` / Pink Elf Hydrangea	5 gal	
	IH	26	Ilex crenata `Hoogendoorn` / Hoogendoorn Japanese Holly	5 gal	
	RM3	22	Rhododendron maximum / Rose Bay	B&B; 4-5 FT.	
	RR2	9	Rosa x `Knockout` TM Pink / Pink Knockout Rose	3 gal	

PERENNIALS	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONTAINER/B&B	SIZE
	EP2	76	Echinacea purpurea / Purple Coneflower	1 gal	
	LH2	34	Lavandula angustifolia `Hidcote Blue` / Hidcote Blue Lavender	1 gal	

PERENNIALS	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	SPACING
	HP4	101	Hemerocallis x `Purple D`oro` / Purple D`oro Daylily	1 gal	24" o.c.

4 LOAM & SEED

NOT TO SCALE



No:	Revision:	Date:

REFERENCES:

EXISTING CONDITIONS BASED ON FIELD SURVEY PREPARED BY THE NATIONAL LAND SURYEYORS. THE ELEVATIONS AND CONTOURS SHOWN BASED ON NAVD-88 DATUM. SURVEY DATED FEBRUARY 2014.

1-888-DIG-SAFE
PROTECT YOURSELF. CALL TWO WORKING DAYS NOTICE

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www.dianesouleandassociates.com
401.231.0736
email: diane@dcsa.ws

Gerald H. Gifford, II
No. 182
12-19-16

SUMMIT STREET:
LANDSCAPE PLAN

PROJECT NO. 126.812

DATE: DECEMBER 2016

SCALE: AS SHOWN

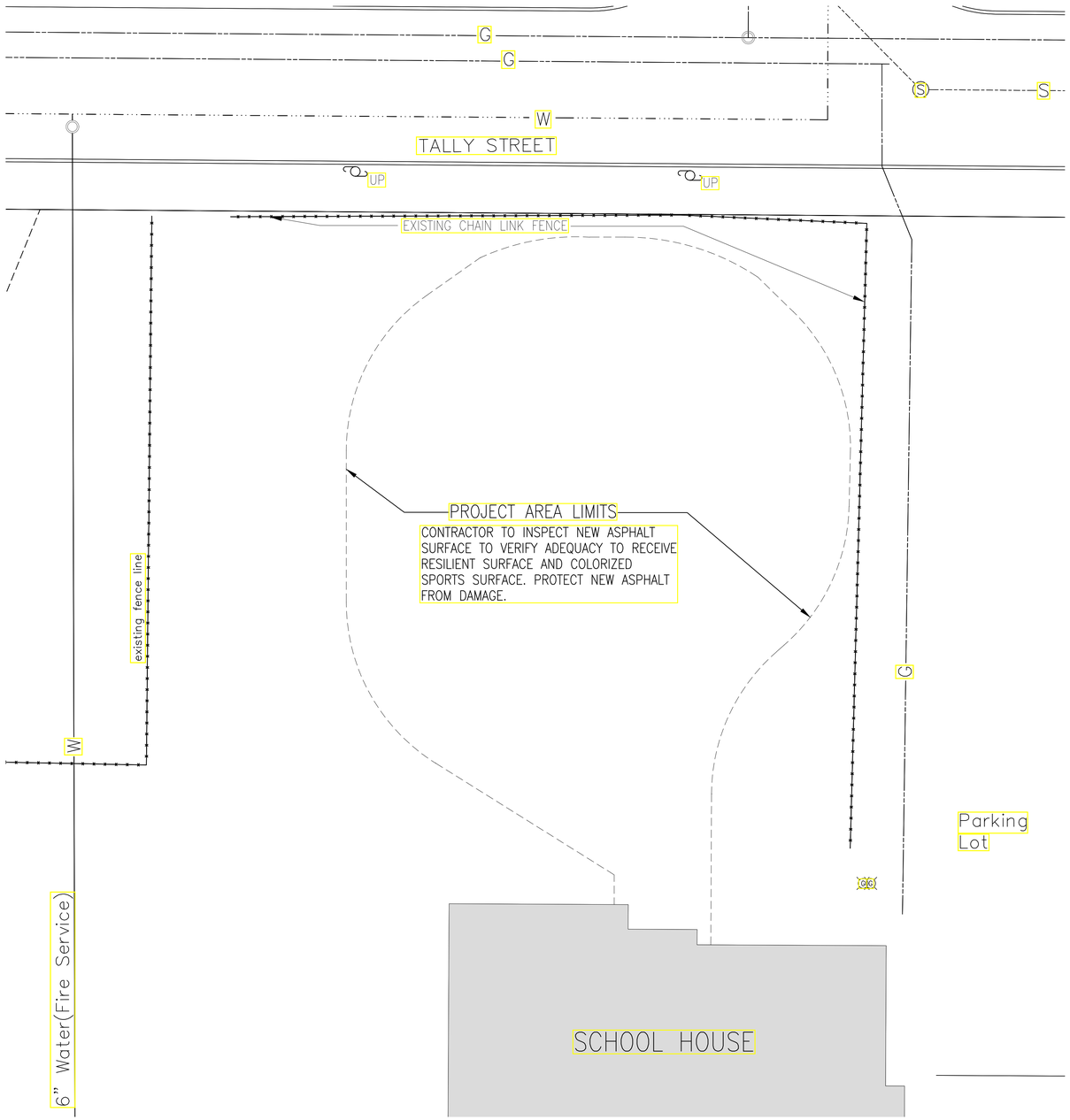
DRAWN BY: DCS

CHECKED BY: GHG

DRAWING 5 OF 11

DRAWING NO:

5



EXISTING CONDITIONS & DEMOLITION PLAN

SCALE: 1"=10'

SITE PREPARATION NOTES

STATE LAW REQUIRES THAT DIG-SAFE AND UTILITY COMPANIES BE ADVISED PRIOR TO ANY WORK BEING DONE. CALL (888) 344-7233. RECORD ALL BURIED UTILITIES AND ADVISE OWNER OF ANY DISCREPANCIES. ALTERNATE DIG-SAFE PHONE NUMBER 1-617-721-0990.

1. LOCATION OF UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR USING SENSORS. THE LOCATION OF ANY UNDERGROUND OBJECTS SHOWN ARE NOT WARRANTED TO BE CORRECT OR COMPLETE. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.

2. CONTRACTOR SHALL FAMILIARIZE HIM/HERSELF WITH ALL EXISTING SITE CONDITIONS PRIOR TO PREPARING AND SUBMITTING A BID.

3. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL SURVEY INFORMATION, INCLUDING EXISTING OR UNDERGROUND UTILITIES, PRIOR TO THE COMMENCEMENT OF ANY WORK.

4. CONTRACTOR IS REQUIRED TO COORDINATE AND COOPERATE WITH OWNER AT ALL TIMES REGARDING ACCESS, AND RESTRICTIONS ON CONTRACTOR'S PERSONNEL, VEHICLES, AND EQUIPMENT.

NOTES:

1. LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 72-HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG-SAFE (1-888-344-7233) A MINIMUM OF 72 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG-SAFE, IF IT IS DIFFERENT FROM THE CALLER.

LEGEND

	Utility Pole
HYD.	Hydrant
SMH	Sewer Manhole
WG	Water Gate
OHW	Overhead Wire
	Property Line
	Curb Line
	Edge Of Concrete
	Contour
R&D	Remove & Dispose
A.P.	Assessor's Plat
	Project Limits Limits of Disturbance

No:	Revision:	Date:

REFERENCES:

EXISTING CONDITIONS BASED ON FIELD SURVEY PREPARED BY THE CITY OF PAWTUCKET ENGINEERING DIVISION. ANY ELEVATIONS AND CONTOURS SHOWN ARE ASSUMED. SURVEY DATED JULY 6, 2015.

