



**US Army Corps  
of Engineers**®  
New England District  
696 Virginia Road  
Concord, MA 01742-2751

# PUBLIC NOTICE

**Comment Period Begins: July 15, 2014**  
**Comment Period Ends: August 14, 2014**  
**File Number: NAE-2014-00984**  
**In Reply Refer To: Dan Vasconcelos**  
**Phone: (978) 318-8653**  
**E-mail: [daniel.b.vasconcelos@usace.army.mil](mailto:daniel.b.vasconcelos@usace.army.mil)**

The District Engineer has received a permit application to conduct work in waters of the United States from the Massachusetts Department of Transportation – Highway Division (MassDOT), 10 Park Plaza, Boston, Massachusetts 02116. This work is proposed in Harris Brook at Meetinghouse Road, Pelham, Massachusetts. The site coordinates are: Latitude 42.378096°, Longitude -72.448874°.

Although this project may have only minimal impacts and may be eligible for authorization under the current Massachusetts General Permit, the work is not expected to begin until after the General Permit expires on January 20, 2015. The applicant is seeking an individual permit to allow for a full five years in which to complete the work.

The work involves the temporary discharge of 237 square feet of fill material into Harris Brook associated with the replacement of the bridge (No. P-04-007) conveying Meetinghouse Road over Harris Brook in Pelham, Massachusetts. The purpose of the work is to replace the deteriorated superstructure and substructure of the bridge with a new bridge structure. The proposed work would replace the existing single-span structure with a new single-span structure, and also includes approach work and stormwater improvements. The new concrete abutments would be constructed behind the existing dry laid fieldstone abutments. The existing abutments will be retained but cut down slightly to provide adequate clearance for the new bridge. The remaining portions of the existing abutments will be repaired by pointing and grouting. Section 404 impacts are limited to the installation of two temporary sandbag cofferdams at the abutments, and associated dewatering, to allow repairs to the existing abutments to occur under dry conditions. No other work is proposed within the river and flow will be maintained throughout construction.

The work is shown on the attached plans entitled “PROPOSED BRIDGE, PELHAM, MEETINGHOUSE ROAD OVER HARRIS BROOK” on 10 sheets, and dated “June 13, 2014”.

In developing plans for replacing the Meetinghouse Road Bridge, MassDOT considered ways to avoid and minimize impacts to waters of the United States, including wetlands. Steps to avoid and minimize impacts to wetlands and waterways include installing compost filter tubes to control sediment, conducting repair work within a sandbag cofferdam to reduce turbidity, installation of shielding to prevent debris from entering the river, and construction of a drainage swale with check dams to address existing erosion and sedimentation issues at the bridge location. No compensatory mitigation is proposed because the impacts are minimal and temporary.

**AUTHORITY**

Permits are required pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899
- Section 404 of the Clean Water Act
- Section 103 of the Marine Protection, Research and Sanctuaries Act.

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972, as amended.

**NATIONAL HISTORIC PRESERVATION ACT**

Based on his initial review, the District Engineer has determined that little likelihood exists for the proposed work to impinge upon properties with cultural or Native American significance, or listed in, or eligible for listing in, the National Register of Historic Places. Therefore, no further consideration of the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended, is necessary. This determination is based upon one or more of the following:

- a. The permit area has been extensively modified by previous work.
- b. The permit area has been recently created.
- c. The proposed activity is of limited nature and scope.
- d. Review of the latest published version of the National Register shows that no presence of registered properties listed as being eligible for inclusion therein are in the permit area or general vicinity.
- e. Coordination with the State Historic Preservation Officer and/or Tribal Historic Preservation Officer(s)

**ENDANGERED SPECIES CONSULTATION**

The New England District, Army Corps of Engineers has reviewed the list of species protected under the Endangered Species Act of 1973, as amended, which might occur at the project site. It is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated or will be operated/used in such a manner that it is not likely to adversely affect any Federally listed endangered or threatened species or their designated critical habitat. By this Public Notice, we are requesting that the appropriate Federal Agency concur with our determination.

The following authorizations have been applied for, or have been, or will be obtained:

- Permit, License or Assent from State.
- Permit from Local Wetland Agency or Conservation Commission.
- Water Quality Certification in accordance with Section 401 of the Clean Water Act.

