



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0016

JOHN ELIAS BALDACCI
GOVERNOR

DAVID A. COLE
COMMISSIONER

August 20, 2009
Subject: **Biddeford, Arundel &
Kennebunk**
Federal Project No: STP-1334(100)S
State Pin No: 013341.00
Amendment No. 6

Dear Sir/Ms:

Make the following change to the Bid Document:

In the Bid Book (pages 4 through 11), **REMOVE** the "SCHEDULE OF ITEMS", 8 pages dated 090701 (and replaced in Amendment #2) and **REPLACE** with the attached new "SCHEDULE OF ITEMS", 7 pages dated 0900819.

In the Bid Book (pages 33 through 52), **REMOVE** "SPECIAL PROVISIONS, SECTION 104, UTILITIES" and all the associated appendices, and **REPLACE** with the attached new "SPECIAL PROVISIONS, SECTION 104, UTILITIES", 22 pages revised - August 18, 2009.

In the Bid Book (pages 61 and 62), **REMOVE** "SPECIAL PROVISION, SECTION 107, TIME) 2 pages undated and **REPLACE** with the attached new "SPECIAL PROVISION, SECTION 107, TIME) 2 pages dated August 18, 2009.

In the Bid Book, after page 107, **ADD** the attached "SPECIAL PROVISIONS, SECTION 502, STRUCTURAL CONCRETE, (Structural Concrete Box Culvert Extension)"

In the Bid Book (pages 108 through 114), **REMOVE** "SPECIAL PROVISION, SECTION 504, (Prefabricated Steel Truss Bridge)", and **INSERT** the attached new "SPECIAL PROVISION, SECTION 530, (Prefabricated Steel Truss Bridge)" 6 pages revised on August 18, 2009. This Special Provision has been revised and re-numbered.

In the Bid Book, after page 115, **ADD** the attached "SPECIAL PROVISIONS, SECTION 603, PIPE CULVERTS AND STORM DRAINS, (Concrete Pipe Collars)", 1 page revised - August 18, 2009.

In the Bid Book, after page 131, **ADD** the attached "SPECIAL PROVISION, SECTION 635, PREFABRICATED GRAVITY RETAINING WALL, (Prefabricated Concrete Block Gravity Wall)" 10 pages dated August 18, 2009.



PRINTED ON RECYCLED PAPER

In the Bid Book (pages 143 through 146) **REMOVE** “SPECIAL PROVISION, SECTION 652, MAINTENANCE OF TRAFFIC, (Maine Turnpike Authority Facilities)” 4 pages undated and **REPLACE** with the attached new “SPECIAL PROVISION, SECTION 652, MAINTENANCE OF TRAFFIC, (Maine Turnpike Authority Facilities)” 4 pages revised August 18, 2009.

The Plans for this Project have been replaced with a complete new updated Plan Set.

NOTE: Due to the size of the plan change, the plans are not included as an attachment in this amendment; they have been posted to our website. The plans may be viewed at the following website <http://www.maine.gov/mdot/comprehensive-list-projects/016696.00.php>. Plans will be FedExed/mailed to plan holders who purchased plans in the size and quantity ordered.

The following questions have been received:

Question: I have been asked to quote Line No. 250 and 260 in the Schedule of Items for the above referenced project. “Bracing Assembly – Type I – Metal posts and Type II metal posts”. I cannot find these items in the plans or details. Could you please point me in the right direction?

Response: Items 607.32 “Bracing Assembly Type I - Metal Posts” and Item 607.33 “Bracing Assembly Type II – Metal Posts” shall be installed in accordance with the standard specifications and standard details at the section of proposed chain link fence running between Stations 4697+70 (+/-) and 4702+45(+/-) shown on sheet 21 of the Contract Plans.

Question: Item 607.22, Cedar Rail Fence, on sheet 10 of the plans, notes read 4” diameter rail (turned smooth) + 6” diameter post. Are the rails intended to be turned smooth to 4” diameter and be symmetrical (no taper) or peeled rails with taper but no smaller than 4” and is the same required of the 6” diameter posts, turned 6” diameter or peeled with 6” minimum diameter?

Response: Rails and posts shall be a uniform diameter of 4” and 6” respectively. Rail ends shall be modified as required to provide a doveled or scarf/paddle joint at the Contractors option.

Question: Section 710, Fence and Guardrail, will the air seasoning for 3 months be required? Will the below grade portion of the post dipped in Timber Preservative be required? If so, please specify preservative name and type approved by MDOT?

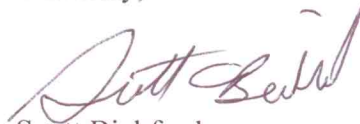
Response: Air seasoning for three months is not required. Dipping the below grade portions of timber in a barrel of preservative is not required. However, all timber for guardrail shall be pressure treated with ACQ to a retention level suitable for ground contact. Additionally, all jobsite fabrication cuts and borings in treated lumber shall be field treated with a solution having a minimum copper naphenate content of 2%, as approved by the engineer.

Question: With all the revised bid dates, we have not seen a revised job schedule. Is one available?

Response: See Special Provision 107 which was replaced in this amendment.

Consider these changes and information prior to submitting your bid on August 26, 2009.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Bickford". The signature is written in a cursive, flowing style.

Scott Bickford
Contracts & Specifications Engineer

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 013341.00

PROJECT(S): STP-1334(100)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
SECTION 0001 PROJECT ITEMS						
0010	201.11 CLEARING	6.000 AC				
0020	201.12 SELECTIVE CLEARING AND THINNING	4.000 AC				
0030	202.12 REMOVING EXISTING STRUCTURAL CONCRETE	2.000 CY				
0040	203.20 COMMON EXCAVATION	2050.000 CY				
0050	203.24 COMMON BORROW	14200.000 CY				
0060	206.082 STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	43.000 CY				
0070	209.29 VERTICAL DRAINAGE WICKS	87600.000 LF				
0080	304.09 AGGREGATE BASE COURSE - CRUSHED	11260.000 CY				
0090	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	2460.000 CY				
0100	403.209 HOT MIX ASPHALT 9.5 MM HMA (SIDEWALKS, DRIVES, INCIDENTALS)	12.000 T				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 013341.00

PROJECT(S): STP-1334(100)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0110	403.210 HOT MIX ASPHALT 9.5 MM HMA	79.000 T				
0120	411.13 STONE DUST SURFACE COURSE	7100.000 T				
0130	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS	LUMP	LUMP			
0140	502.327 STRUCTURAL CONCRETE BOX CULVERT EXTENSION	LUMP	LUMP			
0150	502.60 PORTLAND CEMENT MORTAR	10.000 CF				
0160	502.71 BRIDGE DRAIN EXTENSIONS	1.000 EA				
0170	530.01 STEEL PEDESTRIAN BRIDGE	LUMP	LUMP			
0180	603.175 18 INCH REINFORCED CONCRETE PIPE CLASS III	160.000 LF				
0190	603.179 18 INCH CULVERT PIPE OPTION III	20.000 LF				
0200	603.199 24 INCH CULVERT PIPE OPTION III	72.000 LF				
0210	603.4105 CONCRETE PIPE COLLAR	2.000 EA				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 013341.00

PROJECT(S): STP-1334(100)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0220	603.471 60 INCH REINFORCED CONCRETE PIPE CLASS V	112.000 LF				
0230	606.611 TIMBER GUARDRAIL	300.000 LF				
0240	607.16 CHAIN LINK FENCE - 4 FOOT	500.000 LF				
0250	607.22 CEDAR RAIL FENCE	7150.000 LF				
0260	607.294 BARRIER BOULDERS	61.000 EA				
0270	607.32 BRACING ASSEMBLY TYPE I - METAL POSTS	2.000 EA				
0280	607.33 BRACING ASSEMBLY TYPE II - METAL POSTS	2.000 EA				
0290	608.26 CURB RAMP DETECTABLE WARNING FIELD	160.000 SF				
0300	610.08 PLAIN RIPRAP	541.000 CY				
0310	610.21 RIVER STONES	40.000 CY				
0320	610.212 STREAM STONE	10.000 CY				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 013341.00

PROJECT(S): STP-1334(100)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0330	613.319 EROSION CONTROL BLANKET	3970.000 SY				
0340	615.07 LOAM	1771.000 CY				
0350	618.13 SEEDING METHOD NUMBER 1	282.000 UN				
0360	618.143 SPECIAL SEED MIX:	8.000 UN				
0370	618.15 TEMPORARY SEEDING	71.000 LB				
0380	619.12 MULCH	282.000 UN				
0390	619.1401 EROSION CONTROL MIX	50.000 CY				
0400	620.58 EROSION CONTROL GEOTEXTILE	1125.000 SY				
0410	620.60 SEPARATION GEOTEXTILE	1400.000 SY				
0420	621.037 EVERGREEN TREES (5 FOOT - 6 FOOT) GROUP A	21.000 EA				
0430	621.546 DECIDUOUS SHRUBS (2 FOOT - 3 FOOT) GROUP A	700.000 EA				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 013341.00

PROJECT(S): STP-1334(100)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0440	621.80 ESTABLISHMENT PERIOD	LUMP	LUMP			
0450	627.75 WHITE OR YELLOW PAVEMENT AND CURB MARKING	1300.000 SF				
0460	629.05 HAND LABOR, STRAIGHT TIME	120.000 HR				
0470	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	50.000 HR				
0480	631.133 SKID STEER (INCLUDING OPERATOR)	20.000 HR				
0490	631.14 GRADER (INCLUDING OPERATOR)	20.000 HR				
0500	631.171 TRUCK - SMALL (INCLUDING OPERATOR)	30.000 HR				
0510	631.18 CHAIN SAW RENTAL (INCLUDING OPERATOR)	10.000 HR				
0520	631.32 CULVERT CLEANER (INCLUDING OPERATOR)	20.000 HR				
0530	631.36 FOREPERSON	40.000 HR				
0540	635.31 PREFAB CONCRETE BLOCK GRAVITY WALL	2250.000 SF				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 013341.00

PROJECT(S): STP-1334(100)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0550	641.89 KIOSK	2.000 EA				
0560	645.103 DEMOUNT GUIDE SIGN	1.000 EA				
0570	645.113 REINSTALL GUIDE SIGN	1.000 EA				
0580	645.271 REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS, TYPE I	430.000 SF				
0590	646.091 SETTLEMENT PLATFORMS	LUMP	LUMP			
0600	652.33 DRUM	140.000 EA				
0610	652.34 CONE	20.000 EA				
0620	652.35 CONSTRUCTION SIGNS	780.000 SF				
0630	652.361 MAINTENANCE OF TRAFFIC CONTROL DEVICES	LUMP	LUMP			
0640	652.362 MAINTENANCE OF TRAFFIC CONTROL DEVICES - MTA	LUMP	LUMP			
0650	652.38 FLAGGER	40.000 HR				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 013341.00

PROJECT(S): STP-1334(100)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0660	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP	LUMP			
0670	659.10 MOBILIZATION	LUMP	LUMP			
0680	841.48 BOLLARDS	4.000 EA				
0690	841.49 BOLLARDS - COLLAPSIBLE	24.000 EA				
	TOTAL BID					

SPECIAL PROVISIONS
SECTION 104
UTILITIES

MEETING

A Preconstruction Utility Conference, as defined in Subsection 104.4.6 of the Standard Specifications is required.

GENERAL INFORMATION

These Special Provisions outline the arrangements that have been made by the Department for utility and/or railroad work to be undertaken in conjunction with this project. The following list identifies all known utilities or railroads having facilities presently located within or near the limits of this project or intending to install facilities during project construction, unless otherwise provided.

Utility	Aerial	Underground
Central Maine Power Company	X	
City of Biddeford		X
Fairpoint Communications	X	
Granite State Gas Transmission Co. \ Unitil Service Corp.		X
Kennebunk, Kennebunkport and Wells Water District		X
Kennebunk Light and Power District	X	
Kennebunk Sewer District		X
Northern Utilities		X
Time Warner Cable	X	

Temporary utility adjustments are **not** anticipated.

Any times and dates mentioned are estimates only and are dependent upon favorable weather, working conditions, and freedom from emergencies. The Contractors shall have no claim against the Department if they are exceeded. Utility working days are Monday through Friday, conditions permitting. Times are estimated on the basis of a single crew for each utility.

TELEPHONE NUMBERS FOR NOTIFICATION

The following information is provided to assist the Contractor with contacting utility companies and is a guide only:

<u>Utility</u>	<u>Contact Name</u>	<u>Telephone #</u>
Central Maine Power	Gary Crabtree	791-8025
City of Biddeford	John Perry	284-9118

Fairpoint Communications	Steve Polyot	990-5280
Granite State Gas Transmission	Frank Callahan	(800) 542-0967
Kennebunk, Kennebunkport and Wells Water District	Donald Gobel	985-3385
Kennebunk Light and Power District	Raymond Brulotte	985-3311
Kennebunk Sewer District	Nick Rico	985-4741
Northern Utilities	Rick Bellemare	797-8002 x6246
Time Warner Cable	Andrew Trottier	253-2325
Unutil Service Corp.	Roger Barham	(603) 294-5191

AERIAL (PIN #13341.00)

Central Maine Power Company, Fairpoint Communications, Kennebunk Light and Power District and Time Warner Cable have aerial utilities within the project limits. The project does not require relocation of aerial utilities.

UNDERGROUND (PIN #13341.00)

City of Biddeford, Granite State Gas Transmission Co., Unutil Services Corp, Kennebunk, Kennebunkport and Wells Water District, Kennebunk Sewer District, and Northern Utilities have underground facilities within the project limits. The project does not require relocation of underground utilities.

Special Note to the Contractor

Granite State Gas Transmission, Co. has a high pressure natural gas transmission line located in the immediate vicinity of the proposed work along the full length of the project. Work within the transmission corridor shall be completed in accordance with the procedures and requirements outlined in this specification and the following appendices thereto:

Appendix A-1: Utility Coordination with Granite State Gas Transmission, Co.