1-888-DIG-SAFE
PROJECT REQUIRES AT LEAST TWO WORKING DAYS NOTICE

SUMMIT STREET PARK and FALLON SCHOOL PLAYGROUND

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401.231.0736
email: diane@dcsa.ws

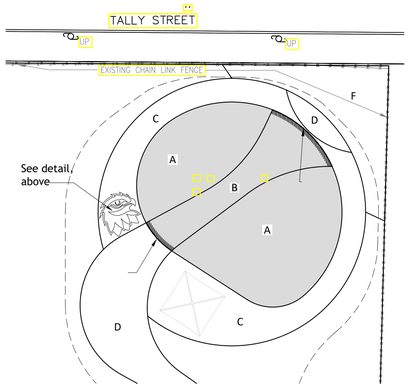
LICENSED LANDSCAPE ARCHITECT
Gerald H. Gifford, III
No. 182
12-19-16

FALLON SCHOOL:
EXISTING CONDITIONS and DEMOLITION PLAN

PROJECT NO. 126.812
DATE: DECEMBER 2016
SCALE: AS SHOWN
DRAWN BY: DCS
CHECKED BY: GHG

DRAWING 6 OF 11

DRAWING NO:
6



PLAY SURFACE COLORS

NO SCALE

Color Chart		
A	1/8	PLAY BOUND POURED-IN-PLACE-YELLOW # 200
B	1/8	PLAY BOUND POURED-IN-PLACE-SKY BLUE #180
C		NOVAPLAY-CLASSIC GREEN #11
D		NOVAPLAY-RED #2
E		NOVAPLAY-BLUE #4
F		NOVAPLAY-STADIUM BLUE #4SB

ENLARGEMENT

PLAY BOUND POURED-IN-PLACE SURFACE:

PO Box 157
Williamsville, NY 14231
800-999-0555
info@surfaceamerica.com

NOVAPLAY:

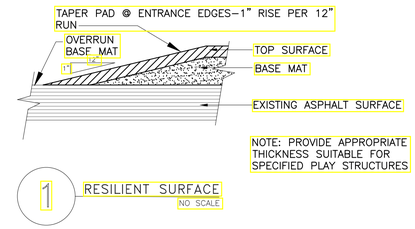
Nova Sports U.S.A., Inc. | 6 Industrial Road, Building #2

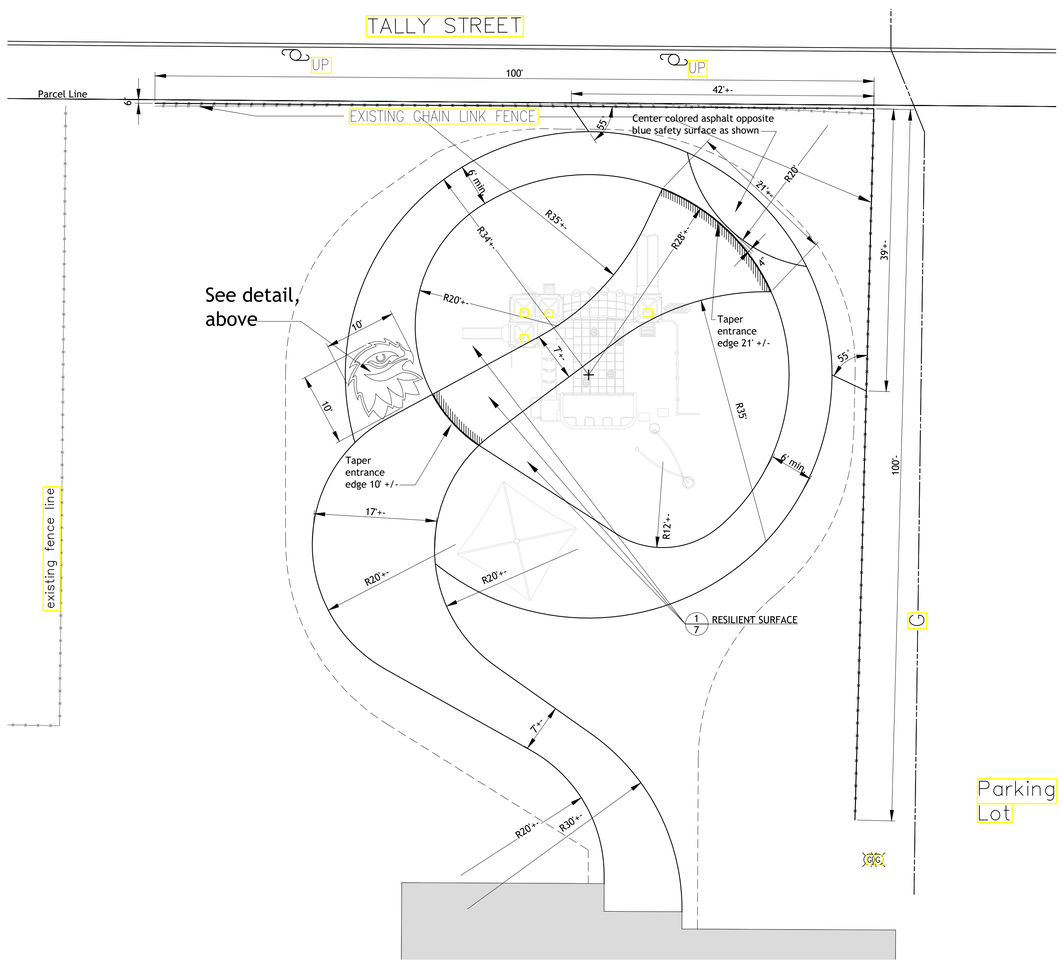
Milford, MA 01757

800-USA-NOVA
info@novasports.com

NOTES:

1. LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 72-HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG-SAFE (1-888-344-7233) A MINIMUM OF 72 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG-SAFE, IF IT IS DIFFERENT FROM THE CALLER.

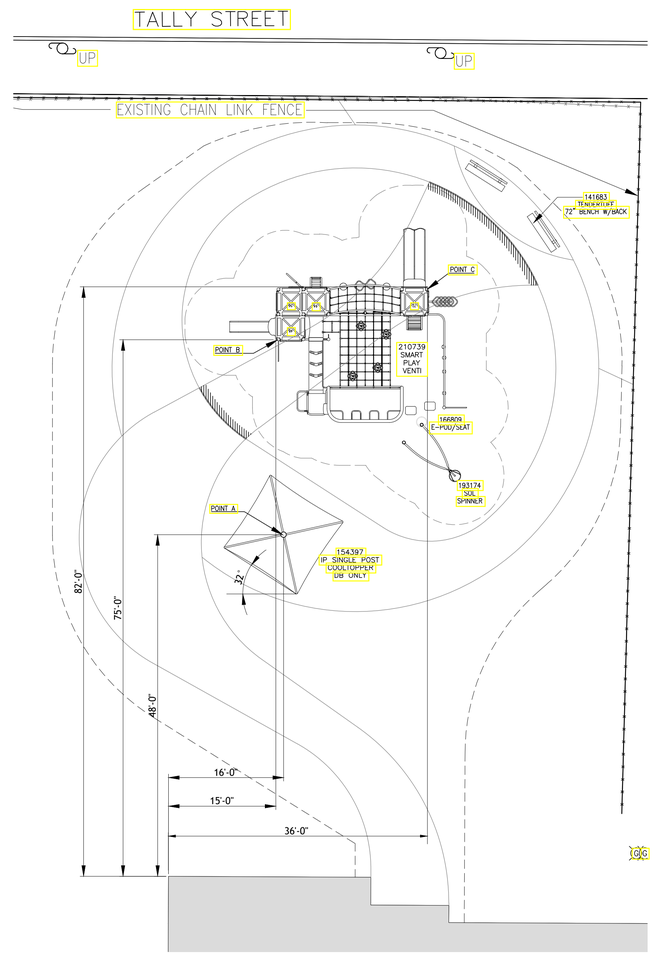




PAVEMENT MARKING & RESILIENT SURFACE LAYOUT

SCALE: 1"= 10'

SCALE: 1" = 10'
0 5' 10' 20' 30'
GRAPHIC SCALE



PLAY STRUCTURE LAYOUT

SCALE: 1"= 10'

SCALE: 1" = 10'
0 5' 10' 20' 30'
GRAPHIC SCALE

LAYOUT POINTS:

A: CENTER POINT OF "COOL TOPPER"
B: CORNER POST OF PLAY STRUCTURE
C: CORNER POINT OF PLAY STRUCTURE

SEE SHEET 8 FOR FOOTING DETAILS

No:	Revision:	Date:

REFERENCES:

EXISTING CONDITIONS BASED ON FIELD SURVEY PREPARED BY THE CITY OF PAWTUCKET ENGINEERING DIVISION. ANY ELEVATIONS AND CONTOURS SHOWN ARE ASSUMED. SURVEY DATED July 6, 2015.