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. Comments should be submitted in writing by the above date. If you have any questions, please contact Dan Vasconcelos at (978) 318-8653, (800) 343-4789 or (800) 362-4367, if calling from within Massachusetts.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

**THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.**

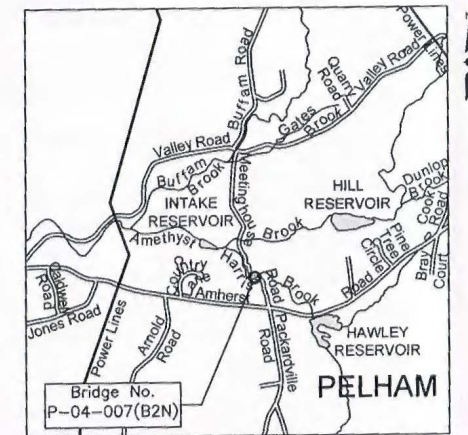
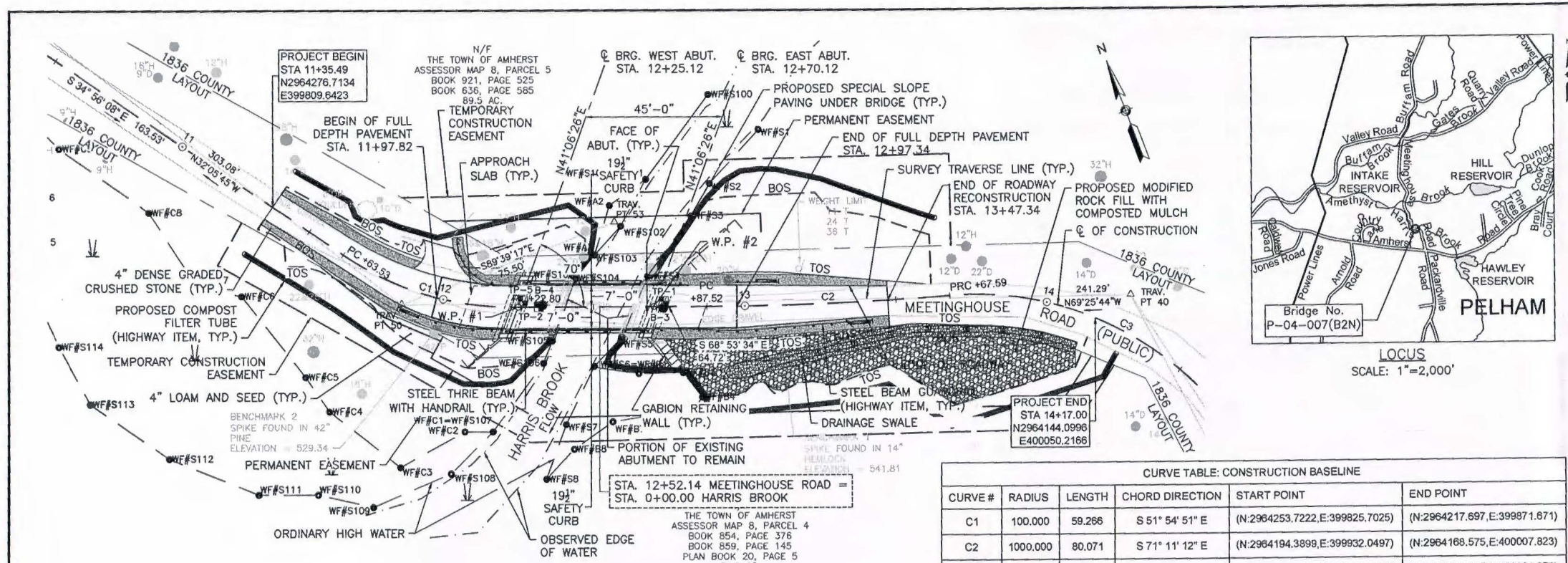


**Karen K. Adams**  
**Chief, Permits and Enforcement Branch**  
**Regulatory Division**

If you would prefer not to continue receiving Public Notices by email, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at [bettina.m.chaisson@usace.army.mil](mailto:bettina.m.chaisson@usace.army.mil). You may also check here ( ) and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
PHONE: \_\_\_\_\_

PELHAM MEETINGHOUSE ROAD			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		1	10
PROJECT FILE NO.		604429	
TITLE SHEET			