Appendix A-2: GSGT-ETMD Kennebunk-Biddeford Co-Location Agreement

Appendix A-3: Minimum Guidelines for Construction

Construction within the transmission corridor will not be allowed without a representative of Granite State Gas Transmission, Co. on site.

Special Note to the Contractor

Northern Utilities Inc. (Portland Office) has a gas main located in the immediate vicinity of the project between stations 4828+00 and 4857+15. No relocation or adjustment of the gas main is anticipated. Work within the transmission corridor shall be completed in accordance with the procedures and requirements outlined in Appendix A.

AERIAL AND UNDERGROUND UTILITY ADJUSTMENTS

No aerial or underground utility adjustments are anticipated to accommodate construction of the project.

SAFE PRACTICES AROUND UTILITY FACILITIES

The contractor shall be responsible for complying with M.R.S.A. Title 35-A, Chapter 7-A, Sections 751-761, Overhead High Voltage Line Safety Act. Prior to commencing any work that may come within ten (10) feet of any aerial electrical line, the Contractor shall notify the aerial utilities as per Section 757 of the above act.

DIG SAFE

The Contractor shall be responsible for determining the presence of underground utility facilities prior to commencing any excavating work and shall notify utilities of proposed excavation in accordance with M.R.S.A. Title 23 3360-A, Maine “Dig Safe” System.

BLASTING

In addition to any other notice which may be required, the Contractor shall notify an authorized representative of each utility having plant close to the site not later than 3:00 P.M. on the working day (Monday through Friday) before he intends to blast. Notice shall state the approximate time of the blast.

UTILITY SIGNING

Any utility working within the construction limits of this project shall ensure that the traveling public is adequately protected at all times. All work areas shall be signed, lighted and traffic flaggers employed as field conditions determine. All traffic controls shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, as issued by the Federal Highway Administration. Utility Companies shall use National Cooperative Highway Research Program Report 350 Compliant Signs and Channelization devices as specified by the FHWA with in all MDOT work zones.

THE CONTRACTOR SHALL PLAN AND CONDUCT HIS WORK ACCORDINGLY

SPECIAL PROVISION 104: APPENDIX A-1
CONSTRUCTION REQUIREMENTS & COORDINATION WITH GSGT

A. General Conditions

Utility Coordination shall be governed by MaineDOT Standard Specifications, Revision of December 2002, as updated periodically by MaineDOT, unless otherwise provided herein.

Prior to commencement of work, the Contractor, by careful examination, must become sufficiently familiar with all utilities in the work area. The locations shown on the plan are based on the best information available, but MaineDOT and the Engineer do not warrant their accuracy in either horizontal or vertical locations. The MaineDOT, the Eastern Trail Management District (ETMD) and Granite State Gas Transmission, Inc. (GSGT) are working together to create a trail segment that will carry both utilities and intended trail users. To that end, the ETMD has executed a co-location agreement with Granite GSGT that outlines the respective rights, responsibilities and obligations between all parties during the construction of the trail, as well as all construction activities related to the Project as a whole. A copy of the project co-location agreement is included as Appendix A-2 of this specification. The Contractor is responsible for understanding, following and abiding by the obligations and limitations outlined in both the co-location agreement and these specifications throughout the Project. During construction the Contractor shall carefully protect all utilities from damage. **The Contractor shall be fully responsible for any damage to existing utilities.**

B. Dig Safe & Maintaining Utility Markings

The Contractor shall be responsible for determining the presence of underground utility facilities prior to commencing any excavation work and shall notify utilities of proposed excavation in accordance with M.R.S.A. Title 23 §3360-A, Maine “Dig Safe” System. Call 1-888-344-7233

The Contractor will be responsible for maintaining the buried utility location markings following the initial locating by the appropriate utility or their designated representative.

C. Pre-Construction Meeting

A Preconstruction Utility Conference, as defined in Subsection 104.4.6 of the MaineDOT Standard Specifications, Revision of December 2002, as updated periodically by MaineDOT, is required.

D. Granite State Gas Transmission (GSGT)

GSGT owns an approximately 66-foot right of way to operate an eight-inch, high-pressure, natural gas pipeline. The pipeline runs within the right-of-way along the entire length of the Project. The Contractor is responsible for meeting the following requirements agreed to by, and among, GSGT, the ETMD, the Towns of Kennebunk and Arundel, and the City of Biddeford:

1. **Primary Contact** – The Contractor will be required to work with representatives from GSGT and its engineers and contractors throughout the project. Initially all communications with GSGT should be channeled through the Resident until primary contacts are established.
2. **Weight and Equipment Restrictions** – GSGT has weight restrictions for all equipment working on or within five feet of the gas pipeline. To protect the gas pipeline, as a general rule GSGT will

not allow heavy equipment or trucks to work within five feet of the pipeline. This distance may be lengthened if, in the judgment of the Resident or GSGT, soil conditions exist where five feet may not be sufficient. The following restrictions will apply to all construction activities on this project:

Equipment Crossing Pipeline:

If it is necessary for equipment or trucks to cross the pipeline, the following safeguards shall be implemented:

- It will be necessary for there to be a minimum cover of three feet over the pipeline. Where the existing cover is insufficient, additional fill shall be placed over the pipeline in accordance with GSGT requirements.
- GSGT may impose additional protective measures such as bridging with wooden matting.
- All construction vehicles and equipment shall cross the gas line at near-90 degree angles.

Equipment Operating Parallel to Pipeline:

If it is essential for equipment or trucks to work within five feet of the pipeline, the following safeguards shall be implemented:

- It will be necessary for there to be a minimum cover of three feet over the pipeline. Where the existing cover is insufficient, additional fill shall be placed over the pipeline in accordance with GSGT requirements.
- GSGT may impose additional protective measures such as limiting the weight of the equipment/trucks and/or their proximity to the pipeline.
- Generally, equipment or trucks will not be allowed to travel directly over the pipeline. However, certain low impact equipment may be permitted subject to GSGT approval and supervision.
-

Construction of Route 35, Maine Turnpike, and Limerick road Approaches:

Where the proposed embankment and grading work is located five feet or more from the gas line typical construction equipment will likely be permitted, subject to GSGT approval. Where embankment and grading work is less than five feet from the gas line, equipment shall be limited to light-duty machinery such as skid-steers. All equipment proposed by the Contractor shall be subject to approval by GSGT.

Excavations in close proximity to the Pipeline:

Where excavation is required immediately adjacent to the gas line (e.g. for installation of fence posts), no equipment will be allowed and all excavations shall be hand dug

Vibratory Equipment:

The use of vibratory rollers/compaction equipment larger than walk-behind units will not be allowed on the GSGT ROW.

Walk-behind vibratory rollers/compactors are permitted on the ROW but may not be used within five feet of the pipeline.

Within five feet of the pipeline permitted equipment is restricted to walk-behind static rollers. The use of this equipment directly above the pipeline will be subject to approval by GSGT.

The use of vibratory hammers for the installation of sheet piling and other earth support structures will be subject to approval by GSGT. As a general rule such equipment will not be permitted to operate within ten feet of the gas line.

Concrete Demolition Equipment:

Concrete demolition equipment proposed for use will be limited to hand held chipping hammers. Hoe-rams will not be permitted for concrete demolition work.

Coordination of proposed equipment with GSGT:

The successful Bidder will be required to work with the Resident and GSGT to fine tune allowable weights and possible alternative measures that could be taken to protect the pipeline from usage of heavy equipment. The successful Bidder will be asked to provide a list of specific equipment to be reviewed by GSGT; however, at this time the Resident and GSGT will not individually evaluate equipment lists from Bidders.

An engineering analysis of the existing pipe material, pipe depth, and weights of construction equipment shows that there is no heavy equipment that GSGT can allow to safely work over the pipeline. In places, there may be some light equipment that may be acceptable. If it is the desire by the Contractor to use light equipment, each use will need to be evaluated on a case-by-case basis and require prior approval from GSGT. Light equipment could include, but is not limited to small front-end loaders such as Bobcats, small rubber tired backhoes, and light dump trucks (2 ½ tons or less). Heavy equipment could include, but is not limited to, concrete trucks, excavators, bulldozers, tri-axle dump trucks, tractor-trailer combinations, cranes, etc. Equipment required to construct and erect the proposed Kennebunk River Bridge will be evaluated on a case-by-case basis and require approval from GSGT.

Please note that there are places where GSGT, at the discretion of the local supervisor or inspector, may require barriers or fencing to keep construction equipment away from the pipeline. This will protect the gas line by keeping equipment away from the pipeline, and will also help the contractor by defining the area where work can safely take place. No additional compensation will be made to the Contractor for the installation and maintenance of barrier or fencing for this purpose.

3. **Bridge Work** – Construction of the Kennebunk River Bridge and approaches (Station 4612+00 to 4614+50) shall be completed with the gas pipeline temporarily removed from service. An eight week shut down window has been secured to allow bridge and approach construction to take place. Shutdown of the gas line must occur during the months of July and August 2010. The allotted eight week shut down window will begin once GSGT notifies the Eastern Trail Contractor that work at the bridge site may commence. The actual shut down dates shall be coordinated between GSGT, the Contractor, and MaineDOT. GSGT shall have final say in selection of the gas line shut down dates.

During construction the Contractor shall exercise extreme care to avoid disturbing, hitting, or otherwise damaging the existing gas line, casing, vents, and supports. In addition, the following requirements shall apply:

- Work at Abutment 2 shall be completed in a manner that does not disturb the existing concrete pedestal (constructed atop the existing abutment ruins) supporting the gas line.
- Where the trail crosses the gas line temporary bridging (likely constructed from crane mats) will be required to allow heavy construction equipment to cross the gas line.
- Where proposed embankment and grading work is located five feet or more from the gas line typical construction equipment will likely be permitted, subject to GSGT approval. Where embankment and grading work is less than five feet from the gas line, equipment shall be limited to light-duty machinery such as skid-steers. All equipment proposed by the Contractor shall be subject approval by GSGT as outlined in Section 2, “Weight and Equipment Restrictions”.

The repair of damage or disturbance to the gas line or ancillary components resulting from the Contractors operations shall be the sole responsibility of the Contractor.

4. **Construction Supervision** - GSGT has agreed to work with the Resident, Project Engineers, and Contractor(s) to arrange for personnel to be present at appropriate times as outlined below and in accordance with the Project schedule to oversee any contractors or subcontractors who may be working near the gas pipeline. Supervision shall be required any time work is being done within GSGT’s right-of-way.
5. **Work Stoppage** - GSGT shall have the right to stop work immediately if the gas pipeline or the safety of the public are or might be negatively impacted. Immediately following the decision to stop work, the Resident must be contacted and a meeting held with GSGT, the Resident, the Project Engineer and the Contractor(s) to evaluate the concern(s) and determine a corrective course of action.
6. **Minimum Guidelines for Construction** - Except as modified below, the Contractor shall observe the *Minimum Guidelines For Construction Activities In The Vicinity Of Gas Pipelines* established by GSGT. These guidelines are included in this specification as Appendix A-3.
 - (a) GSGT shall schedule personnel for inspection and monitoring of construction activities in connection with the project in accordance with the mutually agreed to Project schedule.
 - (b) Existing levels of ground cover above and within five (5) feet of either side of the Pipeline shall not be reduced or increased as a result of the Project unless previously approved by GSGT during the design and review process. Where GSGT requires an increase in the level of cover over its Pipeline in connection with the installation of the Trail, the Resident will direct the Contractor to complete such work. The placement of additional cover will be compensated at the Contract unit price for the material required.
 - (c) The Contractor shall provide the Resident with a listing of all construction equipment and vehicles that will be working within the co-location area at least 72 hours prior to entry of such equipment into the area, which listing shall include weight load factors. At the discretion of GSGT, the Contractor may be required to utilize temporary matting, or to place temporary fill, to protect the integrity of the pipeline when utilizing certain equipment. No additional compensation will be made to the Contractor for this work.

(d) GSGT shall provide the Resident and Contractor with any weight restrictions or acceptable weight ranges for construction equipment working on or within five feet of the Pipeline.

7. **Access** – At all times during construction GSGT will require immediate access to their pipeline facilities. GSGT shall be given a key to locks used on any gates or chains erected by the Contractor. Large or heavy objects should not be used as a barrier during non-working hours unless they can be moved at a moments notice.

E. Practical implications of the restrictions and coordination requirements on trail construction

The restrictions stated above are universal and will be applied throughout the scope of this project. In most areas of the project the trail alignment maintains five feet of separation from the pipeline. However, in these areas there may be grading and increased cover within five feet and above the pipeline. Construction of the trail is not an issue because construction equipment will not travel within five feet of the gas line. With respect to grading and placement of fill within five feet of the pipeline, excavators and trucks will be required stay a minimum of five feet from the pipeline but excavator buckets and arms can extend over the pipeline to disperse grading material.

There will be areas of the project where the edge of the trail will be less than five feet from the pipeline. This will require equipment to operate parallel to, and within five feet of, the pipeline. To facilitate this, the depth of cover over the pipeline, and five feet towards the trail, will be required to be a minimum of three feet deep. Additional fill, where required, will need to be placed prior to construction equipment being allowed to operate less than five feet from the gas line. In practice this will require an excavator to place cover over the trail as it advances.

SPECIAL PROVISION 104: APPENDIX A-2

GSGT-ETMD Kennebunk-Biddeford Co-Location Agreement

Agreement made as of this _____ day of _____, 2009 by and among GRANITE STATE GAS TRANSMISSION, Inc., a corporation organized and existing under the laws of New Hampshire, with a principal place of business at 325 West Road, Portsmouth, New Hampshire 03801 (GSGT), and THE EASTERN TRAIL MANAGEMENT DISTRICT (ETMD) a Maine not-for-profit corporation with an address at PO Box 250 Saco, Maine, 04072 relating to the installation and maintenance of a multi-use trail, as is more specifically defined herein.

