BlueSkies
CONSTRUCTION & DESIGN LLC
Tel:401.603.52879 / 781.5199612
blueskiescom@gmail.com or gabriel.varga@blueskiescd.com

AGREEMENT BETWEEN
THE CITY OF CENTRAL FALLS
AND
BLUE SKIES CONSTRUCTION & DESIGN LLC

This Agreement is made on this First of September (9/01/2016), between the owners; the City of Central Falls, and the Contractor, Blueskies Construction & Design LLC for the following Project:

Central Falls Traffic Circle: Roosevelt Avenue at Charles Street

The Owner and Contractor agree as follows:

ARTICLE 1

THE CONTRACT DOCUMENTS

The Contractor shall complete the Work described in the Contract Documents which consist of:

1. This Agreement signed by the Owner and Contractor;
2. The bid submitted by the Contractor attached as Appendix 1.
3. The General Conditions attached as Appendix 2.
4. The bid specifications attached as Appendix 3.

ARTICLE 2

DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION DATE

1. The date of commencement shall be no later than 10 days after the contract has

been signed into effect.

2. The Contractor shall substantially complete the Work no later than the thirtieth of September (9/30/2016) subject to adjustment by Change Order and weather permits.

3. The Contractor and Owner shall have a pre-construction meeting prior to the construction start date.

ARTICLE 3

CONTRACT SUM

3.1 Subject to additions and deductions by Change Order, the Contract sum is one hundred eighteen thousand dollars ($118,000.00)

3.2 For purposes of payment, the Contract Sum includes the following values related to portions of the Work: N/A

3.3 The Contract Sum shall include all items and services necessary for the proper execution and completion of the Work, with the exception of obtaining permits.

ARTICLE 4

PAYMENT

4.1 The Owner shall pay the Contractor as follows:

BlueSkies
CONSTRUCTION & DESIGN LLC
Tel:401.603.52879 / 781.5199612
blueskiescom@gmail.com or gabriel.varga@blueskiescd.com

1. Payment agreement per negotiation between parties.

4.2 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate of 12% per annum.

ARTICLE 5

INSURANCE

5.1 The Contractor shall provide Contractor's Liability and other Insurance of $1,000,000.

5.2 The Owner shall provide Owner's Liability and Owner's Property Insurance.

5.3 Certificates of insurance shall be provided by each party showing their respective coverages prior to commencement of the Work.

5.4 The Contractor shall obtain performance and payment bonds in the full amount of the contract prior to beginning work.

James Diossa, Mayor

Gabriel Varga

9/7/16

Len Morganis, AFO

Matt Jerzyk, City Solicitor

BlueSkies
CONSTRUCTION & DESIGN LLC
Tel:401.603.52879 / 781.5199612
blueskiescom@gmail.com or gabriel.varga@blueskiescd.com

Appendix #1

Central Falls Traffic Circle **September 1, 2016**

Roosevelt Avenue at Charles Street

Proposal includes:

DIVISION 0 – CONTRACTING REQUIREMENTS
- 00010 Central Falls Bid Requirements Bid Form

DIVISION 1 – GENERAL REQUIREMENTS
- 01000 General Requirements
- 01005 Administrative Provisions
- 01019 Contract Considerations
- 01039 Coordination and Meetings
- 01090 Abbreviations and Symbols
- 01300 Submittals
- 01400 Quality Control
- 01410 Testing Laboratory Services
- 01600 Materials and Equipment
- 01660 Mechanical and Electrical Coordination
- 01700 Contract Closeout
- 01730 Cleaning
- 01740 Construction Waste Management and Disposal

DIVISION 2 – SITE WORK
- 02001 General Site Conditions
- 02010 Subsurface Conditions
- 02100 Site Preparation
- 02200 Earth Excavation, Backfill, and Grading
- 02205 Soil Materials
- 02215 Aggregate Materials
- 02270 Soil Erosion and Sedimentation Control
- 02272 Geotextile Materials
- 02510 Bituminous Concrete Paving
- 02530 Sidewalks and Wheelchair Ramp (All Thicknesses)
- 02750 Cement Concrete Pavement
- 02800 Site Improvements
- 02900 Planting
- 02911 Soil Preparation
- 02920 Sodding
- 02921 Turf and Grasses

DIVISION 3 – CONCRETE
- 03001 Concrete
- 03300 Stamped Concrete

Total $ 118,000.00

*** Quote is valid for 30 days.

Sincerely,

Gabriel Varga
President
BlueSkies Construction & Design LLC
blueskiescomp@gmail.com
gabriel.varga@blueskiescd.com
Page: www.blueskiescd.com
OF (401) 603-5289
Cell (40/1) 588-0906

BlueSkies
CONSTRUCTION & DESIGN LLC
Tel:401.603.52879 / 781.5199612
blueskiescom@gmail.com or gabriel.varga@blueskiescd.com

APPENDIX 2

GENERAL CONDITIONS OF THE CONTRACT FOR FIRST OF SEPTEMBER (9/01/2016) AT ROOSEVELT AVENUE AT CHARLES STREET.

ARTICLE 1

GENERAL PROVISIONS

1.1 THE CONTRACT

The Contract represents the entire and integrated agreement between the parties and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a written modification.

1.2 THE WORK

The term "Work" means the construction and services required by the Contract Documents, and includes all other labor, materials, equipment and services provided by the Contractor to fulfill the Contractor's obligations.

1.3 INTENT

The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all.

ARTICLE 2

OWNER

2.1 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.1.1 If requested by the Contractor, the Owner shall furnish and pay for a survey and a legal description of the site.

2.1.2 Unless otherwise specified in the Contract Documents, the Owner shall obtain and pay for other necessary approvals, easements, assessments and

charges.

2.2 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work, which is not in accordance with the Contract Documents, the Owner may direct the Contractor in writing to stop the Work until the correction is made.

2.3 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven day period after receipt of written notice from the Owner to correct such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies, correct such deficiencies. In such case, a Change Order shall be issued deducting the cost of correction from payments due the Contractor.

ARTICLE 3

CONTRACTOR

3.1 EXECUTION OF THE CONTRACT

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

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner. Before commencing activities, the Contractor shall: (1) take field measurements and verify field conditions; (2) carefully compare this and other information known to the Contractor with the Contract

Documents; and (3) promptly report errors, inconsistencies or omissions discovered to the Owner.

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and

procedures, and for coordinating all portions of the Work.

3.3.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner names of subcontractors or suppliers for each portion of the Work. The Owner will promptly reply to the Contractor in writing if the Owner, after due investigation, has reasonable objection to the subcontractors or suppliers listed.

3.4 LABOR AND MATERIALS

3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work.

3.4.2 The Contractor shall deliver, handle, store and install materials in accordance with manufacturers' instructions.

3.5 WARRANTY

The Contractor warrants to the Owner that: (1) materials and equipment furnished under the Contract will be new and of good quality unless otherwise required or permitted by the Contract Documents; (2) the Work will be free from defects not inherent in the quality required or permitted; and (3) the Work will conform to the requirements of the Contract Documents.

3.6 TAXES

The Contractor shall Not pay sales (this is a tax exempt project and the owner already provided the certification to the GC), consumer, use and similar taxes that are legally required when the Contract is executed.

3.7 PERMITS, FEES AND NOTICES

The Owner shall obtain and pay for the building permit and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work.

3.8 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by law, ordinances,

permits, the Contract Documents and the Owner.

3.9 CUTTING AND PATCHING

The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly.

3.10 CLEANING UP

The Contractor shall keep the premises and surrounding area free from accumulation of debris and trash related to the Work.

ARTICLE 4

CHANGES IN THE WORK

4.1 After execution of the Contract, changes in the Work may be accomplished by Change Order or by order for a minor change in the Work. The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

4.2 A Change Order shall be a written order to the Contractor signed by the Owner to change the Work, Contract Sum or Contract Time.

4.3 If concealed or unknown physical conditions are encountered at the site that differ materially from those indicated in the Contract Documents or from those conditions ordinarily found to exist, the Contract Sum and Contract Time shall be subject to equitable adjustment.

ARTICLE 5

TIME

5.1 Time limits stated in the Contract Documents are of the essence of the Contract.

5.2 If the Contractor is delayed at any time in progress of the Work by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control, the Contract Time shall be extended by Change Order for a reasonable time.

BlueSkies
CONSTRUCTION & DESIGN LLC
Tel:401.603.52879 / 781.5199612
blueskiescom@gmail.com or gabriel.varga@blueskiescd.com

ARTICLE 6

PAYMENTS AND COMPLETION

6.1 CONTRACT SUM

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

6.2 APPLICATIONS FOR PAYMENT

6.2.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Owner an itemized Application for Payment for operations completed in accordance with the values stated in the Agreement. Such application shall be supported by such data substantiating the Contractor's right to payment as the Owner may reasonably require and reflecting retainage if provided for elsewhere in the Contract Documents.

6.2.2 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment, all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or other encumbrances adverse to the Owner's interests.

6.2.3 The Contractor shall provide certified payrolls of the work for which payment is requested to the Owner's satisfaction prior to the Owner providing payment to the Contractor.

6.3 PROGRESS PAYMENTS

6.3.1 The Contractor shall promptly pay each Subcontractor and material supplier, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such entities' portion of the Work.

6.3.2 The Owner shall have no responsibility for the payment of money to a Subcontractor or material supplier.

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

6.4 SUBSTANTIAL COMPLETION

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

6.5 FINAL COMPLETION AND FINAL PAYMENT

6.5.1 Upon receipt of a final Application for Payment, the Owner will inspect the Work.

6.5.2 Final payment shall become due upon the satisfactory completion of the work.

ARTICLE 7
PROTECTION OF PERSONS AND PROPERTY

7.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs, including all those required by law in connection with performance of the Contract. The Contractor shall promptly remedy damage and loss to property caused in whole or in part by the Contractor, or by anyone for whose acts the Contractor may be liable.

ARTICLE 8

MISCELLANEOUS PROVISIONS

8.1 ASSIGNMENT OF CONTRACT

Neither party to the Contract shall assign the Contract as a whole without written consent of the other.

8.2 GOVERNING LAW

The Contract shall be governed by the law of the place where the project is located.

ARTICLE 9

TERMINATION OF THE CONTRACT

9.1 TERMINATION BY THE CONTRACTOR

If the Owner fails to make payment when due or substantially breaches any other obligation of this Contract, following seven days' written notice to the Owner, the Contractor may terminate the Contract and recover from the Owner payment for Work executed and for proven loss with respect to materials, equipment, tools, construction equipment and machinery, including reasonable overhead, profit and damages. Any claim for damages by the Contractor shall be subject to the procedures for dispute resolution specified in Article 10 of the General Conditions.

9.2 TERMINATION BY THE OWNER

9.2.1 The Owner may terminate the Contract if the Contractor following seven days written notice from the Owner:

.1 persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;

.3 persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction; or

.4 is otherwise guilty of substantial breach of a provision of the Contract Documents.

9.2.2 When the Owner terminates the Contract in accordance with Subparagraph 9.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

9.2.3 If the unpaid balance of the Contract Sum exceeds costs of finishing the

Work, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Owner may recover from the Contractor the reasonable and necessary costs incurred in completing the work that exceeds the contract sum. Any claim for damages by the Owner shall be subject to the Dispute Resolution Procedures specified in Article 10 of the General Conditions.

ARTICLE 10

RESOLUTION OF CLAIMS AND DISPUTES

10.1 MEDIATION

10.1.1 The Owner and Contractor intend to endeavor to resolve their claims and other matters in question between them by mediation and negotiation

which, unless the parties mutually agree otherwise, shall be in accordance

with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect. Request for mediation shall be filed in writing with the other party to the Contract and with the American Arbitration Association.

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

10.2 ARBITRATION

10.2.1 Claims not resolved by mediation shall be decided by arbitration which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect. The demand for arbitration shall be filed in writing with the other party to the Contract and with the American Arbitration Association.

10.2.2 Demand for arbitration shall be made within thirty (30) days of the completion of mediation. The award rendered by the Arbitrator shall be final and judgment may be entered upon it in accordance with applicable law in a court having jurisdiction thereof.

IN WITNESS WHEREOF, the parties have executed this Agreement this 2nd day of September, 2016.

CITY OF CENTRAL FALLS:

By:_____
James Diossa
Mayor

By:_____
As to Form and Correctness
Matthew Jerzyk
City Solicitor

By:_____ 9/7/16
Reviewed
Leonard Morganis
Administrative and Finance Officer

Date: 9/7/16

CONTRACTOR:

By:_____
Blue Skies

Date: 9-12-16

PRE-CONSTRUCTION CONFERENCE

SAMPLE

Project Name: Roosevelt Ave Traffic Circle Project Number: _____

Conference Date: 9 / 8 / 16 Conference Location: Third Floor Conference Room

Location: 580 Broad St
Central Falls, RI 02863

Description of work to be Performed:

Contractor: Blue Skies Contract Amount: _____

Participants:

Name	Title
Peter Friedrichs	Director of Planning & Econ. Devel.
WILDER ARBOLEDA	COMMUNITY DEVELOPMENT MANAGER
Gabriel Varga	President

Items Covered:

- ___ Labor Standards
- ___ HUD Act of 1968, Sect. 3
- ___ Equal Opportunity
- ___ City/Town Responsibilities
- ___ Contractor Responsibilities
- ___ Reporting Requirements and Sanctions

Other: _____

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 8/11/16

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Insurance Leader Inc.
1237 Elmwood Avenue
Providence RI 02907

CONTACT NAME: Svaing
PHONE (A/C, No, Ext): (401) 781-1810 FAX (A/C, No): (401) 781-1816
E-MAIL ADDRESS: sinsurance2@live.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Main Street America Group	
INSURER B: Torus Insurance Company	
INSURER C:	
INSURER D:	
INSURER E:	
INSURER F:	

INSURED
Blueskies Construction and Designs LLC
25 Boundary Avenue
Providence RI 02909

COVERAGES **CERTIFICATE NUMBER:** REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	CLAIMS-MADE OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
	GEN'L AGGREGATE LIMIT APPLIES PER						PERSONAL & ADV INJURY	$
	POLICY PRO-JECT LOC						GENERAL AGGREGATE	$
	OTHER						PRODUCTS - COMP/OP AGG	$
								$
A	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS			B1T4316T	09/26/15	09/26/16	BODILY INJURY (Per accident)	$
	HIRED AUTOS / NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
B	X UMBRELLA LIAB X OCCUR						EACH OCCURRENCE	$ 1,000,000
	EXCESS LIAB CLAIMS-MADE			JB1922	09/26/15	09/26/16	AGGREGATE	$ 1,000,000
	DED RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						PER STATUTE / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N N / A (Mandatory in NH)						E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Central Falls Traffic Circle
Roosevelt Ave at Charles St

CERTIFICATE HOLDER
City of Central Falls
580 Broad Street
Central Falls, RI 02863

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE <DA>

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
8/11/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER

Pascal Burke Insurance Agency
P.O. Box 8537
Newport Beach, CA 92658

CONTACT NAME: Pascal Burke
PHONE (A/C, No, Ext): 877-893-7629 FAX (A/C, No): 855-646-0304
E-MAIL ADDRESS: insure@pmaxins.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : United Specialty Insurance Company	12537
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED

Blue Skies Construction & Design LLC
25 Boundary Ave
Providence, RI 02909

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY							
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR	Y	Y	SII4003A28253	07/23/2016	07/23/2017	EACH OCCURRENCE	$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 50,000
							MED EXP (Any one person)	$ 5,000
							PERSONAL & ADV INJURY	$ 1,000,000
							GENERAL AGGREGATE	$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER X POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 1,000,000
								$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS						BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DED RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N / A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						WC STATU-TORY LIMITS OTH-ER	
							E.L. EACH ACCIDENT	$
							E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Central Falls Traffic Circle
Roosevelt Ave at Charles Street

CERTIFICATE HOLDER

City of Central Falls
580 Broad St
Central Falls, RI 02863

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS

AUTHORIZED REPRESENTATIVE

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
8/11/206

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Builders Insurance Group
450 Veterans Memorial Parkway
Suite 301A
East Providence RI 02914-5380

CONTACT NAME: Michelle Soares
PHONE (A/C, No, Ext): (401)438-4244 FAX (A/C, No): (401)438-8244
E-MAIL ADDRESS: msoares@builderinsgroup.com

INSURER(S) AFFORDING COVERAGE — NAIC #
INSURER A: Beacon Mutual Insurance Co.
INSURER B:
INSURER C:
INSURER D:
INSURER E:
INSURER F:

INSURED
BlueSkies Construction & Design LLC
25 Boundary Ave
Providence RI 02909

COVERAGES — CERTIFICATE NUMBER: 16 WC only — REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY						
	CLAIMS-MADE OCCUR						EACH OCCURRENCE $
							DAMAGE TO RENTED PREMISES (Ea occurrence) $
							MED EXP (Any one person) $
							PERSONAL & ADV INJURY $
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE $
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG $
	OTHER						$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident) $
	ANY AUTO						BODILY INJURY (Per person) $
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident) $
	HIRED AUTOS / NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident) $
							$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE $
	EXCESS LIAB CLAIMS-MADE						AGGREGATE $
	DED RETENTION $						$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						X PER STATUTE / OTH-ER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	N/A		75144	10/7/2015	10/7/2016	E.L. EACH ACCIDENT $ 500,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE $ 500,000
							E.L. DISEASE - POLICY LIMIT $ 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Central Falls Traffic Circle: Roosevelt Ave at Charles St

CERTIFICATE HOLDER

City of Central Falls
580 Broad St.
Central Falls, RI 02863

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Miriam A. Soares

USER NAME PASSWORD LOG IN

Forgot Username? Forgot Password?

Create an Account

SAM.gov will be down for scheduled maintenance Saturday, 09/10/2016, from 8:00 AM to 02:00 PM (EDT).

Entity Dashboard

- Entity Overview
- Entity Registration
  - Core Data
  - Assertions
  - Reps & Certs
  - POCs
- Exclusions
  - Active Exclusions
  - Inactive Exclusions
  - Excluded Family Members

RETURN TO SEARCH

Blue Skies Construction and Design LLC

DUNS: 079604263 CAGE Code: 79MK2

Status: Active

57 Asylum
Warren, RI 02885-1750
UNITED STATES

Expiration Date: 09/09/2017

Purpose of Registration: All Awards

Entity Overview

Entity Registration Summary

Name: Blue Skies Construction and Design LLC
Business Type: Business or Organization
Last Updated By: Ira de Rijke
Registration Status: Active
Activation Date: 09/09/2016
Expiration Date: 09/09/2017

Exclusion Summary

Active Exclusion Records? No

Bid Enclosed for:

Central Falls Traffic Circle:

Roosevelt Avenue at Charles Street, RI

August 11, 2016

4:00 PM

BlueSkies
CONSTRUCTION & DESIGN LLC

BlueSkies is a General Contractor dedicated to building and renovating commercial and residential projects in the construction industry. We do new construction from the ground up as well as fit ups. A large part of our business is derived from networking with Architects, engineers and personal contacts. We also focus much of our attention on the need for Minority Businesses for state and government work and work closely with various MBE subcontractors. We are a registered MBE and DBE in the states of Massachusetts and Rhode Island. We guarantee the quality of our work.

Our services include:

- General Contracting
- Project Management
- Interior & Exterior Painting
- Rough & Finished Carpentry

Gabriel Varga is a URI graduate in Civil Engineering with over 20 years of experience in the construction field. He has worked as a Project Manager for many years and many companies such as Stop & Shop, Timberland Construction, as well as owned a construction & paint company in the past. He is excellent with numbers and has strong negotiating skills paired with good sense of customer service and strong work ethics. He is knowledgeable, reliable and a problem solver.

Arthur "AJ" Joubert is also a Civil Engineer and has been the Director of Construction at Stop & Shop with various Managerial titles since 1998. He and Gabriel worked together for many years building the Stop & Shop chain in the New England area. Owning his own business Arthur build various McDonald's and Burger King chain restaurants. In all he has over 40 years of experience in the construction field. Now he is on board with BlueSkies bringing a wealth of knowledge as well as new client and project opportunities. AJ also assists with Project Management and Estimation.

Marilyn Rojas studied Engineering at URI and has over 15 years of experience working in design & drafting. Her knowledge plays an important role when it comes to supervising and estimating projects. She has dealt with architects, structural engineers as part of their consultation team, as well as city officials, permit & zoning departments, and several other boards, in conjunction with residential and commercial projects.

I hope this gives you a good understanding of who we are and the knowledge that we bring to the table. We are confident that you will be satisfied with the end result of the project and we are looking forward to working with you. We would be happy to provide letters of recommendation or for more information, please visit our website: www.BlueSkiescd.com

THE AMERICAN INSTITUTE OF ARCHITECTS

AIA Document A310

Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we **Blueskies Construction & Design LLC of 25 Boundary Ave., Providence, RI 02909** as Principal, hereinafter called the Principal, and **Western Surety Company** a corporation duly organized under the laws of the state of **South Dakota** as Surety, hereinafter called the Surety, are held and firmly bound unto **City of Central Falls, RI** as Obligee, hereinafter called the Obligee, in the sum of **Five Percent of the Amount of the Attached Bid**

Dollars **($ 5% of Bid)**,

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents

WHEREAS, the Principal has submitted a bid for **Central Falls Traffic Circle, Roosevelt Ave at Charles Street**

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect

Signed and sealed this **11th day of August, 2016**

(Witness)
Ira de Rijke, VP.

Blueskies Construction & Design LLC
(Principal) *(Seal)*
By: Gabriel Xavier, President

(Witness)

Western Surety Company
(Surety) *(Seal)*
By: Charles A. Byrne *(Title)* Attorney-in-Fact

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

David J Byrne III, Charles A Byrne, Individually

of East Providence, RI, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 2nd day of October, 2012.

WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota }
County of Minnehaha }

On this 2nd day of October, 2012, before me personally came Paul T. Bruflat to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota, that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires
June 25, 2013

J. Mohr, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY, do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation, printed on the reverse hereof, is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 22nd day of August, 2016.

WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4.5-7-2012

BID FORM

Item No.	Amount	Description	Total Price (in numbers)
1	1	Mobilization (Lump Sum) (Price per Lump Sum) $ 4,000 (in numbers) $ four thousand (in words)	$4000
2	1	Cleaning and Maintenance of Erosion Controls (Price per Lump Sum) $ 10,000 (in numbers) $ ten thousand (in words)	$10,000
3	1	Maintenance and Movement of Traffic Protection (Price per Lump Sum) $ 13,000 (in numbers) $ thirteen thousand (in words)	$13,000
4	1	Waste Management Plan (Price per Lump Sum) $ 2,500 (in numbers) $ two thousand five hundred (in words)	$2,500
5	1	Construction Staking and Survey (Price per Lump Sum) $ 4,000 (in numbers) $ four thousand (in words)	$4000
6	270	Sawcut Existing Pavement (Price per Lineal Foot) $ 4 (in numbers) $ four dollars (in words)	$1620
7	3	Install Curb Inlet Sediment Control (Price per Each) $ 150 (in numbers) $ one hundred fifty (in words)	$450
8	932	Remove and Dispose Existing Pavement (Price per Square Foot) $ 2,330 (in numbers) $ two thousand three hundred thirty (in words)	2,330
9	175	Remove and Dispose Existing Sidewalk (Price per Square Foot) $ 5 (in numbers) $ five (in words)	$875
10	3	Remove and Stack Signs (Price per Each) $ 200 $ two hundred dollars	$600

Item No.	Amount	Description	Total Price (in numbers)
		(in numbers) (in words)	
11	2	Remove Pole $ 1800 $ one thousand eight hundred (in numbers) (in words)	1800
12	304	Eradicate Existing Pavement Markings (Price per Lineal Foot) $ $ (in numbers) (in words)	
13	3	Place Hoods on Signal Heads and Turn Head 90-degrees $ 2250 $ two thousand two hundred fifty (in numbers) (in words)	$2250
14	2	Place Hoods on Push Buttons and Turn Head 90-degrees $ 800 $ eight hundred (in numbers) (in words)	$800
15	38	Construct 6" Vertical Granite Curb (Price per Lineal Foot) $ 3800 $ three thousand eight hundred (in numbers) (in words)	$3800
16	66	Construct Truck Apron Curb (Price per Lineal Foot) $ 9240 $ nine thousand two hundred forty (in numbers) (in words)	$9240
17	5	Construct 8" Thick Stamped Concrete Truck Apron (Price per Cubic Yard) $ 6000 $ six thousand (in numbers) (in words)	$6000
18	5.5	Construct 8" Thick Stamped Concrete Flush Splitters (Price per Cubic Yard) $ 7425 $ seven thousand four hundred twenty five (in numbers) (in words)	$7425
19	0.3625	2" of Class I-1 Bituminous Surface Course (Price per Ton) $ 363 $ three hundred sixty three (in numbers) (in words)	363

Item No.	Amount	Description	Total Price (in numbers)
20	0.725	4" Modified Bituminous Base Course (Price per Ton) $ 100/TON (in numbers) $ $ONE HUNDRED/TONE (in words)	725
21	12	12" Gravel Borrow Base Course (Price per Cubic Yard) $ 100 CY (in numbers) $ ONE HUNDRED (in words)	1200
22	2	Construct 4" Thick Concrete Sidewalk (Price per Cubic Yard) $ 500/CY (in numbers) $ FIVE HUNDRED (in words)	1000
23	2	Traffic Circle Landscaping (Price per Cubic Yard) $ 2000 (in numbers) $ two thousand (in words)	2000
24	3	Construct ADA Wheelchair Ramp (Price per Each) $ 500 (in numbers) $ five hundred (in words)	$1500
25	19	Install Flexposts (Price per Each) $ 263 (in numbers) $ two hundred sixty three (in words)	$5000
26	3,060	Apply Epoxy Surface to Existing Roadway (Price per Square Foot) $ (in numbers) $ (in words)	$2500
27	2,100	Install Pavement Markings (Price per Lineal Foot) $ (in numbers) $ (in words)	
28	3	Shared Lane Marking (Price per Each) $ (in numbers) $ (in words)	
29	19	Install Sign (Price per Each) $ 100 $ one hundred	$1900

Item No.	Amount	Description	Total Price (in numbers)
		(in numbers) (in words)	
30	11	Install Sign Post (Price per Each) $ 350 $ three hundred fifty (in numbers) (in words)	$3850
31	40	Install 3" Schedule 40 Conduit (Price per Lineal Foot) $ 135 $ one hundred thirty five (in numbers) (in words)	$5400

Total Project Cost :

$ $118000

(in numbers)

$ one hundred ~~fifteen~~ Eighteen thousand dollars GV

(in words)

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
8/11/16

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER

CONTACT NAME:
PHONE (A/C, No, Ext):
E-MAIL ADDRESS:
FAX (A/C, No):

INSURED

INSURER(S) AFFORDING COVERAGE
INSURER A:
INSURER B:
INSURER C:
INSURER D:
INSURER E:
INSURER F:

COVERAGES | CERTIFICATE NUMBER | REVISION NUMBER

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY					
	CLAIMS-MADE OCCUR					
	GEN'L AGGREGATE LIMIT APPLIES PER:					
	POLICY PRO- JECT LOC					
	AUTOMOBILE LIABILITY					
	ANY AUTO					
	ALL OWNED AUTOS					
	SCHEDULED AUTOS					
	HIRED AUTOS					
	NON-OWNED AUTOS					
	UMBRELLA LIAB					
	EXCESS LIAB					
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY					
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Central Falls Traffic Circle
Roosevelt Ave at Charles St

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Peter Bonz

ACORD

CERTIFICATE OF LIABILITY INSURANCE

8/11/206

THIS CERTIFICATE IS ISSUED AS A MATTER OF [illegible] AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

COVERAGES	CERTIFICATE NUMBER:	REVISION NUMBER:
TYPE OF INSURANCE	POLICY NUMBER	POLICY EFF (MM/DD/YY)	POLICY EXP (MM/DD/YY)	LIMITS

Central Falls Traffic Circle Roosevelt Ave at Charles St

CERTIFICATE HOLDER

CANCELLATION

CERTIFICATE OF LIABILITY INSURANCE

8/11/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER

Pascal Burke Insurance Agency
P O Box 8537
Newport Beach CA 92658

CONTACT NAME: Pascal Burke
PHONE A/C, No, Ext: 877-893-7629 FAX A/C, No: 855-646-0304
E-MAIL ADDRESS: insure@pmaxins.com

INSURER(S) AFFORDING COVERAGE — NAIC #
INSURER A: United Specialty Insurance Company — 12537
INSURER B:
INSURER C:
INSURER D:
INSURER E:
INSURER F:

INSURED

Blue Skies Construction & Design LLC
25 Boundary Ave
Providence RI 02909

COVERAGES — CERTIFICATE NUMBER: — REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	
	GENERAL LIABILITY						1,000,000
	X COMMERCIAL GENERAL LIABILITY						50,000
A	CLAIMS-MADE X OCCUR	X	Y	Y	SII4003A28253	07/23/2016	07/23/2017
							5,000
							1,000,000
							2,000,000
							1,000,000
	X ANY AUTO						
	ALL OWNED AUTOS						
	SCHEDULED AUTOS						
	HIRED AUTOS						
	NON-OWNED AUTOS						
	UMBRELLA LIAB						
	EXCESS LIAB						
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)						

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Central Falls Traffic Circle
Roosevelt Ave at Charles Street

CERTIFICATE HOLDER

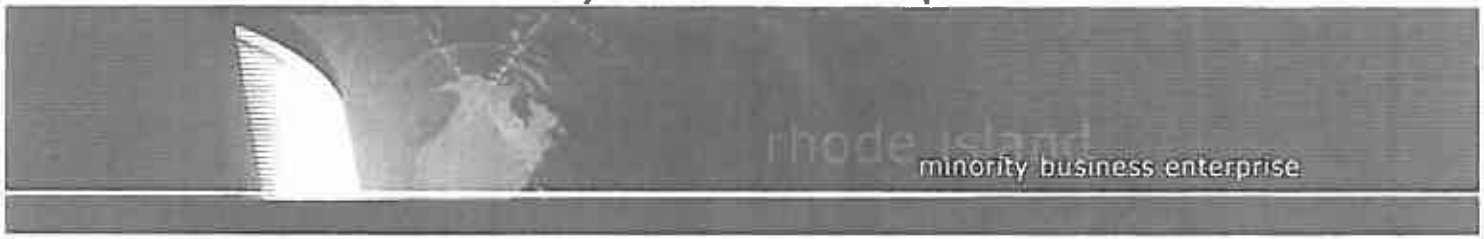
City of Central Falls
580 Broad St
Central Falls RI 02863

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

the rhode island minority business enterprise



Navigate
Home
News
Definition
Mission
Directory Search
Regulations
Forms and Applications
Board Meetings
Links

Blueskies Construction & Design, LLC	
Mr. Gabriel Varga	
25 Boundary Ave	
Providence , RI 02909	
Phone: (401) 603-5289	
Fax:	
E-Mail: blueskiescomp@gmail.com	
MBE Cert: MBE	**Status:** H
DBE Cert: DBE	
TDC Code:	
Products: general contracting services including commercial and residential new construction, renovations and remodeling, rough carpentry, finished carpentry, rough framing, painting, windows and doors, exterior restoration, kitchens and baths, flooring, tile, and parking lot striping	
Primary NAICS Code: 236220	**Other NAICS Code:** 236118, 238130, 238170, 238310, 238320, 238350

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
8/11/16

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER

CONTACT NAME:
PHONE (A/C, No, Ext):
E-MAIL ADDRESS:
FAX (A/C, No):

INSURER(S) AFFORDING COVERAGE

INSURER A:
INSURER B:
INSURER C:
INSURER D:
INSURER E:
INSURER F:

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY						
	CLAIMS-MADE OCCUR						
	GEN'L AGGREGATE LIMIT APPLIES PER:						
	POLICY PRO- JECT LOC						
	AUTOMOBILE LIABILITY						
	ANY AUTO						
	ALL OWNED AUTOS						
	SCHEDULED AUTOS						
	HIRED AUTOS						
	NON-OWNED AUTOS						
	UMBRELLA LIAB						
	EXCESS LIAB						
	DED RETENTION						
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)						
	If yes, describe under DESCRIPTION OF OPERATIONS below						

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Central Falls Traffic Circle
Roosevelt Ave at Charles St

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Peter Bonz

CERTIFICATE OF LIABILITY INSURANCE

8/11/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER

Pascal Burke Insurance Agency
P O Box 8537
Newport Beach CA 92658

CONTACT NAME: Pascal Burke
PHONE (A/C, No, Ext): 877-893-7629 FAX (A/C, No): 855-646-0304
E-MAIL ADDRESS: insure@pmaxins.com

INSURER(S) AFFORDING COVERAGE — NAIC #
INSURER A: United Specialty Insurance Company — 12537
INSURER B:
INSURER C:
INSURER D:
INSURER E:
INSURER F:

INSURED

Blue Skies Construction & Design LLC
25 Boundary Ave
Providence RI 02909

COVERAGES — CERTIFICATE NUMBER: — REVISION NUMBER

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	GENERAL LIABILITY						EACH OCCURRENCE $ 1,000,000
	X COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) $ 50,000
	CLAIMS-MADE X OCCUR						MED EXP (Any one person) $ 5,000
A		X	Y	Y	SII4003A28253	07/23/2016	07/23/2017 PERSONAL & ADV INJURY $ 1,000,000
							GENERAL AGGREGATE $ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG $ 1,000,000
	POLICY PRO- JECT LOC						
	X AUTOMOBILE LIABILITY						
	ANY AUTO						
	ALL OWNED AUTOS						
	SCHEDULED AUTOS						
	HIRED AUTOS						
	NON-OWNED AUTOS						
	UMBRELLA LIAB						
	EXCESS LIAB						
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	N/A					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Central Falls Traffic Circle
Roosevelt Ave at Charles Street

CERTIFICATE HOLDER

City of Central Falls
580 Broad St
Central Falls RI 02863

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
8/11/16

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER

CONTACT NAME
PHONE (A/C, No, Ext)
FAX (A/C, No)
E-MAIL ADDRESS

INSURER(S) AFFORDING COVERAGE

INSURER A
INSURER B
INSURER C
INSURER D
INSURER E
INSURER F

INSURED

COVERAGES | CERTIFICATE NUMBER | REVISION NUMBER

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY					EACH OCCURRENCE $ DAMAGE TO RENTED PREMISES (Ea occurrence) $ MED EXP (Any one person) $ PERSONAL & ADV INJURY $ GENERAL AGGREGATE $ PRODUCTS - COMP/OP AGG $
	GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC					
	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS					COMBINED SINGLE LIMIT (Ea accident) $ BODILY INJURY (Per person) $ BODILY INJURY (Per accident) $ PROPERTY DAMAGE (Per accident) $
	UMBRELLA LIAB EXCESS LIAB					EACH OCCURRENCE $ AGGREGATE $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	N/A				PER STATUTE E.L. EACH ACCIDENT $ E.L. DISEASE - EA EMPLOYEE $ E.L. DISEASE - POLICY LIMIT $
	DESCRIPTION OF OPERATIONS BELOW					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ATTACH ACORD 101, Additional Remarks Schedule, if more space is required)

Central Falls Traffic Circle
Roosevelt Ave at Charles St

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Peter Bonz

THE HONORABLE JAMES A. DIOSSA, MAYOR

Owner: **CITY OF CENTRAL FALLS**
580 BROAD STREET
CENTRAL FALLS, RI 02863

Project: Central Falls Traffic Circle:
Roosevelt Avenue at Charles Street

July 15, 2016
Project Manual

Toole Design Group, LLC
33 Broad Street, 4th Floor
Boston, MA 02109
T: (617) 619-9910
F: (301) 927-2800

PROJECT MANUAL TABLE OF CONTENTS

END OF PROJECT MANUAL TABLE OF CONTENTS

SECTION 00010
CENTRAL FALLS BID REQUIREMENTS

1. Receipt and Opening of Bids

Sealed bids will be accepted in the office of the Purchasing Agent, City Hall, Central Falls, Rhode Island, until 4:00 PM on Thursday, August 11, 2016, for the commodities, equipment or services listed in the specifications, and will be then publicly opened and read at 6:00 PM on Thursday, August 11, 2016 in the City Hall Council Chambers.

Bid must be submitted in a sealed envelope and addressed to:

City of Central Falls
Purchasing Department
580 Broad St.
Central Falls, RI 02863

Lower left corner of envelope must contain the following identification: SEALED BID, Roosevelt Ave. Traffic Circle, Bid Number 20160009. All bids must be received by 4:00 P.M. in the Office of the Purchasing Agent on Thursday, August 11, 2016. NO BIDS WILL BE ACCEPTED AFTER 4:00 P.M.

2. Form of Bid

Bids shall be submitted with one Original and 4 Copies, with supplemental information, drawings, warranties and other required documentation, literature and material to be provided, with the bid.