1-888-DIG-SAFE
PROJECT NO.#9101417 CALL TWO WORKING DAYS NOTICE

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email: diane@dcsa.ws

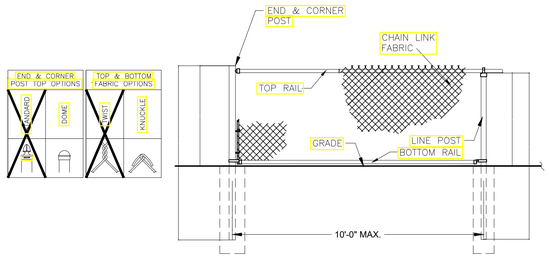
12-14-16

FALLON SCHOOL:
SITE LAYOUT PLAN

PROJECT NO. 126.812
DATE: DECEMBER 2016
SCALE: AS SHOWN
DRAWN BY: DCS
CHECKED BY: GHG

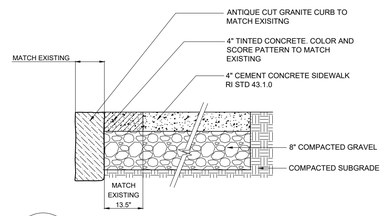
DRAWING 7 OF 11

DRAWING NO:
7

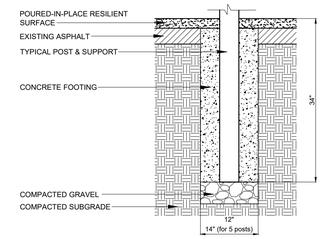


FENCE SECTION ELEVATION
WITH TOP RAIL & BOTTOM RAILS

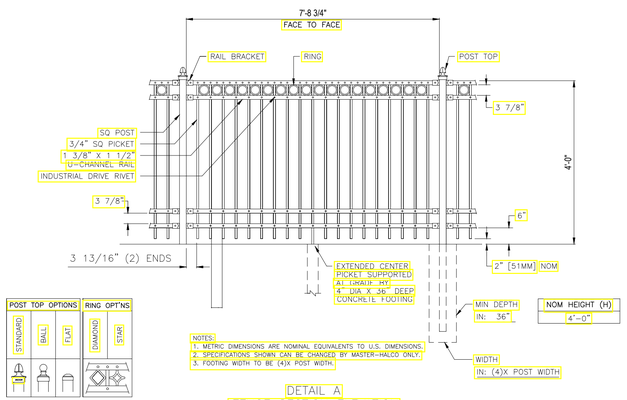
1 CHAIN LINK FENCE
NO SCALE



2 CONRETE SIDEWALK IN-FILL
NO SCALE



3 PLAY STRUCTURE-POST FOOTING
NO SCALE

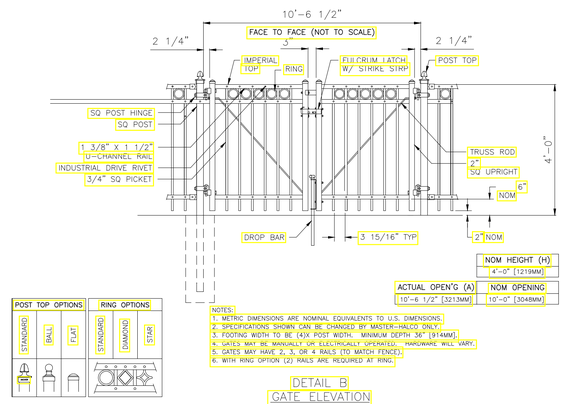


DETAIL A
FENCE SECTION ELEVATION
NO SCALE

IMPERIAL FENCE – STYLE D

NOM 8' SECTION LENGTH
SOLID STEEL 3/4" PICKETS

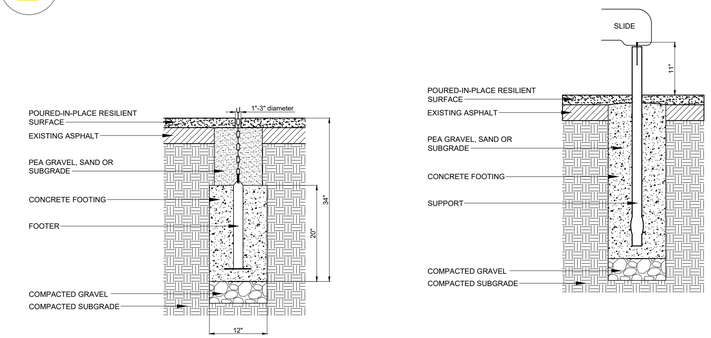
4 ORNAMENTAL STEEL FENCE
NO SCALE



DETAIL B
GATE ELEVATION
NO SCALE

IMPERIAL DOUBLE SWING GATE
6-5005R
W/ STRAIGHT TOP & 3/4" PICKETS

5 ORNAMENTAL STEEL SERVICE GATE
NO SCALE

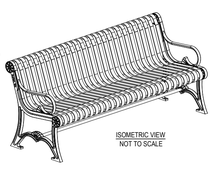


6 PLAY STRUCTURE-POD FOOTING
NO SCALE

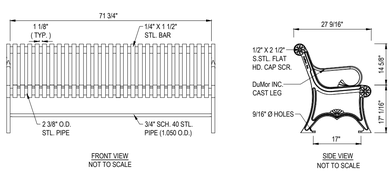
7 PLAY STRUCTURE-SLIDE FOOTING
NO SCALE

DuMor, inc.
15 INDUSTRIAL CIRCLE, P.O. BOX 142
MIFFLINTOWN, PA 17059-0142
TOLL FREE: 1-800-598-4018
PHONE: (717) 436-2106
FAX: (717) 436-9839
www.dumor.com

MODEL #: 58 SERIES STEEL BENCH



ISOMETRIC VIEW
NOT TO SCALE

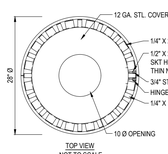


FRONT VIEW
NOT TO SCALE

SIDE VIEW
NOT TO SCALE

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
4. 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.
5. CUSTOM LETTERING AVAILABLE FOR RECESSED SIDE PANEL (37 TOTAL SPACES).
6. CONTRACTOR'S NOTE: FOR PRODUCT AND PURCHASING INFORMATION VISIT www.CADdetails.com/info REFERENCE NUMBER 017-332.

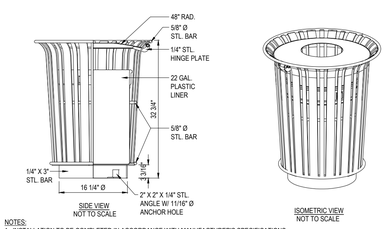
8 STEEL BENCH
NO SCALE



TOP VIEW
NOT TO SCALE

DuMor, inc.
15 INDUSTRIAL CIRCLE, P.O. BOX 142
MIFFLINTOWN, PA 17059-0142
TOLL FREE: 1-800-598-4018
PHONE: (717) 436-2106
FAX: (717) 436-9839
www.dumor.com

MODEL #: 87 STEEL RECEPTACLE

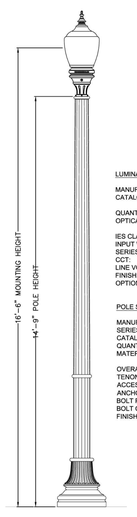


SIDE VIEW
NOT TO SCALE

ISOMETRIC VIEW
NOT TO SCALE

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
4. RECEPTABLE FULLY ASSEMBLED AT FACTORY.
5. 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.
6. CONTRACTOR'S NOTE: FOR PRODUCT AND PURCHASING INFORMATION VISIT www.CADdetails.com/info REFERENCE NUMBER 017-332.

