BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

REQUEST FOR PROPOSALS

Item Description: RESTORATION OF BENEDICT MEMORIAL TEMPLE TO MUSIC

Date to be opened: MONDAY, JANUARY 31, 2022

Issuing Department: **PARKS DEPARTMENT**

QUESTIONS

- Please direct questions relative to the bidding process, how to fill out forms, and how to submit a bid (Pages 1-8) to Purchasing Agent Patti Jordan.
    - Phone: (401) 680-5264
    - Email: pjordan@providenceri.gov
        - Please use the subject line "**RFP Question**"
- Please direct questions relative to the Minority and Women's Business Enterprise Program and the corresponding forms (Pages 9-13) to the MBE/WBE Outreach Director for the City of Providence, Grace Diaz
    - Phone: (401) 680-5766
    - Email: gdiaz@providenceri.gov
        - Please use subject line "**MBE WBE Forms**"
- Please direct questions relative to the specifications outlined (beginning on page 14) to the issuing department's subject matter expert:
    - **Brian F. Byrnes – Deputy Superintendent of Parks**
    - **401-660-9308**
    - **Bbyrnes@providenceri.gov**

Pre-bid Conference (Non-Mandatory):

- **Wednesday, January 12, 2022 at 9:00 AM**
  Site – Temple to Music
  Roger Williams Park
  1000 Elmwood Avenue
  Providence, RI 02905

BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

INSTRUCTIONS FOR SUBMISSION

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

- Bidders must submit **3 copies** of their bid in sealed envelopes or packages labeled with the captioned **Item Description** and the **City Department to which the RFP and bid are related and must include the company name and address on the envelope as well**. (On page 1).
- If required by the Department, please keep the original bid bond and check in only one of the envelopes.
- Communications to the Board of Contract and Supply that are not competitive sealed bids (i.e. product information/samples) should have "**NOT A BID**" written on the envelope or wrapper.
- Only use form versions and templates included in this RFP. If you have an old version of a form do not recycle it for use in this bid.
- The bid envelope and information relative to the bid must be addressed to:

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

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

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

All bids submitted to the City Clerk become public record. Failure to follow instructions could result in information considered private being posted to the city's Open Meetings Portal and made available as a public record. The City has made a conscious effort to avoid the posting of sensitive information on the City's Open Meetings Portal, by requesting that such sensitive information be submitted to the issuing department only at their request.

BID PACKAGE CHECKLIST

Digital forms are available in the City of Providence Purchasing Department Office or online at **http://www.providenceri.gov/purchasing/how-to-submit-a-bid/**

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

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

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

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

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

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

BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

NOTICE TO VENDORS

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

BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

BID TERMS

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

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

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

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

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

2. Awards will be made within **sixty (60) days of bid opening**. All bid prices will be considered firm, unless qualified otherwise. Requests for price increases will not be honored.
3. Failure to deliver within the time quoted or failure to meet specifications may result in default in accordance with the general specifications. It is agreed that deliveries and/or completion are subject to strikes, lockouts, accidents and Acts of God.

The following entry applies only for COMMODITY BID TERMS:

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

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

5. Only one shipping charge will be applied in the event of partial deliveries for blanket or term contracts.
6. Prior to commencing performance under the contract, the successful bidder shall attest to compliance with the provisions of the Rhode Island Worker's Compensation Act, RIGL 28-29-1, et seq. If exempt from compliance, the successful bidder shall submit a sworn Affidavit by a corporate officer to that effect, which shall accompany the signed contract.
7. Prior to commencing performance under the contract, the successful bidder shall, submit a certificate of insurance, in a form and in an amount satisfactory to the City.

BOARD OF CONTRACT AND SUPPLY
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BID FORM 1: Bidders Blank

1. Bids must meet the attached specifications. Any exceptions or modifications must be noted and fully explained.
2. Bidder's responses must be in ink or typewritten, and all blanks on the bid form should be completed.
3. The price or prices proposed should be stated both in **WRITING** and in **FIGURES**, and any proposal not so stated may be rejected. **Contracts exceeding twelve months must specify annual costs for each year.**
4. Bids **SHOULD BE TOTALED** so that the final cost is clearly stated (unless submitting a unit price bid), however **each item should be priced individually**. Do not group items. Awards may be made on the basis of ***total*** bid or by ***individual items***.
5. All bids **MUST BE SIGNED IN INK.**

Name of Bidder (Firm or Individual): _____

Contact Name: _____

Business Address: _____

Business Phone #: _____

Contact Email Address: _____

Agrees to bid on (Write the "Item Description" here): _____

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

Delivery Date (if applicable): _____

Name of Surety Company (if applicable): _____

Total Amount in Writing*: _____

Total Amount in Figures*: _____

_____
Signature of Representation

_____
Title

BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

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

Upon behalf of_____ (Firm or Individual Bidding),

I,_____(Name of Person Making Certification),

being its_____(Title or "Self"), hereby certify that:

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

I affirm by signing below that I am duly authorized on behalf of Bidder, on this_____day of_____20____.

_____
Signature of Representation

_____
Printed Name

BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

BID FORM 3: Certificate Regarding Public Records

Upon behalf of_____ (Firm or Individual Bidding),

I,_____(Name of Person Making Certification),

being its_____(Title or "Self"), hereby certify an

understanding that:

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

I affirm by signing below that I am duly authorized on behalf of Bidder, on

this_____day of_____20____.

_____

Signature of Representation

_____

Printed Name

WBE/MBE Form Instructions

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

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

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

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

Bid Requirements:

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

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

Waiver Requests:

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

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

Verifying MBE/WBE Certification

It is the responsibility of the bidder to confirm that every MBE/WBE named in a proposal and included in a contract is certified by the Rhode Island Minority Business Enterprise Compliance office. The current MBE/WBE directory is available at the State of RI MBE Office, One Capitol Hill, 2nd Floor, Providence, RI, or online at http://odeo.ri.gov/offices/mbeco/mbe-wbe.php. You can also call (401) 574-8670 to verify certification, expiration dates, and services that the MBE/WBE is certified to provide. Note: MBE certification with the State of Rhode Island on the basis of Portuguese heritage is not currently recognized by the City of Providence's MBE program.

Form Instructions:

Access all bid forms from http://www.providenceri.gov/oeo/ or http://www.providenceri.gov/purchasing/minority-women-owned-business-mbewbe-procurement-program/. **Download** the forms as blank PDFs. Once saved on your computer, fill them out using the Adobe program. The fillable PDFs must be completed in Adobe in order to be saved property. Google Chrome and similar platforms do not allow for the forms to be saved as filled PDFs. Therefore, please download the blank forms to your computer, then fill them out and save.

Assistance with Form Requirements

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

Contract Requirements:

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

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

Questions?

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

BOARD OF CONTRACT AND SUPPLY

CITY OF PROVIDENCE, RHODE ISLAND

MBE/WBE PARTICIPATION AFFIDAVIT

Item Discussion (as seen on RFP):

_____

_____

_____

Prime Bidder: _____

Prime Bidder (Company) Phone Number:_____

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

By initialing the following sections and signing the bottom of this document in my capacity as the contractor or an authorized representative of contractor, I make this Affidavit:

It is the policy of the City of Providence that minority business enterprises (MBEs) and women business enterprises (WBEs) should have the maximum opportunity to participate in procurements and projects as prime contractors and vendors. Pursuant to Sec. 21-52 of the Providence Code of Ordinances and Chapter 31-14 *et seq*. of the Rhode Island General Laws (as amended), MBE and WBE participation goals apply to contracts.

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

I acknowledge the City of Providence's goals of supporting MBE/WBE certified businesses. Initial _____

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

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

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

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

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

_____ _____
Signature of Bidder Printed Name

_____ _____
Company Name Date

BOARD OF CONTRACT AND SUPPLY

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SUBCONTRACTOR DISCLOSURE FORM **Fill out this form only if you WILL SUBCONTRACT with other parties. If you will not subcontract any portion of the proposed bid, do not fill out this form.**

Prime Bidder: _____ Primary NAICS_____
Code:_____

Item Description (as seen on RFP):_____

_____

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

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

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

_____ _____

Signature of Bidder Printed Name

BOARD OF CONTRACT AND SUPPLY

CITY OF PROVIDENCE, RHODE ISLAND

MBE/WBE Waiver Request Form

Fill out this form only if you are subcontracting and did not meet the 20% MBE/WBE participation goal.
State-certified MBE or WBE Prime Bidders are NOT REQUIRED to fill out this form.

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

Prime Bidder: _____
Company Trade: _____
Item Discussion (as seen on RFP):
_____
_____

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

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

I acknowledge the City of Providence's goal of a combined MBE/WBE participation is 20% of the total bid value. I am requesting a waiver of _____ % MBE/WBE (20% minus the value of **Box F** on the Subcontractor Disclosure Form). If an opportunity is identified to subcontract any task associated with the fulfillment of this contract, a good faith effort will be made to select MBE/WBE certified businesses as partners.

_____	_____	_____
Signature of Prime Contractor	Printed Name	Date Signed
_____	_____	_____
Signature of City of Providence MBE/WBE Outreach Director	Printed Name of City of Providence MBE/WBE Outreach Director	Date Signed

SUPPLEMENTAL INFORMATION

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

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

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

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

You must be able to provide:

- Business Tax ID will be requested after an award is approved by the Board of Contract and Supply.
- Qualifications as outlined in Specifications and in this Bidding information
- Proof of Insurance

BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

BID FORM 3: Supplemental Bid Form

To whom it may concern:

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

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

Herewith in accordance with the instructions to Bidders.

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

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

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

BOARD OF CONTRACT AND SUPPLY
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CERTIFICATION OF NON-SEGREGATED FACILITIES

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

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

DATE _____, 20___

Name of Bidder and Official Address:

_____

_____

_____

E-Mail: _____

Name of Authorized Representative (Contact):

_____

By _____
(Signature)

Title _____

Phone: _____

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

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

Addendum No.	Date	Addendum No.	Date
_____	_____, 20 ____	_____	_____, 20 ____
_____	_____, 20 ____	_____	_____, 20 ____

Sub-Contractors (If Any):

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

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

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

BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

SUPPLEMENTAL BID FORM

RESTORATION OF BENEDICT MEMORIAL TEMPLE TO MUSIC

BASE BID: The City of Providence Parks Department is seeking qualified contractors to make repairs and improvements to the Benedict Memorial Temple to Music in Roger Williams Park, 1000 Elmwood Avenue, Providence, RI 02905. The project shall include a Base Bid scope of work and several Add Alternates as listed and shown on the plans and specifications.

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

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

BASE BID: The Base Bid scope of work for this project shall include, but not be limited to the following: Miscellaneous demolition and removal work; masonry cleaning & repairs; addition of a roof drip edge and basket strainers; limited gutter and louver cleaning work and replacement of plaster ceiling banding with new fiberglass resin replicas.

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

_____

_____**Dollars**

($_____), TOTAL BASE BID

ALTERNATES:

Add Alt # 1 – Provide additional price to cut in new matching marble corner on location shown in 3/A1.1 with Dutchman repair technique per specifications and details.

_____ **LS** **$**_____

price in writing

BIDDER: _____

Add Alt # 2 - Provide additional price to provide (18) granite bollards set in concrete footings as detailed in 7/A1.1 located as shown on 1/A1.1 and per specifications. Include all earthwork, stonework, bronze fasteners and chain, cast concrete with rebar, and patching of asphalt or sodding of disturbed soil areas occasioned by installation.

_____ **LS** **$**_____

price in writing

BIDDER: _____

Add Alt # 3 - Provide additional price to do rack-mounted, low pressure wash of all walls of the Temple in accordance with specifications. Rack may be used on one wall area at a time and moved during the project process after each area is clean.

_____ **LS** **$**_____

price in writing

BIDDER: _____

UNIT PRICES:

Unit price #1 –Pointing of joints in marble; Provide cost to cut out, prepare, and repoint joints between marble wall stone beyond that included in the Base Bid. Provide change order cost per lineal foot of joint repointed.

_____ **LS** **$**_____

price in writing

BIDDER: _____

Unit Price #2: Replace marble plaza stone; Provide cost to replace plaza stones beyond that included in the Base Bid. Include removal of stone and mortar bed below to 1" depth, new mortar and new matching stone with install per specifications. Provide change order unit cost per SF of new stone installed.

_____ **LS** **$**_____

price in writing

BIDDER: _____

Unit Price #3: Reset marble plaza stone; Provide cost to reset plaza stones beyond that included in the Base Bid. Include removal of stone and mortar bed below to 1" depth, new mortar and set of stone per specifications. Provide change order unit cost per SF of existing stone reset.