3. Submission of Bids

a. Envelopes containing bids must be sealed and addressed to the Purchasing Agent, City Hall, 580 Broad Street, Central Falls, RI 02863 and must be marked with the name and address of the bidder, date and hour of opening, and name of bid item.
b. Any bidder may withdraw their bid by written request at any time prior to the advertised time for opening. Telephone bids, amendments, or withdrawals will not be accepted.
c. Unless otherwise specified, no bid may be withdrawn for a period of thirty (30) days from time of bid opening.
d. Negligence on the part of the bidder in preparing the bid confers no rights for the withdrawal of the bid after it has been opened.
e. Bids received prior to the time opening will be securely kept, unopened. No responsibility will be attached to an officer or person for the premature opening of a bid not properly addressed and identified.
f. Any deviation from the specifications must be noted in writing and attached as a part of the bid. The bidder shall indicate the item or part with the deviation and indicate how the bid will deviate from specifications.
g. A five percent (5%) bid bond is required to accompany all bids in the form of certified check, cashier's check, treasurer's check, or bid bond in the amount of five (5%) percent of the total bid. If the bidder is a partnership, the bond should be signed by each of the individuals who are partners. If the bidder is a corporation, the bond should be signed in its correct incorporated name by a duly authorized officer, agent, or attorney- in -fact and there should be attached to it a certified copy of their power of attorney to sign such bonds. There should be executed an appropriate number of counterparts of the bond corresponding to the number of

counterparts of the contract. The surety, for value received, hereby stipulates and agrees that the obligations of said surety and its bond shall be in no way impaired or affected by any extension of the time within which the owner may accept such bid; and said surety does hereby waive notice of any such extension. Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

h. Specifications shall be made a part of any contract by and between the City of Central Falls and the bidder.
i. If the estimated cost of the article or labor and materials is $5,000.00 or more, the successful bidder must provide, within 7 days of notification of the successful bid, a performance bond of an approved surety company in a sum equal to the estimated contract price which bond shall be conditioned upon the full and faithful performance of the contract. It shall provide further, that in the event the bidder fails or neglects to execute the contract or deliver the bond, the contract shall be null and void and the bond shall be retained by the City as liquidated damages for the delay and expense caused by the abandonment of the contract.

4. Rhode Island Sales Tax

The City is exempt from the payment of the Rhode Island Sales Tax under the 1956 General Laws of the State of Rhode Island, 44-18-30, Paragraph 1, as amended. The price bid must be exclusive of taxes and will be so construed.

5. Federal Excise Taxes

The City is exempt from the payment of any excise tax or federal transportation taxes. The price bid must be exclusive of taxes and will be so construed.

6. City Fees

It is the policy of The City of Central Falls to waive all municipal fees associated with its projects, including but not limited to, the cost of building permits and police details. This does not include fees imposed by the State of Rhode Island, including but not limited to, Stormwater Permits or ADA Fees. The price bid must be so construed to reflect the waiver of appropriate municipal fees.

7. Qualifications of Bidders

The City may make such investigations as it deems necessary to determine the ability of the bidder to perform the work. The bidder shall furnish the City with all such information and date for the purpose as may be requested.

8. Addenda and Interpretations

No interpretation on the meaning of the plans, specifications or other contract document will be made to any bidder orally. Every request for such interpretations should be in writing addressed to the Peter Friedrichs, Director of Planning and Economic Development, City of Central Falls, 580 Broad Street, Central Falls, RI 02863 or pfriedrichs@centralfallsri.us and to be given consideration must be received at least seven (7) days prior to the date fixed for the opening of the bids.

9. Indemnification and Hold Harmless

The bidder shall protect defend and indemnify the City of Central Falls, including its officers, agents and employees, and hold them free and harmless from all liability, penalties, costs, losses, damages, expenses, causes of action, claims or judgments, including attorney's fees, resulting from injury to, or death of, any person or damage to property of any kind, which injury, death or damage arises out of, or is in any way connected with, the performance of the work under any contract made as part of this award. It shall apply to any acts or omissions of bidder's agents, employees, subcontractors or suppliers. The bidder also shall hold the City of Central Falls harmless from any and all claims or liens for labor, services, or materials furnished to the bidder in connection with the performance of the bidder's obligation under any contract between the bidder and City. This section shall not be applicable to injury, death or damage to property arising from the sole negligence or sole willful misconduct of the City of Central Falls, its officers, agents or employees.

10. Property lost, damaged or destroyed.

Any property or work to be provided by bidder will remain at the bidder's risk until written acceptance by the City of Central Falls and the bidder will replace, at bidder's expense, all property or work lost, damaged or destroyed by any cause whatsoever.

11. Evidence of Insurance

A policy of auto, general liability and property damage insurance shall be attached hereto, covering any and all work performed under a contract between the City and bidder, naming the City as an additional insured shall be made part of any contract between the City and bidder in an amount of not less than $1,000,000 for projects in excess of $500,000. A policy of professional liability or errors and omissions insurance covering any and all work performed under any contract between the City and bidder naming said bidder shall be attached hereto. A copy of workers compensation insurance policy shall be attached, if required by Rhode Island law for this bid and covering all work to be performed under any contract between the City and bidder naming the bidder as insured shall be attached hereto. The City, upon award of bid, will request verification from the insurance company to ensure that the agent has properly notified the company and that coverage has been bound.

12. MBE/WBE Requirement

The bidder shall include a plan for meeting the City's requirement that a minimum of 25% of the value of the bid will be completed by State-of-Rhode-Island-certified Minority Business Enterprises (MBE) and/or Women Business Enterprises (WBE). Additionally, preference shall be given to Central Falls based sub-contractors and the hiring of employees who reside in the city of Central Falls.

BID FORM

Item No.	Amount	Description	Total Price (in numbers)
1	1	Mobilization (Lump Sum) (Price per Lump Sum) $_____ (in numbers) $_____ (in words)	
2	1	Cleaning and Maintenance of Erosion Controls (Price per Lump Sum) $_____ (in numbers) $_____ (in words)	
3	1	Maintenance and Movement of Traffic Protection (Price per Lump Sum) $_____ (in numbers) $_____ (in words)	
4	1	Waste Management Plan (Price per Lump Sum) $_____ (in numbers) $_____ (in words)	
5	1	Construction Staking and Survey (Price per Lump Sum) $_____ (in numbers) $_____ (in words)	
6	270	Sawcut Existing Pavement (Price per Lineal Foot) $_____ (in numbers) $_____ (in words)	
7	3	Install Curb Inlet Sediment Control (Price per Each) $_____ (in numbers) $_____ (in words)	
8	932	Remove and Dispose Existing Pavement (Price per Square Foot) $_____ (in numbers) $_____ (in words)	
9	175	Remove and Dispose Existing Sidewalk (Price per Square Foot) $_____ (in numbers) $_____ (in words)	
10	3	Remove and Stack Signs (Price per Each) $_____ $_____	

Item No.	Amount	Description	Total Price (in numbers)
		(in numbers) (in words)	
11	2	Remove Pole $_____ $_____ (in numbers) (in words)	
12	304	Eradicate Existing Pavement Markings (Price per Lineal Foot) $_____ $_____ (in numbers) (in words)	
13	3	Place Hoods on Signal Heads and Turn Head 90-degrees $_____ $_____ (in numbers) (in words)	
14	2	Place Hoods on Push Buttons and Turn Head 90-degrees $_____ $_____ (in numbers) (in words)	
15	38	Construct 6" Vertical Granite Curb (Price per Lineal Foot) $_____ $_____ (in numbers) (in words)	
16	66	Construct Truck Apron Curb (Price per Lineal Foot) $_____ $_____ (in numbers) (in words)	
17	5	Construct 8" Thick Stamped Concrete Truck Apron (Price per Cubic Yard) $_____ $_____ (in numbers) (in words)	
18	5.5	Construct 8" Thick Stamped Concrete Flush Splitters (Price per Cubic Yard) $_____ $_____ (in numbers) (in words)	
19	0.3625	2" of Class I-1 Bituminous Surface Course (Price per Ton) $_____ $_____ (in numbers) (in words)	

Item No.	Amount	Description	Total Price (in numbers)
20	0.725	4" Modified Bituminous Base Course (Price per Ton) $_____ $_____ (in numbers) (in words)	
21	12	12" Gravel Borrow Base Course (Price per Cubic Yard) $_____ $_____ (in numbers) (in words)	
22	2	Construct 4" Thick Concrete Sidewalk (Price per Cubic Yard) $_____ $_____ (in numbers) (in words)	
23	2	Traffic Circle Landscaping (Price per Cubic Yard) $_____ $_____ (in numbers) (in words)	
24	1	Construct ADA Wheelchair Ramp (Price per Each) $_____ $_____ (in numbers) (in words)	
25	19	Install Flexposts (Price per Each) $_____ $_____ (in numbers) (in words)	
26	3,060	Apply Epoxy Surface to Existing Roadway (Price per Square Foot) $_____ $_____ (in numbers) (in words)	
27	2,100	Install Pavement Markings (Price per Lineal Foot) $_____ $_____ (in numbers) (in words)	
28	3	Shared Lane Marking (Price per Each) $_____ $_____ (in numbers) (in words)	
29	19	Install Sign (Price per Each) $_____ $_____	

Item No.	Amount	Description	Total Price (in numbers)
		(in numbers) (in words)	
30	11	Install Sign Post (Price per Each) $_____ $_____ (in numbers) (in words)	
31	40	Install 4" Schedule 40 Conduit (Price per Lineal Foot) $_____ $_____ (in numbers) (in words)	

Total Project Cost :

$_____

(in numbers)

$_____

(in words)

SECTION 01000
GENERAL REQUIREMENTS

PART 1 – GENERAL

1.1 Summary of Work – Project is to include, but not limited to, all labor and materials to complete the work indicated on the drawings for the following:

1. Summary:
    a. Construction of a traffic circle within the existing signalized intersection of Roosevelt Avenue and Charles Street in Central Falls, RI. Work includes general site work, grading, minor utility work, sidewalks/ADA ramp, plantings, pavement, curbing, pavement markings and signage, and site furnishings (flex posts).

2. Protection and replacement of existing construction and finishes from damage due to this work.
3. Prior to excavation, contact "Dig-Safe".
4. All work is to comply with all State and Federal regulations.
5. The Contractor will obtain and pay for all permits required, including, but not limited to Rhode Island Department of Environmental Management, ADA, etc.
6. Wage provisions of Davis Bacon Act to govern this project.

1.3 Contract Method – Construct the work under a single lump sum contract.

1.4 Existing Conditions – The Contractor shall thoroughly familiarize himself or herself with the existing conditions and field check all dimensions to assure proper installation. Any discrepancies shall be reported to the Owner immediately.

1.5 Substitutions

A. Only within 15 days after the date of the Owner/Contractor Agreement will the Owner consider requests for substitutions. Subsequently, substitutions will be considered only when a product becomes unavailable due to no fault of the Contractor.

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

C. Request constitutes a representation that the Contractor:

1. Has investigated the proposed product and determined that it meets or exceeds, in all respects, specified product.

2. Will provide the same warranty for substitution as for the specified product.

3. Will coordinate the installation and make other changes which may be required for Work to be completed in all respects.

4. Waive claims for additional costs, which may subsequently become apparent.

D. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written requests, or when acceptance will require substantial revision of Contract Documents.

E. Owner will determine the acceptability of proposed substitutions, and will notify the Contractor of acceptance or rejection in writing within a reasonable time. Decisions of the Owner as to the acceptability of substitutions shall be final.

F. Only one request for substitution will be considered for each product. When substitution is not accepted, provide specified product.

1.6 Temporary Facilities

A. Electricity – The Contractor must provide for temporary electrical service (if necessary) during the entire construction process.

B. Water – The Contractor is responsible for providing all potable water and water required for the construction (if necessary).

C. Sanitary Facilities – The Contractor shall provide their own portable toilet facilities on site for its own personnel and sufficient quantity for clients of the facility when existing toilets are not accessible. Ensure regular pick-ups to keep the site sanitary.

D. Other – Telephone, auxiliary heat, and other required facilities shall be provided by Contractor.

1.7 Meetings

A. Pre-Construction Meeting – After signing the Contract for Construction and before commencing construction, Contractor shall attend a Pre-construction Meeting to discuss the use of the site, progress of the Work, Equal Opportunity and Labor requirements, and other issues related to the Project.

B. Progress Meetings – Progress meetings with the Contractor, Engineer, and Owner shall occur at pre-designated dates and times which shall occur every two weeks and at points of the Project that are deemed critical. Any conflicts with these meetings to any events, such as federal holidays, must be submitted to the Owner in writing and shall be rescheduled at the Owner's convenience. The Contractor will record meeting minutes and distribute them within 48 hours to all attendees.

1.8 Debris, Cleaning Up

A. The Contractor shall not permit the accumulation of debris, both exterior and interior, and the work area shall at all times be kept free of the accumulation of debris in accordance with the project safety plan. At completion of the work, the Contractor shall remove from and about the project, waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials. Immediately prior to the Designer's inspection for substantial completion, the Contractor shall completely clean the premises. Concrete and ceramic surfaces shall be cleaned and washed. Resilient coverings shall be cleaned, waxed, and buffed. Woodwork shall be dusted and cleaned. Sash fixtures and equipment shall be thoroughly cleaned. Stains, spots, dust, marks, and smears shall be removed from all surfaces. Hardware and all metal surfaces shall be cleaned and polished. Glass and plastic surfaces shall be thoroughly cleaned by professional window cleaners. All damaged, broken, or scratched glass or plastic shall be replaced by the Contractor at the Contractor's expense. If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

   a. The Contractor shall remove debris from the site of the work and dispose of it in compliance with the State regulation requirements. The Contractor shall make all arrangements and obtain any approvals necessary from the waste handling facility / recycling facility and shall bear all cost, including fees resulting from such disposal. All construction debris shall be put in covered containers on a daily basis.

   b. No open fire shall be permitted on site.

   c. Chemical waste shall be stored in corrosion-resistant containers, removed from the Project Site, and disposed of not less frequently than monthly, unless directed otherwise. Disposal of chemical waste shall be in accordance with standard established practices and applicable environmental law. Fueling and lubricating of vehicles and equipment shall be conducted in a manner that affords the maximum protection against spills and evaporation. Lubricants to be discarded shall be disposed of in accordance with approved procedures meeting all

applicable federal, state, and local regulations. In the event of an oil or hazardous materials release large enough to violate federal, state, or applicable local regulations, the Owner and Designer shall be notified immediately. The Contractor shall be responsible for immediately cleaning up any release resulting from its operations. Any costs incurred in cleaning up any release, shall be borne by the Contractor.

PART 2 – PRODUCTS
NOT APPLICABLE.

PART 3 – EXECUTION
NOT APPLICABLE.

END OF SECTION 01000

SECTION 01005
ADMINISTRATIVE PROVISIONS

PART 1 - GENERAL

1.1 GENERAL REFERENCE

A. The Central Falls Bid Requirements and Division 1 of these specifications are hereby included as part of this section.

1.2 REQUIREMENTS INCLUDED

A. Title of Work, and type of Contract

B. Contractor Use of Premises

C. Applications for Payment

D. Reference Standards

E. Supervision

F. Miscellaneous Administrative Items

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. Work under this Contract comprises general construction as required for site work and associated (minor) utility work.

B. The contractor must provide all material, labor, tools, plant, supplies, equipment, transportation, superintendence, temporary construction of every nature and all other services and facilities necessary to complete the construction for the Owner, including all incidental work as required or described in the contract documents. Cost of parking is to be included in the cost of work.

1.4 CONTRACT METHOD

A. Construction of the Work under single lump sum contract.

B. Items noted "NIC" (Not In Contract) and other items as indicated will be furnished and installed by the Owner.

1.5 APPLICATIONS FOR PAYMENT

A. Submit five copies of each application for payment.

B. Content and Format: That specified for Schedule of Values in Section 01300.

C. Contractor shall refer to Central Falls Bid Requirements for additional requirements.

1.6 CONTRACTOR USE OF PREMISES

A. Limit use of premises for Work and for construction operations, to allow for work by other Contractors and the Owner.

B. Limit access to and use of site as directed by Owner.

C. The Contractor is responsible for maintaining emergency egress.

D. Contractor's parking to be arranged and located as directed by the Owner.

E. The Owner will provide electrical power and water for the construction of the Project, if necessary. The Contractor is responsible for all connections and metering of utility used for construction purposed provided by Owner.

1.7 JOB SAFETY AND ACCIDENT PREVENTION

A. All construction work on this project must be performed in compliance with the Occupational Safety and Health Act of 1970 or with local or State occupational safety and health regulations enforced by an agency of the locality or State under a plan approved by the U.S. Department of Labor Occupational Safety and Health Administration (OSHA)

1. All contractors and subcontractors shall comply with requirements of the Occupational Safety and Health Act of 1970 or revisions thereto, which are applicable during the term of this contract and hold the Owner and/or their agents harmless from any claim or loss that may result from violations of or claims under this act.

1.8 REFERENCE STANDARDS

A. For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. The date of the standard is that in effect as of date of Contract Documents, except when a specific date is specified. If governing codes reference standard date then code reference date shall be in effect.

C. Obtain copies of standards when required by Contract Documents. Maintain copy at job site during progress of the specific work.

1.9 EXISTING UTILITIES AND STRUCTURES

A. Contractor shall be responsible for damages to any utility piping, drains, sewers, electrical wiring and conduits, buildings and other structures that may be met within the prosecution of the work. Contractor shall be liable for any damages to items resulting from work of this Contract. To include injury or damages caused by Subcontractors, sub-subcontractors and material manufacturers.

B. Shore or sling in place and prevent any damage to above mentioned items.

1.10 SUPERINTENDENCE OF SUBCONTRACTORS

A. The contractor must supervise his own work crews and subcontractors in accordance with the provisions of Contract.

1.11 COORDINATION

A. Prior to commencement of subcontract work, a designated representative of each subcontractor shall meet with project superintendent and Owner at the site to discuss requirements and scope of Work.

B. The Contractor and all subcontractors will be required to attend a preconstruction conference at a date and time set by the Owner.

1.12 BEHAVIOR OF PERSONNEL

A. If in the opinion of the Owner, any employee of the Contractor or his subcontractors is physically or mentally unfit for work or exhibits behavior incompatible with work site environment, including smoking, drinking, drugs or inappropriate clothing or language, said employee may be required to leave property and may be refused re-admittance.

B. The Contractor is to enforce a "Smoke Free Policy" throughout the project and any employee violating this policy will be subject to immediate dismissal. The Contractor's employees are to be informed that loud noises and irritating odors will not be tolerated.

1.13 SUBSTITUTIONS

A. In all cases where a proprietary designation is used in connection with materials or articles to be furnished under this contract and the phrase "or equal" is not used, the Contractor shall furnish the specified item, unless a written request for a substitute has been submitted by the Contractor and reviewed by the Owner to his satisfaction.

B. See Section 01600 for additional requirements and Contractor responsibility relating to substitutions. Specifically, subparagraphs relating to speculative substitutions and additional liabilities.

1.14 CODES, RULES AND REGULATIONS

A. All work is to be in accord with the latest requirements of:

1. Federal State and Municipal Laws

2. Any prevailing rules, regulations pertaining to adequate protection and/or guarding of any moving parts or otherwise hazardous locations.

B. Reference in Specifications or Drawings shall mean and intend the latest edition of such, as published at date of submission of bids. AASHO American Assoc. of State

Highway Officials

C. Nothing in the Specification or Drawings is to be construed to allow work not in accord with the above requirements. When requirements shown or specified are less than those in the codes listed above, the Contractor is to furnish and/or install the larger size or higher standard without extra cost to the Owner.

1.15 DRAWINGS AND SPECIFICATIONS

A. All work drawn on Plans and not specified or all work specified and not drawn are part of Contract Work required to be done and are to be executed as fully as if described in both of these ways. Only work specifically noted in the following manner shall be considered as not being in the contract:

".....by Owner".
".....NIC (Not In Contract)".

B. If, after examination of Contract Drawings and Specifications, or after a visit to the premises, any discrepancies, omissions, ambiguities, or conflicts are found in contract documents or there is doubt as to their meaning, Owner is to be notified at the earliest possible date. Where information sought is not clearly indicated or specified, the Owner will issue addendum to the Contractor clarifying conditions. This addendum will become part of the Contract Documents. The Owner will not be responsible for any oral instructions.

C. If there are two ways and/or instruction in drawings and/or specifications, it shall be assumed that the Contractor has based his base bid price on the most expensive way.

D. If duplication is shown on drawings and/or specifications of work by more than one trade, Owner shall determine which trade shall do work and rebate shall be due from the other trades to Owner.

E. Drawings DO NOT include any necessary components for construction safety.

F. In all work shown on Drawings, figured dimensions are to be followed in all cases, though they may differ from scaled measurements. Before beginning the work, Contractor is to check through and verify all dimensions and call to the attention of the Owner any apparent or manifest discrepancy.

1. Contractor shall verify all dimensions with existing and actual field conditions.

1.16 MANUFACTURER'S DIRECTIONS

A. Manufactured articles, materials, equipment, applied, installed, connected, erected, used, cleaned, conditioned in accordance with manufacturer's printed directions unless specified to contrary.

B. If there is a conflict between the Contract Documents and manufacturer's directions, the Contractor shall notify the Owner in writing. Contractor shall not

proceed with work until Owner has reviewed the conflicting data and provide the Contractor with a decision on which specification to follow.

1.17 GENERAL SPECIFICATION NOTE

A. The paragraph entitled "WORK INCLUDED" in each section of the technical section shall be considered general in nature and NOT all inclusive. The intent of the paragraph is to provide a general guide of what is included in the section.

B. The paragraph entitled "RELATED WORK" in each section of the technical section shall be considered general in nature and NOT all inclusive. The intent of the paragraph is to provide a general guide of what work is related to work included in this section.

1.18 WORKING HOURS

A. In no case shall Contractor or any Subcontractor perform any work on project, except those hours listed below without in each instance, notifying the Owner's Representative in order that he may be present to assist during work. This shall not be interpreted as a measure to prevent the Contractor from working "overtime" under any circumstances, but merely to insure that the Owner's Representative may have the opportunity to be on hand to assist the Contractor, as may be required, to interpret Contract Documents, Plans or Specifications and to insure that construction operations will not interfere with Owner's Operations. Working Hours are 7:30am to 5:00pm Monday through Friday.

B. If found necessary to reach a proper stopping place in any portion of the work, or to complete work within the Contract time limit, the Contractor shall work his forces and forces of his Subcontractors overtime without addition to the Contract Price. The Contractor shall insure that installation of Work under any subcontract does not interfere with nor delay progress of the building work, nor with progress of any independent contracts running concurrently.

1.19 GENERAL WORK SEQUENCE AND SCHEDULING REQUIREMENTS

A. The Contractor must submit a detailed schedule of work showing substantial completion.

1.20 PROJECT MEETINGS

A. Preconstruction Conferences

1. Owner shall administer preconstruction conference for execution of Owner-Contractor Agreement and exchange of preliminary submittals.

2. Owner shall administer site mobilization conference at Project site for clarification of Owner and Contractor responsibilities in use of site and for review of administrative procedures.

B. Progress Meetings

1. Contractor will schedule and administer project meetings throughout

progress of the Work at weekly intervals or as may be required.

2. Contractor shall make physical arrangements for meetings. Contractor shall be responsible for recording meeting minutes and distribution to all concerned parties. Minutes shall be typed and distributed within two working days of the meeting.

3. Attendance: Contractor, job superintendent, major subcontractors and suppliers; Owner's Representative and others as appropriate to agenda topics for each meeting.

C. Pre-Installation Conferences

1. When required in individual specification Section, Contractor shall convene a pre-installation conference prior to commencing work of the Section.

1.21 GENERAL SUBMITTAL PROCEDURES

A. Transmit each submittal with Owner accepted form.

B. Contractor Review:

1. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents. CONTRACTOR'S FAILURE TO REVIEW AND APPROVE SUBMITTALS PRIOR TO SUBMISSION TO THE OWNER WILL BE REASON FOR OWNER'S REJECTION OF SUBMITTAL.

2. Coordinate submittals with requirements of Work and of Contract Documents.

3. Apply Contractor's stamp, signed or initialed certifying that review, 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.

C. Schedule submittals to expedite the Project, and deliver to Owner at business address.

1. Transmit submittals in accordance with approved Progress Schedule and in such sequence to avoid delay in the Work or work of other contracts. Failure to do so will not justify an extension in contract time.
2. Coordinate submittals into logical groupings to facilitate interrelation of the several items.

D. Revise and resubmit submittals as required, identify all changes made

since previous submittal. Failure to do so will be reason to reject submittal.

1.22 CONTRACTOR QUALITY ASSURANCE/CONTROL OF INSTALLATION

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

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

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

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

E. Perform work by persons qualified to produce workmanship of specified quality.

F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.23 PROTECTION OF INSTALLED WORK

A. Protect installed Work and provide special protection where specified in individual specification Sections.

1.24 SECURITY

A. Provide security and facilities to protect Work from unauthorized entry, vandalism, or theft.

B. If requested by the Owner, the Contractor will furnish a written security plan for Owner's approval.

C. Contractor shall keep all unauthorized visitors off construction site by such legal/approved means as he selects.

1.25 PROGRESS CLEANING AND JANITORIAL SERVICES

A. The contractor must furnish daily cleaning services for the project site and must perform any required maintenance of facilities and grounds deemed necessary by the Owner's Representative during the entire term of the contract. Toilet facilities must be kept clean and sanitary at all times. Services must be performed at such a time and in such a manner as to least interfere with the operations. Services must be performed to the satisfaction of the Owner's Representative. The contractor must provide

daily trash collection and cleanup of the buildings and adjacent outside areas, and disposal of all discarded debris in a manner approved by the Owner's Representative. No separate payment may be made for these contractor- furnished services; all costs are incidental to the contract.

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

C. Maintain premises and properties free from accumulation of waste, debris and rubbish caused by operations.

D. Remove all debris from the job site on a regular basis. Do not allow trash and debris to accumulate or remain on the site for longer than 48 hours.

1.27 TEMPORARY CONTROLS

A. Dust Control:

1. The contractor must keep permanent access roads, waste areas and all other work areas within or outside the project boundaries free from the dust that would cause the standards of air pollution to be exceeded or that would cause a hazard or nuisance to others. Dust must be controlled as the work proceeds and whenever a dust nuisance or hazard occurs. No separate or direct payment is made for dust control, and its cost is considered incidental to and included in the contract price.

B. Traffic Control

1. The Contractor shall be responsible for all maintenance and protection of pedestrian and vehicular traffic including police protection. All temporary and vehicular signs, barricades and lane closures shall be in conformance with the latest revisions of Manual of Uniform Traffic Control Devices (MUTCD)

2. Prior to beginning any site related work, Contractor shall submit maintenance and protection of traffic plans to the owner for review and approval. Plans must be approved before beginning any work that might impede vehicular traffic adjacent to the site or to and from the site and/or within the existing intersection.

3. The Contractor's shall coordinate with the owner - and make whatever provisions are necessary to maintain unobstructed access to and egress from the site for both regular and emergency vehicular and pedestrian traffic.

4. Temporary construction signs and all applicable traffic control divides shall be in place prior to the start of work in any area open to traffic.

5. The parking of private vehicles of construction workers shall be coordinated with the Owner.

6. All maintenance and protection of traffic control setups, signs channeling devices, etc. Shall be in accordance with the MUTCD, latest edition with latest addenda.

7. Sign mountings shall be in accordance with the R.I.D.O.T. Specifications for temporary construction signs.

8. The Contractor shall be responsible for obtaining all state and local permits prior to the start of construction. These permits shall include, but are not limited to, road opening, soil erosion, building, water connection and sewer connection permit(s). Contractor shall refer to Central Falls Engineering and Building Department for all applicable permits.

C. Hazards Control:

1. Store volatile wastes in covered metal containers and remove from premises daily.
2. Prevent accumulation of wastes which create hazardous conditions.
3. Provide adequate ventilation during use of volatile or noxious substances.

D. Cleaning and Disposal

1. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
2. Do not burn or bury rubbish and waste materials on project site.
3. Do not dispose of volatile wastes in storm or sanitary drain.
4. Do not dispose of wastes into streams or waterways.
5. Maintain cleaning until project, or portion thereof, is accepted by Owner.

1.28 ENVIRONMENTAL HAZARDS

A. The Contractor will notify the Owner if any materials are suspected of containing hazardous materials such as lead or asbestos. The Owner will have the materials tested and an abatement plan will developed by the Owner. All work must comply with Federal, State and local environmental regulations.

PART 2 PRODUCTS

2.1 MATERIALS (CUTTING & PATCHING)

A. Primary Products: Those required for original installation.

B. Product Substitution: For any proposed change in materials, submit request for substitution under provisions of Section 01600.

PART 3 EXECUTION

3.1 EXAMINATION

A. Inspect existing conditions prior to commencing Work, including elements subject to damage or movement during excavation.

B. Beginning of work means acceptance of existing conditions.

3.2 PREPARATION

A. Provide all required temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.

B. Provide protection from elements for areas which may be exposed by uncovering work.

3.3 CUTTING AND PATCHING

A. Execute cutting, fitting, and patching including excavation and fill to complete work.

B. Fit products together, to integrate with other work.

C. Remove and replace defective or non-conforming work.

3.4 PERFORMANCE

A. Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.

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

C. Cut rigid materials using saws or core drill.

D. Restore work with new Products in accordance with requirements of Contract Documents.

END OF SECTION 01005

SECTION 01019
CONTRACT CONSIDERATIONS

PART 1 – GENERAL

1.1 Section Includes:

A. Application for Payment.

B. Change procedures.

C. Hazardous material use.

D. Minority Business Enterprise Goals.

1.2 Related Sections:

A. 01300 - Submittals: Schedule of Values.

B. 01600 - Material and Equipment: Product substitutions.

1.3 Applications for Payment:

A. Submit three notarized copies for each Application for Payment on Owner accepted Form.

B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.

C. Payment Period: Monthly.

D. Waiver of liens will be required with each submittal.

E. Certification that Record Documents are being kept will be required with each submittal.

1.4 Change Procedures:

A. The Engineer will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by an Owner accepted form.

B. The Engineer may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change

with a stipulation of any overtime Work required, and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate as soon as practicable, but within a period no longer than fifteen days.

C. The Contractor may propose a change by submitting request for change to the Engineer, describing the proposed change and its full effect on the Work. Include 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 01600.

D. Change Orders may take the following forms. The appropriate form should be agreed to before submittal by the Engineer and Owner:

1. Stipulated Sum Change Order: Based on Proposal Request and Contractor's fixed price quotation, or Contractor's request for a Change order as approved by Engineer.

2. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract. Engineer will determine the change allowable in Contract Sum and Contract Time as provided in the Contract Documents. Maintain detailed records of Work done on a Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in Work.

E. Engineer may issue a directive on Owner accepted Construction Change Directive form, signed by the Owner and the Engineer, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum or Contract Time. Promptly execute the change.

F. Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

1.5 Hazardous Materials Use:

A. No new material supplied for or used on this Project shall contain asbestos in any form.

B. Items provided "to match existing" shall not contain asbestos. If no matching non-asbestos material is available, consult the Engineer for

direction.

1.6 Minority Business Enterprise (MBE) Goals:

Minority (MBE) and Women (WBE) Business Enterprises shall mean a small business concern, owned and controlled by one or more minorities or women certified by the Rhode Island Department of Administration to meet the definition established by Chapter 37-14.1 of the General Laws of Rhode Island. Disadvantaged Business Enterprises (DBE) shall mean socially and economically disadvantaged firms which are owned and controlled by individuals who are citizens of the United States, or legal permanent residents whose social disadvantage must stem from an individual's color, national origin, gender, physical handicap, long term residence in an environment isolated from the mainstream of American society, or other similar cause beyond the control of the individual, and whose economic disadvantage must stem from an inability to compete in the free enterprise system due to diminished capital and credit opportunities, as compared to others in the same or similar line of business, and/or competitive market area who are not socially disadvantaged.

The bidder shall include a plan for meeting the City's requirement that a minimum of twenty five percent (25%) of the value of the bid will be completed by State-of-Rhode- Island-certified Minority Business Enterprises (MBE) and/or Women Business Enterprises (WBE). Additionally, preference shall be given to Central Falls based sub- contractors and the hiring of employees who reside in the city of Central Falls.

1.7 Owner's Requirements:

The Vendor shall not discriminate against employees or applicants for employment because of race, color, national origin, ancestry, age, sex, religion, disability, or sexual orientation. The Vendor agrees to comply with all Federal and State statutes, rules, regulations prohibiting discrimination in employment including but not limited to: Title VII of the Civil Rights Act of 1964, Age Discrimination Act of 1967; Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990.

The Vendor must certify that their bid is in full compliance with all applicable regulations and requirements of law, as set forth herein. Vendor further certifies under pains and penalties of perjury that pursuant to the General Laws of the State of Rhode Island, that the Vendor has filed all state tax returns, paid all taxes and complied with all the laws relating to taxes; relating to contributions and payments in lieu of contributions to the Employment Security System; and with all laws of the State of Rhode Island relating to Workers' Compensation.

The Vendor also represents that (s)he/it is qualified to perform the services and

will obtain all requisite licenses and permits to perform the services as may be required by law. Further, that all work on this project will meet the requirements of all applicable state and local codes, laws and ordinances, as well as the requirements of these specifications.

PART 2 - PRODUCTS
NOT APPLICABLE.

PART 3 - EXECUTION
NOT APPLICABLE.

END OF SECTION
01019

SECTION 01030
UNIT PRICES

PART 1 - GENERAL

1.1 UNIT PRICES AND ALLOWANCES

A. Definition: A Unit Price where stipulated on the Bid Form is the cost of a particular material to be provided and installed on site and includes all costs of labor and material to be either added to or deducted from the Contract Sum. A summary of the material changes, their locations in sketch form will be submitted to the Engineer for approval. Change Orders resulting from unit pricing will not be approved without the Owner's prior approval in written form.

1.2 UNIT PRICES

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

Item No.	Description	Price
1	Mobilization – Lump Sum (LS)	
2	Cleaning and Maintenance of Erosion Controls – Lump Sum (LS)	
3	Maintenance and Movement of Traffic Protection – Lump Sum (LS)	
4	Prepare Waste Management Plan – Lump Sum (LS)	
5	Construction Staking and Survey – Lump Sum (LS)	
6	Cost to Sawcut Existing Pavement – Lineal Foot (LF)	
7	Cost to Install Inlet Sediment Control – Each (EA_	
8	Cost to Remove Existing Pavement – Square Foot (SF)	
9	Cost to Remove Existing Sidewalk– Square Foot (SF)	
10	Cost to Remove and Stack Signs - Each (EA)	
11	Cost to Remove Sign Pole - Each (EA)	
12	Cost to Eradicate Existing Pavement Markings – Lineal Foot (LF)	
13	Cost to Place Hoods on Signal Heads - Each (EA)	
14	Cost to Place Hoods on Push Buttons - Each (EA)	
15	Cost to Construct 6" Vertical Granite Curb – Lineal Foot (LF)	
16	Cost to Construct Truck Apron Curb (LF)	

17	Cost to Construct 8" Thick Stamped Concrete Truck Apron– Square Foot (SF)	
18	Cost to Construct 8" Thick Stamped Concrete Flush Splitter Islands– Square Foot (SF)	
19	Cost to Install 2" of Class I-1 Bituminous Surface Course– Ton (TON)	
20	Cost to Install 4" Modified Bituminous Base Course– Ton (TON)	
21	Cost to Install 12" Gravel Borrow Base Course– Ton (TON)	
22	Cost to Construct 4" Thick Concrete Sidewalk– Square Foot (SF)	
23	Cost to Install Traffic Circle Landscaping– Square Foot (SF)	
24	Cost to Construct ADA Wheelchair Ramp - Each (EA)	
25	Cost to Install Flexposts - Each (EA)	
26	Cost to Apply Epoxy Surface to Existing Roadway– Square Foot (SF)	
27	Cost to Install Pavement Markings – Lump Sum (LS)	
28	Cost to Shared Lane Marking- Each (EA)	
29	Cost to Install Sign - Each (EA)	
30	Cost to Install Sign Post - Each (EA)	
31	Cost to Install 4" Schedule 40 PVC Conduit	

PART 2 - PRODUCTS
NOT APPLICABLE

PART 3 – EXECUTION
NOT APPLICABLE

END OF SECTION 01030

SECTION 01039
COORDINATION AND MEETINGS

PART 1 - GENERAL

1.1 Section Includes:

A. Coordination.
B. Field Engineering.
C. Pre-construction conference.
D. Site mobilization conference.
E. Progress meetings.
F. Pre-installation conferences.
G. Site Access

1.2 Coordination:

A. Coordinate scheduling, submittals, and Work of the various Sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.

B. Coordinate completion and cleanup of Work of separate Sections in preparation for Substantial Completion.

C. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 Field Engineering:

A. Employ a Land Surveyor registered in the State of Rhode Island and acceptable to the Engineer.

B. Contractor to locate and protect survey control and reference points.

C. Control datum for survey is that shown on the Drawings.

D. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

E. Submit a copy of registered site drawing and certificate signed by the Land Surveyor that the elevations and locations of the Work are in conformance with the Contract Documents.

1.4 Pre-construction Conference:

A. Owner will schedule a conference after Notice of Award.

B. Attendance Required: Owner, Engineer, and 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 in Contract, and the Engineer.
6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal requests, Change Orders, and Contract close-out procedures.
7. Scheduling.