WHEREAS, Maine Department of Transportation (MDOT) is working with the ETMD and the Eastern Trail Alliance (ETA) on the development of the Eastern Trail, which shall be part of the East Coast Greenway, a non-motorized transportation corridor running the full length of the East Coast of the United States and

WHEREAS, MDOT and ETMD desire to construct a segment of the Eastern Trail running in a southwesterly direction from West Cole Road in the City of Biddeford, York County, Maine, to the existing gas pipeline corridor at Rt. 35 in the Town of Kennebunk, such segment being generally depicted on Exhibit A attached hereto and made a part hereof by this reference (such segment of the Eastern Trail defined below as the "Trail", and the installation of the Trail being defined below as the "Project"); and

WHEREAS, MDOT and the ETMD have executed a Transportation Enhancement Project Agreement ("MDOT/ETMD Project Agreement") State PIN13441.00, in connection with the Project; and

WHEREAS, provided that it can secure the requisite funding, approvals and permissions, the ETMD plans to locate, construct, maintain and operate the Trail pursuant to grants to be obtained from the fee owners of the land crossed thereby or an assignment of trail easement(s) to be obtained from the current holders thereof, which grants and assignments are to be duly recorded in the County Registry of Deeds of York County, as applicable; and

WHEREAS, GSGT, or its predecessors, have, since the mid-1960's, owned, operated and maintained an active natural gas line through land to be affected by the Project; and

WHEREAS, On December 01, 2008, GSGT and Northern Utilities were purchased by Unitil Service Corporation, and

WHEREAS, upon the terms and conditions set forth herein, GSGT has agreed to permit ETMD to construct, install, operate and maintain certain portions of the Trail upon certain property owned or controlled by GSGT.

NOW, THEREFORE, in consideration of the mutual promises, covenants and agreements set forth herein, ETMD and GSGT, with the intent of being legally bound, do hereby covenant and agree as follows:

Section 1 - Definitions

As used in this Agreement, the following terms have the meaning indicated:

MDOT - Means the Maine Department of Transportation

The Co-Location Area - Means any portion of the Trail (defined below), situated on land owned or controlled by GSGT, as preliminarily and generally depicted on Exhibit A attached hereto, provided that the final location of such Trail upon land owned or controlled by GSGT shall be subject to the prior written approval of GSGT pursuant to the terms of Section 3 hereof and of this Agreement in general.

The Project - Means the initial construction and installation of that segment of the Eastern Trail consisting of approximately 6.2 miles running in a southwesterly direction from West Cole road in the City of Biddeford, York

County, Maine, to Rt. 35 in the Town of Kennebunk, York County, Maine, as generally depicted on Exhibit A attached hereto.

The Trail – Means that portion of the Eastern Trail that is generally 12 feet in width, to be constructed in connection with the Project.

The Pipeline - Means the existing high-pressure natural gas transmission pipeline and its related facilities owned and operated by GSGT and all future replacements, alterations and upgrades thereof.

Minimum Guidelines – Means the recommended guidelines for construction near natural gas pipeline facilities, of which will be incorporated as a part of the ongoing engineering review.

Project Coordinator - Means the person appointed by the ETMD to coordinate and supervise all aspects of the Project on behalf of ETMD.

Project Engineer - Means the engineer and its subcontractors who were contracted by the ETMD and are responsible for the design and construction oversight of the Project

Section 2 - Co-Location

- 2.1 Co-Location:** The ETMD hereby agrees to design, construct, install, operate and maintain the Trail in accordance with the terms and conditions of this Agreement so as not to interfere with GSGT's operation and maintenance of the Pipeline within any portion of the Co-Location Area. GSGT agrees to the co-location of the Trail within the Co-Location Area, subject to and in accordance with the terms of this Agreement.
- 2.2 Sound Practices:** The ETMD agrees to ensure that at all times, initial and any subsequent design, construction, installation, operation, and maintenance of the Trail and all access to and by their volunteers, employees, agents and contractors on or about the Co-Location Area shall comply with: (a) sound engineering and construction practices; (b) all applicable engineering, environmental, land use, safety and other standards, statutes, laws, ordinances, rules, directives, orders, guidelines and regulations (whether now or hereinafter enacted) imposed by any federal, state or local governmental authority applicable to the Project or operation of the Pipeline; and (c) the Minimum Guidelines and all other requirements of GSGT.
- 2.3 Reservation of Rights:** GSGT reserves and shall have the right to use the Co-Location Area for any lawful purpose pursuant to GSGT's ownership or easement rights, and any future modifications or amendments thereto. Nothing contained herein is intended to limit or restrict GSGT's right or ability to place additional pipeline(s) or facilities or to acquire additional or different land rights. GSGT shall make reasonable attempts to minimize the impact to the Trail or its components and shall undertake reasonable restoration to the trail base of any portions of the Trail or its components disturbed during any such future expansion. GSGT shall not be responsible to restore trail surface.
- 2.4 Prohibited Uses:** ETMD shall not use all terrain vehicles and/or snow mobiles in the Co-Location Area, except as permitted hereunder or as otherwise permitted by GSGT by a separate written agreement.

Section 3 - Initial Construction of the Trail

- 3.1 GSGT Review of Construction Plans:** The ETMD will provide GSGT with engineering and construction plans prior to commencement of construction so as to permit GSGT to perform engineering reviews, evaluations and field inspections as may be reasonably necessary and appropriate for the protection of its Pipeline and property. Actual on-site construction work on the Project shall not commence within the Co-Location Area until GSGT has reviewed and approved in writing ETMD's engineering and construction plans, which approvals may be withheld at the sole discretion of GSGT if GSGT reasonably determines that the plans present safety issues or concerns.

- 3.2 Design & Construction Schedules:** It is the intent of the ETMD to begin design of the Project in SPRING 2009. Construction is planned to begin in 2009 or 2010. The Project Coordinator will hold timely meetings as necessary with GSGT to discuss the timing and sequencing of any work that may impact or involve the Pipeline.
- 3.3 Construction Inspection and Monitoring:** GSGT agrees to work with the Project Coordinator, Project Engineers, and Contractors to arrange for GSGT personnel to be present at appropriate times while work on the Trail or the Project is being conducted within the Co-Location Area, including without limitation those times discussed in Section 3.6 below, and, in accordance with the Project schedule, to monitor any contractors or subcontractors of ETMD who may be working near the Pipeline. Such inspection and monitoring may be required by GSGT any time work is being done within the Co-Location Area.
- 3.4 Work Stoppage:** Under the provisions of Section 4 of this Agreement, GSGT shall have the right to stop work on the Project immediately if the Pipeline or the safety of the public or GSGT employees or its agents or ETMD personnel and its agents are or might be negatively impacted during design or construction of the Project. Immediately following the decision to stop work during construction, the Project Coordinator must be contacted and a meeting held with GSGT, the Project Coordinator, the Project Engineer and the Contractor to evaluate the concern(s) and determine a corrective course of action.
- 3.5 Dig Safe:** The ETMD or its agents will follow and comply with the state requirement that Maine's "Dig Safe" be called and notified at least 72 hours before any excavation. Such notification shall alert all applicable underground facilities and cause such facilities to be identified and marked prior to the start of construction activities.
- 3.6 Minimum Guidelines for Construction:** Except set forth in this Section, the ETMD shall, at all times, observe and comply with the Minimum Guidelines.
- (A) GSGT shall schedule personnel for inspection and monitoring of construction activities in connection with the Project in accordance with the mutually agreed to Project schedule.
 - (B) Existing levels of ground cover above and within five (5) feet of either side of the Pipeline shall not be reduced or increased as a result of a Project unless previously approved by GSGT during the design and review process. Where GSGT requires an increase in the level of cover over its Pipeline in connection with the installation of the Trail, ETMD shall reasonably accommodate GSGT in such efforts. Any costs associated with improvements to cover shall be borne by ETMD.
 - (C) ETMD shall provide GSGT with a listing of all construction equipment and vehicles that will be working within the Co-Location Area at least 72 hours prior to entry of such equipment into the area, which listing shall include weight load factors. Upon review, GSGT shall provide the Project Engineer with any weight restrictions or acceptable weight ranges for construction equipment working in the Co-Location Area or that must travel over the Pipeline for inclusion in bid documents so that prospective contractors may include such limits in any bid packages prepared for the Trail. ETMD will, at its own cost and expense, take such measures as are required by GSGT to protect the integrity of the Pipeline, including the use of matting and temporary protective fill.
- 3.7 Required Permits:** It shall be the responsibility of the ETMD and the Project Engineer to obtain all required permits for the Project at ETMD's sole costs and expense.
- 3.8 Construction Related Expenses:**
- (A) **Trail Related Document Review:** GSGT's expense to review the engineering plans, specifications, or equipment weights related to the Trail shall be considered an eligible Project expense to be reimbursed by the ETMD from Project funds. An estimate is required as outlined in 6.1.

(B) Trail Related Construction Inspection and Monitoring: GSGT's expense to monitor and/or inspect construction or excavation activities related to the Trail and as outlined in Section 3.3 shall be considered an eligible Project expense to be reimbursed by the ETMD from Project funds. An estimate is required as outlined in Section 6.1.

(C) Trail Design and Construction: All expenses associated with the design and construction of the Trail, except as noted herein, shall be considered an eligible Project expense and shall be paid by the ETMD from Project funds.

Section 4 - Endangering Condition

- 4.1 Endangering Condition:** For the purpose of this Agreement, an "Endangering Condition" is one that in the reasonable judgment of GSGT threatens the physical integrity of the Pipeline, could interfere with the transmission of gas, or presents a threat to public safety or to the safety of GSGT's employees, agents or contractors or the safety of ETMD's personnel, its agents and contractors (hereinafter "Endangering Condition").
- 4.2 Immediate Endangering Condition:** GSGT may immediately suspend or temporarily prohibit construction activities within and/or the use of the Trail across all of the Co-Location Area, or any portion thereof, and take immediate corrective action, if in the reasonable judgment of GSGT there is an Endangering Condition that presents an immediate or immanent threat of harm or injury. Upon such suspension, GSGT shall notify the ETMD that such action has been taken. GSGT shall not be responsible for any damage to the Trail that results from or occurs in connection with the corrective action(s) taken by GSGT, its employees, agents or contractors to address any such immediate Endangering Condition. GSGT's sole responsibility shall be to restore its pipeline area to the same grade as existed prior to installation of the Trail and to restore the trail base of any portions of the Trail affected by such corrective action(s) to substantially similar condition and grade as existed immediately prior to the corrective action. ETMD shall be responsible to restore the Trail surface and any related facilities, at its own cost and expense.
- 4.3 Non-Immediate Endangering Condition:** If in the reasonable judgment of GSGT there exists an Endangering Condition that is the result of the use of the Trail or is created by the ETMD in its exercise of its rights within the Co-Location Area which does not present an immediate threat to the Pipeline, transmission of gas or public or GSGT employee(s) or its agents or ETMD personnel and its agents safety, GSGT shall require the ETMD to take corrective action by providing verbal and written notification of such Endangering Condition to the ETMD by certified mail, return receipt requested. The ETMD shall, within a reasonable time not to exceed 15 days, initiate action suitable to promptly correct or abate the Endangering Condition. Should the ETMD fail to initiate such appropriate corrective action within the prescribed period, then GSGT shall have the right, but not the obligation, under this Agreement to:
- (A) Enter upon the Co-Location Area and take the actions that GSGT deems necessary to correct the Endangering Condition, and, thereafter, all reasonable expenses incurred by GSGT to take such corrective action shall be reimbursed to GSGT by the ETMD in accordance with Section 6; and/or
 - (B) Temporarily suspend access to that portion of the Trail affected by the Endangering Condition until such condition is corrected or sufficiently abated.

Section 5 - Operation, Maintenance and Repair of the Co-Location Area

- 5.1 Vehicular Access to the Co-Location Area:** Vehicular access by ETMD to the Co-Location Area shall be limited and controlled as follows:
- (A) Use of the Co-Location Area shall be limited to pedestrian and non-motorized vehicle access only, except as set forth below..

- (B) Vehicles of ETMD shall have access to all portions of the Trail as necessary to comply with the terms of this Agreement, and GSGT shall have the right, at any time it determines, to use the Trail for vehicular access in connection with operation of the Pipeline.
- (C) In accordance with plans provided to and approved by GSGT in writing, the ETMD will install gates and locking bollards along the Trail to control vehicular access. The ETMD shall provide GSGT with a key to unlock such gates and bollards. GSGT shall ensure that the gates and bollards are locked upon completion of access. The bollards shall be configured in a manner that prevents snow and debris from clogging the locking mechanism.
- (D) Nothing herein is intended to limit access to the Co-Location Area by GSGT, to include without limitation vehicular access to the Co-Location Area.