_____ **LS** **$**_____

price in writing

BIDDER: _____

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

INCLUDED ALLOWANCE:

1. **Allowance #1 – Additional Damage = Five Thousand Dollars, ($5,000.00), is included in Base Bid Unused funds shall be credited back to Owner by Change Order at Substantial Completion.**

BIDDER: _____

BID DOCUMENTS:

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

DRAWINGS: All dated 11/29/21

SHEET NO.	TITLE
G0.0	Cover Sheet
A0.1	Legend & General Notes
A1.1	Site & Floor Plan
A1.2	Reflected Ceiling Plan & Roof Plan
A3.3	Typical Details

TECHNICAL SPECIFICATION: All dated 11/29/21

SECTION NO.	TITLE
DIVISION 01 - GENERAL REQUIREMENTS	
01 1000	Summary
01 2000	Price and Payment Procedures
01 2100	Allowances
01 2300	Alternates
01 2700	Unit Prices
01 3000	Administrative Requirements
01 4000	Quality Requirements
01 5000	Temporary Facilities and Controls
01 6000	Product Requirements
01 7000	Execution Requirements
01 7320	Waste Management
01 7800	Closeout Submittals
DIVISION 02 – EXISTING CONDITIONS	
02 4100	Selective Demolition
DIVISION 04 – MASONRY	
04 0310	Historic Masonry Cleaning
04 0342	Stone Masonry Repair
DIVISION 06 – PLASTICS	
06 6100	Fiberglas Resin Fabrications
DIVISION 07 – THERMAL AND MOISTURE PROTECTION	
07 7620	Sheet Metal Flashing and Trim
07 7900	Sealants

DIVISION 09 – FINISHES
09 9000 Exterior Painting

DIVISION 31 – EARTHWORK
31 2316 Excavation

DIVISION 32 – EXTERIOR IMPROVEMENTS
32 3000 Site Concrete
32 3136 Granite Bollards
32 9219 Seeding

ADDITIONAL INFORMATION REQUIRED WITH BID:

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

PROVISIONS OF THIS PROJECT:

- Upon the Issuance of the Award from the Board of Contract – the City shall issue a Contract to be executed by the City and the vendor incorporating the bid specifications. All Provisions of the Specifications are binding.
- Any Permits Required by the City of Providence and/or State of Rhode Island Shall be Obtained by the Vendor – Permit Fees by the City of Providence Shall be Waived – the State ADA Fee Must be Paid
- The Prevailing Wage Act Applies – Prevailing Wages Must Be Paid for On Site Hours – Employees Shall be Advised of the Prevailing Wage Rates Prior to Mobilization on Site
- Certified payrolls Must be Submitted with Pay Requests Including Monthly Utilizations Form
- Performance and Payment Bonds (If Required) Must be Submitted within 10 Days of Award or Bid Bond Will be Forfeited
- An Insurance Certificate Shall be Submitted to the City Within 10 Days of Award
- A Copy of the Vendors Contractor's License Must be Submitted within 10 Days of Award
- All On-Site Personnel Shall be Licensed (If required) and Shall have Proof of All Licenses Required by the State of Rhode Island to Perform the Work Required
- Pay Requests Must be Submitted on Approved AIA Billing Documents (City will Provide if Needed)
- All Subcontractors Shall be Listed on the Bid Form – All Insurance & Payroll Requirements Apply
    - General Contractor Shall be the Insurance Certificate Holder and the City of Providence Parks Department, the Board of Parks Commissioners, the Roger Williams Park Conservancy and the Providence Public Building Authority shall be named as "Additionally Insured on a primary but non-contributing basis for general liability insurance per written contract or agreement"
- A Submittal Log Must be Submitted within 10 Days of Award

CLOSE OUT DOCUMENTS:

- Prior to Final Payment the Vendor Shall Provide the Following:

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

QUALIFICATIONS:

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

a. Completion of at least 3 similar projects within the past seven years with review by the RI Historic Preservation and Heritage Commission.
b. Size and dollar value of similar completed projects.
c. Contractor's performance with similar projects. (references will be checked)
d.. Relevant experience of individuals assigned to the project.

Questions regarding this bid package shall be submitted via e-mail to **Patti Jordan** at pjordan@providenceri.gov and **Brian Byrnes, Deputy Superintendent of Parks** at bbyrnes@providenceri.gov , no later than five (5) working days before the bid opening date.

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

PREVAILING WAGE REQUIREMENTS

This project qualifies for prevailing wages per the Prevailing Wages Statute. Certified payrolls will need to be submitted to the owner for all hours worked on site for this project. The Wage Decision for this project shall be as recorded on the Bid Date and is available on the RI Department of Labor website.

Owner and Project Manager:	City of Providence, Parks Department Brian Byrnes, Deputy Superintendent of Parks
Funding Organization:	Roger Williams Park Conservancy
Architect:	Brewster Thornton Group Architects, LLP 317 Iron Horse Way, Suite 202, Providence, RI 02908 Attn: Barbara J. Thornton, AIA

Bid Documents

SPECIFICATIONS

Restoration of Benedict Memorial Temple to Music

Nov. 29, 2021

DOCUMENT 00 0110 - TABLE OF CONTENTS

PROCUREMENT AND CONTRACTING REQUIREMENTS

See bidding information and contracting requirements from the Parks Dept. and City of Providence.

SPECIFICATIONS

END OF DOCUMENT

DOCUMENT 00 0115 – LIST OF DRAWINGS
All dated 11/29/21 unless noted otherwise

SHEET NO.	TITLE
G0.0	Cover Sheet
A0.1	Legend & General Notes
A1.1	Site & Floor Plan
A1.2	Reflected Ceiling Plan & Roof Plan
A3.3	Typical Details

END OF DOCUMENT

SECTION 01 1000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: Restoration of the Benedict Memorial Temple to Music

B. Owner's Name: City of Providence, Parks Department

C. Funding Organization: Roger Williams Park Conservancy

D. Architect's Name: Brewster Thornton Group Architects, LLP (BTGA).

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price as described in Bidding documents.

1.03 DESCRIPTION OF WORK

A. Scope of demolition and removal work is shown on drawings and/or as specified.

B. Scope of alterations work is shown on drawings and/or in these specifications. This project is limited to masonry cleaning and repairs, addition of a roof drip edge and basket strainers, limited gutter and louver cleaning work, addition of perimeter bollards and security chains, and replacement of plaster ceiling banding with new fiberglas resin replicas.

1.04 OWNER OCCUPANCY

A. Cooperate with Owner to minimize conflict and to facilitate Owner's operations. Schedule the Work to accommodate Parks schedule and events.

B. There will be no use of the Temple during the period scheduled for these restoration efforts. Contractor will be responsible for site security during that time.

1.05 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to work area within 50 feet of the Temple. A storage pod may be located on the driveway to the adjacent road.

B. Arrange use of site and premises to allow:
1. Use by the public beyond the construction fence.

C. Provide access to and from site as required by law and by Owner:
1. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Time Restrictions:
1. Limit conduct of work to daylight hours unless specially arranged. Artificial lights will not be allowed at night on this location.
2. Existing site conditions and restrictions:
   a. Access to exterior project areas will be by staging or lifts by the Contractor. Limited overnight parking for lifts and daytime parking for personnel will be allowed in the driveway area.
3. Requirements for sequencing, scheduling and completion date:
   a. Work to be conducted summer 2022 and complete before hard freeze. .
4. Prior or concurrent work by Owner or others:
   a. Masonry restoration and some gutter repair was previously completed on the building. These areas are being addressed again in part.
5. Prior hazardous waste or asbestos work by Owner or others: None.
   a. Contractors shall use proper precautions when working with lead-painted items if disturbed. Assume all existing paint contains lead and treat accordingly. Comply with all applicable regulations.

1.06 WORK CONDITIONS

A. Permits and Fees: Apply for, obtain, and pay for permits, fees, and police detail charges required to perform the work. Historic Review will be conducted by Owner. Submit copies to Architect for record.

B. Codes: Comply with applicable codes and regulations of authorities having jurisdiction. Submit copies of inspection reports, notices and similar communications to Architect for record.

C. Dimensions: Verify dimensions indicated on drawings with field dimensions before fabrication or ordering of materials. Do not scale drawings.

D. Existing Conditions: Notify Architect of existing conditions differing from those indicated on the drawings. Do not remove or alter structural components without prior written approval.

E. Coordination:

1. Coordinate the work of all trades.
2. Verify location of utilities and existing conditions.

F. Installation Requirements, General:

1. Inspect substrates and report unsatisfactory conditions in writing.
2. Do not proceed until unsatisfactory conditions have been corrected.
3. Take field measurements prior to fabrication where practical. Form to required shapes and sizes with true edges, lines and angles. Provide inserts and templates as needed for work of other trades.
4. Install materials in exact accordance with manufacturer’s instructions and approved submittals.
5. Install materials in proper relation with adjacent construction and with proper appearance.
6. Restore units damaged during installation. Replace units which cannot be restored at no additional expense to the Owner.
7. Refer to additional installation requirements and tolerances specified under individual specification sections.

1.07 TERMINOLOGY

A. Definitions:

1. Provide: Furnish and install, complete with all necessary accessories, ready for intended use. Pay for all related costs.
2. Approved: Acceptance of item submitted for approval. Not a limitation or release for compliance with the Contract Documents or regulatory requirements. Refer to limitations of 'Approved' in General and Supplementary Conditions.
3. Match Existing: Match existing as acceptable to the Owner.

B. Intent: Drawings and specifications are intended to provide the basis for proper completion of the work suitable for the intended use of the Owner. Anything not expressly set forth but which is reasonable implied or necessary for proper performance of the project shall be included.

C. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all. For example, it is not necessary for an item of work to be described in both the Specifications and the Drawings to be included in the Project – either is sufficient.

D. Writing style: Specifications are written in the imperative mode. Except where specifically intended otherwise, the subject of all imperative statements is the Contractor. For example, 'Provide tile' means 'Contractor shall provide tile.'

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2000

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change procedures.

D. Correlation of Contractor submittals based on changes.

E. Procedures for preparation and submittal of application for final payment.

1.02 SCHEDULE OF VALUES

A. Form to be used: AIA Form G703 in preparation for submitting Applications for Payment.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

C. Forms filled out by hand will not be accepted.

D. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification Section. Identify site mobilization.

F. Include in each line item, the amount of Allowances specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

G. Include within each line item, a direct proportional amount of Contractor's overhead and profit.

H. Revise schedule to list approved Change Orders, with each Application For Payment.

1.03 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement but not more frequently than monthly. Submit electronically simultaneously to both Architect and RIDOT manager for review and approval. Architect’s signoff is required prior to RIDOT processing.

B. Form to be used: AIA Form G702 with 703 continuation sheets.

C. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

D. Forms filled out by hand will not be accepted.

E. Execute certification by signature of authorized officer.

F. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

G. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.

H. Submit three copies of each Application for Payment.

I. Include the following with the application:
   1. Transmittal letter as specified for Submittals in Section 01 3000.
   2. Construction progress schedule, revised and current as specified in Section 01 3250.

3. Partial release of liens from major Subcontractors and vendors.
4. Project record documents as specified in Section 01 7800, for review by Owner which will be returned to the Contractor.
5. Affidavits attesting to off-site stored products, if included on current application.

J. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.04 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor as an ASI (Architect's Supplemental Instruction).

B. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change (Construction Change Directive), for subsequent inclusion in a Change Order.
1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
2. Promptly execute the change.

C. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications (Work Proposal Request), a change in Contract Time for executing the change and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 14 days.

D. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01 6000.

E. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Architect.
3. For pre-determined unit prices and quantities, the amount will based on the fixed unit prices.
4. For change ordered by Architect without a quotation from Contractor, the amount will be determined by Architect based on the Contractor's substantiation of costs as specified for Time and Material work.

F. Substantiation of Costs: Provide full information required for evaluation.
1. On request, provide following data:
   a. Quantities of products, labor, and equipment.
   b. Taxes, insurance, and bonds.
   c. Overhead and profit.
   d. Justification for any change in Contract Time.
   e. Credit for deletions from Contract, similarly documented.
2. Support each claim for additional costs with additional information:
   a. Origin and date of claim.
   b. Dates and times work was performed, and by whom.
   c. Time records and wage rates paid.
   d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
3. For Time and Material work, submit itemized account and supporting data after completion

of change, within time limits indicated in the Conditions of the Contract.

G. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

H. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

I. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

J. Promptly enter changes in Project Record Documents.

1.05 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
1. All closeout procedures specified in Section 01 7800.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2100

ALLOWANCES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Unit Price allowances.

1.02 RELATED REQUIREMENTS

A. Section 01 2000 - Price and Payment Procedures: Additional payment and modification procedures.

1.03 UNIT PRICE ALLOWANCE

A. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from Unit Price Allowances.

B. Funds will be drawn from the Unit Price Allowances only by Change Order.

C. At closeout of Contract, funds remaining in Unit Price Allowances will be credited to Owner by Change Order.

1.04 ALLOWANCES SCHEDULE

A. Additional Damage Unit Price Allowance: Include the stipulated sum/price of $5000 for use upon Owner's instructions to replace additional areas of damaged marble plaza stone.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2300

ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Description of alternates.

B. Procedures for pricing alternates.

C. Documentation of changes to Contract Sum and Contract Time.

1.02 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted alternates will be identified in the Owner-Contractor Agreement.

B. Include costs to coordinate related work and modify surrounding work to integrate the Work of each alternate in bid Alternate amounts.

1.03 SCHEDULE OF ALTERNATES

A. Alternate #1: Provide additional price to cut in new matching marble corner on location shown in 3/A1.1 with Dutchman repair technique per specifications and details.

B. Alternate #2: Provide additional price to provide (18) granite bollards set in concrete footings as detailed in 7/A1.1 located as shown on 1/A1.1 and per specifications. Include all earthwork, stonework, bronze fasteners and chain, cast concrete with rebar, and patching of asphalt or sodding of disturbed soil areas occasioned by installation.

C. Alternate #3: Provide additional price to do rack-mounted, low pressure wash of all walls, including both inside and outside as well as edge returns, of the Temple in accordance with US Dept. of Interiors standards and specifications. Rack may be used on one wall area at a time and moved during the project process after each area is clean.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2700

UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. List of unit prices, for use in preparing Bids and Change Orders.

B. Measurement and payment criteria applicable to Work performed under a unit price payment method.

C. Defect assessment and non-payment for rejected work.

1.02 COSTS INCLUDED

A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; including overhead and profit.

1.03 UNIT QUANTITIES SPECIFIED

A. Quantities indicated in the Bid Form are for bidding and contract change purposes only. Quantities and measurements of actual Work will determine the payment amount.

1.04 MEASUREMENT OF QUANTITIES

A. Measurement methods delineated in the individual specification sections complement the criteria of this section. In the event of conflict, the requirements of the individual specification section govern.