1.5 Site Mobilization Conference:

A. Engineer will schedule a conference at the Project site prior to Contractor occupancy.

B. Attendance Required: Owner, Engineer, Contractor, Contractor's Superintendent, and major Subcontractors.

C. Agenda:

1. Use of premises by Owner and Contractor.
2. Owner's requirements.
3. Construction facilities and controls provided by Owner.
4. Security and housekeeping procedures.
5. Schedules.
6. Procedures for testing.
7. Procedures for maintaining record documents.
8. Requirements for start-up of equipment.
9. Inspection and acceptance of equipment put into service during construction period.

1.6 Progress Meetings:

A. Contractor shall schedule and administer meetings throughout progress of Work at maximum monthly intervals.

B. Contractor shall make arrangements for meetings, prepare agenda with copies for

participants, preside at meetings, record minutes and distribute copies within one week to Engineer, Owner, participants, and those affected by decisions made.

C. Attendance Required: Job superintendent, major Sub-contractors and suppliers, Owner, Engineer and others as appropriate to agenda topics for each meeting.

D. Agenda:

1. Review minutes of previous meeting.
2. Review of Work Progress.
3. Field observations, problems, and decisions.
4. Identification of problems which impede planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to Work.

1.7 Pre-installation Conferences:

A. When required in individual specification Section, Contractor shall convene a pre-installation conference at the work site prior to commencing Work of the Section.

B. Attendance of parties required are those directly affecting, or affected by, Work of the specific Section.

C. Notify Engineer four days in advance of meeting.

D. Contractor shall prepare agenda, preside at conference, record minutes, and distribute copies within two days after conference to participants, with two copies to Engineer.

E. Meeting shall review conditions of installation, preparation and installation procedures, and coordination with related work.

1.8 Site Access:

A. Maintain site access at all times.

B. Arrange for site access during other than normal hours if required for completion of work items or punch-lists to meet project schedule.

PART 2 - PRODUCTS

NOT APPLICABLE.

PART 3 - EXECUTION

NOT APPLICABLE.

END OF SECTION 01039

SECTION 01090
ABBREVIATIONS AND SYMBOLS

PART 1 - GENERAL

1.1 References to Societies, Institutions, Associations & Government Authorities:

A. Reference to a technical society, institution, association or governmental authority is made in the specifications in accordance with the following abbreviations:

AAMA -	Engineerural Aluminum Manufacturers Association
AAN -	American Association of Nurserymen
AASHO -	American Association of State Highway Officials
AATCC -	American Association of Textile Chemists and Colorists
ADA -	American's with Disabilities Act
ACI -	American Concrete Institute
AEIC -	Association of Edison Illuminating Co.
AIA -	American Institute of Engineers
AIEE -	American Institute of Electrical Engineers AIMA
-	Acoustical and Insulation Materials Association
AISC -	American Institute of Steel Construction
AISI -	American Iron and Steel Institute
ALS -	American Lumber Standards AMCA
-	Air Movement Council of America
ANSI -	American National Standards Institute
APA -	American Plywood Association
ATI -	Asphalt Tile Institute
ASHRAE -	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME -	American Society of Mechanical Engineers
ASTM -	American Society for Testing and Materials
AWI -	Engineerural Woodwork Institute
AWPA -	American Wood Preserver's Association
AWPB -	American Wood Preserver's Bureau
AWPI -	American Wood Preserver's Institute
AWS -	American Welding Society
BHMA -	Builder's Hardware Manufacturer's Association
CRSI -	Concrete Reinforcing Steel Institute
CS -	Commercial Standard, U.S. Department of Commerce
FGJA -	Flat Glass Jobbers Association
FGMA -	Flat Glass Marketing Association
FS -	Federal Specification

GA -	Gypsum Association
IES -	Illuminating Engineering Society
IMSA -	International Municipal Signal Association
IPCEA -	Insulated Power Cable Engineering Association
MIA -	Marble Institute of America
MLMA -	Metal Lath Manufacturers Association
MS -	Military Specification
MSTD -	Military Standard
NAAMM -	National Association for Engineerural Metal Manufacturers
NEMA -	National Electric Manufacturer's Association
NHLA -	National Hardwood Lumber Association
NBFU -	National Board of Fire Underwriters
NBS -	National Bureau of Standards
NEC -	National Electric Code of NBFU
NESC -	National Electrical Safety Code
NFPA -	National Forest Products
NFPA -	National Fire Protection Association
NLMA -	National Lumber Manufacturers Association
NTMA -	National Terrazzo and Mosaic Association, Inc.
NWMA -	National Woodwork Manufacturers Association
RIDEM -	R.I. Department of Environmental Management
RIDPW -	R.I. Department of Public Works
RIDOT -	R.I. Department of Transportation
RIS -	Redwood Inspection Service SCPI
-	Structural Clay Products Institute
SDI -	Steel Deck Institute
SDI -	Steel Door Institute
SJI -	Steel Joist Institute
SMACNA -	Sheet Metal & Air Conditioning Contractors National Association, Inc.
SPIB -	Southern Pine Inspection Bureau
SPR -	Simplified Practice Recommendation, U.S. Department of Commerce
SSPC -	Steel Structures Painting Council
TCA -	Tile Council of America
UL -	Underwriter's Laboratories, Inc.
USA -	United States of American Standards Association
WCLIB -	West Coast Lumber Inspection Bureau
WWPA -	Western Wood Products Association

1.2 References to Methods, Spaces or Materials:

A. Reference to methods, spaces, or materials is made on the drawings in accordance with the following abbreviations. Where an "or" is listed, or suffix given in parenthesis, the Engineer's determination of the use in

context shall determine meaning.

ADMIN.	Administration
AF.	Above Floor
A.F.F	Above Finished Floor
AL. or ALUM.	Aluminum
ALT.	Alternate
ANC.	Anchor
A.P.	Access Panel
APPROX.	Approximate
&	And
@	At
ARCH.	Engineer(ural)
AUD.	Auditorium
A.V.	Audio Visual
B.C.	Brick Course
BD.	Board
BIT.	Bituminous
BLDG.	Building
BM.	Beam
BLKNG.	Blocking
B.O.D.	Bottom of Steel Deck
B.O.C	Bottom of Concrete
B.O.ST'L.	Bottom of Steel
B.P.	Bearing Plate
BRG.	Bearing
B.S.	Both Sides
BRK.	Brick
BSM'T	Basement
BTWN.	Between
B.U.R.	Built Up Roofing
CAB.	Cabinet
C.B.	Chalkboard
C.L.	Centerline
C.J.	Control Joint
CLG.	Ceiling
CLOS.	Closet
CLR.	Clear
CMU	Concrete Masonry Unit
CNT'D.	Centered
COL.	Column
CONC.	Concrete
CONF.	Conference
COND.	Condensate
CONN.	Connection
CONSTR.	Construction
CONT.	Continuous
CONTR.	Contractor
CPT.	Carpet
CORR.	Corridor
COORD.	Coordinate
CR.	Classroom
C.T.	Ceramic Tile
CUST.	Custodian
C.W.	Cold Water
DEP.	Depressed
DET.	Detail
D.F.	Drinking Fountain
DIA.	Diameter
DIAG.	Diagonal
DIM.	Dimension
DIN.	Dining
DISP.	Dispenser
DIST.	Distribution
DN	Down
do.	Ditto
DP.	Deep
DS. or D.S.	Downspout
D.W.	Dishwasher
DWG.(s)	Drawing(s)
DWL's	Dowels
E	East
EA.	Each
E.F.	Exhaust Fan
ELEC.	Electric(al)
EL	Elevation
ENG'R.	Engineer
E.O.	Edge Of
E.O.P.	Edge Of Plate (or Plank)
E.O.S.	Edge of Slab
EQ.	Equal
EQUIP.	Equipment
EQUIV.	Equivalent
ETC.	Etcetera
E.W.B.	Each Way Bottom
E.W.E.F.	Each Way Each

	Face
EXH.	Exhaust
EX or	
EXIST.	Existing
EXP.	Exposed or Expansion
EXT.	Exterior
F.A.	Fresh Air
FAB.	Fabricator
F.B.	Face of Block
F.D.	Floor Drain
F.E.	Fire Extinguisher
F.F.	Finish Floor
FIN.	Finish (ed)
FIN. GR.	Finish Grade
FLR.	Floor (ing)
FND.	Foundation
F.O.B.	Face of Brick
F.S.	Footing Step or Far Side
FTG.	Footing
F.W.C.	Fabric Wall Covering
G.	Girls
GALV.	Galvanized
G.C.	General Contractor
GD.	Grade
GL.	Glass
G.P.	Glazed Paint
GWB.	Gypsum Wall Board
GYP.	Gypsum
H/C.	Handicapped
H.D.	Heavy Duty
HEX.	Hexagonal
H.M.	Hollow Metal
HORIZ.	Horizontal
HI.PT.	High Point
HT.	Height
H.V.	Heating and Ventilation
H.V.A.C.	Heating, Ventilation and Air Conditioning
HYD.	Hydrant
INFO.	Information
INSUL.	Insulation
INT.	Interior
INV.	Invert
J. or JAN.	Janitor
JNT.	Joint
JSTS.	Joists
KIT.	Kitchen
L. or <	Angle
LAD.	Ladder
LAB.	Laboratory
LAUND.	Laundry
LAV.	Lavatory
LG.	Long
LKRS.	Lockers
LO.PT.	Low Point
M.	Men
M.A.	Masonry Anchor
MANUF.	Manufacturer
MAS.	Masonry
MDO.	Medium Density Overlay
M.E.P.	Mechanical, Electrical, and Plumbing Trades
M.H.	Man Hole
MET.	Metal
MEZZ.	Mezzanine
MFGR.	Manufacturer
MIN.	Minimum
MIR.	Mirror
M.O.	Masonry Opening
MOD.	Modular
MPH.	Miles/Hour
M.R.G.B.	Water Resistant Gypsum Board
MTL.	Metal
N	North
NAT'L.	National
N.I.C.	Not in Contract
NO.	Number
N.T.S.	Not to Scale
O.C.	On Center

I.D.	Inside Diameter
O.F.	Outside Face
OFF.	Office
O.H.	Overhead
OPH.	Opposite Hand
OPN'G.	Opening
O.S.	Overflow Supper
OZ.	Ounce
%	Percent
P	Projector
PART.	Partition
PASS.	Passage
PE.	Professional Engineer
PL.	Plate
PLWD.	Plywood
P.M.J.F.	Premolded Joint Filler
PNL.	Panel
PR.	Pair
PREP.	Preparation
PROD.	Product
PSF.	Pounds/Square Foot
PT.	Paint
P.T.	Pressure Treated
PTD.	Painted
PTH.	Paper Towel Holder
P.V.	Pipe Vent
QT.	Quarry Tile
QTR.	Quarter
R	Radius
R.	Riser
RAD.	Radius
R & D	Remove and Legally Dispose of
R.D.	Roof Drain
R.E.F.	Roof Exhaust Fan
REF.	Reference
REINF.	Reinforced (ing)
REQ'D	Required
R.H.	Roof Hatch
R.I. STD.	Rhode Island Standard
RM.	Room
R.O.	Rough Opening
RRM.	Recessed Rubber
O.D.	Outside Diameter
RT.	Rubber Tread
RTU.	Roof Top Unit
RUB.	Rubber
R.V.	Roof Vent
R.W.L.	Rain Water Leader
S	South
SAN.	Sanitary
S.A.T.	Suspended Acoustical Tile
S.B.	Smartboard
S.C.J.	Slab Control Joint
SCHED.	Schedule
SFT.	Soffit
SH.	Shelf-Shelving
SHWR	Shower
SIM.	Similar
SPA.	Spaced
SPEC(S)	Specifications
SPEC'D	Specified
S.S.	Stainless Steel
SQ.	Square
STIFF.	Stiffener
STL.	Steel
STOR.	Storage
STRUCT.	Structural
SUSP.	Suspended
SYN.	Synthetic
TEL.	Telephone
T.	Toilet or Top
T & B	Top and Bottom
T.B. or TKBD.	Tackboard
T.C.	Teacher's Closet
TEMP.	Tempered
TOIL.	Toilet
T.O.	Top of
T.O.C.	Top of Concrete
T.O.S'TL.	Top of Steel
T.O.W.	Top of Wall
T.R.I.	Tapered Roof Insulation
T.S.	Tube Steel or Teacher Station

	Mat	TV.	Television
TYP.	Typical		
U.C.	Undercut		
U.L.	Under Writers Laboratory		
U. N. O.	Unless Noted Otherwise		
U.V.	Unit Ventilator		
V.A.T.	Vinyl Asbestos Tile		
V.I.F.	Verify in Field		
V.B.	Vinyl Base		
V.C.T.	Vinyl Composition Tile		
VERT.	Vertical		
VEST.	Vestibule		
V.T.R.	Vent to Roof		
V.W.C.	Vinyl Wall Covering		
W/	With		
WB.	Whiteboard		
WD.	Wood		
WF.	Wide Flange		
W.P.	Working Point		
WSCT.	Wainscot		
W.W.F.	Welded Wire Fabric		
Z.C.C.	Zinc Coated Copper		
Z.R.C.	Zinc Rust-Proof Coating		

PART 2 - PRODUCTS
NOT APPLICABLE

PART 3 – EXECUTION
NOT APPLICABLE

END OF SECTION 01090

SECTION 01300
SUBMITTALS

PART 1 - GENERAL

1.1 GENERAL REFERENCE

A. The General Conditions, Supplementary General Conditions and Division 1 of these specifications are hereby included as part of this section.

1.2 SECTION INCLUDES

A. Submittal procedures.

B. Construction schedules.

C. Proposed Products list.

D. Shop drawings.

E. Product data.

F. Samples.

G. Manufacturers' instructions.

H. Manufacturers' certificates.

I. Schedule of Values.

J. Progress Reports

1.3 RELATED SECTIONS

A. Section 01400 - Quality Control: Manufacturers' field services and reports.

B. Section 01700 - Contract Close-Out: Contract Close-Out submittals.

1.4 GENERAL SUBMITTAL PROCEDURES

A. Schedule of Submittals

1. Within 10 days after receiving a notice to proceed, the contractor

must submit to the Owner, in duplicate, a schedule listing all items that must be furnished for review and approval by the Owner.

B. Transmit each submittal with Owner accepted form.

C. Sequentially number the transmittal forms. Resubmittals to have original number with an alphabetic suffix.

D. Contractor Review:

1. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents. CONTRACTOR'S FAILURE TO REVIEW AND APPROVE SUBMITTALS PRIOR TO SUBMISSION TO THE OWNER WILL BE REASON FOR OWNER'S REJECTION OF SUBMITTAL.
2. Coordinate submittals with requirements of Work and of Contract Documents.
3. Apply Contractor's stamp, signed or initialed certifying that review, 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. Schedule submittals to expedite the Project, and deliver to Owner at business address.

1. Transmit submittals in accordance with approved Progress Schedule and in such sequence to avoid delay in the Work or work of other contracts. Failure to do so will not justify an extension in contract time.

    a. Submittals received by Owner after 1:00 P.M. will be dated received the next business day.

2. Coordinate submittals into logical groupings to facilitate interrelation of the several items.
    a. Finishes which involve Owner/Owner selection of colors, textures, or patterns. These items will not be selected separately. No colors will be selected until colors for ALL materials have been submitted to Owner.
    b. Associated items which require correlation for efficient function or for installation.

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

G. Provide space for Contractor, Owner review stamps.

H. Revise and resubmit submittals as required, identify all changes made since previous submittal. Failure to do so will be reason to reject submittal.

I. Distribute copies of reviewed submittals to concerned parties.

1.5 CONSTRUCTION SCHEDULES

A. The contractor is responsible for the scheduling of construction and must prepare a scheduling and charting system described below. This schedule is to ensure adequate planning and execution of the work by the contractor and to assist the Owner and Owner in appraising the reasonableness of the schedule and evaluating work progress.

B. General Requirements Of Schedule

1. Submit initial schedule in duplicate within 10 days after date of Owner-Contractor Agreement for Owner review.
2. Revise, update and resubmit 3 copies with monthly requisition.

C. Format

1. Horizontal bar chart with separate line for each section of Work, identifying first work day of each week.
2. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and under Allowances.
3. Provide legend for symbols and abbreviations used.
4. Major milestones must be indicated on the schedule, such as the Notice to Proceed date, 50 percent completion, substantial completion for liquidated damages purposes, and project completion. In addition, the schedule must indicate when utility connections are to be made, permits to be obtained, and all other internal or external activities that affect the work flow (including all activities of the Owner that affect progress and contract-required dates to be completed).

D. Coordinate contents with Schedule of Values.

E. Participate in joint review and evaluation of schedule with Owner.

F. After review, revise as necessary as result of review, and resubmit 6 copies within 10 days.

G. See General Conditions for additional requirements.

1.6 PROPOSED PRODUCTS LIST

A. Within 10 days after date of Owner-Contractor Agreement, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number or each product.

B. Owner will reply, in writing, within 10 days stating whether there is reasonable objection to listed items. Failure to object to a listed item shall not constitute a waiver of requirements of Contract Documents.

1.7 SHOP DRAWINGS

A. Submittal of shop drawings and related data must conform to the requirements of the general contract clauses and as specified in this section. The contractor must make any corrections required by the Owner. If the contractor considered any correction indicated on the drawings to constitute a change to the contract drawings or specifications, notice must be given to the Owner. The approval of the drawings by the Owner must not be construed as a complete check but indicates only that the general method of construction and detailing is satisfactory. Approval of the shop drawings does not relieve the contractor of the responsibility for any error that may exist because the contractor is responsible for the dimensions and design of adequate connections and details and satisfactory construction of all work.

1. Sign or initial each sheet of shop drawings and product data, and each sample label to certify compliance with requirements of Contract Documents. Notify Owner, in writing, at time of submittal, of any deviations from requirements of Contract Documents. Failure to do so will be reason for rejection of submittal or work in place.

B. Present in a clear and thorough manner. Title each drawing with Project name and number; identify each element of drawings by reference to sheet number and detail, schedule, or room number of Contract Documents.

C. Identify field dimensions; show relation to adjacent or critical features or Work or products.

D. Minimum Sheet Size: Multiples of 8-1/2 x 11 inches.

E. Number and type of six (6)copies as follows:

1. Submit reproducible transparency.
2. Submit the number of opaque reproductions which Contractor requires, plus three copies which will be retained by Owner.
3. After review, reproduce and distribute in accordance with Article on Procedures above and for Record Documents described in Section 01700 - Contract Close-Out.

1.8 PRODUCT DATA

A. Submit the number of copies which the Contractor requires, plus three copies which will be retained by the Owner.

B. Mark each copy of standard printed data to identify pertinent products, referenced to Specification Section and Article number. Show reference standards, performance characteristics, and capacities, wiring and piping diagrams and controls; component parts; finishes; dimensions; and required clearances.

C. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the Work. Delete information not applicable.

D. Supplement manufacturers' standard data to provide information unique to this Project.

E. After review, distribute in accordance with Article on Procedures above and provide copies for Record Documents described in Section 01700 - Contract Close-Out.

1.9 SAMPLES

A. Submit the number of samples, minimum of two, specified in individual specification Sections; one of which will be retained by Owner.

1.10 MANUFACTURER'S INSTRUCTIONS

A. When specified in individual specification Sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for

Product Data.

B. Identify conflicts between manufacturers' instructions and Contract Documents. Perform no work until conflict has been satisfactorily resolved.

1.11 MANUFACTURER'S CERTIFICATES

A. When specified in individual specification Sections, submit manufacturers' certificate to Owner for review, in quantities specified for Product Data. The contractor must review all certificates before submissions are made to the Owner to ensure compliance with the contract specification requirements and to ensure that the affidavit is properly executed prior to submission to the contracting officer. Certification must not be construed as relieving the contractor from furnishing satisfactory material if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference date, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Owner.

1.12 SCHEDULE OF VALUES

A. Requirements included:
   1. Contractor shall submit to the Owner a schedule of values allocated to the various portions of the work, within twenty days after the award of contract.
   2. Upon request of the Owner, support the values with data which will substantiate their correctness.
   3. Within two weeks of the award of contract submit a projected monthly cash flow schedule.

B. Form and Content of Schedule of Values

   1. Per General Conditions.
   2. Schedule shall list the installed value of the component parts, by phase, of the work in sufficient detail to serve as a basis for computing values for progress payments during construction.
   3. Follow the table of contents of this project manual as the format for listing component items.

      a. Identify each line item with the number and title of

the respective major section of the specifications.

4. For each major line item list sub-values of major products or operations under the item.

   a. List all items that have a value of $5,000 or more break out labor and material cost.
   b. For items on which progress payments will be requested for stored materials, break down the value into:

      1. The cost of the materials, delivered and unloaded.
      2. The total installed value.

5. The sum of all values listed in the schedule shall equal the total contract sum.

1.13 REPORTS

A. Furnish statement each week, in a form approved by the Owner, stating conditions, general progress of work, percentage of each kind of work that has been finished, general progress of work that is being executed away from the site, and approximate date when such work will be furnished and delivered.

PART 2 – PRODUCTS

NOT APPLICABLE.

PART 3 - EXECUTION

A. Failure of Contractor to follow submittal requirements specified herein will serve as reason to reject the submittal, material, and product or work in place.

B. Performing any work, ordering or furnishing materials/products prior to review will serve as justification to reject and refusal to make payment of same.

END OF SECTION 01300

SECTION 01400
QUALITY CONTROL

PART 1 - GENERAL

1.1 Section Includes:

A. Quality assurance and control of installation.

B. References.

1.2 Related Sections:

A. Sections:

1. 01300 - Submittals: Submission of Manufacturers' Instructions and Certificates.

2. 01600 - Materials and Equipment: Requirements for material and product quality.

3. The various specification sections which establish product quality and test requirements for the materials to be tested.

1.3 Quality Assurance/Control of Installation:

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

B. Comply fully with manufacturer's instructions, including each step in sequence.

C. Should manufacturer's instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

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

E. Perform Work by persons qualified to produce workmanship of specified quality.

F. Secure products in place with secure anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or

disfigurement.

1.4 References:

A. All references and standards shall be the latest editions, which are those that include the most current changes, addenda, revisions, errata, etc., and are most recent. All materials, workmanship, and installation shall be in complete conformance with the reference material. Failure to be familiar with the referenced data shall not excuse the Contractor from the expected quality.

B. Should specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.

PART 2 - PRODUCTS

NOT APPLICABLE.

PART 3 - EXECUTION

NOT APPLICABLE.

END OF SECTION 01400

SECTION 01410
TESTING LABORATORY

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Qualification, duties and responsibilities of testing laboratories.

B. Coordination and scheduling responsibilities of the Contractor.

1.2 PAYMENT PROCEDURES

A. Initial Testing

1. The Contractor will pay for initial testing services required by the Engineer.

B. Retesting

1. When initial tests indicate noncompliance with the Contract Documents, subsequent retesting occasioned by the noncompliance shall be performed by the same testing agency, and costs thereof will be deducted by the Owner from the Contract Sum.

C. Contractors Convenience Testing

1. Inspecting and testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM).

1. E-329-90, Use in the Evaluation of Testing and Inspection Agencies as Used in Construction.

1.4 REQUIREMENTS

A. Work included:

1. Cooperate with the Owner's selected testing agency and all others responsible for testing and inspecting the Work.

2. Provide other testing and inspecting as specified to be furnished by the Contractor in this Section and/or elsewhere in the Contract Documents.

3. Where no testing requirements are described, but the Owner directs testing, the Contractor shall provide testing under the requirements of this Specification.

B. Work not included:

1. Selection of testing laboratory: The Owner will select a prequalified independent testing laboratory.

1.5 QUALITY ASSURANCE

A. Qualifications

1. The testing laboratory will be qualified to the Owner's approval in accordance with ASTM E329-90.

B. Regulatory requirements

1. Testing, when required, will be in accordance with all pertinent codes and regulations and with selected standards of the American Society for Testing and Materials.

2. Regulatory Requirements Inspections and tests required by codes or ordinances, or by a plan approved authority, and which are made by a legally, constituted authority, shall be the responsibility of and shall be paid for by the Contractor, unless otherwise provided in the Contract Documents.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Comply with pertinent provisions of Document 01600 – Materials and Equipment.

B. Promptly process and distribute, to the Engineer, required copies of test reports and instructions to assure necessary retesting and replacement of materials with the least possible delay in progress of the Work.

1.7 SCHEDULING

A. Establishing schedule

1. By advance discussion with the testing laboratory selected by the

Owner, determine the time required for the laboratory to perform its tests and to issue each of its findings.

2. Provide all required time within the construction schedule.

3. Coordinate testing activity with the appropriate testing laboratory.

B. Revising schedule

1. When changes of construction schedule are necessary during construction, coordinate all such changes with the testing laboratory as required.

C. Adherence to schedule

1. When the testing laboratory is ready to test according to the established schedule, but is prevented from testing or taking specimens due to incompleteness of the Work, all extra charges for testing attributable to the delay may be back-charged to the Contractor and shall not be borne by the Owner.

PART 2 – PRODUCTS
NOT APPLICABLE

PART 3 - EXECUTION

3.1 FIELD QUALITY CONTROL

A. Site Tests

1. Representatives of the testing laboratory shall have access to the Work at all times and at all locations where the Work is in progress. Provide facilities for such access to enable the laboratory to perform its functions properly.

2. All specimens and samples for testing, unless otherwise provided in the Contract Documents, shall be taken by the testing personnel. All sampling equipment and personnel will be provided by the testing laboratory. All deliveries of specimens and samples to the testing laboratory will be performed by the testing laboratory.

END OF SECTION 01410

SECTION 01600
MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.1 Work Included:

A. Products.
B. Transportation and handling.
C. Storage and protection.
D. Product options.
E. Substitutions.

1.2 Related Work Described Elsewhere:

A. Section 01400: Quality Control: Product quality monitoring.

1.3 Products:

A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying, and erection of the Work. Products may also include existing materials or components required for reuse.

B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

C. Provide interchangeable components of the same manufacturer, for similar components.

1.4 Transportation and Handling:

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

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

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

1.5 Storage and Protection:

A. Store and protect products in accordance with manufacturer's instructions,

with seals and labels intact and legible. Store sensitive products in weather-tight, climate controlled enclosures.

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

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

D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.

E. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

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

G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

1.6 Product Options:

A. Whenever a material, article or piece of equipment is identified on the Drawings or in the Specifications by reference to manufacturer's or vendor's name, trade name, catalog number, or the like, it is so identified for the purpose of establishing a standard, and any material, article, or piece of equipment of other manufacturers or vendors which will perform equally or better the duties imposed by the general design will be considered equally acceptable provided the material, article, or piece of equipment so proposed is, in the opinion of the Engineer, of equal substance, appearance and function. It shall not be purchased or installed by the Contractor without the Engineer's written approval. Submit a request for substitution in accordance with 1.07, this Section.

1.7 Substitutions:

A. Requests for substitution must be made during the bid period, submitted no later than 10 days prior to bid date. If accepted, this substitution will be issued to all bidders.

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

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

D. A request constitutes a representation that the Bidder:

1. Has investigated proposed Product and determined that it meets or exceed 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 which may be required for the Work to be complete with no additional cost to the Owner.

4. Waives claims for additional costs or time extension which may subsequently become apparent.

5. Will reimburse Owner for review or redesign services associated with re-approval by authorities.

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

F. 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.

3. The Engineer will notify Contractor, in writing, of decision to accept or reject request.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION 01600

SECTION 01700
CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 Section Includes:

A. Closeout procedures.
B. Final cleaning.
C. Project record documents.
D. Warranties.

1.2 Related Sections:

A. Section:

1. Section 01730 - Cleaning.

1.3 Closeout Procedures:

A. 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 Engineer's inspection.

B. Submit the following Documents to the Engineer for transmission to the Owner at the close of the project:

1. Contractor's Affidavit of Payment of Debts and Claims

2. Contractor's Affidavit of Release of Liens

3. Record Drawings: See Paragraph 1.5.

4. All guarantees in excess of one year stipulated in the various technical sections of the Specifications. See Paragraph 1.6.

C. All documents shall be approved by the Engineer and in his possession before final acceptance of the project will be considered.

D. Provide submittals to Engineer that are required by governing or other authorities.

E. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.4 Final Cleaning:

A. Execute final cleaning prior to final inspection in accordance with Section 01730.

1.5 Project Record Documents:

A. Maintain on site one set of the following record documents; record actual revisions to the Work:

1. Contract Drawings.
2. Specifications.
3. Addenda.
4. Change Orders, and other Modifications to the Contract.
5. Approved shop drawings, product data, and samples.
6. Field test reports.

B. Store Record Documents separate from documents used for construction.

C. Record information concurrent with construction progress.

D. 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.

E. Record Documents and Shop Drawings: Legibly mark each item on a reproducible Mylar sepia to record actual construction including:

1. Measured depths of foundations in relation to finish first floor datum.
2. Measured horizontal and vertical locations of under-ground 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 the original Contract Drawings.

F. Submit documents to Engineer with claim for final Application for Payment.

1.6 Warranties:

A. Provide duplicate notarized copies.

B. Execute and assemble documents from Subcontractors, suppliers and manufacturers.

C. Provide Table of Contents and assemble in three "D" side ring binder with durable plastic cover.

D. Submit prior to final Application for Payment.

E. For items of Work delayed beyond date of Substantial Completion, providing updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

PART 2 - PRODUCTS

NOT APPLICABLE.

PART 3 - EXECUTION

NOT APPLICABLE.

END OF SECTION 01700

SECTION 01730
CLEANING

PART 1 - GENERAL

1.1 Work Included:

A. The work of this section includes providing all necessary material, labor and equipment to maintain the job site free of debris and waste material during construction and to perform final cleaning.

1.2 Related Work Described Elsewhere:

A. Cleaning and protection requirements as described In other sections of this specification.

B. Section 01000 – General Requirements, 1.08 Debris, Cleaning Up.

1.3 Requirements of Regulatory Agencies:

A. Safety Standards: Maintain project in accordance with the following safety and insurance standards, latest edition: Federal Occupational Safety and Health Act.

B. Fire Protection: Store volatile waste in covered metal containers, and remove from premises daily.

C. Pollution Control: Conduct clean-up and disposal operations to comply with local ordinances and anti-pollution laws.

1. Burning or burying of rubbish and waste materials on the project site is not permitted.

2. Disposal of volatile fluid waste (such as mineral spirits, oil or paint thinner) in storm sanitary sewer systems or into streams or waterways is not permitted.

D. Comply with all local Fire Department requirements for dumpster and trash chute locations and fire protection.

PART 2 - PRODUCTS

2.1 Cleaning Materials:

A. Use only cleaning materials recommended by manufacturer of surface

to be cleaned.

B. Use cleaning materials only on surface recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.1 During Construction:

A. Oversee cleaning and insure that buildings and grounds are maintained free from accumulations of waste material and rubbish.

B. Sprinkle dusty debris with water and calcium chloride as needed.

C. At reasonable intervals or as directed by the Engineer during the progress of work, clean-up site and access and dispose of waste materials, rubbish and debris.

D. Do not allow waste materials, rubbish and debris to accumulate and become an unsightly or hazardous condition.

E. Remove waste materials, rubbish and debris from the site and legally dispose of at public or private dumping areas off the Owner's property.

F. Vacuum clean interior building areas when ready to receive finish painting and continue vacuum cleaning on an as-needed basis until building is ready for acceptance or occupancy.

G. Lower waste materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.

H. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly-painted surfaces.

3.2 Final Cleaning:

A. Use experienced workmen for final cleaning.

B. Broom clean paved surfaces; rake clean other surfaces of grounds.

C. Maintain cleaning until accepted by the Owner.

END OF SECTION 01730

SECTION 01740
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Section includes: Special administrative and procedural requirements as required for the Project waste management and recycling activities and as described herein.

1. Recycling goals and waste management program intent.

2. List of recyclable materials.

3. Resources

4. Waste management plan.

5. Waste management plan implementation.

6. Waste management reporting.

7. Special tax incentives and crediting programs.

1.2 RELATED SECTIONS

A. Section 01 6000 - PRODUCT REQUIREMENTS:

1. Requirements for recycling packaging materials.

2. Product conservation, reuse and waste management.

B. Section 01 7300 - EXECUTION:

1. Waste Management and Recycling during Final Cleaning.

1.3 RECYCLING GOALS AND WASTE MANAGEMENT PROGRAM INTENT

A. Program Goal: It is the Owner's determination that this Project shall generate the least amount of construction waste possible. This program goal shall be accomplished by the following processes:

B. Program Goal: It is the Owner's determination that this Project shall

generate the least amount of construction waste possible. The Owner's goal is to salvage and recycle as much non-hazardous demolition and construction waste as possible (minimum 75 percent waste diversion is mandatory for this project).

1. Efficiently use demolition waste materials to the maximum extent as economically feasible:

    a. Reuse and renovation of existing structures in lieu of demolition as shown in the Contract Documents.

    b. Segregate and salvage existing materials and items for salvage and reuse on site where possible.

    c. Segregate demolished materials for salvage and recycling, or to be recycled as mixed debris.

2. Ensure the reduction of waste generated due to errors, poor planning, breakage, mishandling, contamination, or other factors shall be employed.

3. Efficiently use waste material to the fullest extent possible in the completion of this Project, including the following:

    a. Reuse of materials on site where possible.

    b. Recycling of waste generated during the construction processes.

4. The Contractor is encouraged to include additional resource efficient methods in the Project.

5. In the management of waste consideration shall be given to the availability of viable markets, the condition of the material, the ability to provide the material in suitable condition and in a quantity acceptable to available markets, and time constraints imposed by internal project completion mandates.

C. Contractor Participation: The Contractor shall take a pro-active, responsible role in the management of construction and demolition waste and require all subcontractors, vendors, and suppliers to participate in the effort.

1. The Contractor is responsible for implementation of special programs involving rebates or similar incentives related to recycling of waste.

2. Revenues or other savings obtained for salvage, or recycling shall accrue

to the Contractor. Firms and facilities used for recycling, reuse, and disposal shall be appropriately permitted for the intended use to the extent required by federal, state, and local regulations.

D. Waste disposal: In no case shall material be disposed of in a landfill or incinerator where an approved and less costly recycling or reuse alternative exists. Waste disposal in landfills and incinerators shall be minimized and shall be considered the alternative of last resort.

1.4 DEFINITIONS

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

B. Co-mingled: Materials of varied types deposited into the same receptacle or pile, or mixed together during demolition.

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

1. Construction and demolition waste includes excess or otherwise unusable construction materials, packaging materials for construction products, and other materials generated during the construction process but not incorporated into the work.

D. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitability, corrosiveness, toxicity or reactivity.

E. Hazardous Waste: Any material or byproduct of construction whose handling, storage and disposal is regulated by the Environmental Protection Agency.

F. Non-hazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitability, corrosiveness, toxicity, or reactivity.

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

H. Off-Site Separation: Sorting and separating commingled waste at a location other than the construction jobsite, that location having been established for the purpose of recycling.

I. 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.

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

K. 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.

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

M. Reuse: To reuse a construction\waste material in some manner on the Project site.

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

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

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

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

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

S. Volatile Organic Compounds (VOCs): Chemical compounds common in and emitted by many building products over time through outgassing: solvents in paints and other coatings; wood preservatives; strippers and household cleaners; adhesives in particleboard, fiberboard, and some plywoods; and foam insulation.

T. Waste Management Plan: A Project-related plan for the collection, transportation, and disposal of the waste generated at the construction site. The purpose of the plan is to ultimately reduce the amount of material being landfilled.

U. 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.

1.5 LIST OF RECYCLABLE MATERIALS

A. Materials to be recycled, salvaged, or reused during this project include, but are not limited to, the following:

1. Asphaltic paving.

2. Beverage containers.

3. Brick.

4. Concrete, concrete block, concrete masonry units (CMU), slump stone (decorative concrete block), and rocks.

5. Furnishings.

6. Green materials (i.e. tree trimmings and land clearing debris).

7. Metals including, but not limited to: stud trim, ductwork, piping, reinforcing steel (rebar), roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze. (ferrous and non-ferrous).

8. Paint.

9. Paper, including bond, newsprint, cardboard, mixed paper, packing materials, and packaging.

10. Plastics, plastic buckets and plastic sheeting.

11. Rigid foam insulation and packing materials.

12. Soils and land clearing debris.

13. Wood, including clean dimensional wood, pallet wood, plywood, oriented strand board (OSB), particle board.

B. The following waste products are banned for incineration or landfill disposal. These items may not be included in waste destined for incineration or landfills:

1. Lead-acid batteries

2. Leaves and Yard Waste

3. Whole Tires

4. White Goods (Appliances)

5. Cathode Ray Tubes (CRTs) including computer monitors

6. Metal, Plastic and Glass Containers

7. Recyclable Paper

1.6 RESOURCES

A. Resources The following sources may be useful in development of the specified Waste Management Plan:

Licensed or Registered Construction and Demolition Debris Processing Facilities: The following list from the RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT contains licensed and registered construction and demolition debris processing facilities. This list is provided for information only and is not necessarily comprehensive; other processors and markets are acceptable. For more information, contact: Rhode Island Department of Environmental Management, Office of Waste Management, 235 Promenade Street, Providence RI 02908 (telephone 401-222-2797) a. Construction and Demolition Debris Processing Facilities:

1) Coastal Recycling
431 Aliens Avenue
Providence, RI 02905

2) Pond View Recycling, Inc, C&D Facility
1 Dexter Road
East Providence, RI 02914

3) RIRRC - Plainfield Pike Facility
2550 Plainfield Pike
Cranston, Rhode Island

4) Waste Management Transfer Station and C&D Debris Processing Facility
65 O'Keefe Lane
Warwick, Rhode Island 02888

1.7 SUBMITIALS

A. Submit the following under provisions of Section 01 3300 - SUBMITIAL PROCEDURES:

1. Waste Management Plan: Submit draft(s) and Final Waste Management

Plan, as specified herein under the Article entitled "Waste Management Plan".