- 5.2 **Public Access to the Project:** Upon completion of the Trail, it is the intent of the Parties hereto that the public will have access to the Trail. Public access to a portion of the Trail may be modified or prohibited as necessary during construction or maintenance activities. Public access to the Trail may immediately be prohibited by GSGT and/or ETMD in the event of an Endangering Condition as outlined in Section 4.
- 5.3 **ETMD Maintenance, Upgrade or Repair:** ETMD shall be responsible, at its sole cost and expense, for all maintenance and repair associated with any portion of the Trail situated within the Co-Location Area. ETMD shall also be responsible, at its sole cost and expense for any excavation, replacement, material upgrade or addition of a component in connection with the Trail within the Co-Location Area, provided that any such action shall be made by the ETMD only upon prior, written notice to and approval by GSGT. The ETMD shall follow the same general provisions established for the initial construction/installation of the Trail as outlined in Section 3 of this Agreement.
- 5.4 **GSGT Maintenance, Upgrade or Repair:** In the event that GSGT engages in any excavation, replacement, material upgrade or addition of a component to the Pipeline or related appurtenances thereto within the Co-Location Area, GSGT shall undertake reasonable restoration of any portion of the Trail or its components disturbed during any such work to the extent that it shall restore the Trail base, but GSGT shall not be responsible to restore the Trail surface or any facilities of ETMD placed on or near the Co-Location Area. GSGT will make efforts to provide prior notice to ETMD of such work in conformance with applicable provisions of this Agreement. Notwithstanding the foregoing, this section shall not apply to work undertaken by GSGT to correct an Endangering Condition, as outlined under Section 4, caused by the exercise of the rights granted to the ETMD for the use of the Co-Location Area and operation of the Trail.
- 5.5 **Scheduled Maintenance, Upgrade or Repairs:** Except in the case of an immediate Endangering Condition, as outlined in Section 4, and whenever reasonably possible, the ETMD and GSGT shall schedule major maintenance, upgrade or repair projects in the Co-Location Area according to a mutually agreed upon schedule so that the impact(s) to the Trail and/or the Pipeline are minimized and efforts not duplicated. Under no condition will ETMD unreasonably withhold agreement that results in GSGT's inability to maintain its pipeline facilities in a timely and cost-effective manner.
- 5.6 **Governing Approval:** It shall be the responsibility of each party respectively to obtain and maintain at their own cost and expense, all permits, licenses, and approvals required for construction, operation and maintenance of their facilities within the Co-Location Area as may be required by any federal, state, or local authority or by any governmental rules, statutes or regulations.
- 5.7 **Snow Removal:** In order to maintain year-round access to its Pipeline and related transmission facilities, GSGT and its customers who take deliveries perform snow removal along the Co-Location Area. Such removal shall be the sole obligation and expense of GSGT or its customers and shall be performed as determined by GSGT or its customers in their sole discretion. GSGT shall request its employees, snow removal contractor, and customers that the blade of any plow vehicle used on the Trail shall be raised several inches to maintain a snow base on the trail. When feasible, snow removal should be done such that a portion of the width of the

Trail is left as is. This may minimize damage and provide a base for snow related trail usage, provided such base does not prohibit GSGT from safe and immediate access to the Pipeline and related appurtenances. GSGT shall require its snow removal contractor to close any gates opened and replace any bollards removed during snow removal upon completion of snow removal operations. GSGT shall request that its affiliates perform their snow removal in a similar manner.

Section 6 - Reimbursements

- 6.1 GSGT Related Reimbursements:** Federal and state regulations allow for the reimbursement of certain expenses incurred by a utility company as a result of work performed on or for the Trail. The following conditions shall apply to all reimbursement requests from GSGT:
- (A) All Project expenses are subject to review and final approval by MDOT in accordance with the MDOT/ETMD Project Agreements and are subject to all federal and state regulations.
 - (B) All Project expenses that GSGT and the ETMD anticipate must be outlined in advance and a written estimate provided to the ETMD that includes the following:
 1. Wage Reimbursement - Description of staff position, hourly rate, anticipated transportation, meals and lodging and the total number of hours required.
 2. Equipment Reimbursement - Material cost per item, direct labor cost to replace/repair, number of items required.
 - (C) The ETMD shall issue to GSGT written acceptance/approval of an estimate before it will be considered binding on the ETMD.
 - (D) Request for transportation, meals and lodging reimbursement must be based on federal allowances and are subject to Maine State maximums.
 - (E) Expenses related to the hiring or training of personnel are not eligible for reimbursement.
- 6.2 Reimbursement Procedure:** This section shall apply any time that there is an exchange of funds between the parties. The party requesting reimbursement shall submit an official invoice to the other. The invoice should include the total amount due, including a breakdown of the costs incurred such as material(s), labor, outside services and other information contained in the original estimate. Payment shall be due within 30 days from the receipt of the invoice. In the event that timely payment is not made, interest will be charged on the outstanding balance equal to one and one-half percent (1.5%) per month. Such interest shall accrue on unpaid amounts beginning on the payment due date and shall terminate when such invoice is paid. Such interest will not be payable if such failure to pay is the result of a bona fide dispute of any such charges or costs.
- 6.3 State and Federal Audits:** The parties hereto acknowledge that by receiving reimbursement from State or Federal funds for expenses, whether directly from MDOT or indirectly through the ETMD, they become subject to federal and/or state audits related to said reimbursement. Such audits may include, but are not limited to federal wage rates, estimates and final cost, maximums, Buy America and any other regulation tied to the use of federal and or state funds.

Section 7- Insurance & Mutual Indemnification

- 7.1 ETMD General Liability:** The ETMD shall procure and maintain, solely at its own cost and expense, comprehensive general liability insurance coverage including contractual liability thereunder, naming GSGT as an additional insured, with limits not less than Three Million Dollars (\$3,000,000.00) combined single limit for bodily injury (including death), personal injury and property damage (including loss of use) liability, subject to reasonable increases from time to time at the request of GSGT, with a deductible that shall be no more than ten thousand dollars(\$10,000.00). ETMD shall also obtain other forms of insurance as may be reasonably

requested by GSGT, including without limitation worker's compensation insurance and employer's liability insurance, all naming GSGT as an additional insured, in commercially reasonable amounts. Prior to commencing any work on or access to the Co-Location Area, the ETMD shall submit a certificate of insurance giving evidence of these required coverage amounts and indicating that GSGT is an additional insured. The ETMD shall be required to provide GSGT with a certificate of insurance, showing the required insurance coverage, on an annual basis in a form reasonably acceptable to GSGT. All insurance shall be procured from insurers authorized to do business in the State of Maine. Thirty (30) days prior written notice shall be given to GSGT in the event that coverage is substantially changed, canceled or not renewed.

- 7.2 Contractor Damage:** ETMD or GSGT shall each cause their respective contractors to have adequate insurance or evidence of financial responsibility sufficient to correct and reasonably restore to the condition immediately prior to the damage incident any damages they may cause to the Trail and its components and the Pipeline and its components within the Co-Location Area.
- 7.3 Mutual Indemnity:** To the extent not covered by Maine's Landowner's Liability Law at 14 M.R.S.A. Section 159-A, ETMD agrees to indemnify and hold harmless GSGT, its parent, subsidiaries and affiliates, from and against any claims, loss, cost, damage or expense, including reasonable attorneys' fees, suffered or incurred by GSGT arising from any negligent act or omission of the ETMD in connection with this Agreement and in connection with ETMD's exercise of the rights hereunder, and GSGT agrees to indemnify and hold harmless ETMD from and against any claim, loss, cost, damage or expense, including reasonable attorneys' fees, suffered or incurred by ETMD arising from any negligent act or omission of GSGT in connection with its use of the Trail.
- 7.4 Title:** GSGT has made no representation of whatever nature and gives no covenant in connection with the title or condition of the Co-Location Area or any other property owned, controlled or utilized by GSGT, and ETMD accepts the Co-Location Area "as-is." Without limiting the foregoing, GSGT does not warrant or represent that it has sufficient interest in all or any part of the Co-Location Area for ETMD to exercise the rights described herein. GSGT shall not be liable for any latent or patent defects therein.
- 7.5 Maine Landowner's Liability Law:** The ETMD and GSGT intend that the Maine Landowner's Liability Law, 14 M.R.S.A. Section 159-A shall apply to members of the public accessing the Trail for recreational purposes.
- 7.6 Termination:** The provisions of this Section shall survive termination of this Agreement.

Section 8 - Notices

- 8.1 Contact Persons:** In order to facilitate communication between GSGT and ETMD, each party will designate a contact person for communication necessary under this Co-Location Agreement, which notices shall be sent in accordance with the written notice provisions of this Co-Location Agreement as below.
- 8.2 Addresses:** All notices, demands, requests or other communications which may be or are required to be given, served, or sent by one party to the other party pursuant to this Agreement shall be in writing and shall be mailed by first-class registered or certified mail, return receipt requested, postage prepaid, or sent by messenger or a recognized courier or overnight delivery service, addressed as follows:
- (A) If to GSGT:
Patty Quinn
Land Department
Unitil Service Corporation
6 Liberty Lane West
Hampton, NH 03842
 - (B) With a copy to:

Beverly Carver or Frank Callahan
Granite State Gas Transmission, Inc.
325 West Road
Portsmouth, New Hampshire 03801

- (C) If to Eastern Trails Management District (ETMD):
Ms. Carole Brush
Eastern Trails Administrator
P.O. Box 250
Saco, ME 04072

8.2 Change of Address: Either party may designate by notice in writing a new address to which any notice, demand, request or communication made thereafter shall be so given, served or sent.

8.3 Delivery: Each notice, demand, request or communication which shall be delivered in a manner described in this Section 8, shall be deemed sufficiently given, served, sent or received for all purposes at such time as it is delivered to the address set forth above as to each party (with the return receipt or the delivery receipt being deemed conclusive evidence of such delivery), or at such time as delivery is refused by the addressee upon presentation.

Section 9 - Dispute Resolution

- 9.1 Settlement of Disputes:** It is the intent of the parties that any disputes that may arise between them be resolved as quickly and informally as possible. Any agreement between the parties with respect to any dispute shall be in writing.
- 9.2 Enforcement:** Each party shall be liable for their own attorney's fees in litigating any matter arising between the parties concerning the enforcement or interpretation of this Co-Location Agreement.

Section 10 - Miscellaneous

- 10.1 Acknowledgement of Contingency:** ETMD and GSGT acknowledge that all of the obligations under this Agreement for initial construction of the Trail are contingent upon approval by MDOT of all design plans and Project costs. In the event that MDOT does not provide such approval and funds are withheld or reallocated, then ETMD shall notify GSGT of such state of affairs in writing, whereupon all obligations of GSGT incident to the Project shall cease, and ETMD shall reimburse GSGT for all costs expended by GSGT at the time GSGT is notified of such cancellation or postponement.
- 10.2 Severability:** If any one or more of the provisions contained in this Agreement, or the application thereof in any circumstance, is held invalid, illegal or unenforceable in any respect for any reason, the validity, legality and enforceability of any such provision in every other respect and of the remaining provisions of this Agreement shall not be in any way impaired, unless the provisions held invalid, illegal or unenforceable shall substantially impair the benefits or the remaining provisions hereof.
- 10.3 No Joint Venture:** By entering into this Agreement with the ETMD, GSGT is not hereby establishing any joint undertaking, joint venture or partnership with the ETMD their agents or contractors. Each party shall be deemed to be an independent contractor, and shall act solely for its own account.
- 10.4 Successors and Assigns:** This Agreement shall be binding upon and shall inure to the benefit of ETMD and GSGT, and each of their respective successors and assigns.
- 10.5 Merger:** It is understood and agreed that all understandings, agreements or representations, either oral or in writing heretofore between the Parties hereto, are superseded by this Agreement, which document alone fully

and completely expresses the Parties' agreement with respect to the matters covered hereby. This Agreement may not be modified in any manner except by a subsequent instrument in writing signed by ETMD and GSGT.

- 10.6 Counterparts:** This Agreement may be simultaneously executed in any number of counterparts, each of which when so executed and delivered shall be an original, but such counterparts shall constitute one and the same instrument.
- 10.7 Governing Law:** This Agreement, the rights and obligations of ETMD, and GSGT and any claims or disputes relating thereto, shall be governed by and construed in accordance with the laws of the State of Maine, except to the extent that such laws are preempted by federal law under the Natural Gas Act, 15 U.S.C. §§717, et seq., the Natural Gas Pipeline Safety Act, 49 U.S.C. §§ 60101, et seq., or the regulations promulgated pursuant thereto.
- 10.8 Scarborough Agreements:** Nothing in this Agreement shall affect the Scarborough Project Agreement, executed by ETMD and GSGT on January 20, 2004 and the Scarborough Co-Location Agreement, executed by ETMD and GSGT on April 29, 2004.
- 10.9 Lien Waiver:** ETMD and GSGT expressly waive and relinquish any rights that either of them may have pursuant to Maine's Mechanics Lien laws, 10 M.R.S.A. § 3251 et seq., to file or make in whatever manner a mechanics lien in any Registry of Deeds or Court against any property affected by or referred to in this Agreement, for any services, labor, or materials supplied by ETMD or GSGT. ETMD and GSGT expressly agree that this provision is supported by adequate consideration.

Notwithstanding the foregoing, ETMD covenants to promptly pay when due the entire cost of all work done in connection with the Project and in connection with any and all on-going maintenance and repair, or in connection with any future upgrade or replacement of the Trail as permitted hereunder, and shall keep the land owned or controlled by GSGT, including such portions situated within the Co-Location Area, free of all liens for labor and materials arising therefrom or related thereto. Should a mechanic's or materialmen's lien, or other lien arising from the exercise of ETMD's rights hereunder, be filed against any land owned or controlled GSGT, including land situated within the Co-Location Area, ETMD shall pay, bond or obtain a release or discharge of such lien within 10 days of receiving notice of such lien. If such lien is not paid promptly or otherwise satisfied, GSGT shall have the right, at its option, to pay such lien, and ETMD shall promptly reimburse GSGT upon demand, together with expense, charges, interest and attorneys' fees.

IN WITNESS WHEREOF, the parties hereof have executed this instrument acting through their duly authorized representatives as of the day and year first above written.

Seen and agreed to.

GRANITE STATE GAS TRANSMISSION, INC.

*By: [Signature]

Name: MARK H. COLLIN

Title: TREASURER

Date: MAY 13, 2009

State of New Hampshire

County of Rockingham

May 13, 2009

Thence personally appeared the above-named Mark H. Collin, as aforesaid, who acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Granite State Gas Transmission, Inc.