B. Take all measurements and compute quantities. Measurements and quantities will be verified by Architect.

C. Assist by providing necessary equipment, workers, and survey personnel as required.

D. Measurement by Area: Measured by square dimension using mean length and width or radius.

E. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.

F. Perform surveys required to determine quantities, including control surveys to establish measurement reference lines. Notify Architect prior to starting work.

1.05 PAYMENT

A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Architect, multiplied by the unit price.

B. Payment will not be made for any of the following:
   1. Products wasted or disposed of in a manner that is not acceptable.
   2. Products determined as unacceptable before or after placement.
   3. Products not completely unloaded from the transporting vehicle.
   4. Products placed beyond the lines and levels of the required Work.
   5. Products remaining on hand after completion of the Work.
   6. Loading, hauling, and disposing of rejected Products.

1.06 DEFECT ASSESSMENT

A. Replace Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of Architect, it is not practical to remove and replace the Work, Architect will direct one of the following remedies:
   1. The defective Work may remain, but the unit price will be adjusted to a new unit price at the discretion of Architect.
   2. The defective Work will be partially repaired to the instructions of the Architect, and the unit price will be adjusted to a new unit price at the discretion of Architect.

C. The individual specification sections may modify these options or may identify a specific formula or percentage price reduction.

D. The authority of Architect to assess the defect and identify payment adjustment is final.

1.07 SCHEDULE OF UNIT PRICES

A. Unit Price #1: Pointing of joints in marble; Provide cost to cut out, prepare, and repoint joints between marble wall stone beyond that included in the Base Bid. Provide change order cost per lineal foot of joint repointed.

B. Unit Price #2: Replace marble plaza stone; Provide cost to replace plaza stones beyond that included in the Base Bid. Include removal of stone and mortar bed below to 1” depth, new mortar and new matching stone with install per specifications. Provide change order unit cost per SF of new stone installed.

C. Unit Price #3: Reset marble plaza stone; Provide cost to reset plaza stones beyond that included in the Base Bid. Include removal of stone and mortar bed below to 1” depth, new mortar and set of stone per specifications. Provide change order unit cost per SF of existing stone reset.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 3000

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preconstruction meeting.

B. Site mobilization meeting.

C. Progress meetings.

D. Construction progress schedule.

E. Submittals for review, information, and project closeout.

F. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 2000 – Price and Payment Procedures: Additional requirements for Applications for Payment.

B. Section 01 7000 - Execution Requirements: Additional coordination requirements.

C. Section 01 7800 - Closeout Submittals: Project record documents.

1.03 PROJECT COORDINATION

A. Project Manager: Brian Byrnes

B. Cooperate with the Project Manager in allocation of mobilization areas of site; for field offices and sheds, for delivery access, traffic, and parking facilities.

C. During construction, coordinate use of site and facilities through the Project Manager.

D. Comply with Architect's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

E. Comply with instructions of the Project Manager for use of temporary utilities and construction facilities.

F. Make the following types of submittals to Architect:
1. Requests for interpretation.
2. Requests for substitution.
3. Shop drawings, product data, and samples, including mock-ups
4. Test and inspection reports.
5. Design data.
6. Manufacturer's instructions and field reports.
7. Applications for payment and change order requests.
8. Progress schedules.
9. Coordination drawings.
10. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Project Manager will schedule a meeting after Notice of Award.

B. Attendance Required:

1. Owner's Project Manager
2. Architect.
3. Contractor.

C. Agenda:
1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates.
3. Distribution of Contract Documents.
4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
5. Designation of personnel representing the parties to Contract and Architect.
6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
7. Scheduling.

3.02 SITE MOBILIZATION MEETING

A. Architect will schedule a meeting at the Project site prior to Contractor occupancy.

B. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Contractor's Superintendent.
5. Major Subcontractors.

C. Agenda:
1. Use of premises by Owner and Contractor.
2. Owner's requirements and occupancy prior to completion.
3. Construction facilities and controls provided by Owner.
4. Temporary utilities provided by Owner.
5. Security and housekeeping procedures.
6. Schedules.
7. Application for payment procedures.
8. Procedures for testing.
9. Procedures for maintaining record documents.
10. Requirements for start-up of equipment.
11. Inspection and acceptance of equipment put into service during construction period.

3.03 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum bi-weekly intervals.

B. Architect will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.

C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Architect, as appropriate to agenda topics for each meeting.

D. Agenda:
1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Maintenance of progress schedule.
7. Corrective measures to regain projected schedules.
8. Planned progress during succeeding work period.
9. Maintenance of quality and work standards.

10. Effect of proposed changes on progress schedule and coordination.
11. Other business relating to Work.

3.04 CONSTRUCTION PROGRESS SCHEDULE

A. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

B. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.

C. Within 10 days after joint review, submit complete schedule.

D. Submit updated schedule with each Application for Payment.

3.05 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification
   5. Mockups of drip edge trim, cleaned marble area (4SF), cut joint prior to repoint (24”), pointed joint with three different mortar mixes for selection and workmanship (24” each).

B. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

C. Samples will be reviewed only for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - CLOSEOUT SUBMITTALS.

3.06 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner. No action will be taken.

3.07 SUBMITTALS FOR PROJECT CLOSEOUT

A. When the following are specified in individual sections, submit them at project closeout:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

B. Submit for Owner's benefit during and after project completion.

C. See Section 01 7800 for additional requirements.

3.08 NUMBER OF COPIES OF SUBMITTALS

A. Documents for Review: May be distributed electronically. Paper copies are for record only.
   1. Small Size Sheets, Not Larger Than 8-1/2 x 11 inches (215 x 280 mm): Submit the number of copies that Contractor requires, plus two copies that will be retained by Architect.
   2. Larger Sheets, Not Larger Than 36 x 48 inches (910 x 1220 mm): Submit the number of opaque reproductions that Contractor requires, plus two copies that will be retained by Architect.

B. Documents for Information: Submit two copies.

C. Extra Copies at Project Closeout: See Section 01 7800.

D. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.09 SUBMITTAL PROCEDURES

A. Transmit each submittal with approved form.

B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.

C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

E. Deliver submittals to Architect at business address.

F. Schedule submittals to expedite the Project, and coordinate submission of related items.

G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

H. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

I. Provide space for Contractor and Architect review stamps.

J. When revised for resubmission, identify all changes made since previous submission.

K. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

L. Submittals not requested will not be recognized or processed.

END OF SECTION

SECTION 01 4000

QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Control of installation.

B. Tolerances.

C. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittal procedures.

B. Section 01 6000 - Product Requirements: Requirements for material and product quality.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have Work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.
   4. Promptly notify Architect and Contractor of observed irregularities or non-conformance of Work or products.

3.03 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not conforming to specified requirements.

B. If, in the opinion of Architect, it is not practical to remove and replace the Work, Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary telecommunications services.

C. Temporary sanitary facilities.

D. Temporary Controls: Barriers, enclosures, and fencing.

E. Security requirements.

F. Vehicular access and parking.

G. Waste removal facilities and services.

H. Project identification sign.

I. Storage on site.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 – Summary

1.03 TEMPORARY UTILITIES

A. Owner will provide the following:
   1. Electrical power and metering, consisting of connection to existing facilities.
   2. Water supply, consisting of connection to existing facilities.

B. Existing facilities may be used. Contractor to provide connection, hoses, extension wiring, etc.

C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

D. Remove temporary utility extensions, equipment, facilities, and materials, prior to Substantial Completion inspection.

1.04 TELECOMMUNICATIONS SERVICES

A. Provide, maintain, and pay for telecommunications services for superintendent's cell phone at time of project mobilization.

B. Telecommunications services shall include:
   1. Email: Account/address at home office for project use.

1.05 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Maintain daily in clean and sanitary condition. Remove prior to Substantial Completion.

1.06 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

D. Restore existing facilities used during construction to original condition.

1.07 FENCING

A. Provide 6 foot (1.8 m) high fence around construction site area to exterior of building; equip with pedestrian gates with locks.

1.08 SECURITY

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

B. Follow daily procedures required in Summary section for coordination with RIDOT, AMTRAK and their contractors.

B. Coordinate with Owner's security program.

1.09 VEHICULAR ACCESS AND PARKING

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

B. Coordinate access and haul routes with governing authorities and Owner.

C. Provide and maintain access to fire hydrants, free of obstructions.

D. Provide means of removing mud from vehicle wheels before entering streets.

E. Designated existing on-site roads may be used for construction traffic.

F. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

G. Do not allow heavy equipment or lifts on plaza areas. Scaffolding and ladders may be used with wide foot mounts on plywood to spread the load. Lifts may be used that work from grade level without placement on marble areas.

1.10 WASTE REMOVAL

A. See Section 01 7320 - Waste Management, for additional requirements.

B. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

C. Provide containers with lids. Remove trash from site daily.

D. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

1.11 STORAGE ON SITE

A. One locking storage container that fits in a single parking spot will be allowed on site. Locate where directed by Project Manager.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations and procedures.

1.02 RELATED REQUIREMENTS

1.03 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

A. Reused Products: Reused products include materials and equipment previously used in this or other construction, salvaged and refurbished as specified.

2.01 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by the Contract Documents.

B. Do not use products having any of the following characteristics:
   1. Made outside the United States, its territories, Canada, or Mexico.
   2. Made using or containing CFC's or HCFC's.
   3. Made of wood from newly cut old growth timber.

C. Where all other criteria are met, Contractor shall give preference to products that are locally sourced and/or contain recycled content.

2.02 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers with performance requirements and a Provision for or-equal Substitutions: Submit a request for substitution for any manufacturer not named.

C. Products listed as “No substitution allowed”: Must provide specified product. This applies to finish paint in this project.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in this section.

B. Architect will consider requests for substitutions only within 15 days after date of Agreement.

C. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.

D. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

E. A request for substitution constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Will provide the same warranty for the substitution as for the specified product.
   3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.
   5. Will reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.

F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

G. Substitution Submittal Procedure:
   1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
   2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
   3. The Architect will notify Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING

A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

B. Transport and handle products in accordance with manufacturer's instructions.

C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.

G. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

H. Prevent contact with material that may cause corrosion, discoloration, or staining.

I. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

J. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 7000

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.

C. Pre-installation meetings.

D. Cutting and patching.

E. Cleaning and protection.

F. Demonstration and instruction of Owner personnel.

G. Closeout procedures, except payment procedures and submittals.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittals procedures.

B. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

C. Section 0 15000 - Temporary Facilities and Controls: Temporary interior partitions, utilities.

E. Section 01 7320 - Waste Management: Additional procedures for trash/waste removal, recycling, salvage, and reuse.

F. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties and bonds.

G. Section 02 4100 - Demolition: Demolition of building parts thereof.

1.03 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; latest edition.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.

C. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.05 PROJECT CONDITIONS

A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

B. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

D. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.06 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later. See Summary section.

B. Coordinate completion and clean-up of work of separate sections.

C. Coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.

B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

F. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 ALTERATIONS

A. Drawings showing existing construction are based on field observation and existing record documents only.
   1. Verify that construction is as shown.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.

C. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
   2. Relocate items indicated on drawings.
   3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

D. Services (Including but not limited to Fire Protection, Electrical, and Telecommunications): Protect existing systems to accommodate new construction.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.

E. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.

F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
   1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and

make recommendation to Architect.

G. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

H. Refinish existing surfaces as indicated:
   1. Where elements are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
   2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

I. Clean existing systems and equipment.

J. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

K. Do not begin new construction in alterations areas before demolition is complete.

L. Comply with all other applicable requirements of this section.

3.06 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-conforming work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

G. Restore work with new products in accordance with requirements of Contract Documents.

H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition daily.

D. Collect and remove waste materials, debris, and trash/rubbish from site daily and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.09 DEMONSTRATION AND INSTRUCTION

A. Demonstrate maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion. This specifically applies to cleaning of plastic glazing.

3.10 ADJUSTING

A. Adjust operating window and door hardware to ensure smooth and unhindered operation.

3.11 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

B. Use cleaning materials that are nonhazardous and approved by window and glazing manufacturers.

C. Clean debris from roofs, gutters, downspouts, and drainage systems.

D. Clean site; sweep paved areas, rake clean landscaped surfaces.

E. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.12 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Architect.

B. Accompany Project Manager on preliminary inspection to determine items to be listed for completion or correction in Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Substantial Completion.

D. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's review.

E. Correct items of work listed in executed Certificates of Substantial Completion and comply with requirements for access to Owner-occupied areas.

F. Accompany Project Manager on preliminary final inspection.

G. Notify Architect when work is considered finally complete.

H. Complete items of work determined by Architect's final inspection.

END OF SECTION

SECTION 01 7320

WASTE MANAGEMENT

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Owner may decide to pay for additional recycling, salvage, and/or reuse based on Landfill Alternatives Proposal specified below.

E. Required Recycling, Salvage, and Reuse: The following may not be disposed of in landfills or by incineration:
   1. Aluminum and plastic beverage containers.
   2. Corrugated cardboard.
   3. Wood pallets.
   4. Clean dimensional wood: May be used as blocking or furring.
   5. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
   6. Glass.
   7. Gypsum drywall and plaster.
   8. Plastic buckets.

F. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, incineration, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.

G. Methods of trash/waste disposal that are not acceptable are:
   1. Burning on the project site.
   2. Burying on the project site.
   3. Dumping or burying on other property, public or private.
   4. Other illegal dumping or burying.

H. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. Section 01 5000 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

C. Section 01 6000 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.

D. Section 01 7000 - Execution Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

1.03 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Landfill Alternatives Proposal: Within 10 calendar days after receipt of Notice of Award of Bid, or prior to any trash or waste removal, whichever occurs sooner, submit a projection of trash/waste that will require disposal and alternatives to landfilling, with net costs.
   1. Submit to Architect for Owner's review and approval.
   2. If Owner wishes to implement any cost alternatives, the Contract Sum will be adjusted as specified elsewhere.
   3. Include an analysis of trash/waste to be generated and landfill options as specified for Waste Management Plan described below.
   4. Describe as many alternatives to landfilling as possible:
      a. List each material proposed to be salvaged, reused, or recycled.
      b. List the proposed local market for each material.
      c. State the estimated net cost resulting from each alternative, after subtracting revenue from sale of recycled or salvaged materials and landfill tipping fees saved due to

diversion of materials from the landfill.