2. Recycling Facilities List: Submit list of names, addresses, and telephone numbers for all proposed recycling facilities and obtain Engineer's acceptance prior to use of recycling facilities. Additionally, with submittal, include for each recycling facility a certification letter on recycling facility letterhead which is signed by responsible party at recycling facility containing the following information:

    a. End use of each recycled material handled by facility.

    b. Recycling rate of the recycling facility.

    c. Facility Permitting Information: For ABC rubble crushing and/or recycling facilities, provide a copy of the facility's current solid waste management facility permit.

3. Monthly recycling analysis reports: Submit monthly with each Application for Payment, recycling analysis report. Include separate reports for demolition and construction waste. Include the following information:

    a. Material category.

    b. Generation point of waste.

    c. Total quantity of waste in tons).

    d. Quantity of waste salvaged, both estimated and actual in tons.

    e. Quantity of waste recycled, both estimated and actual in tons.

    f. Total quantity of waste recovered (salvaged plus recycled) in tons.

    g. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

    h. Tracking Report and Projections: Monthly recycling analysis reports shall additionally include updated projections for end-of-project recycling rates, salvage rates, and landfill rates demonstrating that the mandatory 75 percent of the construction waste will be diverted (recycled or salvaged) by date of Substantial Completion.

B. Submit the following under provisions of Section 01 7800 - CLOSEOUT SUBMITIALS.

1. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

1.8 WASTE MANAGEMENT PLAN

A. Draft Waste Management Plan: Within 14 calendar days after receipt of Notice of Award of Bid, and prior to any waste removal, the Contractor shall submit a Draft Waste Management Plan to both Engineer and Owner. The Draft Waste Management Plan shall include as a minimum the following:

1. Analysis of the jobsite waste expected to be generated, categorized by material types and approximate quantities.

   a. List specific waste materials that will be salvaged for resale, salvaged and reused, or recycled.
   b. Estimated percentage of waste diverted by this Plan.
   c. Identification of materials that cannot be recycled or reused

2. Disposal options: The name of all landfills and incinerators proposed for trash disposal, the respective tipping fees for each of these disposal options including transportation costs, and the projected cost of disposing of all Project waste in the landfills.

3. Alternatives to Incineration or Landfill Disposal: A list of each material proposed to be salvaged, reused, or recycled during the course of the Project. Include the following information:

   a. The proposed end use or market for each material.
   b. The respective tipping fees for each end use or market (including transportation costs).
   c. The estimated net cost savings or additional costs resulting from separating and recycling each material (versus landfilling or other disposal).

      1) "Net" means that the following have been subtracted from the cost of separating and recycling:

         (a) Revenue from the sale of recycled or salvaged

materials and

(b) landfill tipping fees saved due to diversion of materials from the landfill.

B. Final Waste Management Plan: Once the Owner has reviewed the draft Waste Management Plan and made appropriate suggested modifications, the Contractor shall submit, within 14 calendar days of receiving such suggested modifications, a Final Waste Management Plan, incorporating Owner's input. The Final Waste Management Plan shall contain the following:

1. Analysis of the jobsite waste expected to be generated, categorized by material types and approximate quantities.

    a. List specific waste materials that will be salvaged for resale, salvaged and reused, or recycled.

2. Materials Handling Procedures: A description of the means by which any waste materials identified to be salvaged, reused, or recycled, will be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with requirements for acceptance by designated facilities.

3. Markets: A list of the markets or other on-site or off-site end uses that will be used for each material that will be separated for reuse, salvage, or recycling.

    a. Identify (and utilize) local and regional reuse programs, including non-profit organizations such as schools, local housing agencies, and organizations that accept used materials such as materials exchange networks, and Habitat for Humanity.

4. Transportation: Describe the means of transportation of the recyclable materials and destination of all waste materials.

    a. Transported materials includes:

        1) Materials that will be site-separated and hauled to designated centers

        2) Mixed materials will be collected by a waste hauler and removed from the site.

        3) Mixed materials that will be removed from site and later separated for recycling.

5. Disposal Options: The name of all landfills and incinerators proposed for trash disposal, the respective tipping fees for each of these disposal options including transportation costs, and the projected cost of disposing of all Project waste in the landfill(s).

    a. Alternatives to Incineration or Landfill Disposal: A list of each material proposed to be salvaged, reused, or recycled during the course of the Project.

6. Cost of Reuse, Salvage, Dr Recycling. An estimate of the cost, including separation, transportation, and marketing, to reuse, salvage, or recycle the materials identified.

7. Schedule of special meetings required to address waste management implementation.

1.9 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: The Contractor shall designate a specific party (or parties) responsible for instructing workers in recycling and overseeing and documenting results of the Waste Management Plan for the Project.

B. Distribution: The Contractor shall distribute copies of the Waste Management Plan to the Job Site Foreman, each Subcontractor, the Owner, the PM, and the Engineer.

C. Instruction: The Contractor or his designated waste manager shall provide on-site instruction regarding appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all involved parties at the appropriate stages of the Project.

D. Separation facilities: As appropriate during each stage of the Project, the Contractor shall layout and label a specific area(s) to facilitate separation of materials for potential recycling, salvage, reuse, and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials.

E. Hazardous wastes: Hazardous wastes shall be separated, stored, and disposed of according to local regulations.

1.10 WASTE MANAGEMENT REPORTING

A. Application for Progress Payments: The Contractor shall submit with each Application for Progress Payment a Summary of Waste generated by the

Project. Failure to submit this information shall render the Application for Payment incomplete and shall delay Progress Payment. The Summary shall be submitted on a form acceptable to the Owner and shall contain the following information:

1. The amount (in tons or cubic yards) of material landfilled from the Project, the identity of the landfill, the total amount of tipping fees paid, transportation costs (if separate) and the total disposal cost. Include manifests, weight tickets, receipt, and invoices.

2. For each material recycled, reused, or salvaged from the Project, the amount (in tons or cubic yards), the date removed from the jobsite, the receiving party, the transportation cost, the amount of any money paid or received for the recycled or salvaged material, and the net total cost or savings of salvage or recycling each material. Attach manifests, weight tickets, receipts, and invoices.

PART 2 – PRODUCTS

NOT APPICABLE

PART 3 – EXECUTION

3.1 GENERAL WASTE MANAGEMENT

A. Use detailed material estimates to reduce risk of unplanned and potentially wasteful cuts.

B. Arrange for vendors and material suppliers is to take back shipping and packing materials for re-use or recycling to the maximum extent economically feasible.

   1. Include in material purchasing agreements a waste reduction provision requesting that materials and equipment be delivered in packaging made of recyclable material, that they reduce the amount of packaging, that packaging be taken back for reuse or recycling, and to take back all unused product. Insure that subcontractors require the same provisions in their purchase agreements.

C. Provide clearly labeled containers for recycled waste that is to be recycled, with a list of acceptable and unacceptable materials. The list of acceptable materials must be the same as the materials recycled at the receiving material recovery facility or recycling processor.

   1. Separate corrugated cardboard in accordance with the Waste Management Plan and place in designated areas for

recycling.

2. Separate and recycle waste materials in accordance with the Waste Management Plan and to the maximum extent economically feasible.

3. Place materials defined as hazardous or toxic waste in designated containers.

D. Provide labeled containers for all recycled waste that is to be disposed in a landfill.

E. Handle and transport recyclable materials in manner to prevent contamination of materials from incompatible products and materials.

F. Conduct regular visual inspections of dumpsters and recycling bins to remove contaminants.

3.2 SOURCE SEPARATION

A. General: Separate recyclable materials from general construction waste. Separate recyclable materials by type.

1. Provide containers, clearly labeled, by type of separated materials or provide other storage method for managing recyclable materials until they are removed from Project site.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from demolition area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from weather.

B. Source Separation Methods:

1. Waste products and materials that are recyclable shall be separated from trash and sorted into appropriately marked separate containers and then transported to the respective recycling facility for further processing.

2. Comingled Method: Recyclable materials shall be placed into a single container and then transported to a recycling facility where the recyclable materials are sorted and processed.

a. Do not put recycled waste that will be disposed in a landfill into a

co-mingled waste recycling container.

3. Other Methods: Other methods proposed by the Contractor may be used when approved by the Engineer and Owner.

C. Waste materials not suitable for reuse, but having value as being recyclable, shall be made available for recycling whenever economically feasible.

3.3 REMOVAL OF CONSTRUCTION AND DEMOLITION WASTE MATERIALS

A. Remove recycled waste materials from project site on a regular basis. Do not allow recycled waste to accumulate on-site.

B. Transport recycled waste materials off Owner's property and legally dispose of them.

1. Materials with no practical use or economic benefit shall be disposed at a landfill or incinerator.

END OF SECTION 01740

SECTION 02001
GENERAL SITE CONDITIONS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SCOPE

Provide all labor, materials and equipment necessary to complete all GENERAL SITE CONDITIONS WORK indicated on the Drawings, herein specified or both. The work of this Section includes, but is not necessarily limited to, coordination and control of all site related work.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. Division 1: For Sections on Project Meetings, Submittals, and Protection from inclement weather.

B. Division 2: For Sections on Clearing & Grubbing, Protection of Plants to remain, Earthwork, Concrete Paving, Site Utilities, Site Improvements, and Landscaping.

1.4 QUALITY ASSURANCE:

A. Standards: See Section 01400, and below.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 – EXECUTION

3.1 EXCAVATIONS - ALL CLASSES, ALL TRADES

A. Dig Safe:

1. Be aware of and comply with all laws governing work in areas of existing underground utilities on Federal, State, Municipal, and private land.
2. Before beginning any demolition, excavation or other Site related underground work, verify the locations of all underground utilities shown on the Drawings by any and all means necessary.
3. In addition, contact "Dig Safe" and individual utility companies to check for any additional utility lines not shown.

3.2 PROTECTION OF EXISTING UTILITIES

A. In addition to the General Contractor's requirements in Division One and elsewhere, and in coordination with the General Contractor, protect all existing utility lines and ways from all damage throughout the work of this Project, using only means and methods approved in advance by the applicable utility companies and the Engineer.

B. Proceed only with utmost caution in areas of existing underground, above ground and aerial utilities, as prescribed by the pertinent utility companies and by applicable law. Immediately repair or replace any damaged utility lines and ways per the utility companies involved, at no additional cost to the Owner.

3.3 AWARENESS OF HISTORICAL ARTIFACTS

A. Prior to and during any excavation performed by the Site Contractor or his forces, The Contractor shall notify the General Contractor immediately should any of the following be encountered:

1. Charcoal, bones, sea shells, rocks that appear to have been burned, and any obvious evidence of prior human habitation, such as arrowheads, pottery shards, hewed timber, etc.
2. No additional excavation work shall take place in the areas of such discoveries until the General Contractor has been directed by the Engineer to proceed.

3.4 MAINTENANCE OF EXISTING UTILITIES

A. In addition to the requirements in Division One and elsewhere, and in coordination with the General Contractor, take all necessary measures to insure that all existing utilities remain active and available to the community throughout the construction period.

1. When any utility must be temporarily disrupted for connection to the new building or for any other approved reason, provide 72 hours advance notice to the Owner and to the utility involved.

3.5 PROTECTION OF OPEN EXCAVATIONS

A. In addition to the requirements of Division One, provide - for the life of this Project - protection of and from all open excavations, including but not limited to, trench excavations, open foundation excavations, excavations resulting from Site Clearing & Demolition operations or from removal of ledge.

B. Using approved methods, protect all excavations to prevent cave-ins, erosion, and side slippage. Concurrently, using approved methods protect all excavations from being a hazardous condition to all workers and to the public.

3.6 PERMITS

A. Before beginning any work in any public highways, streets or ways, confirm through the General Contractor that all necessary permits relating to such work have been obtained.

3.7 ACCESS & EGRESS

A. In addition to the General Contractor's requirements set forth in Division One and elsewhere, coordinate with the General Contractor - who shall coordinate with the Owner - and make whatever provisions are necessary to maintain unobstructed access to and egress from the site for both regular and emergency vehicular and pedestrian traffic.

B. Insure, through the General Contractor, that all proper authorities and the Owner have been notified before beginning any work that might impede vehicular traffic adjacent to the site or to and from the site.

A. Prior to beginning any Site related work, insure that operators of all equipment used in the sitework are properly and currently licensed to operate such equipment.

3.9 CLEAN UP

A. In addition to the General Contractor's requirements in Division One and elsewhere, insure at all times that debris, rubbish and excess materials from all Site work operations are removed from the site daily, and lawfully disposed of.
   1. See individual Sections under Division Two for specific requirements.

3.10 SUBMITTALS

A. In addition to the requirements of Division One, the following shall be the case:
   1. Any Material, Labor or Equipment provided for this Project that has not first been approved by the Engineer shall be deemed to be provided solely at the provider's risk.

3.11 STORAGE OF MATERIALS

A. The on-site storage of all materials, whether new, excavated, deemed excess, salvage and any other type shall be coordinated through the General Contractor, and approved by the Engineer, before such storage takes place.

END OF SECTION 02001

SECTION 02010
SUBSURFACE CONDITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 GENERAL

A. A soils investigation has not been made of the site.

1.3 RELATED WORK SPECIFIED ELSEWHERE

1. Section 02200 – Earth Excavation, Backfill and Grading
2. Section 02205 – Soil Materials
3. Section 02215 – Aggregate Materials
4. Section 02270 - Soil Erosion and Sedimentation Control

PART 2 - PRODUCTS **Not Applicable**

PART 3 - EXECUTION **Not Applicable**

END OF SECTION 02010

SECTION 02100
SITE PREPARATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Requirements for removal of limited vegetation, posts, signs, topsoil, and other items required to fully prepare the site for the proposed construction.

B. Work includes items not specifically covered by other sections of the specifications or on the plans.

1.2 DEFINITIONS

A. Clearing: Removal of trash, vegetation, trees, or organic matter alive or dead.

B. Grubbing: Removal of vegetation including stumps, buried logs and roots.

C. Scalping: Removal of grass turf to a depth of 3 inches.

1.3 QUALITY ASSURANCE

A. Obtain Engineer's approval of staked work limits prior to starting the clearing, grubbing, and stripping.

1.4 PROJECT/SITE CONDITIONS

A. Environmental Requirements

1. Install erosion and sediment controls prior to starting the work. Erosion and sediment controls shall be maintained in accordance with all state and local requirements.

B. Existing Conditions

1. Temporarily remove property improvements, to the minimum extent necessary, to complete the work and restore improvements to condition which existed prior to construction.

1.5 REFERENCES

A. Section 01740 Construction Waste Management and Disposal: Special administrative and procedural requirements as required for the Project waste management and recycling activities and as described herein.

B. Standard Specification for Road and Bridge Construction of the Rhode Island Department of Transportation dated 2010, together with all erratic, addenda, additional revisions and supplemental specifications.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 PROTECTION

A. Do not cut or injure any trees, as indicated on the Drawings.

B. Trees, shrubbery, or plantings along the traveled highways or roads, shall not be removed except with the written approval of the Engineer.

C. Preserve certain vegetation such as trees, shrubs, hedges and plants within the construction area, as indicated on the Drawings to be protected or as directed by the Engineer.

D. Work In Improved Property

1. Protect trees, cultivated hedges, lawns, shrubs, and plants that might be damaged by the Contractor's operations.

2. Temporarily replant and care for trees under 4 inches in diameter which would be damaged by the construction operation. After the construction operations have been substantially completed, replant in their original positions and care for until growth is reestablished. If trees, cultivated hedges, lawns, shrubs, and plants are injured to such a degree as to affect their growth or diminish their beauty or usefulness, they shall be replaced at the Contractor's expense by items of kind and quality existing at the start of the work.

3. Do such handwork as may be required to prevent damage to buildings and improvements.

4. Protect fences and stone walls and if needed to be removed to facilitate construction or if damaged, upon completion of the work, properly restore or repair to at least as good a condition as existed prior to start of the work.

3.2 CLEARING

A. Cut or remove all trees, saplings, brush, and vines, windfalls, logs, and trees lying

on the ground, dead trees and stubs more than 1 foot high above the ground surface.

B. Except where clearing is done by uprooting with machinery or where stumps are left longer to facilitate subsequent grubbing operations, trees, stumps, and the stubs to be cleared shall be cut as close to the ground surface as practicable, but no more than 6 inches above the ground surface in the case of small trees, and 12 inches in the case of larger trees. Saplings, brush, and vines shall be cut off close to the ground.

C. Selective Trimming

1. Cut back limbs and branches of trees to be preserved only to the extent necessary for construction.

2. Trim neatly, and cleanly so that the remaining tree will not be damaged and healing will be facilitated. Where limbs and branches over 1 inch in diameter have been cut, the newly cut area of the tree shall be given a thorough application of approved tree-healing paint.

3.3 GRUBBING

A. Remove completely all stumps.

B. Remove to a depth of 12 inches all roots 3 inches and larger in diameter.

C. Remove to a depth of 6 inches all roots less then 3 inches in diameter.

D. Measure depths from the existing ground surface, or the proposed finished grade, or the proposed grade of the gravel borrow subbase, whichever is the lower.

3.4 DISPOSAL OF CLEARED AND GRUBBED MATERIALS

A. Dispose of cleared and grubbed materials off site at authorized disposal location.

B. Such disposal shall be carried on as promptly as possible after removal of material in the clearing and grubbing operations and shall not be left until the final period of cleaning up.

C. Elm bark whether stripped from the wood or intact with the wood shall be either buried at least 1 foot below grade in approved dumping areas or burned in a suitable incinerator off-site with satisfactory anti-pollution and fire prevention controls to prevent the spread of Dutch Elm Disease.

3.5 REMOVAL AND DISPOSAL MISCELLANEOUS OBJECTS

A. Remove and dispose of miscellaneous items such as fences, posts and railings, guardrail, mail boxes and posts, private signs, highway bounds and any other object not specifically covered by another section of the Specifications, specifically indicated on the plans to be removed or required to be removed for the construction of the new work will be coordinated with the owner for first right of refusal.

END OF SECTION 02100

SECTION 02200
EARTH EXCAVATION, BACKFILL AND GRADING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Requirements for excavating in earth for roadway and wall construction, trenches, swales, ponds and structures; backfilling excavations; furnishing necessary material; compaction; constructing embankments and fills; miscellaneous earth excavations and miscellaneous grading.

B. Related Sections

1. Section 01030 – Unit Prices.
2. Section 01410 - Testing Laboratory Services.
3. Section 02100 - Site Preparation.
4. Section 02205 - Soil Materials.
5. Section 02215 - Aggregate Materials.
6. Section 02530 – Sidewalk and Wheelchair Ramps (All Thicknesses)

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM).

B. D1557-78, Standard Test Methods for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 10-lb. (4.54 kg) Rammer and 18-inch (457 mm) Drop. Wherever a percentage of compaction is indicated or specified, use percent of maximum density at optimum moisture as determined by Method D.

C. Standard Specification for Road and Bridge Construction of the Rhode Island Department of Transportation, dated 2010, together with all erratic, addenda, additional revisions and supplemental specifications.

1.3 PROCEDURES

A. Test Pits

1. Where determination of the exact location of pipe or other underground

structure is necessary for doing the work properly, the Contractor may be required to excavate test pits to determine such locations. When such test pits may be properly considered as incidental to other excavation, the Contractor shall receive no additional compensation, the work being understood to be included as part of the excavation. When the Engineer orders test pits beyond the limits of excavation he considers a part of the work, such test pits shall be paid for under excavation.

1.4 QUALITY ASSURANCE

A. Field Samples

1. Provide samples of materials as requested by the Engineer in order to facilitate field testing of compaction operations and material properties.

1.5 PROJECT/SITE CONDITIONS

A. Existing Conditions

1. There are pipes, drains, and other utilities in locations not indicated on drawings, no attempt has been made to show all services and completeness or accuracy of information given is not guaranteed.

1.6 MAINTENANCE

A. Maintain all work in accordance with Section 01800.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Suitable Aggregate

1. The nature of materials will govern both acceptability for backfill and methods best suited for placement and compaction.

2. All material whether from excavations or from borrow, after being placed and properly compact, will make a dense stable fill containing no vegetation, masses of roots, individual roots more than 18 inches long, or more than 1/2 inch in diameter, stones over 6 inches in diameter, or porous matter.

3. Organic matter to be well distributed and not to exceed minor quantities.

B. Trench and Excavation Backfill

1. In general, and unless other material is indicated on the Drawings or specified, material used for backfilling trenches and excavations shall be suitable material which was removed in the course of making the construction excavations. If sufficient suitable material is not available from the excavations, the backfill material shall be crushed stone, bank-run or selected borrow as directed and according to the respective sections of the Specifications.

C. Filling and Embankment Backfill

1. Suitable selected materials available from the excavations and not required for backfill around pipes or against structures may be used for filling and building embankments, except as otherwise specified. Material needed in addition to that available from construction operations shall be obtained from suitable gravel banks or other suitable deposits. The Contractor shall furnish, at his own expense, all borrow material needed on the work.

D. Additional materials

1. Concrete: In accordance with Section 03001.

2. Crushed stone: In accordance with Section 02215.

3. Bank-run gravel: In accordance with Section 02215.

4. Selected borrow: In accordance with Section 02215.

5. Sand borrow: In accordance with Section 02215.

2.2 SOURCE QUALITY CONTROL

A. Provide Engineer with access to location of off-site sources of materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify all existing utilities and facilities prior to excavation.

3.2 PROTECTION

A. Utilities

1. Support and protect from damage existing pipes, poles, wires, fences, curbing, property line markers, and other structures, which the Engineer

decides must be preserved in place without being temporarily or permanently relocated.

2. Restore items damaged during construction without compensation, to a condition at least equal prior to construction.

B. Trees

1. Enclose the trunks of trees adjacent to work with substantial wooden boxes of height necessary to protect trees from injury from piled material, equipment, operations or otherwise.

2. Branches, limbs, and roots shall not be cut except by permission of the Engineer.

C. Plantings

1. Protect or temporarily replant and maintain cultivated hedges, shrubs, and plants which may be injured by the Contractor's operations.

D. Paved surfaces

1. Do not use or operate tractors, bulldozers, or other power-operated equipment with treads or wheels shaped as to cut or injure paved surfaces.

2. All surfaces which have been injured by the Contractor's operations shall be restored to a condition at least equal to which existed prior to start of the work.

3. Suitable in-kind materials and methods shall be used for such restoration.

3.3 PREPARATION

A. Top Soil Removal

1. From areas which excavations are to be made, loam and topsoil shall be carefully removed and separately stored to be used again as directed.

B. Subgrade

1. Remove loam and topsoil, loose vegetable matter, stumps, large roots, etc., from areas where embankments will be built or material will be placed for grading.

2. Shape as indicated on the drawings and prepare by forking, furrowing, or plowing to bond first layer of the new material placed.

3.4 EXCAVATION

A. Execute operation of dewatering, sheeting and bracing without undermining or disturbing foundations of existing structures or of work previously completed under this Contract.

B. Render bottom of excavations firm, dry and acceptable in all respects.

C. Do not plow, scrap or dig by machinery, earth at finished subgrade which results in disturbance of material below subgrade, unless indicated or specified, and remove with pick and shovel, last of material to be excavated, just before placing pipe, masonry or other structure.

D. Make all excavations in open, except as otherwise specified or permitted.

E. Excavation Near Existing Facilities

1. As the excavation approaches pipes, conduits, or other underground structures, digging by machinery shall be discontinued and the excavation shall be done by means of hand tools. Such manual excavation when incidental to normal excavation shall be included in the work to be done under items involving normal excavation.

F. Unauthorized Excavation

1. If the bottom of any excavation is taken out beyond the limits indicated or prescribed, the resulting void shall be backfilled at the Contractor's expense with thoroughly compacted, crushed stone, if the excavation was for a pipeline, or with Class B concrete, if the excavation was for a masonry structure.

G. Unsuitable Material

1. If material unsuitable for foundation (in the opinion of the Engineer) is found at or below the grade to which excavation would normally be carried in accordance with the Drawings and/or Specifications, the Contractor shall remove such material to the required width and depth and replace it with thoroughly compacted, crushed stone, bank-run gravel, fine aggregate or concrete as directed.

3.5 TRENCHING

A. Trench Excavation

1. Where pipe is to be laid in gravel bedding or concrete cradle, the trench

may be excavated by machinery to, or to just below, the designated subgrade, provided that the material remaining at the bottom of the trench is no more than slightly disturbed.

2. Where pipe is to be laid directly on the trench bottom, the lower part of trenches in earth shall not be excavated to subgrade by machinery, but, just before the pipe is to be placed, the last of the material to be excavated shall be removed by means of hand tools to form a flat or shaped bottom, true to grade, so that the pipe will have a uniform and continuous bearing and support on firm and undisturbed material between joints except for limited areas where the use of pipe slings may have disturbed the bottom.

B. Depth of Trench

1. Excavate trench to depths permitting the pipe to be laid at the elevations, slopes, or depths of cover indicated on the Drawings, and at uniform slopes between indicated elevations.

C. Width of Trench

1. Excavate trench as narrow as practicable and do not widen by scraping or loosening materials from the sides. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed and consolidated.

2. Excavate trenches with approximately vertical sides between the elevation of the center of the pipe and an elevation 1 foot above the top of the pipe.

D. Trench Excavation In Fill

1. If pipe is to be laid in embankments or other recently filled material, the material shall first be placed to the top of the fill or to a height of at least 1 foot above the top of the pipe, whichever is the lesser. Particular care shall be taken to ensure maximum consolidation of material under the pipe location. The pipe trench shall then be excavated as though in undisturbed material.

E. Length of trench open at any one time will be controlled by conditions, subject to any limits that may be prescribed by Engineer.

3.6 BACKFILLING

A. General

1. Frozen material shall not be placed in the backfill nor shall backfill be placed upon frozen material. Previously frozen material shall be removed or shall be otherwise treated as required, before new backfill is placed.

B. Backfilling Pipe Trenches

1. As soon as practicable after the pipes have been laid and the joints have acquired a suitable degree of hardness, if applicable, or the structures have been built and are structurally adequate to support the loads, including construction loads to which they will be subjected, the backfilling shall be started and thereafter it shall proceed until its completion.

2. With the exception mentioned below in this paragraph, trenches shall not be backfilled at pipe joints until after that section of the pipeline has successfully passed any specified tests required. Should the Contractor wish to minimize the maintenance of lights and barricades and the obstruction of traffic, he may, at his own risk backfill the entire trench, omitting or including backfill at joints as soon as practicable after the joints have acquired a suitable degree of hardness, if applicable, and the related structures have acquired a suitable degree of strength. He shall, however, be responsible for removing and later replacing such backfill, at his own expense, should he be ordered to do so in order to locate and repair or replace leaking or defective joints or pipe.
3. No stone or rock fragment larger than 12 inches in greatest dimension shall be placed in the backfill nor shall large masses of backfill material be dropped into the trench in such a manner as to endanger the pipeline. If necessary, a timber grillage shall be used to break the fall of material dropped from a height of more than 5 feet. Pieces of bituminous pavement shall be excluded from the backfill unless their use is expressly permitted, in which case they shall be broken up as directed.

4. Zone Around Pipe
    a. Backfilled with the materials and to the limits indicated on the drawings.
    b. Material shall be compacted to 95 percent by tamping.

5. Remainder of Trench
    a. Compact by water-jetting, puddling, or tamping, in accordance with the nature of the material and the compaction requirements. Water-jetting or puddling may be used wherever the material does not contain so much clay or loam as to delay or prevent satisfactory drainage. However, tamping shall be used if water-jetting or puddling does not compact the material to the density required.

6. Excavated material which is acceptable to the Engineer for surfacing or pavement subbase shall be placed at the top of the backfill to such depths as may be specified elsewhere or as directed. The surface shall be brought to the required grade and stones raked out and removed.

3.7 METHODS OF COMPACTION

A. Tamping and Rolling

1. Deposit backfill material and spread in uniform, parallel layers not exceeding 12 inches thick before compaction. Before the next layer is placed, each layer shall be tamped to obtain a thoroughly compacted mass. Care shall be taken that the material close to the bank, as well as in all other portions of the trench, is thoroughly compacted. When the trench width and the depth to which backfill has been placed are sufficient to make it feasible, and it can be done effectively and without damage to the pipe, backfill may, on approval, be compacted by the use of suitable rollers, tractors, or similar power equipment instead of by tamping. For compaction by tamping (or rolling), the rate at which backfilling material is deposited in the trench shall not exceed that permitted by the facilities for its spreading, leveling, and compacting.

2. If necessary to ensure proper compaction by tamping (or rolling), the backfill material shall first be wet by sprinkling. However, no compaction by tamping (or rolling) shall be done when the material is too wet either from rain or too great an application of water to be compacted properly; at such times the work shall be suspended until the previously placed and new materials have dried out sufficiently to permit proper compacting, or such other precautions shall be taken as may be necessary to obtain proper compaction.

B. Miscellaneous Requirements.

1. Whatever method of compacting backfill is used, care shall be taken that stones and lumps shall not become nested and that all voids between stones shall be completely filled with fine material. Only suitable quantities of stones and rock fragments shall be used in the backfill; the Contractor shall, as part of the work done under the items involving earth excavation as appropriate, furnish and place all other necessary backfill material.

3.8 DISPOSAL OF SURPLUS EXCAVATED MATERIALS

A. No excavated materials shall be removed from the site of the work or disposed of by the Contractor except as directed or permitted by the Engineer. All onsite materials are the property of the Owner unless deemed unsuitable by the

Engineer, in which case the Contractor shall remove the materials from the site and dispose of the material in an appropriate manner, at no additional cost to the Owner.

B. Surplus excavated materials suitable for backfill shall be used to backfill normal excavations in rock, to construct embankments, for any other fill as required for construction of the project, or to replace other materials unacceptable for use as backfill. Said materials shall be neatly deposited and graded so as to make or widen fills, construct embankments, flatten side slopes, or fill depressions; or shall be neatly deposited for other purposes at a stockpile location as directed by the Engineer; all as directed or permitted and without additional compensation.

C. Surplus excavated materials not needed as specified above shall be stockpiled by the Contractor, at appropriate locations determined by the Owner, and in accordance with arrangements made by him.

D. All excess materials deemed "suitable" by the Engineer are the property of the Owner. The Contractor shall place these materials at a location specified by the Owner. The materials shall be placed in a manner that utilizes the available space efficiently and to the satisfaction of the Owner. Reworking the dumped materials to efficiently use stockpile area is considered incidental to the contract and no separate payment will be made.

3.9 DUST CONTROL

A. During the progress of the work, maintain the area of activities, by sweeping and sprinkling of streets to minimize the creation and dispersion of dust. If the Engineer decides that it is necessary to use calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed at no additional cost to the Owner.

B. If the Engineer decides that it is necessary to use water for dust control, the Contractor shall furnish and apply the water as directed at no additional cost to the Owner.

3.10 FIELD QUALITY CONTROL

1. Site Tests shall be in accordance with Section 01410.

3.11 CARE AND RESTORATION OF PROPERTY

A . Restoration of existing property or structures done as promptly as practicable and not left until the end of the construction period.

END OF SECTION 02200

SECTION 02205
SOIL MATERIALS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Subsoil and topsoil materials.

B. Related Sections

1. Section 01400 - Quality Control.
2. Section 02200 - Earth Excavation, Backfill, and Grading.
3. Section 02215 - Aggregate Materials.

1.2 REFERENCES

A. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb (4.54 Kg) Rammer and 18 inch (457 mm) Drop.
B. ASTM D2487 - Classification of Soils for Engineering Purposes.

1.3 SUBMITTALS

A. In accordance with Section 01300 – Submittals.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. Borrow or excavated material.

1. All material, whether from the excavations or from borrow, shall be of such nature that after it has been placed and properly compacted, it will make a dense, stable fill. It shall not contain vegetation, masses of roots, individual roots, stones over 6 inches in diameter, or porous matter. Organic matter shall not exceed minor quantities and shall be well distributed.

PART 3 - EXECUTION

A. Borrow or excavated material

1. Approved materials available from the excavations and not required for backfill around pipes or against structures may be used for filling and building embankments, except as otherwise specified. Material needed in addition to that available from construction operations shall be obtained from suitable gravel banks or other suitable deposits.

END OF SECTION 02205

SECTION 02215
AGGREGATE MATERIALS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Requirements for furnishing and placing materials which include Crushed Stone, Bank Gravel, Gravel Borrow Base Course, Common Borrow and Select Borrow.

2. Location of specified materials as detailed on the Drawings or as directed by the Engineer for excavation below normal depth, utility support, replacement of unsuitable material or elsewhere, as ordered.

B. Related Sections

1. Section 01400 - Quality Control.

2. Section 02200 - Earth Excavation, Backfill and Grading.

3. Section 02510 - Bituminous Concrete Paving.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials (AASHTO).

1. T11-85, Amount of Material Finer than 0.075 mm Sieve in Aggregate.

2. T27-84, Sieve Analysis of Fine and Coarse Aggregates.

B. American Society for Testing and Materials (ASTM).

1. D 1557-91, Test Method for Moisture Density Relations of Soils and Soil Aggregate Mixtures Using 10-lb (4.54-kg) Rammer and 18-in. (475-mm) Drop.

C. Standard Specification for Road and Bridge Construction of the Rhode Island Department of Transportation, dated 2010, together with all erratic, addenda, additional revisions and supplemental specifications, all of which are hereinafter referred to as the Rhode Island Standard Specifications.

1. D 1557-91, Test Method for Moisture Density Relations of Soils and Soil

1.3 SUBMITTALS

A. Shop Drawings

1. Provide sieve analysis when gradation requirements are given in the Specification.

B. Sample

1. Furnish representative sample including location of source with Shop Drawing transmittal sheet.

1.4 QUALITY ASSURANCE

A. Field Samples

1. The attention of the Contractor is directed to the fact that under Specification Section 01600, 1.03 Materials and Equipment, all materials furnished by the Contractor to be incorporated into the work shall be subject to the inspection of the Engineer. The Engineer shall be the sole judge as to the acceptability of proposed materials and said judgment shall be final, conclusive, and binding.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Storage and Protection

1. In accordance with Section 01600.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Crushed Stone

1. Well graded in size from 3/8 inches to 3/4 inches or such other sizes as may be approved.

2. Clean, hard, and durable particles or fragments, free from dirt, vegetation, or other objectionable matter, and free from an excess of soft, thin elongated, laminated or disintegrated pieces.

3. Screened stone of suitable size and grading may be used instead of crushed stone.

4. The specifications shall apply whichever material is used. See Section M.01 of the Rhode Island Standard Specifications.

B. Gravel Borrow Base Course

1. Materials and methods of placing gravel borrow base course shall conform to the requirements of Section 301 of the Rhode Island Standard Specifications.

2. All material used for bedding water pipes, sidewalks, driveways, and for gravel roadway subbase shall conform to Section M.01 of the Rhode Island Standard Specifications.

3. All materials used for the bedding of electrical conduit shall conform to the requirements of Section M.01, of the Rhode Island Standard Specifications.

C. Common Borrow

1. Materials and methods of placing common borrow shall conform to the requirements of Section 202 of the Rhode Island Standard Specifications.

D. Sand Borrow

1. Materials for sand borrow shall conform to the requirements of Section M.01 of the Rhode Island Standard Specifications.

2.2 SOURCE QUALITY CONTROL

A. Test, Inspection

1. The Engineer may elect to sample material supplied at the source.

2. Assist the Engineer and/or personnel from the designated testing laboratory in obtaining samples.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Crushed Stone

1. Spread in layers of uniform thickness not greater than 6 inches.

2. Compact thoroughly by means of a suitable vibrator or mechanical tamper.

3.2 FIELD QUALITY CONTROL

A. Site Tests

1. In accordance with Section 01400.

3.3 GRAVEL BORROW BASE COURSE PLACEMENT

A. Prior to placing pavement, all backfill shall have been properly compacted as specified under Section 02200 to eliminate settling of backfill. No pavement shall be placed over poorly compacted backfill. Backfill and base course shall be compacted, brought to the proper elevation, and dressed so that new pavement construction shall be at the required grade. The Contractor shall maintain the surfaces of all excavated and disturbed areas until the pavement is placed. If there is a time lapse of more than 24 hours between the completion of preparation of subgrade or placing of gravel borrow base course and placing of paving, or if subgrade of gravel borrow base course has been eroded or disturbed by traffic, the subgrade or base course shall be restored before placing paving.

B. The Contractor shall remove and stockpile of all surplus material and remove and acceptably dispose of all unsuitable material.

C. Before permanent paving is installed, the base shall be brought up to grade, and temporary pavement and excess gravel shall be removed.

3.4 TOLERANCES

A. See Rhode Island Standard Specifications

3.5 SCHEDULES

A. Gravel Borrow Base Course: Materials and methods of placing gravel borrow base course shall conform to the requirements of the Rhode Island Standard Specifications. The gravel borrow base course shall not be less than 8 inches thick for street pavement, sidewalks and driveways.