SANDRA L. WHITNEY
Notary Public - New Hampshire
My Commission Expires March 9, 2010

Before me, [Signature]
Notary Public/Attorney at Law
Printed Name: Sandra L. Whitney
My commission expires: 3/9/10
Title:

Seen and agreed to:

EASTERN TRAIL MANAGEMENT DISTRICT

By: [Signature]

Name: Robert H. Hamblen

Title: President

Date: May 18, 2009

State of Maine
County of York

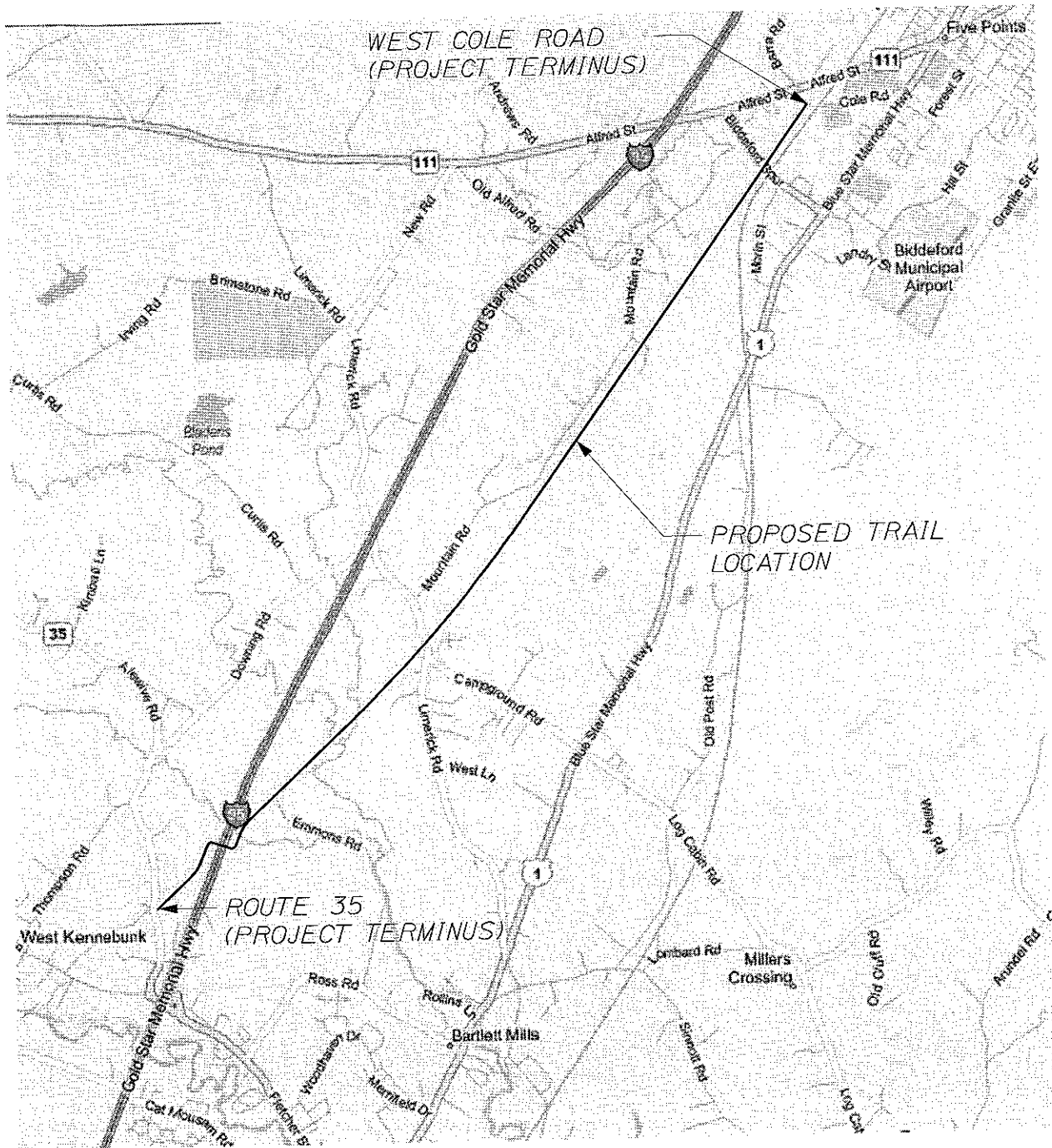
May 18, 2009

Thence personally appeared the above-named Robert H. Hamblen, as aforesaid, who acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of the Eastern Trail Management District.

Before me, [Signature]
Notary Public/Attorney at Law
Printed Name:
My commission expires:
Title:

LUCETTE S. PELLERIN
Notary Public, Maine
My Commission Expires: July 12, 2009

Exhibit A: ETMD Project Location Map, Kennebunk-Arundel -Biddeford



PROJECT LOCATION MAP

SPECIAL PROVISION 104: APPENDIX A-3

**Granite State Gas Transmission, Inc.
Minimum Guidelines For Construction Activities In The Vicinity Of Gas Pipelines**

Granite State Gas Transmission Co.'s (GSGT) minimum guidelines for construction activities are intended to ensure the safety of the public and preserve the integrity of GSGT's facilities. GSGT will cooperate to the extent possible in the use of property in the vicinity of its facilities, but to protect public safety and assure the nation's continuous supply of energy deliveries, GSGT cannot allow its facilities and attendant property rights to be compromised.

To minimize conflicts and delays, property owners and developers are encouraged to consult GSGT in the design phase of their project and receive acknowledgement of their construction plans before obtaining zoning permits and committing to construction schedules.

Construction

No construction or excavation activities of any kind, including blasting, shall be done on GSGT's right of way area before GSGT personnel have established the actual location of all affected facilities and the limits of the ROW area. GSGT personnel must be present during any construction or excavation activities.

Notification

GSGT must be notified according to the state one-call regulations before construction begins in the vicinity of its facilities. This notification shall be made through the appropriate state one-call notification service, but follow up contact should be made with the local GSGT office.

Excavation in the vicinity of pipelines/buried facilities

No excavation shall be made on the pipeline right-of-way without prior notification to GSGT through the state one-call notification service. Subsequent follow-up must be made to GSGT to seek approval for the proposed construction. Approved excavations that are done above, below or within three-feet of either side of the pipeline shall be dug using hand tools.

Crossing pipelines with heavy equipment

To adequately protect GSGT pipelines from potential damage by heavy equipment crossing the right-of-way, GSGT may require heavy equipment operators to install mats, dirt pads, or other approved protective materials. All proposed road crossings of buried facilities must be evaluated by GSGT personnel. The additional over-burden must be removed after construction unless otherwise directed by GSGT personnel.

Blasting

Any blasting proposed within 300 feet of GSGT facilities must have prior written acknowledgement by GSGT. Acknowledgement must be requested by submitting a blasting plan for evaluation by GSGT personnel. Any modifications to the blasting plan must be acknowledged by GSGT in writing. The blasting contractor may be required to monitor and record seismic shock at the facilities.

Directional Drilling or Boring

When directional drilling or boring is proposed under GSGT's pipelines or buried facilities, contractors shall submit plans to GSGT for review. Adequate clearance must be maintained from GSGT's facilities and additional excavations may be required to ensure adequate clearance. As built plans are required for all borings.

Operating Area of Storage Wells

In order to safely and efficiently operate and maintain GSGT's natural gas storage fields, GSGT requires up to 300-foot or larger clear area around each well. Accordingly, the company requires notification of, and reserves the right to object to, any proposed above-ground or below-ground construction activities or placement of objects closer than 300 feet in any direction of a wellhead.

Rights-of-Way

The requirements listed below are minimum standards that GSGT requires for construction in the vicinity of its pipeline rights-of-way to protect public safety and the integrity of its facilities. A review of individual plans and property rights may reveal more specific requirements.

1. The existing cover over pipelines, which is normally 36-inches, shall be maintained. The minimum earth cover over pipelines at all street and road crossings, including the adjacent ditch line, shall be 36-inches; 60-inches minimum cover shall be maintained at stream and river crossings.
2. Above ground or below ground structures or obstructions of any type shall not be placed within the easement area of any pipeline, which is generally 25 feet each side of the pipeline.
3. Pipeline easements shall not be shared longitudinally with other utilities. All water valves, curb boxes, manholes, etc. must be outside the easement. Other utilities which cross GSGT pipelines must do so at or as near 90 degrees as practical and with a minimum of 12-inches vertical clearance. Any crossing not installed below GSGT's pipelines must have prior written consent from GSGT. Cable or wire utilities must be in conduit the full width of the easement. For safety reasons, all electric and fiber optic lines crossing GSGT's pipelines shall be surrounded with a minimum of six inches of concrete for the full width of the right-of-way. Metallic warning flags shall also be buried above all cable, wire utility, or fiber optic lines crossing a TCO Right-Of-Way. All crossings must be approved by GSGT before installation begins.

4. Roads shall cross pipelines at or as near 90 degrees as practical, but at angles not less than 45 degrees. The entity constructing the street must pay for any measures required by GSGT to protect its pipeline(s). Such protective measures shall be designed and/or approved by GSGT personnel.
5. Paved areas, such as parking lots, shall not be allowed over the easement unless the pavement can be altered so as not to impact the safe and reliable operation and maintenance of GSGT's pipeline. Concrete paving in GSGT's right-of-way is prohibited. Consequently, all plans for pavement within a GSGT right-of-way must be submitted and acknowledged by GSGT personnel before paving can begin.
6. Septic tanks and leach fields should be placed so they drain away from the pipeline where practical. In no case shall they be placed in the easement area.
7. The right-of-way may be planted in lawn and small shrubs (less than 5 feet tall) or may be used for normal agricultural purposes. However, shrubs will not be allowed within 5 feet each side of the pipeline. Shrubs greater than 5 feet tall and trees, including fruit or nut bearing trees of any kind, are prohibited within the right-of-way.
8. Fences that block visual inspection or interfere with access to GSGT's facilities are prohibited within GSGT rights-of-way. Fences permitted by GSGT to cross its rights-of-way must be designed with 12-foot gates centered on the pipelines and must cross at or as near to 90 degrees as possible.

SPECIAL PROVISION
SECTION 107
TIME

107.1 Contract Time and Contract Completion Date

This Subsection is amended by the addition of the following:

Work on the site shall be complete by **November 19, 2010**.

107.1.1 Substantial Completion

This Subsection is amended by the addition of the following:

Substantially complete shall be defined by the Department as having all Contract work complete and all side slopes shall be stabilized with loam, seed and mulch.

107.4.6 Prosecution of Work

The following activities must be completed by the date specified:

- Installation of the 60” stream culvert located beneath Turnpike bridge embankment #1 shall be constructed by **October 1, 2009**. This work is subject to the in-stream work window restrictions specified in Special Provision 105 “Environmental Requirements”.
- Turnpike Bridge Embankments 1 and 2, including final slope treatment, surcharge, and installation of the two 18” roadside ditch culverts, shall be completed by **December 9, 2009**. Limits of Embankment 1 are from Station 5001+75 to Station 5006+25. Limits of Embankment 2 are from Station 5007+86 to 5013+75.
- The surcharge at Turnpike embankments 1 and 2 must remain in place for a minimum of eight months. The required surcharge period may be shortened or lengthened based on the actual rate of settlement achieved. If the required surcharge period is lengthened, subsequent project milestone dates, with the exception of in-stream work windows, will be adjusted by an equivalent length of time.
- Access to the project site from the Maine Turnpike is restricted to the dates and times outlined in Section 107 - Appendix B, and Section 652 “Maine Turnpike Authority Facilities”. The proposed trail between embankment 2 and the south side of the Kennebunk River Bridge will likely need to be constructed utilizing access from the Maine Turnpike. See Subsection 107.4.7 for Emmons Road access restrictions. The Contractor shall schedule his work accordingly.

- Project shall be substantially complete by **September 24, 2010**. Substantial completion is defined in Subsection 107.1.1.

Supplemental liquidated damages of Five Hundred (\$500.00) Dollars per calendar day per activity shall be assessed for each calendar day that any of the above noted activities remain incomplete. The assessments shall continue until the activities are complete.

Construction at the following locations must start no earlier than **March 1, 2010** or after revised environmental permits are received by MaineDOT, as approved by the Resident.

- Culvert extensions at Stations 4551+40, 4601+50, and 4707+50.
- Trail construction between Station 4612+00 and 4614+50.
- Trail construction between Station 4651+00 and Station 4654+25.

107.4.7 Limitations of Operations

The Contractor's limit of disturbance shall be the proposed slope limit line or the clearing limit line, if applicable.

Access to the work area from the Maine Turnpike is restricted. Refer to Section 652 (Maine Turnpike Authority Facilities) and Appendix B for specific Maine Turnpike Authority requirements.

The following work activities shall take place during the In Stream work window defined by the Army Corps of Engineers and Maine Department of Environmental Protection, which is July 15 to October 1, inclusive.

- Stream Relocation STA 4539+92 to STA 4551+55.
- Fish weir and proposed culvert lengthening at STA. 4551+40.
- Stream Transition at Maine Turnpike (off site).
- Proposed culvert at STA. 5005+66.
- Proposed culvert lengthening at STA. 4601+50.
- Work in the Kennebunk River related to bridge construction
- Proposed culvert lengthening at STA. 4707+50.

Two existing bridges on Emmons Road have weight restrictions. The first is posted for a maximum of 15 tons and the second is posted for a maximum of 3 tons. Vehicles weighing more than 15 tons and 3 tons respectively are prohibited from crossing the bridge. This restriction is not temporary and the Contractor shall plan access accordingly.

Contractor's equipment for proposed construction shall be coordinated with Unitil/GSGT in accordance with Appendix A.

SPECIAL PROVISIONS
SECTION 502
STRUCTURAL CONCRETE
(Structural Concrete Box Culvert Extension)

502.01 Description.

The following paragraph is added:

This work shall consist of furnishing and installing reinforced concrete walls and reinforced concrete roof slab over existing granite block culvert walls in accordance with these specifications and in reasonably close conformity with the lines and grades as shown on the plans.

502.03 Materials

The following is added:

Reinforcing steel shall meet the requirements of the Standard Specification 503, Reinforcing Steel.

502.14 Finishing Concrete Surfaces

The following paragraph is added:

This work shall comply with the Surface Tolerance Limits for “Concrete Surface of Abutments, Piers, Pier Shafts, Footings and Walls” as stated in Table 5 of the Standard Specifications.