C. Once Owner has determined which of the landfill alternatives addressed in the Proposal above are acceptable, prepare and submit Waste Management Plan; submit within 10 calendar days after notification by Architect.

D. Waste Management Plan: Include the following information:
   1. Analysis of the trash and waste projected to be generated during the entire project construction cycle, including types and quantities.
   2. Landfill Options: The name, address, and telephone number of the landfill(s) where trash/waste will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all project trash/waste in the landfill(s).
   3. Landfill Alternatives: List all waste materials that will be diverted from landfills by reuse, salvage, or recycling.
   4. Meetings: Describe regular meetings to be held to address waste prevention, reduction, recycling, salvage, reuse, and disposal.
   5. Materials Handling Procedures: Describe the means by which materials to be diverted from landfills will be protected from contamination and prepared for acceptance by designated facilities; include separation procedures for recyclables, storage, and packaging.
   6. Transportation: Identify the destination and means of transportation of materials to be recycled; i.e. whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler.

E. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
   1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
   2. Submit Report on a form acceptable to Owner.
   3. Landfill Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the project disposed of in landfills.
      c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   4. Incinerator Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the project delivered to incinerators.
      c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   5. Recycled and Salvaged Materials: Include the following information for each:
      a. Identification of material, including those retrieved by installer for use on other projects.
      b. Amount, in tons or cubic yards (cubic meters), date removed from the project site, and receiving party.
      c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
      e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
   6. Material Reused on Project: Include the following information for each:

a. Identification of material and how it was used in the project.
b. Amount, in tons or cubic yards (cubic meters).
c. Include weight tickets as evidence of quantity.

7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 3 EXECUTION

2.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01 3000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. See Section 01 5000 for additional requirements related to trash/waste collection and removal facilities and services.

C. See Section 01 6000 for waste prevention requirements related to delivery, storage, and handling.

D. See Section 01 7000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

2.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.
1. Pre-bid meeting.
2. Pre-construction meeting.
3. Regular job-site meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
1. Provide containers as required.
2. Locate enclosures out of the way of construction traffic.
3. Provide adequate space for pick-up and delivery and convenience to subcontractors.
4. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 01 7800

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

B. Maintenance Data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

C. Section 01 7000 - Execution Requirements: Contract closeout procedures.

D. Individual Product Sections: Specific requirements for operation and maintenance data.

E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:
1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
2. Submit one copy of completed documents electronically 15 days prior to final inspection. This copy will be reviewed and comments returned after final inspection. Revise content of all document sets as required prior to final submission.
3. Submit one electronic and two hardcopy sets of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:
1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish first floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.
   5. Details not on original Contract drawings.

3.02 MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
   2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional information as specified in individual product specification sections.

3.03 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

END OF SECTION

SECTION 02 4100
SELECTIVE DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition and salvage of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 1000 - Summary: Sequencing and staging requirements.

C. Section 01 1000 - Summary: Description of items to be salvaged or removed for re-use by Contractor.

D. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

E. Section 01 6000 - Product Requirements: Handling and storage of items removed for salvage and relocation.

F. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

G. Section 01 7320 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2019.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Site Plan: Showing:
   1. Vegetation to be protected.
   2. Areas for temporary construction and field offices.
   3. Areas for temporary and permanent placement of removed materials.

C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
   1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences.
   2. Identify demolition firm and submit qualifications.
   3. Include a summary of safety procedures.

D. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.05 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Company specializing in the type of work required.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 SCOPE

A. Remove portions of existing buildings in the following sequence:
   1. Sealant at ceiling perimeter.
   2. Salvage fiberglass coffers for reinstallation
   3. Plaster bands at ceiling after molds are made for fiberglass replicas, preserving support structure.

B. Remove other items indicated, for salvage, relocation, and recycling: fiberglass coffers for reinstallation after bands are replaced.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with other requirements specified in Section 01 7000.

B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   3. Provide, erect, and maintain temporary barriers and security devices.
   4. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   5. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   6. Do not close or obstruct roadways or sidewalks without permit.
   7. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
   8. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Protect existing structures and other elements that are not to be removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

E. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

F. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

G. Perform demolition in a manner that maximizes salvage and recycling of materials.
   1. Dismantle existing construction and separate materials.
   2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

E. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

F. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

G. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
   2. Remove all plaster remaining in ceiling after molds are made for band replacement.

C. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.
   4. Patch as specified for patching new work.

3.05 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 04 0310
HISTORIC MASONRY CLEANING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Water cleaning of marble surfaces.

1.02 RELATED REQUIREMENTS

A. Section 04 0342 – Stone Masonry Repair

1.03 PRICE AND PAYMENT PROCEDURES

A. See Section 01 2700 - Unit Prices, for additional unit price requirements.

1.04 REFERENCE STANDARDS

A. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2016.

B. US Dept. of the Interior restoration standards for cleaning historic masonry.

1.05 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week prior to commencing work of this section.
   1. Require attendance of parties directly affecting work of this section.

B. Scheduling:
   1. Perform cleaning and washing of masonry between the hours of 7 am to 11 pm only.

1.06 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on water test results for iron content

1.07 QUALITY ASSURANCE

A. Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.

B. Restorer: Company specializing in masonry restoration with minimum three years of documented experience.

1.08 MOCK-UP

A. Clean a 10 ft by 10 ft panel of wall to determine extent of cleaning.
   1. Repeat, using different cleaning water pressures and time lengths for up to three different panels.

B. Locate where directed.

1.09 FIELD CONDITIONS

A. Cold and Hot Weather Requirements: Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

PART 2 PRODUCTS

2.01 CLEANING MATERIALS

A. Potable water tested for iron and copper content. Must be free of iron and copper ions. Provide water truck and long hose with jockey pump for distance use.

B. Use spray rack with nozzles designed for this purpose. Water pressure and distance from wall must be adjustable. At no point shall water spray be applied at more than 100 PSI. Use lowest possible pressure that is effective based on mock-up.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces to be cleaned are ready for work of this section.

3.02 PREPARATION

A. Protect surrounding elements from damage due to restoration procedures. Direct water runoff outside of structure.

B. Carefully remove and store removable items located in areas to be restored, including fixtures, fittings, finish hardware, and accessories; reinstall upon completion.

C. Separate areas to be protected from restoration areas using means adequate to prevent damage.

D. Mask immediately adjacent surfaces with material that will withstand cleaning and restoration procedures.

3.04 RESTORATION CLEANING

A. Clean surfaces with mist spray rack at low pressure for 4-8 hours. Remove large particles with wood scrapers or fiber brush. Do not use metal tools.

B. Repeat up to three times at Architect’s direction.

END OF SECTION

SECTION 04 0342
STONE MASONRY REPAIR

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Repointing mortar joints in marble base walls/cornices.

B. Marble crack repair with two methods – dispersed hydrated lime (DHL) or repair mortar to match marble.

C. Marble dutchman repair per details with matching marble.

D. Pointing and weep installation at joints previously filled with sealant.

E. Cleaning of Marble with rack water wash.

E. Furnish all labor, materials, tools, equipment and supervision and perform all Work necessary for and incidental to Masonry Repair as shown on the Drawings and specified herein.

1.02 RELATE REQUIREMENTS

A. Section 07 7620 –Sheet Metal Flashing and Trim

B. Section 07 9000 – Joint Sealers

1.03 PRICE AND PAYMENT PROCEDURES

A. See Section 01 2700 - Unit Prices, for additional unit price requirements.

1.04 REFERENCE STANDARDS

A. National Park Service Cultural Resources Preservation Briefs 2, “Repointing Mortar Joints in Historic Masonry Buildings,” revised edition October 1998.

B. ASTM C 0114-2006 Chemical Analysis of Hydraulic Cement

C. ASTM C 1218/ C1218M-99 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete

D. ASTM C1152/ C 1152M-04 Standard Test Method for Acid-Soluble Chloride in Mortar and Concrete

1.05 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation Meeting: Convene one week prior to commencing work of this section.
   1. Require attendance of parties directly affecting work of this section.
   2. Review conditions of installation, installation procedures, and coordination with related work.

1.06 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on cleaning compounds, repair mortars, DHL grout, and weeps.

C. Manufacturer's Instructions: For cleaning and repair materials, indicate special procedures, conditions requiring special attention, and recommendations for surface protection.

D. Written certificates from the mortar supplier stating that all craftspeople installing the pointing mortars have successfully completed on-site training for the installation of the mortar, have previously completed workshop training by the mortar manufacturer; or have met alternative workmanship qualifications.

E. Certificates, except where the material is labeled with such certification by the producers of the materials, stating that all materials supplied comply with all the requirements of these specifications and the appropriate standards.

F. Mortar supplier's written description of mortar mix design, stating proportions and nature of each component, including sieve analysis for sand gradations and binder/aggregate ratio. Submit separate description for each mix design recommended.

G. Prior to beginning work, provide samples of all components included in each mortar mix, with Material Safety Data Sheets (MSDS) as appropriate.

1.07 QUALITY ASSURANCE

A. Restorer: Company specializing in masonry restoration with minimum five years of documented experience.

B. Obtain materials for each restoration procedure specified from a single manufacturer to ensure matching quality, color, texture and detailing.

C. Specialty Mortar Based Materials Training: All mortar based work must be performed by craftspersons who are familiar with lime and other specialty mortar formulations, curing conditions and performance characteristics. Training sessions and mock-ups are required so as to allow for the certification of masons who will be performing each of the primary based mortar or grout procedures including repointing, crack repairs, setting of dutchman patches, mortar patching, and grouting.
   1. Lime Based Materials: Contractor shall arrange for a minimum of three (3) training sessions of at least two (2) days each to be provided by the manufacturer(s) of the specified lime based mortars and grouts.
   2. Patching Mortar: Contractor shall arrange for a minimum of three (3) training sessions of at least one (1) days each to be provided by the manufacturer of the specified patching mortar.
   3. Develop training schedule(s) in consultation with Architect.
   4. Provide additional training if application procedures are not yielding consistent results.
   5. Provide additional training sessions as required for new workmen.
   6. Each worker to perform work on the project shall provide a sample. Before work by that worker commences, the sample shall be approved by the Owner and Architect.

D. Work in place shall be subject to inspection testing. Work found to be unacceptable shall be replaced with new, acceptable work.

E. Field Supervision: Restoration specialist firms shall maintain experienced full-time supervisors on Project site during times that stone restoration is in progress. Supervisors shall not be changed during Project except for causes beyond control of restoration specialist firm.

1.08 MOCK-UPS

A. Wash and repoint an existing marble wall area sized 8 feet long by 6 feet high; include in mock-up area instances of mortar repairs, including:
   1. Crack injection repair with DHL grout
   2. Mortar repointing with examples of 3 colors and 3 stages – cut out joint, first application, finished pointing joint.
   3. 8 hour low pressure water wash in accordance with Dept. of the Interiors restoration standards.
   4. Architect may require additional trial repairs.

B. Locate where directed.

C. Acceptable panel and procedures employed will become the standard for work of this section.

D. Mock-up may remain as part of the Work.

E. Prior to installing mortar samples at the project, provide a material and color sample of the mortar for joint pointing. The mortar shall match the color of the original mortar (existing mortar behind exterior pointing lift work) and shall be approved by Architect. Provide a sample of each repair type, using specified materials and methods, and using tools and equipment intended to be used by the workmen performing work. For repair mortar match the adjacent stone in color, texture, composition, texture, particle size and appearance.

F. Mock-up to include areas of approximately 10 linear feet for each type of pointing required, demonstrating methods and quality of materials and workmanship for pointing mortar joints. Prepare, install and finish each sample according to specifications. Before any pointing sample is carried out, a cleaned exposed prepared joint shall be provided for examination and approved by Architect. Architect shall approve joint profile. Apply samples to the actual masonry, in location selected by the Architect. Samples shall cure a minimum of 7 days prior to Architect's approval.

G. Provide additional samples until results acceptable to the Architect are achieved. Redo the mock-ups as many times as necessary to obtain approval from the Architect, at no additional cost.

H. Commence work only after each sample repair has been reviewed and accepted by Architect and Owner.

I. The accepted samples are the standard for subsequent work. Retain acceptable areas in undisturbed condition, suitably marked, throughout the duration of the project as references for the work. and upon completion incorporate samples into the work.

1.09 DELIVERY AND HANDLING

A. Deliver materials to site in manufacturer's original unopened containers and packaging, bearing labels as to manufacturer, type and name of products, grade, batch and production data.

B. Protect materials during storage and construction from wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials.

C. Protect mortar and other materials from deterioration by moisture and temperature. Store in a dry location or in waterproof containers. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

1.10 FIELD CONDITIONS

A. A. Hot Weather (above 90 degrees F): do not use mortar when masonry surface temperature is above 90 degrees F. Protect the mortar from direct sunlight and exposure to wind at temperatures over 80 degrees F to prevent rapid evaporation of water in the mortar before, during, and after pointing.

B. Cold Weather (below 40 degrees F): Do not work in average daily temperatures below 40 degrees F without providing cold weather protection as described in ACI 530 and outlined in the table below. Continue to operate heaters overnight with appropriate supervision. Do not use heaters that produce oily deposits on the masonry. If any oily deposits occur, consult with the Architect to determine how best to remove oily deposits, and remove at the Contractor's expense. If work is exposed to temperatures below 48 degrees Fahrenheit within 48 hours after installation of repairs, remove and redo work as directed by the Architect.