9 STEEL TRASH RECEPTACLE
NO SCALE



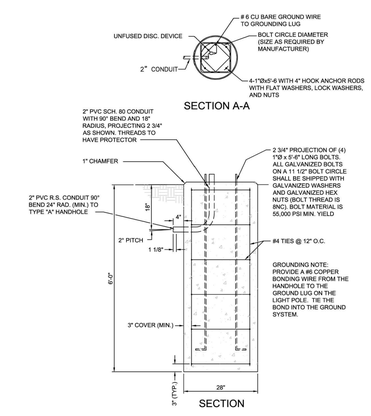
LUMINAIRE SPECIFICATIONS

MANUFACTURER:	KING LUMINAIRE
CATALOG NO.:	K199R-B3AR-IV-75(SSL) -1036-120-277V-X30-PBC
QUANTITY:	13
OPTICAL SYSTEM:	BAFFLED ARRAY ACRYLIC RIPPLED
IES CLASS:	TYPE IV
INPUT WATTAGE:	75W
SERIES:	1036
CCT:	4000K
LINE VOLTAGE:	120-277V
FINISH:	TEXTURED BLACK
OPTIONS:	PHOTO BUTTON CELL

POLE SPECIFICATIONS:

MANUFACTURER:	MAIN STREET LIGHTING
SERIES:	WINDSOR-20
CATALOG NO.:	FF1806-BK
QUANTITY:	7
MATERIAL:	FLUTED/ TAPERED FIBERGLASS BASE & SHAFT
OVERALL HEIGHT:	14'-9"
TENON:	Ø3" x 6"L
ACCESS DOOR:	LOCATED IN BASE
ANCHOR BOLTS:	(4) Ø5/8" BOLTS
BOLT PROJECTION:	2"
BOLT CIRCLE:	VARIABLE 8"-15" DIAMETER
FINISH:	SEMI-GLOSS BLACK

10 LIGHT POLE
NO SCALE



LIGHT POLE
FOUNDATION DETAIL
NOT TO SCALE

11 LIGHT POLE FOUNDATION
NO SCALE

No:	Revision:	Date:

1-888-DIG-SAFE
PROJECT NUMBER: 20W_TWO
WORKING DAYS NOTICE

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REGISTERED LANDSCAPE ARCHITECT
Gregg C. Gifford III
No. 182
12-14-16

DETAILS

PROJECT NO. 126.812	DRAWING 8 OF 11
DATE: DECEMBER 2016	DRAWING NO: 8
SCALE: AS SHOWN	
DRAWN BY: DCS	
CHECKED BY: GHG	

GENERAL ELECTRICAL SPECIFICATIONS

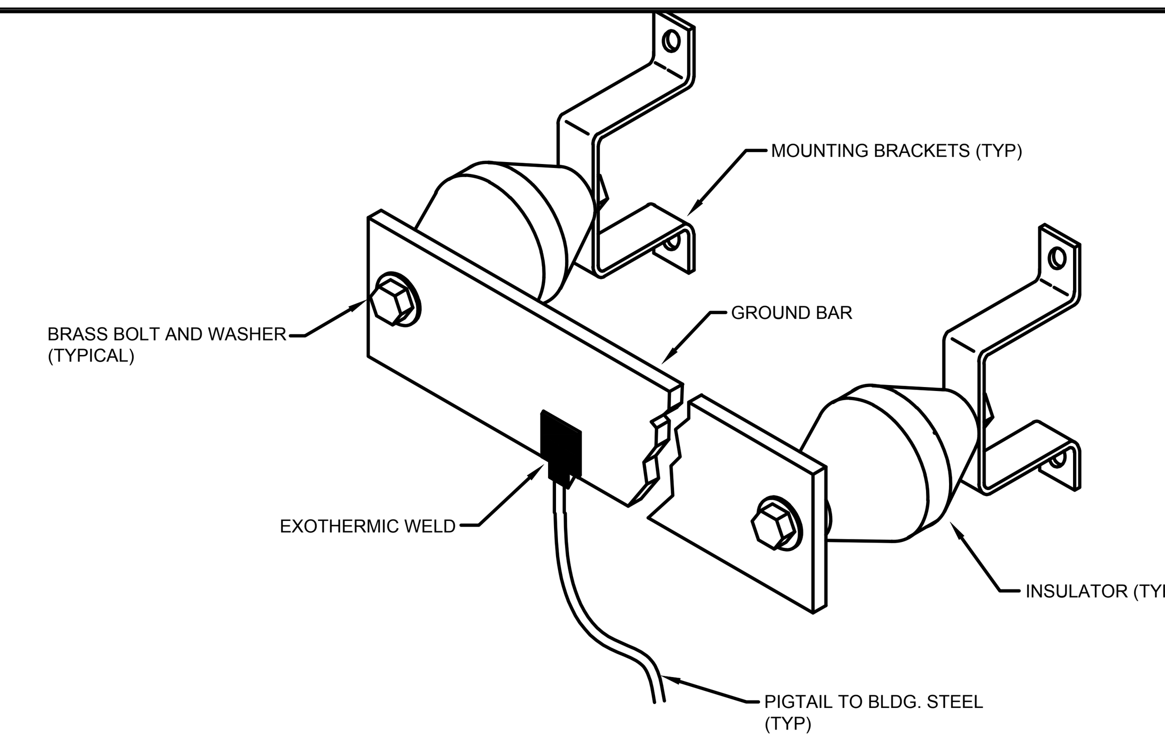
1. FURNISH LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY FOR THE PROPER AND COMPLETE INSTALLATION OF ALL ELECTRIC WORK SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED. REFER TO THE TENANT'S LEASE INFORMATION FOR SPECIFIC REQUIREMENTS. THE TENANT'S LEASE INFORMATION SHALL SUPERCEDE THIS SPECIFICATIONS WHERE A CONFLICT OCCURS BETWEEN THE TWO.
2. ALL ITEMS NOT SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH ARE NECESSARY TO MAKE A COMPLETE ELECTRICAL INSTALLATION, SHALL BE FURNISHED AND INSTALLED AS PART OF THIS PROJECT.
3. ALL ELECTRICAL INSTALLATIONS AND GROUNDING SHALL BE IN STRICT ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE LOCAL, STATE AND NATIONAL CODES.
4. OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS.
5. MATERIALS AND WORKMANSHIP SHALL BE THE BEST OF THEIR RESPECTIVE KIND AND IN FULL ACCORDANCE WITH THE MOST MODERN ELECTRICAL CONSTRUCTION STANDARDS. ALL MATERIAL SHALL BE NEW, UNLESS OTHERWISE NOTED AND FREE OF ANY DEFECTS.
6. THE ELECTRICAL CONTRACTOR SHALL CLEAN AT THE END OF EACH DAY ALL AREAS WORKED IN. EMPTY BOXES, RUBBISH, AND OTHER CONSTRUCTION MATERIALS OF NO USE SHALL BE REMOVED FROM THE BUILDING.
7. ALL WORK SEQUENCES SHALL BE COORDINATED WITH THE ARCHITECT AND SHALL BE COORDINATION WITH OTHER BUILDING TRADES AND ARCHITECTS BUILDING SCHEDULES.
8. ALL BRANCH CIRCUITS RATED AT 120 VOLTS, 20 AMPERES EXCEEDING 75 FEET SHALL BE MINIMUM #10 AWG.
9. ALL EQUIPMENT AND INSTALLATION OF ELECTRICAL EQUIPMENT SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
10. FURNISH AND INSTALL TEMPORARY POWER AS REQUIRED TO OPERATE TOOLS AND LIGHTING. PROVIDE PANELS AND LIGHTING FIXTURES FOR CONSTRUCTION AS NEEDED.
11. THE ELECTRICAL CONTRACTOR (E.C.) SHALL INSPECT THE SITE, PRIOR TO SUBMITTING HIS BID, AND SHALL INVESTIGATE ALL CONDITIONS UNDER WHICH THIS WORK SHALL BE PREFORMED. FAILURE TO INSPECT EXISTING CONDITIONS OR TO FULLY UNDERSTAND THE WORK WHICH REQUIRED SHALL NOT EXCUSE THE E.C. FROM HIS OBLIGATIONS TO SUPPLY AND INSTALL THE WORK IN ACCORDANCE WITH THE SPECIFICATIONS AND THE DRAWINGS AND UNDER ALL SITE CONDITIONS AS THEY EXIST.
12. THE PLANS DEPICT THE LOCATION OF ALL FIXTURE AND EQUIPMENT AND ARE INTENDED TO INDICATE THE GENERAL SCOPE OF WORK, LAYOUT AND QUALITY OF WORKMANSHIP. THEY ARE NOT INTENDED FOR THE PURPOSE OF EXECUTION OF THE WORK, BUT THE CONTRACTOR SHALL UNDERSTAND THAT SUCH DETAILS ARE PART OF THE WORK.
13. THE ELECTRICAL CONTRACTOR SHALL CAREFULLY VERIFY ALL MEASUREMENTS AT THE SITE AND DETERMINE THE EXACT LOCATION OF ALL CHASES AND OPENINGS REQUIRED BY THIS WORK AND SHALL PROVIDE ALL SLEEVES, INSERTS, AND HANGERS REQUIRED.
14. BRANCH CIRCUITS ADDED TO ANY EXISTING PANELBOARDS SHALL ALSO INCLUDE THE CIRCUIT BREAKER DIRECTORY TO BE UPDATED. IF NO DIRECTORY EXISTS THAN ONE SHALL BE PROVIDED INDICATING THE NEW CIRCUITS ADDED.
15. WIRE AND CABLE FOR BRANCH CIRCUITS SHALL BE TYPE THWN/THHN, INSULATED FOR 600VOLTS, RATED AT 75°C MINIMUM AND UL LISTED FOR BUILDING WIRE USE. WIRE SIZE SHALL BE A MINUMUM OF #12 AWG SOLID. ALL CONDUCTORS SHALL BE COPPER. ALL WIRING SHALL BE CONCEALED AND INSTALLED IN RACEWAY. RACEWAYS SHALL BE E.M.T. WITH STEEL SET SCREW FITTINGS. METAL-CLAD CABLE TYPE MC CABLE MAY BE USED IN AREAS WHERE APPROVED BY THE LOCAL WIRING INSPECTOR.
16. ADDITIONAL JUNCTION BOXES BEYOND THOSE SHOWN ON THE DRAWINGS SHALL BE PROVIDED AS NECESSARY FOR ALL ELECTRICAL INSTALLATIONS.
17. ALL CUTTING, PATCHING AND FIRESTOPPING FOR ELECTRICAL INSTALLATIONS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
18. PROVIDE CONDUIT SLEEVES FILLED WITH AN APPROVED FIRE RESISTANT MATERIAL WHERE FIRE RATED WALLS, FLOORS OR CEILINGS ARE PENETRATED. APPROVED WATERTIGHT CONDUIT SLEEVES SHALL BE PROVIDED WHERE WALLS ARE PENETRATED EITHER ENTERING OR LEAVING THE BUILDING.
19. RECEPTACLES, LIGHT FIXTURES, AND POWER ITEMS BRANCH CIRCUIT WIRING MAY NOT BE SHOWN BUT SHALL BE PROVIDED AS REQUIRED. MINIMUM WIRING SHALL BE 2#12 PLUS 1#12GROUND IN 3/4"C. NO MORE THAN THREE PHASES MAY BE COMBINED IN A SINGLE HOMERUN AND EACH PHASE SHALL BE PROVIDED WITH AN INDIVIDUAL NEUTRAL.
20. ALL CONDUITS SHALL CONTAIN A GREEN SAFETY GROUND WIRE. BOND ALL PANELS, CABINETS, ENCLOSURES, CONDUITS, ETC., AS REQUIRED PER CODE.
21. ALL SUPPORTS AND ANCHORS SHALL BE DESIGNED AND INSTALLED PER REQUIREMENTS FOR THE SEISMIC CLASSIFICATIONS AS OUTLINED IN THE APPLICABLE BUILDING CODE. SITE LOCATION AND PREVAILING ORIENTATION SHALL BE TAKEN INTO ACCOUNT IN THE DESIGN.
22. SUBMIT SIX (6) COPIES FOR REVIEW AND APPROVAL OF THE FOLLOWING SHOP DRAWINGS: LIGHTING FIXTURES, WIRING DEVICES, RACEWAY, POKE-THRU DEVICES AND BUILDING WIRE & CABLE.