502.18 Method of Measurement.

The following is added:

The structural concrete box culvert extension shall be measured as lump sum, complete in place and accepted. This shall be full compensation for furnishing labor and materials, including reinforcing steel, to construct a structural concrete box culvert extension over existing granite block culvert walls.

502.19 Basis of Payment.

The following is added:

The structural concrete box culvert extension shall be paid for at the contract unit price per lump sum complete in place. This payment shall be full compensation for constructing the complete box culvert extension including excavation, surface preparation, drilling, grouting, formwork, reinforcement, concrete placement, backfill and any other material, labor, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item

502.327 Structural Concrete Box Culvert Extension

Pay Unit

Lump Sum

SPECIAL PROVISION
SECTION 530
(Prefabricated Steel Truss Bridge)

530.01 Description Work under this item shall be in conformance with the applicable portions of Section 504 of the Standard Specifications. The work under this specification shall include furnishing and installing a Prefabricated Bridge Superstructure, including bridge bearings, as shown on the Plans. The bridge superstructure shall be fully engineered according to the requirements contained herein. All necessary work and incidental items required to complete the installation and connections to the substructure (including bearings and anchor bolts) shall be included in this work.

The Prefabricated Bridge Superstructure shall meet the design and manufacturing requirements of the latest versions and interim revisions of the AASHTO LRFD Bridge Design Specifications for Highway Bridges, AASHTO Guide Specifications for Design of Pedestrian Bridges, and State of Maine Department of Transportation Standard Specifications for Highways and Bridges, except as otherwise specified on the Plans or as stated below.

530.02 Materials

Steel

- All truss members shall be high strength, low alloy, atmospheric corrosion-resistant steel (weathering steel). The minimum thickness of all structural steel members shall be 5/16" nominal.
- All structural steel with calculated tensile stresses shall meet a Charpy-V-Notch (CVN) value of 15 foot-pounds at 40 degrees Fahrenheit. CVN testing shall be in accordance with AASHTO T 243 (ASTM A 673). The H frequency shall be used.
- All structural steel field connections shall be bolted with high strength bolts. High Strength bolts, nuts, and plain hardened washers shall conform to the requirements of ASTM A 325. Fasteners shall be Type 3 (weathering steel).
- Anchor bolts and nuts supplied shall conform to ASTM F 1554 with a minimum yield strength of 55 ksi. Anchor bolts shall be supplied with 2 heavy hex nuts and 2 hardened washers and unless otherwise specified the anchor bolts shall have a 90 degree bend with a 150 mm (6 inch) minimum leg length at the lower end. The anchor bolts, nuts and hardened washers shall be hot-dipped galvanized to ASTM A 153. After galvanizing, the nuts shall be retapped oversize by an amount appropriate to the nut size.

Wood Decking

Wood decking shall be No. 1 grade Southern Yellow Pine planks. Decking shall be treated utilizing Micronized Copper Quaternary (MCQ) preservative treatment. Decking shall be treated to a total absorption of 0.4 pounds per cubic foot of wood. The wood decking shall be designed for a minimum 100psf load.

530.03 Construction Requirements

530.031 Qualification of Fabricator Bridge(s) shall be fabricated by a fabricator who is currently certified by the American Institute of Steel Construction to have the personnel, organization, experience, capability and commitment to produce fabricated structural steel for Major Steel Bridges with Fracture Critical Endorsement as set forth in the AISC Certification Program. Quality control shall be in accordance with procedures outlined for AISC certification.

Qualified suppliers must have at least 5 years of experience fabricating these type structures. Pre-approved Manufacturers:

1. CONTECH Bridge Solutions Inc.
4021 Gault Avenue South
Fort Payne, AL 35967
2. Echo Bridge
123 Bob Masia Drive
Pine City, NY 14871
3. Or approved equal

Qualifications of suppliers shall be submitted for approval prior to starting all work. The Contractor shall provide the following information for any proposed supplier:

- Product Literature
- All documentation to insure the proposed substitution will be in compliance with these specifications. This shall include:
 - Representative design calculations
 - Representative drawings
 - Splicing and erection procedures
 - Warranty information
 - Inspection and Maintenance procedures
 - AISC Shop Certification
 - Welder Qualifications
- Proposed suppliers must have at least five (5) years experience designing and fabricating these type structures and a minimum of five (5) successful bridge projects, of similar construction, each of which has been in service at least three (3) years. List the location, bridge size, owner, and a contact for reference for each project.

The Engineer will evaluate and verify the accuracy of the submittal prior to approval. If the Engineer determines that the qualifying criteria have not been met, the Contractor's proposed supplier shall be rejected. The Engineer's ruling will be final.

530.032 Bridge Requirements The bridge length shall be 62'-0" (straight line dimension) and shall be as measured from centerline of bearing to centerline of bearing. The overall bridge length shall be designed to fit within the proposed substructure units and shall provide adequate

tolerance for thermal movement. Bridge width shall be 10'-0" and shall be as measured from the inside face of the railing at deck level. The following provisions also apply:

- Bridge shall be designed as a half-through truss with one diagonal per panel. All vertical members shall be plumb. The bridge shall be fabricated with the top chord cambered along a circular arch.
- Bridge shall be designed utilizing a nested floor beam (floor beam to fit within the trusses) as shown on the Plans.
- Timber decking shall be orientated with the centerline of the board perpendicular to the bridge centerline.
- The distance from the top of the deck to the top and bottom truss members shall be determined by the bridge manufacturer based upon structural and/or shipping requirements. Abutments are based upon 12" from top of deck to bearing surface. Adjustments shall be made to bearing seat elevations to accommodate the superstructure if actual dimensions vary. Adjustments of more than four (4) inches require the permission of the Engineer.
- The top of the top chord shall not be less than 4ft-6in (54 inches) above the deck (measured from the high point of the riding surface).
- All members of the vertical trusses (top and bottom chords, verticals and diagonals) shall be fabricated from structural steel shapes or square and/or rectangular structural steel tubing. Other structural members and bracing shall be fabricated from structural steel shapes or square and rectangular structural steel tubing. To provide lateral support for the top flange of open shape stringers (w-shapes or channels), a minimum of one stiffener shall be provided in each stringer at every floor beam location.
- Rubrails, safety rails, and toe kicks shall be placed as shown on the bridge typical section and shall be fastened to the truss by welding or with two carriage bolts, galvanized in accordance with ASTM A 153, at each support location. All rails shall be placed so as to prevent a 4" sphere from passing through the truss. Rails shall be placed on the inside of the structure and shall have their ends sealed and ground smooth so as to produce no sharp edges. The safety rail system shall be designed for an infill loading of 200 pounds, applied horizontally at right angles, to a one square foot area at any point in the system. Kickboards shall be a minimum of 4 inches high.
- Expansion joints/sliding plates shall be provided at both ends of the bridge to provide a uniform, even transition from the bridge surface onto the bridge approaches.
- The bridge top and bottom chords shall have a vertical camber dimension at midspan equal to 100% of the full dead load deflection plus 2 ½ inches.

530.033 Design Requirements The bridge structure and bearings shall be designed and signed by a Professional Engineer licensed in accordance with the State of Maine Regulations. Design shall meet the requirements of the latest versions and interim revisions of the AASHTO LRFD Bridge Design Specifications, and AASHTO Specifications for Design of Pedestrian Bridges. Sawn lumber shall be designed in accordance with the ANSI/AF&PA NDS, "National Design Standard for Wood Construction", as published by the American Forest & Paper Association. The following design requirements shall also apply:

The minimum thickness of all steel components shall be 5/16”.

Design Loads:

- Pedestrian Loads: Pedestrian loading shall consist of a minimum of live load 85 pounds per square foot uniformly.
- Vehicle Loads: No vehicle load required.
- Concentrated Loads: A concentrated load of 1000 pounds placed on any area 2.5 ft x 2.5 ft square.

Deflection:

- Vertical Deflection
 - Vertical deflection of the main trusses due to service pedestrian live load shall not exceed 1/500 of the span.
 - The deflection of the floor system members (floor beams and stringers) due to service pedestrian live load shall not exceed 1/360 of their respective spans.
- The horizontal deflection of the structure due to lateral wind loads shall not exceed 1/500 of the span under a 35 PSF wind load.

Welding

- Welding of bridge structure shall conform to Section 504 Structural Steel, AWS D1.1 for tubular members, and ANSI/AASHTO/AWS D1.5 Bridge welding code for structural steel members with the following additional requirements:
- All fracture critical members shall be identified on Plans and Shop Drawings. Fracture critical members shall be welded in conformance with the minimum preheat and interpass temperatures specified in Tables 12.4 or 12.5 of AWS D1.5, or 200 degrees Fahrenheit provided wall thickness of members are 3/4” or less. Filler metals shall meet the requirements of Tables 4.1, 4.2, or 4.3 of AWS D1.5.
- Welding using the GMAW process with a single gas or gas mixture containing less than 80 percent Argon shall be considered a short-circuiting process and shall not be used in bridge components with calculated stresses.
- All non-destructive testing of welds shall conform to the requirements of Section 6, AWS D1.5 with the exception of complete groove welds in tubular butt joints. These welds shall be non-destructively tested in accordance with AWS D1.1, Section 6.18.
- Welders shall be properly accredited operators, each of whom shall submit certification of satisfactorily passing AWS standard qualification tests for all positions with unlimited thickness of base metal, have a minimum of 6 months experience in welding tubular structures and have demonstrated the ability to make uniform sound welds of the type required.

530.034 Fabrication Unless addressed in this Special Provision, all structural steel and fabrication shall be in accordance with applicable sections of Standard Specifications 504 Structural Steel and 713 High Strength Bolts.

All splices, shop welded or otherwise shall not be placed within 15 feet of the midspan.

When the collection of water inside a structural tube is a possibility, either during construction or during service, the tube shall be provided with a drain hole at its lowest point to let water out.

Wood decking shall be placed tight together with no gaps. Fasteners shall be carriage bolts installed in predrilled holes and shall be galvanized in accordance with ASTM A 153. Powder actuated fasteners will not be allowed. A minimum of two fasteners shall be installed at either end of every plank. Planks shall also receive a minimum of one interior connection bolt at a stringer location approximately near the center of the bridge width.

530.035 Finishes To aid in providing a uniformly “weathered” appearance, all exposed surfaces of steel shall be blast cleaned in accordance with Steel Structures Painting Council Surface Preparation Specifications No. 7 Brush-Off Blast Cleaning, SSPC-SP7 latest edition. Exposed surfaces of steel shall be defined as those surfaces seen from the deck and from outside of the structure. Stringers, floor beams, lower brace diagonals and the inside face of the truss below deck and bottom face of the bottom chord need not be blasted.

530.04 Submittals The Contractor shall submit three (3) sets of Shop Drawings and Design Computations for the pedestrian bridge showing all details for the bridge fabrication to the Resident for review and approval. The shop drawings and design computations shall be prepared and stamped by a professional engineer licensed in the State of Maine. The calculations shall include all design information necessary to determine the structural adequacy of the bridge.

The following documentation shall also be submitted:

- The Contractor shall submit specifications for all materials and installation instructions.
- The Contractor shall submit the manufacturer’s recommended maintenance program.
- The Contractor shall submit welding specification procedures for approval.
- The Contractor shall submit Certified Mill Test Reports (CMTR) indicating chemical and physical properties for all materials (including Charpy V-Notch test reports as required).
- The Contractor shall submit a detailed erection plan for review and approval. The erection plan shall identify proposed crane models and locations, pick weights, attachment points, an evaluation of the erection procedures affect on the gas line (as required), specific safety measures employed to protect the integrity of the gas line (as required), and all other information deemed pertinent and relevant to the safe completion of the bridge erection. The erection methods and equipment shall be subject to approval by GSGT and the requirements outlined in Special Provision 104.
- The Contractor shall require the supplier to provide a construction advisor to assist the Contractor in the construction of the bridge. The actual construction of the bridge is the responsibility of the Contractor.

530.05 Delivery and Erection Delivery of the bridge shall be arranged by the supplier and Contractor. The Contractor shall notify and coordinate delivery and erection of the bridge with the Resident and GSGT's on-site representative.

The bridge may need to be partially assembled on site to minimize the weight and size of each piece being erected in order to minimize the size of the crane required for erection. The proposed method of bridge assembly and erection, as well as a detailed erection plan showing proposed equipment size, location, pick weight, etc., shall be prepared by a professional engineer licensed in the state of Maine and submitted to the Resident for approval.

530.06 Quality Assurance Inspections The Engineer, Owner or an independent inspector representing the Owner, will inspect various phases of the work to verify that work is in accordance with these specifications. Inspection of the work in the shop shall occur at up to three (3) different phases of the manufacturing. The final inspection shall be prior to shipping. The Fabricator/Contractor shall provide certifications prior to shipping of the structure to the site.

The Fabricator/Contractor shall facilitate the inspection as required, allowing adequate time for inspections and providing access to the work together with all necessary safety equipment needed by the inspector to perform the inspections. The Fabricator/Contractor shall furnish and maintain in working order all equipment and instruments that are necessary to inspect all phases of the work.

530.07 Warranty The bridge manufacturer shall warranty their steel structure(s) to be free of design, material and workmanship defects for a period of ten years from the date of delivery. Wood decking and wood attachments shall carry a ten-year warranty against rot, termite damage, or fungal decay.

530.08 Method of Measurement Prefabricated Bridge Superstructure shall be measured as a unit including designing, fabricating, and installing a bridge superstructure as shown on the Plans or as ordered. The prefabricated bridge shall include all bridge bearings, anchor bolts, attachments, hardware, and other incidentals required for complete installation of the Prefabricated Bridge Superstructure

530.09 Basis of Payment The installed and accepted Prefabricated Bridge Superstructure will be paid for at the contract lump sum price, complete in place. Such payment shall be considered full compensation for fabrication, shop drawings, coordination, delivery, and erection of the prefabricated bridge, including all materials, labor, equipment, and incidentals required to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
530.01 Prefabricated Steel Truss Bridge, In Place	Lump Sum

SPECIAL PROVISION
SECTION 603
PIPE CULVERTS AND STORM DRAINS
(Concrete Pipe Collar)

603.01 Description

The following paragraphs are added:

This work also consists of furnishing and installing a concrete pipe collar to join the existing culverts to the proposed concrete culverts in accordance with the details as shown on the Plans. The Contractor shall note that the pipe ends may be of different sizes & type and may not fit snugly together.