END OF SECTION 02215

SECTION 02270
SOIL EROSION AND SEDIMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General Conditions and Supplementary Conditions and Division 1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. Furnish and install temporary control measures as needed during the progress of the work or as ordered by the Owner/Engineer during the life of the contract to control water pollution through use of mulches, grasses, hay bale check dams, netting, fiber mats, silt fences, brush and baled hay checks and other erosion control devices and methods.
B. The Contractor is responsible for compliance with the rules and regulations governing the enforcement of the Rhode Island Freshwater Wetlands Act and the project's Freshwater Wetland Permit.

1.3 SUBMITTALS

A. Submittals listing proposed materials including manufacturer's product data and test reports verifying conformance with design guidelines shall also be provided.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Mulches: Mulches may be hay, straw, fiber mats, netting, wood cellulose, corn or tobacco stalks, bark, corn cobs, wood chips, stump grindings or other suitable material and shall be reasonably clean and free of noxious weeds and deleterious materials.

B. Silt Fence: Silt fence shall be Enviro Fence by Mirafi, Propex Silt Stop manufactured by Amoco Fabrics Company, Tensar 1, Tensar 2, or equal.

C. Baled Hay Erosion Check: The baled hay shall be approximately 36"x 18"x 24".

D. Grass: Grass shall be a quick growing species suitable to the area providing a temporary cover which will not later compete with the grasses sown later for permanent cover.

E. Fertilizer and Soil Conditioners: Standard commercial grade as reviewed by the OWNER OR ENGINEER.

F. Stone rip rap: 12" to 18" diameter in size.

G. Hay and Straw: Hay and straw for mulch shall be mowings of acceptable herbaceous growth reasonably free from noxious weeds or woody stems and shall be reasonably dry. No salt hay shall be used. This mulch shall be used to stabilize slopes and assist in maintaining soil temperature during seed germination. Straw or hay mulch must be anchored immediately after spreading to prevent blowing. The following methods of anchoring straw or hay may be used:

1. Mulch Anchoring Tool: A tractor-drawn implement designed to punch mulch into the soil surface, limited to use on slopes no steeper than 3' horizontally to 1' vertically. Machinery shall be operated on the contour.
2. Mulch Netting: Install in accordance with manufacturer's recommendations.
3. Liquid Mulch Binders: Application of liquid mulch binders and tackifiers should be heaviest at edges of areas and at crests of ridges and banks to prevent windblowing. Mulch binders should be applied uniformly. Binders may be applied after mulch is spread or may be sprayed into the mulch uniformly as it is being blown onto the soil. Applying straw and binder together is the most effective method.
4. Chemical binders such as petroset, terratack, hydro mulch and aerospray may be used as recommended by the manufacturer to anchor mulch.

H. Hay Bales: Hay bales shall be mowings of acceptable herbaceous growth reasonably free from noxious weeds or woody stems and shall be reasonably dry. Hay bales shall be approximately 36" long x 18" wide x 24" high. Bales shall be anchored with 2" x 2" x 3' long wooden stakes.

J. Straw Wattle: shall be AEC Premier Straw Wattles, as manufactured by American Excelsior Company, Arlington, TX (1-866-9FIBERS) or approved equal. Straw Wattle consists of certified seed free agricultural straw inside flexible and durable tubular netting with metal clips or knotted ends. AEC Premier Straw Wattle is designed to provide intimate contact with the soil, which prevents blowouts and undermining. AEC Premier Straw Wattle may be placed across channel bottoms, on hillslopes, or around inlet structures. AEC Premier Straw Wattle shall be manufactured in the U.S.A.

PART 3 - EXECUTION

3.1 PREPARATION

A. The Owner or Engineer has the authority to limit the surface area of erodible earth

material exposed by clearing and grubbing, the surface area of erodible earth material exposed by excavation, borrow and fill operations and to direct the Contractor to provide immediate permanent or temporary pollution control measures to prevent contamination of adjacent streams or other water courses, lakes, ponds or other areas of water impoundment. Such work may involve the use of temporary mulches, mats, seeding, check dams or other control devices or methods as necessary to control erosion. Cut slopes shall be seeded and mulched as the excavation proceeds, to the extent considered desirable and practicable.

B. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time. Temporary pollution control measures will be used to correct conditions that develop during construction, that were not foreseen during the design stage, that are needed prior to installation of permanent pollution control features, or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project, at no additional cost to the Owner.

C. Where erosion has been identified during the pre-construction meeting, or has been identified during construction as being a problem, clearing and grubbing operations should be so scheduled and performed that grading operations and permanent erosion control features can follow immediately thereafter if the project conditions permit; otherwise temporary erosion control measures may be required between successive construction stages. Under no conditions shall the surface area of erodible earth material exposed at one time, by stripping of topsoil, exceed five (5) acres without review by the OWNER OR ENGINEER.

D. Contractor shall have on-site all necessary hay bales, silt fence, rip-rap, and storm drainage piping etc., prior to undertaking any work that may cause erosion.

E. The Owner or Engineer will limit the area of excavation, borrow and embankment operations in progress commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent pollution control measures current. Should seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible, justified and indicated on plans at no additional costs to Owner.

F. If overland waterflow becomes a problem in the construction progress then the Contractor shall take it upon himself to construct any and all ditches, temporary roads, fills and pipe culverts as necessary to alleviate a water problem which may affect progress of work. This work shall be performed at no additional expense to the Owner.

G. Under no circumstances shall the amount of surface area of erodible earth material exposed at one time by excavation, borrow or fill within the right-of-way

exceed five (5) acres without prior review by the Owner or Engineer

H. The OWNER OR ENGINEER may increase or decrease the amount of surface area of erodible earth material to be exposed at one time by clearing and grubbing, excavation, borrow and fill operations as determined by his analysis of project conditions.

I. In the event of conflict between these requirements and pollution control laws, rules and regulations of the federal, state or local agencies, the more restrictive laws, rules, or regulations shall apply.

1. The blanket shall be held in place by means of staples driven vertically into the soil. Staples shall be spaced approximately two lineal yards apart, on each side, and one row in the center alternately spaced between each side (60 staples for each blanket). Use a common row of staples on adjoining blankets. In areas of high water velocity, as determined by the OWNER OR ENGINEER, staples shall be installed on two foot centers.

2. The Contractor shall maintain the excelsior blanketed areas until all work on the entire contract has been completed and accepted. Maintenance shall consist of the repair of areas damaged by erosion, wind, fire or other causes. Such areas shall be repaired to re-establish the condition and grade of the soil prior to application of replacement matting and shall be refertilized and reseeded as specified.

J. Silt Fence, Straw Wattle and Hay Bales:

1. Unless directed otherwise, or as specified on plans, silt fences and hay bales shall be placed at the following locations:

a. A siltation fence shall be installed along all downslope site boundaries to provide a perimeter defense against overland flow. The fence will be installed prior to commencing with any other earthwork.

b. Siltation fences shall be placed within 100 feet of wetland areas or as indicated on the plans.

2. Installation shall be per manufacturer's instructions and as shown on plans.

3.2 INSTALLATION LOCATION OF BALED HAY, STRAW WATTLE AND SILT FENCES

A. During the construction phase, baled hay will be placed and maintained around all catch basins, unless indicated otherwise. Silt fences will be installed prior to

clearing and grubbing. Silt and debris will be removed from catch basins and base of silt fences at end of construction.

3.3 SPECIAL INSTRUCTIONS

A. Silt fence shall be inspected during storm events, after each rainfall of one-inch magnitude or greater, prior to weekends, and prior to any forecasted storm events. Weekly inspection reports by the Contractor shall be submitted to the OWNER OR ENGINEER by the Contractor.

B. Damage to silt fence shall be repaired immediately upon discovery and not more than 4 hours from time of observed damage.

C. In the event that temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled, and are ordered by the OWNER OR ENGINEER, such work shall be performed by the Contractor at his own expense.

D. It is also the Contractor's responsibility to maintain the placement of hay bales and silt fences, remove silt from ditches and culverts and to repair any erosion of ditches and slopes.

E. In case of repeated failures on the part of the Contractor to control erosion, pollution, and/or siltation, the OWNER OR ENGINEER reserves the right to employ outside assistance or to use his own forces to provide the necessary corrective measures. Such incurred direct cost plus project engineering costs will be charged to the Contractor and appropriate deductions made from the Contractor's monthly progress payment.

F. Any erosion, siltation or general damage resulting from neglect by the Contractor to undertake temporary and permanent erosion control measures as required or directed shall result in the responsibility of the Contractor to correct the areas as determined by OWNER OR ENGINEER.

G. Contractor shall also be required to install and maintain temporary erosion control measures within a time frame agreeable to the OWNER OR ENGINEER.

H. Temporary pollution control may include construction work outside the project limits where such work is necessary as a result of utility installations and equipment storage sites.

I. The erosion control features installed by the Contractor shall be acceptably maintained by the Contractor.

END OF SECTION 02270

SECTION 02272
GEOTEXTILE MATERIALS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Furnish all labor, equipment and materials necessary for installation of all geotextile fabrics as detailed on the Drawings and where required by the Engineer.

2. Geotextiles shall be installed as detailed on the Drawings and Specifications.

B. RELATED SECTIONS

1. Section 02100 - Site Preparation.

2. Section 02200 - Earth Excavation, Backfill and Grading.

3. Section 02215 - Aggregate Materials.

1.2 QUALITY ASSURANCE

A. General

1. Producer of fabric to maintain competent laboratory at point of manufacture to insure quality control in accordance with the most recent applicable ASTM testing procedures. Laboratory to maintain records of quality control results.

2. Do not expose fabric to ultraviolet radiation (sunlight) for more than 20 days total in period of time following manufacture until fabric is installed and covered with material detailed on the Drawings.

3. Patch all tears in fabric by placing additional section of fabric over tear with a minimum three-foot overlay.

4. Take all necessary precautions to protect fabric from damage resulting from any cause. Either repair or replace fabric to Engineer's satisfaction at no additional expense to the Owner.

1.3 REFERENCES

A. Standard Specifications for Road and Bridge Construction of the Rhode Island Department of Transportation dated 2010, together with all erratic, addenda, additional revisions and supplemental specifications.

1.4 SUBMITTALS

A. Furnish shop drawings that verify product description and requirements for materials, manufacture and tolerance are in compliance as specified.

B. Upon each shipment/delivery of product to the work site, furnish mill certificate(s) from the company manufacturing the fabric attesting that the fabric meets the chemical, physical, manufacturing and performance requirements specified. Fabric will be rejected if it is found to have defects, rips, flaws, deterioration or other damage.

C. Shop drawings shall clearly depict the manufacturer's recommended method of joining of adjacent fabric panels. Method shall be submitted to the Engineer for concurrence prior to placing of fabric.

1.5 DELIVERY, STORAGE AND HANDLING

A. Contractor shall protect the work described in this section before, during and after installation, and shall protect the installed work covered by other sections.

B. During all periods of shipment and storage, protect the fabric from direct sunlight, ultraviolet rays, temperatures greater than 120° F, mud, dirt, dust, debris and other deleterious sources.

C. Provide and maintain fabric in rolls wrapped with a heavy-duty protective covering until it is installed. Label each roll of fabric with number or symbol to identify production run.

D. If Engineer determines material is damaged in any way or has excessive sunlight exposure, the Contractor shall immediately make all repairs and replacements as directed by the Engineer, at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 MATERIAL

A. Materials shall conform to the appropriate section of the Standard Specification for Road and Bridge Construction of the Rhode Island Department of

Transportation dated 2010, together with all erratic, addenda, additional revisions and supplemental specifications

B. To keep the number of overlay joints to a minimum, fabric shall be provided in sections not less than 12 feet in width unless otherwise approved by the Engineer prior to delivery to the site and/or installation of the product.

PART 3 - EXECUTION

3.1 SUBGRADE PREPARATION

A. The areas to receive geotextile shall be prepared in accordance with Section 02100 - Site Preparation and Section 02200 - Earth Excavation, Backfill and Grading.

B. After the site has been prepared as stated above, the underlying layer shall be cleared of all sharp objects, large stones, roots, debris, or any other foreign materials that may contribute to puncturing, shearing, rupturing or tearing of the geotextile.

C. The area to receive the geotextile shall then be graded as smooth as possible and compacted in accordance with Sections 02200 - Earth Excavation, Backfill and Grading and Section 02215 - Aggregate Materials, as applicable, with a vibratory roller or other method approved by the Engineer.

D. The underlying layer shall be inspected and all unstable areas or soft spots shall be repaired with the installation of additional material and re-compaction prior to the placement of geotextile.

3.2 FABRIC INSTALLATION

A. The fabric shall be placed in the manner and at the locations shown. When placing the geotextile material fabric, sections shall be unrolled directly onto the prepared surface in a continuous manner. Adjacent sections shall be joined by overlapping the fabric a minimum of 12 inches.

B. Fabric shall be laid smooth maximizing surface contact, and free of tension, stress, folds, wrinkles, or creases.

C. Fabric sections shall be securely anchored. Anchoring pins, nails, staples or other such means shall be used to adequately secure fabric to the underlying surface to prevent fabric movement caused by wind uplift during installation, and/or movement during installation and placement of gravel or other cover materials including riprap.

D. During dumping and spreading of gravel material for the access road, over the previously installed fabric, sufficient amount of gravel (minimum depth of 6 inches) shall be maintained over the fabric to prevent damage to the fabric. Dozer buckets or blades shall not be in direct contact with the fabric.

E. The height from which cover material is dumped and/or dropped directly onto the fabric material shall be minimized in order to avoid fabric damage or movement. Equipment used for spreading and compacting the cover material shall be of the type and size necessary to avoid damage or movement to the underlying geotextile fabric.

F. If, during any step of installation, including cover material installation, the geotextile fabric is damaged, a piece of geotextile material shall be cut, placed and adequately anchored over the damaged area subject to a 3-foot minimum overlap requirement or as otherwise directed by the Engineer.

G. If, during any step of installation, detrimental movement of the geotextile fabric occurs, as determined solely by the Engineer, the Contractor shall remove any previously installed cover material and/or sections of fabric to the limits deemed necessary to correct and reinstall the fabric areas affected.

H. Cover material shall be spread in the direction of fabric overlap and in a manner that avoids creating undue tension, stress, sagging, buckling and/or other movement of the underlying fabric.

3.3 PROTECTION

A. Any fabric damage during its installation or during placement of cover materials shall be replaced by the Contractor at no additional cost to the Owner.

A. The work shall be scheduled so that covering of the fabric is accomplished immediately after inspection and approval of the placed fabric by the Engineer. Failure to comply with this requirement shall require replacement of the fabric.

END OF SECTION 02272

SECTION 02510
BITUMINOUS CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Class I-1 bituminous concrete surface course.
2. Class I bituminous concrete binder course.

B. Related Sections

1. Section 01400 – Quality Control
2. Section 02200 - Earth Excavation, Backfill and Grading.
3. Section 02215 - Aggregate Materials.

1.2 REFERENCES

A. Materials and construction methods shall conform, insofar as applicable, to the requirements of the Standard Specifications for Road and Bridge Construction of the Rhode Island Department of Transportation, dated 2010, together with all errata, addenda, additional revisions, and supplemental specifications, all of which are hereinafter referred to as the Rhode Island Standard Specifications.

1.3 SUBMITTALS

A. In accordance with Section 01300-Submittals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials for Class I bituminous concrete binder course shall conform to the requirements of Section 401 of the Rhode Island Standard Specifications.

B. Materials for Class I-1 bituminous concrete surface course shall conform to the requirements of Section 401 of the Rhode Island Standard Specifications.

C. Materials for bitumen for tack coat shall conform to the requirements of

Section 403 of the Rhode Island Standard Specifications.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Methods of placing Class I bituminous concrete binder course shall conform to the requirements of Section 401 of the Rhode Island Standard Specifications.

B. Methods of placing Class I-1 bituminous concrete surface course shall conform to the requirements of Section 401 of the Rhode Island Standard Specifications.

C. Methods of placing bitumen for tack coat shall conform to the requirements of Section 403 of the Rhode Island Standard Specifications.

D. Where existing paved surfaces are to be retained and are required to join the pavement constructed hereunder, the existing jointed edges shall be cut vertically by mechanical means, to a depth of not less than 3 inches and not less than 1 foot back from their present locations or at the location as directed by the Engineer and/or shown on the Drawings, and painted with bitumen.

3.2 TOLERANCES

A. See Rhode Island Standard Specifications.

END OF SECTION 02510

SECTION 02530
SIDEWALKS AND WHEELCHAIR RAMPS (ALL THICKNESSES)

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Cement concrete sidewalks and wheelchair ramps and bituminous concrete sidewalks and driveways.

1.2 REFERENCES

A. Materials and construction methods shall conform, insofar as applicable, to the requirements of the Standard Specifications for Road and Bridge Construction of the Rhode Island Department of Transportation, dated 2010, together with all errata, addenda, additional revisions, and supplemental specifications, all of which are hereinafter referred to as the Rhode Island Standard Specifications.

1.3 SUBMITTALS

A. In accordance with Section 01300 - Submittals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials for cement concrete sidewalks and wheelchair ramps and bituminous concrete sidewalks and driveways shall conform to the requirements of Section 904 of the Rhode Island Standard Specifications.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Installation of cement concrete sidewalks and wheelchair ramps shall conform to the requirements of Section 904 of the Rhode Island Standard Specifications.

B. Wheelchair ramps shall be installed in accordance with the most current release of the Rhode Island Standard Details and all revisions.

C. The Contractor shall establish grade elevations at all wheelchair ramp locations, and shall set transition lengths according to the appropriate table from the wheelchair ramp details in the Rhode Island Standard Details.

D. All wheelchair ramp joints and transition sections, which define grade changes shall be formed, staked and checked prior to placing cement concrete. All grade changes are to be made at joints.

E. All concrete sidewalk joints shall be reinforced with two (2) – 12 inch #4 rebar dowels.

3.2 TOLERANCES

A. Rhode Island Standard Specifications will control.

END OF SECTION 02530

SECTION 02730
STONE DUST

PART 1 - GENERAL

The work shall consist of furnishing and installing stone dust pavement with steel edging in conformance with the details shown on the Contract Drawings, and where directed by the Engineer.

1.1 MATERIALS

Submittals: The contractor shall submit samples of the proposed aggregate and steel edging for approval of the Engineer and Regional Landscape Engineer. Compliance with other requirements is the responsibility of the Contractor.

A. Edging: Each side of the pathway shall be enclosed by steel edging. The edging material shall be 1/8 inch thick x 4 inch deep, hot-rolled mild steel, ASTM A-36, secured to 15 inch long tapered steel stakes. Edging and stakes shall be shop painted with a weather resistant paint. Color of paint to be black.

C. Base Course: The 4 inch thick crushed aggregate base course shall consist of 100% crushed stone graded as follows:

Sieve Size	Percent Passing
1 inch	100%
¾ inch	90 - 100
3/8 inch	50 - 90
3/16 inch	35 - 70
5/64 inch	20 - 55
1- 3/4 inch	10 - 35
3 inch	3 - 10

Liquid Limit (LL) = Maximum 25 Plasticity Index (PI) = 0-3

D. Top Course: The top course of the walk shall consist of two layers All courses shall be compacted to a total thickness of 50 mm. The material shall consist of bluestone dust graded as follows:

Sieve Size	Percent Passing
½ inch	90 - 100
3/8 inch	70 - 100
3/16 inch	20 - 70
3/32 inch	5 - 20

5/64 inch 0 - 5

Compacted top course to receive an application(s) of a non-toxic, non-corrosive, water-based polymeric compound to solidify the stone dust particles. Application rate shall be, as per the manufacturer's recommendation.

PART 2 - EXECUTION

2.1 INSTALLATION

A. Subgrade:

1. The subgrade will be free of all debris, foreign materials or undesirable matter.
   The fine grade shall not be muddy or otherwise unsatisfactory prior to placement of the base course.

2. The subgrade shall be prepared to line and grader and compacted with a self- propelled vibratory roller of not less than nine metric tons. All hollows and depressions shall be filled with acceptable material and shall again be rolled. The process of shaping, filling, and rolling shall be repeated until no depressions develop.

B. Edging:

1. The steel edging shall be set along the edge of the entire length of the pathway, both sides, and secured to 15 inch long steel stakes, set 30 inch on center, through punch slots as shown on the PLAN.

C. Base Course:

1. The layer of crushed stone shall be rolled to reach desired compaction and thickness of 4 inch, and shall be left for four days prior to rolling of the top course.

2. Compaction shall be achieved by rolling, except in the areas inaccessible to rollers, equivalent compaction shall be accomplished by the use of mechanical tampers, until there is no further evidence of consolidation and all roller marks are eliminated.

3. The base aggregate shall be compacted to a minimum of 98 percent of modified proctor density (AASHTO-T-180).

4. Depressions or high areas which develop during rolling shall be corrected to produce a surface with no variations greater than +/- 1/8

inch as measured by a 3 yards straight edge.

D. Top Course:

1. The bluestone dust top course shall be laid in two layers. Both courses shall be compacted to a total 2 inch thickness. Rolling and compaction shall be as for the base course.

2. Compacted top course shall receive (2) two sprayed-on applications of a non-toxic, non- corrosive, water-based polymeric compound. The compound shall be completely dry between applications.

E. Cleaning:

1. Upon completion of the pavement, the Contractor shall remove all equipment, tools, excess materials and debris from the site.

END OF SECTION 02730

SECTION 02750

CEMENT CONCRETE PAVEMENT

PART 1 – GENERAL

1.1 SUMMARY

The General Conditions, Supplementary General Conditions and Special Conditions of the Specifications are a part of this section, which shall consist of all labor, equipment and materials necessary to complete all Engineerural pavement work indicated on the drawings, herein specified or both, and as directed by the Owner.

1.2 SECTION INCLUDES

A. This item of work shall consist of replacing installing new EXPOSED AGGREGATE PORTLAND CEMENT CONCRETE PAVEMENT in sidewalk areas, driveways, and wheelchair ramps as indicated on the plans, including removal of existing subgrade material, compaction of subgrade, new gravel borrow, fine grading, and finishing. All work shall be as shown on the plans, in accordance with these specifications and/or as directed by the Engineer.

B. RELATED SECTIONS

Section 02510 - Concrete Paving.

1.3 REFERENCES

A. Testing Laboratory Services
B. Subsurface Conditions
C. Temporary Traffic and Dust Control
D. Bituminous Concrete Pavements - Section 02510
E. Portland Cement Concrete Pavements – Section 02520
F. Granite Curb – Section 02770
G. Expansion Joints – Section 03990
H. Mortar Products – Section 04100
I. Epoxy Mortar – Section 04190

1.4 SUBMITTALS

A. Verification Samples: For each product and finish specified, two full-size samples representing actual products, colors and textures as described on the PLAN.

1.5 QUALITY ASSURANCE

A. Qualifications of Workmen:

1. Provide a foreman mason who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described for this section, and who shall be present at all times during progress of the work of this section and shall perform all work required under this section. Paving manufacturers and contractors shall have no less than 5 years minimum proven experience in the required paving techniques and desired results. Submit list of installations, indicating location,

   Owner, Engineer, date of installation, contractor, if any, and setting bed, for approval of the Owner.

B. Coordination of Work:
   1. Coordinate paving with the Engineer/Construction Manager so as to cause minimum disturbance to normal traffic flow.

C. Codes and Reference Standards:
In addition to complying with all pertinent codes and regulations, comply with referenced portions of "Standard Specifications for Road and Bridge Construction" latest edition, including most recent corrections and addenda of the State of Rhode Island and Providence Plantations, Department of Transportation, Division of Public Works.

D. Protection
   1. Be responsible for protecting the work and materials. Use all means necessary to protect the site conditions before, during, and after installation, and to protect the installed work and materials of all other trades. Provide adequate signage and barricades to protect the public.

   2. Prohibit traffic on the newly paved surfaces (including vehicular, pedestrian and Contractor's employees) for 72 hours. The cost of barricades and signage shall be included in price bid for surface paving.

E. Replacements:
In the event of damage or unacceptable work and materials, immediately make all repairs and replacements necessary to the approval of the Engineer/Construction Manager and at no additional cost to the Owner.

F. The contractor will be required to fabricate in the field one sample of the exposed aggregate paving, measuring 4'x4'x4" thick, to the Engineer for approval before ordering material(s). The sample shall demonstrate the final surface color, finish, and texture that will be provided uniformly throughout the project.

F. Reports: Certified test reports from an approved testing company

shall be submitted to the Engineer for concrete design mix in accordance with Section 601.03.1.b of the RI Standard Specifications.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations and industry standards.

B. Store materials in manufacturer's original sealed, labeled packaging until ready for installation and in accordance with manufacturer's instructions. Protect from damage.

1.7 PROJECT CONDITIONS

A. Become familiar with all site conditions and proposed improvements. Report immediately to the Owner any variations, damage, or discrepancies found before, during and after the work is completed.

PART 2 PRODUCTS

2.1 MANUFACTURERS

All materials shall be in accordance with all applicable RI Standard Specifications and revisions unless otherwise specified below.

A. Portland Cement Concrete Sidewalk and Driveway: Portland cement concrete sidewalk and driveway shall be in accordance with RIDOT Standard Specifications, Section 501.

B. Crushed stone aggregate shall be a blend of buff, red and brown in color and shall meet the gradation requirements of Section M.02.03, Coarse Aggregate for Concrete. Submit a ½ cubic foot sample to the Owner for approval.

C. Sika Rugasol-S retarder or approved shall be used to create the required exposed aggregate surface. The surface retarder shall be a sprayable liquid to be applied to freshly placed horizontal concrete surface. The retarder shall contain no chlorides and shall be submitted for approval by the Engineer 30 days before it use as intended.

D. Curing Materials: Clear waterborne membrane-forming curing compound shall conform to ASTM C309, Type I, Class B, and shall be on the Department's List of Approved Materials and Suppliers. Clear waterborne membrane-forming curing compounds, not previously approved, must be submitted for approval by the Engineer 30 days before its use as intended.

E. Joint Sealant: Joint material shall conform to the RIDOT Standard Specifications, Section M.02.11.6 for Materials.

F. Joint Material: Joint material shall conform to the RIDOT Standard Specifications, Section M.02.11.1a for Materials, Bituminous Type in accordance with AASHTO M33.

G. Gravel Borrow: Gravel Borrow shall be in accordance with the RIDOT Specifications Section M., Materials.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install curbs prior to placing concrete. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place.

B. When concrete placing is interrupted for more than ½ hour, refer to subsection 501.03.9-2 of the RI Standard Specifications.

C. Use a cement slurry on the contact surfaces where fresh concrete is to be placed against hardened or partially hardened concrete surfaces. Such bonding slurry shall not be allowed to dry before placement of a new concrete.

D. Screed paved surfaces with a straightedge and strike off. Use bull floats or derbies to form a smooth surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces prior to beginning finishing operations.

E. Concrete Finishing:
Float Finish: Begin floating when bleed water sheen has disappeared and the concrete surface has stiffened sufficiently to permit operations. Float surface with power- driven floats, or by hand-floating if area is small or inaccessible to power units. Finish surfaces to true planes within tolerance of ¼-inch in 10-feet as determined by a 10- foot-long straightedge placed anywhere on the surface in any direction. Cut down high spots and fill low spots. Refloat surface immediately to a uniform granular texture.

Exposed Aggregate Finish: Immediately after final floating of the concrete slab surface to have exposed aggregate finish, spray retarder over surface at the rate recommended by the manufacturer. Cover with moisture retention layer as required to prevent premature setting.

F. After initial set has been achieved, remove surface coating and fine aggregates

to expose coarse aggregates by high pressure water spray and brushing, following retarder manufacturer's instructions. Brush and rinse to remove all loose sand and fine aggregates and leave uniform aggregate finish to match approved sample.

G. When desired finish has been achieved, wash and rinse exposed aggregate surface with cleaning agent as recommended by the manufacturer.

H. Maintain moist surfaces and cure as specified herein.

I. Concrete Protection and Curing:
Protect freshly placed concrete from premature drying and excessive cold or hot temperatures in accordance with Section 601 of the Rhode Island Standard Specifications.

After concrete has thoroughly hardened, then saw cutting of joints is to be completed according to details provided in the Plan.

3.3 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

C. In areas where existing sidewalks are to be removed and/or new sidewalk construction is required, the Contractor's attention is called to the fact that miscellaneous items such as parking meters and/or bases, traffic control poles or signs, light poles and bases, etc., may not be shown on the Plans. However, all such items shall be protected from damage and shall remain in place unless removed by others or directed by the Engineer/Construction Manager to be removed. All valve boxes, gate boxes, frames and covers, etc., shall be reset to finish flush with new sidewalk pavement and included in unit price bid for the associated work.

3.4 TIME AND QUALITY ASSURANCE

A. Pavement materials selected for this project shall not vary in color, texture or quality. Contractor is solely responsible for guaranteeing that suppliers shall produce the materials in a timely manner and maintain quality consistency to the acceptance of the Owner. Failure to comply with this requirement shall mean that the Owner reserves the right to reject materials and source of supply at any time at no additional cost to the Owner.

B. The Owner will pay for stockpiled material, but this does not imply final acceptance if the requirements of this specification are not met.

END OF SECTION 02750

SECTION 02760

PAVING

PART 1 - GENERAL

1.1 SUMMARY

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

B. Section Includes:
   1. Integrally colored concrete for exterior slab-on-grade concrete pavements.
   2. Curing of integrally colored concrete.
   3. Imprinting.

C. Related Sections:
   1. Section 02750 CEMENT CONCRETE PAVEMENT for general applications of concrete and coordination of sample submittal [and color selection].
   2. Section "Joint Sealants" for colored sealant for joints.

1.2 REFERENCES

A. American Concrete Institute (ACI):
   1. ACI 301 "Specification for Structural Concrete for Buildings."
   2. ACI 302 IR "Recommended Practice for Concrete Floor and Slab Construction."
   3. ACI 303.1 "Standard Specification for Cast-In-Place Engineerural Concrete."
   4. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing of Concrete."
   5. ACI 305R "Recommended Practice for Hot Weather Concreting."
   6. ACI 306R "Recommended Practice for Cold Weather Concreting."

B. American Society for Testing and Materials (ASTM):
   1. ASTM C309 "Liquid Membrane-Forming Compounds for Curing Concrete."
   2. ASTM C494 "Standard Specification for Chemical Admixtures for Concrete."
   3. ASTM C979 "Standard Specification for Pigments for Integrally Colored Concrete."

C. American Association of State Highway and Transportation Officials

(AASHTO):

1. AASHTO M194 "Chemical Admixtures."

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's complete technical data sheets for the following:
   1. Colored admixture.
   2. Curing compound.
   3. Imprinting tools.

B. Design Mixes: For each type of integrally colored concrete.

C. Samples for Initial Selection: Manufacturer's color charts showing full range of colors available.

D. Qualification Data: For firms indicated in "Quality Assurance" Article, including list of completed projects.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer with 10 years experience in the production of specified products.

B. Installer Qualifications: An installer with 5 years experience with work of similar scope and quality.

C. Comply with the requirements of ACI 301.

D. Obtain each specified material from same source and maintain high degree of consistency in workmanship throughout Project.

E. Notification of manufacturer's authorized representative shall be given at least 1 week before start of Work.

F. Integrally Colored Concrete Field Sample:
   1. Provide under provisions of Division 1 Section "Quality Control."
   2. At location on Project selected by Engineer, place and finish 10 feet by 10 feet area.
   3. For accurate color, the quantity of concrete mixed to produce the sample should not be less than 3 cubic yards (or not less than 1/3 the capacity of the mixing drum on the ready-mix truck) and should always be in full cubic yard increments. Excess material shall be discarded according to local regulations.

4. Construct mockup using processes and techniques intended for use on permanent work, including curing procedures. Include samples of control, construction, and expansion joints in sample panels. Mockup shall be produced by the individual workers who will perform the work for the Project.
5. Retain samples of cements, sands, aggregates and color additives used in mockup for comparison with materials used in remaining work.
6. Accepted mockup provides visual standard for work of Section.
7. Mockup shall remain through completion of work for use as a quality standard for finished work.
8. Remove mockup when directed.

1.5 DELIVERY, STORAGE AND HANDLING

A. Colored Admixture: Comply with manufacturer's instructions. Deliver colored admixtures in original, unopened packaging. Store in dry conditions.

1.6 PROJECT CONDITIONS

A. Integrally Colored Concrete Environmental Requirements:
   1. Schedule placement to minimize exposure to wind and hot sun before curing materials are applied.
   2. Avoid placing concrete if rain, snow, or frost is forecast within 24-hours. Protect fresh concrete from moisture and freezing.
   3. Comply with professional practices described in ACI 305R and ACI 306R.

B. Schedule delivery of concrete to provide consistent mix times from batching until discharge. Mix times shall meet manufacturer's written recommendations.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

A. L.M. SCOFIELD COMPANY (or approved equal), Douglasville, Georgia and Los Angeles, California (800) 800-9900 or the appropriate local contact: Eastern Division – 201-672-9050; Western Division – (714) 568-1870; Central Division Office – (630) 377-5959.

2.2 MATERIALS

A. Colored Admixture for Integrally Colored Concrete: CHROMIX P® Admixture and CHROMIX ML®; L.M. SCOFIELD COMPANY.

1. Admixture shall be a colored, water-reducing, admixture containing no calcium chloride with coloring agents that are limeproof and ultra-violet resistant. Colored admixture shall conform to the requirements of ACI 303.1, ASTM C979, ASTM C494 and ASSHTO M194.

B. Imprinting Tools and Materials: LITHOTEX Pavecrafters imprinting tools Rock Salt Embossing Skin; L.M. SCOFIELD COMPANY.

C. Curing Compound for Integrally Colored Concrete: Curing compound shall comply with ASTM C309 and be of same manufacturer as colored admixture, for use with integrally colored concrete.
   1. Exterior Integrally Colored Concrete: LITHOCHROME® COLORWAX; L.M. SCOFIELD COMPANY. Use to cure exterior flatwork that will be allowed to cure naturally with only occasional maintenance.

D. SUBSTITUTIONS: The use of products other than those specified will be considered providing that the Contractor requests its use in writing within 14-days prior to bid date. This request shall be accompanied by the following:
   1. A certificate of compliance from material manufacturer stating that proposed products meet or exceed requirements of this Section, including standards ACI 303.1, ASTM C979, ASTM C494 and AASHTO M194.
   2. Documented proof that proposed materials have a 10-year proven record of performance, confirmed by at least 5 local projects that the Engineer can examine.

2.3 COLORS AND PATTERNS

A. Concrete Color: Refer to Section 32 13 00 CEMENT CONCRETE PAVEMENT
   1. Colored Admixture: #C-15 Coachella Sand from Scofield Color Chart or approved color selection by OWNER.
   2. Imprinting Pattern: Fractured Slate Embossing Pattern.
   3. Lithochrome Antiquing Release #A-33 Classic Gray.
   4. Curing Compound: Color to be clear and VOC compliant.

2.4 CONCRETE MIX DESIGN

A. Refer to Section 02750 CEMENT CONCRETE PAVEMENT.

B. Add colored admixture to concrete mix according to manufacturer's written instructions.

C. Slump of concrete shall be consistent throughout Project at 4 inches or less. At no time shall slump exceed 5 inches. If super plasticizers are allowed, slump shall not exceed 8 inches.

D. Do not add calcium chloride to mix as it causes mottling and surface discoloration.

E. Do not add water to the mix in the field.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install concrete according to requirements of Section 02750 CEMENT CONCRETE PAVEMENT. Do not add water to concrete mix in the field.

B. Surfaces shall be finished uniformly with the following finish:
   1. Imprinted: Apply pattern according to tool manufacturer's instructions. Touch-up pattern and finish edges with hand tools as necessary.

3.2 CURING

A. Integrally Colored Concrete: Apply curing and sealing compound for integrally colored concrete according to manufacturer's instructions using manufacturer's recommended application techniques. Apply curing and sealing compound at consistent time for each pour to maintain close color consistency.

B. Curing compound shall be same color as the colored concrete and supplied by same manufacturer of the colored admixture.

C. Precautions shall be taken in hot weather to prevent plastic cracking resulting from excessively rapid drying at surface as described in CIP 5 *Plastic Shrinkage Cracking* published by the National Ready Mixed Concrete Association.

D. Do not cover concrete with plastic sheeting, burlap, wet burlap or any other sheet membrane.

E. Apply Antiquing Release according to manufacturer's instructions.

3.3 TOLERANCES

A. Minor variations in appearance of integrally colored concrete, which are similar to natural variations in color and appearance of uncolored concrete, are acceptable.

END OF SECTION 02760

SECTION 02800
SITE IMPROVEMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Contract Documents and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications Sections apply to this Section.

1.2 SUMMARY

A. The following sections provide detailed specifications for the furnishing and delivery of Decorative Textured Pavement Treatment (Epoxy Paint) and flexible delineator posts, associated hardware, and components that will be part of the work needed to complete the installation.

B. The installer shall submit a minimum of three projects with the owner's contact information on which decorative textured pavement treatment has been placed within the past three years. An installer who does not meet this minimum shall be allowed if they are certified by the manufacturer to install and a manufacturer's representative is onsite during installations.