Temp.	WORK IN PROGRESS			COMPLETED WORK
	Stone	Mortar	Assemblage	Assemblage
Above 40°F	No Req.	No Req.	No Req.	No Req.
40°F to 25°F	Remove visible ice.	Heat during mixing to between 40°F and 120°F. Maintain above freezing while in use.	No Req.	Protect masonry with a weather-resistive cover for 24 hrs after construction. Completely cover masonry when temp. is less than 32°F.
25°F to 20°F	Remove visible ice.	Heat during mixing to between 40°F and 120°F. Maintain above freezing while in use.	Use heat sources on both sides of wall. Install wind breaks when velocity is over 15 mph.	Completely cover with insulated blanket for 24 hrs after construction.
Below 20°F	Heat to above 20°F; remove visible ice.	Heat during mixing to between 40°F and 120°F. Maintain above freezing while in use.	Provide an enclosure and use heat sources to maintain temp. above 32°F within the enclosure.	Provide an enclosure and use heat sources to maintain temp. above 32°F within the enclosure.

C. Do not use frozen materials or materials mixed or coated with ice or frost. Do not lower the freezing point of mortar by the use of admixtures or anti-freeze agents, and do not use chlorides in the mortar.

D. Cover partially completed work when work is not in progress.

E. Protect persons, animals, motor vehicles, site, site features, and surrounding buildings from injury resulting from work.

F. Prevent repointing mortar from staining the face of masonry or other surfaces to be left exposed. Immediately remove all repointing mortar that comes in contact with such surfaces.

G. Protect masonry projections from droppings.

H. Damage occurring to the building as a result of the work of this section as a result of Contractor's failure to protect against such damage shall be the Contractor's responsibility. The Contractor shall restore damaged areas to the complete satisfaction of the Architect at no expense to the Owner.

I. Protect persons and property from injury and damage from cleaning operations. Do not work when winds prevent control of cleaners or rinse water. Dispose of run-off in a legal manner. For chemical cleaning, clean only when ambient 40 degrees F temperature and above will be maintained during cleaning and seven days after. Follow manufacturers' recommendations.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Specific products as noted below as Basis of Design.
   1. Substitutions: See Section 01 6000 - Product Requirements.

2.02 CLEANING MATERIALS

A. Cleaning Agent: Clean water alone for first work. Detergent type may be authorized.

2.03 GENERAL MATERIALS

H. All mortars and grouts shall be pre-blended in single containers in a factory-controlled environment. All ingredients will be converted from volume measurements to weight measurements to ensure quality production of the mortar.

I. Mixing of individual mortar or grout ingredients at the construction site will not be permitted.

J. All containers shall be marked including manufacturing date and batch number. Manufacturer is required to maintain production-sampling procedures for each batch for quality control purposes. Manufacturer to provide samples of proposed materials for mock up panels at the site. All pre-blended products are to meet applicable ASTM standards and project specification requirements.

2.04 MORTAR MATERIALS

A. Pointing Mortar: The pointing mortar shall be composed of lime, sand, crushed limestone, and water as determined by the manufacturer and supplier.
   1. Basis of Design: Pre-bagged Pointing Mortar: Mix & Go, NHL 3.5 and NHL 5.0
      a. Distributed by Virginia Limeworks, PO Box 516, Monroe, VA 24574, tel: (434) 929-8113, fax: (434) 929-8114. Email: jeff@virginialimeworks.com
      b. Equal products will be considered.
   2. Mix design shall be in accordance with manufacturer's recommendations and approved submittal, as required to meet joint width requirements as specified by the Architect/ Engineer.
   3. No Portland cement, masonry cements, admixtures, additives, accelerators, colorants, or pigments shall be added or used in the mortar at any time.

B. Patching Mortar: The patching mortar for repair and simulation of marble shall be composed of lime, aggregates, and water as determined by the manufacturer and supplier.
   1. Pre-bagged Patching Mortar: FTB Lithos Arte, stone repair and restoration mortar. Distributed by Remmers FTB bvba, B-2280 Grobbendonk, Belgium; tel: +32 (14) 84 8080; fax: +32 (14) 84 8081; Email: info@ftbrestoration.com
   2. Patching mortar shall be custom formulated to match existing marble color, texture, and consistency.
   3. Up to four (4) color/texture variations in the patching mortar may be required to adequately match varying field conditions for each Phase of the work. Distributor shall visit site as required to ascertain color variations in cleaned stone and submit alternate sample mortar colors as required for approval by the Architect.
   4. Mix designs shall be in accordance with manufacturer's recommendations and approved submittal, as required to meet field conditions and requirements as specified by the Architect/ Engineer.
   5. No portland cement, masonry cements, admixtures, additives, accelerators shall be added or used in the mortar at any time.

2.05 GROUTS

A. Cementitious Crack Repair and Filler (DHL): Inject an ultrafine superplasticized dispersed hydrated lime grout into cracks, which is suitable for application to wet or dry cracks, exhibits low shrinkage, and develops high bond strength to each type of stone.
   1. Products: U.S. Heritage Group, Inc.; DHL-IM Injection Grout. Distributed by U.S. Heritage Group, 3516 N. Kostner, Chicago, IL. 60641; tel: (773) 286-2100.

B. Repair Grouts: The repair grouts shall be composed of lime, aggregates, and water as determined by the manufacturer and supplier.
   1. Pre-bagged Lime Grouts NHL 5.
      a. Distributed by Virginia Limeworks, PO Box 516, Monroe, VA 24574 , tel: (434) 929-8113, fax: (434) 929-8114. Email: jeff@virginialimeworks.com
   2. Mix design shall be in accordance with manufacturer's recommendations and approved submittal, as required to meet field conditions and requirements as specified by the Architect/ Engineer.
   3. No portland cement, masonry cements, admixtures, additives, accelerators, colorants, or pigments shall be added or used in the grout at any time.
   4. The repair grouts shall consist of four (4) customized types of pre-bagged grouts. Selection of the appropriate grout for each use is based on the size of the crack or void to be filled, as follow:
      a. Type I Grout: Virginia Limeworks NHL 5, [premixed NHL 5 - size: 40 - 60 microns] shall be used for very fine cracks up to a width 1/16 inch.
      b. Type II Grout: Virginia Limeworks NHL 5, [premixed NHL 5 - size: 300 microns] shall be used for fine cracks or voids between 1/16 inch and 1/8 inch.
      c. Type III Grout: Virginia Limeworks NHL 5, [premixed NHL 5 - size: 600 microns] shall be used for cracks or voids between 1/8 inch and 1/4 inch.
      d. Type IV Grout: Virginia Limeworks NHL 5, [premixed NHL 5 - size: 800 microns] shall be used for cracks or voids between 1/4 inch and 1/2 inch.

2.06 WATER

A. Water shall not contain any mineral content that would result in staining of stone. Clean, potable water, with iron content of less than two (2) parts per million, or 0.0002 percent (by weight) shall be used.
   1. Contractor shall arrange for laboratory testing of water before starting work and every three (3) months thereafter.
   2. For rack cleaning, water may be drawn from Parks Dept. supply. Contractor to provide testing and water truck.

2.07 MISCELLANEOUS MATERIALS

A. Miscellaneous Hardware
   1. Done-headed Stainless Steel Screws with neoprene washers and lead anchor shields to fit existing holes.
   2. Nuts, Washers, Lock Washers (Type 304, ASTM 276).
   3. Shims
      a. Shim material
         1) High Density Polyethylene by Korolath.
         2) Wood shims are not to be used
         3) Plastic horseshoe shaped shims shall not be used
      b. Setting
         1) Thickness, as Required
   4. Compressible Filler

a. Joint filler: Preformed, closed cell polyurethane foam with single-side adhesive, "V790" manufactured by Norton Performance Plastics Corporation, Granville, NY 12832

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces to be restored are ready for work of this section. Examine conditions for installation tolerances and other specific conditions. Do not proceed until unsatisfactory conditions have been corrected

3.02 PREPARATION

A. Protect surrounding elements from damage due to restoration procedures.

B. Separate areas to be protected from restoration areas using means adequate to prevent damage.

C. Mask immediately adjacent surfaces with material that will withstand cleaning and restoration procedures.

D. Protect roof membrane and flashings from damage with 1/2 inch plywood laid on roof surfaces over full extent of work area and traffic route.

E. When using cleaning methods that involve water or other liquids, install drainage devices to prevent runoff over adjacent surfaces unless those surfaces are impervious to damage from runoff.

F. Do not allow cleaning runoff to drain into sanitary or storm sewers. For each crack occurrence, select repair material from those specified in cooperation with Architect prior to proceeding with crack repair.

3.03 RAKING OUT OF MORTAR JOINTS

A. Rake out existing mortar joints between stone units to a depth as indicated on the drawings, or three times the width of the joint, or until reaching original sound mortar, whichever is greater.

B. Power tool cutting will only be allowed with a singe 1/8” blade and only after approval of a mockup demonstrating no damage to stone. Blade will be used to make a single cut in the center of each horizontal mortar joint to open the joint. A thin layer of the existing pointing mortar must remain attached to the adjacent stones on either side of the joint. The edges will then be cleaned by removal with proper hand chisels and mallets. Do not chip or cut into masonry; prevent joint enlargement. Replace masonry damaged by this work at no additional cost to the Owner.

C. Rinse joint surfaces with water to remove dust and mortar particles. Time application of rinsing so that, at time of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water.

D. Brush, vacuum, blow out, or flush joints with water to remove dirt and loose debris, working from top to bottom of wall. If washing joints to remove debris, all lower sections of masonry must be pre-wetted to avoid old lime mortar adhering to the surface of the walls. Remove all dust as any loose dust that is left in the joints will deplete the bond of the mortar to the stone.

E. At horizontal joints scheduled to receive sealants, remove all materials and clean as if in preparation for repointing. Protect from weather until sealant is applied. Leave the following joints open for sealant:

1. Head joints in top courses, including copings, parapets, cornices, sills, and steps.

2. Joints in projecting units.
3. Joints to receive lead T-Joint cap.

3.04 POINTING OF MORTAR JOINTS

A. Rinse stone joints with water to remove dust and mortar particles. Time the rinsing application so that at the time of pointing excess water has evaporated or run off. Joint surfaces should be damp but free from standing water.

B. Dampen to control suction of exposed surface of stone adjacent to joint prior to repointing. Maintain a water sprayer on site at all times during the repointing process. Surface of stone where mortar is to be placed shall be damp, without visible water on the stone surface.

C. Mortar shall be mixed according to manufacturer recommendations. The mortar should be plastic and workable but as stiff as possible. This drier consistency enables the material to be tightly packed into the joint, allows for cleaner work, and prevents shrinkage cracks as the mortar cures.

D. Apply first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply mortar in layers of equal depths. For joints 1/4 inch or less in width, fill joint to a depth of three times the joint width. For joints greater than 1/4 inch in width, fill joint to a depth of two inches. Compact each layer thoroughly and allow to become thumbprint-hard before applying the next layer. Allow at least 24 hrs to pass between successive stages of mortar application to allow for mortar shrinkage between stages. Take care not to spread mortar over edges onto exposed surfaces. The mortar should be pushed into the back of the joints in layers, avoiding large volumes of deep filling. Avoid slicking the surface of the mortar, pushing into the joint is preferable.

E. When mortar at exterior face is thumbprint-hard, finish to match joint profile of approved sample. Remove excess mortar from edge of joint by brushing. Promptly clean any excess mortar from face of stone with water damp cloth if necessary.

F. Conduct all masonry work in a neat and workmanlike manner to prevent staining any surface with mortar or other spills. Avoid dropping mortar on completed masonry work or other elements of the building. If mortar drops or spills, spot-clean immediately using a sponge and clean water.

3.05 PROTECTION OF FRESHLY POINTED MORTAR JOINTS

A. Mist newly pointed masonry joints with water for a duration of at least 3 minutes at the end of the day of initial installation.
   1. During hot weather (greater than 70 degrees Fahrenheit) protect freshly pointed areas with burlap or plastic sheeting for the first 24 hours after installation. If plastic sheeting is used, it should never come into direct contact with the mortar during initial curing and until fully set. It can be hung 3-4” clear of the work.

B. Protect newly pointed joints from direct sun and winds for the first 3 days after installation.
   1. During hot weather (greater than 70 degrees Fahrenheit) thoroughly dampen the limestone masonry wall with water mist a minimum of two or three times per day for the first 3 days following installation. Care should be exercised on stone surfaces to avoid water run off from the face of the stone oversaturating the mortar joints.

C. Do not proceed with water washing activities for at least 28 days following repointing of stone.

3.06 DHL CRACK REPAIR

A. Crack Repair – for horizontal cracks and vertical cracks on interior faces (toward the dome).
   1. Grout: Mix grout as follows:
      a. Thoroughly mix diluted DHL-IM Injection grout by mixing liquid to a flowable consistency.
      b. If above grout mix results in a grout that is difficult to place, do not proceed with grouting work. Notify Owner and Architect immediately.
      c. Do not retemper grout.
      d. Discard grout that is no longer flowable.

   2. Grout Injection
      a. Remove existing crack fillers (if any) taking care not to damage remaining adjacent stonework.
      b. Rout or grind out crack to a square cross sectional profile as indicated on drawings. A 'V' shaped profile is not acceptable.
      c. Remove loose material by blowing out routed crack and crevice beyond with oil-free compressed air.
      d. Wash surface and interior of crack using clean water to remove dust, loose or deleterious material which could prevent proper flow or adhesion of lime grout.
      e. Routed crack should be sealed with removable, non-staining clay or patching mortar as required to create pumping ports.
      f. Moisten interior of crack immediately before pumping by flushing with clean water. If surface is allowed to dry out before grout is injected, this step must be repeated.
      g. Using a clean hypodermic syringe or pumping system, float specified grout into top portion of crack and allow a continuous flow into crack crevice. Verify that clay remains intact and repeat this process until crack is filled. Clean up grout overflow immediately.
      h. Remove clay filler after 48 hours.
      i. Fill routed crack area in lifts with specified stone patching mortar following preparation, cleaning and installation procedures as specified herein.