603.01 Method of Measurement

The following paragraph is added:

The concrete pipe collar shall be measured by each unit installed, complete in place and accepted. This shall be full compensation for furnishing labor and materials to construct a concrete pipe collar to connect the existing and proposed pipe ends in a suitable fashion.

603.12 Basis of Payment

Concrete pipe collars will be paid for at the Contract unit price each regardless of the size of the existing and proposed pipes.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
603.4105 Concrete Pipe Collar	Each

SPECIAL PROVISION
SECTION 635
PREFABRICATED GRAVITY RETAINING WALL
(Prefabricated Concrete Block Gravity Wall)

Delete the entire Standard Specification Section 635 and replace with the following:

Description This work shall consist of the design and construction of a prefabricated concrete block gravity wall in accordance with these specifications and in reasonably close conformance with the lines and grades shown on the plans, or established by the Resident. Blocks shall be made of wet cast concrete made from Portland cement, water, chemical admixtures, and aggregates.

Included in the scope of the prefabricated gravity wall construction are: geotechnical design of any wall with a maximum height greater than 1.37 m [4.5 feet] or as specified on the wall detail sheet, all grading necessary for wall construction, compaction of the wall foundation soil, backfill, internal piped drainage, construction of leveling pads, and block wall installation.

The prefabricated gravity wall design shall follow the general dimensions of the wall envelope shown in the contract plans. The minimum wall embedment shall be at or below the elevation shown on the plans or as specified by the Designer. The top of the upper row of blocks shall be at or above the top of the face elevation shown on the plans.

The Contractor shall require the design-supplier to provide an on-site, qualified experienced technical representative to advise the Contractor concerning proper installation procedures. The technical representative shall be on-site during initial stages of installation and thereafter shall remain available for consultation as necessary for the Contractor or as required by the Resident. The work done by this representative is incidental to the construction of the wall.

MATERIALS

Materials Materials shall meet the requirements of the following sections of Division 700:

Granular Borrow	703.19
Underdrain Backfill Type C	703.22
Underdrain Pipe	706.06 or 706.09
Reinforcing Steel	709.01
Structural Precast Concrete Units	712.061
Reinforcement Geotextile	722.01
Drainage Geotextile	722.02

The Contractor is cautioned that all of the materials listed are not required for every prefabricated concrete block gravity wall. The Contractor shall furnish the Resident a Materials Certification Letter certifying that the applicable materials comply with this section of the specifications. Materials shall meet the following additional requirements:

Concrete Units The Materials Certification Letter described above shall contain the date of concrete casting, a lot identification number, compressive strength results, and entrained air results. All prefabricated concrete units shall conform to the requirements of 712.061 with the following exceptions:

A. Materials – Materials are modified as follows: the maximum water cement ratio shall be 0.42, use of calcium nitrite is not required. The minimum 28 day compressive strength shall be 31700 kPa (4,600 psi).

B. Quality Control and Quality Assurance Quality Control and Quality Assurance is modified as follows: delete the second and third paragraphs.

C. Construction -

All units for a designated wall system, including end blocks, steps, caps and other wall units shall be manufactured from the same material sources of aggregates, brand and type of cement and color pigment.

The forms shall remain in place until the concrete has gained sufficient strength such that removal of the forms and subsequent handling will not damage the units.

The Contractor shall make and test at least one set of cylinders for every 38 m³ [50 yd³] of production concrete used to cast the concrete units.

The Contractor shall make four cylinders for use by the Department for every 153 m³ [200 yd³].

Face texture of the units shall be a formed finish on all exposed surfaces. Pigment shall be added during the casting process of the concrete unit to achieve a consistent shade of gray or other color as determined by the Resident.

D. Tolerances – Maximum dimensional deviation of formed dimensions shall not vary more than ½-inch or 2 percent of the unit dimension, whichever is less. Unit dimensions shall be:

Unit Depth - 1040 mm [41 inch] or 710 mm [28 inch]

Unit Width - 1160 mm [46 inch] at the face

Unit Height - 450 mm [18 inch] at the face for a standard block

Geosynthetic Reinforcement Geosynthetic Reinforcement shall be as required by the proprietary wall system manufacturer or wall designer. Substitution of a geosynthetic other than required by the proprietary wall system manufacturer shall not be allowed unless approved by the Project Geotechnical Engineer after submittal of shop drawings and pullout and interface friction test data.

A. Geotextiles and Thread for Sewing Woven or nonwoven geotextiles shall consist of long chain polymeric filaments or yarns formed into a stable network such that the

filaments or yarns retain their position relative to each other during handling, placement, and design life. At least 95 percent by weight of the long chain polymer shall be polyolefin or polyester. The material shall be free of defects and tears. Geotextiles used for reinforcement shall conform as a minimum to the properties indicated for 722.01, Stabilization/Reinforcement Geotextile and shall meet the requirements of part D below. Geotextiles shall have a minimum permeability greater or equal to that shown on the Shop Drawings and the reinforced soil permeability.

- B. Geogrids The geogrid shall be a regular network of integrally connected polymer tensile elements with aperture geometry sufficient to permit significant mechanical interlock with the surrounding soil or rock. The geogrid structure shall be dimensionally stable and able to retain its geometry under manufacture, transport and installation. Geogrids shall conform as a minimum to the criteria specified in part D below.
- C. Required Properties The specific geosynthetic materials shall be preapproved and shall have the ultimate tensile strength (T_{ult}) shown on the approved Shop Drawings for the geosynthetic specified and for the fill type shown. T_{ult} shall be determined from wide width tests specified in ASTM D 4595 for geotextiles and ASTM D 6637 or GRI:GG1 for geogrids. The ultimate tensile strength value is based on the minimum average roll values (MARV) for the product.
- D. The geosynthetic shall conform to the following criteria:
1. PP and HDPE: Min. retained strength of 70 % after 150 hours, per ASTM D-4355.
 2. HDPE: Grade = E-4, E-5, E-8, E-9, E-10, E-11, J-3, J-4, or J-5, per ASTM D-1248.
 3. PET: Molecular weight (M_n) > 25,000, per GRI:GG8 and ASTM D-4603.
 4. PET: Carboxyl end group (CEG) \geq 15 mmol/kg, GRI:GG7.
 5. All polymers: Minimum Weight per Unit Area of 270 g/m², per ASTM D-5261.
 6. All Polymers: Maximum 0 percent post consumer recycled material by weight.
 7. A default total reduction factor for creep, durability, and installation damage of $RF = 7$ may be used in design, provided the criteria of 2 through 6 are satisfied and 1 is adjusted to 70% after 500 hours is satisfied.
- E. Manufacturer Quality Control The geosynthetic reinforcements shall be manufactured with a high degree of quality control. The Manufacturer is responsible for establishing and maintaining a quality control program to ensure compliance with the requirements of the specification. The purpose of the QC testing program is to verify that the reinforcement geosynthetic being supplied to the project is representative of the material used for performance testing and approval. Conformance testing shall be performed as part of the manufacturing process and may vary for each type of product. As a minimum the following index tests shall be considered as applicable for an acceptable QA/QC program:

<u>Property</u>	<u>Test Procedure</u>
1. Specific Gravity (HDPE only)	ASTM D-1505

- | | |
|-----------------------------------|---------------------|
| 2. Ultimate Tensile Strength | ASTM D-4595 GRI:GG1 |
| 3. Melt Flow (HDPE and PP only) | ASTM D-1238 |
| 4. Intrinsic Viscosity (PET only) | ASTM D-4603 |
| 5. Carboxyl End Group (PET only) | ASTM D-2455 |
- F. Sampling Testing and Acceptance Sampling and conformance testing shall be in accordance with ASTM D-4354. Conformance testing procedures are established above. Geosynthetic product acceptance shall be based on ASTM D-4759. The quality control certificate shall include:
1. Roll numbers and identification
 2. Sampling procedures
 3. Results of quality control tests, including a description of test methods used.
- G. Certification The Contractor shall submit a manufacturer's certification that the geosynthetics supplied meet the respective index criteria set when the geosynthetic was approved, measured in full accordance with all test methods and standards specified, or referenced, in this specification.

The manufacturer's certificate shall state that the furnished geosynthetic meets the requirements of these specifications as evaluated by the manufacturer's quality control program. The values submitted shall be certified by a person having legal authority to bond the manufacturer. In case of dispute over validity of values, the Resident can require the Contractor to supply test data from an agency approved laboratory to support the values submitted, at the Contractor's cost.

Geosynthetic Connection Reinforcing bar used in the geosynthetic connection shall be 13 mm [$\frac{1}{2}$ -inch] diameter epoxy coated reinforcing bar, coated on the ends and meeting the requirements of Section 503, Reinforcing Steel. Installation shall be in accordance with manufacturer's recommendations.

Concrete Leveling Pad Concrete for leveling pads shall be Fill Concrete conforming to the requirements of Section 502 Structural Concrete. Unless otherwise specified, concrete for leveling pads shall be accepted under Method "C" requirements.

Backfill Material Backfill material placed behind the concrete units shall meet the requirements of Section 703.19 Granular Borrow, Material for Underwater Backfill. For walls with geosynthetic reinforced backfill, the maximum aggregate particle size is limited to $\frac{3}{4}$ in (U.S Sieve Size - 19 mm). The contractor is required to submit a grain size distribution curve (ASTM D 422) and a moisture-density relationship curve (AASHTO T-180) for acceptance of the proposed backfill material and determination of the appropriate installation damage reduction factor (RF_{ID}).

For walls with reinforced backfill, the backfill material shall be subjected to pH testing to determine the appropriate durability reduction factor (RF_D).

Material between blocks must be Granular Borrow, Material for Underwater Backfill or Underdrain Backfill Material meeting the requirements of Section 703.22, Type C.

Materials Certification Letter The Contractor, or the supplier as his agent, shall furnish the Resident a Materials Certification Letter for the above materials, including the backfill material, in accordance with Section 700 of the Standard Specifications. A copy of all test results performed by the Contractor or his supplier necessary to assure contract compliance shall also be furnished to the Resident. The Resident will base acceptance upon the materials Certificate Letter, accompanying test reports, and visual inspection.

DESIGN REQUIREMENTS

Design Requirements The Prefabricated Concrete Block Gravity Wall shall be designed by a Professional Engineer registered in the State of Maine. The design to be performed by the wall system supplier shall be in accordance with:

1. AASHTO LRFD Bridge Design Specifications, 4th Edition, and all interims thereto.
2. FHWA-NHI-00-043 Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines, 2001
3. FHWA-NHI-00-044 Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, 2000
4. The contract plans
5. The requirements specified herein
6. The manufacturer's requirements

Forty-five days prior to beginning construction of the wall, the design computations shall be submitted to the Resident for review by the Project Geotechnical Engineer. The design by the wall system supplier shall consider the stability of the wall as outlined below:

A. Safety Factors. The minimum factors of safety shall be as follows:

- | | |
|---|-----|
| 1. Overturning: | 2.0 |
| 2. Sliding: | 1.5 |
| 3. Stability of temporary construction slope: | 1.2 |
| 4. Ultimate bearing capacity: | 2.5 |
| 5. Reinforcement pullout | 1.5 |
| 6. Reinforcement rupture | 1.5 |
| 7. Reinforcement connection failure | 2.0 |

B. Backfill Soil Parameters. For overturning and sliding stability calculations, earth pressure shall be assumed acting on a vertical plane dropping from the back of the highest block or geosynthetic. Stability shall also be calculated at each level within the wall.

C. These unit weights and friction angles are based on a backfill meeting the requirements for select backfill in this specification. Backfill behind the concrete units and reinforced fill zone shall be assumed to have a unit weight of 18.85 kN/m³ [120 pcf] and a friction angle of 30 degrees. The friction angle of the

foundation soils shall be assumed to be 30 degrees unless otherwise noted on the plans. The friction angle of the select backfill used in the reinforced fill zone for internal stability design of the wall shall be assumed to be 34 degrees unless noted otherwise on the plans.

- D. External loads which affect the internal stability such as those applied through traffic, traffic impact on traffic barrier posts, slope surcharge, hydrostatic and seismic loads shall be accounted for in the design.
- E. The actual applied bearing pressures under the prefabricated concrete block gravity wall shall be clearly indicated on the design drawings. Walls shall be dimensioned so that the allowable bearing pressure of the foundation soils, as noted on the plans, is not exceeded.
- F. Stability During Construction. The factors of safety to be used for stability during construction stages shall be the same factors used for the design of the wall.
- G. Hydrostatic Forces. Unless specified otherwise, when a design high water surface is shown on the plans at the face of the wall, the design stresses calculated from that elevation to the bottom of wall must include a 0.9 m [3 feet] minimum differential head of saturated backfill.
- H. Design Life. Design life shall be a minimum of 75 years.
- I. Geosynthetic Reinforcement Geosynthetic reinforcement used to construct the wall shall meet the following design requirements:
 - 1. The allowable tensile load (T_a) shall be determined by reducing T_{ult} by reduction factors (RF) and a safety factor $FS = 1.5$ in accordance with the documents referenced above. The designer shall procure and use the manufacturers tested and certified geosynthetic reinforcement reduction factors for creep (RF_{CR}), durability (RF_D), and installation damage (RF_{ID}) to determine T_a . In absence of manufacturers tested and certified reduction factors, a combined default reduction factor $RF = 10$ shall be used in accordance with the referenced documents.
 - 2. The pullout resistance factors, F^* and α , used in pullout design, shall be determined for the proposed reinforcement and wall system, with soil similar to the specified backfill material of this Section. The pullout resistance factors shall be determined in accordance with Appendix A of FHWA-NHI-00-043 Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines, March 2001. In the absence of test data, empirical relationships may be used to determine the pullout resistance factors, any empirical relationships used in design shall be referenced in the design calculations.