NOTES FOR ALUMINUM EQUIPMENT

1. THESE DRAWINGS ARE BASED ON THE USE OF COPPER IN CONDUCTORS, TRANSFORMER WINDINGS, SWITCHBOARDS, DISTRIBUTION PANELBOARDS, BRANCH CIRCUIT PANELBOARDS, LOAD CENTERS, DISCONNECT SWITCHES & CIRCUIT BREAKERS.
2. ALTHOUGH PERMITTED BY CODE, THIS OFFICE DOES NOT RECOMMEND THE USE OF ALUMINUM ELECTRICAL EQUIPMENT.
3. USE OF ALUMINUM CONDUCTORS, TRANSFORMERS WITH ALUMINUM WINDINGS AND SWITCHBOARDS, DISTRIBUTION PANELBOARDS, BRANCH CIRCUIT PANELBOARDS, LOAD CENTERS, DISCONNECT SWITCHES & CIRCUIT BREAKERS WITH ALUMINUM BUSS IS AT THE DISCRETION & DECISION OF THE OWNER.
4. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO DETERMINE ALL CONDUCTOR AND CONDUIT SIZES, PER NEC, SHOULD ALUMINUM BE USED.
5. IF ALUMINUM EQUIPMENT IS USED IN ANY OF THE ELECTRICAL COMPONENTS OF ITEM "3" ABOVE, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED:
   a. INSTALLATION SHALL BE IN ACCORDANCE WITH IEEE STD. 241-1990, PARAGRAPH 8.7.2
   b. WHEN CUTTING CABLE, AVOID NICKING THE STRANDS.
   c. UNPLATED CONTACT SURFACES SHALL BE CLEANED WITH WIREBRUSH, STEEL WOOL, EMERY CLOTH OR SIMILAR ABRASIVE TOOL OR MATERIAL.
   d. PLATED SURFACES SHALL BE CLEANED WITH AN APPROVED SOLVENT.
   e. APPLY JOINT COMPOUND TO THE CONDUCTOR IF THE CONNECTOR DOES NOT ALREADY HAVE IT.
   f. USE ONLY CONNECTORS SPECIFICALLY TESTED AND APPROVED FOR USE ON ALUMINUM CONDUCTORS.
   g. REFER TO ANSI/UL486B-1982.
   h. ON MECHANICAL CONNECTORS, TIGHTEN THE CONNECTOR WITH A SCREWDRIVER OR WRENCH TO THE REQUIRED TORQUE. REMOVE EXCESS COMPOUND.
   i. ON COMPRESSION CONNECTORS, CRIMP THE CONNECTOR USING THE PROPER TOOL AND DIE. REMOVE EXCESS COMPOUND.
   j. ALWAYS USE JOINT COMPOUND THAT IS COMPATIBLE WITH THE INSULATION AND AS RECOMMENDED BY THE MANUFACTURER.
   k. WHEN MAKING AN ALUMINUM-TO-COPPER CONNECTION THAT IS EXPOSED TO MOISTURE, PLACE THE ALUMINUM CONDUCTOR ABOVE THE COPPER. IF THERE IS NO EXPOSURE TO MOISTURE, THE RELATIVE POSITION OF THE TWO METALS IS NOT IMPORTANT.
   l. WHEN USING INSULATED CONDUCTORS OUTDOORS, EXTEND THE CONDUCTOR INSULATION OR COVERING AS CLOSE TO THE CONNECTOR AS POSSIBLE TO MINIMIZE WEATHERING THE JOINT. OUTDOOR JOINTS SHALL BE COMPLETELY PROTECTED BY TAPE OR OTHER MEANS. WHEN OUTDOOR JOINTS ARE COVERED OR PROTECTED, THE PROTECTION SHALL COMPLETELY EXCLUDE MOISTURE.
6. WHEN ALUMINUM FEEDERS ARE INCLUDED AS VE ITEMS, IT IS RECOMMEND THAT ALUMINUM BE USED ONLY FOR DISTRIBUTION FEEDERS LARGER THAN 100 A PROVIDED THAT COMPRESSION AL\CU PIN TERMINATIONS ARE UTILIZED. VOLTAGE DROP CALCULATIONS SHALL BE REVISED UTILIZING ALUMINUM CONDUCTORS. IT IS NOT RECOMMEND THAT ALUMINUM FEEDERS BE UTILIZED FOR ROTATING (MOTORS) OR VIBRATING TRANSFORMERS OR EQUIPMENT.