C. The decorative textured pavement treatment shall be comprised of furnishing and installing a textured color surface per Manual of Uniform Traffic Control Devices (MUTCD), and as shown on the plans.

1.3 RELATED WORK UNDER OTHER SECTIONS

A. The following items of related work are specified and included in other Sections of the Specifications:

1. Section 02750 CONCRETE PAVEMENT

1.4 REFERENCES

A. Not applicable.

1.5 SUBMITTALS/CONTROL SECTION

A. Changes in specification may not be made after the bid date.

B. For the type of product indicated, include construction details, material descriptions, dimensions of individual components, finished, field-assembly requirements and installations details.

C. Submit finish samples with factory-applied finishes for each type of finish indicated for review and verification.

D. The Contractor shall construct a control section with a minimum area of one square yard to represent the decorative colored textured pavement treatment. The color, the surface texture, materials and installation, shall be presented for acceptance and approval by the Engineer and the City of Boston Transportation Department prior to installation. The control section may be constructed as a decorative textured pavement surface on the project and if accepted may remain as part of completed work.

1.6 EXAMINATION OF CONDITIONS

A. All areas to receive flexposts shall be inspected by the Contractor before starting work and any defects to pavements receiving posts shall be reported to the Owner's Representative prior to beginning work.

B. The Contractor shall be solely responsible for judging the full extent of work requirements involved.

1.7 QUALITY ASSURANCE

A. Acceptance of the posts and reflective sheeting used on the posts furnished under the specification will be prepared by the fabricator (vendor) stating that the materials in the shipment are essentially the same or of equal material. Contractor shall assume all risk of delivery and shall make all arrangements for delivery.

B. The QC plan for furnishing and installing the decorative textured pavement treatment shall detail installer's key personnel, equipment, materials, proposed methods of installation, materials blending procedures, monitoring of ambient temperature, proposed methods of curing and corrective action plan. The Contractor shall submit a QC plan with any pertinent shop drawings and product literature and materials safety data to the Engineer for approval at least 30 days prior to placement of the Control Section.

PART 2 - PRODUCTS

2.1 FLEXPOSTS

Provide flexible delineator posts manufactured by the following companies, or approved equal:

Pexco
764 South Athol Road
PO Box 659
Athol, MA 01331
978-249-5344

SHUR-TITE Products
PO Box 2283
Round Rock, TX 78680
512-218-9500
www.shur-tite.com

www.pexco.com

Safe-Hit
70 W Madison Street, Suite 2350
Chicago, IL 60602
(800) 537-8958
www.safehitlx.com

2.2 DECORATIVE TEXTURED PAVEMENT TREATMENT (EPOXY PAINT)

The acceptable manufacturers and products and/or an equal manufactured product are as follows:

Ennis-Flint
Ride-A-Way
Epoxy-modified, acrylic, waterborne coating
Description: Color surface ideal for pavement surface areas with low to high vehicle traffic including cross-over points such as parking lot entries/exits along the corridor.
(800) 331-8118
115 Todd Court
Thomasville, NC 27360
http://www.ennisflintamericas.com/by-use/bike-and-bus-lanes/ride-a-wayr

Transpo Industries, Inc.
Color-Safe®
Methyl-Methacrylate (MMA)
Description: Color-Safe® is your solution for long lasting bike paths, bus lanes, crosswalks, and pedestrian areas. It is an MMA based material that outperforms paint and epoxies in color retention and durability. Color-Safe® is available in standard and custom PMS colors and capable of full cure in a wide range of temperatures.
(914) 636-1000
20 Jones Street
New Rochelle, NY 10801
http://www.transpo.com/roads-highways/materials/pavement-marking-material/color-safe-for-industrial-safety

2.3 DETAILED PRODUCT REQUIREMENTS

1. The post shall be thermoplastic polyurethane, tubular in shape from two (2) to three (3) inches in diameter. The post shall be a minimum of twenty eight (28) inches to a maximum of thirty six (36) inches in height. The flexible delineator post shall consist of a flexible, durable, non-discoloring material capable of recovering from repeated vehicle impacts and which reflective sheeting can be applied. The color of the flexible delineator post shall match the color of the applicable pavement

marking edge lines. The post shall be compliant with the Manual on Uniform Traffic Control Devices (MUTCD), latest edition and National Cooperative Highway Research Program (NCHRP) Report 350 accepted. Reflective sheeting shall be applied by the manufacturer and provide 360 degree of coverage surrounding the flexible delineator post.

2. Acceptable types of anchoring systems are as follows;

   a. In-ground Anchor – This anchor shall be of durable material to be designed of embedment in either Bituminous Concrete or Bituminous Concrete and inserted with a flexible post delineator. The post will be securely fastened or locked to the embedded anchor. The post shall be provided with an O-ring to minimize accumulation of debris and to facilitate ease of replacement. It is intended that when a post is no longer serviceable it can be removed and a new post inserted in the same anchor cup and secured into place.

   b. Surface Mount Anchor – This anchor shall be a surface mount with butyl pads or mechanical anchors. It shall provide a fastening or locking mechanism compatible with the post. The post shall be inserted into surface mount base which will fastened securely to a surface. It is intended that when the post is no longer serviceable it can be removed and a new post inserted in the same base and secured into place.

3. The post shall pass a Flexibility Test at 100 degrees F.
4. All posts shall be provided with supplementary components necessary for installation.
5. All materials shall be new, of good quality and without defects that would lessen the quality of product.
6. All materials shall be new, of good quality and without defects that would lessen the quality of the product.
7. Posts that are not compatible will be rejected.

PART 3 - EXECUTION

3.1 JOB CONDITIONS

A. General: Examine the areas and conditions under which Site Improvements are to be installed. Notify the Contractor of any conditions detrimental to the proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION – FLEXPOSTS

A. Install all Site Furnishings in strict conformance with manufacturer's printed instructions and recommendations as shown on the Site Drawings and as follows:

1. Manufacturer shall provide step by step detailed installation instructions for the flexible delineator posts.

3.3 INSTALLATION – DECORATIVE TEXTURE PAVEMENT

A. Construction Requirements

1. A manufacturer's representative shall be present at the jobsite during construction of the control section. All construction operations shall meet the manufacturer's recommendations. Final approval will be given by the Engineer.

B. Weather Limitations

1. Decorative textured pavement treatment shall not be placed on any wet surface or when the ambient temperature and humidity or the pavement temperature is below the manufacturer's recommendations or when the anticipated weather conditions would prevent the proper application and curing of the surface treatment as directed by the manufacturer's representative.

C. **Surface Preparations**

1. The surface shall be clean, dry and free of all dust, oil, debris and any other material that might interfere with the bond to the existing surface as recommended by the manufacturer's representative. The manufacturer's specification shall control the installation on any new HMA pavement paved in the previous 30 days with motor vehicle traffic or 60 days without motor vehicle traffic.
2. The contractor shall pre-treat any joints and cracks per the manufacturer's recommendation.
3. All existing pavement markings that are adjacent to the decorative textured pavement treatment location shall be covered and protected as approved by the Engineer prior to performing surface preparation. Decorative textured pavement treatment shall not be placed over existing pavement markings or rumble strips. Pavement markings that conflict with the decorative textured pavement treatment installation shall be removed by methods approved by the manufacturer's representative. Any existing pavement markings that are damaged during the decorative textured pavement treatment application process shall be replaced at the contractor's expense per direction of the Engineer.
4. Decorative textured pavement treatment shall be allowed to cure for the minimum duration as recommended by the binder component supplier's specifications and during that time the application area shall be closed to all vehicles and contractor's equipment traffic. After placement and cure of the decorative textured pavement treatment, the Contractor shall test the finished surface to detect unbonded areas.
5. Excess and loose aggregate shall be removed from the traveled way and shoulders in such a way that the decorative textured pavement treatment

is not damaged or disturbed. Excess aggregate that can be reused shall be clean, uncontaminated and dry, if it is to be re-used in the decorative textured pavement treatment application.

6. Utilities, drainage structures, curbs and any other structures within or adjacent to the treatment location shall be protected against the application of the decorative textured pavement treatment materials.

D. **Surface Friction**

1. The Contractor shall meet as a minimum the friction value for the surrounding pavement surface.

E. **Application Methods**

1. Decorative textured pavement treatment shall be applied in accordance with the manufacturer's recommendations. The decorative textured pavement treatment can be applied by either mechanical or manual techniques.

2.

3.4 ORDERING INFORMATION - FLEXPOSTS

The following information must be included with each order of flexible delineator posts.

1. Color of post;
2. Length of post above ground, in inches;
3. Quantity of posts; and
4. Method of fastening or securing the post to the ground.

END OF SECTION 2800

SECTION 02900
PLANTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The General Documents, as listed on the Table of Contents, and applicable parts of GENERAL REQUIREMENTS, shall be included in and made a part of this Section.

B. Examine all Contract Documents and all other Sections of the Specifications for requirements therein affecting the work of this trade.

1.2 SUMMARY

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

1. Providing and placing backfill mix
2. Planting trees, shrubs, groundcovers and perennials
3. Staking, guying, and anchoring trees
4. Planting maintenance
5. One-year guarantee period for all plants

B. The work of providing and installing plant material shall be performed by the same contractor that installs the planting soil, specified under the work of Section 02910 SO
IL PREPARATION.

1.3 RELATED WORK UNDER OTHER SECTIONS

A. The following items of related work are specified and included in other Sections of the Specifications:

1. Section 02910 SOIL PREPARATION
2. Section 02920 LAWNS AND GRASSES

1.4 REFERENCES

A. The following standards shall apply to the work of this Section.

1. Dirr: Manual of Woody Landscape Plants: Their Identification,

Ornamental Characteristics, Culture, Propagation and Uses, Michael Dirr et al, latest edition: standardized plant names

2. ASNS: American Standard for Nursery Stock, latest edition, published by American Nursery & Landscape Association, (ANLA): standards for growing and harvesting plant material. American National Standards Institute (ANSI): Z60.1

3. American National Standards Institute (ANSI):

   A300 Tree Care Operations; Tree, Shrub, and Other Woody Plan Maintenance, Standard Practices, Part 1, Pruning, latest edition

1.5 SUBMITTALS

Review the following list of submittals and delete those not applicable to your contract.

A. The following list of submittals is for the convenience of the Contractor. The listing of submittals does not absolve the Contractor of providing all submittals specified in this Paragraph or elsewhere within the body of this Section.

1. Confirmation of availability of plant material
2. List of nursery sources
3. Proof of Landscape Contractor's experience
4. Samples and product literature for materials specified
5. Sequencing narrative & plans showing simultaneous installation of plants and planting soils
6. Plans showing proposed limits of planting soils and volumes for all lawns and plant beds
7. Any requests for variance from the requirements of this Section for schedule of planting outside of the specified planting seasons.
8. As-Build drawings showing actual, installed limits and volumes of planting soil installed.

To some degree the following requirement might guard against last minute claims that plants listed on the Plant List are not available and that substitutions are required. Delete if your Planting Plan and Plant List only include placeholders to establish value.

B. At least 120 days prior to the first day of the planting season described in this Section, submit written confirmation that the plant materials shown on the PLANT LIST are available for Genus, species, variety, size, form and Fall Hazard designation. Provide list of nurseries from which the plant material will be provided.

C. Submit proof of landscape contractor's experience to the Landscape Engineer

in accordance with QUALITY ASSURANCE paragraph of this Section.

D. At least 30 days prior to ordering materials, the Contractor shall submit to the Landscape Engineer samples and manufacturer's product data as specified below. No materials shall be ordered or delivered until the required submittals have been reviewed and approved by the Landscape Engineer. Delivered materials shall closely match the approved samples. Approval shall not constitute final acceptance. The Landscape Engineer reserves the right to reject, on or after delivery, any material which does not meet these Specifications, regardless of whether the plant material was approved in the nursery or by photograph. Provide the following:

1. Planting Mulch: Submit a one quart sample.
2. Antidesiccant: manufacturer's product data.
3. Mycorrhizal Fungal Inoculant: manufacturer's product data
4. Biostimulants: manufacturer's product data
5. Soil Additives: manufacturer's product data

E. Planting and Planting Soil Sequence Plan: Submit a detailed, written sequencing narrative supplemented by marked-up plans showing the sequence of the planting program and how it will proceed so that plant material and planting soil are installed simultaneously.

F. Planting Soil Placement Plan: Submit minimum 30-scale plans for all areas of the Contract, showing limits of planting soil beds for all plant material specified in this Section. See Section 02910 SOIL PREPARATION or the Detailed Drawings for planting soil volume requirements. Submitted plans shall show approximate limits and depths of planting soil for trees and for plant beds. Limits of beds and volumes of planting soil will be field verified by the Landscape Engineer.

G. As-Built Planting Soil Placement Plan: Following the installation of plant material, submit As-Built drawings showing the extent, limits and depths of planting soil for lawns, planting beds and trees. Volumes of planting soil will be field verified by the Landscape Engineer.

1.6 EXAMINATION OF CONDITIONS

A. All areas to be planted shall be inspected by the Contractor before starting work and any defects such as subgrade elevations that will require additional excavation to insure adequate volumes of planting soil, incorrect grading or inadequate drainage shall be reported to the Landscape Engineer prior to beginning this work.

B. The Contractor shall be solely responsible for judging the full extent of work requirements involved, including but not limited to providing planting soil to the depths and volumes specified, the potential need for storing and maintaining plants temporarily and/or re-handling plants prior to final installation.

1.7 QUALITY ASSURANCE

A. Qualification of Landscape Contractor: The work of this Section shall be performed by a landscape contracting firm which has successfully installed work of a similar quality, schedule requirement, and construction detailing with a minimum of five years experience. Proof of this experience shall be submitted per SUBMITTALS paragraph of this Section.

B. Qualification of Arborist: an arborist certified by the International Society of Arboriculture shall perform all work of pruning.

C. All plants are the full responsibility of the Contractor between the time of digging at the nursery and final acceptance. As a basis of this Contract, the Contractor will be assigned full responsibility for any decline or damage to the plant material from the time the plants are dug until the plants have gone through their one year guarantee period.

PART 2 - PRODUCTS

2.1 PLANTING SOILS

A. Planting soils shall be as specified under the work of the Section 32 9100 PLANTING SOIL of this Specification and installed simultaneously with the plant material as specified under the work of this Section 02900 PLANTING.

2.2 GRADES AND STANDARDS OF PLANTS - GENERAL

A. The Contractor shall furnish all plants shown on the Contract Documents, as specified, and in quantities listed on the PLANT LIST. No substitutions will be permitted, without written approval by the Landscape Engineer. All plants shall be nursery grown unless specifically authorized to be collected as noted on the PLANT LIST.

B. Plants shall be true to the species and variety specified and shall be nursery grown in accordance with good horticultural practices. Unless approved by the Landscape Engineer, plants shall have been grown at a latitude not more than
200 miles (325 km) north or south of the latitude of the project unless the provenance of the plant can be documented to be compatible with the

latitude and cold hardiness zone of the planting location.

C. If proof is submitted in writing that a plant specified is not obtainable, consideration will be given to the nearest available size or similar variety, with a corresponding adjustment of the contract price.

D. Plants shall be dug during the most recent favorable harvest season.

E. Plants shall be in accordance ASNS except as noted in this Section. Botanical plant names shall be in accordance with plant designations in Dirr's Manual of Woody Plants.

F. Plants shall conform to the measurements specified on the PLANTING SCHEDULE, except that plants larger than those specified may be used if approved by the Landscape Engineer. When so approved, larger plants shall be provided and installed at no additional cost to the Owner. Root balls of larger plans shall be increased in proportion to the size of the plant.

G. Trees and shrubs shall be specimen quality in accordance with requirements of ASNS, and shall have exceptionally heavy branching, be symmetrical, and so trained or favored in development and appearance as to be unquestionably superior in form, shape and compactness.

H. Plants shall show no signs of frost or winter damage to the foliage. Foliage shall not be in a state of drought stress. Leaves or needles shall show no signs of wilt or desiccation due to weather stress at any season of the year.

I. Plants shall be free of disease and insects, eggs, or larvae. They shall be free from physical damage, sun-scald, frost cracks, injuries and abrasions of the bark, broken branches, damaged leaders, included bark, v-shaped crotches, or other conditions that would prevent, long-term, vigorous growth and aesthetic appeal as determined by the Landscape Engineer.

J. If, at any time during the performance of the Contract, any plant shows signs of graft incompatibility, as determined by the Landscape Engineer, then the tree or shrub and all other similarly grafted plants of the same Genus/Species/Variety shall be rejected and removed from the site.

2.4 PLANT MATERIAL STANDARDS

A. All deciduous and evergreen trees shall meet the following standards:

1. Main leader and branches:
    a. Unless otherwise designated as multi-stemmed on the PLANT LIST, trees shall have single, strong, straight central leaders, well formed and sturdy, with no lateral

branches greater than 2/3 the caliper of the main leader.

b. Branches shall not have included bark at their unions with the main

c. Branching of all deciduous trees shall be best quality representatives of the species, cultivar or variety. Trees shall have branches equally spaced around the central leader at least 6-inches apart.

d. Branches shall occupy their own space and not cross, intertwine or touch.

e. All branches on deciduous trees shall meet the trunk at angles no less than 30 degrees and no greater than 90 degrees from the vertical.

2. Foliage:

a. All trees shall have healthy, vigorous leaves or needles of normal size, color, shape, and texture for the particular species and variety.

b. Terminal and top whorl buds of all evergreen trees shall be in healthy and whole condition at the time of harvest.

c. Deciduous shade trees and deciduous flowering trees shall have fall color typical for their species and variety.

3. Pruning Scars:

a. All pruning wounds shall show vigorous bark on all edges at the time of harvest.

b. Pruning scars within the crown of any tree shall be clean cut and shall leave no protrusion beyond the branch collar.

c. No tree shall be pruned after the Landscape Engineer has tagged the plant in the nursery except as directed by the Landscape Engineer.

4. Size:

a. Unless otherwise indicated on the PLANT LIST, the height and spread of deciduous shade trees shall be the minimum requirements.

b. Take caliper measurements for deciduous trees 6 inches above ground level up to and including 4 inches caliper size and 12 inches above ground for larger sizes.

c. Unless otherwise noted on the PLANT LIST, shade trees for use in paved areas shall have no branches lower than 6.5 feet from finish grade and no higher than 7.5 feet from finish grade.

d. Flowering trees for use in areas away from pedestrian traffic shall have the first branch of their crowns no higher than 4 feet from finish grade

e. The height of the evergreen trees (measured from the trunk flair at the natural ground line of the tree to the midpoint of the terminal leader) shall be not less than the minimum size designated on the PLANT LIST.

5. When proposed for planting in rows, trees shall be matched in form, height and shape.
6. Nursery Culture:
    a. Collected from the Wild: Trees collected from native stands will not be accepted unless so specified on the PLANT LIST.
    b. Trees collected from wild or native stands may be considered nursery grown when they have been successfully reestablished in the nursery row and grown under regular nursery cultural practices for a minimum of two growing seasons and have attained adequate root and top growth to indicate full recovery from transplanting into the nursery row.

C. Shrubs shall meet the following standards:

1. Deciduous shrubbery shall be in accordance with the requirements of ASNS for all shrub Types for size, spread and height requirements, habit and root ball sizes and minimum number of canes unless designated otherwise on the PLANT LIST.
2. Coniferous shrubbery and broadleaf evergreen shrubbery shall be in accordance with the requirements of ASNS for all Types for size, spread and height requirements, habit and root ball sizes unless designated otherwise on the PLANT LIST.
3. Coniferous and broadleaf evergreen shrubbery shall have Shearing Designation of Natural in accordance with ASNS standards unless designated otherwise on the PLANT LIST.
4. All shrubs shall be healthy and vigorous plants which are very well shaped and symmetrical, heavily branched and budded, densely foliated, and true to form for their variety.
5. Blemishes, scars and irregularities:
    a. Scars shall be free of rot and not exceed 1/4 the diameter of the wood beneath in greatest dimension unless completely healed (except pruning scars).
    b. Pruning scars shall be clean cut and shall leave little or no protrusion from the trunk or branch.
    c. Graft unions shall be completely healed.
    d. No suckers or water sprouts.
    e. Contain no dead wood.
    f. Free of cracks, splits, or cambium peeling.
6. Collected from the Wild:
    a. Shrubs collected from native stands or established plantings will not be accepted unless so specified on the PLANT LIST.

b. The spread of roots, bare root collected, shall be one-third greater than the spread of roots of nursery grown shrubs for the same size plant.

D. Herbaceous Perennials, Ornamental Grasses, Groundcovers and Vines:

1. In accordance with the requirements of ASNS and as follows.
2. Plants shall be container grown unless otherwise designed on the PLANT LISTS.
3. Plants shall have deeply colored foliage exceptional for their species and variety. They shall be of dense, full and compact growth, showing exceptional vigor and health in the pot or container.
4. If so designated on the PLANT LIST then plants may be grown in flats or cell-packs, from which they shall be readily removed without damage to stem and runner.
5. All container grown plants shall have a well established root system reaching the sides of the container to maintain a firm root ball, but shall not have excessive root growth encircling the inside of the container.
6. Plants shall be healthy, vigorous and well cared for.

F. Bulbs, corms and tubers shall be in accordance with ASNS and the following:

1. Sizes shall be of largest designation common to the nursery industry, including designations such as Jumbo, Extra Large, Giant, Top, Number 1, Top forcing, largest circumference; Double Nose 1 (DN I), RD I Top.

2.5 ROOT SYSTEMS FOR ALL PLANTS

A Requirements:

1. Each plant shall have an extensive, symmetrically balanced fibrous root system. Root balls shall encompass the fibrous and root feeding system necessary for the healthy recovery of the plant.
2. Any root ball that shows signs of asymmetry, girdling, injury, or damage to the root system will be rejected.
3. All parts of the fibrous root system of all plants shall be moist and fresh.
4. The root systems of all plants shall be free of disease, insect pests, eggs, or larvae.

B Balled and Burlapped Root Balls:

1. Root ball diameters for field grown stock shall be in accordance with the diameter and depth requirements in ASNS and as follows. Field

grown stock may be dug by hand or by digging machines.

2. For those plants having a coarse or wide-spreading root system because of natural habit of growth, soil condition, infrequent transplanting practice, or plants that are moved out of season, root balls of field grown stock shall be larger than the ASNS recommended sizes.
3. Conversely, if the nursery grower can demonstrate to the satisfaction of the Landscape Engineer nursery cultural practices that increase root density of a tree or shrub, smaller root ball sizes may be accepted.
4. All balled and burlapped trees and shrubs shall be moved with the root systems as solid units with balls of earth firmly wrapped with untreated 8 ounce natural, biodegradable fabric burlap, firmly laced with stout, natural biodegradable cord or twine.
5. The base of the deciduous tree trunks shall be wrapped with a protective burlap layer, surrounded by a cardboard trunk protector extending no less than 36 inches upward from the root flare, and loosely tied with twine.

C Container Grown Plants:

1. All container-grown nursery stock shall be healthy, vigorous, well rooted, and established in the container in which it is growing. Container grown nursery stock shall have a well-established root system reaching the sides of the container to maintain a firm ball when the container is removed, but shall not have excessive root growth encircling the inside of the container.
2. Containers shall be the appropriate size for the plants growing in them, in accordance with ASNS standards for Type of plant.
3. Curling or spiraling of the roots along the walls of rigid containers will not be accepted. Curling, spiraling or girdling roots within balled and burlapped material will not be accepted. Specially designed containers or chemically treated containers intended to retard circling roots are acceptable.
4. The container shall be sufficient rigid to hold the ball shape and to protect the root mass during shipment.
5. No plants shall be loose in the container.
6. When container grown and the plant is removed from the container, the visible root mass shall be healthy with white root tips.
7. Container grown plants that have roots growing out of the container will be rejected.

2.6 INOCULANTS AND STIMULANTS

A. Mycorrhizal fungal inoculant shall be live spores packaged in plastic packets.

At a minimum each packet of inoculant shall contain the following:

1. Live spores of VA Endomycorrhizal fungi: Vesicular-Arbuscular mycorrihizae fungi, minimum of 8 species.
2. Live spores of Ectomycorrhizal fungi: including *Pisolithus tinctorius.*

Mycorrhizal fungal inoculant shall be manufactured by Plant Health Care Incorporated, 440 William Pitt Way, Pittsburgh, PA 15238, telephone: (800) 421-9051; Horticultural Alliance, 2946 Louise Street, Sarasota, FL 34237, (800) 628- 6373; BioPlex Organics, 2213 Huber Drive, Manheim, PA 17545 (800) 441-3573, or approved equal.

B. Biostimulant

1. Biostimulant shall be a dry water soluble plant treatment that includes beneficial rhizosphere bacteria (*Bacillus licheniformis, Bacillus megaterium, Bacillus polymyxa, Bacillus subtilis, Bacillus thuringiensis, Paenibacillus azotofixans)*, humic acids, microbial nutrients (maltodextrin, seaweed and yeast extracts) and inert ingredients.

2. Biostimulant shall be Diehard Transplant as manufactured by Horticultural Alliance, Sarasota Florida: www.horticulturalalliance.com; Soil Support Root Enhancer/Soil Amendment as manufactured by ENP Investments, LLC, Mendota IL www.enpturf.com; Tree Saver Transplant by Plant Health Care, Pittsburg PA www.planthealthcar.com , or approved equal.

2.7 STAKING, GUYING, AND ANCHORING MATERIALS

A. Tree staking: Tree stakes shall be a below-grade stabilizing system designed to secure root balls into subsoil, structural planting medium and planting soil back fill without use of above ground components.

1. Stakes shall be fabricated from steel pipe per ASTM A53 and flat bar stock per ASTM A36. Steel shall be lightly oiled to prevent scale and rust from forming prior to installation.
2. Stakes shall be as shown on the Contract Documents.
3. Stakes shall be sized to accommodate tree sizes noted herein. At a minimum below-grade stakes shall have long prong 42 inches in length, short prong 12 inches in length and connecting bar stock 12 inches in length.
4. Provide a minimum of three stakes per tree.

2.8 MULCH

A. Bark Mulch: Mulch shall be high quality premium pine, hemlock or spruce bark mulch. Mulch shall have been aged for a minimum of six months and

not longer than two years. Bark mulch shall be shredded to a uniform size; free of dirt, debris and foreign matter; with pieces no thicker than 1/4 inch. Mulch must be free of stringy material or chunks over 3 inches in size and shall not contain, in the judgment of the Landscape Engineer, an excess of fine particles. Submit sample for the Landscape Engineer's approval.

B. Geotextile fabric for weed control shall be of woven, nonwoven, spun-bonded, or needle-punched construction; composed of polyethylene, polypropylene, or polyester materials. Geotextile shall be Weed-X by Dalen Products, Knoxville, TN or approved equal.

2.9 WRAPPING MATERIAL

A. Wrapping material shall be first quality, 4 inch wide heavy waterproof crepe paper manufactured for this purpose. Tape for securing wrapping material shall be a durable, weatherproof tape of same color as wrapping material.

2.10 WATER

A. Contractor shall provide all labor and water required to establish plants at no extra cost to the Owner. If possible, the Owner shall furnish the Contractor upon request with an adequate source and supply of water. Contractor shall reimburse the Owner as required by the Owner. However, if the Owner's water supply is not available or not functioning, the Contractor shall be responsible to furnish adequate supplies at his own cost. All work injured or damaged due to the lack of water, or the use of too much water, shall be the Contractor's responsibility to correct. Water shall be free from impurities injurious to vegetation.

B. During the maintenance period the Contractor shall water as required to insure that soil moisture is maintained to a depth of six inches or greater at all times.

1. Watering shall be done in a manner that will provide uniform coverage, prevent erosion due to application of excessive quantities over small areas, and prevent damage to the finished surface by the watering equipment. The Contractor shall furnish sufficient watering equipment to maintain required water levels in the soil.

2.11 ANTIDESICCANTS

A. Antidesiccants shall be emulsions or other materials which will provide a protective film over plant surfaces permeable enough to permit transpiration

and specifically manufactured for that purpose. Manufacturer of antidesiccant shall be subject to the Landscape Engineer's approval and shall be used only after approval by the Landscape Engineer. Antidesiccant shall be delivered in containers of the manufacturer and shall be mixed and applied according to the manufacturer's instructions.

PART 3 - EXECUTION

3.1 PRELIMINARY

A. Providing ample, free-draining, pH corrected, mineral soils with good organic amendments is essential to insuring the long-term health of Plant Material.

B. Earthwork activities related to maintaining or restoring overly compacted subgrade and subsoil material to a free-draining condition are specified in Division 31 Sections. Report any subgrade or subsoil condition suspected to being overly compacted to the Landscape Engineer immediately upon discovery.

C. Depths and volumes of planting soils for plant material specified in this Section shall be recorded with As-Built drawings. See the Submittals paragraph of this Section.

3.2 PLANT MATERIAL INSPECTIONS

A At least one month prior to the expected planting date, the Contractor shall request that the Landscape Engineer provide a representative to select and tag stock to be planted under this Section. The Contractor shall pay for the transportation, subsistence and overnight accommodations, if necessary, for the Landscape Engineer's representative during the period of time required to select and tag the plant material.

B The Contractor shall be responsible to certify the availability of specified quantity of top-quality plants in specified sizes from his/her sources of supply prior to requesting that the Landscape Engineer make plant source inspections. In the event that plants at the inspection location are found to be unavailable or of insufficient size, the Contractor shall be liable to reimburse the Owner for all costs of the Landscape Engineer's hourly services that are incurred during unproductive inspection trips.

C All trees for the project shall be individually tagged for approval with the Landscape Engineer's seals, and no trees shall be accepted for delivery to the site without such seals. Representative samples only of shrubs and ground

cover plants may be tagged or marked for approval as an "Approved Typical Sample" and shipped to the site. Any shrub or groundcover plant that arrives at the construction site that does not meet the Approved Typical Sample will be rejected by the Landscape Engineer and replaced at no additional costs to the Owner. Delays resulting from this rejection and replacement shall in no way relieve the Contractor of his contractual responsibility to complete the work of this Project on time.

D Inspection and approval of plants at the source shall not impair the right of subsequent inspection and rejection upon delivery to the site, or during the progress of the work if the Landscape Engineer finds that plants do not meet the requirements of the PLANT LIST or this Contract, have declined noticeably due to handling abuse, lack of maintenance, or other causes. Cost of replacements, as required, shall be borne by the Contractor.

3.3 TRANSPORTATION AND STORAGE OF PLANT MATERIAL

A. Branches shall be tied with rope or twine only, and in such a manner that no damage will occur to the bark or branches.

B. During transportation of plant material, the contractor shall exercise care to prevent injury and drying out of the trees. Should the roots be dried out, large branches broken, balls of earth broken or loosened, or areas of bark torn, the Landscape Engineer may reject the injured tree(s) and order them replaced at no additional cost to the Owner. All loads of plants shall be covered at all times with tarpaulin or canvas. Loads that are not protected will be rejected.

C. Notify the Landscape Engineer three working days prior to the proposed arrival of plant material on the site. Plants must be protected at all times from sun or drying winds. Those that cannot be planted immediately on delivery shall be kept in the shade, well protected with soil, wet mulch, or other acceptable material, and kept well watered. Plants shall not remain unplanted any longer than 3 days after delivery. Plants shall be free of damage to barks, stems, branches, twigs, leaves and needles following planting operations.

3.4 PLANTING SEASONS

A Locate all plant material sources and ensure that plants are shipped in timely fashion for installation within the following Seasons for Planting:

1. Spring: Deciduous materials - March 21 through May 1; Evergreen materials - April 15 through June 1.
2. Fall: Deciduous materials - October 1 through December 1; Evergreen materials - August 15 through October 15.

B Do no work when the ground is frozen, snow covered, too wet or in an otherwise unsuitable condition for planting. Special conditions may exist that warrants a variance in the specified planting dates or conditions. Submit a written request to the Landscape Engineer stating the special conditions and proposal variance.

3.5 INSTALLING PLANT MATERIAL SIMULTANEOUSLY WITH PLANTING SOIL

A. Managing soils and the placement of plant material in the specified sequence is an essential aspect of the Work of the Contract and the work of Section 32 9100 PLANTING SOIL and Section 02900 PLANTING. In accordance with the requirements of the SUBMITTALS paragraph of this Section, submit a detailed Planting and Planting Soil Sequencing Plan for acceptance. Do no work until the Landscape Engineer has reviewed and accepted this sequencing plan.

B. In the event that rock or underground construction work or obstructions are encountered in any plant pit or bed excavation work, notify the Landscape Engineer immediately. The Landscape Engineer will select alternate locations. Relocation of plant pits or beds shall be provided at no additional cost to the Owner. Provide the Landscape Engineer with no less than 48 hours notice of obstruction so that a site visit can be scheduled to establish new locations for plants.

C. Be aware of the time requirements of performing the work of this Section.
Following the requirements and sequencing of this Section will take more time than the traditional approach to installing plant material. By starting the work of this Section, you accept the requirements and sequencing specified. Under no circumstances shall the need to meet project schedules be used as an excuse to bypass or avoid all requirements and sequencing of this Section. Monetary penalties will be assessed against the Contractor for failure to properly manage the sequence of work.

D. Requirements:

1. Do no exterior landscaping and site work, including decompacting of subgrade, placing horticultural subsoil or planting soils, or installing plant material until all construction of the exterior shell of the building has been completed and no further access to the building across plant beds is necessary.

2. When access to building entrances or building facades requires workmen or equipment to traverse previously installed planting soils or plantings, remove all irrigation, all plants, mulch, planting soils,

and horticultural subsoils to subgrade conditions. Remove and discard planting soils and horticultural subsoils and replace with new material. The Landscape Engineer may approve stockpiling of plant material for replanting but only if the plant material can be re-installed within two weeks of removal and only during that planting season.

3. Do the deepest work first. Install utilities such as drain pipes, under drainage, aeration piping and irrigation prior to placing subsequent lifts of soil materials.
4. De-compact the subgrade prior to placing horticultural subsoil lifts.
5. Before placing planting soil on de-compacted subgrade, test the subgrade to verify water infiltrates at a rate of no slower than one inch per hour. If subgrade infiltration testing indicates the subgrade is overly compact then de-compact the subgrade as specified in this Section.
6. Subgrade elevations shall be parallel to finish grade.
7. Place planting soil in 6-inch lifts to elevations that meet the depth and planting volume requirements for the specific plant material in the beds.
8. Always provide the planting soil depths and volumes specified in Section 32 9113 PLANTING SOIL and as shown on the Drawings.
9. Place plant material and planting soils simultaneously. Never dig a tree pit and never dig a shrub bed.
10. Instead of digging tree pits or shrub beds, install planting soils and plant material in a lateral direction. Work in small increments: one bench of planting soil and one row of plant material at a time.
11. Place planting soil on properly compacted benches of previously placed planting soil.
12. Place plant material on properly compacted benches of planting soil.
13. Place planting soil around the rootballs of plants as you progress out of the planting site.
14. In open areas, start at the center of plant beds and work outward.
15. When working at the face of buildings, in an inside corner of walls or façades, or against any vertical construction, start at the vertical construction and work away from it.
16. Place mychorrhiza, biostimulants, fertilizers, compost and mulch as you work away from the center of planting areas or away from vertical construction.
17. Install irrigation incrementally in tandem with soil placement and plant material installation
18. Do not walk upon or drive over previously installed horticultural subsoil or planting soil or the mulch placed there on.
19. Do not store materials or equipment on previously installed horticultural subsoil or planting soil.

C. Install barricades of saw horses or temporary chain link fence to prevent compaction of planting soil from stockpiling, vehicles, equipment or foot traffic.

3.5 EXCAVATION FOR PLANTING

A In the event that rock or underground construction work or obstructions are encountered in any plant pit or bed excavation work, notify the Landscape Engineer immediately. The Landscape Engineer will select alternate locations. Relocation of plant pits or beds shall be provided at no additional cost to the Owner. Provide the Landscape Engineer with no less than 48 hours notice of obstruction so that a site visit can be scheduled to establish new locations for plants.

B Installing the specified volumes of planting soil for trees and planting beds is an essential aspect of the Work of the Contract and the work of Section 32 9113 PLANTING SOIL and this Section 02900 PLANTING. In accordance with the requirements of the SUBMITTALS paragraph of this Section, submit the Planting Soil Placement Plan showing the limits of different beds and soil volumes. Do no work until the Landscape Engineer has reviewed and accepted the planting soil placement plan.

C Prior to excavating for plant pits and bed, verify the location of any underground utilities. Repair all damage to utility lines that is the result of negligence of the contractor or any of his assigns at no additional cost to the Owner.

D Where lawns have been established prior to planting operation, cover the surrounding turfgrass before excavations are made in a manner that will protect turfgrass areas. Protect existing trees, shrubbery, and beds that are to be preserved in a manner that will effectively protect them during the project construction.

E Remove rocks and other underground obstructions to a depth necessary to permit proper planting according to plans and specifications. Where underground utilities, construction, or solid rock ledges are encountered, notify the Landscape Engineer immediately so that alternative locations for plantings can be made.

F Trees shall be planted in beds with the minimum soil volumes shown on the approved Submittals. Within tree beds, the Contractor will not be required to excavate circular plant pits. Shrub pits and beds shall be excavated as noted below.