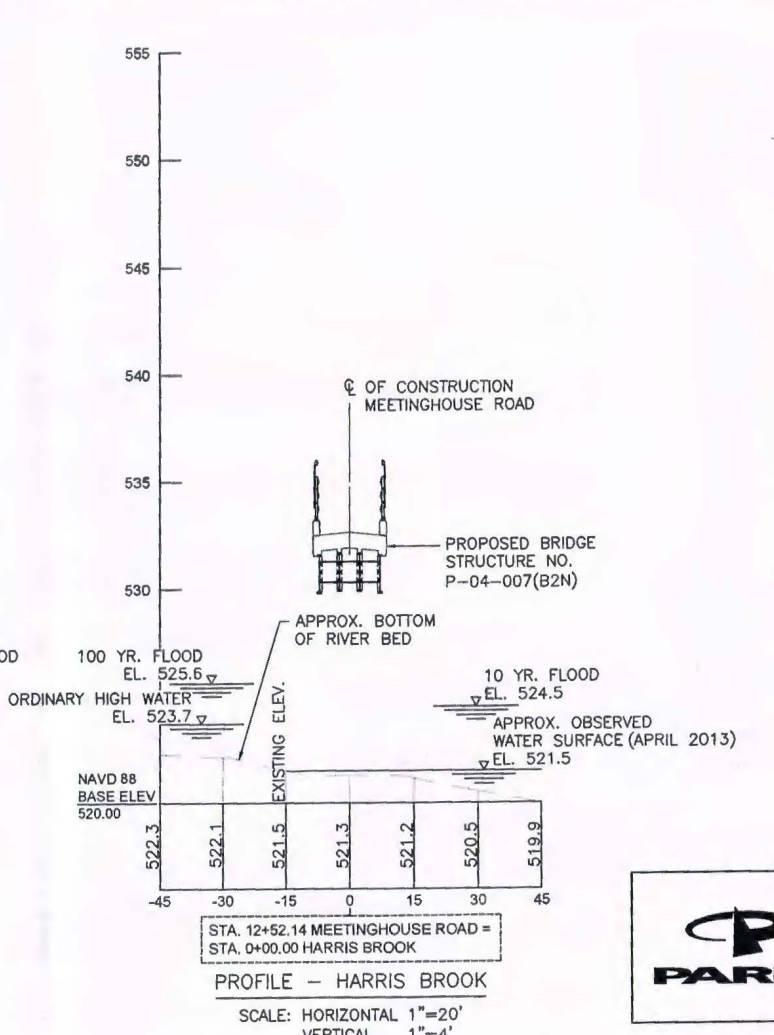
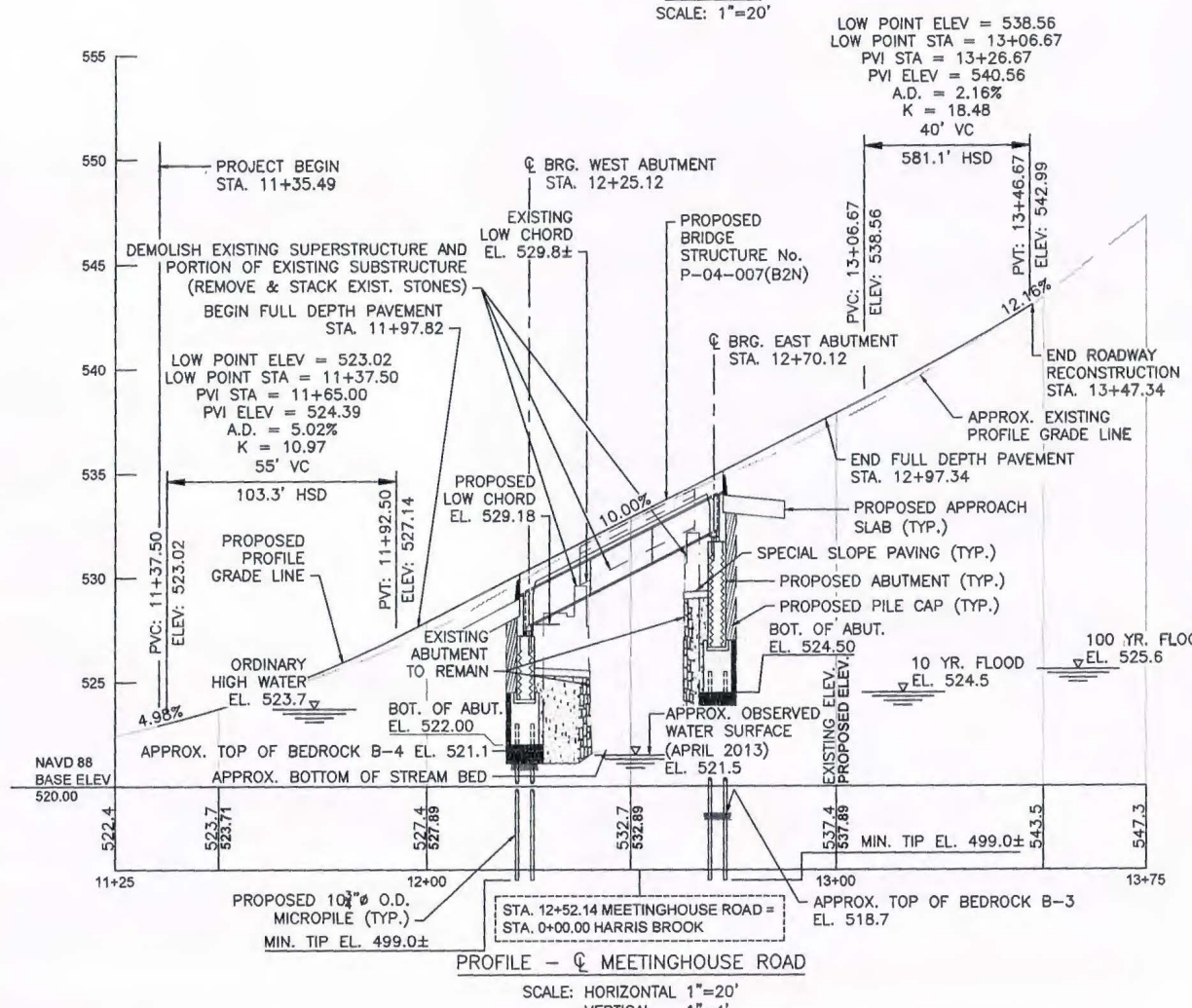