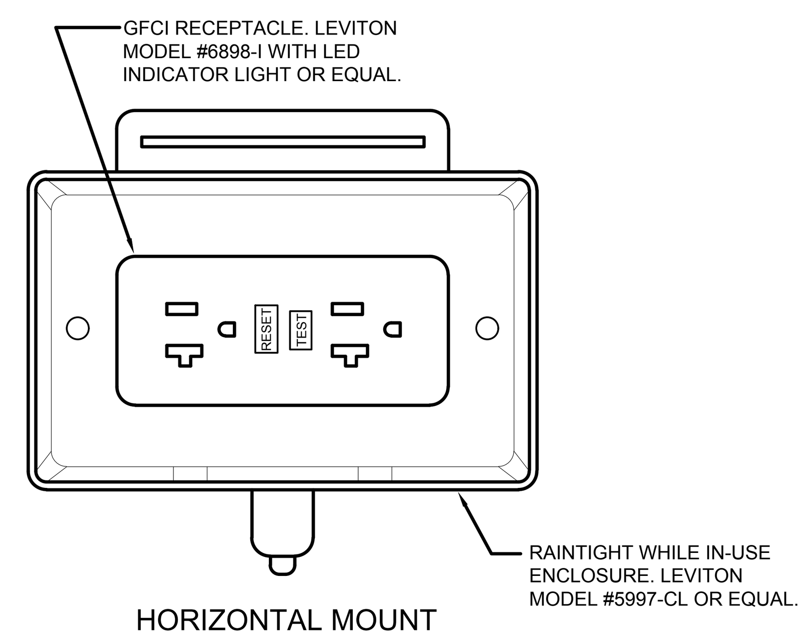
ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
	QUAD-RUPLEX CONVENIENCE OUTLET; 125 VOLT, 20 AMPERE, U-SLOT GROUNDING TYPE. (SUBSCRIPT "2" INDICATES CIRCUIT NUMBER)	18" A.F.F.
WP 2	DUPLEX CONVENIENCE OUTLET; 125 VOLT, 20 AMPERE, U-SLOT GROUNDING TYPE WITH GROUND FAULT PROTECTION. (SUBSCRIPT "2" INDICATES CIRCUIT NUMBER, "WP" INDICATES WEATHER PROOF WITH "WHILE-IN-USE COVER")	18" A.F.F.
J	JUNCTION BOX; SIZE AS REQUIRED PER CODE.	
	MOTOR	
	PANELBOARD SURFACE MOUNTED; 208Y/120V, 3-PHASE, 4-WIRE. REFER TO "BRANCH CIRCUIT PANELBOARD SCHEDULES" ON PLANS FOR APPLICABLE INFORMATION.	MOUNT 6'-6" AFF TO TOP BREAKER.
1,3 A	HOMERUN TO PANELBOARD (LOADCENTER); "A" INDICATES PANEL, "1,3" INDICATES CIRCUIT NUMBERS. REFER TO "TYPICAL CIRCUITING DETAIL" ON PLANS.	
60/50	FUSED DISCONNECT SWITCH. 60/50 INDICATES FRAME SIZE/FUSE SIZE IN THAT ORDER. STARTERS FOR HVAC EQUIPMENT BY MECHANICAL CONTRACTOR.	
	GROUND.	

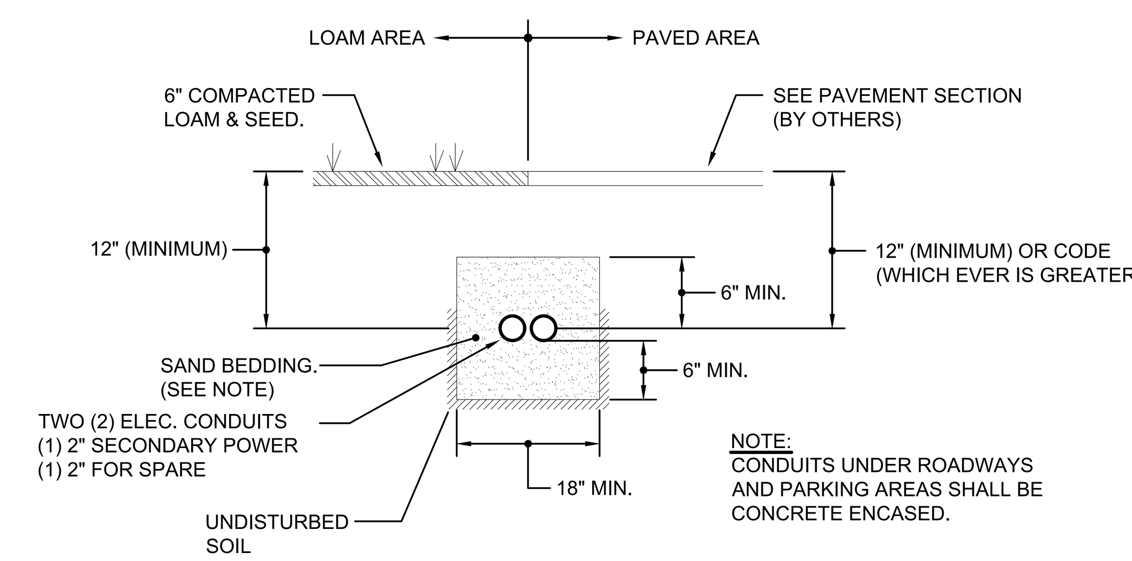


NOTES:
1. PROVIDE GROUND BAR (1/4" X 4" X 12") WITH WALL MOUNTING BRACKETS, INSULATORS AND A 25' EXOTHERMICALLY WELDED PIGTAIL (#6 AWG) IN EACH LAN ROOM & COMMUNICATIONS ROOM.
2. MOUNT GROUND BAR AT THE BOTTOM RIGHT CORNER ON THE PLYWOOD BACKBOARD.
3. GROUND BARS SHALL HAVE CAPACITY FOR NINE (9) GROUNDING LUGS TO BE ATTACHED.
4. CONNECT EXOTHERMICALLY WELDED PIGTAIL TO BUILDING STEEL.
5. GROUND BARS SHALL BE ELECTROLYTIC COPPER AND SHALL BE MOUNTED ON INSULATORS RATED AT 2700 VOLTS.
6. COPPER SURFACES SHALL BE SMOOTH AND WITHOUT MARKS DEEPER THAN 0.010 INCHES.
7. MANUFACTURERS SHALL BE ERICO, HARGER OR APPROVED EQUAL.