1. All tree pits dug with a machine shall have the sides of the holes scraped with hand shovels to prevent glazing or compaction of the

sides of the hole. Remove and stockpile excavated planting soil for reuse as backfill for plant pit. All subsoil excavated from the bottoms of planting pits shall be removed from the site.

2. Tree and shrub pits shall be dug to encourage the root growth out of the rootball and into the surrounding planting bed.
3. Plant beds for shrub massing shall be one large and continuous excavated bed. Extend bed no less than 3 feet beyond limits of shrub root balls on perimeter of bed.
4. Plant pits and beds for shrubs shall be dug to the depth of the rootball to be planted.
5. Remove all soil from around the root flare of the stem of the plant and from the top of the rootball to determine the true depth of the rootball. All plants that have been planted and have root flares that are buried will be rejected.

G Perennial and Groundcover Beds:

1. Beds shall be dug to a continuous depth of one foot below final grade, or as shown on the Contract Documents. Place sufficient planting soil mix to provide one foot deep beds. Remove perennials from their pots immediately before planting. Handle plants carefully to prevent damaging roots. Place each plant in individual hole and firm the planting mix around the roots. Water thoroughly and mulch as shown on the Contract Documents.
2. Where ground cover and planting beds occur in existing turfgrass areas, remove turfgrass to a depth that will ensure the removal of the entire root system, with additional bed preparation as specified in the next paragraph.

3.6 PLANTING OPERATIONS

1. Plants shall be installed so that the root flare is exposed. Prior to placing each plant, remove burlap from the top of the root ball and remove soil from over and around the root flare. Replace burlap.
2. Planting hole shall be at same depth as the height from the bottom of the rootball to the root flare. In certain cases it may be necessary to compensate for soil settlement, the Contractor shall set root ball slightly higher as directed by Landscape Engineer.
3. Plants must be set plumb and braced in position until soil has been placed around the root ball and roots. The trunk of the tree shall not be used as a lever in positioning or moving the tree in the planting hole. The Contractor shall take care not to crack or loosen the ball during planting.
4. For balled and burlapped plants, after the plant has been set, remove ropes, strings and burlap from the top surface of the root ball. Remove at least the top half of the wire basket before backfilling. The Contractor shall not fold back burlap. Cut away burlap and

discard all debris off site.

5. Mycorrhiza and biostimulants shall be added to the planting soil back fill mix after the plant has been placed in its hole. Thoroughly mix
mychorrhiza and biostimulants into the upper 10 inches of backfill soil. Apply in accordance with the manufacturers written instructions and the size of the plants being installed.
6. Backfill with specified soil in 6-inch lifts to avoid injury to roots and to fill all voids. Firmly tamp by hand each lift to prevent settlement. Do not ram soil into place with feet, shovel handles or any device other than hands.
7. Mulch and thoroughly water all plants immediately after planting. Open ended hoses are not permitted. Hoses must be fitted with watering wand.

   Eliminate air pockets and compact the soil by flooding the tree pit or plant bed as the work progresses. Avoid walking on previously placed planting soil. After water has drained from the planting pit or bed and planting backfill has dried sufficiently, spread additional planting soil in pit or bed to bring the finished surface of the planting pit or bed to grades shown on the Contract Documents.
8. Herbaceous Perennials, Ornamental Grasses, Groundcovers and Vines:
   a. Remove plants from their containers immediately before planting.
      Handle plants carefully to prevent damaging roots. Place each plant in individual hole and firm the planting mix around the roots.
9. Bulbs shall be planted at depths as recommended by bulb supplier, as shown on the Contract Documents, or both.
10. Fertilizer shall be spread over the plant bed. Till the fertilizer into the planting soil at the same time as tilling approved compost into the top surface of the planting soil.
11. Spread approved compost in plant beds and tree pits to a depth of 1 to 2- incehs and till the planting soil to a depth of 6-inches to integrate compost into the top layer of the planting soil
12. Do not place mulch until tilling of the fertilizer and compost has been verified by the Landscape Engineer. Fertilizer application rates shall be as determined by soil testing, analysis, and testing laboratory recommendations specified, performed and paid for under Section 02910 PLANTING SOILS of this Specification
13. Any excess soil, debris, or trimmings shall be removed from the Project site immediately upon completion of each planting operation.

3.7 POST-PLANTING OPERATIONS

A. The Contractor shall inspect beds 24 hours after initial watering to confirm that they are draining properly. If surface water or excessively saturated plant pit soils exist, the Contractor shall immediately notify the Landscape Engineer. The Landscape Engineer will direct the Contractor to perform remedial measures based upon site conditions and as specified in this Section.

B. Keeping Trees Plumb:

1. Contractor shall keep trees plumb and upright at all times.

2. All trees shall be firmly staked with approved below-grade stabilizing system at the time of planting. Stakes shall be installed as follows:
   a. After trees have been backfilled but prior to forming saucer install below-grade staking system.
   b. Place stakes so that the long prongs are set at 120 degree points around root ball. Long prongs shall be set against edge of rootballs but shall not pierce burlap of ball's vertical face.
   c. Short prongs shall be placed in a counter clockwise rotation around top of rootball. Horizontal bar stock and short prongs shall be placed no closer than 4 inches from the trunk of the tree. In no circumstances shall horizontal bar stock press against visible root flares.
   d. Drive long prongs into the subsoil, planting soil, structural planting medium to full depth so that horizontal bar is pressed firmly into burlap and top surface of rootball. Short prongs shall be driven into rootball so that top of short prongs will not protrude above bark mulch.
   e. Do not penetrate aeration piping with filter fabric sleeves when driving below-grade stakes.
   f. Rake out planting soil around and above rootball to ensure a smooth surface with intact saucer.

C. Pruning:
1. As directed by the Landscape Engineer, each plant shall be pruned in accordance with the workmanship requirements of ANSI A300, to preserve the natural character of the plant.

D. Antidesiccant shall be applied to all evergreen and broadleaf evergreen plants in December and again in February, according to manufacturer's application recommendations and as directed by the Landscape Engineer.

E. Protect lawns from damage. Any damage resulting from planting operations shall be repaired immediately at no cost to the Owner. Repair work shall be as specified and installed under the work of Division 2 Section, LAWNS, of this Specification and paid for under this Section.

F. Absolutely no debris may be left on the site. Repair any damage to site as directed by the Landscape Engineer, at no additional cost.

3.8 MAINTENANCE

A. Maintenance shall begin immediately after each plant is planted and shall continue until Final Acceptance.

B. Maintenance shall consist of keeping the plants in a healthy growing condition and shall include but is not limited to watering, weeding, cultivating, pruning, re- mulching, tightening and repairing of guys, straightening of trees to a plumb position, removal of dead material, resetting plants to proper grades or upright position, maintaining the planting saucer and replacement of plants that are in decline or die.

1. Plants shall be inspected for watering needs at least twice each week and watered to promote plant growth and vitality. Do not compact planting soil in the process of water plant material. Place wood board ballast to walk between plants.
2. For trees in lawn or mulched beds, apply water to the ground surface directly under the canopy. Water shall be applied at a sufficiently slow rate to prevent run off from the soil surface.
3. Stakes shall be kept neat in appearance. Guys shall be tightened and repaired weekly as required to meet the requirements of this Section.
4. Planting beds and individual plant pits shall be kept free of weeds, and mulch shall be replaced as required to maintain the specified layer of mulch. Beds and individual pits shall be neat in appearance and maintained to the designed layout.
5. Plants that are in decline or die during the maintenance period shall be removed and replaced by the Contractor within one week of notification and replaced during that growing season, unless directed otherwise by the Landscape Engineer.
6. Spraying of insecticides or herbicides shall be done by State-licensed professionals. Spraying for insects, pests and diseases shall conform to the National Arborist Association Standards under the section entitled "Standards for Pesticide Application Operations", as currently adopted and as approved by the Landscape Engineer.
7. Work of pruning, fertilizing, spraying, and similar activities shall be undertaken only by Certified Arborists and licensed chemical applicators, as pertinent to the work being performed.

C. During the maintenance period, any decline in the condition of plantings shall require the Contractor to take immediate action to identify potential problems and undertake corrective measures. If required, the Contractor

shall engage professional arborists and/or horticulturalists to inspect plant materials and to identify problems and recommend corrective procedures. The Landscape Engineer shall be immediately advised of such actions. Inspection and recommendation reports shall be submitted to the Landscape Engineer.

3.9 FINAL ACCEPTANCE

A. Upon completion of all planting work, the Contractor shall request in writing that the Landscape Engineer formally inspect the planting work for Final Acceptance.

B. Standards for Final Acceptance: If plant material is reviewed when it is in full leaf, leaves shall be plump with water with a shape indicative of the species and shall be free of insect, pest and disease damage. Twigs shall have living cambium for their full length. Twigs and branches shall have a full bud set for their full length, including terminal buds. Trunks and branches shall be free of frost cracks; sun scald; damage due to insects, pests, and disease; structural defects; and damage resulting from machinery or tools. Plant material inspected and reviewed when the plants are not in full leaf shall have twigs, branches and trunks meeting the above requirements. All plants regardless of the season of review shall have a minimum of 75 percent healthy, balanced branching structure with a healthy terminal leader(s) with viable terminal bud(s).

C. If any number of plants do not meet these Acceptance Standards at the time of inspection, or if in the Landscape Engineer's opinion, workmanship is unacceptable, written notice will be given by the Landscape Engineer to the Contractor in the form of a Punch List, which itemizes necessary planting replacements and/or other deficiencies to be remedied. The Contractor's responsibility for maintenance of all plants shall be extended until replacements are made or other deficiencies are corrected. All plants that do not meet these Acceptance Standards shall be removed from the project within 7 days of receipt of the punch list. Replacements shall conform in all respects to the Specifications for new plants and shall be planted in the same manner

D. Following the correction of all Punch List deficiencies, the Contractor shall request in writing that the Landscape Engineer again formally inspect the planting work. If plant materials and workmanship are acceptable, the Landscape Engineer will issue a written Certificate of Final Acceptance to the Contractor.

3.10 WARRANTEE

A. The date of Final Acceptance shall start the required one-year warrantee for planting work.

B. At the end of the warrantee period, the Landscape Engineer will perform a final inspection to determine whether any plant material replacements are required. Each plant shall be plumb, shall have a character that is natural for its species as determined by the Landscape Engineer, and shall conform to the Acceptance Standards described in this Section. Plants found to be unacceptable shall be removed promptly from the site and replaced according to this Section.

C. At the end of the one-year warrantee period, remove all above-ground tree stakes, guys, or anchors installed on trees during the course of the work of this contract.

D. All replacements shall be plants of the same kind and size specified in the PLANT LIST. The cost shall be borne by the Contractor, except for possible replacements due to vandalism or neglect on the part of others.

END OF SECTION 02900

SECTION 02911

SOIL PREPARATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Contract Documents and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. The work of this Section consists of providing all labor, equipment, materials, incidental work, and construction methods necessary to supply and place all work specified in this Section 02910 PLANTING PREPARATION as indicated on the Contract Documents and as specified. Supplying and placement of all work specified in Section 02910 PLANTING PREPARATION shall include, but not be limited to:

1. Sampling and testing of planting soil.
2. Sampling and testing of existing on-site topsoil.
3. Modifying, screening, placing, spreading and grading of planting soil.
4. Modifying, screening, placing, spreading and grading of existing, on-site topsoil.
5. Providing all other sampling, testing, supplying, placing, spreading and grading of planting soils as required by this Section.

1.3 RELATED WORK UNDER OTHER SECTIONS

A. The following items of related work are specified and included in other Sections of the Specifications:

1. Section 02200 SITE PREPARATION
2. Section 02920 LAWNS AND GRASSES
3. Section 02900 PLANTING

1.4 REFERENCES

A. The following standards shall apply to the work of this Section.

1. Rhode Island Department of Transportation (RIDOT): Specifications Standard Specifications for Road and Bridge Construction

2. American Society for Testing and Materials (ASTM):

D 75	Practice for Sampling Aggregates
D 422	Test Method for Particle-Size Analysis of Soils
D698-00a	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3)
D1557	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures using 10-lb Rammer and 18-in.Drop

3. A.O.A.C.: Association of Official Agricultural Chemists.

1.5 SUBMITTALS

A. At least 30 days prior to ordering materials, the Contractor shall submit to the Engineer representative samples, certifications, manufacturer's product data and certified test results for materials as specified below for approval in conformance with the requirements of Division 1 Section, SUBMITTALS, of this Specification. No materials shall be ordered or delivered until the required submittals have been reviewed and approved by the Engineer. Delivered materials shall closely match the approved samples. Approval shall not constitute final acceptance. The Engineer reserves the right to reject, on or after delivery, any material that does not meet these Specifications.

1. Existing On-Site Topsoil: Sample and test existing on-site topsoil. The Contractor shall sample the existing loam soils of the construction site in the following manner:

    a. Sampling of existing topsoil in situ prior to stockpiling: Using a spade, the Contractor shall take thin vertical slices from the top 10 inches to 12 inches of the soil.

2. Planting Soil: The Contractor shall provide a one cubic foot representative sample per each 1,000 cubic yard proposed stockpile of planting soil for testing. All stockpile sampling shall be per ASTM D 75 and Appendixes for securing

    samples from stockpiles. Stockpiles shall be separated into 1,000 cubic yard piles and labeled in the field with a numbering system referenced in all soil samples and test results. Stockpiles shall be manufactured sufficiently in advance of testing so that pH, organic content, and carbon/nitrogen ratio have stabilized. Additionally, the Contractor shall provide 25, one cubic foot representative samples selected from on-site stockpiles of planting soil for testing or from loam after it has been spread and amended. Samples from on-site stockpiles and from spread and amended planting soil shall be taken from locations as directed by the Engineer and packaged in the presence of the Engineer. Testing will be at the Contractor's expense. Contractor shall deliver all samples to

testing laboratories via overnight courier and shall have the testing report sent directly to the Engineer. Perform all tests for gradation, organic content, soil chemistry and pH by UMASS Soil and Plant Tissue Laboratory, West Experiment Station, North Pleasant Street, University of Massachusetts, Amherst, MA 01003, (413) 545-2311. Testing reports shall include the following tests and recommendations. Contractor shall deliver samples to testing laboratories and shall have the testing report sent directly to the Engineer from the Soil and plant Tissue Laboratory. Testing reports shall include the following tests and recommendations.

a. Mechanical gradation (sieve analysis) shall be performed and compared to the USDA Soil Classification System. Sieve analysis shall be by combined hydrometer and wet sieving using sodium hexametaphosphate as a dispersant in compliance with ASTM D 422 after destruction of organic matter by H_2O_2. To facilitate review and approval of sieve analysis, provide a computer generated gradation curve from UMASS Soil & Plant Tissue Laboratory.

b. Percent of organics shall be determined by the loss on ignition of oven-dried samples. Test samples minus #10 material shall be oven-dried to a constant weight at a temperature of 450 degrees Fahrenheit.

c. Chemical analysis shall be undertaken for Nitrate Nitrogen, Ammonium Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, extractable Aluminum, Lead, Zinc, Cadmium, Copper, Soluble Salts, and pH and buffer pH. A Conductivity Meter shall be used to measure Soluble Salts in 1:2 soil/water (v/v). Except where otherwise noted, nutrient tests shall be for available nutrients.

d. Soil analysis tests shall show recommendations for soil additives to correct soils deficiencies as necessary, and for additives necessary to accomplish lawn and planting work as specified.

3. If bio-solid compost (Rhode Island Department of Environmental Management permitted material) is used as an organic component of the proposed planting soil mixture, the amount of organic material used shall not exceed agronomic rates for nitrogen and phosphorus for trees and shrubs, turf or ornamental perennials. Provide certificates of agronomic rates from vendor for organic matter used in planting soil manufacturing process. Bio-solid compost shall be tested by an approved testing laboratory to determine that the compost is mature, stable and suitable for use

in a growing medium.

4. Peat Moss: Submit a one cubic foot sample and supplier's certification of contents.
5. Limestone: Submit supplier's certification that the limestone being supplied conforms to these Specifications.
6. Acidulant: Submit supplier's certification that the acidulant being supplied conforms to these Specifications.
7. Fertilizer:
    a. Submit product data of seeding and planting fertilizer and certificates showing composition and analysis. Submit fertilization rates for fertilizer product based upon soil testing, analysis, and recommendations as specified, performed and paid for under in Section 02910 SOIL PREPARATION.
    b. Submit the purchasing receipt showing the total quantity purchased for the project prior to installation.
8. Gypsum: Submit manufacturer's product data and 2 pound sample.
9. All additives needed to amend a specific soil in order to meet these specifications.

1.6 EXAMINATION OF CONDITIONS

A. All areas of the existing site where topsoil is to sampled for testing shall be inspected by the Contractor before starting work and any issues that might inhibit or prevent the sampling operation shall be reported to the Engineer prior to beginning this work.

B. The Contractor and any sub-Contractor responsible for the execution of the Work

Section 02910 SOIL PREPARATION, shall review and confirm in writing that the subsoil elevations have been brought to the proper subgrade elevations prior to proceeding with the spreading of the planting soil.

C. The Contractor and any sub-Contractor responsible for the execution of the Work Section 02910 SOIL PREPARATION, shall review the subgrades and verify that the subgrades have been prepared as required by Section 02910 SOIL PREPARATION, prior to proceeding with the spreading of the planting soil. Carefully review the requirements of Section 02910 SOIL PREPARATION, to understand the requirements of percolation testing, compaction, slope and absence of debris of the subgrade prior to spreading of the planting soil.

D. The Contractor shall be solely responsible for judging the full extent of work

requirements involved, including but not limited to sampling and testing of on-site stockpiles of delivered off-site planting soil prior to final planting installation.

1.7 DEFINITIONS

A. The following definitions shall apply to the work of this Section.

B. The following size distributions of mineral particles by diameter and sieve size shall apply to the following conventional names of soil types:

Conventional Name	Retained on U.S. Sieve No.	Diameter (mm)
Very coarse sand	#18	1 - 2
Coarse sand	#35	0.5 - 1
Medium sand	#60	0.25 - 0.5
Fine sand	#140	0.10 - 0.25
Very fine sand	#270	0.05 - 0.10
Silt	by hydrometer	0.002 - 0.05
Clay	by hydrometer	Less than 0.002

PART 2 - PRODUCTS

2.1 LOAM – GENERAL

A. The Contractor shall provide sufficient planting soil to complete all loaming operations required of the Contract Documents, as specified, provided, installed and paid for under this Division 32 Section, PLANTING PREPARATION, and as directed by the Engineer. Planting soil shall comply with the following specifications.

Planting soil shall be obtained from one of the following sources:

1. On-site topsoil stripped, stockpiled and paid for under the work of Section 02200, SITE PREPARATION, of this Specification and meeting the requirements of Section 02910 SOIL PREPARATION.
2. A commercial processing facility specializing in the manufacturing of loam.
3. On-site granular material stripped and stockpiled on the site may be used as the basis for an on-site, manufactured loam. Submit method and schedule of manufacturing process to the Engineer for review and approval.
4. All sources shall be acceptable provided that, after testing and the addition of necessary soil additives specified in Section 02910 SOIL

PREPARATION, the planting soil meets the following specifications.

2.2 PLANTING SOIL

A. Planting soil for planting trees, shrubs, groundcover and vines, and perennials shall be determined by mechanical analysis (ASTM D 422) and based on the "USDA Classification System" and as defined in this Section. It shall be of uniform composition, without admixture of subsoil.

It shall be free of stones greater than one and one-quarter inches, lumps, plants and their roots, debris and other extraneous matter as determined by the Engineer. Planting soil for trees, shrubs, groundcover and vines, and perennials shall have the following grain size distribution for material passing the #10 sieve:

Millimeter	Percent Passing by Weight Maximum	Mini mum
2	-------	100
1	100	80
0.5	87	67
0.25	78	48
0.10	68	30
0.05	55	22
0.002	7	2

1. Maximum size shall be one and one quarter inches largest dimension. The maximum retained on the #10 sieve shall be 25% by weight of the total sample.
2. The ratio of the particle size for 80% passing (D_{80}) to the particle size for 30%
   passing (D_{30}) shall be 6.0 or less. ($D_{80}/D_{30} < 6.0$)

B. Planting soil for turf areas as described in Section 02920 LAWNS AND GRASSES, of this Specification, shall be determined by mechanical analysis (ASTM D 422) and based on the "USDA Classification System" and as defined in this Section. It shall be of uniform composition, without admixture of subsoil.
It shall be free of stones greater than 1.25 inches, lumps, plants and their roots, debris and other extraneous matter as determined by the Engineer.

Planting soil for lawn areas shall have the following grain size distribution for material passing the #10 sieve:

Millimeter	Percent Passing by Weight Maximum	Mini mum
2	-------	100
1	100	82
0.5	87	65
0.25	72	49
0.10	45	30
0.05	32	22
0.002	5	2

1. Maximum size shall be one and one quarter inches largest dimension. The maximum retained on the #10 sieve shall be 25% by weight of the total sample.
2. The ratio of the particle size for 80% passing (D_{80}) to the particle size for 30%
   passing (D_{30}) shall be 6.0 or less. ($D_{80}/D_{30} < 6.0$).
3. In addition to the foregoing, all planting soil to be used for loaming and seeding shall be mechanically screened processed planting soil that passes a 3/4 inch by 6 inch screen size.

C. Organic content and pH for specific planting use shall be as follows:

1. Areas planted with turf grasses per the Section 02920 LAWNS AND GRASSES, of this Specification:
   a. pH: 6.0 through 7.0
   b. Organic Content 4.0 - 6.0 percent as determined by the loss on ignition of oven-dried samples passing #10 sieve (Muffle furnace temperature: 450 +/-
      10 degrees C for 8 hours)
2. Areas planted with Conservation Seed per the Section 02920 LAWNS AND GRASSES of this Specification.
   a. pH: 4.5 through 5.5
   b. Organic Content 1.0 - 3.0 percent as determined by the loss on ignition of oven-dried samples passing #10 sieve (Muffle furnace temperature: 450 +/- 10 degrees C for 8 hours)
3. Top 18 inches of areas planted with tree and shrub as described in Section 02930 EXTERIOR PLANTS, of this Specification:
   a. pH: 5.5 through 6.5 for non-acid loving plants
   b. pH: 4.5 through 5.5 for *Ericaceae* and other acid-loving plants
   c. Organic Content 4.0 - 6.0 percent as determined by the loss on ignition of oven-dried samples passing #10 sieve (Muffle furnace temperature: 450 +/-

10 degrees C for 8 hours)

4. Below 18 inches in tree and shrub beds when details call for depths of planting soil to exceed 18 inches:
   a. pH: 5.5 through 6.5 for non-acid loving plants
   b. pH: 4.5 through 5.5 for *Ericaceae* and other acid-loving plants
   c. Organic Content 1.0 - 3.0 percent as determined by the loss on ignition of oven-dried samples passing #10 sieve (Muffle furnace temperature: 450 +/- 10 degrees C for 8 hours)

5. Planting soil shall be pH adjusted for particular planting applications and shall be adjusted prior to delivery to the Project sites as recommended by UMASS Soil & Plant Tissue Laboratory test results.
   a. When pH of planting soil is equal to or greater than 7 use aluminum sulfate to adjust pH downward to required levels.
   b. When pH of planting soil is less than 7 use either sulfur or ferrous sulfate to adjust pH downward to required levels.
   c. When pH of planting soil must be raised to the required levels use limestone.
   d. Regardless of amendment Contractor chooses to use, Contractor, not the Owner, shall be responsible for obtaining specified pH by seeding and/or planting time.

D. Planting soil shall be free of plants and their roots, debris and other extraneous matter. It shall be uncontaminated by salt water, foreign matter and substances harmful to plant growth. The electrical conductivity (EC2) of a 1:2 soil-water suspension shall be equal to or less than 1.0 milliohms/cm. (Test minus sieve #4 material.) Planting soil shall not have levels of extractable aluminum greater than 200 parts per million except for *Ericaceae* and other acid-loving plants. Cation Exchange Capacity (CEC) shall be greater than or equal to twelve (8).

E. Planting soil may be the manufactured product of a commercial processing facility specializing in the production of manufactured soils and planting soil. Planting soil shall be manufactured from sands, silts, clays, peat moss, and bio-solids as specified, performed and paid for under the work of Section 02910 SOIL PREPARATION. Planting soil may be manufactured outside the project area and delivered to the project for spreading or the component soils and organics may be delivered to project site and mixed in situ.
   1. Manufactured planting soil shall be manufactured sufficiently in advance of spreading on the project so that ammonium, pH, soluble salts and the Carbon/Nitrogen ratio will have stabilized at the time of sampling and testing by the Contractor. On-site testing of planting soil will be performed by the Contractor to verify that delivered material meets the requirements Section 02910 SOIL PREPARATION.
   2. Manufactured planting soil shall contain equal amounts of bio-solid compost and peat moss to establish the required organic levels.

F. On-site topsoil stripped, stockpiled, and paid for under the work of the Section 02300 EARTHWORK, may be re-used if, with or without amending or blending with other material, it meets the above requirements. On-site topsoil and amendments shall be tested in accordance with requirements for planting soil and submittals shall be made for review and acceptance as specified, performed and paid for under this Section 02910 SOIL PREPARATION. The Contractor shall provide additional planting soil as required to complete the required work.

G. All planting soil proposed for use shall be tested for conformance to the specifications.

H. The Engineer reserves the right to reject on or after delivery to the project site any material which does not, in his opinion, meet these specifications.

2.3 SOIL ADDITIVES

A. General: Soil additives shall be used to counteract soil deficiencies as recommended by the soils analysis and as supplements for lawn construction as specified herein.

B. Acidulant for adjustment of planting soil Ph shall be commercial grade flours of sulfur, ferrous sulfate, or aluminum sulfate that are unadulterated. Acidulants shall be delivered in unopened containers with the name of the manufacturer, material, analysis and net weight appearing on each container.

C. Ground limestone for adjustment of planting soil pH shall contain not less than 85 percent of total carbonates and shall be ground to such fineness that 40 percent will pass through 100 mesh sieve and 95 percent will pass through a 20 mesh sieve. Contractor shall be aware of planting soil Ph and the amount of lime needed to adjust Ph to meet the requirements of the testing lab recommendations.

D. Organic component of the manufactured planting soil shall be yard waste compost.
Compost shall be a stable humus-like material produced from the aerobic decomposition of organic residues. The residues, if bio-solids, shall consist of compost meeting Rhode Island Rules and Regulations for Agricultural Composting or approved equal. The residues shall be dark brown or black in color, with no
visible free water or dust and no unpleasant odor, meeting the following criteria certified by the producer.

1. carbon-nitrogen ratio — minimum 10:1 maximum 25:1
2. stability CO_2 evolution test — <10 mg CO_2 – C/g BVS/day
   or

	Dewar self-heating test or Woods End Laboratory's Compost Test Kit	<10 degrees C above room temp.
3.	organic content (Loss	40 percent minimum dry weight on Ignition; minus #10 Sieve, 430 degrees C)
4.	particle size	90 percent passing 0.5 inch screen, 100 percent passing one-inch screen
5.	inorganic debris	1 percent maximum (dry weight)
6.	pH	minimum 5.5 – maximum 8.0
7.	Soluble Salts	>2 and <4.0 mmhos/cm (ds/m)
8.	density	850-1,050 lb./cy

E. Commercial fertilizer shall be a product complying with the State and United States fertilizer laws. Deliver fertilizer to the site in the original unopened containers bearing the manufacturer's certificate of compliance covering analysis and which shall be furnished to the Engineer. Fertilizer shall contain not less than the percentages of weight of ingredients as recommended by the soil analysis.

1. Fertilizer for planting shall be formulated for top-dressing, soil surface application to plants. Fertilizer shall be designed and certified by the manufacturer to provide controlled release of fertilizer continuously for not less than 9 months. One hundred percent of the nitrogen content shall be derived from organic materials. Nitrogen source shall be coated to ensure slow release. Fertilizer percentages of weight of ingredients shall be as recommended by the soil testing and analysis specified, performed, and paid for Section 02910 SOIL PREPARATION.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: in the event field conditions are not as shown on Drawings and outlined in the Specifications, notify Resident Engineer in writing.

1. Spot and Invert Elevations: verify field elevations of site improvements such as drainage and utility fixtures, pavements, existing plantings, and subsurface piping conform to drawings.

2. Rough grade: verify specified elevations and prior earthwork operations have shaped, trimmed, and finished rough grade.

3.2 PREPARATION

A. Protection:

1. Contractor shall be required to clear working areas with Dig Safe and Cemetery prior to doing excavation on site. If work is to be done around underground utilities, appropriate authority of utility must be notified of impending work. Hand excavate areas adjacent to utilities. Contractor shall be responsible for damages done by himself or his personnel to existing utilities, which shall be repaired or paid for by Contractor.

2. Prior to installation field locate and protect from damage site improvements such as drainage and utility fixtures, pavements, and existing plantings.

3. Dust Control: upon acceptance of subgrade and finish grade control dust in accordance with the requirements of Section 01570 TEMPORARY CONTROLS.

4. Erosion Control: upon acceptance of subgrade and finish grade control erosion and sedimentation in accordance with the requirements of Section 01570 TEMPORARY CONTROLS.

5. Agricultural Chemicals: protect site improvements from contact with agricultural chemicals, soil amendments, and fertilizers.

3.3 PREPARATION OF PLANTING MEDIUM FOR LAWN AND PLANTING

Correct deficiencies in soil as directed by horticultural soil test results. Thoroughly incorporate amendments into planting mixture to ensure even distribution.

B. Incorporate pre planting fertilizer into top two inches of lawn area planting medium at a rate of 20 pounds per 1000 square feet following placement and grading.

3.4 DECOMPACTION OF SUBGRADE AT LAWN AND PLANTING AREAS

A. After subgrade levels have been reached and immediately prior to placing Planting Soils, the entire subgrade area shall be loosened to a minimum depth of six inches utilizing the bucket of a backhoe, ripper, or equivalent equipment.

B. Any subgrade areas which have become heavily compacted (defined as exceeding 86% - 88% compaction ASTM 698 Standard Proctor) including, but not limited to, grave areas, temporary parking areas, material stockpile areas, temporary roadways, construction areas and areas around the building, other construction areas, areas shown on the plans, or any areas identified by the engineer or Soil Scientist shall be deep-scarified. Immediately prior to placing planting soils, heavily compacted areas shall be loosened to a minimum depth of 18 inches using the teeth of a backhoe or other suitable equipment.

1. If heavily compacted soils are encountered in grave areas where pre-placed burial crypts have been installed and backfilled in accordance with the Detailed Drawings, Contractor shall remove all soils down to the lids of all burial crypts without damage to burial crypts, and replace at the required compaction levels as required by the Detailed Drawings and these specifications. Replace all burial crypts damaged in the course of this decompaction work.

C. Using a wide-track bulldozer size D-5 or smaller, or other approved equipment, compact the scarified subgrade to 86% - 88% compaction ASTM 698 Standard Proctor. The Contractor shall provide shovel dug test pits to the full depth of the mitigation, where located per the direction of the Resident Engineer, in order for the Resident Engineer and Soil Scientist to review whether the work has been done as required.

D. Percolation testing of the prepared subgrade shall be performed every 10,000 square feet. After subgrade levels have been reached, the Resident Engineer and Soil Scientist shall inspect soil conditions to evaluate subsurface drainage conditions. The Contractor shall carry out percolation tests in accordance with 310 CMR
15.000 TITLE 5, Paragraph 15.04 and 15.105 in locations identified by the Resident Engineer and Designer; coordinate work herein with stipulated testing under Section 01 45 29. Locations where percolation rates are less than 1.0 inch per hour shall be deep de-compacted, recompressed and re-tested. If the subgrade fails to drain adequately after re-work, installation of drain lines or other mitigation measures may be required.

E. Confirm that the subgrade is at the proper elevation and that no further earthwork is required to bring the subgrade to proper elevations.

F. Provide a topographic survey to the Resident Engineer for approval. Survey to include the following:

1. Furnish accurate topographic surveys of Sections 54, 55, 56, 57, 58, 60 and Memorial Section F, showing subgrade elevations prior to spreading planting soil. Perform no further work until approval of topographic survey submission. Survey work shall include all field work and office work necessary to provide PDF and AutoCAD electronic files as well as hardcopy plans of each section.

2. The work shall be done under the personal supervision of an Engineer or Surveyor, registered in and licensed by the State of Massachusetts, who shall certify under his/her seal the accuracy of the filed surveys.

3. Drawing scale shall be 1" = 30', oriented as are the contract drawings. Provide legend of all lines and symbols on each Drawing. Contours shall be indicated as dashed lines with five foot (5') contour lines weighted more

heavily than one foot (1') contour lines, which shall be weighted more heavily than half-foot (0.5') contour lines. Number all contours on the high side of the contour line.

4. Linear precision shall be to the nearest one-hundredth of a foot (0.01').

5. The title shall consist of Scale, Date, signed and certified by Surveyor, True North point, Datum.

6. Datum shall be same as used on contract drawings.

7. Contours for designated sections shall be accurately plotted at one-half foot (0.5') contour intervals. Spot grade elevations shall be oriented in the same direction and read from left to right. Spot grade elevations shall indicate the top and the bottom of edges of pavement and the top and toes of slopes that form margins of the designated sections. Within the Sections provide spot grades of subgrade areas on a 20-foot on-center grid. Within natural ground and lawn and planted areas, spot grades shall be shown to one-hundredth of a foot (0.01'). Permissible contour tolerance shall be to one-tenth (1/10) the contour interval for contours.

8. Locate grid markers and outside edges of all perimeter burial crypts, all irrigation lines, valve boxes, sprinkler heads on or adjacent to site.

G. In addition to the topographic survey, provide a written report to the Resident Engineer to include the following:

1. Certification by the Land Surveyor or Civil Engineer that subgrade elevations conform to the requirements identified in this Section.
2. Certification by the General Contractor and/or sub-contractor responsible for earth moving work that the soils have been de-compacted.

3. Percolation testing by testing laboratory. Provide percolation test results utilizing standard Title 5 Percolation Test Form 12.

H. Perform no work of placing and spreading planting mixes until elevations have been confirmed and written report has been accepted by the Resident Engineer.

I. Based upon review and direction by the Resident Engineer, adjust and regrade the subgrade to meet the requirements of this Section.

I. No planting soils shall be handled, planted, or seeded in any way if it is in a wet or frozen condition. A moist planting soil is desirable. Perform field test as specified under the work of this Section in Paragraph 1.09 to determine if planting soils may be worked.

J. After the subgrade soils have been loosened and inspected, the entire subgrade shall be raked or scarified to break any pan or skin effect that may have

formed immediately prior to placement of planting soils. The planting soils may be spread by using a wide-track bulldozer size D-5 or smaller or may be dumped and spread with the bucket of a backhoe from the edge of the loosened area. No rubber-tired equipment or heavy equipment except for a small bulldozer shall pass over the subsoils (subgrade) after they have been loosened. If the Contractor plans to utilize such areas for any use of heavy equipment, this work should be carried out prior to beginning the process of loosening soils or filling in that area, or it will have to be re-scarified and meet this specification requirement.

K. Variations in pitch of finished surface of subgrade soil surface shall be less than or equal to the 1\2 inch in 10 feet when tested with a 10 foot straightedge, applied both parallel to and at right angles to any point within the Section. Irregularities exceeding this amount shall be corrected by regarding as directed by the Resident Engineer.

3.5 PREPARATION OF TREE PITS

A. After tree planting pits have been excavated to the dimensions shown on the plans, the entire bottom area of the pit shall be scarified utilizing the bucket of a backhoe or equivalent equipment. The entire loosened area shall then be compressed firmly with the bucket of the backhoe. The central portion of the pit, beneath the rootball, shall be compressed adequately to support the rootball and prevent settlement.

3.6 Placement of Planting soil medium in planting beds.

A. Planting Soil Medium shall be spread in lifts not greater than twelve inches and compacted to a density between 82 and 84 percent Standard Proctor Maximum Dry Density. The surface area of each lift, including the subgrade after it has been compressed by a backhoe bucket, or other approved methods, shall be scarified by raking prior to placing the next lift.

B. Place and spread planting medium to a depth greater than required such that after compaction and settlement, finished grade conforming to the lines, grades and elevations shown on the Drawings. Ensure proper drainage in an uninterrupted pattern free of hollows and pockets.

C. Remove stiff clods, lumps, brush, roots, stumps, litter and other foreign material and stones over one inch in diameter and dispose of legally off site.

D. Coordinate the placement of the Bivouac of the Dead boulder and sign described under the work of Section 32 3000 SITE FURNISHINGS, with the placement of the planting soil in the plant bed east of diagonal walk to Administration Building. Place stone prior to placing planting soils.

3.7 PLACEMENT OF PLANTING SOIL MEDIUM IN LAWN AREAS

A. Planting Soil Medium shall be spread in lifts not greater than 12 inches over the area and shall be compressed with a minimum of 2 perpendicular passes of the tracks of a bulldozer size Caterpillar D-4 or D-5 or other means approved by the engineer or Soil Scientist to a density of 86 to 88% Standard Proctor maximum dry density. The surface area of each lift, including the subgrade after it has been compressed by a bulldozer, or other approved methods, shall be scarified by raking prior to placing the next lift. No vibratory compaction of the subgrade or the planting medium shall take place. No rubber-tired equipment or heavy equipment except for a small bulldozer shall pass over soils after they have been loosened or planting medium spread. If the Contractor plans to utilize such areas for any use of heavy equipment, this work should be carried out prior to beginning the process of loosening or placement of planting soils.

