CENTRAL MAINE POWER COMPANY

SPECIFICATION NO. 742 - 57

5'-6" EXPANSION OF THE EAST TRUCK BAYS AT THE PORTLAND SERVICE CENTER

162 CANCO ROAD
PORTLAND, MAINE

Prepared For:

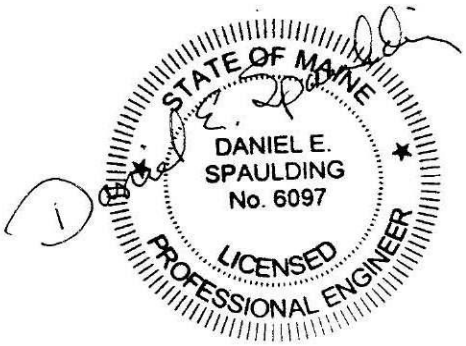
Central Maine Power Company

83 Edison Drive

Augusta, Maine 04330

Prepared By:

Civil/Structural Engineering:
Spaulding Engineering and Construction Services, Inc.
24 Common Street
Waterville, Maine 04901
(207) 861-9923
Revision 0 Issued for Bid: July 11, 2011



07/11/11

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AT THE PORTLAND SERVICE CENTER
POERTLAND, MAINE
DRAWING LIST

CMP#	SECS NO.	TITLE	REV #	DATE
742-60-002	SD-1	Site Plan	0	07/11/11
742-61-032	DD-1	New Cross Section & Details	0	07/11/11
742-64-001	S-1	New Structural Elevation	0	07/11/11
742-64-002	S-2	New Structural Elevation & Details	0	07/11/11
742-64-003	S-3	New Structural & Demolition Cross Sections	0	07/1111
742-64-004	S-4	Foundation Plan & Details	0	07/11/11
742-61-28		Warehouse & Truckbay Plan Replacement Wall Configuration & Fence Layout	2	07/11/11

REFERENCE DRAWING LIST

CMP#	TITLE	REV #	DATE
742-60-002	2002 Oil/Water Interceptors Installation Site Plan, Sections and Details	2	08/02/10
742-61-23	New Windows – East Elevation and First Floor Plan	1	01/09/08
51-116	Plan, Property Line and Services	1	03/24/54
51-1256	Site Plan Cable Storage Building	--	04/26/73
51-367- S1	Foundation Plan	5	08/24/55
51-367- S8R	Second Floor & Low Roof Framing Plans	5	08/23/55
51-367–10	Wall Sections #2	3	10/5/54
51-367 -S14	Section B-B	2	08/06/54
51-367- S16	Structural Wall Sections	3	08/23/55

I.

INSTRUCTIONS TO BIDDERS

RFP KJ #11409
I.
INSTRUCTIONS TO BIDDERS

1. SEALED PROPOSALS

a) Are solicited herein by Iberdrola USA Management Corporation on behalf of Central Maine Power Company hereinafter referred to as Owner.

b) Submit your original proposal by mail no later than 2:00 p.m. Thursday, July 28, 2011 to Ms. Karen Jones, Senior Contract Administrator, Iberdrola USA Management Corporation, 89 East Avenue, Rochester, New York 14649-0001. Reference the given RFP number on your mailing envelope.

2. PROPOSALS

a) Shall be executed in strict compliance with these Instructions to Bidders. All blank spaces in the documents shall be filled, signed in ink in long hand, and all numbers shall be stated in writing and in figures. The completed form shall be without interlineation, alterations, or erasures.

b) Shall not contain any recapitulation of the work to be done. No changes shall be made in the phraseology of the form. No partial bids will be considered. Prices bid for alternates shall include all costs associated with implementation of the alternates. No alternates will be considered unless a complete base bid has also been submitted.

c) Bids must be submitted in sealed envelopes, bearing on the outside the following: **Sealed Bid for 5'-6" South Truck Bay Expansion at the Portland Service Building in Portland"**, the name of the Bidder and the Bidder's address, and the RFP number. Such bids must be enclosed in another envelope as inadvertently they might be opened as regular mail.

d) Commercial questions should be referred to the following people:

Commercial:	Karen Jones	
	Office Number:	(585) 771-6004
	Fax Number:	(585) 771-2820
	E-mail:	karen.jones@iberdrolausa.com

Technical: Daniel E. Spaulding, P.E.
Spaulding Engineering and Construction Services, Inc.
24 Common Street
Waterville, Maine 04901
Office/Fax Number: (207) 861-9923
E-mail: dan@spauldingengineering.com

(e) Bids sent by mail must be received on or before the date stated. Postmarks will not be considered. E-mails will be accepted as long as they are followed up with a hard copy within one (1) business day. Fax copies will not be accepted.

(f) If no bid is to be submitted, so indicate on the signature page of the Proposal Form, sign and return the entire bid package to the name and address specified in Section I.2.d.of these Instructions to Bidders.

(g) The Proposal shall include a statement that the enclosed Service Agreement is acceptable. If this is not the case, any and all changes that would be required to make the document acceptable shall be included in your proposal.

3. DRAWINGS AND SPECIFICATIONS

(a) Drawings and Specifications will be issued by Owner and are an integral part of this RFP.

(b) One (1) set of Drawings and bid documents including Specifications will be issued to each invited Bidder only, for the purpose of preparing a bid. No partial sets will be issued, nor will Drawings, or bid documents including Specifications be issued to firms wishing to submit material, equipment or other sub-bids to invited Bidders.

(c) The Drawings issued with and listed in the Specifications are issued for bidding purposes only, and are not released for Contract or construction purposes.

4. THE BIDDER

(a) Shall carefully examine all the documents pertaining to this scope of work including the Drawings and the Specifications. Failure to do so will not relieve a successful Bidder from its obligation to furnish all materials, supervision, labor, skill, services, tools, transportation, and equipment necessary to carry out the provisions of the Contract and to complete the contemplated work for the consideration set forth in its bid. The submission of a bid shall be a representation that the Bidder has examined the Drawings and Specifications and has become familiar with all of the controlling conditions.

(b) Shall notify Owner in writing no later than Friday, July 22, 2011 if the Bidder finds discrepancies in, or omissions from these documents, including the Drawings and/or Specifications, or is in doubt as to their meanings. If explanation is necessary, a reply will be made by an addendum issued to Bidders. No oral statement shall change the requirements of the documents herein including the Specifications or Drawings unless confirmed in writing.

(c) Shall state the prices for which the Bidder will execute the items of the work indicated.

(d) Shall state in its proposal the terms under which the work extra to the Contract requirements will be done, as outlined in these RFP documents.

(e) Shall indicate in its proposal the portions of the Contract work, if any, which will be subcontracted.

(f) Shall sign the Bidder's name in the space provided therefore. If the proposal is made by a partnership or corporation, the name and address of the partnership or corporation shall be shown, together with the names of the partners or the officers. A proposal made by a partnership shall be acknowledged by one of the partners, a proposal made by a corporation by one of the authorized officers thereof.

(g) If awarded the work, the Contractor will be required to furnish copies of Insurance Certificates endorsed to meet the requirements of the Contract.

(h) Proposals will be evaluated and the order placed on the basis of full consideration of all items including, but not limited to, completion time and the set of prices received in each Bidder's proposal. Adjustment of original proposal prices will not be considered after receipt of proposals, except as required to adjust for design or scope changes.

5. CONTRACT FORM

(a) The successful Bidder will be notified of the award of the work in writing by issuance of a purchase order, and shall execute a contract for same by written acknowledgment of the appropriate purchase order, within ten (10) days of notification.

6. THE OWNER

(a) May during the bidding period advise the Bidders by addenda of additions, omissions, or alterations to these RFP documents including the Specifications and Drawings. All such changes shall be included in the work covered by the proposal and shall become a part of the Specifications as if originally included therein.

(b) Reserves the right to reject any and all bids to waive any formalities in bidding, and/or to accept any bid as may be deemed best for Owner's interest.

(c) Reserves the right to award all or any portion(s) of the work as Owner may elect.

7. EXECUTION, CORRELATION AND INTENT OF BID DOCUMENTS

(a) Bid work as per the RFP documents. Make no changes therefrom without having first received written permission from the Owner. Where detailed information is lacking, before proceeding with the work, refer the matter to the appropriate party listed in these Instructions to Bidders for instruction. Any exceptions taken to the RFQ documents shall be submitted in the bid on a separate page entitled Exceptions clearly identifying the reference and proposing the alternate language desired.

8. TIME OF COMPLETION

(a) Work shall start as soon as possible after award of contract and be completed no later than Friday, October 28, 2011.

9. APPROVAL OF MATERIALS

(a) Bidders wishing to obtain approval of brands other than those specified by name, shall submit their request to that party listed in these Instructions to Bidders for approval. Approval by the Owner will be in the form of an addendum to the RFP documents issued to all prospective bidders.

10. BIDDERS LIST

(a) Owner is restricting the Bidders on this project to an invited list of General Contractors. Each General Contractor will be responsible for obtaining subbids and material quotations if needed, as plans will not be on file at the plan rooms of F. W. Dodge Company, Associated General Contractors of Maine or the Dunlap Agency.

11. OPENING

(a) Bids will be opened at the date and place as specified in this Instructions to Bidders.

(b) Bids will be opened at a private opening.

12. SITE INSPECTION

(a) A site review will be held on Tuesday, July 19, 2011 at 1:30 p.m. This site review is mandatory to bid this project. Should you have any questions, contact Robert Meader, 623-3521 ext. 2390.

13. TRANSPORTATION

(a) Terms shall be F.O.B. destination jobsite, freight prepaid and allowed with freight cost listed separately, but not billed.

14. PAYMENTS

(a) Payment terms are net 60 days.

(b) All invoices shall be sent to Spaulding Engineering for review and approval. Once amount is agreed upon the original invoice shall be sent to the address specified on the Purchase Order.

II.

PROPOSAL FORM

REQUEST FOR PROPOSAL NO. KJ11409

II.
PROPOSAL FORM

5'-6" FOOT BUILDING EXPANSION
AT THE PORTLAND SERVICE CENTER
162 CANCO ROAD
IN PORTLAND, MAINE
SPECIFICATION # 742- 57

A. Contractor agrees to provide all labor, materials, tools, equipment, skill, transportation, supervision, and services in accordance with all documents included in this Request for Proposal.

BASE BID – 5'-6" BUILDING EXPANSION STRUCTURE

Item No. **Item Description** **Amount**

DIVISION 1 – GENERAL REQUIREMENTS

1. General Requirements – Division 1

$_____

_____
Words

Subtotal Division 1 – General Requirements **$_____**

_____
Words

DIVISION 2 – SITE WORK

1. Selective Demolition: Section 02050:

$_____

_____
Words

2. Earthwork: Section 02200
    a. Earthwork

$_____

_____
Words

3. Rock Excavation: Section 02205
    a. Landscape Development

$_____

_____

Words

4. Asphaltic Concrete Paving: Section 02513
    a. Paving

$_____

_____

Words

Subtotal Division 2 – Site Work **$_____**

_____

Words

DIVISION 3 – CONCRETE

1. Concrete and Grout: Section 03300 & 03370

$_____

_____

Words

Subtotal Division 3 – Concrete **$_____**

_____

Words

DIVISION 5 – METALS

1. Structural Steel: Section 05120

$_____

_____

Words

2. Metal Fabrications: Section 05500

$_____

_____

Words

Subtotal Division 5 – METALS **$_____**

_____

Words

DIVISION 6 – WOODS & PLASTICS

1. Carpentry Work: Section 06001

$_____

_____

Words

Subtotal Division 6 – WOODS & PLASTICS **$_____**

_____

Words

DIVISION 7 – THERMAL & MOISTURE PROTECTION

1. Insulation: Section 07213

$_____

_____

Words

2. Insulated Metal Wall Panels and Trim: Section 07465

$_____

_____

Words

3. Elastomeric Sheet Roofing: Section 07534

$_____

_____

Words

4. Joint Sealers: Section 07900

$_____

_____

Words

Subtotal Division 7 – THERMAL & MOISTURE PROTECTION

$_____

_____

Words

DIVISION 8 – DOORS & WINDOWS

1. Sectional Overhead Doors: Section 08360

$_____

_____

Words

Subtotal Division 8 – DOORS & WINDOWS

$_____

_____

Words

DIVISION 9 – FINISHES

1. Painting: Section 09900

$_____

_____

Words

Subtotal Division 9 – FINISHES

$_____

_____

Words

5'-6" BUILDING EXPANSION TOTAL LUMP SUM **$_____**

_____

Words

B. Time and Material:

Extra work may be authorized on a T & M basis as approved by the Owner. The Contractor shall include the cost for labor and equipment to be utilized on this Project. The Contractor shall also include the percentage mark-up to be applied to materials ____%, subcontractors _____% and rental equipment ____%.

C. The Contractor shall state any exceptions to this Request for Proposal. If the Contractor takes no exceptions to the Request for Proposal, they shall indicate "NO EXCEPTIONS".

_____
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D. Acknowledgment of Addendum:

Addendum Number	Date
_____	_____
_____	_____
_____	_____
_____	_____

E. All invoices associated with this job shall include a breakdown of materials, labor, and subcontractors involved.

Bidder: _____

Signature: _____

Name: _____

Title: _____

Address: _____

_____

_____

Date: _____

E-mail Address: _____

Tel. No.: _____

Fax Number: _____

The Contractor shall include with their bid the following:

1. A list of all subcontractors proposed for this project.
2. Milestone schedule.
3. List of foreman/superintendent with resume to be used on this Project.

III.

AGREEMENT FOR INDEPENDENT CONTRACTOR SERVICES

Agreement for Services

This AGREEMENT is made this _____ day of July, 2011 between **Central Maine Power Company** ("Customer"), with its principal office located at 83 Edison Drive, Augusta, ME 04336 and _____ ("Supplier") with its principal office located at _____. In consideration of the covenants herein, the parties agree as follows:

WHEREAS, Customer desires to procure certain services from Supplier, including the services described in Schedule A, attached hereto and made part hereof (the "Services"); and

WHEREAS, Supplier states that it is an established and well-known provider of the Services possessing the skills, qualifications, and experience necessary to perform and manage such Services in an efficient, cost-effective, and controlled manner, with a high degree of quality and responsiveness, and that it has successfully performed similar services for other customers and is willing to provide the Services to Customer in accordance with the terms and conditions of this Agreement; and

WHEREAS, in reliance upon such statements, Customer has selected the Supplier to provide the Services, which shall be procured and performed in accordance with this Agreement.

NOW THEREFORE, in consideration of the mutual covenants contained herein, and other good and valuable consideration, Customer and Supplier agree as follows:

1. Definitions.

1.1 "Affiliate" means, with respect to a person or entity, any individual, corporation, partnership, firm, joint venture, association, joint stock company, trust or other unincorporated organization, directly or indirectly controlling, controlled by, or under common control with, such person or entity. The term "control" shall mean the possession, directly or indirectly, of the power to direct the management or policies of a person or an entity. A voting interest of ten percent (10%) or more shall create a rebuttable presumption of control.

1.2 "Contract Documents" means this Agreement (including all Schedules, if any, attached or incorporated by reference), the Purchase Order (as defined below), the plans and specifications, and all addenda and change orders issued by Customer. Any reference to this Agreement shall be deemed a reference to all the Contract Documents.

1.3 "Effective Date" means the date this Agreement is executed by Customer and Supplier.

1.4 "Materials" means materials, supplies, equipment, machinery, tools, and all other items and facilities to be used, furnished, or delivered in connection with the Services.

1.5 "Services" means the services described in Schedule A, attached hereto and part hereof, including any design, engineering, installation, construction, modification, and or testing to be performed as part of the Services and includes the Materials necessary for the provision of the Services.

1.6 "Purchase Order" means a purchase order issued by the Customer for the Services to be provided in accordance with this Agreement.

2. Scope

2.1 Scope of Services. Supplier shall perform the Services described herein and in Schedule A hereto. Supplier shall assign sufficient qualified employees or agents ("Personnel") to complete the Services in a timely manner, and complete the Services promptly and as specified herein. Supplier shall immediately bring to Customer's attention any errors, omissions, discrepancies or conflicts with respect to the Contract Documents or the Scope of Services.

2.2 Time. Supplier shall begin performance of the Services as soon as reasonably practical after the Effective Date. Time is of the essence in this Agreement. At Customer's request, Supplier shall promptly furnish a detailed schedule acceptable to Customer. If the Services falls behind schedule in whole or in part as the result of acts or omissions of Supplier, at its expense, Supplier shall take all steps necessary to return performance of the Services to the schedule, including (without limitation) the use of subcontractors, overtime, and shift work.

2.3 Subcontractors. Customer must give its written approval before Supplier uses any subcontractors in the performance of any Services. If Supplier shall cause any part of the Services to be performed by a sub-contractor, the provisions of this Agreement shall apply to such sub-contractor and its officers, agents or employees in all aspects as if they were employees of Supplier, and Supplier shall not thereby be discharged from any of its obligations and liability hereunder, but shall be liable hereunder for all acts and omissions of the sub-contractors. Nothing shall create any contractual relationship between Customer and any sub-subcontractor.

3. Term and Compensation.

3.1 Term. This Agreement shall be effective as of the Effective Date and shall last for a term of _____year(s). Thereafter this Agreement shall renew for successive one (1) year terms unless terminated by the Customer in accordance with this Agreement.

3.2 Compensation. In full consideration for the complete and satisfactory performance of the Services, Customer shall pay the amount set forth on the Purchase Order and as set forth on Schedule B attached hereto and incorporated herein. The price(s) charged by Supplier for all time and material Services shall be no more than Supplier's standard prices in effect for similar work.

3.3 Invoices. In accordance with the Purchase Order (including any milestones and retainages set forth therein), Supplier shall submit invoices prepared in such form and supported by such documentation as Customer may reasonably request. Customer shall pay undisputed amounts due within 60 days after invoice receipt. Additional payment terms may be set forth on the Purchase Order. The final invoice may be submitted after Customer accepts the Services.

3.4 Waiver. No inspection, approval, payment, or acceptance of the Services shall be construed as evidence of satisfactory performance of any Services not performed in accordance with this Agreement, as a waiver of any of Customer's rights, or as relieving Supplier from its responsibility under this Agreement. Acceptance by Supplier of final payment shall constitute a waiver of all claims which Supplier may have against Customer.

3.5 Withholding. Customer may withhold payment to the extent reasonably necessary to protect Customer from (without limitation) defective Services, damage to Customer or a third party, failure to carry out the Services in accordance with this Agreement, potential claims of a third party(ies), and reasonable doubt that the Services can be completed for the balance due or on time.

4. Certain Obligations of Supplier.

4.1 Examination. Supplier represents that it has examined the site where the Services shall be performed and has investigated and considered the conditions affecting the performance of the Services and hereby waives all claims against Customer on account of any such conditions.

4.2 Warranty. Supplier represents and warrants that all services shall be performed and completed using its best efforts and skills. The Services shall be of high quality; performed in accordance with sound, generally accepted professional practices and by fully experienced, equipped, organized, and properly qualified individuals; free from defaults and defects in workmanship, title and Materials; and in compliance with applicable specifications and fit for its intended purpose. All Materials shall be new, free from defects and workmanship, material, and title, and approved by or acceptable to Customer. Supplier shall be solely responsible for all means, methods, techniques, sequences, and for coordinating all portions of the Services. The Services shall not be deemed completed until all applicable drawings and other documents, if any, have been completed, delivered, and accepted by Customer. Customer will rely upon the accuracy, competence, and completeness of the Services. Supplier shall comply with all applicable laws, rules and regulations, including (without limitation) corporate policies of Customer. Except as otherwise expressly specified, Supplier shall procure, pay for and comply with the terms and conditions of all applicable permits, licenses and inspections.

4.3 Remedy. If the Services do not comply with the foregoing warranties for up to one year after final acceptance of the Services, Supplier shall reperform, repair or replace the Services, including modifications or additions as may be reasonably necessary to correct any defect or failure. The choice of repair or replacement will be made by Customer. Reperformed, repaired or replaced Services shall be subject to the same terms and warranties as provided for the original Services. If Supplier cannot reperform the defective Services within a reasonable period of time, considering Customer circumstances, Customer may elect to remedy the defect and bill Supplier therefore. If Customer determines that reperformance is no longer feasible, Supplier shall refund

any compensation paid to it for such Services and reimburse Customer for actual damages incurred and damages which may be foreseeably incurred to the extent they are attributable to acts or omissions of Supplier.

4.4 Protection. Supplier shall take all necessary steps to protect and prevent damage or injury to the Services, persons, or property of Customer and others, including (without limitation) if applicable the responsibility for the security of the Services and site. Supplier shall perform the Services, including storage of Materials, so as not to interfere with the progress of the Services, Customer's normal operations, or the activities of others.

4.5 Inspection. Supplier shall permit and facilitate inspection of the Services by Customer and its agent's at all reasonable times.

5. Insurance. Supplier shall maintain insurance in accordance with the requirements as set forth in Schedule C. Supplier must maintain applicable insurance. An insurance certificate must be mailed to Customer prior to starting Services.

6. Audit. For all Services not performed on a fixed-price basis, Supplier shall keep accurate records and accounts showing all direct and indirect charges, disbursements, costs or expenses incurred by Supplier in the performance of the Services. Upon reasonable notice, Customer shall have the right to audit Supplier's records and accounts up to two years after payment of the final invoice for the Services. Supplier shall also allow Customer to audit or inspect Supplier's facilities and books and records to determine Supplier's compliance with this Agreement, including (without limitation) quality assurance, project management, and other standards.

7. Changes. At any time, Customer may make changes ("Changes") in the Services, as it deems necessary or appropriate. Changes include (without limitation) additions to or omissions from the Services, schedule changes, or a temporary suspension of all or part of the Services. Within three days after any Change proposal from Customer, Supplier shall notify Customer of any additional time or compensation which will be necessitated by the Change. The resulting time to complete the Services and/or the cost or credit to Customer shall be equitably and mutually determined by Customer and Supplier. No additional time or compensation shall be due to the extent a Change results from the fault or negligence of Supplier. No Change shall be binding unless made in a subsequent Customer Purchase Order.

8. Proprietary Information. Data or information generated or acquired during this Agreement relating to Customer which is not otherwise publicly available, shall belong to and be proprietary to Customer and shall be kept secret by Supplier, although Supplier may use it to the extent necessary to perform the Services. Drawings, specifications, calculations, reports, Services in process, models, or other work product, if any, prepared by Supplier shall become the property of Customer when prepared and shall be delivered to Customer upon request and, in any event, upon the termination of this Agreement for any reason. Supplier may keep copies or samples thereof for its internal use (but not disclosure to others), but Customer shall retain all intellectual property therein. Supplier hereby irrevocably assigns to Customer all right, title and interest in such items, and, at Customer's option and expense, shall execute any documents reasonably requested by Customer for the assignment, registration, or other protection of any related proprietary right.

9. Confidentiality. Supplier, its employees and agents, shall treat any information,

(including any technical information, experience or data) regarding Customer or its Affiliates plans, programs, plants, processes, costs, equipment, operations, or customers, which may be disclosed to, or come within the knowledge of, Supplier its employees and agents in the performance of this Agreement, as confidential, and will not use or disclose this information to others, during the term of this Agreement, and for three (3) years thereafter, except as is necessary to perform the Services hereunder, without Customer's prior written consent. The provisions of this Article shall not apply to any information referred to in this Section which (i) has been published and has become part of the public knowledge through no effort by Supplier, its employees, or agents, (ii) has been furnished or made known to Supplier or Supplier's Affiliates by third parties (other than those acting directly or indirectly for or on behalf of Customer or Customer Affiliate) as a matter of legal right and without restriction on disclosure, (iii) was in Supplier's possession prior to disclosure by Customer or its Affiliates and was not acquired by Supplier or Supplier's Affiliates, its employees and agents directly or indirectly from Customer or its Affiliates or, (iv) is required by law or by any other governmental regulatory authority to be disclosed.

Any information, which is supplied by the Supplier to Customer or a Customer Affiliate under this Agreement, will be similarly restricted. Customer and Customer Affiliate will not disclose such information to others or publish it in any form at any time; provided, however, that notwithstanding the foregoing, Customer may disclose any such information to its Affiliates, employees, and consultants, to any regulatory agencies or instrumentality's when such disclosure is necessary, or otherwise required by law. Customer will cooperate with the Supplier in an effort to minimize the amount of such information, which will be disclosed in any such case, and to make reasonable efforts to secure confidential treatment of such information.

In no event shall Customer's or its Affiliates' names and/or logo or the name and/or logo of it's parent company be used, whether written or verbal, duplicated, reproduced by any means whatsoever without the prior written permission of the Customer.

All inquiries by any governmental, business, or other entity, including media, regarding any Services performed or to be performed by Supplier for Customer shall be directed by Supplier to Customer for response.

10. Force Majeure. Neither party shall be liable for its failure to perform hereunder to the extent circumstances arise which are beyond its reasonable control and which could not have been avoided by the exercise of due diligence and foresight. The party prevented from performance shall diligently take all steps reasonably available to overcome the cause of such inability to perform and shall resume its performance as soon as practicable.