TYPICAL GROUND BAR DETAIL
NOT TO SCALE

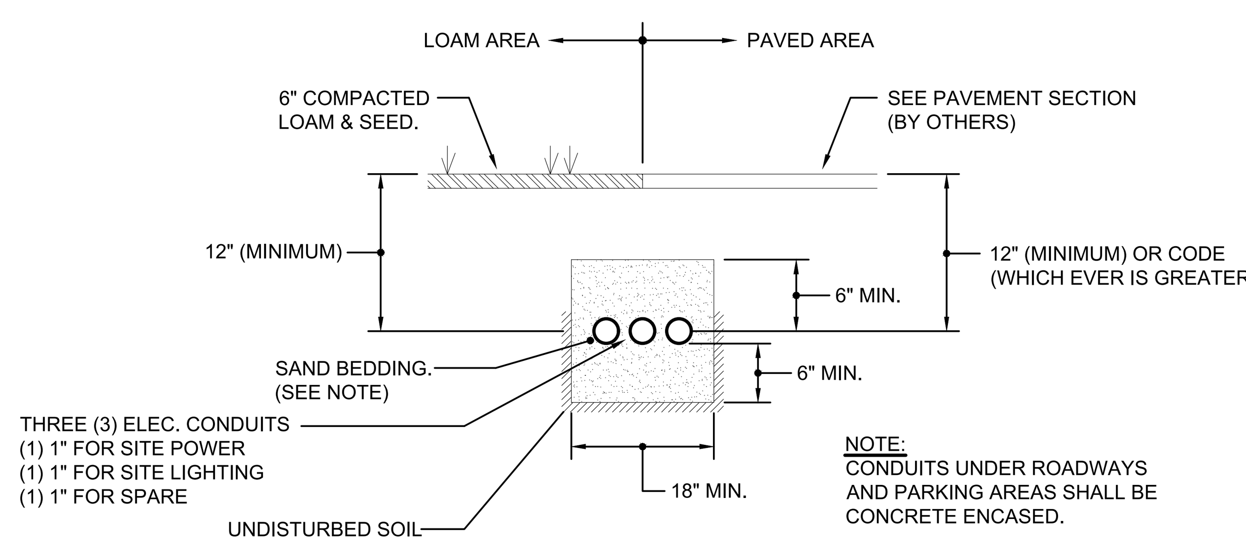


WEATHER-PROOF RECEPTACLE DETAIL
NOT TO SCALE



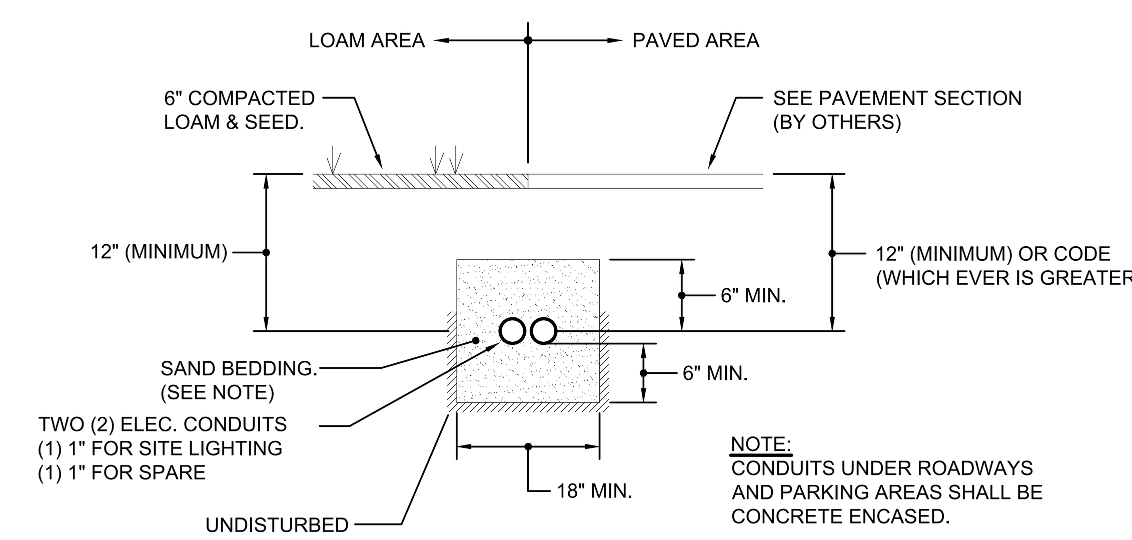
SITE LIGHTING / CONVENIENCE POWER CONDUIT TRENCH DETAIL A-A
NOT TO SCALE

NOTE:
E.C. SHALL COORDINATE ADDITIONAL TRENCHING REQUIREMENTS AND REQUIRING CITY FORESTER APPROVAL OF LOCATION AND WITNESS OF TRENCHING WITHIN 30' OF EXISTING TREES.



SITE LIGHTING / CONVENIENCE POWER CONDUIT TRENCH DETAIL C-C
NOT TO SCALE

NOTE:
E.C. SHALL COORDINATE ADDITIONAL TRENCHING REQUIREMENTS AND REQUIRING CITY FORESTER APPROVAL OF LOCATION AND WITNESS OF TRENCHING WITHIN 30' OF EXISTING TREES.



SITE LIGHTING / CONVENIENCE POWER CONDUIT TRENCH DETAIL B-B
NOT TO SCALE

NOTE:
E.C. SHALL COORDINATE ADDITIONAL TRENCHING REQUIREMENTS AND REQUIRING CITY FORESTER APPROVAL OF LOCATION AND WITNESS OF TRENCHING WITHIN 30' OF EXISTING TREES.

No:	Revision:	Date:

REFERENCES:
EXISTING CONDITIONS BASED ON FIELD SURVEY PREPARED BY THE WOONSOCKET ENGINEERING DEPARTMENT. VERTICAL DATUM IS ASSUMED. SURVEY DATED 04/24/2015.

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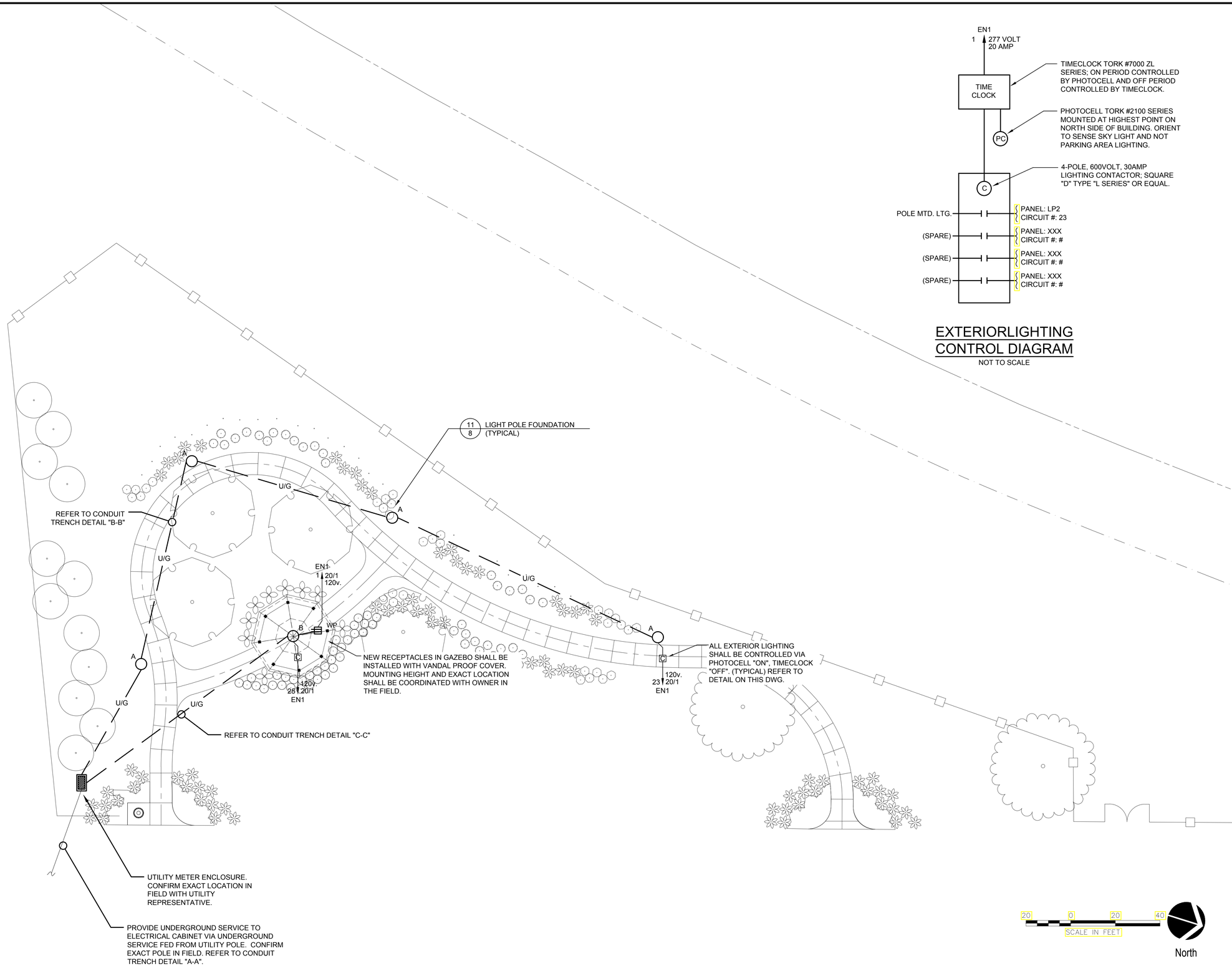
RAYMOND W. DUSSEAULT III
No. 7139
REGISTERED PROFESSIONAL ENGINEER (ELECTRICAL)