3. Long-term connection strength between the geosynthetic reinforcement and the concrete blocks shall be checked in accordance with Appendix A of FHWA-NHI-00-043 Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines, March 2001.

- J. Depth of Embedment. The depth of embedment for frost protection and stability shall be as shown on the approved Shop Drawings supplied by the designer.
- K. Drainage System. Piped drainage shall be designed to collect and dispose of water from the base of the reinforced soil zone and backfill soil. This shall outlet into surrounding drainage systems or ditches.
- L. The design shall provide for end blocks, cap blocks, or other concrete units necessary to give the wall a finished appearance.

Submittals. The Contractor shall supply wall design computations, wall details, dimensions, quantities, and cross sections necessary to construct the wall. A sample hand calculation including all equations, parameter values used, units, theory, free-body diagram, comparison to design requirements, etc. shall be provided. Spread sheet calculations alone are not acceptable.

Forty-five days prior to beginning construction of the wall, the design computations and wall details shall be submitted to the Resident for review by the Project Geotechnical Engineer. Mix design information shall be submitted at the same time, including aggregate source, current gradation, aggregate quality information and concrete unit weight.

The contractor shall also submit backfill material test results as part of the wall submittal package. Backfill material test results shall include grain size distribution curve, moisture-density relationship curve, and pH test results required for reinforced backfill only.

If geotechnical design is required, the fully detailed plans shall be prepared in conformance with Section 105.7 of the Standard Specifications and shall include, but not be limited to the following items:

- A. A plan and elevation sheet or sheets for each wall, containing the following: elevations at the top of leveling pads, the distance along the face of the wall to all steps in the leveling pads, the location of the original and final ground line.
- B. All details for foundations and leveling pads, including details for steps in the leveling pads, as well as allowable and actual maximum bearing pressures shall be provided.
- C. Details for the barriers, posts, curbs and facing as required by the project conditions.
- D. The wall plans shall be prepared and stamped by a Professional Engineer. Four sets of design drawings and detail design computations shall be submitted to the Resident for review by the Project Geotechnical Engineer.

- E. Prior to the beginning of construction, the contractor shall supply the Resident with two copies of the design-supplier's Installation Manual. In addition, the Contractor shall have two copies of the Installation Manual on the project site.

CONSTRUCTION REQUIREMENTS

Excavation. The excavation and use as fill disposal of all excavated material shall meet the requirements of Section 203 -- Excavation and Embankment, except as modified herein.

Foundation. The area upon which the prefabricated block gravity wall structure is to rest, and within the limits shown on the submitted plans, shall be graded for a width equal to, or exceeding, the length of the blocks. Prior to wall and leveling pad construction, this foundation material shall be compacted to at least 95 percent of maximum laboratory dry density (AASHTO T-180 Method C or D). Frozen and unsuitable soil shall be removed and replaced with granular borrow compacted to 95 percent of AASHTO T-180.

A concrete leveling pad shall be constructed as indicated on the plans. Dimensions may be modified per the wall supplier's recommendations, with written approval of the Project Geotechnical Engineer. The leveling pad shall be cast to the design elevations as shown on the plans, or as required by the wall supplier upon written approval of the Project Geotechnical Engineer. Allowable elevation tolerances are +3 mm [+0.01 feet] and -6 mm [-0.02 feet] from the design elevations. Leveling pads which do not meet this requirement shall be repaired or replaced as directed by the Resident at no additional cost to the Department. Placement of wall units may begin after the strength of the concrete leveling pad reaches 6900 kPa [1000 psi] or is adequate to support the proposed loads. Contractor may begin placement of concrete block units after 12 hours at his own risk.

Method and Equipment. Prior to erection of the prefabricated concrete block wall, the Contractor shall furnish the Resident with detailed information concerning the proposed construction method and equipment to be used. The erection procedure shall be in accordance with the manufacturer's instructions. Any units that are damaged due to handling will be replaced at the Contractor's expense.

Installation of Wall Units. A field representative from the wall system being used shall be available, as needed, during the erection of the wall. The services of the representative shall be at no additional cost to the project. Horizontal joint fillers shall be installed as needed.

The maximum offset in any unit horizontal joint shall be 6.5 mm [1/4 inch]. The prefabricated wall blocks shall be installed to a tolerance of plus or minus 20 mm in 3 m [3/4 inch in 10 feet] in vertical alignment and horizontal alignment.

Backfill Placement. Backfill placement shall closely follow the erection of each row of prefabricated wall units. The Contractor shall decrease the lift thickness if necessary to obtain the specified density. The maximum lift thickness shall be 200 mm [8 inch] loose. Gravel borrow backfill shall be compacted in accordance with Section 203.12 except that the minimum required compaction shall be at least 92 percent of maximum density as determined by

AASHTO T-180 Method C or D. Backfill compaction shall be accomplished without disturbance or displacement of the wall blocks. Sheepsfoot rollers will not be allowed. Whenever a compaction test fails, no additional backfill shall be placed over the area until the lift is recompacted and a passing test achieved.

The moisture content of the backfill material prior to and during compaction shall be uniform throughout each layer. Backfill material shall have a placement moisture content less than or equal to the optimum moisture content. Backfill material with a placement moisture content in excess of the optimum moisture content shall be removed and reworked until the moisture content is uniform and acceptable throughout the entire lift. The optimum moisture content shall be determined in accordance with AASHTO T-180, Method C or D. At the end of the day's operations, the Contractor shall shape the last level of backfill so as to direct runoff of rain water away from the wall face.

Material between blocks must be Granular Borrow or Underdrain Backfill Material meeting the requirements of Section 703.22, Type C. If Granular Borrow, Material for Underwater Backfill is used between blocks, 722.02 drainage geotextile shall be placed behind vertical joints to prevent loss of granular material between blocks. Compliance with the gradation requirements shall be the responsibility of the Contractor, who shall furnish a copy of the backfill test results prior to construction. If Underdrain Backfill Material is used between blocks, no geotextile is required behind vertical joints.

Method of Measurement. Prefabricated Concrete Block Gravity Wall will be measured by the square meter (square foot) of front surface not to exceed the dimensions shown on the contract plans unless authorized by the Resident. Vertical and horizontal dimensions will be from the edges of the blocks. No field measurements for computations will be made unless the Resident specifies, in writing, a change in the limits indicated on the plans.

Basis of Payment. The accepted quantity of Prefabricated Concrete Block Gravity Wall will be paid for at the contract unit price per square meter (square foot) complete in place. Payment shall be full compensation for furnishing geotechnical design as required, all labor, equipment and materials including all precast concrete units, hardware, joint fillers, woven geosynthetic, geosynthetic and steel, drainage pipe, and technical field representative.

Cost of cast-in-place concrete for leveling pad will not be paid for separately, but will be considered incidental to the Prefabricated Concrete Block Gravity Wall. Excavation, foundation material and backfill material will all be incidental to the Prefabricated Concrete Block Gravity Wall.

There will be no allowance for excavating and backfilling for the Prefabricated Concrete Block Gravity Wall beyond the limits shown on the approved submitted plans, except for excavation required to remove unsuitable subsoil in preparation for the foundation. Payment for excavating unsuitable subsoil shall be full compensation for all costs of pumping, drainage, sheeting, bracing and incidentals for proper execution of the work, and will be paid as Common Excavation, Standard Specification 203.20.

Payment will be made under:

Pay Item

Pay Unit

635.31 Prefabricated Concrete Block Gravity Wall

Square Meter(square foot)

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Maine Turnpike Authority Facilities)

This Special Provision is for Maine Turnpike owned facilities, which includes working within the Maine Turnpike Authority Right of Way. This includes accessing the work area directly from the Turnpike and the northbound and southbound on and off ramps at Interchange 25.

652.2 Materials

The first sentence in the second paragraph is deleted and replaced with the following:

All construction signs shall have fluorescent orange reflective sheeting in conformance with ASTM 4956 type VII unless otherwise noted.

652.2.5 Safety Vests

This Subsection is amended by the addition of the following:

All jobsite personnel shall wear a safety vest labeled as ANSI 107-2004 standard performance for minimum Class 3 risk exposures. This requirement also applies to truck drivers and equipment operators when out of an enclosed cab.

652.2.6 Signs

The use of temporary plaques to cover text or to change text will not be allowed. All signs shall have a uniform face.

652.3.4 General

This Subsection is amended by the addition of the following:

No equipment or vehicles of the Contractor, their Subcontractors, or employees engaged in Work on this Contract shall be parked or stopped on lanes carrying traffic, or on lanes or shoulders adjacent to lanes carrying traffic, at any time, except as required by ongoing Work operations. Contractor equipment or vehicles shall never be used to stop, block or channelize traffic.

Vehicles parked on the shoulder shall be located so all portions of the vehicle(s) are a minimum of one foot from the traveled way. No operation (including loading or unloading vehicles) shall be conducted on or near the traveled lanes or shoulders without first setting up the proper lane closure and traffic control devices. These precautions shall be maintained at all times while this Work is being performed.

No vehicle will move onto the traveled way at such a time or in such a manner so as to cause undue concern or danger to traffic approaching from either direction. The Contractor or his employees are not empowered to stop traffic.

During winter periods, drums shall be placed on the grass shoulder or removed from the roadway so winter maintenance operations will not be impacted. This requires the placement of drums behind the median guardrail. Drums shall not be placed on snow banks.

652.3.6 Traffic Control

This Subsection is amended by the addition of the following:

General

Three travel lanes in each direction (each direction being 36 feet wide excluding shoulder) shall be maintained at all times except during the placement and removal of traffic control devices.

Short Term Lane Closures

Contractor is permitted to close the far right travel lane on the northbound and southbound roadways in order to gain access to the work area.

Lane closures shall be removed if work requiring the lane closure is not ongoing unless approved by the Authority's authorized representative.

Temporary lane closures will only be allowed as follows:

September 1, 2009 through December 11, 2009, inclusive, lane closures are allowed daily Northbound 8:30 a.m. until 5:00 p.m. Monday through Thursday and 8:30 a.m. until 12:00 p.m. (noon) Friday. Southbound, lane closures are allowed daily 6:00 a.m. until 3:30 p.m. Monday through Thursday and 6:00 a.m. until 12:00 p.m. (noon) Friday. These hours may be adjusted by the Resident, based on the traffic volume each day.

July 6, 2010 through August 27, 2010, inclusive, lane closures will be permitted northbound for access so the Contractor may remove excess surcharge material from Embankment #2, construct the trail between the Maine Turnpike and the south side of the Kennebunk River, and to construct the Kennebunk River Bridge. For this purpose lane closures are allowed at the days and times defined above.

September 13, 2010 through September 17, 2010, inclusive, lane closures will be permitted southbound for access so the Contractor may remove excess surcharge material from Embankment #1. For this purpose lane closures are allowed at the days and times defined above.

The lane closure set-up may not begin until the beginning time specified. Lane closures that are set-up early or that remain in place outside of the approved period shall be subject to a lane rental fee of \$500 per five minutes for every five minutes outside of the approved time. The actual restriction of a travel lane by an arrow board or other traffic control device shall be a lane closure. Construction signs shall be installed immediately prior to the start of the lane closure and shall be promptly removed when no longer required. The installation and removal of a lane closure including signs, channelizing devices and arrow boards shall be a continuous operation. The Authority reserves the right to order removal of an approved lane closure.

The Resident is required to receive approval from the Maine Turnpike Authority for all lane closures. The request shall be submitted to the Authority by the Resident at least two (2) working days prior to the day of the requested lane closure. All requests must be received by 12:00 p.m. to be considered as received on that day. Requests received after 12:00 p.m. shall be considered as received the following day. The Contractor shall plan the work accordingly.

Lane Closure Installation and Removal Procedure

The Contractor will follow the following procedures when closing any travel lanes on the Turnpike roadways:

1. The sign package shall be erected starting with the first sign and proceeding to the start of the taper. The sign crew shall erect signs with the vehicle within the outside shoulder;
2. Position the arrow board with the proper arrow at the beginning of the taper; and
3. When arrow board is in place, continue with the drums to secure the work area.

To dismantle the lane closure, start with last drums placed and work in reverse order until all the drums are removed. The arrow board which was installed first shall be the final traffic control device removed, excluding the sign package. The remaining sign package shall be picked up starting with the first sign placed and continuing in the direction of traffic and with the vehicle in the outside shoulder.

Temporary Mainline Shoulder Closures

Temporary mainline shoulder closures may be allowed instead of a lane closure, at locations where Contractor access to the mainline is required. Heavy equipment may not access the mainline without a lane closure.

No previously approved days and/or times for shoulder closures have been determined. The Contractor shall submit a proposal to the Resident for approval.

Temporary shoulder closures with plastic drums shall be removed at the end of the workday. Temporary shoulder closures with plastic drums will not be allowed during periods of inclement weather as determined by the Authority.

652.61 Construction Vehicles

The Contractor shall furnish approved signs reading “Construction Vehicle – Keep Back” to be used on trucks hauling to the Project. The signs shall be a minimum of 30 inch by 60 inch, Black and Orange, Type VII. The older type “Construction Vehicle - Do Not Follow” may be used until the end of their service life.

All vehicles used on the Project shall be equipped with amber flashing lights, visible from both front and rear, or by means of a single, approved type, revolving, flashing or strobe lights mounted so as to be visible 360 degrees. The vehicle flashing system shall be in continuous operation while the vehicle is on any part of the Project. Dump trucks and utility trucks shall have a strobe light mounted on each side of the vehicle.

652.8 Basis of Payment

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
652.362 Maintenance of Traffic Control Devices – Maine Turnpike Authority	LS