11. Indemnification.

11.1 Generally. Supplier will fully indemnify, defend at its expense and hold harmless the Customer and its Affiliates, directors, officers, employees, and agents (the "Indemnitee") from and against any and all claims, demands, suits, losses, costs, fees, damages or expenses it may suffer, or for which it may be held liable, whether including, without limitation, reasonable expenses and attorneys fees incurred in the connection therewith, by reason of (A) any patent, trademark, or copyright infringement claim, or any design, device, process or procedure used, installed or provided by the Supplier or its agents or subcontractors under this Agreement; (B) any work-related accident or injury affecting an employee, agent or subcontractor of the Supplier,

arising in connection with Service performed under this Agreement; (C) any claim by an agency or instrumentality of the federal, state or any local government, or by an employee, agent or subcontractor of the Supplier alleging that (i) the Indemnitee is required to maintain worker's compensation or unemployment or any other type of insurance upon any employee, agent or subcontractor of the Supplier; (ii) the Indemnitee is liable for tax payments or withholding with respect to any employee, agent or subcontractor of the Supplier; (iii) any employee, agent or subcontractor of the Supplier is entitled to receive employee benefits from the Indemnitee, including, without limitation, vacation, deferred compensation, medical, pension, 401(k) or any other benefit available to the Indemnitee's employees; and (iv) the Indemnitee is liable to any party, for any reason, due to the negligent performance of Services or omissions by an employee, agent or subcontractor of the Supplier; (D) bodily injury, including death, to any person or persons due to the negligent, reckless or willful actions or omissions of the Supplier or its agents or subcontractors; (E) damage to or destruction of any property, including loss of use thereof, due to the negligent, reckless or willful actions or omissions of the Supplier, or its agents or subcontractors. Individual employees, agents and subcontractors of the Supplier who are performing Services for the Indemnitee under this Agreement shall be considered to be employees, agents or subcontractors of the Supplier for all purposes under this Agreement, notwithstanding any judicial or administrative determination that such employees, agents or subcontractors of the other party should be regarded as employees under applicable law. All actions of the employees, agents and subcontractors of the Supplier under this Agreement shall be deemed to be actions of the Supplier under these indemnities and this Agreement. In furtherance of the foregoing indemnification and not by way of limitation thereof, the Supplier hereby waives any defense or immunity it might otherwise have under applicable worker's compensation laws or any other statute or judicial decision (including, for Services to be conducted in Maine, without limitation, Diamond International Corp. v Sullivan & Merritt, Inc. 493 A2d. 1043 (Me 1985)) disallowing or limiting such indemnification, and the Supplier consents to a cause of action for indemnity.

11.2 Taxes. Supplier similarly agrees to fully indemnify, defend and hold Customer harmless against liability or expense on account of all contributions, assessments, and taxes now or hereafter imposed by any governmental authority with respect to the compensation of Supplier. Supplier warrants that all sales, use, gross receipts, and other similar taxes, if any, imposed in connection with the Services or Materials are included in the price for the Services and shall not be billed as an extra unless Customer expressly gives its permission in writing.

12. Termination.

12.1 Cause. Customer, reserving to itself the right to receive such other damages and remedies as it may have pursuant to this Agreement or at law or in equity, has the right to terminate this Agreement, by giving written notice of termination to Supplier of the occurrence of any of the following:

(a) Supplier defaults in the observance or performance of any covenant, agreement or condition contained in this Agreement if within ten (10) days after the giving of written notice to Supplier of such failure of performance, Supplier has not cured such failure or if such failure of performance cannot be cured in ten (10) days, if Supplier has not commenced curing such failure of performance promptly and within such ten (10) day period is not effectuating such cure with haste and does not cure such failure of

performance within a reasonable time, not to exceed, thirty (30) days from receipt of the notice specified herein.

(b) In the event that Supplier is declared to be bankrupt or insolvent, Supplier makes an assignment for the benefit of creditors, Supplier shall file a voluntary petition in bankruptcy or insolvency or an involuntary petition is filed against Supplier, or a receiver shall be appointed for Supplier and such appointment or bankruptcy or insolvency proceedings, petition, declaration or assignment is not set aside within thirty (30) days.

(c) There has been a material adverse change in the financial condition of Supplier that affects the ability of Supplier to perform.

12.2 Convenience. Customer may terminate this Agreement for any reason at any time ("Termination for Convenience") or Customer may similarly terminate any specific portion of the Services for any reason and at any time. Termination for Convenience shall take place five (5) days from issuance of written notice by Customer. In the event the Supplier has not defaulted, Customer agrees to pay for all Services rendered to the termination date pursuant to this Agreement, provided, however, that such payment shall not result in total payment(s) to the Supplier exceeding the maximum amount payable under the terms of the applicable Purchase Order. This provision shall not be deemed to limit or otherwise affect Customer's right to terminate this Agreement for breach or default by the Supplier.

13. Employee Solicitation. During the term of this Agreement and for a period of one (1) year thereafter, except with the prior written consent of Iberdrola USA Management Corporation, Supplier shall not offer employment to, or employ, any employee of Iberdrola USA Management Corporation or Iberdrola USA Management Corporation's current or future Affiliates, and Supplier shall not induce or attempt to induce, directly or through an agent or third party, any such employee to leave the employ of Iberdrola USA Management Corporation or Iberdrola USA Management Corporation's current or future Affiliates.

14. Miscellaneous. This Agreement and the contract documents as defined herein constitute the entire agreement between the parties and supersede all prior or contemporaneous communications or agreements, written or oral, with respect to the Services. Any reference to Supplier shall be deemed a reference to Supplier, its employees and subcontractors and those under their direction and control. Supplier shall not assign this Agreement (or any monies due hereunder) nor subcontract its obligations without the prior written consent of Customer. Any such attempted assignment or other transfer without such consent shall be void. This Agreement may be amended only by a writing signed by the parties. The failure of either party to enforce any provision of this Agreement shall not constitute a waiver thereof nor of the right to seek any other remedy. No waiver shall be valid unless in writing signed by the waiving party. Addresses for notice shall be as set forth in the preamble or as changed by notice. This Agreement shall be governed by the laws of the state of New York without regard to conflict of law principles. Any dispute shall be resolved in courts located in the state of New York, and Supplier consents to their personal jurisdiction. All sections or provisions of this Agreement with terms containing obligations or duties which by their nature are to be or may be performed beyond any termination hereof, shall survive the termination of this Agreement without regard to the reason for termination, including, without limitation, Sections 3, 4, 5, 6, 8, 9, 11, 13, and14.

15. Iberdrola USA Code of Conduct. Supplier shall comply with the Iberdrola USA Code of Conduct in the performance of the Services under this agreement. The Iberdrola USA Code of Conduct can be found at the Iberdrola USA website (www.iberdrolausa.com) under Corporate Governance on the Financial Information header.

16. Performance Monitoring. Customer will evaluate Suppliers performance by utilizing Supplier Corrective Action Reports and Supplier Performance Evaluation Reports. The Supplier must provide upon request the OSHA incident rate and Experience Modification Rate for Customer's review. The Customer will evaluate the Supplier's performance upon the conclusion of the Services by completing the specified report. The Customer will continuously monitor the Supplier's performance.

17. Continuous Improvement. Continuous improvement is the foundation of this Agreement. Supplier warrants that it will pass on to Customer in the form of price reductions 50 percent of Supplier's cost savings made possible by process improvements, reductions in material costs and the like. Supplier likewise will use its best efforts to improve continuously its performance in all areas. In particular, Supplier will evaluate opportunities for cost/price reductions on items and services ordered and to be ordered and communicate them promptly to Customer. Supplier has specifically identified target cost reductions of 2% beyond the prices shown in Schedule B for the Term, and agrees to work diligently with Customer personnel toward attainment of this objective. Supplier is expected to advance its economies of production, service, service delivery, material handling and technical prowess at least as fast as other competitors in its industry, and to offer the price and performance benefits of those improvements to Customer, as soon as they become available.

18. No Dispute. Supplier covenants that it is not aware of any pending billing dispute or other contractual dispute (pursuant to current contracts or contracts no longer in effect) or any pending or threatened litigation between Supplier and/or any of Supplier's Affiliates and Customer and/or and of Customer's Affiliates.

19. Supplier Security Requirements. Supplier shall comply with Customer's Supplier Security Requirements in their performance of Services for Customer under this agreement.

Supplier shall be familiar with and shall comply with the requirements of the NERC CIP- 004 for projects or services at or relating to critical cyber assets and critical company operating facilities ("Critical Infrastructure"). The specific CIP Standard follows:

> CIP-004 Excerpt:
> R3. Personnel Risk Assessment --The Supplier shall have a documented personnel risk assessment program, in accordance with federal, state, provincial, and local laws, and subject to existing collective bargaining unit agreements, for personnel having authorized cyber or authorized unescorted physical access. A personnel risk assessment shall be conducted pursuant to that program prior to such personnel being granted such access except in specified circumstances such as an emergency. The personnel risk assessment program shall at a minimum include:
>
> R3.1. The Supplier shall ensure that each assessment conducted include, at least, identity verification (e.g., Social Security Number verification in the U.S.) and seven- year criminal

check. The Supplier may conduct more detailed reviews, as permitted by law and subject to existing collective bargaining unit agreements, depending upon the criticality of the position.

R3.2. The Supplier shall update each personnel risk assessment at least every seven years after the initial personnel risk assessment or for cause.

R3.3. The Supplier shall document the results of personnel risk assessments of its personnel having authorized cyber or authorized unescorted physical access to Critical Cyber Assets, and that personnel risk assessments of contractor and service vendor personnel with such access are conducted pursuant to Standard CIP-004.

20. Utilization of Small Business Concern. Supplier and subcontractors of all tiers must comply with section 52.219-8 of the Federal Acquisition Regulation. This policy requires that small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns shall have the maximum practicable opportunity to participate in the performance of Services.

21. Small Business Subcontracting Plan. In accordance with section 19.702(a) (1) and (2) of the Federal Acquisition Regulation, each Supplier (except small business concerns) whose contract is expected to exceed $550,000 ($1,000,000 for construction) and has subcontracting possibilities is required to submit an acceptable subcontracting plan to the Customer. The plan shall include spending goals with businesses that are defined by the U.S. Small Business Administration as small, women-owned small, veteran-owned small, service-disabled veteran-owned small, HUBZone, small disadvantaged (SDB), and minority-owned; as defined by the National Minority Supplier Development Council. If the Supplier fails to submit a plan within the time limit prescribed by the Customer, Customer may terminate this Agreement.

The Supplier assures that the clause entitled "Small Business Subcontracting Plan" will be included in all subcontracts, that offer further subcontracting opportunities, and all subcontractors (except small business concerns) who receive subcontracts in excess of $550,000 ($1,000,000 for construction) will be required to adopt a plan similar to this plan.

22. Notices. Along with all other correspondence requirements included in this Agreement, any notice, request, approval or other document required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been sufficiently given when delivered in person or deposited in the U.S. Mail, postage prepaid, return receipt requested, addressed as specified herein or to such other address or addresses as may be specified from time to time in a written notice given by such party. The parties shall acknowledge in writing the receipt of any such notice delivered in person.

All communications to Iberdrola USA Management Corporation shall be directed to:

Iberdrola USA Management Corporation
Contract Administration
89 East Avenue
Rochester, NY 14649
Phone: 585-724-8028

Fax: 585-771-2820

All communications to Supplier shall be directed to:

Supplier Name _____

Contact Name _____

Title _____

Email Address _____

Street Address _____

City, St, Zip _____

Phone _____

Fax _____

IN WITNESS WHEREOF, Customer and Supplier have each caused this Agreement to be signed and delivered by it's duly authorized representative as of the date first given above.

CUSTOMER

_____
Signature

_____
Print Name

Title
Authorized Procurement Representative

_____
Date

SUPPLIER

_____
Signature

_____
Print Name

_____
Title

_____
Date

CUSTOMER

_____
Signature

_____
Print Name

_____
Title

_____
Date

SCHEDULES:

Schedule A: Scope of Services
Schedule B: Pricing Terms
Schedule C: Insurance Requirements

Schedule A

Scope of Services

Schedule B

Pricing Terms

Schedule C

Insurance Requirements

Before commencing Services, the Supplier shall procure and maintain at its own expense for a period of two years beyond completion of the Services, the insurance types, limits, terms, and conditions listed in Section 1 below. The amounts as specified are minimums only. The actual amounts above the minimums shall be determined by the Supplier. In addition, for any Services that are authorized to be subcontracted, the supplier shall require each subcontractor to procure and maintain all insurance as outlined in section one.

IF YOU DO NOT HAVE A CURRENT CERTIFICATE ON FILE WITH CUSTOMER prior to commencement of Services, Certificates of Insurance evidencing supplier's and/or subcontractor's possession of insurance as outlined in Section 1 shall be filed with Customer for its review.

Certificates of Insurance should be mailed to the Procurement Department at the following address:

Iberdrola USA Management Corporation
Procurement Department/Insurance Cert.
89 East Avenue
Rochester, NY 14649-0001

1. **Required Insurance Coverage's and Minimum Amounts**

Each insurance policy shall be placed with an insurance company licensed to write insurance in the State where the Services are to be performed and shall have an A.M. Best's Rating of not less than "B+" and a policyholder surplus of at least $25,000,000.

Each insurance policy, except Workers' Compensation and Employers' Liability, shall be endorsed to add Customer as an additional insured. All insurance where Customer is an additional insured must contain provisions which state that the policy will respond to claims or suits by Customer against the Supplier/Consultant/ Labor supplier/etc. In addition, Customer should be notified of any reduction in the aggregate policy limits.

Each policy shall be endorsed to provide a minimum of thirty (30) days prior written notice of cancellation, intent not to renew, or material change in coverage.

Each policy shall be endorsed to provide a breach of warranty clause.

In the event Supplier and/or Subcontractor has a policy(ies) written on a "claims-made" basis, such insurance shall provide for a retroactive date not later than the commencement of Services under this agreement. In addition, the Supplier and/or Subcontractor will guarantee future coverage for claims arising out of events occurring during the course of this agreement.

All of the insurance required hereunder will be primary to any or all other insurance coverage in effect for Customer.

1.1 Workers' Compensation and Employers' Liability Insurance in accordance with the statutory requirements of the State of New York. For Services that are conducted outside of New York State, the minimum limit for Employers' Liability Insurance should be $500,000 each accident, $500,000 disease-policy limit, $500,000 disease-each employee.

1.2 Automobile Liability insuring any auto, all owned autos, hired autos, and non-owned autos with a bodily injury and property damage combined single limit of $5,000,000 per occurrence.

1.3 General Liability (Comprehensive or Commercial Form), including coverage for Premises/Operations, Underground/ Explosion & Collapse Hazard, Products/Completed Operations, Contractual Liability specifically insuring the attached Indemnity Agreement, Independent Contractors, Broad Form Property Damage, and Personal Injury, in the amount of $5,000,000 per occurrence and $5,000,000 aggregate.

The amount of insurance may be satisfied by purchasing primary coverage in the minimum (or greater) amounts specified or by purchasing a separate excess Umbrella Liability policy together with lower limit primary coverage.

Each General and/or Umbrella Liability Insurance policy shall be endorsed with the following Cross Liability clause: In the event of claims being made by reason of personal and/or bodily injuries suffered by any employee or employees of one insured hereunder for which another insured hereunder is or may be liable, then this policy shall cover such insured against whom a claim is made or may be made in the same manner as if separate policies had been issued to each insured hereunder, except with respect to limits of insurance. In the event of claims being made by reason of damage to property belonging to any insured hereunder for which another insured is or may be liable, then this policy shall cover such insured against whom a claim is made or may be made in the same manner as if separate policies had been issued to each insured hereunder, except with respect to the limits of insurance.

None of the requirements contained herein as to types, limits and approval of insurance coverage to be maintained by Supplier or Subcontractors are intended to, nor shall they in any manner limit or qualify the liabilities and obligations assumed by Supplier or Subcontractor under this agreement.

TECHNICAL SPECIFICATION NO. 742 - 57

5'-6" EXPANSION OF THE EAST TRUCK BAYS AT THE PORTLAND SERVICE CENTER

162 CANCO ROAD
PORTLAND, MAINE

Prepared For:

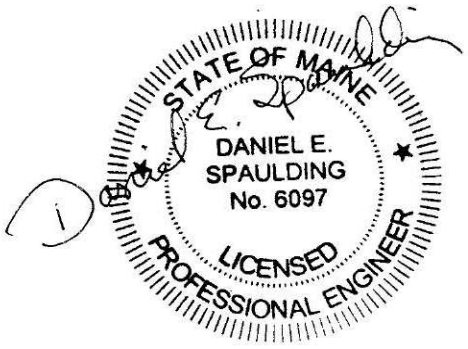
Central Maine Power Company

83 Edison Drive

Augusta, Maine 04330

Prepared By:

Civil/Structural Engineering:
Spaulding Engineering and Construction Services, Inc.
24 Common Street
Waterville, Maine 04901
(207) 861-9923
Issued for Bid – 07-11-11



07-11-11

TECHNICAL SPECIFICATIONS
TECHNICAL SPECIFICATIONS, ADDENDA AND APPENDICES
TABLE OF CONTENTS

SECTION 01005

ADMINISTRATIVE PROVISIONS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 REQUIREMENTS INCLUDED

A. Work Covered, and type of Contract.
B. Construction Schedule.
C. Contractor Use of Premises.
D. Permits.
E. Owner Occupancy.
F. Applications for Payment.
G. Coordination.
H. Field Engineering/Work Layout.
I. Reference Standards.
J. Dimensions.
K. Site Conditions and Representations.
L. Safety.
M. Conduct of Employees.

1.03 WORK COVERED BY CONTRACT DOCUMENTS

A. The Contractor shall furnish all labor, materials, equipment, supplies, and other facilities, except as specifically noted in the Specifications and shall perform all work necessary, proper for or incidental for the construction of a five foot – six inch truck bay building expansion at Central Maine Power Company's existing Portland Service Center located at 162 Canco Road in Portland, Maine.

B. The general scope of work for this Project is as follows:

Project – Five foot – six inch truck bay building expansion:

1. This project includes all work that is required to complete a five foot – six inch truck bay building expansion to accommodate line trucks which shall include but not be limited to:
    a. Sawcutting of existing pavement to accommodate the new expansion. Pavement removal limits are shown on the Drawings.
    b. Removal and disposal of removed pavement.
    c. Excavation of earth to install new frost walls.
    d. Removal of weathered ledge to accommodate new footings and wall.
    e. Concrete, anchor bolts and reinforcing for concrete frost walls.
    f. New frost wall and slab rigid insulation.
    g. Backfill of new frost walls with gravel fill.
    h. Concrete demolition of the top of the existing concrete front wall.
    i. Gravel backfill as required for new concrete slab.
    j. Concrete and reinforcing for new concrete slab and existing wall cap.
    k. Misc. structure and siding modifications to accommodate new structural steel and new overhead door tracks.
    l. New primed and painted structural steel columns and beams and miscellaneous steel.
    m. New 1 ½" Type B, 22 gauge galvanized metal roof decking.
    n. New fire retardant vapor barrier and fire-rated plywood sheathing and miscellaneous trim.
    o. New polyisocyanurate insulation, EPDM membrane, flashing and aluminum trim to produce a water tight enclosure.
    p. New fiberglass and rigid wall insulation.
    q. New factory painted insulated galvanized steel siding and all appurtenances to produce a fully watertight, no maintenance exterior envelope.
    r. Remove and dispose of twelve (12) existing overhead doors and tracks.
    s. Provide and install twelve (12) new insulated 11'-6" wide x 14' high overhead doors and tracks. Two (2) of the new doors shall be fitted with passdoors and associated hardware.
    t. Provide and install twelve (12) overhead door operators with remote controlled openers.

u. Provide and install compacted gravel as required to grade new expansion area to existing lot.
v. Repave area with 2" MDOT 50 Gyration HMA Design 19 mm base course.
w. Repave area with 1 ½" MDOT 50 Gyration HMA Design 12.5 mm wearing course.
x. Grind back top surface a minimum of 1'-6" from sawcut to provide for an overlap of the wearing course to prevent a vertical butt joint.
y. Blackout existing ADA parking, ADA van parking areas and walkway striping and restripe and decal.

C. All electrical demolition, new lighting and wiring will be done by CMP's electrical contractor and is not part of the scope of work for this Project. The Contractor shall be responsible for coordinating with CMP's electrical contractor to provide sufficient notice of when electrical demolition or installation of new electrical work can be completed so as not to delay the work.

D. All new sprinkler piping and devices will be done by CMP's sprinkler contractor and is not part of the scope of work for this Project. The Contractor shall be responsible for coordinating with CMP's sprinkler contractor to provide sufficient notice of when new sprinkler piping and devices can be installed so as not to delay the work.

1.04 CONTRACT METHOD

A. The Contract method is lump sum as outlined in the Agreement.

1.05 CONSTRUCTION SCHEDULE

A. Within 7 days after award of Contract, the Contractor shall prepare and submit to the Owner for approval, a schedule covering starting and completion dates for salient features and principal construction operations involved in its performance.

B. Project Schedule
1. The Project can start as soon as project is awarded and must be completed no later than Friday, November 11, 2011.

C. Scheduling
1. The Contractor shall arrange their work to conform to the requirements of the Drawings and shall complete the work of the Contract within the time specified or as extended by written change orders.

1.06 PERMITS

A. The Owner will obtain and pay for the Building Permit. Any other applicable permits or inspections required at the site shall be obtained and paid for by the Contractor. Permits required for disposing of debris, and hauling the like, shall be obtained by the Contractor. Debris shall be disposed of in accordance with the State of Maine Solid Waste Management Regulations, Chapters 400-406, 408, 409, and 411. The Contractor shall submit copies of all waste manifests to the Owner for their records.

1.07 OWNER OCCUPANCY

A. The Owner will be occupying the existing building throughout the entire construction period. Close coordination with the Owner is critical to ensure that the Owner's operations are not impacted throughout the Project. The Contractor shall be responsible for coordinating site access and the use of the site for their operations to cause as little impact to the Owner's operations as possible. The site shall be open to the Owner to allow for inspections and other work required to accommodate the Owner's layout of the space.

B. The Owner will provide the Contractor the entire area to complete the concrete frost walls and slab without line truck interference. Once the concrete walls and slab are in place the Contractor shall coordinate with the Owner to allow line trucks to park in the garage at night, leave in the morning and return in the afternoon.

1.08 APPLICATIONS FOR PAYMENT

A. Submit each application for payment in accordance with the Agreement. Applications for payment shall be submitted using the AIA Document G702 "Application and Certificate for Payment" form.

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

1.09 COORDINATION

A. Coordinate work of the various Sections of Specifications to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed later.

B. Verify characteristics of elements of interrelated operating equipment are compatible; coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

C. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduits, as closely as practicable; make runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. In finished areas, except as otherwise shown, conceal pipes, ducts, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements.

E. Execute cutting and patching to integrate elements of work, uncover ill-timed, defective, and non-conforming work, provide openings for penetrations of existing surfaces, and provide samples for testing. Seal penetrations through floors, walls, and ceilings.

1.10 FIELD ENGINEERING/WORK LAYOUT

A. Provide all field engineering services necessary for construction; establish grades, lines, and levels, by use of recognized engineering survey practices.

B. Control datum for survey is that shown on Drawings. Locate and protect control and reference points.

C. The Contractor shall exercise proper precautions to verify figures and meet tolerances as required by the manufacturer or specified herein before laying out the work. The Contractor will be held responsible for any errors resulting from their failure to exercise such precaution.

1.11 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 the Bid date, or date of Owner-Contractor Agreement when there are no bids, except when a specific date is specified.

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

1.12 DIMENSIONS

A. The Drawings are generally made to scale, but all working dimensions shall be taken from the figured dimensions or by actual measurements at the job, and in no case by scaling. The Contractor shall study and compare all Drawings and verify all figures before laying out or constructing the work and shall be responsible for any and all errors in their work, which might have been avoided thereby. Whether or not an error is believed to exist, deviations from the Drawings and the dimensions given thereon shall be made only after agreement in writing is obtained from the Owner. The Contractor shall take all measurements of existing established conditions, which shall take precedence over the figured dimensions on the Drawings.

1.13 SITE CONDITIONS AND REPRESENTATIONS

A. Wherever existing conditions or construction not required as part of the work of the Agreement are shown on the Drawings, they are so shown as a source of information to the Contractor. The Owner, while believing such information to be substantially correct, assumes no responsibility therefore. The Contractor shall have made themselves familiar with all conditions affecting the nature and manner of performing the work and shall not be entitled to any extra compensation for any work or expense arising from or caused by their neglect to have verified all existing conditions and requirements.

B. It shall be the sole responsibility of the Contractor to satisfy themselves as to the nature of the work to be done, the general and local conditions, particularly those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electrical power, roads, and uncertainties of weather, or similar physical conditions of the site, the condition of the ground, the character of equipment and facilities needed preliminary to and during the prosecution of the work, and all other matters which can in any way affect the work or cost thereof. It shall further be the sole responsibility of the Contractor to satisfy themselves, as necessary, and assume all risk with respect to the character, quality, and quantity of any and all surface and subsurface materials to be encountered. Any failure on the part of the Contractor to acquaint themselves with the available information will not relieve them from responsibility for estimating properly the difficulty or cost of successfully performing the work.

1.14 SAFETY

A. The Contractor shall abide by all local, state, federal, OSHA and Central Maine Power Company Safety Standards.

1.15 CONDUCT OF EMPLOYEES

A. Any profanity, lewdness or offensive behavior will result in the Owner immediately discharging the Contractor's employee from the site.