SUMMIT STREET:
ELECTRICAL:
LEGENDS, DETAILS AND NOTES

PROJECT NO. 126.812	DRAWING 9 OF 11
DATE: NOVEMBER 2016	DRAWING NO:
SCALE: AS SHOWN	E1
DRAWN BY: DCS	
CHECKED BY: GHG	



EXTERIORLIGHTING CONTROL DIAGRAM

NOT TO SCALE

No:	Revision:	Date:

REFERENCES:

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RAYMOND W. DUSSEAULT III
No. 7139
REGISTERED PROFESSIONAL ENGINEER (ELECTRICAL)

SUMMIT STREET:
ELECTRICAL:
SITE PLAN

PROJECT NO. 126.812

DATE: NOVEMBER 2016

SCALE: AS SHOWN

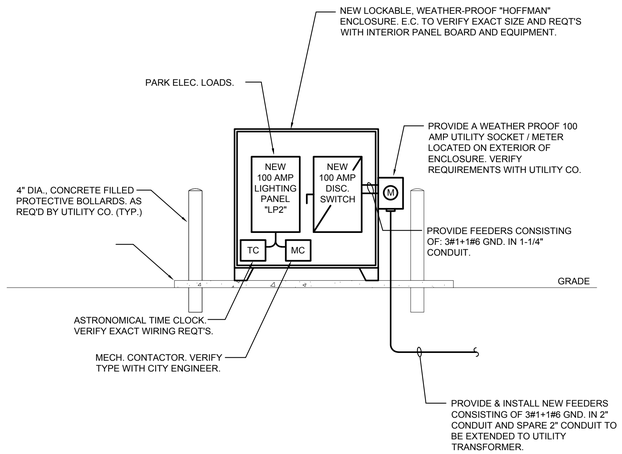
DRAWN BY: DCS

CHECKED BY: GHG

DRAWING 10 OF 11

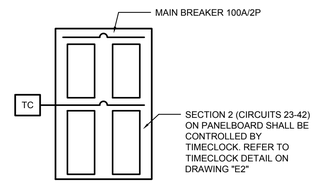
DRAWING NO:

E2



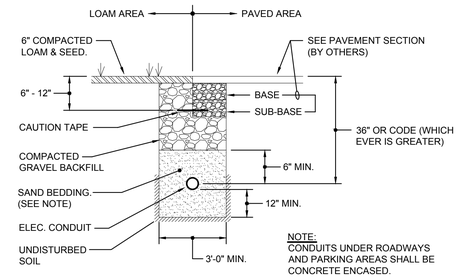
PARK POWER CABINET - (FRONT SECTION)

NOT TO SCALE



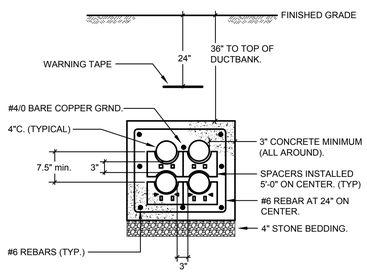
PANELBOARD DIAGRAM

NOT TO SCALE



SITE LIGHTING / POWER / SECURITY CONDUIT TRENCH DETAIL

NOT TO SCALE

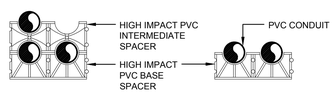


TYPICAL DUCT BANK CONSTRUCTION DETAIL

NOT TO SCALE

NOTES:

1) ALL BASE AND INTERMEDIATE SPACERS TO BE INTERLOCKING TYPE.
2) ALL SPACERS TO MAINTAIN 3" SPACE WITH 4" DUCTS.
3) ALL SPACERS TO BE CONSTRUCTED OF HIGH IMPACT PVC.
4) ALL SPACERS TO BE INSTALLED AT 5'-0" CENTERS ALONG ENTIRE RUN.



TYPICAL SPACER DETAILS

NOT TO SCALE

EXTERIOR LIGHTING FIXTURE SCHEDULE

TYPE	MANUF.	CATALOG No.	MOUNTING	LAMPING			VOLT.	DESCRIPTION / REMARKS
				TYPE	WATTAGE	QUANTITY		
A	KING LUMINARE	K199R-B3AR-IV-75(SSL)-1036-120:277V-K30-PBC-13	POLE	METAL HALIDE	75	4	120	POLE MOUNTED LUMINARIE. PROVIDE ARM CAT#KA43-T-2 AND POLE CAT#FF1806-BK FOR EACH FIXTURE.
B	PROGRESS LIGHTING	P3883-31WB	SURFACE	CFL	13	1	120	GAZEBO INTERIOR SURFACE MOUNTED FIXTURE

CBA = COLOR TO BE SELECTED BY ARCHITECT (THE ELECTRICAL CONTRACTOR SHALL VERIFY COLOR & FINISH WITH ARCHITECT PRIOR TO SUBMITTAL OF SHOP DRAWINGS.
CC = CUSTOM COLOR TO BE SELECTED BY ARCHITECT (THE ELECTRICAL CONTRACTOR SHALL VERIFY CUSTOM COLOR & FINISH WITH ARCHITECT PRIOR TO SUBMITTAL OF SHOP DRAWINGS.

NOTES:

1. ALL FLUORESCENT LAMPS AND BALLASTS SHALL COMPLY WITH NATIONAL GRID SUPER T8 INCENTATIVE.
2. ALL PENDANT MOUNTED LIGHTING FIXTURES SHALL BE COORDINATED CEILING HEIGHTS AND ARCHITECT FOR PROPER HEIGHT OF THE BOTTOM OF THE FIXTURES

No:	Revision:	Date:

REFERENCES:

EXISTING CONDITIONS BASED ON FIELD SURVEY PREPARED BY THE WOONSOCKET ENGINEERING DEPARTMENT. VERTICAL DATUM IS ASSUMED. SURVEY DATED 04/24/2015.

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REGISTERED PROFESSIONAL ENGINEER (ELECTRICAL)

SUMMIT STREET:
ELECTRICAL: LEGEND AND DETAILS

PROJECT NO. 126.812
DATE: NOVEMBER 2016
SCALE: AS SHOWN
DRAWN BY: DCS
CHECKED BY: GHG

DRAWING 11 OF 11

DRAWING NO:

E3