3.07 CRACK PATCHING

A. Patching – For cracks on outer faces.
   1. Patch the following stone units:
      Units indicated to be patched on drawings and confirmed in field by Architect.
      Cut out crack so patch will not have feathered edges and will be at least 1/4 inch thick, but not less than recommended by patching compound manufacturer. The void created should have edges, which are square cut, maintaining 90° angles or undercut for larger patches (see limits on drawings.).
   2. Surface Preparation
      Remove loose particles, soil, debris, oil, and other contaminants from existing stone units at locations to be patched by cleaning with stiff-fiber brush.
      Surfaces to receive mortar patches must be sound and free of dust, dirt, grease, laitance and/or other coating or foreign substance, which may prevent proper adhesion.
      Complete preparation by washing surface with clean water and a bristle brush.
      At areas to receive repair mortar patches, prepare spalled out or missing area by removal of distressed stone and/or rusted metal within spalled area. Cut away an additional 1/16 inch of substrate using hand tools to ensure surface of stone to be patched is solid and stable. Do not damage adjacent stone. "Sound" stone masonry with an acrylic hammer to verify stone integrity.
      Do not use a saw to prepare surfaces to receive patches. Surfaces must be clean but rough cut and tooled to assure optimum bonding of mortar patching material.
   3. Installing Patching Material

Pre-wet stone area to receive patch. Apply repair mortar before stone is fully dry. Do not apply repair mortar to surfaces that are over saturated or have standing water.

Mix patching compound in individual batches to match each stone unit being patched. Combine one or more colors of patching compound, as needed, to produce exact match.

Apply stone repair mortar mix to routed crack using a trowel in a series of lifts with no waiting period or scratch coat necessary between layers. If a skin forms, scrape approximately 1/16 in. of mortar off, dampen first layer before applying second layer. Use light pressure during applications. Work mortar firmly into surface of stone, including corners.

Build up patching material so that it is slightly above adjacent stone surface. Allow 15 to 30 minutes to set slightly, (this will vary depending on weather - much longer in cool weather) then scrape off excess material using a straight edge (a plasterer's miter rod is good for this). Do not press down or "float" the patch. Where patches occur at panel edges or corners, form mortar to match profile of surrounding stone. Finish patch so that it is as indistinguishable as possible from adjacent stone.

As shown on Drawings, anchor stone repair mortar patches using threaded stainless steel dowels (or other acceptable anchors).

Remove uncured mortar from perimeter of patch before it dries using clean potable water and a rubber sponge. Wipe several times with clean water to prevent a halo effect or staining of adjacent stone.

4. Limitations

Never apply stone repair mortar to a frosted or exceedingly hot substrate. Protect applied mortar from extreme heat, freezing, excessive wind, direct sunlight, and rain. Ambient temperature range should be 40° F to 90° F with low to average humidity. Use special precautions as recommended by manufacturer when ambient temperatures exceed 90° F.

Bonding agents on surfaces to receive stone repair mortar are not allowed.

Minimum thickness of mortar application is ¾ in.

5. Curing

Mist new mortar repairs with water for a duration of at least 3 minutes at end of the day of initial installation.

During hot weather (greater than 70 degrees Fahrenheit) protect freshly repaired areas with burlap or plastic sheeting for the first 24 hours after installation. If plastic sheeting is used, it should never come into direct contact with mortar during initial curing and until fully set. It can be hung 3-4” clear of work.

Protect newly repaired areas from direct sun and winds for the first 3 days after installation.

During hot weather (greater than 70 degrees Fahrenheit) thoroughly dampen repair area with water mist a minimum of two or three times per day for the first 3 days following installation. Care should be exercised on stone surfaces to avoid water run off from face of stone over-saturating mortar joints.

6. Finishing

Fine single profile finishes can be achieved either by troweling at time of initial setting or by fine caborundum paper after material is sufficiently hard (usually 7 days).

7. Cleaning

Clean mortar residue from stone area surrounding patch by sponging as many times as necessary with clean water. This should be done before patching material sets.

3.08 INSTALLATION OF RESET STONES AND DUTCHMAN REPAIRS

A. See details. Provide stainless steel pins where noted.

B. Use approved matching marble with grain running in direction of repair area.

3.09 CLEAN-UP

A. After stone repair work is completed and joints are sealed, stone work shall be washed with fiber brushes, and clean water. If surfaces have been damaged, clean, repair, or replace to the satisfaction of the Owner.

B. Immediately remove stains, efflorescence, or other excess resulting from the work of this section.

C. Remove excess mortar, smears, and droppings as work proceeds and upon completion.

D. Clean surrounding surfaces. Properly dispose of debris and leave work area in broom clean condition.

END OF SECTION

SECTION 06 6100
FIBERGLAS RESIN FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Cast fiberglass and polyurethane architectural ceiling units to replicate plaster banding and support existing fiberglass coffers.

B. Installation complete including blocking, supports, fasteners, sealants, bridging, reinforcing, and structural calculations as required.

1.02 RELATED REQUIREMENTS

A. Section 09 9000 - Exterior Painting

1.03 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2021a.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate dimensions, thicknesses, required clearances, tolerances, materials, colors, finishes, fabrication details, field jointing, adjacent construction, design load parameters, methods of support, integration of anchorages.

Submit CAD shop drawings for fabrication and erection. Include plans, elevations, sections, profiles, and details of ceiling panels. Indicate dimensions of each profile and component. Include for comparison a dimensioned drawing showing plan, section and details of existing ceiling section used for model purposes if applicable. Indicate those features, which differ from fiberglass replication. Include details for panel connections, anchorage to substructure and all miscellaneous accessories. Show all special corner pieces, splices for panels and inside corner transitions and terminations for panels. Provide layout drawings including seam locations for each band.

C. Product Data: Include color, pattern, and material properties.

D. Samples: Submit two samples representative of bottom rail and cornice unit, 12 inch long in size, illustrating color, texture, and finish.

E. Manufacturer's Installation Instructions: Indicate preparation of opening required, rough-in sizes; provide templates for cast-in or placed frames or anchors; tolerances for item placement, and temporary bracing of components.

F. Maintenance Data: Indicate list of approved cleaning materials and procedures required; list of substances that are harmful to the component materials.
1. Include instructions for stain removal, surface restoration, and paint prep.

G. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. See Section 01 6000 - Product Requirements, for additional provisions.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum ten years of documented experience.

B. The fiberglass reinforced polyester components shall be engineered, fabricated and erected to conform to the specifications and applicable requirements as specified by local codes to fit the building structure and to conform to the Architect's design criteria. Provide Professional Engineer’s stamped drawings and calculations.

1.06 MOCK-UP

A. Provide banding with cornice molding mock-up, full size, illustrating finish, construction, and painted result. Rebuild as necessary to achieve Architect's approval.

B. See Section 01 4000 - Quality Requirements for additional requirements.

C. Locate where directed.

D. Mock-up may remain as part of the Work once accepted.

E. . Construct sample panel to show all connection points, embedded connection and reinforcing clips, include typical fasteners to complete the submission.

F. Upon approval by the Architect of the shop drawings, inspection of the patterns, mock-ups, and/or molds shall be approved by the Architect on-site or at the facilities of the fiberglass manufacturer.

G. Patterns and mock-ups shall be hand carved and machined by skilled craftsmen who have a minimum of ten (10) years experience in fabrication of Architectural Exterior and Interior Trim and Facade components and/or related design projects.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to the site in original packages, containers or bundles bearing brand name and identification. Protect from damage by retaining shipping protection in place until installation.

B. Store products under cover, elevated above grade, and in a dry, well-ventilated area not exposed to heat or sunlight. Protect from moisture damage.

C. Handle products to prevent damage to edges, ends, or surfaces.

1.08 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

C. Provide five year manufacturer warranty for piece deformation and system installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with requirements, fiberglass manufacturer offering products that may be incorporated in work include EDON as Basis of Design.

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2.02 MATERIALS

A. Polyester resins shall be equal to Class A, Edon Spec 67. The resin shall be flame retardant, promoted thixotropic polyester resin designed for use in hand laid up and spraying processes. The resin shall be specifically formulated for use in applications that require an ASTM E 84, Class I flame spread rating, without the use of fillers or antimony trioxide, with an ASTM E 84 flame spread rating of 25 unfilled smoke density of 450 or under.

B. Cast Polymer:
   1. Provide finished products having flame spread index of 35 and smoke developed index of 15, when tested in accordance with ASTM E84 in thickness of 3/4 inch.
   2. Resin: Polyester; integrally-colored, stain-resistant and resistant to domestic chemicals and cleaners.
   3. Resin: Polyester; flame-retardant, for use in the roto-cast method.
   4. Filler Material: ASTM E84 Class A rated.
   5. Core Framing: Softwood lumber, clear and free of knots.
   6. Fasteners: Stainless steel for all applications
   7. Adhesive: as recommended by manufacturer, cartridge dispensed, Dow 790 or 795 non-staining or equal.

2.03 SITE FINISHING MATERIALS

A. Finishing: Field finished as specified in Section 09 9000.

2.04 FASTENINGS

A. Adhesive: As recommended by the manufacturer for application; not containing formaldehyde or other volatile organic compounds.

B. Fasteners: Of size and type to suit application; stainless steel in all locations.

C. Concealed Joint Fasteners: Threaded stainless steel.

2.05 FABRICATION

A. Design system items with sufficient strength for hanging, handling and placement stresses. Meet local building codes including earthquake securement. The fiberglass reinforced polyester plastic components shall be designed, fabricated and erected to conform to the state of RI Building Code, Local Codes and to the Architect's design criteria.

B. Fiberglass-reinforced polyester ceiling sections shall be manufactured using the specified resins, reinforced with chopped glass fibers. All exposed surfaces shall be finished with custom colored gel-coat

C. Internal metal reinforcement, anchorage clips, brackets and all other "built-in" accessories shall be captured and additionally reinforced with additional glass fiber and mat of sufficient thickness as required by the panel manufacturers design.

D. Final ratio of materials shall be 25% fiber, 75% resin for body of components.

E. All metal hardware, both loose and embedded, shall be stainless steel as designed by manufacturer. All fasteners to be stainless steel.

F. Component thickness shall be 3/16" minimum. For any sandwich core construction 7/16" minimum.

G. Gel-coat thickness shall be .015" to .025".

H. Finished components shall be true to line in the shapes indicated on the drawings, free of warps, twists, waves or distortion.

I. Joints in components shall be matched at the factory and numbered for field installation. Components shall be fabricated to minimize exposed fasteners.

J. Full-size models and mock-ups shall be hand carved and machined as required to produce the replication patterns.

K. Form panel ends with sealable lap joints. Use lap joints with sufficient depth to accommodate mating and alignment of panel surfaces and panel-to-panel sealant components.

L. Provide all special transition, corner pieces (inside and outside) and special closures necessary for a complete, visually continuous, weather tight installation.

1. All inside and outside corners shall be shop fabricated. Fabrication of corners in field <u>will not</u> be permitted.

M. Coordinate cutouts required for drain inlets, rainwater conductors and other penetrations. Reinforce panel as required and provide special formed closures to make joints and intersection weather tight.

N. Cure components prior to shipment, except sheet materials requiring site handling.

2.06 FINISH

A. Color: neutral color as selected.

B. Exposed to View Surface Visual Texture: paintable smooth texture.

PART 3 EXECUTION

3.01 EXAMINATION

A. Prior to commencement of work review the job site before selective demolition begins to determine the layout, spacing and termination of the existing cornice. Duplicate these layouts intersections and relationships in so far as practical. Identify and resolve panel detail conflicts in advance and identify such condition and resolutions on the shop drawings.

B. Carefully measure each existing ceiling assembly component and replicate size, profile, position, and detail in the finished panel so far as practical. Indicate on shop drawings those indentations and/or detail which cannot be duplicated in the replication due to physical limitations of the manufacturing process.Verify that field measurements are as indicated.

C. The components indicated on the drawings show dimensions established to accomplish the Architect's intended visual result and to conform to the building's configuration. The Contractor shall verify that the components to be actually provided for the work of this Section will fit the building's structural elements and conform to the visual design criteria indicated on the drawings without materially altering profiles and alignments. Verify that joint preparation and affected dimensions are acceptable.

C. Do not begin installation until substrates have been properly prepared.

D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

E. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Provide anchoring devices for installation and embedding.

D. Provide templates and rough-in measurements.

3.03 INSTALLATION

A. Install components in accordance with approved shop drawings and manufacturer's instructions.

B. Align work plumb and level. Rigidly anchor to substrate to prevent misalignment.

C. Provide required blocking for attachment of cornice panels to substructure. Provide additional, wood preservative treated or metal stud framing as may be required to attached and reinforce ceiling panels for a solid installation.

1. Coordinate installation with any metal gutter lining work or flashing above and stone/lath substrates.

D. Follow fiberglass panel manufacturer's recommendations with regard to installation clearances, notches, and formation of panel-to-panel joints.

E. Position supports and anchorage devices and set fiberglass components in place prior to securing fasteners.

F. Install sealant and accessories as work progresses, so as to make the work weather tight.

G. Provide each panel with joints such that adjacent panels mate to produce flush joints. Recess blocking or notch continuously behind each panel joint. Set panels to ensure a maximum joint thickness of 3/8”.

H. Prepare each ceiling panel section for installation by carefully sanding joints and shrinkages where blocking occurs to assure a tight flush fit.