1.16 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01200

PROJECT MEETINGS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 REQUIREMENTS INCLUDED

A. Contractor participation in pre-construction conferences.
B. Contractor administration of progress meetings and pre-installation conferences.

1.03 RELATED REQUIREMENTS

A. Section 01005 - Administrative Provisions: Coordination of Work.
B. Section 01300 - Submittals: Progress Schedules.
C. Section 01300 - Submittals: Shop Drawings, product data, and samples.
D. Section 01400 - Quality Control.
E. Section 01700 - Contract Closeout: Project record documents and operation and maintenance data.

1.04 PRE-CONSTRUCTION CONFERENCES.

A. Owner will administer pre-construction conference for execution of Owner-Contractor Agreement and exchange of preliminary submittals.
B. Owner will administer site mobilization conference at Project site for clarification of Owner and Contractor responsibilities in use of site and for review of administrative procedures.

1.05 PROGRESS MEETINGS

A. Attend Project meetings throughout progress of the work at maximum bi-weekly intervals, called meetings, and pre-installation conferences.
B. Contractor shall make physical arrangements for meetings, prepare agenda with copies for participants, preside at meetings, records minutes, and distribute copies within two days to Owner, participants, and those affected by decisions made at meetings.
C. Attendance: Job superintendent, major subcontractors and suppliers; Owner and Engineer as appropriate to agenda topics for each meeting.

D. Suggested Agenda: Review of work progress, status of progress schedule and adjustments thereto, delivery schedules, submittals, maintenance of quality standards, pending changes and substitutions, and other items affecting progress of work.

1.06 PRE-INSTALLATION CONFERENCES

A. When required in individual specification Section, convene a pre-installation conference prior to commencing work of the Section.
B. Require attendance of entities directly affecting, or affected by, work of the Section.
C. Review conditions of installation, preparation and installation procedures, and coordination with related work.

1.07 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 REQUIREMENTS INCLUDED

A. Procedures.
B. Construction Progress Schedules.
C. Shop Drawings.
D. Product Data.
E. Material Safety & Data Sheets (MSDS).
F. Manufacturer's Instructions.
G. Samples.
H. Field Samples

1.03 RELATED REQUIREMENTS

A. Section 01005 - Administrative Provisions: Work sequence.
B. Section 01005 - Administrative Provisions: Applications for Payment.
C. Section 01400 - Quality Control: Testing Laboratory Reports.
D. Section 01600 - Material and Equipment.
E. Section 01700 - Contract Closeout: Closeout submittals.
F. Section 01700 - Contract Closeout: Warranties and bonds.

1.04 PROCEDURES

A. Deliver submittals to Owner at address listed in the instructions to bidders.
B. Transmit each item under Engineer-accepted form. Identify Project, Contractor, subcontractor, major supplier; identify pertinent Drawing sheet and detail number, and Specification Section number, as appropriate. Identify deviations from Contract Agreement. Provide space for Contractor and Engineer review stamps.
C. Submit initial progress schedules and schedule of values in duplicate within 20 days after date established in Notice to Proceed. After review by Owner, revise and resubmit as required. Submit revised schedules as necessary to reflect changes since previous submittal.

D. Comply with progress schedule for submittals related to work progress. Coordinate submittal of related items.
E. After Owner review of submittal, revise and resubmit as required, identifying changes made since previous submittal.
F. Distribute copies of reviewed submittals to affected parties. Instruct recipients to promptly report any inability to comply with provisions.

1.05 CONSTRUCTION PROGRESS SCHEDULES

A. Submit gantt chart system using the critical path method
B. Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Show projected percentage of completion for each item of work as of time of each Application for Progress Payment.
C. Show submittal dates required for shop drawings, product data, and samples, and product delivery dates, including those furnished by Owner and those under Allowances.

1.06 SHOP DRAWINGS

A. Contractor Furnished Shop Drawings/Submittals
   1. Drawings/Submittals for Review
      a. Promptly after the signing of the Agreement and in no case later than 15 days thereafter the Contractor shall submit to the Owner a complete list of the Drawings/Submittals which will be submitted for review in accordance with this Specification and the Contractor's Proposal. This list shall be updated monthly and resubmitted as per original. The Drawing number, title, proposed submission date and actual submission date shall be given for each Drawing. The list shall be in a form agreeable to the Owner.
      b. The Contractor shall submit five (5) copies of all shop drawings/submittals including setting or erection Drawings or schedules for review.
      c. The Contractor shall submit five (5) prints directly to the Owner's Engineer:

Spaulding Engineering and Construction Services, Inc.
24 Common Street
Waterville, Maine 04901
Attn: Daniel E. Spaulding, P.E.

      d. The Owner's Engineer will keep two (2) copies for their records, forward one (1) copy to the Owner and return two (2) copies to the Contractor.

e. The Contractor shall allow 2 weeks for review of shop drawings/submittals.

2. Procedure - The Contractor shall check all shop drawings/submittals for compliance with the Contract Agreement prior to submittal to the Owner for compliance with the Contract Drawings and Specifications. All shop drawings/submittals shall bear the Contractor's stamp indicating that they have been so checked. All shop drawings/submittals of equipment shall bear the seal of certification of the vendor and/or manufacturer.
   a. The Owner and Engineer will review the shop drawings/submittals for compliance with the Contract Agreement and return one copy of each marked "No Exceptions", or "Exceptions as Noted", with further directions to "Resubmit", "Resubmission Not Required", or "Submit Certified Prints".
   b. If the shop drawing/submittal is returned to the Contractor stamped "No Exceptions", they may immediately proceed with the work. If the shop drawing/submittal is returned to the Contractor stamped "Exceptions as Noted and Resubmission is Not Required", they may proceed with the work taking into account the corrections noted on the shop drawing/submittal. However, corrected Drawings/submittals shall be submitted to both the Owner and the Engineer for information within fourteen (14) days after receipt of Drawings/submittals stamped "Exceptions as Noted".
   c. If the shop drawing/submittal is returned to the Contractor stamped "Exceptions as Noted and Resubmit for Acceptance", they shall not proceed with the work, but shall make the corrections and resubmit the revised shop drawing/submittal to the Owner for review.
   d. When the shop drawings/submittals are resubmitted, the Drawings/submittals shall incorporate all of the marked revisions. Where exceptions are taken to the marked revisions, the Contractor shall state their reasons for omitting and/or modifying the marked revisions in their transmittal letter. Resubmittals shall be made in the same manner as the original submittal.
3. Review of the shop drawings/submittals by the Owner and Engineer shall be general only and shall not relieve the Contractor in any way from their responsibility for proper detailing of the design furnished by the Owner, satisfactory construction, compliance with the Specifications and applicable codes, or for errors or omissions of any kind in the final installed work.

4. Timely submission of shop drawings/submittals, samples and models is required by the Owner to insure compliance with Specifications and continued progress of the work. The installation will not be considered complete under "Terms of Payment" of the General Terms and Conditions of the Contract until all of the required shop drawings/submittals have been received and finally reviewed without exceptions.

5. Certified Prints - When the Drawings or schedules have been corrected, if necessary, and resubmission for further review is not required, three (3) certified prints shall be furnished in the same manner as the original submittal.

1.07 PRODUCT DATA

A. Mark each copy to identify applicable products, models, options, and other data; supplement manufacturers' standard data to provide information unique to the work.
B. Submit the number of copies, which Contractor requires, plus five (5) copies, which will be retained by the Owner.

1.08 MATERIAL SAFETY & DATA SHEETS (MSDS)

A. Provide the Owner with a complete copy of all MSDS sheets for all materials, chemicals, glues, paints, solvents, cleaning products, etc. before bringing onto the Owner's site. The Contractor shall keep a complete bound copy of all OSHA required MSDS sheets on-site.

1.09 MANUFACTURER'S INSTRUCTIONS

A. When required in individual Specification Section, submit five (5) copies of manufacturer's printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, in quantities specified for product data.

1.10 SAMPLES

A. Submit full range of manufacturers' standard colors, textures, and patterns for Owner's selection. Submit samples for selection of finishes within 45 days after date of Agreement.
B. Submit samples to illustrate functional characteristics of the product, with integral parts and attachment devices. Coordinate submittal of different categories for interfacing work.
C. Include identification on each sample, giving full information.
D. Submit the number specified in respective Specification section; one will be retained by the Owner. Reviewed samples which may be used in the work are indicated in the Specification Section.

1.11 FIELD SAMPLES

A. Provide field samples of finishes at Project as required by individual Specification sections. Install sample complete and finished. Acceptable samples in place may be retained in completed work.

1.12 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 REQUIREMENTS INCLUDED

A. General Quality Control.
B. Workmanship.
C. Manufacturer's Instructions.
D. Manufacturer's Certificates.
E. Manufacturers' Field Services.
F. Testing Laboratory Services.

1.03 RELATED REQUIREMENTS

A. General Conditions: Inspection and testing required by governing authorities.
B. Section 01005 - Administrative Provisions: Applicability of specified reference standards.
C. Section 01300 - Submittals: Submittal of Manufacturer's Instructions.
D. Section 03300 - Concrete: Tests required for concrete.

1.04 QUALITY CONTROL, GENERAL

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

1.05 WORKMANSHIP

A. Comply with industry standards except when more restrictive tolerances, or more rigid standards or more precise workmanship are required by the Contract Agreement.
B. Perform work by persons qualified to produce workmanship of specified quality.
C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.06 MANUFACTURERS' INSTRUCTIONS

A. Comply with instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, request clarification from the Owner before proceeding.

1.07 MANUFACTURERS' CERTIFICATES

A. When required by individual Specification Sections, submit manufacturer's certificate, in duplicate, that products meet or exceed specified requirements.

1.08 MANUFACTURERS' FIELD SERVICES

A. When specified in respective Specification Sections, require supplier to provide qualified personnel to observe field conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, as applicable, and to make appropriate recommendations.
B. Representative shall submit written report to the Owner listing observations and recommendations.

1.09 TESTING LABORATORY SERVICES

A. The Contractor shall employ and pay for services of an Independent Testing Laboratory to perform inspections, tests, and other services required by individual Specification Sections.
B. Services will be performed in accordance with requirements of governing authorities and with specified standards.
C. Reports will be submitted to the Owner in triplicate giving observations and results of tests, indicating compliance or non-compliance with specified standards and with Contract Agreement.
D. Contractor shall cooperate with Testing Laboratory personnel; furnish tools, samples of materials, design mix, equipment, storage and assistance as requested.
    1. Notify the Owner and Testing Laboratory 24 hours prior to expected time for operations requiring testing services.
    2. Make arrangements with Testing Laboratory and pay for additional samples and tests for Contractor’s convenience.

1.10 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 REQUIREMENTS INCLUDED

A. Electricity, Lighting.
B. Telephone Service.
D. Water.
E. Sanitary Facilities.
F. Barriers.
G. Enclosures.
H. Protection of Installed Work.
I. Security.
J. Water Control.
K. Cleaning During Construction.
L. Field Offices and Sheds.

1.03 RELATED REQUIREMENTS

A. Section 01005 - Administrative Provisions: Work sequence. Contractor use of premises.
B. Section 01700 - Contract Closeout: Final cleaning.

1.04 ELECTRICITY, LIGHTING

A. Central Maine Power Company will provide power from the existing building receptacles for the Contractor's use.
B. The Contractor shall be responsible for all temporary construction lighting and power distribution. All lighting and power distribution shall be in compliance with all local, state, federal and OSHA requirements. The Contractor shall be responsible for providing and maintaining GFCI devices.

1.05 TELEPHONE SERVICE

A. The Contractor will be responsible for their own phone service.
B. The Owner will pay for their own telephone service.

1.06 WATER

A. Provide service required from existing water sources. The Contractor shall be responsible for extending branch piping with outlets located so that water is available by use of hoses. The Owner will pay for the costs of water.

1.07 SANITARY FACILITIES

A. The Contractor shall provide sanitary facilities as required for their use throughout the Project. The Contractor is responsible for providing sanitary facilities at the site for their usage.

1.08 BARRIERS

A. Provide as required to prevent public entry to construction areas and to protect adjacent properties from damage from construction operations.
B. Provide barriers around trees and plants designated to remain. Protect against vehicular traffic, stored materials, dumping, chemically injurious materials, and puddling or continuous running water.

1.09 ENCLOSURES

A. Provide temporary weather-tight enclosures of openings in exterior surfaces to provide acceptable working conditions and protection for materials, to allow for temporary heating, and to prevent entry of unauthorized persons. Provide doors with self-closing hardware and locks.

1.10 PROTECTION OF INSTALLED WORK

A. Provide temporary protection for installed products. Control traffic in immediate area to minimize damage.
B. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings. Protect finished floors and stairs from traffic, movement of heavy objects, and storage.
C. Prohibit traffic and storage on waterproofed and roofed surfaces, on lawn and landscaped areas.

1.11 SECURITY

A. Provide security program and facilities to protect work from unauthorized entry, vandalism, and theft.

1.12 WATER CONTROL

A. Grade site to drain. Maintain excavations free of water. Provide and operate pumping equipment.

1.13 CLEANING DURING CONSTRUCTION

A. The Project shall be kept in a neat and orderly fashion. Trash and litter shall be policed on a daily basis by the Contractor.
B. Control accumulation of waste materials and rubbish; periodically dispose of off-site.
C. Clean interior areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.

1.14 FIELD OFFICES AND SHEDS

A. Contractor to provide field office and utilities for their own operations.
B. Storage Sheds for Tools, Materials, and Equipment: Weather-tight, with heat and ventilation for Products requiring controlled conditions, with adequate space for organized storage and access, and lighting for inspection of stored materials.

1.15 REMOVALS

A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection.
B. Clean and repair damage caused by installation or use of temporary facilities. Remove underground installations to a depth of 2 feet; grade site as indicated. Restore existing facilities used during construction to specified, or to original, condition.

1.16 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01560

ENVIRONMENTAL MANAGEMENT

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 REQUIREMENTS INCLUDED

A. Dust Control.
B. Erosion and Sedimentation Control.
C. Noise Control.
D. Pollution Control.

1.03 DESCRIPTION OF WORK

A. The extent of environmental management control work is specified herein.
B. Aggregate materials are specified in Earthwork Section 02200.
C. Asphalt Paving is specified in Section 02513.

1.04 QUALITY ASSURANCE

A. Codes and Standards: Comply with local, state, and federal governing regulations regarding water quality and disposal of material.
B. Submittals: Furnish samples, manufacturer's product data, test reports, and materials' certifications substantiating that materials comply with specified requirements.

1.05 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor’s costs of items identified on the Proposal Form.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Silt Fence: Provide silt fence (if required) conforming to the following:
   1. Latest Edition of The Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices (BMP's).
   2. Acceptable Manufacturer:
      Mirafi Prefabricated Silt Fence with 48-Inch Posts - as manufactured by the Nicolon Mirafi Group or Owner approved equal.

B. Hay Bale Dike (if required): Provide clean, seed free hay bales, which are locally available.

PART 3 - EXECUTION

3.01 ABATEMENT OF AIR POLLUTION

A. The Contractor shall comply with the applicable Federal, State, and local laws and regulations concerning the prevention and control of air pollution.

B. In their conduct of construction activities and operation of equipment, the Contractor shall utilize such practicable methods and devices as are reasonably available to control, prevent, and otherwise minimize atmospheric emissions or discharges of air contaminants. Equipment and vehicles that show excessive emissions of exhaust gases due to poor engine adjustments, or other inefficient operating conditions, shall not be operated until corrective repairs or adjustments are made.

C. During the performance of the work required by these Specifications or any operations appurtenant thereto, whether on right-of-way provided by the Owner or elsewhere, the Contractor shall furnish all the labor, equipment, materials, and means required, and shall carry out proper and efficient measures wherever and as often as necessary to reduce the dust nuisance, and to prevent dust which has originated from its operations from property and dwellings, or causing a nuisance to persons or damaging equipment. The Contractor shall be held liable for any damage resulting from dust originating from his operations.

D. The cost of sprinkling, calcium chloride, or other methods of reducing formation of dust shall be included in the price bid in the schedule for the items of work involved.

3.02 EROSION AND SEDIMENT CONTROL

A. The Contractor shall perform all earthwork, and site operations to control any site erosion. If site is to cause any erosion, the Contractor shall erect and maintain site erosion and sedimentation control maintenance in strict adherence to the Maine Erosion and Sediment Control Handbook for Construction – Best Management Practices – BMP's.
B. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
C. Minimize amount of bare soil exposed at one time.
D. Provide temporary measures such as berms, dikes, and drains, to prevent water flow that may cause erosion.
E. Inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
F. In the event that water in foundation holes needs to be pumped, the Contractor shall be responsible for erecting sump pits consisting of haybales lined with filter fabric or other methods to allow contain silt and soil particulates.

3.03 NOISE CONTROL

A. Refer to applicable local ordinances concerning noise levels and limitations on hours of construction activities.

3.04 POLLUTION CONTROL

A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

3.05 SILT FENCE/HAY BALE INSTALLATION

A. Silt Fence/Hay Bale Dike: Install where required in accordance with manufacturers' recommendations prior to beginning clearing operations in the affected areas.
    1. Maintenance - The Contractor shall remove accumulated sediment from the silt fence when the accumulation reaches 60% of the capacity of the fence. The hay bale dike shall be removed/replaced when deterioration of the effluent quality is evident. The silt fence and hay bale dike shall be maintained until 75% or more of the seeding has been established.

3.06 EROSION CONTROLS INSPECTION:

A. Contractor shall inspect all environmental management measures at least once per week and immediately following rainstorms or other periods of heavy runoff.
B. Contractor shall provide an individual to inspect environmental management measures.
C. Contractor shall have adequate workers, equipment, and extra materials at the site to facilitate immediate repairs during rainstorms to the specified environmental management measures.
D. The Contractor shall maintain a weekly log of the condition of the environmental management measures noting deficiencies, additional repair/replacement work necessary, and dates and times of inspection. If corrective work is required, the weekly log shall indicate dates of observance and completion of corrective work.

END OF SECTION

SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 REQUIREMENTS INCLUDED

A. Products.
B. Transportation and Handling.
C. Storage and Protection.
D. Product Options.
E. Products List.
F. Substitutions.
G. Systems Demonstration.

1.03 RELATED REQUIREMENTS

A. Section 01005 - Administrative Provisions: Owner-furnished Products.
B. Section 01005 - Administrative Provisions: Allowances.
C. Section 01400 - Quality Control: Submittal of manufacturers' certificates.
D. Section 01700 - Contract Closeout: Operation and maintenance data.
E. Section 01700 - Contract Closeout: Warranties and Bonds.

1.04 PRODUCTS

A. Products include material, equipment, and systems.
B. Comply with Specifications and referenced standards as minimum requirements.
C. Components required to be supplied in quantity within a Specification section shall be the same, and shall be interchangeable.

1.05 TRANSPORTATION AND HANDLING

A. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.
B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.

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

1.06 STORAGE AND PROTECTION

A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.
B. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
C. Store loose granular materials on solid surfaces in a well- drained area; prevent mixing with foreign matter.
D. Arrange storage to provide access for inspection. Periodically inspect to assure products are undamaged, and are maintained under required conditions.

1.07 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards.
B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not specifically named.
C. Products Specified by Naming Several Manufacturers: Products of named manufacturers meeting Specifications: No options, no substitutions allowed.
D. Products Specified by Naming Only One Manufacturer: No options, no substitutions allowed.

1.08 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 of each product.

1.09 SUBSTITUTIONS

A. Only within 15 days after date of Owner-Contractor Agreement will Owner consider requests from Contractor for substitutions. Subsequently, substitutions will be considered only when a product becomes unavailable due to no fault of Contractor.
B. Document each request with complete data substantiating compliance of proposed substitution with Contract Agreement.
C. Request constitutes a representation that Contractor:

1. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.
2. Will provide the same warranty for substitution as for specified product.
3. Will coordinate installation and make other changes which may be required for work to be complete in all respects.
4. Waives claims for additional costs which may subsequently become apparent.
5. Will make the proposed substitution at no increase in cost to the Owner.

D. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request, or when acceptance will require substantial revision of Contract Agreement.
E. Owner will determine acceptability of proposed substitution, and will notify Contractor of acceptance or rejection in writing within a reasonable time.
F. Only one request for substitution will be considered for each product. When substitution is not accepted, provide specified product.

1.10 SYSTEMS DEMONSTRATION

A. Prior to final inspection, demonstrate operation of each system to Owner.
B. Instruct Owner's personnel in operation, adjustment, and maintenance of equipment and systems, using the operation and maintenance data as the basis of instruction.

1.11 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Closeout Procedures.
B. Final Cleaning.
C. Project Record Documents.
D. Operation and Maintenance Data.
E. Lien Waivers.
F. Warranties and Bonds.
G. Spare Parts and Maintenance Materials.

1.02 RELATED REQUIREMENTS

A. General Conditions: Fiscal provisions, legal submittals, and other administrative requirements.
B. Section 01005 - Administrative Provisions.
C. Section 01500 - Construction Facilities and Cleaning during construction.
D. Section 01560 - Temporary Controls.

1.03 CLOSEOUT PROCEDURES

A. Comply with procedures stated in General Conditions of the Contract for issuance of Certificate of Substantial Completion.
B. When Contractor considers work has reached final completion, 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 the Owner's inspection.
C. In addition to submittals required by the conditions of the Contract, provide submittals required by governing authorities, and submit a final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
D. The Owner will issue a final Change Order reflecting approved adjustments to Contract Sum not previously made by Change Order.
E. Prior to the release of the final project retainage, the Contractor shall submit a final release of liens.

1.04 FINAL CLEANING

A. Execute prior to final inspection.
B. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces. Clean equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment. Clean roofs, gutters, downspouts, and drainage systems.
C. Clean site; sweep paved areas, rake clean other surfaces.
D. Remove waste and surplus materials, rubbish, and construction facilities from the Project and from the site.

1.05 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. Reviewed shop drawings, product data, and samples.
B. Store Record Documents separate from documents used for construction.
C. Record information concurrent with construction progress. Do not permanently conceal any work until required information has been recorded.
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 to record actual construction including:
    1. Any dimensional variances of foundations, structural steel or other civil work from contract documents.
    2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
    3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the work.
    4. Field changes of dimension and detail.
    5. Details not on original Contract Drawings.
F. At Contract closeout, submit documents to Owner with transmittal letter containing date, project title, Contractor's name and address, list of documents, and signature of Contractor.

1.06 OPERATION AND MAINTENANCE DATA

A. Provide data for:
   1. Overhead Doors and Operators- Division 8.
B. Submit three (3) sets prior to final inspection, bound in 8-1/2 x 11 inch three-ring side binders with durable plastic covers.
C. Part 1: Directory, listing names, addresses, and telephone numbers of: Engineer and Contractor.
D. Part 2: Operation and maintenance instructions, arranged by Specification Division. For each Specification Division, give names, addresses, and telephone numbers of subcontractors and suppliers. List:
   1. Appropriate design criteria.
   2. List of equipment.
   3. Parts list.
   4. Operating instructions.
   5. Maintenance instructions, equipment.
   6. Maintenance instructions, finishes.
   7. Shop Drawings and product data.
   8. Warranties.

1.07 WARRANTIES AND BONDS

A. Provide duplicate, notarized copies. Execute Contractor's submittals and assemble documents executed by subcontractors, suppliers, and manufacturers. Provide table of contents and assemble in binder with durable plastic cover.
B. Submit material prior to final application for payment. For items of work delayed materially beyond Date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

1.08 LIEN WAIVERS

A. The Contractor shall submit lien waivers with each invoice, which shall cover the previous month’s work.
B. Prior to the release of final project retainage, the Contractor shall submit a final notarized lien waiver for the Project.

1.09 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, and maintenance materials in quantities specified in each Section, in addition to that used for construction of work. Coordinate with Owner, deliver to Project site and obtain receipt prior to final payment.

1.10 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 02050

SELECTIVE DEMOLITION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 SECTION INCLUDES

A. Scope of Work.
B. Submittals.
C. General demolition requirements.
D. Waste and debris.
E. Protection.
F. Dust control.
G. Noise control.
H. Asphalt pavement and concrete demolition removals.

1.03 RELATED REQUIREMENTS

A. Section 01005 - Administrative Provisions: Coordination of Work.
B. Section 01300 - Submittals: Progress Schedules.
C. Section 01400 - Quality Control.

1.04 SCOPE OF WORK

A. The extent of demolition is shown on the Drawings and as specified herein. The following is a summary of the demolition work required for this Project; however, it does not dictate the sequence of work or contain all of the individual requirements to accomplish the work:
    1. Five foot – six inch building expansion:
        a. Sawcut pavement and remove pavement in building expansion area.
        b. Demolish concrete along the top of the existing 1’-7” wall as indicated on the Drawings.
        c. Remove siding, steel angles, channels and lath and plaster surfaces as required to allow installation of new structural steel, overhead door tracks and new doors.

d. The existing lath and plaster has been tested for asbestos and was found to have no trace. Copy of testing results are included in Appendix B.
e. Remove and dispose of twelve (12) overhead doors, tracks and operators.
f. Black out existing ADA parking, van parking and walkway. Restripe and decal new ADA parking, ADA van parking and walkway areas upon completion.