B. Place and spread planting soil medium to a depth greater than required such that after settlement, finished grade conforming to the lines, grades and elevations shown on the Drawings. Ensure proper drainage in an uninterrupted pattern free of hollows and pockets.

C. Remove stiff clods, lumps, brush, roots, stumps, litter and other foreign material and stones over one inch in diameter and dispose of legally off site.

D. For Section 54, 55, 56, 57, 58 and 60 as well as Memorial Section F, confirm planting soil has been spread to the grades and contours shown on the Drawings by performing a topographic survey of the finish grade as required for subgrade conditions as described in Paragraph 3.4 in this Section.

E. Perform no work of seeding and/or sodding until elevations have been confirmed and written report has been accepted by the Resident Engineer.

F. Based upon review and direction by the Resident Engineer, adjust and regrade the planting soil to meet the requirements of this Section.

G. Variations in pitch of finished surface of planting soil shall be less than or equal to the 1\2 inch in 10 feet when tested with a 10 foot straightedge, applied both parallel to and at right angles to any point within the Section. Irregularities exceeding this amount shall be corrected by regarding as directed by the Resident Engineer.

3.8 PLACEMENT OF STRUCTURAL SOIL

A. Sand-Based Structural Planting Medium shall be spread in lifts not greater than eight inches and compacted with a minimum of three passes of vibratory compaction equipment to a density between 92 and 96 percent Standard

Proctor Maximum Dry Density. Sand-Based Structural Planting Medium shall be placed to a minimum depth of 30 inches within the limits of the concrete pavement areas of Columbarium Plazas F and G and the Memorial Plaza, as shown on the Drawings, or as noted in the Section, and as directed by the Resident Engineer.

B. Density testing of the sand based structural soil must be completed after placement of each lift to confirm that the soil has been adequately compacted and is ready for the next lift. Frequency of compaction tests is one per every 5,000 square feet. If the compaction of the soil is not adequate, it shall be re-compacted as necessary.

C. A minimum of 8 inches of 1/2 inch to 3/4 inch crushed stone shall be placed over the Sand-Based Structural Planting Medium in sidewalk areas and a minimum of twelve inches shall be placed in vehicular areas to provide support for the overlying surface.

3.9 SHALLOW ROCK AREAS

A. In areas where rock is within 3 feet of final ground surface in planting bed or tree pits areas or within 2 feet of final ground surface in lawn areas, including but not limited to areas shown on the plan, a minimum of 6 inches of sand shall be placed below planting media and the sand extended in a down gradient direction to underdrainage piping or to a minimum of five feet beyond the shallow bedrock areas.

3.10 FIELD QUALITY CONTROL

A. Tests: after soil preparation operations are complete and prior to planting take soil sample(s) for testing. Submit samples to the approved testing laboratory for chemical analysis to determine planting soil amendments.

B. Observation: Soil Scientist and Resident Engineer to review in the field soil preparation operations:

1. Planting Mixture Preparation

2. Subgrade De-compaction and testing

3. Planting soil compaction testing

C. Notify the Resident Engineer 5 working days in advance of planting mixture preparation to allow Soil Scientist to be scheduled for on site visit.

D. Compaction/Density Testing: Compaction/Density Testing of prepared subgrade and planting soils is required.

1. Compaction/Density assessment of the subgrade and placed lawn and planting soils shall be conducted with a Dickey-John Soil compaction probe or equivalent device at the direction of the engineer or Soil Scientist. Areas of over-compact soil must be loosened and recompressed to the satisfaction of the Resident Engineer or Soil Scientist.

2. Placed and compacted Sand Based Structural planting soils must be tested for compaction at the Contractor's expense. Compaction testing must be carried out by a geotechnical testing company and shall be by ASTM Method 1557, Sand Cone Compaction, ASTM D6398-10 Nuclear Methods or ASTM D2167-08 Rubber Balloon method. Tests must be carried out every 5,000 square feet at structural soil areas. Sand Based Structural planting soils must be compacted according to the ranges provided in this Section. If the planting soils are over-compact, loosen the soils to the full depth of placement and re-compact, in lifts as required. If the soils are under compacted, re-compact the planting soil to the density range for that media. Compaction ranges are to be reported and compared to Specification ranges in Standard Proctor units.

E. All areas of planting soils must be scarified, cultivated or raked immediately prior to placement of seed, sod, or mulch in order to break any pan or skin effect that may form.

3.11 CLEANING

A. Clean up debris generated under work of this section.

B. Site Improvements

1. Wash and sweep clean site improvements such as drainage and utility fixtures, pavements, existing plantings, and site furnishings.

2. Clean site furnishings of grout, adhesives, concrete, and other debris.

3.12 PROTECTION

A. Protect work of this section until Final Acceptance.

B Protect prepared soils from compaction by construction traffic and from contamination by construction materials and from saturation.

END OF SECTION 02911

SECTION 02920
SODDING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Contract Documents and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications Sections apply to this Section.

1.2 SUMMARY

A. The work of this section consists of providing all labor, equipment, material, incidental work, and construction methods necessary to perform all lawn installation and fine grading work and related items as indicated on the Contract Documents and/or as specified in this Section and includes, but is not limited to the following:

1. Sodding

2. Maintenance and protection

1.3 RELATED WORK UNDER OTHER SECTIONS

A. The following items of related work are specified and included in other Sections of the Specifications:

1. Section 02910 SOIL PREPARATION
2. Section 02930 EXTERIOR PLANTS

1.4 REFERENCES

A. Not applicable.

1.5 SUBMITTALS

A. At least 90 days prior to the first day of the seeding and sodding season described in this Section, submit to the Owner's Representative proof of certification of Foreman or Crew Leader as a Rhode Island Landscape Professional or Rhode Island Certified Horticulturist in accordance with the QUALITY ASSURANCE paragraph of this Section.

B. Submit proof of landscape contractor's experience to the Owner's Representative in accordance with the QUALITY ASSURANCE paragraph of

this Section.

C. At least 30 days prior to intended use, the Contractor shall provide the following samples and submittals for approval in conformance with the requirements of Division 1 Section, SUBMITTALS. Do not order materials until the Owner's Representative's approval of samples, certifications or test results have been obtained. Delivered materials shall closely match the approved samples. Acceptance shall not constitute final acceptance. The Owner's Representative reserves the right to reject on or after delivery any material that does not meet these specifications.

1. Material Sampling and Testing of Loam Borrow from Off-site sources shall be specified, performed and paid for under Section 02910 SOIL PREPARATION of this Specification.
2. Material Sampling and Testing of On-site Loam: On-site loam shall be sampled, tested and all work paid for under the work Section 02910 SOIL PREPARATION of this Specification.
3. Fertilizer:
    a. Submit product literature of seeding and sod fertilizer and certificates showing composition and analysis.
    b. Submit the purchasing receipt showing the total quantity purchased for the project prior to submission.
4. Sod: Submit a grower's Certificate of Compliance to the Specifications with each shipment of sod. These certificates shall include the guaranteed percentages of purity, weed content of the sod. No sod may be placed until the Contractor has submitted certificates.
5. All additives needed to amend a specific soil in order to meet these specifications.

D. Maintenance Instructions: At the time of Acceptance, the Contractor shall submit complete maintenance instructions for lawn care for the Owner's use. The instructions shall be reviewed for approval by the Owner's Representative as a pre- condition of Acceptance.

1.6 EXAMINATION OF CONDITIONS

A. All areas to be sodded shall be inspected by the Contractor before starting work and any defects such as incorrect grading or drainage problems shall be reported to the Owner's Representative prior to beginning work. The commencement of work by the Contractor shall indicate his acceptance of the areas to be sodded and he shall assume full responsibility for the work of this Division 2 Section.

B. The Contractor shall be solely responsible for judging the full extent of work

requirements involved.

1.7 QUALITY ASSURANCE

A. Qualification of Landscape Contractor: The work of this Section02920 SODDING shall be performed by a landscape contracting firm which has successfully installed work of a similar quality, schedule requirement and construction detailing with a minimum of 5 years' experience. Proof of this experience shall be submitted per Submittals paragraph of this Section.

PART 2 - PRODUCTS

2.1 LOAM

Loam borrow shall be specified, provided, installed and paid for under work of the Division 2 Section of this Specification.

2.2 SOIL ADDITIVES

Soil additives shall be specified, provided and paid under Section 02910 SOIL PREPARATION of this Specification except for additional applications of fertilizer that shall be specified, provided and paid for under this Division 2 Section TURF based upon recommendations from soil analysis and testing as specified, performed and paid for under Section 02910 SOIL PREPARATION of this Specification.

2.3 SOD

Turfgrass sod shall be of good quality, free of weeds, diseases and insects and of good color and density. Turf shall be machine cut at a minimum uniform soil thickness necessary for plant viability during the Harvest-Transport-Installation cycle. Individual pieces of turfgrass sod shall be cut to the supplier's standard with and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Standard size sections of turfgrass sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically from a firm grasp on the upper 10 percent of the section.

1. Turfgrass Sod

Common Name	Proportion by Weight Minimum	Purity Jaspar Creeping Red
Fescue	25%	95%
Victory Chewings Fescue	25%	95%
Spartan Hard Fescue	25%	95%
America Kentucky Bluegrass	15%	95%

	Jefferson Kentucky Bluegrass	10%	95%

2.4 FERTILIZERS

A. Fertilizer shall be uniform in composition and free flowing. Fertilizer shall be delivered to the job site fully labeled according to applicable state fertilizer laws. Fertilizer application rates shall be determined by soil tests. Fertilizer shall be distributed uniformly over areas to be sodded with turfgrass.

B. Lime material shall be ground limestone and shall comply with existing state and federal regulations. Limestone shall contain at least 50% total oxides. Ground limestone shall be ground to such fineness that at least 50% will pass through a 100 mesh sieve and 98% will pass through a 20 mesh sieve. Lime shall be distributed uniformly over the entire area to be sodded with turfgrass. Lime should be worked into the soil to a depth of 3 to 4 inches.

C. Phosphorus: If a soil test indicates phosphorus is needed, apply to the area and work into the soil to a depth of 3 to 4 inches.

2.5 HERBICIDES, CHEMICALS AND INSECTICIDES

A. Provide chemicals and insecticides as needed for fungus or pest control. All chemicals and insecticides shall be approved by the RI Department of Environmental Management for the intended uses and application rates.

2.6 WATER

A. The contractor shall be responsible to furnish his own supply of water to the site at no extra cost. If possible, the Owner shall furnish the Contractor upon request with an adequate source and supply of water at no charge. However, if the Owner's water supply is not available or functioning, the Contractor shall be responsible to furnish adequate supplies at his own cost. All work injured or damaged due to lack of water or the use of too much water, shall be the Contractor's responsibility to correct. Water shall be free from impurities injurious to vegetation.

PART 3 - EXECUTION

3.1 FILLING AND COMPACTION

A. Filling and compaction of loam shall be specified, performed and paid for under the work of Section 02910 SOIL PREPARATION of this Specification.

3.2 FINE GRADING

A. Fine grading shall be specified, performed and paid for under the work of Section 02910 SOIL PREPARATION of this Specification.

3.3 SODDING

A. Contractor shall obtain Owner's Representative's written approval of fine grading and bed preparation before doing any sodding.

B. Limit of grading and earthwork shall be the limit of sodding unless otherwise specified on the Contract Documents. All lawn areas disturbed outside the limit of sodding shall be repaired and sodded as specified herein at no additional cost.

C. The season for sodding shall be performed from April 1 to June 1 and from August 15 to September 30. The actual installation of sod shall be done, however, only during periods within this season which are normal for such work as determined by weather conditions and by accepted practice in this locality.

D. Sodding of lawns shall be performed as follows:

1. After all grading has been completed, the soil shall be irrigated within 12 to 24 hours prior to laying of sod. Sod should not be laid on soil that is dry and powdery.

2. The first row of sod shall be aid in a straight line with subsequent rows placed parallel to and tight against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Care shall be exercised to insure that the sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids.

3. On sloping surfaces where erosion may be a problem, sod shall be laid with staggered joints and secured by pegging.

4. The contractor shall be responsible for watering sod immediately during and after installation to prevent drying. It shall be thoroughly irrigated to a depth sufficient that the underside of the new sod pad and soil immediately below the sod are thoroughly wet. The contractor shall be responsible for having adequate water available at the site prior and during installation of the sod.

3.4 LAWN MAINTENANCE

A. Maintenance shall begin immediately after any are is sodded and shall continue

for a 60 day active growing period for sodded areas or until Final Acceptance, whichever is longer following the completion of all lawn construction work, and until Final Acceptance of the project. In the event that sodding operations are completed too late in the Fall for adequate growth of grass, the maintenance shall continue into the following Spring for a minimum 60 day period.

B. Maintenance shall include mowing, watering, weeding, fertilizing a minimum of 2 times in addition to the fertilizer incorporated by harrowing into the spread loam and include chemical treatments as required for fungus and pest control.

C. During the maintenance period, any decline of the sodded areas shall require immediate action to identify potential problems and undertake corrective measures.

D. Watering shall be done in a manner that will provide uniform coverage, prevent erosion due to application of excessive quantities over small areas, and prevent damage to finish surfaces by the watering equipment.

E. Mowing and Edging:

1. The Contractor shall keep lawn areas mowed until Final Acceptance of the contract by cutting to a height of 2 inches when growth reaches 3 inches or as directed by the Owner's Representative.

2. At each mowing, all edges of walks, drives, plant beds and other border conditions shall be edge trimmed by hand or machine to produce a straight and uniform edge condition.

3. Remove and discard from paved areas only clippings and debris generated by each mowing and edging operation off site. Mowers shall be equipped with mulching blades. Do not mow grass when wet.

F. Fertilizing: The first application of fertilizer is specified, provided and paid for Section 02910 SOIL PREPARATION. A second application of fertilizer shall be applied to sodded areas at the time of the first mowing and shall be performed and paid for under this Section 02920 SODDING. The second application shall be applied at a rate that ensures that ½ pound of nitrogen is applied per 1,000 square feet. Phosphorus and potassium shall be applied proportionally in accordance with the recommendations of the soil tests and the quantities previously integrated into the soil during the first application. A third application of nitrogen fertilizer shall be applied to sodded areas approximately 2 months after the second application. The third application shall correspond to the following rates:

1. May 1 – 15: Apply 1.0 pounds of nitrogen per 1,000 square feet
2. June 15 – 30: Apply 1.0 pounds of nitrogen per 1,000 square feet

3. August 15 – September 15: Apply 1.0 pounds of nitrogen per 1,000 square feet
4. November 1 – 15: Apply 1.5 pounds of nitrogen per 1,000 square feet

Nitrogen fertilizer shall be composed of 50% slowly soluble or slow release fertilizer.

3.5 APPLYING LIMESTONE

A. The contractor shall return to the site at the beginning of the next sodding season and spread limestone across all lawn areas installed under this Contract. Limestone shall be spread at rates determined by the soil tests specified performed and paid for under Section 02910 SOIL PREPARATION.

3.6 ACCEPTANCE

A. Following the minimum required maintenance periods for lawn construction, the Contractor shall request the Owner's Representative in writing for a formal inspection of the completed work. Request for inspection shall be received by the Owner's Representative at least 10 days before anticipated date of inspection.

B. At the end of the maintenance period, sodded areas shall have a close stand of grass with no weeds present and no bare spots greater than 3 inches in diameter over greater than 5% of the overall sodded area. If sodded areas are deficient, the Contractor's responsibility more maintenance of sodded areas shall extend until deficiencies are corrected.

C. Owner's Representative's inspection shall determine whether maintenance shall continue in any part.

3.7 CLEAN UP

A. Absolutely no debris may be left on site. Excavated material shall be removed as directed. Repair any damage to site or structures to restore them to their original condition as directed by the Owner's Representative, at no cost to the Owner.

END OF SECTION 02920

SECTION 02921
TURF AND GRASSES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Synthetic playground grass.

1.2 SUBMITTALS

A. Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation instructions.

B. Synthetic grass vendor must submit the following to owner or owner's representative with the official bid package:

   1. One (1) copy of the most recent installation reference list for projects of similar scope to this project completed in last three years.
   2. One (1) 12"x12" loose sample of proposed synthetic grass product and one (1) 12"x12" boxed sample including infill (if requested) representative of finished synthetic grass system.
   3. One (1) of the product warranty for proposed synthetic grass product.
   4. One (1) copy of their maintenance instructions. These instructions will include all necessary instructions for the proper care and maintenance of the newly installed synthetic turf system.
   5. One (1) copy of edge details of proposed installation and terminations of synthetic grass system.
   6. One (1) copy of a signed letter from synthetic grass vendor certifying that the proposed synthetic grass product is manufactured in the USA.
   7. One (1) copy (if requested) of independent laboratory test reports on system or components.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations and industry standards.

B. Store materials in manufacturer's original sealed, labeled packaging until ready for installation and in accordance with manufacturer's instructions. Protect from damage.

1.4 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.5 WARRANTY

A. Manufacturer's Standard Material Warranty: At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Playground Grass Extreme: Foreverlawn 5801 Mayfair Rd., Suite 4 North Canton, OH 44720
Phone: 866.992.7876 Fax: 866.212.1925

B. Synthetic grass – Playground Grass
Extreme Pile Weight: 50 oz/sy
Face Yarn Type: Primary: Polyethylene XP Slit
Film Yarn Count: Primary 8,040/1;
Pile Height (tufted): 1-1/4 inch (finish height may be slightly lower)
Color: Primary: Field/Lime Green
Construction: Dual Primaries
same row Tufting Gauge: 3/8
inch
Backing: 3-layer backing with geotex
laminate Seaming: Micromechanical
bonding
Total Product Weight: 115 oz /sy (+/- 2 oz) Finished Roll Width: 15 feet (4.6
m) Finished Roll Length: Up to 240 feet (73 m)

C. The synthetic grass shall be delivered in 15 foot wide rolls. The rolls will be laid out and installed as specified in the site layout and equipment placement drawings.

D. All seams shall be installed and secured with micromechanical bonding. Seams secured with adhesive or stitching alone shall not be acceptable.

E. Infill material is optional.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Prepare substrates using the methods recommended by the manufacturer for achieving best result for the substrates under project conditions.

B. Do not proceed with installation until substrates have been prepared using the methods recommended by the manufacturer and deviations from manufacturer's recommended tolerances are corrected. Commencement of installation constitutes acceptance of conditions.

C. If preparation is the responsibility of another installer, notify Engineer in writing of deviations from manufacturer's recommended installation tolerances and conditions.

D. BASE AND DRAINAGE CONSTRUCTION: The synthetic grass base contractor shall strictly adhere to the installation procedures outlined under this section and by the engineer's drawings. Any variance from these requirements must be accepted in writing, by the synthetic grass vendor, and submitted to the owner or owner's representative, verifying that the changes do not adversely affect the performance or warranty.

E. Excavation: Existing ground cover shall be excavated to the depth established on the excavation plan. The subgrade shall also be compacted to a minimum of a 90% compaction rate.

F. Synthetic or plastic wood nailer board: The synthetic turf perimeter fastening structure shall be installed before the drainage aggregate.

G. Install a synthetic wood (Trex or similar) or plastic nailer board. Nailer board shall be flush to grade or as specified in site detail drawings. This shall be the responsibility of the synthetic turf base contractor. See synthetic turf edge attachment detail.

H. Base Drainage Aggregate: Installation of the free draining base aggregate of 5/8 minus (with fines) or smaller, shall follow procedures that protect the base grade soils. It must be installed to a minimum depth of 2 inches. The drainage network and its existing elevations shall not be disrupted through ground pressures from trucks, dozers or by any other means.

I. The stone shall be left firm, but not over-compacted as to protect the porosity and drainage capabilities of the aggregate profile.

J. The free draining base course should be designed to meet local soil and weather conditions. It must be installed to a minimum depth of 2 inches

with an overall

3.02 INSTALLATION

A. The seams of all system components shall provide a permanent, tight, secure, and hazard free surface.

BASE AND DRAINAGE CONSTRUCTION: The synthetic grass base contractor shall strictly adhere to the installation procedures outlined under this section and by the engineer's drawings. Any variance from these requirements must be accepted in writing, by the synthetic grass vendor, and submitted to the owner or owner's representative, verifying that the changes do not adversely affect the performance or warranty.

A. Excavation: Existing ground cover shall be excavated to the depth established on the excavation plan. The subgrade shall also be compacted to a minimum of a 90% compaction rate.

B. Synthetic or plastic wood nailer board: The synthetic turf perimeter fastening structure shall be installed before the drainage aggregate.

C. Install a synthetic wood (Trex or similar) or plastic nailer board. Nailer board shall be flush to grade or as specified in site detail drawings. This shall be the responsibility of the synthetic turf base contractor. See synthetic turf edge attachment detail.

D. Base Drainage Aggregate: Installation of the free draining base aggregate of 5/8 minus (with fines) or smaller, shall follow procedures that protect the base grade soils. It must be installed to a minimum depth of 2 inches. The drainage network and its existing elevations shall not be disrupted through ground pressures from trucks, dozers or by any other means.

E. The stone shall be left firm, but not over-compacted as to protect the porosity and drainage capabilities of the aggregate profile.

F. The free draining base course should be designed to meet local soil and weather conditions. It must be installed to a minimum depth of 2 inches with an overall compaction rate of 90%.

Synthetic grass rolls shall be joined via micromechanical bond seaming and reinforced with specialty turf adhesive where necessary.

A. Seams shall be flat, tight and permanent with no separation or

fraying.

B. Seams shall be rolled with weighted roller to ensure adhesion.

C. Synthetic turf yarn fabric that is trapped or glued between seams shall be freed from the seams by hand or other approved method to an upright position prior

to the commencement of brushing and top dressing synthetic grass rolls by the manufacturer wherever possible.

D. Synthetic Turf Perimeter Attachment:

E. After final layout and seaming of the synthetic grass product, the synthetic turf material shall at a minimum be secured to the top of a synthetic wood or plastic material nailer board firmly anchored to sidewalk, curb or wall making up the perimeter of the synthetic turf area. As an alternate installation method the synthetic turf may be wrapped over the edge of the curb nailer board and secured the full depth of the nailer board.

F. The turf shall be attached to the synthetic wood or plastic nailer board by stainless steel staples, screws, and/or nails.

G. Soil or surfacing material outside of the defined synthetic turf area shall be backfilled against turf wrapped perimeter edge and have zero transition edge to synthetic turf unless otherwise specified.

Synthetic grass rolls shall be joined via micromechanical bond seaming and reinforced with specialty turf adhesive where necessary.

H. Seams shall be flat, tight and permanent with no separation or

fraying.

I. Seams shall be rolled with weighted roller to ensure adhesion.

J. Synthetic turf yarn fabric that is trapped or glued between seams shall be freed from the seams by hand or other approved method to an upright position prior to the commencement of brushing and top dressing synthetic grass rolls by the manufacturer wherever possible.

K. Synthetic Turf Perimeter Attachment:

L. After final layout and seaming of the synthetic grass product, the synthetic turf material shall at a minimum be secured to the top of a synthetic wood or plastic material nailer board firmly anchored to sidewalk, curb or wall making up the perimeter of the synthetic turf area. As an alternate installation method the synthetic turf may be wrapped over the edge of the curb nailer board and secured the full depth of the nailer board.

M. The turf shall be attached to the synthetic wood or plastic nailer board by stainless steel staples, screws, and/or nails.

N. Soil or surfacing material outside of the defined synthetic turf area shall be backfilled against turf wrapped perimeter edge and have zero transition edge to synthetic turf unless otherwise specified.

3.4 CLOSEOUT

The synthetic grass vendor must verify that a qualified representative has inspected the installation and that the finished synthetic surface conforms to the manufacturer's requirements.

A. Extra materials: Owner shall be given option to retain and store excess materials such as excess turf and infill ordered for project, but not installed.

3.5 CLEAN UP

A. Contractor shall provide the labor, supplies and equipment as necessary for final cleaning of surfaces and installed items.
B. During the contract and at intervals as directed by the owner or owner's representative and as synthetic grass system installation is completed, clear the site of all extraneous materials, rubbish, or debris and leave the site in a clean, safe, well draining, neat condition.

C. Surfaces, recesses, enclosures, etc. shall be cleaned as necessary to leave the work area in a clean, immaculate condition ready for immediate occupancy and use by the owner.

END OF SECTION 02921

SECTION 03001
CONCRETE

PART 1 – GENERAL

1.1 Related Documents

A. Each and every Contractor, Subcontractor and/or supplier providing goods or services referenced in or related to this Division shall also be bound by the Documents in Division 1.

1.2 Section Includes

A. Formwork, shoring, bracing, and anchorage.

B. Concrete reinforcement and accessories.

C. Cast-in-place concrete, stamped concrete

1.3 References

A. ACI 347 - Recommended Practice for Concrete Formwork.

B. ACI 304 Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.

C. ACI 318 - Building Code Requirements for Reinforced Concrete.

D. ACI SP-66 - American Concrete Institute - Detailing Manual.

E. ACI 305R - Hot Weather Concreting.

F. ACI 306R - Cold Weather Concreting.

G. CRSI - Concrete Reinforcing Steel Institute - Manual of Practice.

H. ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.

I. ASTM A615 - Deformed and Plain Billet-Steel for Concrete Reinforcement.

J. ASTM C33 - Concrete Aggregates.

K. ASTM C330 - Light Weight Aggregates for Structural Concrete.

L. ASTM C94 - Ready-Mixed Concrete.

M. ASTM C150 - Portland Cement.

N. ASTM C260 - Air Entraining Admixtures for Concrete.

O. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.

P. ASTM D2103 - Polyethylene Film and Sheeting.

Q. FS TT-C-800 - Curing Compounds, Concrete, for New and Existing Surfaces.

R. ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.

S. ASTM D1752 - Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

T. ASTM D994 - Preformed Expansion Joint Filler for Concrete (Bituminous Type).

U. CRSI 63 - Recommended Practice for Placing Reinforcing Bars.

V. CRSI 65 - Recommended Practice for Placing Bar Supports, Specifications and Nomenclature.

W. AWS D1.4 - Structural Welding Code for Reinforcing Steel.

X. ASTM C494 - Chemical Admixtures for Concrete.

Y. ACI 211.1 - Selecting Proportions for Normal, Heavyweight, and Mass Concrete.

AA. ACI 211.2 - Selecting Proportions for Structural

Lightweight Concrete. BB. ACI 302.1 – 96, Guide for Concrete

Floor and Slab Construction.

1.4 Design Requirements

A. Design, engineer and construct formwork, shoring and bracing to conform to code requirements; resultant concrete to conform to required shape, line and dimension.

1.5 Quality Assurance

A. Perform work in accordance with ACI 301 and applicable referenced documents.

B. Maintain one copy of each document on site.

C. Welders' Certificates: Submit under provisions of Section 01400 Manufacturer's Certificates, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

D. Acquire cement and aggregate from same source for all work.

E. Conform to ACI 305R or ACI 306R when concreting during hot or cold weather as appropriate.

1.6 Regulatory Requirements

A. Conform to applicable code for design, fabrication, erection and removal of formwork.

1.7 Tests

A. Testing and analysis of concrete will be performed under provisions of Section 01400.

B. Submit proposed mix design of each class of concrete to appointed firm for review prior to commencement of work.

C. Testing firm will take cylinders and perform slump and air entrainment tests in accordance with ACI 301.

D. Three concrete test cylinders will be taken for every 50 or less cu yds of each class of concrete placed each day.

E. One additional test cylinder will be taken during cold weather and be cured on site under same conditions as concrete it represents.

F. One slump test will be taken for each set of test cylinders taken.

1.8 Submittals

A. Submit under provisions of Section 01300.

B. Shop Drawings: Indicate reinforcement sizes, spacings, locations and

quantities of reinforcing steel, and wire fabric, bending and cutting schedules, splicing, supporting and spacing devices and stamped concrete stencil pattern.

C. Product Data: Provide data on joint devices, expansion and control joint materials, attachment accessories, admixtures and curing and sealing materials.

PART 2 - PRODUCTS

2.1 Form Materials

A. Conform to ACI 301, 318 and 347 using plywood or metal forms.

B. Plywood Forms: Douglas Fir species; solid one side or high density overlaid one side; sound undamaged sheets designed to support weight of concrete with minimum deflection.

C. Steel Forms: Stiffened to support weight of concrete with minimum deflection.

D. Glass Fiber Reinforced Resin Type: Preformed shape, stiffened to support weight of concrete with minimum deflection.

E. Tubular Column Type: Round, spirally wound laminated fiber material, surface treated with release agent, non-reusable, of sizes indicated; Sonotube manufactured by Sonoco products Company.

F. Form Ties: Removable or snap-off metal, of fixed length, leaving no metal within 1 inch (25 mm) of finish surface.

G. Form Release Agent: Colorless mineral oil which will not stain concrete, or absorb moisture.

2.2 Reinforcing Steel

A. Reinforcing Steel: ASTM A615, 60 ksi (414 MPa) yield grade; deformed billet steel bars; uncoated finish.

B. Welded Steel Wire Fabric: ASTM A185 Plain Type; in flat sheets; uncoated finish.

C. Tie Wire: Minimum 16 gage annealed type.

D. Chairs, Bolsters, Bar Supports, and Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions.

2.3 Concrete Materials

A. Cement: ASTM C150, Type I or II - Normal, Portland, grey color.

B. Use one brand of cement throughout project unless otherwise acceptable to the Engineer.

C. Fine and Coarse Aggregates: ASTM C33, from single source.

D. Lightweight Aggregate: ASTM C330, from single source.

E. Water: Clean and not detrimental to concrete, potable.

2.4 Admixtures

A. Air Entrainment: ASTM C260.

B. Water Reducing: ASTM C494, Type A.

C. Retarding: ASTM C494, Type B.

D. Accelerating: ASTM C494, Type C.

E. Water Reducing and Retarding: ASTM C494, Type D.

F. Water Reducing and Accelerating: ASTM C494, Type E.

G. Water Reducing, High Range: ASTM C494, Type F.

H. Water Reducing, High Range and Retarding: ASTM C494, Type G.

2.5 Accessories

A. Bonding Agent: Polymer resin emulsion; acceptable to the Engineer.

B. Vapor Retarder: Fiberglass reinforced paper coated both sides with polyethylene film, Moistop manufactured by Fortifiber Corporation, 10mil minimum.

C. Non-Shrink Grout: Premixed compound with non-metallic aggregate, cement, water reducing and plasticizing agents; capable of minimum compressive strength of 2400 psi in 2 days.

D. Construction Joints: Locate and install construction joints which are not shown on Drawings so as not to impair strength of concrete and as acceptable to the Engineer.

E. Premolded Joint Filler: Non-extruding type conforming to ASTM D1751, or as indicated on Drawings.

F. Expansion Joints: Locate and install where shown on Drawings. See Division 7 for joint fillers and sealant.

G. Form Release Agent: Colorless material which will not stain concrete, absorb moisture or impair natural bonding or color characteristics of coating intended for use on concrete; do not coat reinforcing steel or concrete surfaces to be bonded with form release agent.

2.6 Curing Materials

A. Water: Clean and drinkable.

B. Membrane Curing Compound: FS TT-C-800, heavy-duty.

C. Polyethylene Film: ASTM D2103, 6 mil thick, opaque color.

D. Clear Curing, Sealer Hardener: FS TT-C-800 Type I, Class A; Kure-N-Seal 0800 manufactured by Sonneborn Building Products.

2.7 Concrete Mix

A. Mix and deliver concrete in accordance with ASTM C94, Alternative No. 2.

B. Select proportions for normal weight concrete in accordance with ACI 301 Method No.1 and ACI 211.1.

C. Select aggregate proportions for light weight concrete in accordance with ASTM C330 and ACI 211.2.

D. Foundation Concrete (Normal Weight):

Compressive Strength	3000 psi
Compressive Strength	4000 psi
Slump: 4 inch	

E. Add air entraining agent to mix for concrete exposed to freeze-thaw cycling, 6 to 8 percent; other concrete, 2 percent.

F. Use admixtures acceptable to the Engineer.

PART 3 - EXECUTION

3.1 Formwork Erection

A. Verify lines, levels, and measurement before proceeding with formwork.

B. Hand trim sides and bottom of earth forms; remove loose dirt.

C. Align form joints.

D. Do not apply form release agent where concrete surfaces receive special finishes or applied coatings which may be affected by agent.

E. Coordinate work of other Sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.

3.2 Reinforcement

A. Place, support, and secure reinforcement against displacement. Do not deviate from required position.

B. Do not displace or damage vapor retarder.

C. Accommodate placement of formed openings.

D. Conform to applicable code for concrete cover over reinforcement.

E. Locate reinforcing splices where shown on Drawings, or according to ACI 318.

3.3 Placing Concrete

A. Notify Engineer minimum 24 hours prior to commencement of concreting operations.

B. Place concrete in accordance with ACI 301, 304 and 318.

C. Install vapor retarder under interior floor slabs on grade. Lap joints minimum 12 inches (300 mm) and seal. Do not disturb vapor retarder while placing reinforcement.

D. Conform to ACI 305R when concreting during hot weather.

E. Conform to ACI 306R when concreting during cold weather.

3.4 Tolerances

A. Provide Class A tolerance on floor slabs according to ACI 301. Pitch to drains as shown on Drawings.

3.5 Curing and Protection

A. 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.

C. Cure floor surfaces in accordance with ACI 308.

END OF SECTION 03001

SECTION 03300
STAMPED CONCRETE

PART 1 – GENERAL

1.1 Related Documents

Work under this item shall conform to the relevant provisions of Item 701. And 701.1 of the Standard Specifications and the following:

The work consists of the stamping of the cement concrete sidewalk and driveway surface to create a simulated stone paver strip to the dimensions and details shown on the Contract Drawings.

PART 3 – PRODUCTS

Release Agent: A liquid or powder release agent shall be sprayed onto the concrete surface as a bond break between the texture mat/roller and cement concrete.

Texture Application: Flex mats of pliable rubber or a texture roller may be used to imprint the surface of the cement concrete.

PART 3 – EXECUTION

The cement concrete sidewalk and wheelchair ramps shall be installed as described under 02530.

A chalk guide line or other method acceptable to the Construction Engineer shall be used to establish a straight and true guide for laying or rolling of the textured finish.

As the cement concrete slab approaches its optimum set for texturing and all bleed moisture has evaporated, the release agent shall be uniformly broadcast on the sidewalk surface and applied to the textured mats.

When the concrete has set to the proper hardness the textured mat shall be applied and pressed to imprint a crisp pattern and texture to the concrete's surface. Do not over tamp the mat. The mat shall be carefully removed so as not to create irregularities in the finish.

If need, and as directed by the Construction Engineer, power wash any remaining release agent from the concrete surface.

The stamped surface shall be protected from damage until the concrete has completely cured.

CDBG SPECIAL CONDITIONS:

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

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

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

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

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

Statements show in italics are instructions to the reader.

I. SPECIAL CONDITIONS FOR ALL CDBG CONTRACTS

A. HUD SECTION 3 CLAUSE

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

1. COMPLIANCE WITH HUD SECTION 3 CLAUSE

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

requirements.

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

"The work to be performed under this contract is a project assisted under a program providing direct Federal financial assistance from HUD and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1988, as amended, 12 U.S.C. 1701. Section 3 requires that to the greatest extent feasible opportunities for training and employment be given to low- and very low-income residents of the project area and contracts for work in connection with the project be awarded to business concerns that provide economic opportunities for low- and very low-income persons residing in the metropolitan area in which the project is located."

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

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

2. Notifications

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

3. Subcontracts

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

B. Remedies for Violation or Breach of Contract Terms

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

C. Patent and Copyrights

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

D. Adherence to State Energy Conservation Plan

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

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

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

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

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

Secretary of Labor.

G. Federal Equal Opportunity Laws

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

2. Title VI, Civil Rights Act of 1964

Affirmatively furthering the policies of the Fair Housing Act

3. Section 109 of the Housing and Community Development Act of 1974

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

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

5. Age Discrimination Act of 1975

Prohibits against discrimination on the basis of age

6. Section 504 of the Rehabilitation Act of 1973

Prohibits against discrimination on the basis of disability

II. ADDITIONAL SPECIAL CONDITIONS FOR ALL CDBG CONSTRUCTION CONTRACTS

A. Copeland "Anti-Kickback Act"

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

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

Davis-Bacon Requirements

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

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

C. All Construction Contracts over $10,000

1. Contract Termination

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

2. Equal Employment Opportunity

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

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

D. All Construction Contracts over $100,000

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

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

2. Bonding and Insurance

The following bonding and insurance items are required:

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

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

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

III. RESTRICTION ON ALL PUBLIC WORKS PROJECTS

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

IV. ADDITIONAL REQUIRED INFORMATION ON ALL CONTRACTS

ALL CONTRACTORS AND THEIR SUBCONTRACTORS are required to supply the following so that the City of Central Falls submit quarterly and yearly reporting as required by the CDBG Grant.

- Data Universal Numbering System DUNS #
- Prime Contractor Identification number(Tax ID #)
- Sign "CERTIFICATION OF SPECIAL CONDITIONS FOR CDBG CONTRACTS" form supplied by the City upon award of contract.
- Sign "CERTIFICATIONS SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1968" form supplied by the City upon award of contract