I. Fill joints with a continuous bead of sealant, tooling finished joints to a slightly concave profile ensuring complete filling and flush installation.

J. Carefully monitor ambient temperatures at time of panel installation and observe all panel-to-panel clearances recommended by the fiberglass manufacturer.

K. Do not cut or abrade finishes, which cannot be completely restored in the field. Make small inconspicuous finish repairs using manufacturer’s color matching gel fill finish. If too large of a repair is needed, return to fiberglass manufacturer for alterations or new units.

L. Use only stainless steel connectors approved by the panel manufacturer and which will develop the strength required by fiberglass panel manufacturer’s calculations.

M. Countersink all exposed fasteners. Patch all attachment holes with gel fill finish supplied by the fiberglass panel manufacturer for field application. Finish attachment points so that there is no detectable difference in the completed panel surface.

N. Clean installed panel to remove all dirt, smudges, and construction dirt. Use only those cleaning products and procedures recommended by the fiberglass manufacturer.

O. For components requiring field painting after installation, use quality primer and paint as recommended by paint manufacturer

3.04 TOLERANCES

A. Maximum Variation From True Dimension: 1/8 inch.

B. Maximum Offset From True Position: 1/8 inch.

3.05 CLEANING

A. Clean and prepare surfaces for painting in accordance with manufacturer's instructions.

3.06 PROTECTION

A. Protect installed ceiling from subsequent construction operations.

B. Do not permit construction near unprotected surfaces.

END OF SECTION

SECTION 07 6200
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items including flashings, continuous cleats, and accessories.

B. Sealants for joints within sheet metal fabrications.

C. Copper basket strainers for gutter outlets

1.02 RELATED REQUIREMENTS

A. Section 07 7900 - Joint Sealants: Sealing non-lap joints between sheet metal fabrications and adjacent construction.

1.03 REFERENCE STANDARDS

A. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

B. ASTM B370 - Standard Specification for Copper Sheet, wire and Strip for Building Construction; 2012 (Reapproved 2019).

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

D. CDA A4050 - Copper in Architecture - Handbook; current edition.

E. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

C. Samples: Submit two samples, 12 inches in length, illustrating material of typical drip edge flashing.

1.06 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 10 years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

A. Stainless Steel: ASTM A666, Type 304 alloy, soft temper, 28 gauge, 0.0156 inch thick; smooth No. 4 - Brushed finish. Cleats to be 24 gauge.

B. Copper: ASTM B370, bright copper wire, natural finish.

2.02 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Form pieces in longest possible lengths.

C. Hem exposed edges on underside 1/2 inch; miter and seam corners.

D. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

E. Fabricate corners from one piece with minimum 18-inch long legs; seam for rigidity, seal with sealant.

2.03 ACCESSORIES

A. Fasteners: Stainless steel, with soft neoprene washers and lead anchors.

B. Slip Sheet: Rosin sized building paper.

C. Concealed Sealants: Non-curing butyl sealant.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing flashing can be lifted and new drip edge placed beneath.

B. Verify separation between metals once installed.

3.02 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil, 0.015 inch.

3.03 INSTALLATION

A. Comply with drawing details.

B. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted with Architect’s permission.

C. Apply plastic cement compound between metal flashings and building paper.

D. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

E. Install basket strainers over each gutter outlet. Secure in place with loops of gutter lining material, sealed in place.

3.04 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements for field inspection requirements.

B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION

SECTION 07 9200
JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

A. Section 07 7620 – Sheet Metal Flashing and Trim: Sealants required in conjunction with drip edge installation

B. Section 09 9000 – Exterior Painting: for prep of fiberglas sections prior to painting

1.03 REFERENCE STANDARDS

A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer; 2015.

B. ASTM C794 - Standard Test Method for Adhesion-In-Peel of Elastomeric Joint Sealants; 2018.

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

D. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.

E. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2018.

F. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2018.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.
   5. Substrates for which use of primer is required.
   6. Installation instructions, including precautions, limitations, and recommended backing materials and tools.

C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

1.05 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Correct defective work within a five year period after Date of Substantial Completion.

C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal , exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
   1. Dow; 790 as Basis of Design: www.dow.com

2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 JOINT SEALANT APPLICATIONS

A. Scope:
   1. Exterior Joints: Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include the following items:
      a. Joints between fiberglas sections of ceiling.
      d. Joints between sections of drip edge.
   2. Do not seal the following types of joints.
      a. Intentional weepholes in masonry.
      b. Joints between marble wall stones
      c. Joints between marble plaza stones

B. Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated.

2.03 NONSAG JOINT SEALANTS

A. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus 50% percent, minimum.
   2. Non-Staining to Porous Stone: Non-staining to light-colored natural stone when tested in accordance with ASTM C1248.
   3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
   4. Color: To be selected by Architect from manufacturer's standard range.
   5. Manufacturers:
      a. Dow; DOWSIL 790 Silicone Building Sealant: www.dow.com/#sle.
      b. Dow; DOWSIL 795 Silicone Building Sealant: www.dow.com/#sle.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C1193.

C. Measure joint dimensions and size joint backers to achieve the following, unless otherwise indicated in details:
   1. Width/depth ratio of 2:1.
   2. Neck dimension no greater than 1/3 of the joint width.
   3. Surface bond area on each side not less than 75 percent of joint width.

D. Install bond breaker backing tape where backer rod cannot be used.

E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

G. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.04 POST-OCCUPANCY

A. Post-Occupancy Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width; i.e. at low temperature in thermal cycle. Report failures immediately and repair.

END OF SECTION

SECTION 09 9000
EXTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Exterior paint and coating systems including surface preparation. Assume all existing paint contains lead and handle in accordance with all applicable regulations.

B. Scope: Finish all Ceiling areas within the Temple, all repaired surfaces, and all newly installed surfaces exposed to view with oil-based paint, unless otherwise indicated. Carry finish to a break in the surface plane. Match all existing colors.

C. Do Not Paint or Finish the Following Items:
1. Marble or other natural stone. Protect stone surfaces from paint splatter and drips.

1.02 RELATED REQUIREMENTS

A. Section 06 6100 – Fiberglas Resin Fabrications, substrate to be painted

1.03 DEFINITIONS

A. Conform to ASTM D 16 for interpretation of terms used in this section.

1.04 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D 16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2008.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: For the paint system indicated, including.
1. Product characteristics including VOC content.
2. Surface preparation instructions and recommendations.
3. Primer requirements and finish specification.
4. Storage and handling requirements and recommendations.
5. Application methods.

C. Samples: Submit two painted samples, illustrating selected colors and textures for each color and system selected with specified coats cascaded. Submit on tempered hardboard, 12x12 inch in size.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions. Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

1.07 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature or humidity ranges recommended by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Provide lighting level of 80 ft candles measured at substrate surface.

1.08 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
1. Finish surfaces for verification of products, colors and sheens.
2. Finish area designated by Architect.
3. Provide samples that designate primer and finish coats.
4. Do not proceed with remaining work until the Architect approves the mock-up.

1.09 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.

B. Furnish Owner with an additional one percent of each material and color, but not less than 1 gal (3.8 l) or 1 case, as appropriate.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Sherwin-Williams, Benjamin Moore, or equal.

B. Substitutions will be considered in accordance with provisions of Section 01 6000 - Product Requirements.

2.2 APPLICATIONS/SCOPE

A. Exterior Paint and Coating Systems:
1. Fiberglass ceiling, both new and existing work to remain.

2.3 PAINT MATERIALS - GENERAL

A. Paints and Coatings:
1. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color. Or follow manufactures product instructions for optimal color conformance.

B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

C. Coating Application Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer's specifications.

D. Color: Refer to Finish Schedule for paint colors, and as selected.

2.4 EXTERIOR PAINT AND COATING SYSTEMS1st

A. Fiberglass:
1. Oil or Urethane System:
a. As acceptable to fiberglass manufacturer
1) 1st Coat: Bonding Primer
2) 2nd Coat: Exterior Flat
3) 3rd Coat: Exterior Flat

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.

B. Patching Material: Gel coat filler.

C. Fastener Head Cover Material: Fiberglas gel coat filler or patching compound.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared; notify Architect of unsatisfactory conditions before proceeding. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

B. Proceed with work only after conditions have been corrected and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.

C. Previously Painted Surfaces: Prepare according to paint system manufacturer's instructions.

3.2 SURFACE PREPARATION

A. General: Surfaces shall be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
1. Prior to attempting to remove mildew, it is recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions are advised.
2. Remove mildew before painting by washing with a solution of 1 part liquid household bleach and 3 parts of warm water. Apply solution and scrub the mildewed area. Allow solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow surface to dry before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.
3. No exterior painting should be done immediately after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50 degrees F (10 degrees C), unless products are designed specifically for these conditions. On large expanses of metal siding, the air, surface and material temperatures must be 50 degrees F (10 degrees F) or higher to use low temperature products.
4. Sand or lightly abrade fiberglas surfaces as recommended by paint and casting manufacturers.
5. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

6. Install prep, primer and finish samples on both new and existing fiberglas for approval prior to work on larger areas. Locate where directed by Architect.

3.3 INSTALLATION

A Apply all coatings and materials with the manufacturer's specifications in mind. Mix and thin coatings according to manufacturer's recommendations.

B. Do not apply to wet or damp surfaces. Wait at least 30 days before applying to new concrete or masonry. Or follow manufacturer's procedures to apply appropriate coatings prior to 30 days. Test new concrete for moisture content. Wait until wood is fully dry after rain or morning fog or dew.

C. Apply coatings using methods recommended by manufacturer.

D. Uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.

E. Apply coatings at spreading rate required to achieve the manufacturers recommended dry film thickness.

F. Regardless of number of coats specified, apply as many coats as necessary for complete hide, and uniform appearance.

G. Inspection: The coated surface must be inspected and approved by the Architect just prior to the application of each coat.

3.4 PROTECTION

A. Protect adjacent masonry from paint or staining. Clean up drips immediately with warm water only. Do not use chemical cleaners.

B. Protect finished coatings from damage until completion of project.

C. Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

3.05 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

END OF SECTION

SECTION 31 2316
EXCAVATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Excavating for site structures.

B. Temporary excavation support and protection systems.

1.02 RELATED REQUIREMENTS

A. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring. General requirements for dewatering of excavations and water control.

B. Section 02 4100 - Demolition: Shoring and underpinning existing structures.

C. Section 31 2200 - Grading: Grading.

D. Section 31 2323 - Fill: Fill materials, backfilling, and compacting.

1.03 PRICE AND PAYMENT PROCEDURES

A. See Section 01 2200 - Unit Prices, for general requirements applicable to unit prices for excavation.

B. Unit Price ____: Excavating Soil Materials.
   1. Measurement Method: By the cubic foot.
   2. Includes: Excavating to required elevations, loading and placing materials in stockpile, and dewatering.
   3. Does Not Include Over-Excavation: Payment will not be made for over-excavated work nor for replacement materials.

1.04 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Project Record Documents: Record drawings at project closeout according to 01 7000 - Execution and Closeout Requirements. Show locations of installed support materials left in place, including referenced locations and depths, on drawings.

C. Field Quality Control Submittals: Document visual inspection of load-bearing excavated surfaces.

PART 2 PRODUCTS

2.01 MATERIALS

A. Bedding and Fill to Correct Over-Excavation: comply with RIDOT standards.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey bench mark and intended elevations for the work are as indicated.

B. Survey existing adjacent structures and improvements and establish exact elevations at fixed points to act as benchmarks.

3.02 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Locate, identify, and protect utilities that remain and protect from damage.

C. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

D. Protect plants, lawns, rock outcroppings, and other features to remain.

E. Grade top perimeter of excavation to prevent surface water from draining into excavation. Provide temporary means and methods, as required, to maintain surface water diversion until no longer needed, or as directed by Architect.

F. See Sections 01 7000 and 02 4100 for underpinning and shoring of adjacent structures that could be damaged by excavating work.

3.03 TEMPORARY EXCAVATION SUPPORT AND PROTECTION

A. Excavation Safety: Comply with OSHA's Excavation Standard, 29 CFR 1926, Subpart P.
   1. Excavations in stable rock or in less than 5 feet in depth in ground judged as having no cave-in potential do not require excavation support and protection systems.
   2. Depending upon excavation depth, time that excavation is open, soil classification, configuration and slope of excavation sidewalls, design and provide an excavation support and protection system that meets the requirements of 29 CFR 1926, Subpart P:
      a. Sloping and benching systems.
      b. Support systems, shield systems, and other protective systems.

3.04 EXCAVATING

A. Excavate to accommodate new structures and construction operations.
   1. Excavate to the specified elevations.
   2. Excavate to the length and width required to safely install, adjust, and remove any forms, bracing, or supports necessary for the installation of the work.
   3. Hand trim excavations. Remove loose matter.

B. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.

C. Do not interfere with 45 degree bearing splay of foundations.

D. Provide temporary means and methods, as required, to remove all water from excavations until directed by Architect. Remove and replace soils deemed suitable by classification and which are excessively moist due to lack of dewatering or surface water control.

3.05 FILLING AND BACKFILLING

A. Do not fill or backfill until all debris, water, unsatisfactory soil materials, obstructions, and deleterious materials have been removed from excavation. Use excavated material.

3.06 REPAIR

A. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31 2323.

3.07 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection and testing.

B. Provide for visual inspection of load-bearing excavated surfaces by Architect before placement of foundations.

3.08 CLEANING

A. Stockpile excavated material to be re-used in area designated on site in accordance with Section 31 2200.

B. Remove excavated material that is unsuitable for re-use from site.

C. Remove excess excavated material from site.

3.09 PROTECTION

A. Divert surface flow from rains or water discharges from the excavation.

B. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.

C. Protect open excavations from rainfall, runoff, freezing groundwater, or excessive drying so as to maintain foundation subgrade in satisfactory, undisturbed condition.

D. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

E. Keep excavations free of standing water and completely free of water during concrete placement.

END OF SECTION

SECTION 32 1440
STONE PAVING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Re-set of existing paver materials.

B. Matching stone for replacement pavers, set in existing locations

C. Removal of deteriorated bedding mortars and grout.

B. Mortar and grout materials.

1.02 RELATED REQUIREMENTS

A. None

1.03 PRICE AND PAYMENT PROCEDURES

A. See Section 01 2700 - Unit Prices, for additional unit price requirements.

1.04 REFERENCE STANDARDS

A. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2018.

B. ASTM C150/C150M - Standard Specification for Portland Cement; 2021.

C. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2019.

D. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

E. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2018.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Submit mortar setting mix and grout. Do mockup of 4' length for approval.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: Natural Stone Institute (NSI) Accredited Commercial B Contractor (light commercial); www.naturalstoneinstitute.org/#sle.

1.07 MOCK-UP

A. Provide paver mock-up, 4 feet long by 4 feet wide; include setting bed, pavers, curbs, joints, and edging.

B. See Section 01 4000 - Quality Requirements for additional requirements.

C. Locate where directed.

D. Mock-up may remain as part of the Work.

1.08 FIELD CONDITIONS

A. Maintain cementitious materials and substrate surface to a minimum of 50 degrees F prior to, during, and 48 hours after completion of work.

B. At end of working day or during rainy weather, cover work exposed to weather with waterproof coverings, securely anchored.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Marble Pavers:
   1. To match existing stone..

2.02 PAVER MATERIALS

A. Marble Pavers: Dimension stone units to match damaged piece being replaced. Color and grain to match existing stone.

2.03 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C150/C150M Type I, white color.

B. Sand: ASTM C144; sharp, clean, screened sand free of injurious amounts of organic material.

C. Water: Potable, not detrimental to mix.

2.04 ACCESSORIES

A. Sealant: ASTM C920, self-leveling or non-sag polyurethane or silyl-terminated polyether/polyurethane (STPE/STPU) sealant explicitly approved by manufacturer for traffic exposure without being recessed below the top of substrate surface.
   1. Color: As selected by Architect from manufacturer's full color range.

B. Backer Rod: ASTM C1330, closed-cell polyethylene, 25 to 33 percent larger in diameter than joint width.

2.05 MIXES

A. Mortar Bed: ASTM C270, using the Proportion Specification.

B. Joint Grout: Portland cement mix complying with the following:
   1. Compressive Strength (28 day): 2500 psi.
   2. Slump: 1 to 2 inches.
   3. Air Entrainment: 5 to 7 percent.
   4. Color Admixture: In accordance with manufacturer's instructions.

C. Add admixtures in accordance with manufacturer's instructions.

D. Thoroughly mix ingredients in quantities needed for immediate use.

E. Use within two hours after mixing. Do not re-temper.

2.06 FABRICATION

A. Fabrication Tolerances For Stone Units: Within 1/8 inch of actual dimensions.

PART 3 EXECUTION

3.01 PREPARATION

A. Remove damaged stone selected for replacement and template for new stone. Remove and carefully store undamaged stone in edge being reset. Protect from damage.

B. Remove deteriorated setting bed mortar and adjacent grouting.

C. Clean surfaces of adjacent stones to receive new grout.

3.02 INSTALLATION - MORTAR SETTING BED

A. Set paver units in full mortar bed of minimum 1 inch thickness, to support pavers over full bearing surface.

B. Place paver units in existing pattern, from straight reference edge.

C. Maintain uniform joint width between pavers, and at abutting vertical surfaces and protrusions. To accommodate grout, rake out joints 1/4 to 3/8 inch deep.

D. Fill joints with grout; pack and work into voids; neatly tool surface to concave joint. Wet cure.

3.03 CLEANING

A. Clean mortar from marble surfaces while still damp.

B. Clean soiled surfaces using water only. Do not harm pavers, joint materials, or adjacent surfaces.

C. Use non-metallic tools in cleaning operations.

D. Rinse surfaces with clean water.

3.04 PROTECTION

A. Do not permit traffic over unprotected paver surface.

END OF SECTION

SECTION 32 3000
SITE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete foundations for granite bollards.

B. Concrete reinforcement and accessories.

C. Concrete curing.

1.02 RELATED REQUIREMENTS

A. Section 32 3136 – Granite Bollards.

1.03 REFERENCE STANDARDS

A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; 1991 (Reapproved 2009).

B. ACI 301 - Specifications for Structural Concrete; 2016.

C. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).

D. ACI 305R - Guide to Hot Weather Concreting; 2010.

E. ACI 306R - Guide to Cold Weather Concreting; 2016.

F. ACI 308R - Guide to External Curing of Concrete; 2016.

G. ACI 318 - Building Code Requirements for Structural Concrete; 2019, with Errata (2021).

H. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2020.

I. ASTM A775/A775M - Standard Specification for Epoxy-Coated Steel Reinforcing Bars; 2019.

J. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2018.

K. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2021.

L. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2021b.

M. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2020.

N. ASTM C150/C150M - Standard Specification for Portland Cement; 2021.

O. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2016.

P. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2017.

Q. ASTM D3963/D3963M - Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Steel Reinforcing Bars; 2021.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

C. Mix Design: Submit proposed concrete mix design.
   1. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures.

D. Test Reports: Submit report for each test or series of tests specified.

E. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.

B. Follow recommendations of ACI 305R when concreting during hot weather.

C. Follow recommendations of ACI 306R when concreting during cold weather.

PART 2 PRODUCTS

2.01 REINFORCEMENT MATERIALS

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
   1. Type: Deformed billet-steel bars.
   2. Finish: Epoxy coated in accordance with ASTM A775/A775M, unless otherwise indicated.

B. Reinforcement Accessories:
   1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch.
   2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.

2.02 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
   1. Acquire cement for entire project from same source.

B. Fine and Coarse Aggregates: ASTM C33/C33M.
   1. Acquire aggregates for entire project from same source.

C. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.03 BONDING AND JOINTING PRODUCTS

2.04 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.

B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
   1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.

C. Normal Weight Concrete:
   1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 3,000 pounds per square inch.
   2. Water-Cement Ratio: Maximum 40 percent by weight.
   3. Total Air Content: 4 percent, determined in accordance with ASTM C173/C173M.
   4. Maximum Slump: 3 inches.
   5. Maximum Aggregate Size: 5/8 inch.

2.05 MIXING

A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.

B. Transit Mixers: Comply with ASTM C94/C94M.

C. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

A. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

A. Fabricate and handle epoxy-coated reinforcing in accordance with ASTM D3963/D3963M.

B. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

3.04 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Notify Architect not less than 24 hours prior to commencement of placement operations. Coordinate with bollard installation.

C. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

D. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

E. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.

3.05 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
   1. Normal concrete: Not less than seven days.

C. Surfaces Not in Contact with Forms:
   1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
   2. Final Curing: Begin after initial curing but before surface is dry.

3.06 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 4000 - Quality Requirements.

B. Provide free access to concrete operations at project site and cooperate with appointed firm.

C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.

D. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.

E. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cubic yards or less of each class of concrete placed.

F. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

G. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

3.07 DEFECTIVE CONCRETE

A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.

B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.

C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

3.08 PROTECTION

A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

SECTION 32 3136
GRANITE BOLLARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Security gates and barriers.

1.02 RELATED REQUIREMENTS

A. Section 31 2316 - Excavation: Excavating for footings and backfill

B. Section 32 3000 – Site Concrete: for bases into which the bollards are set

C. Section 32 3136 – Seeding: restoration of areas around bollards

1.03 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of work of this section; require attendance by affected installers.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Provide detailed drawings showing:
   1. Layout and overall dimensions of each major element of the bollards.
   2. Foundation and anchoring requirements of the bollards..

C. Project Record Documents: After completion of field tests, provide updated drawings, showing exactly where bollards are installed.

D. Maintenance Materials: Furnish the following for Owner's use in project maintenance.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Stock Materials: One of each kind of chain length, 10' and (4) bronze rings.

1.05 DELIVERY, STORAGE AND HANDLING

A. Store materials in a manner to ensure proper ventilation and drainage. Protect against damage, weather, vandalism and theft.

1.06 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a one year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 GRANITE BOLLARDS

A. Fixed Bollards: Permanently installed shaped granite single stones.
   1. Post Design: See details
   2. Mounting: Set into concrete.
   3. Height: See details. Field verify measurements prior to setting.
   4. Finish: Rough thermal finish. Submit stone and finish samples for approval. Color to match curbing granite in use at the Park.

2.02 BRONZE CHAIN

A. Chain: Single link chain formed of solid bronze 3/8” rod with sealed ends.

B. Rings: Rings of matching material with lead anchors and designed to screw into granite bollards

C. Chain lock: Provide oversize rings at ends of two chain sections between 8’ separated bollards that overlap for placement of Parks Dept. lock.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions:
   1. Verify location of existing utilities, grades and conditions of substrate.

3.02 INSTALLATION

A. Protect existing work from damage due to installation of this work.

B. Coordinate with concrete work to set bollards. Level to correct height above grade.

C. Install rings in predrilled holes. Cut chain to length to provide 12” drape between pairs of bollards.

3.03 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for additional requirements.

3.04 CLEANING

A. Touch up scratched surfaces using materials recommended by manufacturer.

B. See Section 01 7320 - Construction Waste Management and Disposal for additional requirements.

END OF SECTION

SECTION 32 9219
SEEDING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preparation of subsoil.

B. Providing and placing topsoil.

C. Seeding, mulching and fertilizer.

D. Soil pH neutralizer.

E. Maintenance.

1.02 DEFINITIONS

A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Topsoil samples.

C. Certificate: Certify seed mixture approval by authority having jurisdiction.

D. Maintenance Data: Include maintenance instructions, cutting method and maximum grass height; types, application frequency, and recommended coverage of fertilizer.

E. Maintenance Contract.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable. Deliver seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.

B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS

A. Comply with regulatory agencies for fertilizer and herbicide composition.

2.02 SEED MIXTURE

A. Seed Mixture:
   1. URI #2.

2.03 SOIL MATERIALS

A. Topsoil: Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, taken from drained site; free of subsoil, clay or impurities, plants, weeds and roots; pH value of minimum 5.4 and maximum 7.0.

2.04 ACCESSORIES

A. Mulching Material: Oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are not acceptable.

B. Fertilizer: Recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, as indicated by analysis.

C. Soil pH Neutralizer: Recommended for grass with acidic soils, as indicated by analysis.

D. Water: Clean, fresh and free of substances or matter that could inhibit vigorous growth of grass.

E. Erosion Fabric: Jute matting, open weave.

F. Stakes: Softwood lumber, chisel pointed.

G. String: Inorganic fiber.

2.05 TESTS

A. Provide analysis of topsoil fill under provisions of Section 01 4000.

B. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.

C. Submit minimum 10 oz sample of topsoil proposed. Forward sample to approved testing laboratory in sealed containers to prevent contamination.

D. Testing is not required if recent tests are available for imported topsoil. Submit these test results to the testing laboratory for approval. Indicate, by test results, information necessary to determine suitability.

PART 3 EXECUTION

3.01 PREPARATION

A. Prepare subgrade in accordance with RIDOT standards.

B. Place topsoil 6-8” thick in areas to be seeded.

3.02 FERTILIZING

A. Apply fertilizer in accordance with manufacturer's instructions.

B. Apply after smooth raking of topsoil and prior to roller compaction.

C. Do not apply fertilizer at same time or with same machine as will be used to apply seed.

D. Mix thoroughly into upper 2 inches of topsoil.

E. Lightly water to aid the dissipation of fertilizer.

3.03 SOIL NEUTRALIZER

A. Apply in accordance with manufacturer's instructions.

B. Apply after smooth raking of topsoil and prior to roller compaction.

C. Do not apply soil neutralizer at same time or with same machine used to apply seed.

D. Mix thoroughly into upper 2 inches of topsoil.

E. Lightly water to aid dissipation.

3.04 SEEDING

A. Apply seed at URI recommended rate evenly in two intersecting directions. Rake in lightly.

B. Do not seed areas in excess of that which can be mulched on same day.

C. Do not sow immediately following rain, when ground is too dry, or during windy periods.

D. Roll seeded area with roller not exceeding 112 lbs.

E. Immediately following seeding and compacting, apply mulch to a thickness of 1/8 inches. Maintain clear of shrubs and trees.

F. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.

G. Following germination, immediately re-seed areas without germinated seeds that are larger than 4 by 4 inches.

3.05 PROTECTION

A. Identify seeded areas with stakes and string around area periphery. Set string height to 30 inches.

B. Cover seeded slopes where grade is 4 inches per foot or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.

C. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Provide 12 inch overlap of adjacent rolls. Backfill trench and rake smooth, level with adjacent soil.

D. Secure outside edges and overlaps at 36 inch intervals with stakes.

E. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.

F. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.

3.06 MAINTENANCE

A. Provide maintenance at no extra cost to Owner; Owner will pay for water.

B. See Section 01 7000 - Execution Requirements, for additional requirements relating to maintenance service.

C. Provide maintenance of seeded areas for three months from Date of Substantial Completion.

D. Mow grass at regular intervals to maintain at a maximum height of 2-1/2 inches. Do not cut more than 1/3 of grass blade at any one mowing.

E. Neatly trim edges and hand clip where necessary.

F. Immediately remove clippings after mowing and trimming.

G. Water to prevent grass and soil from drying out.

H. Roll surface to remove minor depressions or irregularities.

I. Control growth of weeds. Apply herbicides in accordance with manufacturer's instructions. Remedy damage resulting from improper use of herbicides.

J. Immediately reseed areas that show bare spots.

K. Protect seeded areas with warning signs during maintenance period.

END OF SECTION