1.06 SUBMITTALS

A. Submit proposed methods and operations of building demolition to the Owner for review prior to the start of the work. Demolition procedures, dust control, noise control, after hours and weekend work and temporary enclosures shall be addressed. The Contractor shall ensure that all openings are secure at the end of each day and that the building and Owner occupied areas security is maintained.
B. The Contractor shall be responsible for all permits except for the Building Permit and ensure that all disposal is performed in accordance with all local, state and federal requirements. The Contractor shall provide the Owner with copies of waste manifest for all materials removed from the site.

1.07 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 GENERAL DEMOLITION REQUIREMENTS

A. Perform demolition/removal work without damage to adjacent work. Where such retained work is damaged, the Contractor shall patch, repair, repaint or restore to the original condition.
B. Demolition/removal work shall be as indicated on the Drawings and as specified herein. Perform removal work in a neat and workmanlike manner.
C. Removed materials shall become the property of the Contractor, unless specified or indicated otherwise.

3.02 WASTE/DEBRIS

A. Waste and debris shall be placed in Contractor furnished containers to prevent the spread and accumulation of clutter, dust and dirt. Debris shall be removed from the work site as often as necessary to prevent the overflowing of the waste containers.
B. All disposal of waste and debris shall be in accordance with all local, state and federal rules and regulations.

3.03 PROTECTION

A. The Owner will be occupying the site throughout the work. The Contractor shall take all precautions to protect personnel, visitors, and property in the area of the work. Provide barriers and warning signs to reroute personnel and visitors around areas of work. Include warning signs of overhead work where necessary.
B. Provide all other barriers, warning devices and enclosures as required to protect the Owner from all jobsite hazards.

3.04 DUST CONTROL

A. The Owner will be occupying the site throughout the work. Dust control is an essential part of the demolition work. The Contractor shall take all precautions to prevent dust from entering areas outside of the work areas throughout the Project.

3.05 NOISE CONTROL

A. The Owner will be occupying the site throughout the work. This facility is critical to CMP's Portland area distribution services. Phone service is critical to this operation. The Contractor shall ensure that their demolition operations are performed in a manner to limit noise levels so as not to interfere with Owner's normal business operations.

3.06 PAVEMENT AND CONCRETE DEMOLITION REMOVALS

A. The Contractor shall be responsible for the removal and disposal of all asphalt pavement and concrete. All concrete and pavement shall be properly disposed of offsite.

END OF SECTION

SECTION 02200

EARTHWORK

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 SECTION INCLUDES

A. Removal of subsoil. Separately stockpile suitable material for later reuse. Remove excess or unsuitable material from site.
B. Excavation for foundations.
C. Gravel backfill of frost walls.
D. Excavation for foundations.
E. Gravel for parking area and building.
F. Refer to other Division-2 specifications that apply to, or must be coordinated with, this work.

1.03 DESCRIPTION OF WORK

A. The Contractor shall provide earthwork as shown on Drawings.
B. Earthwork includes, but is not limited to, the following:

Excavation and Grading
- Preparation of subgrades and bearing surfaces
- Benching
- Soil removal
- Location and protection of
- Existing underground utilities and structures
- Handling, storage, reuse, and disposal of excavated materials

Backfilling
- Gravel fill

1.04 DEFINITIONS

A. Earth: All Excavated materials not classified as rock. Earth includes pavements, obstructions visible on ground surface, underground structures and utilities, boulders and loose rock fragments less than one (1) cubic yard in volume.
B. Excavation: Consists of removal of material encountered to subgrade elevations indicated and subsequent disposal of materials removed.

1.05 QUALITY ASSURANCE

A. Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.
B. All gravel shall be compacted with the use of vibratory roller where feasible. In areas where a roller is not feasible compaction shall be achieved by the use of hand operated vibratory plate compactors.

1.06 JOB CONDITIONS

A. The Contractor shall mark out the areas to receive excavation and shall notify dig-safe prior to the start of any excavation work at the site. Dig Safe contact number is 1-888-DIGSAFE.
B. Existing Utilities: Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.
C. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, contact the Owner immediately for directions. Cooperate with Owner in keeping respective services and facilities in operation. Repair damaged utilities to the satisfaction of the Owner.
D. Protection of Persons and Property: Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations. Barricade open excavations occurring as part of this work and post warning lights.
E. Operate warning lights as recommended by authorities having jurisdiction.
F. Utilization of Materials:
    1. Excavated materials are anticipated to be allowed to be reused as project gravel fill and shall be stored on site, protected against the possibility of any erosion or sedimentation.
    2. Provide materials from off-site borrow sources or suppliers, as required.

1.07 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 SUBBASE GRAVEL FILL

A. For all fill beneath building and under paved areas use Coarse Gravel M.D.O.T. Type C Subbase material.

B. It is anticipated that materials excavated for the project will be suitable for use as subbase gravel fill.

2.02 GRAVEL BENEATH SLABS AND PARKING AREA SELECT GRAVEL FILL (SELECT GRANULAR FILL)

A. Base course select gravel fill shall be M.D.O.T. Type A. Aggregate for base shall be screened or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. Base course aggregate shall not contain any particles of rock that will not pass a 2-inch square mesh sieve. The gradation of the part that passes a 3 inch sieve shall meet the following:

U.S. Standard Sieve Size	Percent by Weight Passing Sieve
1/2"	45-70
1/4"	30-55
#40	0-20
#200	0-5

B. It is anticipated that materials excavated for the project will not be suitable for use as select gravel fill; therefore, select gravel fill will be required from off-site borrow sources.

PART 3 EXECUTION

3.01 EXCAVATION

A. Excavation consists of removal and disposal of material encountered when establishing required finish grade elevations.

B. Excavation Classifications: The following classifications of excavation will be made when excavation is encountered in work:

1. Earth Excavation (Overburden): Includes removal and disposal of pavements and other obstructions visible on ground surface, underground structures, and other materials encountered that are not classified as rock or unauthorized excavation.
    a. Coordinate the rate of excavation with ground conditions encountered in the field as necessary to prevent movement and loss of ground adjacent to excavations.
    b. Control the inflow of water into the excavation.
2. Unauthorized excavation: consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Owner. Unauthorized excavation, as well as remedial work directed by Owner, shall be at Contractor's expense.
    a. Under footings, foundation bases, or retaining walls, fill unauthorized excavation by extending indicated bottom elevation of footing or base to excavation bottom, without altering required top elevation. Lean concrete fill may be acceptable to Owner.
    b. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by Owner.
3. Additional Excavation: When excavation has reached required subgrade elevations, notify Owner who will make an inspection of conditions.
    a. If unsuitable bearing materials are encountered at required subgrade elevations, carry excavations deeper and replace excavated material as directed by Owner. Removal of unsuitable material and its replacement as directed will be paid on basis of contract conditions.

C. Stability of Excavations: Slope sides of excavations to comply with OSHA requirements. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.

D. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

E. Material Storage: Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade and shape stockpiles for proper drainage. Provide hay bales or silt fence around excavated material to protect against erosion.

F. Dispose of excess soil material and waste materials as herein specified.

G. Excavation for Structures: Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10', and extending a sufficient distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, other construction, and for inspection.

H. In excavating for footings and foundations, take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete reinforcement is placed. Trim bottoms to required lines and grades to leave solid base to receive other work.

I. Cold Weather Protection: Protect excavation bottoms against freezing when atmospheric temperature is less than 34^{o}F (1^{o}C).

3.02 SUBGRADE PREPARATION AND PROTECTION

A. General:
   1. Complete the excavations to the required grades allowing for subbase material bedding layers (if any).
   2. Remove any additional materials below subgrade levels, which were not naturally deposited or are unsuitable, where directed by the Owner.
   3. Backfill all holes, swales and low points, which will not otherwise be removed in the course of the work to the subgrade level indicated on the Drawings.

B. Gravel subbase fill backfill of frost walls:
   1. After concrete frost walls have been placed backfill both sides of foundation walls to gravel base elevation using gravel subbase fill. Place gravel subbase fill in uniform depths on both sides of wall to provide equalized pressure.

C. Granular Soil Subgrades:
   1. Upon completion of excavation, the natural soil subgrade shall be smoothed out by blading and compacted by at least two (2) coverages with the compaction equipment acceptable to the Owner.
   2. Soft spots detected during compaction shall be removed and replaced with compacted gravel fill.

D. Cold Weather Protection: Protect excavation bottoms against freezing when atmospheric temperature is less than 34^{o}F (1^{o}C).

3.03 PLACEMENT AND COMPACTION OF MATERIALS

A. General:
   1. Fills and backfills of the various types specified shall generally be placed and compacted within the limits and to the thickness indicated on the Drawings unless otherwise specified.

B. Placement:
   1. Placement of all specified fill and backfill materials shall be systematically conducted in the specified uniform layer thickness, which is measured, in all cases, prior to compaction.
   2. All backfill material shall be placed "in-the-dry" on subgrades acceptable to the Owner. The Contractor shall dewater excavated areas as required to perform the work, and in such a manner as to preserve the undisturbed state of the approved subgrade material.
   3. Control groundwater by ditches, sumps, sloped surfaces to permit collection and removal efficiently and with minimal disturbance to materials being placed.
   4. Prior to placing fill and backfill materials, complete the specified ground surface and subgrade preparation for materials encountered at ground surface and at subgrade levels, respectively.
   5. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
   6. Place backfill and fill materials evenly adjacent to structures to required elevations. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around structure to approximately same elevation in each lift.

C. Compaction:
   1. Compaction of fill and backfill materials, except drainage fill, shall be conducted with a minimum of four (4) complete coverages with acceptable compaction equipment and to a minimum specified density, which is expressed as a percentage of maximum dry density as determined by ASTM D1557. With drainage fill, only the minimum number of coverages with compaction equipment is specified.
   2. Compaction by puddling is prohibited.
   3. During compaction operations, incidental compaction due to traffic by construction equipment other than used specifically in compaction operations will not be credited toward the required minimum coverages specified.

D. Compaction Equipment:
   1. In all cases, the character and efficiency of the Contractor's compaction equipment shall be acceptable to the Owner based on observed or documented field performance.
   2. Compaction in open areas shall be conducted with heavy equipment such as vibratory rollers or by other acceptable equipment.

3. Compaction in confined areas (against walls, footings, piers, and in trenches) shall be conducted with acceptable equipment such as hand-guided vibratory compactors or tampers.

E. Moisture Control:
   1. The amount of moisture in any one layer of fill or backfill material shall be as uniform as practicable throughout.
   2. The upper limit of water content in materials shall be that which will permit handling and placing and will permit proper compaction with the Contractor's equipment. In no case shall the water content during compaction exceed a value of three (3) percentage points on the wet side of optimum water content as determined by ASTM D1557.
   3. The lower limit of water content shall not be less than two (2) percentage points below optimum water content.
   4. Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, and work the water into the material by mechanical means until a uniform distribution of moisture is obtained.
   5. Prevent free water appearing on surface during or subsequent to compaction operations.
   6. Should excess water be applied to any part of the material, such that materials are too wet to obtain the specified compaction, the compaction operations and all work on that section of placed material shall be suspended until the water content of the material is reduced to a value within the specified limits.
   7. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
   8. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to a satisfactory value.

F. Select gravel fill and Subbase gravel fill (Backfill beneath concrete slabs and parking areas):
   1. Place in layers not to exceed eight (8) inches when utilizing heavy compaction equipment and in six (6) inch layers when utilizing light hand-operated compaction equipment.
   2. Compact to at least 95 percent of maximum dry density.

3.04 BACKFILL AND FILL

A. General: Place acceptable soil material in layers to the required elevations, for each area classification listed below:
   1. In parking areas and under all slabs: M.D.O.T. Type A base aggregate, minimum of 12" thickness. Compact gravel to 95% of maximum dry density.
   2. Front and back of frost walls up to select gravel base elevation, use gravel subbase fill compacted to 95% of maximum dry density.

B. Backfill excavations as promptly as work permits, but not until completion of the following:
   1. Acceptance of construction below finish grade.
   2. Inspection, testing, approval, and recording locations of underground utilities.
   3. Removal of concrete formwork.
   4. Removal of trash and debris.

C. Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow, strip, or break-up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.

D. When existing ground surface has a density less than that specified under "Compaction" for particular area classification, break up ground surface, pulverize, moisture-condition to optimum moisture content, and compact to required depth and percentage of maximum density.

E. Place backfill and fill materials evenly adjacent to structures, piping or conduit to required elevations. Take care to prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping or conduit to approximately same elevation in each lift.

3.05 GRADING

A. General: Uniformly grade areas within limits of grading under this Section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are indicated, or between such points and existing grades.

B. Grading Around Building and Paved Areas: Grade areas adjacent to building and paved areas to drain away from areas and to prevent ponding.

C. Finish surfaces free from irregular surface changes, and as follows:
   1. Lawn or Ungravelled Areas: Finish areas to receive topsoil to within not more than 0.10' above or below required subgrade elevations.
   2. Areas to Receive Pavement: Shape surface of areas to line, grade, and cross-section, with finish surface not more than 1/2" above or below required finish elevation.

3. Areas to Receive Concrete Slabs: Shape surface of areas to line, grade, and cross-section, with finish surface not more than 1/4" above or below required finish elevation. Ensure grades are properly set to allow drainage to floor drain.

3.06 FIELD QUALITY CONTROL

A. During earthwork operations, the Owner may be present on the site to monitor and document the Contractor's activities relative to Contract compliance.

B. Acceptable materials placed and compacted to below the specified density shall alternatively be:
   1. Recompacted as required to achieve the specified density, or removed and replaced with properly placed and acceptably compacted material.

C. Materials placed and compacted, which do not conform to project Specifications for the area placed, shall be removed and replaced with suitable material when directed by the Owner.

3.07 MAINTENANCE

A. Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.

B. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

C. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

D. Settling: Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.08 DISPOSAL OF EXCESS AND WASTE MATERIALS

A. Removal from Owner's Property: Remove waste materials, including unacceptable excavated material, trash and debris, and dispose of it off Owner's property.

END OF SECTION

SECTION 02513

ASPHALTIC CONCRETE PAVING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 SECTION INCLUDES

A. Asphaltic concrete paving base course and wearing surface.

1.03 RELATED SECTIONS

A. Section 02200 - Earthwork.

1.04 REFERENCES

A. State of Maine Highway Department Standards - Current Edition.
B. The Asphalt Institute - Manual MS-13 - Asphalt Surface Treatments and Asphalt Penetration Macadam.
C. ASTM D946 - Penetration-Graded Asphalt Cement for Use in Pavement Construction.

1.05 QUALITY ASSURANCE

A. Perform work in accordance with State of Maine Highway Standards.
B. Mixing Plant: Conform to State of Maine Standards.
C. Obtain materials from same source throughout.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Do not place asphalt when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

1.07 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 MATERIALS

A. Asphalt Cement: ASTM D946.
B. Aggregate for Binder Course Mix: State of Maine Highway Standard.
C. Aggregate for Topping Course Mix: State of Maine Highway Standard.
D. Fine Aggregate: State of Maine Highway Standard.
E. Mineral Filler: Finely ground particles of limestone, hydrated lime or other mineral dust, free of foreign matter.

2.02 ACCESSORIES

A. Tack Coat: Homogeneous, medium curing, liquid asphalt. Tack coat will be required if the wearing course is not placed over the base course within 24 hours or if base course is travelled over.

2.03 ASPHALT PAVING MIX

A. Use dry material to avoid foaming. Mix uniformly.
B. Binder Course: State of Maine Highway Standard, 50 Gyration HMA Design 19.0 mm mix.
C. Surface Course: State of Maine Highway Standard, 50 Gyration HMA Design 12.5 mm mix.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify base conditions under provisions of Section 02200 - Earthwork.
B. Saw cut the full depth of pavement where new paved surfaces will mate to existing.
C. Where butting against previously placed pavement, grind back the wearing course a minimum of 18 inches to prevent a straight vertical joint at the new to old interface.
D. Verify that compacted granular base is dry and ready to support paving and imposed loads.
E. Verify gradients and elevations of base are correct.

3.02 PLACING ASPHALT PAVEMENT - DOUBLE COURSE

A. Place binder course 19.0 mm mix to compacted thickness of 2 inches in areas to receive new pavement.
B. Place surface course 12.5 mm mix to compacted thickness of 1 1/2 inch in areas to receive new pavement.
C. Compact pavement by rolling. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
D. Develop rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.04 TOLERANCES

A. Flatness: Maximum variation of 1/4 inch measured with 10 foot (3 m) straight edge.
B. Scheduled Compacted Thickness: Within 1/4 inch.
C. Variation from True Elevation: Within 1/2 inch.

3.05 FIELD QUALITY CONTROL

A. Field inspection will be performed under provisions of Section 01400.

3.07 PROTECTION

A. Immediately after placement, protect pavement from mechanical injury.

END OF SECTION

SECTION 03300

CONCRETE

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 WORK INCLUDED

A. Formwork, shoring, bracing, and anchorage.
B. Concrete reinforcement and accessories.
C. Cast-in-place concrete.

1.03 RELATED WORK

A. Section 02200 – Earthwork

1.04 REFERENCES

A. ACI 301 - Specifications of Structural Concrete for Buildings.
B. ACI 304 - Recommended practice for Measuring, Mixing, and transporting concrete.
C. ACI 306 - Cold Weather Concreting.
D. ASTM C33 - Concrete Aggregates.
E. ASTM C94 - Ready-Mixed Concrete.
F. ASTM C150 - Portland Cement.
G. ASTM C260 - Air Entraining Admixtures for Concrete.

1.05 QUALITY ASSURANCE

A. Perform work in accordance with ACI 301, 304, and 306.
B. Maintain copies of ACI 301, 304, and 306 on site.

1.06 REGULATORY REQUIREMENTS

A. Conform to local building codes.

1.07 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 Owner for review prior to commencement of work.
C. The Contractor shall be responsible for employing an independent testing agency to perform slump test, air entrainment tests and make concrete cylinders for each placement. One set of four (4) cylinders shall be made for each day or 50 cubic yards of concrete cast. Compressive tests shall be performed on the cylinders at 3, 14 and two (2) at 28 days. Slump and air test will be required on every truck. All testing and cylinders shall be performed in accordance with ACI 301.

1.08 SHOP DRAWINGS

A. Submit shop drawings of reinforcing steel under provisions of Section 01300.
B. Indicate reinforcement sizes, spacing, locations and quantities of reinforcing steel, bending and cutting schedules, splicing.

1.09 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 FORM MATERIALS

A. Conform to ACI 301.
B. Plywood Forms for Exposed Surfaces: APA Class 1 Plyform, B-B or high density overlaid one side exterior grade; sound undamaged sheets not less than 5/8" thick.
C. Form Ties: Removable cone ends for finish exposed concrete.
D. Form Release Agent: Shall be of a non-staining and non-emulsifiable type, or equal. Form release agent shall not impart any stain to concrete.

2.02 REINFORCING STEEL

A. Reinforcing Steel: ASTM A615, 60 ksi yield grade billet steel deformed bars; uncoated finish.

2.03 CONCRETE MATERIALS

A. Cement: ASTM C150, normal - Type I or Type II Portland, grey color.
B. Fine and Coarse Aggregates: ASTM C33.
C. Water: Clean and not detrimental to concrete.

2.04 ADMIXTURES.

A. Air Entrainment Admixture: ASTM C260.
B. Water-reducing Agent: ASTM C494, Type A. Water-reducing agent shall be by same manufacturer as air-entraining agent.

2.05 ACCESSORIES

A. Vapor Barrier: Moistop Ultra 10, 10 mil Polyolefin as manufactured by Fortifiber Building Systems Group (800) 773-4777, email:www.fortifiber.com or approved equal. Vapor barriers shall be used under all slabs with the exception of outdoor slabs.
B. Non-Shrink Grout: Premixed compound with non-metallic aggregate, cement, water reducing and plasticizing agents; capable of minimum compressive strength of 7000 psi at 28 days.
C. Rigid Perimeter Insulation: Shall be rigid, expanded polystyrene foam, 2" thick, "Styrofoam SM," by Dow Chemical Company; "Zero-Lite" by Johns-Manville; or equal approved by Owner.
D. Expansion Bolts: Parabolt, Kwik Bolt, Red Head Wedge Anchor, or approved equal, with the following ultimate capacities in 3000 psi concrete (3/4" dia. bolt, 4" embedment, tension = 10,000#, shear = 16,000#).
E. Construction Joints: Pre-molded joint filler. Cork Type conforming to ASTM D 1752 Type III. Joint filler shall be compatible with any joint sealer to be used.
F. Coat any steel, copper or aluminum that will be in contact with concrete with an asphalt bitumastic paint.

2.06 CURING MATERIALS

A. Water: Clean and drinkable.
B. Absorptive Mat: Burlap fabric of 12 oz/sq yd, clean, roll goods.
C. Floor Curing Compound and Sealer: Shall be Sonneborn Kure-N-Seal W. Transparent water-based curing, sealing and dustproofing compound.

2.07 CONCRETE MIX

A. Mix concrete in accordance with ASTM C94.
B. Foundation Concrete:
   1. Compressive Strength at 28 days: 4000 psi. In order to strip and get trucks back onto concrete in an expeditious manner the mix design shall be designed to achieve 3000 psi compressive strength in 3 days.
   2. Slump: 3 inch ± 1 inch
   3. Max stone size: ¾ inch
C. Slab On Fill Concrete:
   1. Compressive Strength at 28 days: 4000 psi In order to strip and get trucks back onto concrete in an expeditious manner the mix design shall be designed to achieve 3000 psi compressive strength in 3 days.
   2. Slump: 3 inch ± 1 inch
   3. Maximum stone size: ¾ inch
D. Add air entraining agent to mix for all concrete that will be exposed to the exterior. Foundation walls, footings and exterior slabs shall have an air content of 6% ± 1%.
E. Interior slabs shall not have an air entraining admixture added.

PART 3 EXECUTION

3.01 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. Coordinate work of other Sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.

3.02 REINFORCEMENT

A. Place, support, and secure reinforcement against displacement.
B. Reinforcing shall be placed in accordance with requirements of CRSI "Placing Reinforcing Bars".

3.03 INSTALLATION OF EMBEDDED ITEMS

A. Conform to requirements of ACI 318, Chapter 6, paragraph 6.3, "Conduits and Pipes Embedded in Concrete," and as specified below.
B. Installation of inserts required by other trades shall be coordinated with, or shall be installed prior to, placing of reinforcing steel.

C. Embed no pipes other than electrical conduit in any structural concrete. Provide steel sleeves or holes for pipes passing through concrete. Embed conduit in concrete only under following conditions:
   1. No conduit coating, except galvanizing or equivalent shall be used. Do not embed aluminum conduit.
   2. Do not cut, bend or displace any reinforcement.
   3. Do not place conduit between concrete surfaces and reinforcement.

D. Request permission of Owner for any variation from these requirements. Make request in writing, accompanied by suitable sketch.

3.04 PLACING CONCRETE

A. Concrete shall not exceed 85°F. Pre-cooling of aggregates and mixing water, adding chip or plate ice to the mixing water, or a combination of these or other approved means shall be used to maintain the temperature requirements.

B. Notify Owner minimum 24 hours prior to commencement of concreting operations.

C. Install vapor barrier under interior floor slabs on gravel. Lap joints minimum 6 inches and seal with manufacturer's recommended tape. Do not disturb vapor barrier while placing reinforcement. Vapor barrier shall be installed in strict accordance with the manufacturer's written instructions.

3.05 FLOOR SLABS

A. Saw cut control joints at every column.

B. Trowel or belt finish surfaces as scheduled.

3.06 TOLERANCES

A. Provide Class A tolerance to floor slabs according to ACI 301. Pitch to edge of wall at overhead doors as indicated on the Drawings.

3.07 SCHEDULE OF FORMED SURFACES

A. Smooth form finish at walls.

3.08 SCHEDULE OF FLOOR SLAB FINISHES

A. Steel trowel finish all interior surfaces.

3.09 CURING AND PROTECTION

A. Cold Weather Requirements:
   1. From the first frost of winter until the mean daily temperature falls below 40 degrees F, concrete shall be protected from freezing for not less than 48 hours after placing. After the mean daily temperature falls below 40 degrees F for more than 1 day, the temperature of concrete placed shall be between 50 degrees F and 57 degrees F, which temperature shall be maintained for 3 days, after which concrete shall be protected from freezing for 3 additional days.
   2. When it is necessary to heat the materials in order that the concrete when placed will have a temperature within the allowable range, water and aggregates shall be introduced into the mixer and the temperature allowed to stabilize before the cement is added. If heating of aggregates is not practicable, the water may be heated to any temperature required to produce a water-aggregate temperature in the 60 degrees F to 80 degree F range. Cement shall not be added to a mix having a higher temperature. Aggregate heating by direct steam will be allowed only with the approval of the Owner, and with batch water adjusted to compensate for the free water added to the aggregate. Indirect heating shall be used where possible.
   3. Regardless of material heating or the use of admixtures, protective measures shall be taken to maintain the temperature of freshly placed concrete as recommended by the ACI for the particular condition. Data on the duration of recommended protection, safe final removal of shores and forms, etc. shall conform to ACI Report "Cold Weather Concreting" (ACI 306).

4. The method of protecting freshly placed concrete will be determined for each particular case by the Owner. In general, external heating will not be required during the first three days if measures are taken to retain the heat of hydration. Such measures shall be commercial bat insulation, insulating board, loose fill insulation, or other material approved by the Owner. Canvas or plastic film shall be used to protect the insulation from precipitation. After three days, if heating is required to maintain the temperature of the concrete above freezing, it shall be provided as required. Heating shall be by steam, or by other equipment allowed by the Owner. No open steam, or by other equipment allowed by the Owner. No open fires, salamander heaters or unvented combustion heaters shall be allowed.

B. Hot Weather Requirements:

1. For concrete placed when the 2 day mean high temperature exceeds 80°F, ACI 305 Report, "Hot Weather Concreting" shall be followed.
2. Precautions should be taken when the rate of evaporation is expected to approach 0.2 $lb/ft^2/hr$. These precautions consist of dampening subgrade and forms, placing concrete at the lowest practicable temperature, erecting windbreaks and sunshades, reducing the time between placement of concrete and the start of curing, and minimizing evaporation, particularly during the first few hours subsequent to placing concrete by a suitable means such as applying moisture by fog mist.
3. Moist-curing shall consist of continuous sprinkling or fabric kept constantly wet for a minimum of three (3) days. Only moist-curing methods, and no other methods, shall be used for curing all concrete.
4. Where forms are used for curing, the forms shall be kept wet by continuous spraying or soaking with water.
5. Forms not supporting concrete may be removed 24 hours after placing concrete, provided the concrete is sufficiently hard to not be damaged by the form removal operations, and provided that curing and protection operations are maintained.

END OF SECTION

SECTION 03370

GROUT

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

A. The Contractor shall provide all non-pressure grout as shown on the Drawings and as may be required to successfully complete the Contract.
B. Grouting of dowels set in drill holes into existing concrete shall be done using non-metallic, non-shrink grout or proprietary epoxy or polyester resin grouts.

1.03 SUBMITTALS

A. The Contractor shall submit product information for all proprietary products proposed for use.

1.04 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 MATERIALS

A. Non-metallic Non-shrink Grout: Pre-mixed, non-metallic, non- corrosive, non-staining product containing selected silica sands, Portland cement, shrinkage compensating agents, plasticizing and water reducing agents, complying with CRD-C588, Type A.
   1. Products offered by manufacturers to comply with requirements for non-metallic, non-shrink grout include the following:
      Euco N.S." Euclid Chemical Co. Masterflow 713; Master Builders Five Star Grout; U.S. Grout Corp. Upcon; Upco Chem. Div., USM Corp. Propak; Protex Industries, Inc., MinWax Super-Por-rok.
   2. Epoxy or Polyester Resin Grouts may be used, subject to submission of acceptable product information and test data.

PART 3 EXECUTION

A. GENERAL

1. Comply with the manufacturer's recommendations for the use of the grouts.

END OF SECTION

SECTION 05120

STRUCTURAL STEEL

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 SECTION INCLUDES

A. Structural steel framing beams, columns, angles, and bracing.
B. Baseplates, and anchor bolts.
C. Shop priming, painting and field touch-up paint.

1.03 RELATED SECTIONS

A. Section 05500 – Metal Fabrications.
B. Section 09900 - Painting: Finish painting.

1.04 REFERENCES

A. ASTM A36 - Structural Steel.
B. ASTM A992 – Standard Specification for Structural Steel Shapes.
C. ASTM A123 - Zinc (Hot Dipped Galvanized) Coatings on Iron and Steel Products.
D. ASTM A153 - Zinc Coating (Hot Dip) on Iron and Steel Hardware.
E. ASTM A307 - Carbon Steel Externally Threaded Standard Fasteners.
F. ASTM A325 - High Strength Bolts for Structural Steel Joints.
G. AWS A2.0 - Standard Welding Symbols.
H. AWS D1.1 - Structural Welding Code.
I. AISC - Specification for the Design, Fabrication and Erection of Structural Steel for Buildings.
J. SSPC - Steel Structures Painting Council.
K. Occupational Safety and Health Administration (OSHA):
29 CFR 1926 SubR-2000 Safety and Health Regulations for Construction, Steel Erection

1.05 SUBMITTALS

A. Shop Drawings:
   1. Indicate profiles, sizes, spacing, and locations of structural members, openings, attachments, and fasteners.
   2. Connections.
   3. Indicate welded connections with AWS A2.0 welding symbols. Indicate net weld lengths.

1.06 FIELD MEASUREMENTS

A. Verify that field measurements are as shown on shop drawings.

1.07 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 MATERIALS

A. Structural steel W shapes: ASTM A992, Grade 50, Fy= 50 ksi.
B. All angles, channels, plates and bars: ASTM A36, Fy = 36 ksi.
C. Structural Tubing: ASTM A500, Grade B, Fy=46 ksi.
D. Round steel pipe: ASTM A 53, Type E, Grade B.
E. Bolts, Nuts, and Washers: ASTM A325.
F. Anchor Bolts: ASTM A307.
G. Welding Materials: AWS D1.1; type required for materials being welded E70XX Low Hydrogen.
H. Grout: Non-shrink type, non-metallic capable of developing a minimum compressive strength of 7,000 psi at 28 days.
I. Primer: Devoe, Catha-Coat 302H Reinforced Inorganic Zinc Primer or Owner-Approved Equal.
J. Finish Coat: Devoe Bar-Rust 235 – Multi-Purpose Epoxy Coating or Owner Approved Equal.

2.02 FABRICATION

A. Provisions for attachment of other materials: Punch and drill steel for attachment of other materials indicated on Drawings or noted in Specifications to be attached to steel.

B. Connections (unless otherwise indicated): Use welded or high strength bolted connections. Beams shall have framed or seated connections using 3/4 inch diameter (min.) high strength bolts in accordance with requirements of AISC "Manual of Steel Construction" and Contract Documents. One-sided or other eccentric connections shall be designed in accordance with AISC "Engineering for Steel Construction."

C. Oversize holes and short slotted holes: May be used only in high strength bolted connections in conformance with referenced Specifications. Hardened washers shall be used over outer plys with short slots or oversized holes. Short slots may be used only in beam end shear connections, with long axis of slot at right angle to shear direction. Oversize holes may be used only in friction-type bolted connections. Long slotted holes shall not be used.

D. Oxygen Cutting: Use only mechanically-guided torch for manual oxygen cutting; unguided torch may be used provided cut is not within 1/4 inch of finished dimension and final removal is completed by chipping or grinding to produce surface quality equal to base metal edges. Use of oxygen-cut holes for bolted connections will not be permitted; components prepared in this manner will be rejected.

2.03 FINISH

A. Prepare structural component surfaces in accordance with SSPC SP-6 Commercial Blast Finish.

B. Shop prime and paint all structural steel for the truck bay building expansion. Perform surface preparation to SSPC-6 Commercial Blast and prime with 1 coat Devoe Catha Coat 302H Reinforced Inorganic Zinc Primer at 2 mils minimum D.F.T. and provide 1 coat Devoe Bar-Rust 235 Multi-Purpose Epoxy Coating at 4.0 mils D.F.T. Color to be selected by Owner from standard color chart.

C. Apply paint to surfaces requiring paint only to within two inches of any field weld or high strength bolted friction-type connection. If for any reason surface to be field welded or bolted is painted, remove such paint completely to within stated limits before field welding or bolting.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.
B. Beginning of installation means erector accepts existing conditions.

3.02 ERECTION

A. Allow for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.
B. Field weld components indicated on shop drawings.
C. Do not field cut or alter structural members without approval of Owner.
D. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.
E. Setting Plates: Set base plates and bearing plates level to corrective elevations and support temporarily on steel wedges, shims, leveling devices, or as shown on Drawings, until corresponding supported member has been positioned, plumbed and anchor-bolted.
F. Entire area under plate shall then be packed solidly with non-shrink grout. Leave protruding leveling devices in place until after grout has attained required strength, and then cut off flush with top or edges of base plates, or both, except as otherwise noted.
G. Alignment: Align, level, and adjust members accurately prior to final fastening. Fasten compression member splices only after abutting surfaces have been brought completely into contact.
H. Temporary Bracing: As erection progresses, connect work securely and introduce temporary bracing wherever necessary to take care of loads to which structures may be subjected, including erection equipment and its operation. Leave such bracing in place as long as may be required for safety, but remove for final installation. Structure is designed to achieve lateral stability by roof diaphragm, column anchorage and portal frames. Contractor shall provide sufficient temporary bracing to maintain lateral stability until roof and portal frames and column anchorages are completely installed.
I. Field Oxygen Cutting of Openings in Structural Steel: When required in field shall be performed in accordance with requirements under "Fabrication, Oxygen Cutting" in this Section.

END OF SECTION

SECTION 05311
STEEL ROOF DECK

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 SECTION INCLUDES

A. Steel roof deck and accessories.

1.03 RELATED SECTIONS

A. Section 05120 - Structural Steel

1.04 REFERENCES

A. AISI - Specification for the Design of Cold-Formed Steel Structural Members.
B. ASTM A36 - Structural Steel.
C. ASTM A446 - Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Structural (Physical) Quality.
D. ASTM A525 - Steel Sheet, Zinc-Coated, Galvanized by the Hot-Dip Process.
E. AWS D1.1 - Structural Welding Code.
F. SDI - Design Manual for Composite Decks, Form Decks, Roof Decks.

1.05 SUBMITTALS

A. Submit under provisions of Section 01300.
B. Shop Drawings: Indicate decking plan, support locations, projections, openings and reinforcement, pertinent details, and accessories. Indicate temporary shoring of decking where required.
C. Product Data: Provide deck profile characteristics and dimensions, structural properties, finishes.
D. Manufacturer's Installation Instructions: Indicate specific installation sequence, special instructions.

1.06 QUALIFICATIONS

A. Installer: Company specializing in performing the work of this Section approved by manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site under provisions of Section 01600.
B. Store and protect products under provisions of Section 01600.
C. Cut plastic wrap to encourage ventilation.
D. Separate sheets and store decking on dry wood sleepers; slope for positive drainage.

1.08 FIELD MEASUREMENTS

A. Verify that field measurements are as shop drawings.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Vulcraft, A Division of Nucor Corporation, 1.5" "B" Wide Rib Deck.
B. Substitutions: Under provisions of Section 01600.

2.02 MATERIALS

A. Sheet Steel: ASTM A446, Grade B Structural Quality; with G60 galvanized coating conforming to ASTM A525.
B. Welding Materials: AWS D1.1.
C. Touch-Up Primer: Zinc chromate type.

2.03 FABRICATION

A. Metal Decking: Sheet steel, configured as follows:

Span Design: Multiple
Minimum Metal Thickness
(Excluding Finish): 22 gauge
Nominal Height: 1 ½ inch, fluted profile to SDI WR
Formed Sheet Width: 36 inch
Side Joints: Lapped
Flute Sides: Plain vertical face
Minimum yield strength: 33,000 psi

B. Metal Closure Strips, Cover Plates, Cant Strips, and Related Accessories: 20 gauge galvanized sheet steel; of profile and size required.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.
B. Beginning of installation means installer accepts existing conditions.

3.02 INSTALLATION

A. Erect metal decking in accordance with SDI Design Manual for Composite Decks, Form Decks, Roof Decks, and manufacturer's instructions.
B. Bear decking on steel supports with 3 inch minimum bearing. Align and level.
C. Fasten ribbed deck to steel support members at ends and intermediate supports with 5/8” puddle welds at 12 inches on center maximum (36/4 pattern), parallel with the deck flute and at each transverse flute.
D. Weld in accordance with AWS D1.1.
E. Mechanically fasten side laps with #10 galvanized tech screws at 3’ center to center maximum spacing.
F. Install sheet steel closures and angle flashings to close openings between deck and walls, columns, and openings.
G. Immediately after welding deck and other metal components in position, coat welds, burned areas, and damaged surface coating, with touch-up zinc rich primer.

END OF SECTION

SECTION 05500

METAL FABRICATIONS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 WORK INCLUDED

A. Shop fabricated ferrous metal items, galvanized and prime painted.
B. Refer to Schedule at end of this Section.

1.03 WORK FURNISHED, BUT INSTALLED UNDER OTHER SECTIONS

A. Furnish metal fabrications to be cast in concrete to Section 03300 - Concrete.

1.04 RELATED WORK

A. Section 09900 - Painting: Paint finish.

1.05 REFERENCES

A. ASTM A36 - Structural Steel.
B. ASTM A53 - Hot-Dipped, Zinc-coated Welded and Seamless Steel Pipe.
C. ASTM A325 - High Strength Bolts for Structural Steel Joints.
D. ASTM A386 - Zinc-Coating (Hot-Dip) on Assembled Steel Products.
E. ASTM A500 - Cold-formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
F. ASTM A501 - Hot-formed Welded and Seamless Carbon Steel Structural Tubing.
G. AWS D1.1 - Structural Welding Code.
H. FS TT-P-641 - Primer Coating, Zinc Dust-Zinc Oxide (for Galvanized Surfaces.)
I. FS TT-P-645 - Primer, Paint, Zinc Chromate, Alkyd Type.

1.06 SHOP DRAWINGS

A. Submit shop drawings under provisions of Section 01300.
B. Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.
C. Include erection drawings, elevations, and details where applicable.
D. Indicate welded connections using standard AWS welding symbols. Indicate net weld lengths.

1.07 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 MATERIALS

A. W Steel Sections: ASTM A992, Grade 50.
B. All Other Steel Sections: ASTM A36.
C. Pipe Section: ASTM A53, Grade B
D. Steel Tubing: ASTM A500, Grade B.
E. Bolts, Nuts, and Washers: ASTM A325.
F. Welding Materials: AWS D1.1; type required for materials being welded.
G. Shop Paints:
    1. Primer: Devoe Catha Coat 302H Reinforced Inorganic Zinc Primer or Owner-Approved Equal.
    2. Finish Coat: Devoe Bar Rust 235 – Multi-Purpose Epoxy Coating or Owner Approved Equal.
    3. Painting requirements are specified in Section 09900.

2.02 FABRICATION

A. Verify dimensions on site prior to shop fabrication.
B. Fabricate items with joints tightly fitted and secured.
C. Fit and shop assemble in largest practical sections, for delivery to site.
D. Grind exposed welds flush and smooth with adjacent finished surface. Ease exposed edges to small uniform radius.
E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of structure, except where specifically noted otherwise.
F. Make exposed joints butt tight, flush, and hairline.

G. Supply components required for anchorage of metal fabrications. Fabricate anchorage and related components of same material and finish as metal fabrication, except where specifically noted otherwise.

2.03 FINISH

A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
B. Do not prime surfaces in direct contact bond with concrete or where field welding is required.
C. Apply paint by spray process in strict accordance with manufacturer's printed instructions to uniform thicknesses recommended by manufacturer. Apply thoroughly and evenly and work well into corners and joints taking care to avoid sags and runs.
D. After erection, sand smooth and retouch all portions of the shop coats chipped or damaged during erection, and coat all field welds and connections with primer equivalent to that used for the shop coat.

PART 3 EXECUTION

3.01 PREPARATION

A. Obtain Owner approval prior to site cutting or making adjustments not scheduled.
B. Clean and strip site primed steel items to bare metal where site welding is scheduled.
C. Make provision for erection loads with temporary bracing. Keep work in alignment.
D. Supply items required to be cast into concrete or embedded in masonry with setting templates, to appropriate Sections.

3.02 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.
B. Perform field welding in accordance with AWS D1.1.
C. After installation, touch-up field welds, scratched or damaged surfaces with primer.
D. All metal work shall be rigidly braced and secured to surrounding construction, and shall be tight and free of rattle, vibration, or noticeable deflection after installed.
E. Electrolytic Isolation: Where dissimilar metals are to come into contact with one another, isolate by application of a heavy coating of bituminous paint on contact surfaces in addition to shop coat specified above. Do not permit the bituminous paint in any way to remain on surfaces to be exposed or to receive sealant.

3.03 SCHEDULE

A. Provide and install items listed in Schedule and shown on Drawings with anchorage and attachments necessary for installation.
B. The Schedule is a list of principal items only. Refer to Drawing details for items not specifically scheduled:
C. Concrete slab at overhead doors - L3x3x1/4 nosing: Hot dipped galvanized. Cut to indicated lengths, and equipped with 5/8" x 5" long studs welded to L3x3 at ends and maximum spacing of 18 in. on center between.
D. Overhead door channel embeds: Channels to be embedded in concrete shall be shop blasted and primed and field painted. Channels shall have 5/8" diameter x 5 inch long studs at 12 inch on center as indicated on the Drawings.
E. Overhead side channels and top channel shall be shop blasted to SSPC-SP6 Commercial blast, shop primed and shop painted.

END OF SECTION

SECTION 06001

CARPENTRY WORK

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

A. Carpentry work includes work not specified as part of other sections and which is generally not exposed, except as otherwise indicated. Types of work in this Section include carpentry work for:

1. Wood nailers, blocking, and sleepers.
2. Fire Retardant plywood.
3. Wood fasteners.
4. Sill Sealer.
5. Miscellaneous wood trim boards.
6. Fire retardant vapor barrier.

1.03 RELATED WORK

A. Section 07534 – Elastomeric Roofing - All trim to match fascia.
B. Section 07900 – Joint Sealers
C. Section 08360 – Sectional Overhead Doors – Wood supports for tracks.
D. Section 09900 - Painting

1.04 REFERENCES

A. Lumber Standards: Comply with PS20 and with applicable rules of the respective grading and inspecting agencies for species and products indicated.
B. Plywood Product Standards: Comply with PS1 (ANSI A199.1) or, for products not manufactured under PS1 provisions, with applicable APA Performance Standard for type of panel indicated.

1.05 QUALITY ASSURANCE

A. Rough Carpentry Lumber: Visible grade stamp, of agency certified by National Forest Products Association (NFPA).
B. When applicable, fabricate cabinetwork and site made finish carpentry items in accordance with recommendations of Quality Standards of Architectural Woodwork Institute (AWI).

1.06 SUBMITTALS

A. Submit shop drawings under provisions of Section 01300.
B. Indicate in complete detail covering all finish carpentry and architectural woodwork items.
C. Submit samples under provisions of Section 01300 of standard colors and patterns of plastic laminate for Owner selection.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver shop fabricated carpentry items until site conditions are adequate to receive the work. Protect items from weather while in transit.
B. Store indoors, in ventilated areas with a constant, minimum temperature of 60 degrees F, maximum relative humidity of 25 to 55 percent.

1.08 JOB CONDITIONS

A. Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow proper attachment of other work.

1.09 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 MATERIALS

A. Lumber, General:
   1. Factory mark each piece of lumber and plywood with type, grade, mill and grading agency, except omit marking from surfaces to be exposed with transparent finish or without finish.
   2. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
   3. Provide dressed lumber, S4S, unless otherwise indicated.

B. Exterior/Interior Wall Sheathing: ½"Exterior grade Fire Retardant as manufactured by Hoover Treated Wood Products – Exterior Fire -X or approved equal.

C. Miscellaneous Lumber:
   1. Provide wood for support or attachment of other work including cant strips, bucks, nailers, blocking, furring, grounds, stripping and similar members. Provide lumber of sizes shown or specified, worked into shapes shown, and as follows:
      a. Moisture content: 19% maximum for lumber items not specified to receive wood preservative treatment.
   2. Grade: Construction Grade light framing size lumber of Spruce/Pine/Fir No. 2 grade or better.
   3. Miscellaneous Materials:
      a. Fasteners and Anchorages: Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.
      b. Where rough carpentry work is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners and anchorages with a hot-dip zinc coating (ASTM A 153).

D. Fire Retardant Vapor Barrier: Griffolyn Type -55 FR 3 ply laminate fire retardant vapor barrier as manufactured by Reef Industries, Inc or approved equal. Barrier shall be placed between existing metal siding and fire retardant plywood. All seams shall be continuously taped.

2.02 WOOD TREATMENT

A. Preservative Treatment: Where lumber is indicated as "PT" pressure treated, or is specified herein to be treated, comply with applicable requirements of AWPA Standards C2 (Lumber) and C9 (Plywood) and of AWPB standards listed below. Mark each treated item with the AWPB Quality Mark Requirements.

B. Pressure-treat above-ground items with water-borne preservatives complying with AWPB LP-2. After treatment, kiln-dry to a maximum moisture content of 15%. Treat indicated items and the following:

1. Wood cants, nailers, curbs, blocking, stripping and similar members in connection with roofing, flashing, vapor barriers and waterproofing.
2. Sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete.
3. Building sills in contact with concrete.
4. If cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment.
5. Inspect each piece of treated lumber or plywood after drying and discard damaged or defective pieces.

2.03 MISCELLANEOUS TRIM BOARDS

A. Provide and install all miscellaneous trim boards required to produce a totally enclosed building envelope.

PART 3 EXECUTION

3.01 ROUGH CARPENTRY WORK

A. No attempt is made in this Specification to list the various elements of rough carpentry work, as the major part of the work to be done is clearly shown on or reasonably inferred from the Drawings. The rough carpentry work required shall include all such work required throughout the project to complete the entire intent of the work, regardless of whether or not each and every item is specifically called for. Refer to Drawings to determine the major extent of the rough carpentry work required.

B. The Contractor shall be responsible for structural integrity, connections, and anchorage of all rough carpentry work.

C. Construct all rough carpentry work plumb, level, and true with tight, close fitting joints, securely attached and braced to surrounding construction, all in a first class workmanlike manner. Counterbore for bolt heads, nuts, and washers where required to avoid interference with other materials.

D. All structural members shall be full-length without splices, and spaced not farther than 16 in. on center, except as may be otherwise specifically indicated on the Drawings.

E. Wood blockings, nailers, edgings, sleepers, etc., shall be installed as indicated or specified and shall be furnished in not less than 12 ft. lengths, except where shorter lengths are required.

F. Nailing of rough carpentry work shall conform to requirements of the governing laws and codes.

G. Discard units of material with defects which might impair quality of work, and units which are too small to fabricate work with minimum joints or optimum joint arrangement.

H. Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted.

I. Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes.

J. Use common wire nails, except as otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.

K. Provide and install zinc plated or galvanized self taping screws where fire rated plywood will be attached to steel framing members.

L. Secure wall sheathing perpendicular to framing members with ends staggered.

M. Installation, screwing and nailing of plywood sheathing, and underlayment to wood and light gauge steel framing and furring shall be in strict accordance with the printed specifications and recommendations of the American Plywood Association and of the manufacturer of the light gauge framing and furring systems. At exterior roofs, walls, sills, etc., use stainless steel or galvanized screws for all fastenings.

END OF SECTION

SECTION 07213

INSULATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

A. Insulation work includes the following work:
   1. Foundation rigid perimeter insulation.
   2. Wall fiberglass batts.
   3. Concrete slab vapor barrier is specified in Section 03300.
   4. Roof insulation is specified in Section 07534.

1.03 RELATED WORK

A. Section 03300 – Concrete – Vapor Barrier
B. Section 06601 – Vapor Barrier
C. Section 07465 - Metal Siding and Trim
D. Section 07534 – Elastomeric Sheet Roofing Adhered Roof System

1.04 QUALITY ASSURANCE

A. Insulation shall not be produced with, or contain any of the United States EPA regulated CFC compounds listed in the Montreal Protocol of the United Nations Environmental Program.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect insulation from physical damage.
B. Comply with manufacturer's recommendations for handling, storage and protection.
C. Handle boards carefully so that corners are not broken off or boards otherwise damaged.

1.06 SYSTEM DESCRIPTION

A. Materials of this Section shall provide a thermal barrier at building enclosure elements.

1.07 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Batt and Blanket Insulation:
   1. Owens-Corning: 4, 6 or 8 inch preformed glass fiber batt; ASTM C665 Type I meeting requirements of ASTM E84 and ASTM E135.
   2. Substitutions: Under provisions of Section 01600.

B. Foundation Rigid Insulation:
   1. Dow StyroFoam Square Edge Extruded Polystyrene Insulation. Two (2) inch thick with a minimum R-value of 10 and a minimum compressive strength of 25 psi.
   2. Substitutions: Under provisions of Section 01600.

2.02 MATERIALS

A. Batt Insulation: FS HH-I-521; preformed glass fiber batt; Type I - without membranes. R value at 6" stud walls shall be R-19. R-value of 4" stud insulation R-11.

B. Foundation insulation: 2 inch thick square edge extruded polystyrene insulation with a minimum R-value of 10 and a minimum compressive strength of 25 psi.

2.03 ACCESSORIES

A. Nails or Staples: Steel wire; galvanized; type and size to suit application.

B. Tape: Polyester self-adhering type; translucent; 2 inch wide.

C. Foundation board adhesive: As recommended by the insulation manufacturer

PART 3 EXECUTION

3.01 PREPARATION

A. Remove concrete fins and mortar projections that interfere with placement of insulation boards for foundation rigid insulation.
B. Verify adjacent materials are dry and ready to receive installation.
C. Verify mechanical and electrical services within walls have been installed and tested.

3.02 INSTALLATION

A. Foundation rigid insulation:
   1. Apply insulation boards to the inside face of the exterior foundation walls except where otherwise indicated.
   2. Extend insulation in from wall full width of new slab.
   3. Adhere to wall by applying 2" diameter spots to adhesive to insulation boards 16" on center in both directions.
   4. Cut insulation to fit snugly around pilasters, projections, curves and irregularities on the wall surface. Fill voids with insulation.
B. Unfaced fiberglass batt insulation:
   1. Secure to supports as shown on the Drawings.
   2. Install fire retardant vapor barrier between interior face of sheathing and supports.
C. Coordinate work with that of other related trades.

END OF SECTION

SECTION 07465

INSULATED METAL WALL PANELS AND TRIM

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

A. Work includes:
   1. Providing and installing all exterior siding, fasteners, trim, outside and inside corners, j- channel, flashing, base trim, closure pieces and caulking to produce a complete weatherproof metal shell.
   2. Fascia for the building expansion is specified in Section 07534

1.03 RELATED WORK

A. Section 01400 – Quality Control.
B. Section 05500- Metal Fabrications.
C. Section 07534 – EPDM Roofing
D. Section 07900- Joint Sealers

1.04 REFERENCES

A. ANSI/ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
B. ANSI/ASTM A446 - Steel Sheet, Zinc Coated (Galvanized) by the Hot Dip Process, Structural (Physical) Quality.

1.05 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 INSUALTED METAL WALL PANELS

A. The Contractor is to furnish preformed galvanized prefinished insulated wall panels as manufactured by MBCI Metal Roof and Wall Systems Rome New York 1-800-559-6224 or Owner approved alternate.
B. Wall side panels between overhead doors shall be a 3 inch Eco-ficient Grand VW insulated wall panel with a 22 gauge exterior skin and a 26 gauge interior skin. Panels shall be galvanized with a Signature 200 wall finish. Minimum R-value shall be 7.69 per inch of insulation thickness. Color: white.
C. Panels above overhead doors and on the side walls shall be a 3 inch Eco-ficient Classic insulated wall panel with a 26 gauge exterior skin and a 26 gauge interior skin. Panels shall be galvanized with a Signature 200 wall finish. Minimum R-value shall be 7.69 per inch of insulation thickness. Color: white.

2.02 TRIM MATERIALS

A. Provide manufacturer’s standard J-channels, inside and outside corner pieces, base and drip, jamb and head trim.
B. Install trim with galvanized coated fasteners colored to match trim color.

2.03 MATERIALS

A. Sealants and Gaskets: Manufacturer's standard type suitable for use with installation of siding; non-staining; non-shrinking and non-sagging; ultra-violet and ozone resistant for exterior applications; color as selected.
B. Fasteners: Manufacturer's standard type to suit application; self tapping or self drilling galvanized and coated to match the siding color.
C. For pre-formed metal siding, provide touch-up paint as recommended by manufacturer.

2.04 FABRICATION

A. Install all siding and trim in accordance with manufacturer’s recommendations.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install as shown on Drawings.
B. Install siding, soffits, and related components in accordance with manufacturer's instructions.

C. Permanently fasten siding system to structure; align, level, and plumb, within specified tolerances.
D. Seal and place gaskets to prevent weather penetration. Maintain neat appearance.

3.02 TOLERANCES

A. Maximum Offset from True Alignment Between Adjacent Members Butting or In line: 1/16 inch.
B. Maximum Variation from Plane or Location Indicated on Drawings: 1/8 inch.

END OF SECTION

SECTION 07534

ELASTOMERIC SHEET ROOFING
FULLY ADHERED ROOF SYSTEM

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

A. The roofing Contractor shall supply all labor, equipment, temporary protection, tools, and equipment necessary for the proper installation and completion of the work as required in these specifications and in accordance with good roofing practice.

1. The Project includes a new fully adhered EPDM roof over a 22 gauge galvanized metal deck with isocyanurate insulation and edge nailers. The project shall also include the installation of prefinished metal trim.
2. Mobilize with all-necessary material and equipment to accomplish all activities of the project.
3. Install a new Fully Adhered Roofing System produced by "Firestone Building Products or Carlisle" per the Drawings and Specifications. The Fully Adhered Roofing System shall consist of insulation, fasteners, adhesives, membrane and all other appurtenances.
4. Contractor shall verify all dimensions, details, and existing conditions prior to bid.
5. The work includes, but is not necessarily limited to, the installation of:
    a. insulation
    b. fasteners
    c. roof membrane
    d. roof membrane flashings
    e. wood blocking
    f. pressure treated wood blocking & plywood
    g. metal work (perimeter coping/fascia installation)
    h. sealants and adhesives

1.03 RELATED WORK

A. Section 07465 - Metal Siding and Trim
B. Section 07900 – Joint Sealers

1.04 QUALITY ASSURANCE

A. This roofing system shall be applied only by an approved Contractor authorized prior to bid by roof membrane manufacturer.
B. Upon completion of the installation, an inspection shall be made by a representative of the manufacturer to ascertain that the roofing system has been installed according to applicable manufacturer's specifications and details. A copy of the Roof Inspection Report shall be supplied to the Owner.
C. There shall be no deviation made from this Specification or the approved shop drawings without prior written approval by the Owner and the roofing system manufacturer.
D. All work shall be completed by personnel trained and authorized by manufacturer.

1.05 CODE REQUIREMENTS

A. The proposed roofing system shall meet the requirement of the following recognized code approval or testing agencies. These requirements are minimum standards and no roofing work shall commence without written documentation of the system's compliance, as required in the "Submittals" section of this Specification.

1. Factory Mutual Research Laboratories, Norwood, Massachusetts
   a) F. M. Class C system approval
   b) F. M. I-75 Wind uplift resistance
2. Underwriters' Laboratories, Chicago, Illinois
   a) U.L. Class C membrane system

1.06 SUBMITTALS

A. The roofing Contractor shall submit to the Owner the following for review prior to the start of any work:
   1. Samples of each material to be used on the roof system including each components manufacturer's literature.
   2. Written approval by the insulation manufacturer (as applicable) for use and performance of the product in the proposed system.
   3. Specimen copy of Manufacturer's warranty.
   4. Specimen copy of Contractor's warranty.
   5. Dimensioned shop drawings which shall include:
      a. Outline of roof and roof size;

b. Profile details of flashing methods for penetrations and terminations.
c. Technical acceptance from manufacturer.

6. Certifications by producers of roofing and insulating materials that all materials supplied comply with all requirements of the identified ASTM and industry standards.
7. Certification that system specifications meet all identified code and insurance requirements.
8. MSDS sheets.

1.07 PRODUCT DELIVERY, STORAGE AND HANDLING

A. All products delivered to the jobsite shall be in the original unopened containers or wrappings.
B. Handle all materials to prevent damage. Place all materials on pallets and fully protected from moisture.
C. Membrane rolls shall be stored lying down on pallets, and fully protected from moisture.
D. Bonding adhesives shall be stored at temperatures above 40 degrees F.
E. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on container or supplied by material manufacturer/supplier.
F. Any materials, which are determined damaged by the Owner and manufacturer, are to be removed from the jobsite and replaced at no cost to the Owner.

1.08 JOB CONDITIONS

A. Manufacturer's materials may be installed under certain adverse weather conditions (temperature, moisture, humidity), but consultation with the manufacturer is advised since production costs may be affected and certain precautions recommended.
B. When the outside temperature is below 50F, installation of the roof system requires additional precautions:

1. Splice Adhesive will become progressively stiffer as the temperature drops. As a result, the desired smooth glossy adhesive surface will not be achievable unless the following precautions for cold weather splicing are followed:
    a. Start work with sealants and adhesives at room temperature (60F - 80F). (Insulated, heated boxes may be advantageous.)
    b. Complete a test splice to determine the adhesive flash off time.
    c. Stop the splicing operation or change cans when the adhesive becomes too thick.
    d. Certain combinations of temperature and humidity may cause condensation on the surface of the Splice Adhesive. If this

condition occurs, flash the splice with QuickSeam Flashing when the ambient air conditions no longer cause condensation.

2. Do not use heat guns or open flames during splicing procedures,
3. Certain combinations of temperature and humidity may cause condensation on the surface of the Bonding Adhesive. If this condition occurs, do not mate surfaces. When the ambient air conditions no longer cause condensation, apply additional Bonding Adhesive and proceed.

C. Only as much of the new roofing as can be made weathertight each day including all flashings and metalwork, shall be installed.

D. All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The existing building and its contents shall be protected against all risks, and any damages shall be repaired or replaced by the Contractor at no cost to the Owner.

E. All surfaces to receive new insulation, membrane or flashings shall be thoroughly dry. Should surface moisture occur, the Contractor shall provide the necessary equipment to dry the surface prior to application.

F. All new and temporary construction, including equipment and accessories, shall be secured against wind blow-off or damage.

G. Temporary waterstops shall be installed at the end of each day's work, and shall be removed before proceeding with the next day's work. Waterstops shall be compatible with all materials and shall not emit dangerous or incompatible fumes.

H. The Contractor is cautioned that certain manufacturer’s membranes are incompatible with asphalt, coal tar and oil-based materials and cements. Creosote and penta-based materials are also incompatible. Such materials should not come in contact with manufacturer’s membranes at any time. If such contacts occur, the material shall be cut out and discarded. The Contractor should consult manufacturer with respect to material compatibility, precautions, and recommendations.

I. Arrange work sequence to avoid use of newly-constructed roofing for storage, walking surface, and equipment movement. Where such access is absolutely required, the Contractor shall provide all necessary protection for all new and existing roof areas, which receive traffic during construction.

J. Prior to and during application, all dirt, debris, and dust shall be removed from surfaces either by vacuuming, sweeping, blowing with compressed air and/or similar methods.

K. All roofing, insulation, flashings and metal work removed for construction shall be immediately taken off the site to a legal dumping area authorized to receive such materials. Any hazardous materials such as asbestos or materials containing asbestos fibers shall be disposed of in accordance with applicable City, State and Federal requirements.

L. The Contractor shall follow all safety regulations as required and recommended by OSHA.

M. The Contractor shall take care during application and storage that overloading of deck and structure does not occur.

N. Installation of a manufacturer's membrane over coal tar pitch, or resaturated roof, may require special installation precautions and techniques. Consult manufacturer for such additional information.

O. Liquid materials such as solvents and adhesives shall be stored and used away from open flames, sparks and excessive heat.

P. Contaminants, such as grease, fats, oils, and solvents, shall not be allowed to come into contact with the manufacturer's roofing membrane. Any such contact shall be reported to manufacturer.

Q. If any unusual or concealed condition is discovered, stop work and notify Owner and manufacturer immediately in writing.

R. Site clean-up, including both interior and exterior building areas which have been affected by construction, shall be completed to the Owner's satisfaction.

1.09 WARRANTY

A. Upon completion of the work and receipt of final payment, the following warranty shall be issued:
   1. Manufacturer's fifteen (15) year system warranty
   2. Roofing Contractor's two (2) year warranty

1.10 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 - PRODUCTS

2.01 GENERAL

A. All components of the Fully Adhered roofing system including but not limited to: insulation, fasteners, adhesives and membrane are to be products of the roofing system manufacturer as indicated on the detail Drawings and specified in the Contract documents.

B. Components to be used that are other than those supplied or manufactured by the roofing system manufacturer may be submitted for review and acceptance by roofing system manufacturer.

2.02 APPROVED MEMBRANE SYSTEMS

A. Firestone 60 mils (0.060 inches) nominal thickness, single-ply low slope fire resistant (LSFR) synthetic roofing membrane.

2.03 MEMBRANE

A. Membrane shall conform to ASTM D4637 (latest revision) Standard for EPDM sheet roofing. Classification: Type II, Grade 1.

B. As manufactured, membrane shall conform to the following physical properties:

Property	Test Method	Minimum Performance
Specific Gravity	ASTM D-297	1.15± .05
Tensile Strength	ASTM D-412	1305 psi min. (9.0 Mpa)
Factory Seam Strength	Modified	
Elongation	ASTM D-816	Membrane Rupture
Tear Resistance	ASTM D-412 ASTM D-624	300% Minimum 150 lbs/in min (26.27 N/mm)
Shore A Durometer	ASTM D-2240	65 +/- 10
Ozone Resistance 7 days/100 pphm @ 100°F with 50% extension	ASTM D-1149	No Cracks
Heat Aging 28 days @ 240°F	ASTM D-573	Tensilie Minimum 1205 psi (8.3 Mpa) Elongation min. 200%

Brittleness Temp.	ASTM D-2137	-49° F (-45°C)
Water Resistance change in weight after immersion 7 days @ 150°F, %	ASTM D-471	+ 8, -2
Water vapor permeability max, perm mils	ASTM E-96	2.0
Tolerance on Nominal thickness, %	ASTM D-412	± 10

2.04 ACCESSORY PRODUCTS

A. The following products are supplied by the roofing system manufacturer and may be incorporated in specifications as needed or detailed on the drawing:

Bonding Adhesive:
Splice Adhesive:
Lap Sealant:
Pourable Sealer:
Water Block Seal:
All-Purpose Sealant:
Pre-Fabricated Pipe Flashing: Formed EPDM membrane
Termination Bar: aluminum bar x 10' long
Seam Flashing: EPDM semi-cured
Splice Tape:
Primers:

2.05 RELATED MATERIALS

A. Wood Nailers: Pressure treated (P.T.) southern yellow pine #2 grade or better. Wood nailers shall be installed at the perimeter of the entire roof and around such other roof projections and penetrations as specified on project drawings. Height of nailers shall be matched to that of the insulation thickness being used.

1. Wood nailers shall be Pressure treated (P.T.) southern yellow pine #2 or better lumber. Creosote or asphaltic-treated lumber is not acceptable.
2. Wood nailers shall conform to Factory Mutual's Loss Prevention Data 1-49.
3. All wood shall have a maximum moisture content of 19% by weight on a dry weight basis.

B. Plywood:
   1. When bonding directly to plywood, or laying roofing membrane directly over plywood a minimum standard 1/2" smooth surfaced marine grade plywood with marine grade glue shall be used.
   2. Plywood shall have a maximum moisture content of 19% by weight on a dry weight basis.

2.06 INSULATION

A. Insulation shall be installed as a separation layer over the substrate to obtain the desired thermal value.
   1. Insulation shall be a Factory Mutual Class C fire rated, FM I-75 uplift approved board.
   2. Insulation shall meet all identified code/insurance requirements.
B. The following insulation board shall be used below the adhered membrane.
   1. Isocyanurate Insulations (ISO 95+)
C. Insulation(s) shall be six (6) inches thick and have a minimum LTTR "R" value of 36.
D. Insulation(s) compressive strength shall be a minimum of 20 psi.

2.07 INSULATION AND FASTENER

A. The building expansion will have a 22 gauge galvanized metal deck.
B. Roofing system fasteners for the roofing systems shall be as recommended by roof system manufacturer for the FM I-75 uplift requirements for a 22 gauge metal roof deck.
C. Fastener Manufacturer's Warranty:
   1. Fasteners and plates shall be Factory Mutual approved and meet F.M. Standard 4470 for corrosion resistance.
   2. Fastener manufacturer shall warranty the performance of the fastener and plates for the duration of the roofing system manufacturer's warranty.
   3. For "non penetrating fastener" pullout tests shall be performed by the fastener manufacturer. The results of these tests plus a statement by the fastener manufacturer concerning the fasteners suitability for the intended job, and installation instructions shall be submitted to the roofing Contractor prior to the job start.

2.08 MISCELLANEOUS FASTENERS AND ANCHORS

A. All fasteners shall be of the same type as metal being secured. In general, all fasteners, anchors, nails, straps, shall be galvanized or stainless steel. Fasteners for attachment of metal to wood blocking shall be annular ring nails. Fasteners for attachment of metal to masonry shall be expansion type fasteners. All fasteners shall meet Factory Mutual Standard 4470 for corrosion resistance.

2.09 FASCIA/TRIM

A. Fascia and trim shall be minimum 24 gauge galvalume coil stock with Kynar 500 finish as manufactured by McElroy Metal Inc. or Owner approved alternate. Color will be by Owner from manufacturer's standard colors.

PART 3 - EXECUTION

3.01 GENERAL

A. The roofing Contractor shall coordinate the installation so that each area is made watertight at the end of each work period.

3.02 ROOF SUBSTRATE PREPARATION

A. Correct Substrate Defects
   1. Bring defects to the attention of the Owner, in writing, to be corrected before work commences.
   2. The Contractor shall be responsible for correcting improper conditions affecting the roofing installation.

B. Project Layout:
   1. The Roof System shall be installed in a fashion so that field and flashing splices are installed to shed water (shingle type fashion).

C. Remove Moisture:
   1. Ponded water, snow, frost and/or ice on the deck of the roof system must be removed from the work surface prior to installing the roof system

D. Prepare Final Surface:
   1. Acceptable substrates to which the fully adhered roof system is installed must be properly prepared prior to membrane installation. The surface must be clean, dry, smooth, free of sharp edges, fins, loose or foreign materials, oil, grease and other materials, which may damage the membrane. All roughened surfaces which could cause damage shall be properly isolated from the membrane.

E. Fill Voids:
   1. All surface voids of the immediate substrate greater than 1/4" wide must be properly filled with an acceptable insulation or suitable fill material.

3.04 WOOD NAILER LOCATION AND INSTALLATION

A. Wood nailers shall be installed as specified by the Drawings or as noted on roof system manufacturer details. Wood nailers shall be pressure treated.
   1. Position Wood Nailer: Total wood nailer height shall match the total thickness of insulation being used and shall be installed with a 1/8" gap between each length and at each change of direction.
   2. Secure Wood Nailer: Wood nailers shall be firmly fastened to the deck. Mechanically fasten wood nailers to resist a force of 200 pounds per lineal foot. Refer to attachment requirements as specified by roof system manufacturer Design Guide Manual.
   3. Taper Wood Nailer: The wood nailer shall be tapered so that it will always be flush at the point of contact with the insulation.

3.05 INSULATION INSTALLATION

A. Install Insulation:
   1. Install only as much insulation as can be covered with roofing membrane and completed before the end of the day's work or before the onset of inclement weather.

B. Fit Insulation:
   1. Neatly fit insulation to all penetrations, projections, and nailers. Insulation shall be loosely fitted, with gaps not greater than 1/4". All gaps greater than 1/4" shall be filled with insulation of the same type and subsequently attached. Under no circumstances shall the membrane be left unsupported over a space greater than 1/4".

C. Stagger Insulation Joints:
   1. When installing multiple layers of insulation, all joints between layers shall be staggered.

3.06 MEMBRANE PLACEMENT

A. Place Membrane and Allow to Relax:
   Place membrane panels, without stretching, over the acceptable substrate and allow to relax for a minimum of 30 minutes prior to attachment.

3.07 MEMBRANE LAP SPLICING

A. Perform all membrane lap splices in strict accordance with the roof system manufacturer's written installation instructions.

3.08 MEMBRANE SECUREMENT (BASE TIE-IN) LOCATION AND INSTALLATION

A. Provide Membrane Securement:
   1. Secure membrane at all locations where the membrane terminates or goes through an angle change greater than 2" in 12" (i.e. roof edges, curbs, interior walls, etc.), except for round pipe penetrations less than 18" in diameter and square penetrations less than 4" square.

B. Install Reinforced Perimeter Fastening Strip or Batten Strips into the Structural Substrate or Wood Nailer as Shown on Roof System Manufacturer Details:
   1. Mechanically fasten Reinforced Perimeter Fastening Strips with fasteners and Seam Plates in accordance with roof system manufacturer details and Specifications.
   2. Mechanically fasten Batten Strips with Fasteners, in accordance with roof system manufacturer details and Specifications.
   3. Refer to the roof system manufacturer System Design Guide Manual to determine the applicable fastener and the associated penetration requirements for the specific substrate conditions.

3.09 FLASHING - PENETRATIONS

A. General:
   1. Flash all penetrations passing through the membrane.
   2. The flashing seal must be made directly to the penetration.

3.10 FLASHING - WALLS, PARAPETS, MECHANICAL EQUIPMENT CURBS, SKYLIGHTS, ETC.

A. General:
   1. Using the longest pieces practical, flash all walls, parapets, curbs, etc., to the height as specified by the project designer.

B. Complete all flashings in strict accordance with roof system manufacturer's written instructions.

3.11 EDGE TRIM AND FASCIA TRIM - ROOF EDGE METALS

A. Perform all roof edge flashings in strict accordance with the roof system manufacturer's written instructions.
B. Provide continuous cleat for fastening gravel stop/edge trim.
C. All gravel stop/edge trim shall be installed in accordance with Firestone recommendations.
D. Install fascia in accordance with manufacturer's recommendations; refer to fabrication and installation requirements specified by Factory Mutual loss prevention data sheet 1-49 (latest issue) and SMACMA recommendations. In some instances, roof system manufacturer's requirements may exceed the requirements of SMACMA. In these instances, the roof system manufacturer's requirements will take precedence.

3.12 MEMBRANE REPAIR

A. Repair Cuts/Punctures in the Membrane, or Wrinkles Within 18" of a Splice:
    1. A wrinkle running toward a splice or within 18" of a splice must be repaired. The wrinkle must be cut out and patched with a section of EPDM membrane having no factory splices. Provide a splice that extends a minimum of 3" beyond the boundaries of the cut in all directions.
    2. Repair a cut or puncture in the EPDM membrane with EPDM membrane. The repair must extend a minimum of 3" beyond the boundary of the affected area in all directions. Round all corners of the repair piece (Example: a pinhole will require a minimum 6" x 6" EPDM section).
B. Clean the Membrane:
    1. When repairing membrane, which has been in service for some time, it is necessary to remove accumulated dirt. Proper membrane preparation is made by first scrubbing the membrane with a scrub brush and warm soapy water, then rinsing with clear water and drying with clean cotton cloths. Clean the area according to roof system manufacturer's written instructions.
C. Install Splice:
    1. Repairs must be made with Splice Adhesive.

3.13 TEMPORARY CUT-OFF

A. All flashings shall be installed concurrently with the roof membrane in order to maintain a watertight condition as the work progresses. All temporary waterstops shall be constructed to provide a 100% watertight seal.

B. The stagger of the insulation joints shall be made even by installing partial panels of insulation. The new membrane shall be carried into the waterstop. The waterstop shall be sealed to the deck and/or substrate so that water will not be allowed to travel under the new or existing roofing. The edge of the membrane shall be sealed in a continuous heavy application of sealant. When work resumes, the contaminated membrane shall be cut out. All sealant, contaminated membrane, insulation fillers, etc.shall be removed from the work area and disposed of off site. None of these materials shall be reused in the new work.

C. If inclement weather occurs while a temporary waterstop is in place, the Contractor shall provide the labor necessary to monitor the situation to maintain a watertight condition.

D. If any water is allowed to enter under the newly completed roofing, the affected area shall be removed and replaced at the Contractor's expense.

3.14 COMPLETION

A. Prior to demobilization from the site, the work shall be reviewed by the Owner and the Contractor. All defects shall be noted and noncompliance with the specifications or the recommendations of the roof system manufacturer shall be itemized in a punch list. These items must be corrected immediately by the Contractor to the satisfaction of the Owner and the roof system manufacturer's requirements prior to demobilization.

B. All warranties as required in part 1 of this specification shall have been submitted for approval and shall have been accepted at time of contract award.

END OF SECTION

SECTION 07900

JOINT SEALERS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

A. The work of this section consists of furnishing and installing sealants to provide a barrier against air, water, moisture, or dirt, and where needed for appearance.
B. Preparing sealant substrate surfaces
C. Sealant and backing
D. Sealing of exterior joints between perimeters of door frames and other items occurring in openings in exterior walls and the surrounding masonry, and other construction, including bedding sealing of sills and thresholds, except as otherwise specified.
E. Sealing of interior perimeter joints around door frames except whether specified to be provided under another section.
F. All other exterior and interior sealing called for, or reasonably inferred from the Drawings, and as required to provide weather-tight conditions in exterior walls and light-tight and sound-tight conditions in interior walls and partitions, except as specified to be provided under other Sections.

1.03 RELATED WORKS

A. Section 03300 – Concrete
B. Section 06001 – Carpentry Work
C. Section 07465 – Metal Siding and Trim
D. Section 07534 – Elastomeric Sheet Roofing
E. Section 08360 – Sectional Overhead Doors

1.04 SUBMITTALS

A. As specified in Section 01330.
B. Manufacturer's technical data and application instructions.
C. Samples of sealant colors.

1.05 QUALITY ASSURANCE

A. Contractor shall have copies of referenced ASTM standards available on the job site.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in manufacturer's original, unopened containers and store in a protected area at temperatures recommended by manufacturer.

1.07 PROJECT/SITE CONDITIONS

A. Environmental.
   1. Install sealants only in favorable weather conditions as defined in ASTM C962. To help balance extension and compression of sealants in exterior working joints, install sealants at substrate temperatures as near as possible to 55 degrees F.

1.08 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor’s costs of items identified on the Proposal Form.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Other manufacturer's products may be used provided they are approved as equal.
B. Backer Rod Manufacturing and Supply Company, Denver, Colorado.
C. Dow Chemical Company, Midland, Michigan.
D. Dow Corning Corporation, Midland, Michigan.
E. General Electric Company, Waterford, New York.
F. Pecora Corporation, Harleysville, Pennsylvania.
G. Sika Chemical Corporation, Lyndhurst, New Jersey.
H. Sonneborn-Contech, Minneapolis, Minnesota.
I. Tremco, Cleveland, Ohio.
J. Williams Products, Inc., Troy, Michigan.

2.02 MATERIALS

A. Exterior Sealants.

1. Vertical Surfaces: Silicone or urethane. ASTM C920, Type S, Grade NS, Class 25, Use M, A, or O, as applicable.
2. Horizontal Surfaces in Traffic Areas: Urethane. ASTM C920, Type S or M, Grade P, Class 25, Use T. Grade NS, Use T, in areas with slopes exceeding 1 percent.

B. Interior Sealants.

1. Vertical Surfaces, Movement Anticipated: Silicone or urethane. ASTM C920, Type S, Grade NS, Class 25, Use M, A, or O, as applicable.
2. Horizontal Surfaces in Traffic Areas: Urethane. ASTM C920, Type S or M, Grade P, Class 25, Use T. Grade NS, Use T, in areas with slopes exceeding 1 percent.
3. Horizontal Surfaces in Nontraffic Areas: ASTM C920, Type S, Grade P, Class 25, Use NT. Grade NS, Use NT, in areas with slopes exceeding 1 percent.
4. Vertical and Horizontal Surfaces in Humid Areas: ASTM C920, Type S, Grade NS, Class 12-1/2, Use O.
5. Vertical and Horizontal Surfaces, Dry Areas Only, No Movement Anticipated: Single component water-based latex, paintable, ASTM C834.

C. Joint Fillers.

1. ASTM C962, Type A, rod stock closed cell polyethylene foam, closed cell neoprene foam, or open cell urethane foam, recommended by sealant manufacturer for compatibility with sealant and primer.
   a. Polyethylene: Ethafoam SB by Dow Chemical.
   b. Neoprene: Neocord by Williams Products.
   c. Urethane: Denverfoam by Backer Rod Manufacturing and Supply.

D. Bond Breaker Tape.

1. Colored polyethylene pressure sensitive tape, minimum thickness 0.012 inch.

E. Primer.

1. Use primer if sealant manufacturer recommends it for anticipated substrates and environmental conditions. If manufacturer or COR decides that adhesion tests are necessary to determine primer use, send substrate samples to sealant manufacturer with copy of transmittal to COR. Testing will not be at Contractor's expense.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Sealants.

1. Follow sealant manufacturer's instructions for installation of sealants, joint fillers, bond breakers, and primers. Tool joints concave.
2. Install latex sealants in accordance with ASTM C790.
3. Install elastomeric sealants in accordance with ASTM C962.

END OF SECTION

SECTION 08360

SECTIONAL OVERHEAD DOORS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 WORK INCLUDED

A. Electric overhead sectional doors.
B. Steel insulated panels of flush design.
C. Overhead door integral pass doors.
D. Operating hardware and supports.
E. Glass and glazing.

1.03 RELATED WORK

A. Section 06001 - Carpentry wood framing for door opening.
B. Section 07900- Joint Sealers.

1.04 REFERENCES

A. ANSI A216.1 - Section Overhead Type Door (NAGDM 102).
B. ANSI/ASTM A446 - Steel Sheet, Zinc-Coated (Galvanized) by the Hot Dip Process, Structural (Physical) Quality.
C. ANSI/ASTM A526 - Steel Sheet, Zinc-Coated (Galvanized) by the Hot Dip Process, Commercial Quality.

1.05 SYSTEM DESCRIPTION

A. Overhead Garage Doors 11’-6” wide x 13’-6” high (12 required):
   1. Doors shall be Richard-Wilcox Thermatite Advantage 200 (ADV-200-MR) insulated overhead doors.
   2. Panels for Exterior Overhead Doors: Flush steel sections bonded to a rigid insulation core. Nominal thickness 2" thick.
   3. Tracks shall be bracket type 2 inch low headroom track as provided by Richard – Wilcox or approved equal.
   4. Exterior steel: Galvanized 24 gauge thickness. Factory primed and painted white.
   5. R-value: 18.5
   6. Designed for minimum 20 psf wind loading.

7. Provide and install low headroom front mounted torsion low headroom 2 inch door tracks to clear steel located 10 inches above the existing overhead door openings.
8. Electric operators: Heavy Duty trolley operator for low headroom lift sectional doors. Power requirements shall be 208 volt/60 cycle/3 phase. Doors shall be able to be manually operable in case of power failure.
9. Electric eye system to stop door when anything comes in contact with the beam.
10. Provide windows with thermal glazing.
11. Provide EPDM rubber header seal.
12. Provide neoprene bulb type bottom seal.
13. Provide brush type side weatherstripping.
14. Provide hand held automatic remote door opener for each door (12 required).
15. Provide two (2) – 30 inch wide integral pass doors in overhead doors #3 & #10.

1.06 QUALITY ASSURANCE

A. Manufacturer: Company specializing in overhead door construction with three years minimum experience.
B. Applicator: Company specializing in installing overhead doors approved by manufacturer.

1.07 WARRANTY

A. Provide one year manufacturer's warranty for workmanship, materials and installation. The foam and steel composite panels shall be warranted for five years against delamination.

1.08 SUBMITTALS

A. Submit shop drawings and product data under provisions of Section 01300.
B. Indicate opening dimensions and tolerances, component construction, connections and details, anchorage methods and spacing, hardware, and locations, installation details.

1.09 OPERATION AND MAINTENANCE DATA

A. Submit operation and maintenance data under provisions of Section 01700.
B. Include data for motor and transmission, shaft and gearing, lubrication frequency, control adjustments, and spare part sources.

1.10 MEASUREMENT & PAYMENT

A. Work for this Section shall be included in the Contractor’s costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Richard -Wilcox
B. Substitutions: If Contractor is to substitute overhead doors, they shall submit door substitute with their bid. Track clearances are critical at the existing overhead door openings and Contractor shall submit a preliminary elevation of the proposed track system verifying clearances. Substitutions shall be under the provisions of Section 01600.

2.02 MATERIALS

A. Overhead doors:
   1. Exterior overhead doors shall be Richard-Wilcox Thermatite Advantage 200 (2" Section) or approved equal.
   2. Overhead door sheet steel: ANSI/ASTM A526; 24 gauge thick galvanized to 1.25 oz/sq. ft., flat embossed with a textured pattern.
   3. Insulation: Foamed-in place polyurethane; same thickness as core framing members bonded to facing. Insulation shall provide 18.5 R value or greater.
   4. Weatherstripping: Brush type weatherstripping.
   5. Electric operator. 208 volt/60 cycle/3 phase.
   6. Electric eye system to stop door when anything comes in contact with the beam.
   7. Thermal glazing.
   8. Provide hand held automatic remote door opener for each door (12 required).
   9. Passdoors shall be integral with overhead doors with weatherstripping, closer, integral exterior handle and locking interior mechanism.

2.03 COMPONENTS

A. Panels: Flush steel construction; outer steel sheet of 24 gauge thick, flat profile; inner steel sheet of 24 gauge thick, stucco embossed flat profile; 16 gauge galvanized end caps; thermal break between panels; continuous steel reinforcement for hardware attachments; insulated with foamed in-place polyurethane bonded-to-steel sheets.
B. Glazed Lights: Thermal glazing, clear acrylic three glazed lights per panel; set in place with resilient glazing channel. Corners shall be square.
C. Track: Bracket mount 2 inch wide heavy duty 14 gauge commercial galvanized steel rolled steel track, continuous, vertical mounted, designed to provide continuous track support for full opening height.
D. Hinge and Roller Assemblies: Heavy duty hinges and adjustable roller holders of galvanized steel; floating hardened steel ball bearing rollers, located at top and bottom of each panel at meeting joint.
E. Lock: Inside mounted, adjustable keeper, spring activated latch bar with feature to keep in locked or retracted position; interior handle; lock master keyed.
F. Jamb Weatherstripping: Brush type weather stripping for the full height of jamb.
G. Lift Mechanism: Torsion spring on cross head shaft, with braided steel lift cables.

H. Electric Operator: NEMA Type 1 UL approved motor. 480 volt/60 cycle/3 phase.
I. Control Station: Standard three button (open-close-stop) type control for each electric operator; 24 volt circuit; surface mounted.
J. Hand held automatic remote door opener for each door (12 required).
K. Electric Eye Safety Stops: Provide photoelectric eyes at the bottom of all doors to stop door when anything breaks the plane of the eye.

2.04 FINISHES

A. Precoated Steel: Shop precoated with baked-on polyester coating of white color.

PART 3 EXECUTION

3.01 INSPECTION

A. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within limits.
B. Beginning of installation means acceptance of existing surfaces.

3.02 PREPARATION

A. Prepare opening to permit correct installation of door unit and air and vapor barrier seal.

3.03 INSTALLATION

A. Install door unit assembly in accordance with manufacturer's instructions.
B. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.
C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.
D. Fit and align door assembly including hardware, level and plumb, to provide smooth operation.
E. Coordinate installation of electrical service with Owner’s electrical Contractor. .
F. Coordinate installation of sealants and backing materials at frame perimeter.
G. Install glass and glazing watertight.

3.04 TOLERANCES

A. Maintain dimensional tolerances and alignment with adjacent work.
B. Variation from Plumb: 1/16 inch maximum.
C. Variation from Level: 1/16 inch maximum.
D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch from 10 ft. straight edge.

3.05 ADJUSTING AND CLEANING

A. Adjust door assembly.
B. Clean doors, frames, and glass.
C. Remove labels and visible markings.

END OF SECTION

SECTION 09900

PAINTING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

A. Surface Preparation.
B. Field painting.
C. Touch-up of field and shop painted items.
D. Pavement Markings.
E. Surface finish schedule.

1.03 REFERENCES

A. ANSI/ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.

1.04 QUALITY ASSURANCE

A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with five years experience.
B. Applicator: Company specializing in commercial painting and finishing with ten years documented experience.

1.05 REGULATORY REQUIREMENTS

A. Conform to 2009 International Building Code for flame/fuel/smoke rating requirements for finishes.
B. All adhesives, solvents, primers and coatings containing Volatile Organic Compounds (VOCS) shall meet the requirements of the Environmental Protection Agency (EPA) and Maine Department of Environmental Protection Agency (MeDEP) contained in Chapter 151 – " Architectural and Industrial Maintenance (AIM) Coatings

1.06 SUBMITTALS

A. Submit product data & MSDS sheets for all materials to be used under provisions of Section 01300.
B. Provide product data on all finishing products.
C. Submit samples under provisions of Section 01300.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site under provisions of Section 01600.
B. Store and protect products under provisions of Section 01600.
C. Deliver products to site in sealed and labeled containers; inspect to verify acceptance.
D. Container labeling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.
E. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in well ventilated area, unless required otherwise by manufacturer's instructions.
F. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.08 ENVIRONMENTAL REQUIREMENTS

A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 50 degrees F for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.
C. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

1.09 EXTRA STOCK

A. Provide one gallon of each color and surface texture to Owner.
B. Label each container with color, texture, and room locations in addition to the manufacturer's label.

1.10 MEASUREMENT & PAYMENT

A. Work for this Section will be paid on a lump sum basis under the appropriate bid item on the Proposal Form.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS - COATING MATERIALS FOR ALL COATED SURFACES EXCEPT STEEL

A. Sherwin Williams: See Finish Schedule for colors and location.
B. Substitutions: Under provisions of Section 01600.

2.02 MATERIALS

A. Coatings: Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.
B. Coatings: Good flow and brushing properties; capable of drying or curing free of streaks or sags.
C. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated, but required to achieve the finishes specified, of commercial quality.

2.09 FINISHES

A. Refer to schedule at end of Section for surface finish schedule.

PART 3 EXECUTION

3.01 INSPECTION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
   1. Plywood and wood trim: 12 percent.
D. Beginning of installation means acceptance of existing surfaces.

3.02 PREPARATION

A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.
B. Correct minor defects and clean surfaces, which affect work of this Section.
C. Shellac and seal marks which may bleed through surface finishes.

D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
E. Uncoated Steel and Iron Surfaces: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.
F. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
G. Interior Wood Items Scheduled to Receive Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.

3.03 PROTECTION

A. Protect elements surrounding the work of this Section from damage or disfiguration.
B. Repair damage to other surfaces caused by work of this Section.
C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.
D. Remove empty paint containers from site.

3.04 APPLICATION

A. Apply products in accordance with manufacturer's instructions.
B. Both coats of finish paint on all exposed walls shall be applied with roller only.
C. Do not apply finishes to surfaces that are not dry.
D. Apply each coat to uniform finish.
E. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.
F. Sand lightly between coats to achieve required finish.
G. Allow applied coat to dry before next coat is applied.
H. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
I. Prime back surfaces of interior and exterior woodwork with primer paint.

3.05 CLEANING

A. As work proceeds, promptly remove paint where spilled, splashed, or spattered.
B. During progress of work, maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
C. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.06 SCHEDULE - SHOP PRIMED ITEMS FOR SITE FINISHING

A. Structural steel:
   1. New Addition Structural Steel, side and top channels not embedded in concrete, shop primed and shop painted.
      Field touch-up. One (1) coat of Devoe Bar Rust 235 Multi-Purpose Epoxy at 4.0 mils D.F.T.
   2. Embedded channels shall be shop blasted, shop primed and field painted with One (1) coat of Devoe Bar Rust 235 Multi-Purpose Epoxy at 4.0 mils D.F.T.

3.07 SCHEDULE – ALL SURFACES EXCEPT STEEL

A. Interior walls in Addition
   1. Interior fire rated plywood interior walls and wood trim:
      a. One (1) coat Sherwin-Williams Prep-Rite Wall and Wood primer.
      b. Two (2) coats Sherwin-Williams SuperPaint Interior Latex Semi-Gloss

3.08 PAVEMENT MARKING

A. Pavement Marking:
   1. One (1) Coat Sherwin-Williams ProMar Alkyd Traffic Marking Paint @ 8 mils DFT. Color: Lead-Free Yellow.

END OF SECTION

APPENDIX A

CONTRACTOR SAFETY REQUIREMENTS

EXHIBIT J

Iberdrola USA Inc.

CONTRACTOR SAFETY REQUIREMENTS

September 22, 2008

Table of Contents

CONTRACTOR SAFETY REQUIREMENTS FOR SERVICES PROVIDED TO IBERDROLA USA OPERATING COMPANIES

August 13, 2008

1. PURPOSE

The purpose of this document is to advise Contractors providing services to Iberdrola USA Operating Companies ("Operating Companies") of their responsibility to plan and perform their work in conformance with all applicable federal, state, and local laws, rules, regulations and ordinances of any agency having jurisdiction on the premises. These requirements apply to construction type projects where Operating Company employees are not working at the same site, and to Contractors who perform independent work related to electric transmission and distribution operations, and gas operations. Commitment to safe work practices is important at all Operating Company job sites; thus, evidence concerning Contractor safety performance and past safety history are factors that influence contract award decisions.

2. SCOPE AND RESPONSIBILITIES

This document shall be provided to Contractors to aid in the communication of hazards and minimum safety requirements, and to establish Operating Company expectations regarding safe work behavior while on company property. All Contractors must follow the requirements in this document, as well as their own company safety rules, policies and procedures. In the case of conflicting requirements, the most stringent shall prevail.

Each Contractor shall have a current written safety program and employee safety rules that comply with all regulatory requirements. In addition, each Contractor employee shall be familiar with the safety requirements in this document, and is expected to abide by them. All Contractors and Subcontractor employees must be properly equipped and trained.

Contractors shall communicate the required safety rules and regulations to their employees in a documented tailboard meeting prior to the start of the job. The form given in Attachment A may be used for this purpose. Contractors are responsible for interpreting these rules for non-English speaking and reading-impaired employees. Contractors are responsible for informing all Subcontractors of the safety rules and regulations set forth here and in the contract terms and conditions.

Operating Company Project Monitors shall facilitate Contractor compliance with safety requirements by including this document into contract specifications. All questions pertaining to this document shall be directed to the Operating Company Project Monitor or an Operating Company Health and Safety Representative. Neither the Operating Company Project Monitor nor Health and Safety Representatives shall exercise general supervisory authority over contractor worksites. In particular, the Company shall not

conduct worksite safety inspections, identify safety and health hazards, or correct deficiencies and violations. Moreover, the Company shall not provide personal protective equipment to contractor employees, perform employee exposure monitoring, or provide advice concerning safe work practices. Rather, the Contractor is accountable for all aspects of worker protection, as well as for preventing, detecting and promptly correcting all safety and health deficiencies associated with activities covered by the contract scope of work.

3. SAFETY ADMINISTRATION

Pre-Bid Meeting

For certain projects where specific safety issues exist or known site conditions require special precautions, a pre-bid meeting may be held. The purpose of the meeting is to emphasize the key safety requirements that apply to the project, and offer the opportunity for bidders to ask questions regarding job site conditions and worker protection issues. When necessary, an Operating Company Health and Safety Representative will participate to address safety-related issues such as known site hazards and anticipated personal protective equipment (PPE) requirements. Where applicable, announcement of a pre-bid meeting will be issued with the contract Request for Proposal.

Prospective Contractors will be informed that past safety performance is an evaluation factor that may determine contract award and/or disqualification of bidders.

Project Health & Safety Plan

Contractors performing high-hazard work may be required to prepare and submit a Project Health & Safety Plan (e.g., as required under 29 CFR 1910.120 and 29 CFR 1926.65). Projects requiring a Plan will be identified at the pre-bid stage of the contracting process. The Plan must address topics such as:

1. Scope of work and planned activities
2. Potential health and safety hazards
3. Individual job functions and responsibilities
4. Personal protective equipment and hazard mitigation strategies
5. Emergency equipment and incident response procedures
6. Exposure monitoring and control
7. Training and medical surveillance requirements
8. Standard operating procedures

Depending on the nature of the project, the Contractor may be required to have their Plan endorsed by a Certified Industrial Hygienist (CIH), Certified Safety Professional (CSP), and/or a licensed Professional Engineer (P.E.).

Post-Award Contractor Safety Orientation

For certain projects, a pre-construction conference may be required to discuss and agree upon safety procedures and controls at the job site. Contractor management

representatives, key Contractor employees (i.e., designated on-site “Competent Person”), Operating Company Project Monitors, and Operating Company Health and Safety Representatives shall typically participate. The topics for discussion include:

1. Job site housekeeping practices
2. Storage of materials and tools
3. Restricted areas and evacuation plans
4. Safety inspection and exposure monitoring plans
5. Procedures for documented employee safety meetings and job briefs
6. Subcontractor responsibilities
7. Hazardous chemicals and spill response procedures
8. Certification of Contractor employee qualifications
9. Site security and public protection
10. Emergency notification call lists and procedures

The orientation session is not intended to provide Contractor employees with training to meet regulatory compliance requirements.

4. PROCEDURES

A. Prohibited Conduct

Violation of the following conduct rules shall result in immediate dismissal of an employee from the site by the Contractor.

1. The possession or drinking of alcohol on any company property, including parking lots.
2. The suspected use of any substances which alter mental or physical capacity, including but not limited to non-prescription drugs, prescription drugs not prescribed to the user, narcotics, marijuana or other “controlled substance” or “controlled dangerous substance.”
3. Possession of firearms, ammunition, explosives or other weapons on company property/private vehicles
4. Engaging in fighting or horseplay
5. Operating switches, valves, or push buttons unless authorized

B. General Rules

The Contractor shall ensure that all personnel comply with the following rules, regardless of the nature of their job.

1. Contractor employees shall not enter any building or area where their work does not require their presence.
2. The Contractor shall maintain current safety warning signs/devices, barricades, handrails, and guardrails, and erect new ones if the hazard changes. The contractor shall also remove signs from the work site when there is no longer a hazard present.
3. Contractor employees shall not use emergency exits other than for

emergencies, or block emergency exits.

4. The Contractor shall have a program to provide for frequent and regular inspections of the job site, materials, and equipment by designated competent persons.
5. The Contractor shall instruct each employee in the recognition and avoidance of unsafe conditions and in the regulations applicable to his/her work environment to control or eliminate any hazards or other exposure to illness or injury.
6. The Contractor shall permit only those employees qualified by training or experience to operate equipment and machinery.
7. Contractor employees shall not work on equipment or facilities that are not included in the contract scope of work, or where specific permits/clearances may be required prior to performing a task.

C. Incident Reporting

1. After notifying emergency agencies or calling 911, as appropriate, the Operating Company Project Monitor shall be notified immediately, and in writing, of any accidents involving personal injury requiring medical treatment, or property damage. The Contractor is responsible for notifying OSHA, when applicable. Appropriate written reports shall be completed within one working day.

2. All work must be done in a manner which minimizes the possibility of a spill of hazardous or non-hazardous substance to the environment. Placement of fuel, oils, chemicals and sanitary facilities, or fueling, greasing, or oiling of equipment shall be in a location which avoids, to the degree possible, water sources, wells, or other ecologically sensitive sites. Any spill must be immediately reported in writing to the Operating Company Project Monitor and the appropriate authorities. Contractor is responsible for all associated clean-up costs, penalties, etc.

D. Asbestos Containing Materials (ref: 29 CFR 1926.1101 and 1910.1001)

Contractors shall not disturb known or suspected asbestos-containing materials. When these materials are encountered and could potentially be disturbed by the work being performed, work should immediately be stopped and confirmatory analyses performed as necessary. The Contractor shall immediately notify the Operating Company Project Monitor in writing. Examples of presumed asbestos-containing materials include, but are not limited to, the following:

- Cement wallboard and exterior sheeting
- Thermal insulation and high temperature gaskets
- Ceiling tiles and lay-in panels
- Acoustical and decorative plaster
- Vinyl or asphalt floor tile and sheeting, and mastic
- Electrical cloth, electrical panel partitions, underground conduit, and

fabric-type wire insulation
- Roofing shingles, felt, base flashing, and caulking
- Boiler, breeching, duct, and pipe insulation
- Wallboard and spackling/taping/joint compounds

E. Compressed Air/Air tools (ref: 29 CFR 1926.302 and 1910.243)

1. The contractor will comply with the standards for compressed air equipment used in providing compressed air for performing operations such as cleaning, drilling, hoisting and chipping.
2. Pneumatic power tools shall be secured to the hose in a positive manner to prevent accidental disconnection.
3. Safety clips or retainers shall be securely installed and maintained on pneumatic impact tools to prevent attachments from accidentally being expelled.
4. The manufacture's safe operating pressure for all fittings shall not be exceeded.
5. All hoses exceeding ½ -inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of failure.

F. Confined and Enclosed Spaces (ref: 29 CFR 1926.21; 1910.269(e) and 1910.146)

The Contractor is responsible for developing their own program and complying with all applicable confined-space and enclosed space work practices and standards. Contractor employees working in confined/enclosed space conditions must have demonstrated competency in proper work practices and rescue techniques (achieved by training and experience). The Contractor shall have a means of emergency rescue arranged prior to start of work and must check with the local fire department or agency expected to provide rescue assistance as to their availability prior to entering space.

G. Cranes (ref: 29 CFR 1926.550; 1910.179 and1910.180)

The Contractor shall not use Operating Company cranes. Specific exceptions to this rule shall be written and made part of the contract. Qualified employees, with licenses when required, will operate cranes. If a license is required, the operator will have the license with them when operating subject cranes. Lift plans may be necessary before work begins. Documentation will be submitted to the Operating Company Project Monitor upon request. The Contractor must maintain a physical barrier around all equipment and machinery in the hoisting area. In areas exposed to vehicular traffic, the Contractor must conform with OSHA paragraph 1926.651(d) and also make appropriate arrangements with local authorities for traffic control/detour. All crane sites and equipment must be secured during off work hours to prevent unauthorized access.

H. Drugs and Alcohol (ref: 49 CFR 382; DOT Part 199)

1. Possession or use of controlled substances or alcohol is strictly prohibited on Operating Company premises or while working for the Company. Reporting to work on Operating Company property under the influence of unauthorized drugs or alcohol is strictly prohibited; any person under the influence of unauthorized drugs or alcohol shall not be permitted on the premises of an Operating Company project.
2. When applicable, Contractors must comply with U.S. Department of Transportation Part 199 regulations. The Contractor's written program and documented random sampling program for Drugs and/or Alcohol shall be made available upon request.

I. Electrical Safety (ref: 29 CFR 1926.402-408, 416, 417; 29 CFR 1926, subpart V, and 1910.269)

1. Only authorized and qualified personnel shall work on installation and maintenance of electrical equipment.
2. All equipment used, including extension cords, shall have required approvals and be free from known defects.
3. Electrical equipment or tools (unless specially designed) shall not be operated in wet areas, or where potentially flammable dusts, vapors, or liquids are present.
4. When working on Operating Company-owned equipment and facilities, the Contractor will utilize a lockout/tagout procedure or recognized isolation/tagging procedure, as specified by the Operating Company. GFCI's (ground fault circuit interrupters) shall be used for all electrical tools and equipment when used outdoors or in wet locations.
5. If a circuit breaker or other protective device operates ("trips") to open a circuit, a qualified electrician must determine the cause of the problem before the device is reset.
6. Equipment, boxes, switchgear, cabinets, or electrical rooms with exposed energized parts shall be attended or secured at all times.
7. All non-qualified Contractor employees and equipment shall stay a minimum of 10 feet away from overhead, energized lines. Non-qualified Contractor employees are not permitted to enter an energized substation unless qualified personnel accompany them.
8. Mobile radio antennas shall be lowered prior to taking any vehicles inside a substation.
9. No metal measuring tapes or tapes containing a metal wrap shall be used near energized circuits, equipment, poles or substation structures.
10. Metal tools utilizing cable slings, winch cable, chains, loose sections and ends of conductors, or other similar objects, shall be kept under control by the worker to prevent contact with energized conductors or equipment and the worker's body.

J. Excavations (ref: 29 CFR 1926.650-652, 1926.800, and 1926.956)

The general requirements of the OSHA Excavation Standard , 29 CFR 1926 Subpart P, including the provision for a competent person, shall be understood and followed by all Contractor employees. All excavations that workers may enter that are 5 feet or more in depth, or a depth where there is danger of cave-in shall be protected by a shoring or shielding system, or by an appropriate benching or sloping system. Materials shall not be stored closer than two (2) feet from the edge of a trench or excavation, and mobile equipment shall not be operated in close proximity to the edge unless extra precautions are taken to shore or slope the walls back to a stable slope. Additional requirements include but are not limited to the following items:

- Contractor must submit excavation plans to the Operating Company Project Monitor prior to any excavation work.
- Provide adequate barriers/barricades around excavations and machinery, including special considerations for securing excavations left overnight.
- In areas exposed to vehicular traffic, the Contractor must conform with OSHA paragraph 1926.651(d) and also make appropriate arrangements with local authorities for traffic control/detour.
- Perform air monitoring where there is a potential for a hazardous atmosphere.
- Make advance notification to Underground Facilities Protective Organization (e.g. Dig Safe).
- Provide adequate access and egress, and signage necessary to direct vehicular and pedestrian traffic safely around the work area.
- Perform routine inspections of all excavation equipment, including lights and safety features such as back-up warning devices.
- Hand dig when within two feet of any underground facility until the facility is exposed; then hand dig within four inches of the underground facility
- Notify Operating Company Project Monitor to obtain environmental assistance if it becomes necessary to perform dewatering.
- The Contractor shall promptly notify appropriate utilities of any damage done, prior to backfilling the trench.

K. Fire Regulations (ref: 29 CFR 1926.150, 152, 1910.38, 1910.39, 1910.157)

1. Contractors shall provide fire extinguishers, sealed, fire service ready, inspected and in good working order and properly maintained at all times when live gas work is being done. At least one 20-pound dry chemical fire extinguisher shall be on the ground near the edge of the excavation.
2. Contractors shall provide a trained fire watch as dictated by the job hazard assessment.
3. When required, hot work permits shall be obtained from the Operating Company Project Monitor for such activities as welding, cutting, burning, anything that causes a spark, uses an open flame, or involves temperatures high enough to ignite combustible materials.
4. All acetylene and oxygen cylinders shall be stored and used in accordance with OSHA regulations (ref: 29 CFR 1926.350), and transported per DOT

specifications. Flashback arresters shall be installed at the welding tip and at the regulator.

5. Open flames, sparks or smoking shall be prohibited in areas so marked or designated, and where a recognized combustible/flammable hazard exists.
6. Fire detection and/or suppression systems shall not be disabled or blocked without notifying the Operating Company Project Monitor and obtaining his/her consent.
7. Flammable/combustible material shall be stored in approved containers and locations. Quantities in excess of one day's use shall be reported to the Operating Company Project Monitor.

L. Hazard Communication (ref: 29 CFR 1926.59 and 1910.1200)

1. The Contractor must have a written program that complies with OSHA's Hazard Communication standard.
2. Before commencing work, all affected Contractor employees must be trained in accordance with the requirements of the standard.
3. Contractors shall provide to the Operating Company Project Monitor a list of chemicals and Material Safety Data Sheets (MSDS) for each chemical that they will bring on Operating Company property or use on an Operating Company project.
4. Contractor chemical containers shall be properly labeled and stored.
5. All unused chemicals, which Contractors bring onto Operating Company property or use for a project, shall be the responsibility of the Contractor to properly dispose of and/or remove.
6. The Operating Company Project Monitor shall make Contractors aware of the Operating Company's Hazard Communication Program, notify them of any chemicals that they may be exposed to while working on Operating Company property, and provide access to the applicable MSDS.
7. The use of any hazardous material by a Contractor in occupied buildings must be approved by the Operating Company Project Monitor.

M. PCB fluids (Polychlorinated Biphenyl Fluids) (40 CFR 761)

PCB fluids were formerly used as an electrical insulating fluid (transformers, regulators, capacitors, PTs, CTs), and also can occasionally be found in the gas distribution system in gas pipe, distribution equipment, (filters, separators, drips, meters, and regulators) and gas condensate/pipeline liquids. All liquids recovered from gas pipelines must be assumed to contain PCBs until proven otherwise by approved testing methods. When these materials are encountered and could potentially be disturbed by the work being performed, work shall immediately be stopped. The Contractor shall immediately notify the Operating Company Project Monitor in writing.

N. Hazardous Waste (ref: 40 CFR 260)

Requirements of the U.S. DOT and U.S. EPA must be observed for all aspects of hazardous waste handling, storage and transportation. Contractor is responsible for the removal and proper disposal of all hazardous waste they generate, including completion of documentation such as waste profiles, waste analytical samples, and hazardous waste manifests. As a minimum, the Contractor shall perform proper labeling, adequate secondary containment, segregation of incompatible materials, and routine inspection of storage areas as required by all U.S. EPA, state and local regulations. In addition, all hazardous waste containers must be properly constructed and in sound condition, and shall be kept securely closed. Contractor employees must be properly trained in hazardous waste procedures in accordance with regulatory requirements. The Contractor shall notify the Operating Company Project Monitor in writing before making any arrangements for shipping and disposal of hazardous waste.

O. Housekeeping (ref: 29 CFR 1926.25)

1. Good housekeeping practices shall be strictly adhered to daily. The work site shall be kept clean and orderly.
2. Trash shall be promptly removed from the work site and from the customer's property.
3. Boards with protruding nails shall not be left lying around. All nails shall be withdrawn or hammered down.
4. Contractors shall not block means of access or egress, or safety equipment.

P. Ladders and Scaffolding (ref: 29 CFR 1926.451, 1050-1053, 1060, 1910.27)

1. Contractors shall not use Operating Company ladders without permission from the Operating Company Project Monitor, or where an exception is included in contract documents.
2. Contractors are required to furnish their own ladders and equipment free of defects.
3. All straight and extension ladders shall be properly maintained and equipped with approved safety feet.
4. No work shall be performed until the ladder is properly secured.
5. Barricades should be placed to direct pedestrian traffic away from ladders.
6. Ladders must be inspected for defects on a regular basis, and immediately removed from service when deemed unsafe
7. The areas at the top and bottom of a ladder shall be kept clear of debris and equipment.
8. Ladders made of conductive materials shall not be used while working in proximity to energized electrical facilities.
9. All ladders shall be removed at the end of the work shift to prevent unauthorized use, or access to elevated surfaces.
10. All scaffolding erection and use shall be in compliance with OSHA standards. A licensed Professional Engineer’s approval of scaffolding plan(s) shall be submitted as required.

Q. Lead (ref: 29 CFR 1926.62 and 1910.1025)

Contractors shall not disturb known or suspected lead-based paint and other lead-containing materials. When these materials are encountered and could potentially be disturbed by the work being performed, work shall be stopped immediately. The Contractor shall immediately notify the Operating Company Project Monitor in writing.

R. Medical Services (ref: 29 CFR 1926.50)

1. When a medical facility is not reasonably accessible (i.e., within 15 minutes) for the treatment of injured employees, personnel trained to render first aid and CPR shall be available at the worksite. The personnel designated to provide CPR and first aid must have current certifications and must carry evidence of their training while on site.
2. First aid supplies approved by a consulting physician shall be readily available at the worksite.

S. Motor Vehicles (ref: 29 CFR 1926.600-02)

1. Contractors shall not use Operating Company vehicles without permission. Contractors shall transport employees in a safe manner (e.g., riding in the back of a pick-up and in places other than the operator's seat, (i.e., a backhoe bucket or fender) is prohibited).
2. Contractor employees shall possess the necessary license classification for vehicle(s) being driven.

T. Overhead Work (ref: 29 CFR 1926.500-503)

1. Personnel shall be protected from falling tools, equipment and material.
2. All girders, beams and overhead surfaces shall be kept free of loose material.

U. Personal Safety Equipment (ref: 29 CFR1926.28, 52, 95,100-103, 353, 500-503; 1910 Subpart I)

1. Eye and Face Protection - Approved and appropriate eye and/or face protection shall be worn at the worksite. Personnel involved in welding operations shall wear eye protection with filter lenses or plates of the proper shade number. The eye and face protection must meet the requirements of ANSI Z87.1-2003.
2. Head Protection – OSHA approved hard hats meeting the requirements of ANSI Z89.1-2003 shall be worn at work sites where there is potential for head injury. Bump caps, metal hard hats, and metal hard caps are prohibited.
3. Clothing – Contractors employees shall be properly clothed at all times. Appropriate flame retardant clothing is required while working on energized gas pipelines, energized electrical equipment and whenever a flame hazard exists.

4. Gloves – Suitable gloves will be worn when there is a potential for hand injury.
5. Foot Protection – Safety shoes and boots that meet the guidelines of ANSI Z41-1991 must be worn whenever exposed to crushing hazards.
6. Hearing Protection – All personnel subjected to sound exceeding the OSHA permissible 90 decibel level shall have available and wear appropriate hearing protection. Hearing protection training and medical monitoring are required by OSHA for contractor employees working in areas exceeding the OSHA 85 decibel action level.
7. Respirators - The contractor shall provide respirators based on the hazard encountered. Contractor respirator use will be in compliance with OSHA requirements.
8. Fall protection - Whenever work site conditions involve a potential for a fall hazard of 4 feet or more, the contractor shall use appropriate fall protection meeting the requirements of OSHA 29 CFR Subpart M – Fall Protection.

V. Radiation (ref: 29 CFR 1926.53, 1910.96, 1910.97, 1910.1096, 10 CFR 19,20,32-36,39)

1. The Contractor may utilize equipment containing an ionizing radiation source only when appropriately licensed to do so. A copy of their license must be available on-site.
2. The Operating Company Project Monitor will inform the Contractor when work is necessary near an Operating Company ionizing radiation source.
3. If work is required in the proximity of an ionizing radiation source, the Contractor shall comply with all applicable regulations.

W. Tools (ref: 29 CFR 1926.300-305, 1910.242)

1. Contractors shall not use Operating Company tools without permission.
2. Tools shall be kept defect free and if defects are found, immediately taken out of service.
3. Tools shall be maintained as per manufacturer's specifications and governing regulations.
4. Tools shall not be retrofitted or modified.

X. Water Safety (ref: 29 CFR 1926.106)

When Contractors work over or near water and where the danger of drowning exists, the contractor must comply with all provisions of OSHA (i.e., training, Coast Guard approved life jackets, ring buoys, skiffs, fall protection etc.).

Y. Work Zone Protection (1926.201)

1. Contractors shall use adequate work area protection. All work area protection shall be in accordance with the Federal/State Manual of Uniform Traffic Control Devices.
2. All contractors working in the road right-of-way:
    a. Shall wear ANSI 107 Class 2 or 3 compliant clothing .
    b. Shall wear ANSI 107 Class 2 or 3 compliant traffic vests for flagging and night work.
    c. Must comply with the provisions of any state permits issued to the Operating Company.

5. SPECIFIC REQUIREMENTS FOR ELECTRIC AND GAS WORK

Electric Power Generation, Transmission and Distribution Work (ref: 29 CFR 1910.269)

Contractor shall comply with all OSHA requirements for operation and maintenance of electric power generation, transmission and distribution lines and equipment including:

- Job briefing requirements
- Line clearance tree- trimming operations including brush chippers and chain saw use.
- Specific training including skills and techniques necessary to perform this work
- Hazardous energy control (lockout/ tag out) procedures
- Enclosed spaces
- Fall protection
- Tools and equipment including live-line tools
- Working on or near exposed energized parts
- Minimum approach distance
- Grounding for the protection of employees
- Work involving overhead lines including installing and removing lines
- Substation work activities including entry and job briefings

Tree contractors working for Operating Companies will be required to work in accordance with the latest American National Standard Institute (ANSI) safety requirements for tree care operations involving pruning, trimming, repairing, maintaining and removing trees and cutting brush.

Helicopter Regulations (ref: 29 CFR 1926.551, 1910.183)

Contracted helicopters shall comply with any applicable regulations of the Federal Aviation Administration.

- Briefing: Prior to each day's operation a briefing shall be conducted. This briefing shall set forth the plan of operation for the pilot and ground personnel.

- Personal protective equipment for employees shall consist of complete eye protection and hard hats secured by chinstraps.
- Loose fitting clothing likely to flap in the downwash, shall not be worn.
- Every practical precaution shall be taken to provide for the protection of the employees from flying objects in the rotor downwash. All loose material within 100 feet shall be secured or removed.
- No unauthorized person shall be allowed to approach within 50 feet of the helicopter when the rotor blades are turning.
- Whenever approaching or leaving a helicopter with blades rotating, all personnel shall remain in full view of the pilot and keep in a crouched position. Personnel shall avoid the area from the cockpit or cabin rearward unless authorized by the helicopter operator to work there.
- There shall be constant reliable communication between the pilot, and a designated person of the ground crew who acts as a signalman. This signalman shall be distinctly recognizable from other ground personnel.

Gas Distribution Operations and Personal Protective Equipment in Potentially Hazardous Atmospheres

All gas Contractors must comply with applicable OSHA requirements, as well as the requirements of the U.S. Department of Transportation (DOT), including drug and alcohol misuse testing. Worker protection is a key requirement on all gas projects. A copy of the Operating Company's procedures will be provided if the work involves encountering a potentially hazardous atmosphere requiring the use of personal protective equipment. This will include a copy of the Operating Company's task-specific Personal Protective Equipment Matrix (see Attachment B). This procedure describes specific requirements for working in an atmosphere which may be hazardous due to the presence of natural gas or oxygen deficiency (asphyxiation hazard). This procedure is applicable to all phases of operation, maintenance and construction of the gas system.

Attachment A

(OPERATING COMPANY COMPANY NAME)

CONTRACTOR'S SIGN-OFF SHEET

NOTE: The Contractor Safety Requirements shall be read and understood and the sign-off sheet completed before arrival on the job site or commencement of work.

NAME OF CONTRACTED CO.:		
DATE THE WORK STARTED:		
DESCRIPTION OF THE WORK:		
NAME OF THE OPERATING COMPANY SUPERVISOR WHO IS RESPONSIBLE FOR THIS JOB:		
NAME OF THE CONTRACTOR SUPERVISOR RESPONSIBLE FOR THIS JOB:		
DATE	NAME (please print)	SIGNATURE

Attachment B

(OPERATING COMPANY COMPANY NAME)

PERSONAL PROTECTIVE EQUIPMENT MATRIX

(INCLUDE WHERE APPLICABLE)

APPENDIX B

ASBESTOS TESTING RESULTS

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974 Web: http://www.emsl.com Email:westmontasblab@EMSL.com

Attn: Roberta Shackford
Acadia Contractors, LLC
780 Auburn Road
Turner, ME 04282

EMSL Order: 041111281
Customer ID: ACAD25
Collected:
Received: 5/09/2011

Fax: (207) 225-5403 Phone: (207) 225-5400
Proj: 1508

Summary Test Report for Asbestos Analysis via EPA 600/R-93/116

Client Sample ID: **5-5-01** *Lab Sample ID:* 041111281-0001
Sample Description: DOOR #2 DOOR TRIM/EXTERIOR CAULKING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	5/11/2011	Gray /White	0.0%	100%	**None Detected**	

Client Sample ID: **5-5-01** *Lab Sample ID:* 041111281-0002
Sample Description: DOOR #2 DOOR TRIM/EXTERIOR CAULKING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	5/11/2011				**Not Submitted**	

Client Sample ID: **5-5-02** *Lab Sample ID:* 041111281-0003
Sample Description: DOOR #6 DOOR TRIM/EXTERIOR CAULKING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	5/11/2011	Gray /White	0.0%	100%	**None Detected**	

Client Sample ID: **5-5-03** *Lab Sample ID:* 041111281-0004
Sample Description: DOOR #8 DOOR TRIM/EXTERIOR CAULKING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	5/11/2011	Gray /White	0.0%	100%	**None Detected**	

Client Sample ID: **5-5-04** *Lab Sample ID:* 041111281-0005
Sample Description: DOOR #2 EXTERIOR/OVER HANG PLASTER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/11/2011		0%	100%	**None Detected**	

Client Sample ID: **5-5-05** *Lab Sample ID:* 041111281-0006
Sample Description: DOOR #1 EXTERIOR/OVER HANG PLASTER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/11/2011	Gray	0%	100%	**None Detected**	

Client Sample ID: **5-5-06** *Lab Sample ID:* 041111281-0007
Sample Description: DOOR #3 EXTERIOR/OVER HANG PLASTER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/11/2011	Gray	0%	100%	**None Detected**	

Client Sample ID: **5-5-07** *Lab Sample ID:* 041111281-0008
Sample Description: DOOR #1 EXTERIOR/OVER HANG CAULKING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	5/11/2011	Gray /White	0.0%	100%	**<0.25% Chrysotile**	

Client Sample ID: **5-5-08** *Lab Sample ID:* 041111281-0009
Sample Description: DOOR #2 EXTERIOR/OVER HANG CAULKING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	5/11/2011	Brown	0.0%	100%	**None Detected**	

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974 Web: http://www.emsl.com Email:westmontasblab@EMSL.com

Attn: Roberta Shackford
Acadia Contractors, LLC
780 Auburn Road
Turner, ME 04282

Proj: 1508

Summary Test Report for Asbestos Analysis via EPA 600/R-93/116

Client Sample ID: **5-5-09** *Lab Sample ID:* 041111281-0010
Sample Description: DOOR #3 EXTERIOR/OVER HANG CAULKING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	5/11/2011	Gray	0.0%	100%	**None Detected**	

Client Sample ID: **5-5-10** *Lab Sample ID:* 041111281-0011
Sample Description: DOOR #1 INTERIOR/OVER HEAD PLASTER CEILING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/11/2011	Tan/White	0%	100%	**None Detected**	

Client Sample ID: **5-5-11** *Lab Sample ID:* 041111281-0012
Sample Description: DOOR #2 INTERIOR/OVER HEAD PLASTER CEILING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/11/2011	Brown/White	2%	98%	**None Detected**	

Client Sample ID: **5-5-12** *Lab Sample ID:* 041111281-0013
Sample Description: DOOR #3 INTERIOR/OVER HEAD PLASTER CEILING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/11/2011	Tan	0%	100%	**None Detected**	

Client Sample ID: **5-5-13** *Lab Sample ID:* 041111281-0014
Sample Description: DOOR #1 INTERIOR/HEADER MATERIAL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/11/2011	Brown	0%	100%	**None Detected**	

Client Sample ID: **5-5-14** *Lab Sample ID:* 041111281-0015
Sample Description: DOOR #2 INTERIOR/HEADER MATERIAL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/11/2011	Tan	0%	100%	**None Detected**	

Client Sample ID: **5-5-15** *Lab Sample ID:* 041111281-0016
Sample Description: DOOR #3 INTERIOR/HEADER MATERIAL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/11/2011	Tan	0%	100%	**None Detected**	

Client Sample ID: **5-5-16** *Lab Sample ID:* 041111281-0017
Sample Description: DOOR #2 EXTERIOR/METAL PANELING CAULKING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	5/11/2011	Gray	0.0%	100%	**None Detected**	

Client Sample ID: **5-5-17** *Lab Sample ID:* 041111281-0018
Sample Description: DOOR #3 EXTERIOR/METAL PANELING CAULKING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	5/11/2011	Gray	0.0%	100%	**None Detected**	

PLM: ME CERT #BA-0093

PLM EPA NOB: ME CERT #BA-0093

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974 Web: http://www.emsl.com Email:westmontasblab@EMSL.com

Attn: Roberta Shackford
Acadia Contractors, LLC
780 Auburn Road
Turner, ME 04282

Proj: 1508

Summary Test Report for Asbestos Analysis via EPA 600/R-93/116

Initial report from: 05/11/201113:03:40

Analyst(s)

Dave Poitras	PLM	(9)
	PLM Grav. Reduction	(8)

Stephen Siegel, CIH, Laboratory Manager
or other Approved Signatory

Any questions please contact Steve Siegel.

APPENDIX C

MAINE TEST BORINGS –SITE TEST PROBES

MAINE TEST BORINGS INC. BREWER, ME 04412	Spaulding Engineering & Construction Dan Spaulding 24 Common St Waterville ME	PROBE LOG

DRILLER:	Alonzo Francis	**Ref#:**	**PO#:**	**Auger Size O.D.**	4"
		PROJECT NAME and LOCATION:			
MTB JOB NO:	2011-096	CMP Bldg, 162 Canco Rd Portland ME			

BORING NO.	P-5	BORING NO.	P-6
LINE and STATION:		LINE and STATION:	
OFFSET:	6 ft off bldg	OFFSET:	6 ft off bldg
ELEVATION:		ELEVATION:	
DATE:	06/21/2011	DATE:	06/21/2011

DEPTH	STRATUM DESCRIPTION
0.4	Tar
	Brown Sandy Gravel
3.2	
6.2	Dark Brown Sand w/Trace of Gravel
6.5	Weathered Rock
	Auger Refusal @ 6.5'
	Open & Dry

DEPTH	STRATUM DESCRIPTION
0.4	Tar
	Brown Sandy Gravel
3.7	
6.0	Dark Brown Sand w/Gravel
7.1	Dark Brown Sand w/Trace of Silt
7.5	Light Brown Fine Sand w/Gravel
7.7	Weathered Rock
	Auger Refusal @ 7.7'
	Caved & Dry @ 6.2'

REMARKS:

REMARKS:

X SOIL CLASSIFIED BY DRILLER VISUALLY

MAINE TEST BORINGS INC. BREWER, ME 04412	Spaulding Engineering & Construction Dan Spaulding 24 Common St Waterville ME	PROBE LOG

DRILLER:	Alonzo Francis	**Ref#:**	**PO#:**	**Auger Size O.D.**	4"
		PROJECT NAME and LOCATION:			
MTB JOB NO:	2011-096	CMP Bldg, 162 Canco Rd Portland ME			

BORING NO.	P-3	BORING NO.	P-4
LINE and STATION:		LINE and STATION:	
OFFSET:	6 ft off bldg	OFFSET:	6 ft off bldg
ELEVATION:		ELEVATION:	
DATE:	06/21/2011	DATE:	06/21/2011

DEPTH	STRATUM DESCRIPTION
0.4	Tar
3.5	Brown Sandy Gravel
3.8	Weathered Rock
	Auger Refusal @ 3.8'
	Open & Dry

DEPTH	STRATUM DESCRIPTION
0.4	Tar
3.6	Brown Sandy Gravel
4.2	Light Brown Fine Sand
4.5	Weathered Rock
	Auger Refusal @ 4.5'
	Open & Dry

REMARKS:

REMARKS:

X SOIL CLASSIFIED BY DRILLER VISUALLY

MAINE TEST BORINGS INC. BREWER, ME 04412	Spaulding Engineering & Construction Dan Spaulding 24 Common St Waterville ME	PROBE LOG

DRILLER:	Alonzo Francis	**Ref#:**	**PO#:**	**Auger Size O.D.**	4"
		PROJECT NAME and LOCATION:			
MTB JOB NO:	2011-096	CMP Bldg, 162 Canco Rd Portland ME			

BORING NO.	P-1	BORING NO.	P-2
LINE and STATION:		LINE and STATION:	
OFFSET:	6 ft off bldg	OFFSET:	6 ft off bldg
ELEVATION:		ELEVATION:	
DATE:	06/21/2011	DATE:	06/21/2011

DEPTH	STRATUM DESCRIPTION
0.4	Tar
3.0	Brown Sandy Gravel
3.2	Weathered Rock
	Auger Refusal @ 3.2'
	Open & Dry

DEPTH	STRATUM DESCRIPTION
0.4	Tar
2.8	Brown Sandy Gravel
3.3	Weathered Rock
	Auger Refusal @ 3.3'
	Open & Dry

REMARKS:

REMARKS:

X SOIL CLASSIFIED BY DRILLER VISUALLY

MAINE TEST BORINGS INC. BREWER, ME 04412	Spaulding Engineering & Construction Dan Spaulding 24 Common St Waterville ME	PROBE LOG

DRILLER:	Alonzo Francis	**Ref#:**	**PO#:**	**Auger Size O.D.**	4"
		PROJECT NAME and LOCATION:			
MTB JOB NO:	2011-096	CMP Bldg, 162 Canco Rd Portland ME			

BORING NO.	P-7	BORING NO.	
LINE and STATION:		LINE and STATION:	
OFFSET:	6 ft off bldg	OFFSET:	
ELEVATION:		ELEVATION:	
DATE:	06/21/2011	DATE:	

DEPTH	STRATUM DESCRIPTION
0.4	Tar
	Brown Sandy Gravel
7.3	
9.1	Light Brown Fine Sand w/Trace of Gravel
9.2	Weathered Rock
	Auger Refusal @ 9.2'
	Caved & Dry @ 7.1'

DEPTH	STRATUM DESCRIPTION

REMARKS:

REMARKS:

X SOIL CLASSIFIED BY DRILLER VISUALLY

APPENDIX D

DRAWINGS