INDEX OF DRAWINGS

1	TITLE SHEET
2	BRIDGE NOTES
3	BRIDGE PLAN, ELEVATION, AND SECTION
4	WINGWALL ELEVATIONS AND SECTION
5	CONSTRUCTION PLAN
6	PROFILE
7	DRAINAGE DETAILS
8	CONSTRUCTION DETAILS
9	LANDSCAPE PLAN
10	LANDSCAPE DETAILS

CURVE TABLE: CONSTRUCTION BASELINE

CURVE #	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT
C1	100.000	59.266	S 51° 54' 51" E	(N:2964253.7222,E:399825.7025)	(N:2964217.697,E:399871.871)
C2	1000.000	80.071	S 71° 11' 12" E	(N:2964194.3899,E:399932.0497)	(N:2964168.575,E:400007.823)
C3	105.000	119.532	S 40° 52' 04" E	(N:2964168.5749,E:400007.8229)	(N:2964082.985,E:400081.879)



WATER QUALITY CERTIFICATE SUBMISSION  
JUNE 13, 2014

<p>PARE CORPORATION ENGINEERS - SCIENTISTS - PLANNERS 8 BLACKSTONE VALLEY PLACE LINCOLN, RI 02865 401-334-4100</p>	MONTH DD, YYYY	ISSUED FOR CONSTRUCTION
	<p>PROPOSED BRIDGE PELHAM</p>	
	<p>MEETINGHOUSE ROAD OVER HARRIS BROOK</p> <p>MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 10 PARK PLAZA BOSTON, MASS</p>	
TITLE:		CHIEF ENGINEER

604429 WATER QUALITY CERTIFICATE SUBMISSION 08/13/14

**GENERAL NOTES:**

**DESIGN**

IN ACCORDANCE WITH THE 2012 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS, WITH CURRENT INTERIM SPECIFICATIONS THROUGH 2013 FOR HL-93 LOADING.

**EXISTING CONDITIONS**

ALL DIMENSIONS AND DETAILS SHOWN FOR THE EXISTING STRUCTURE ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENTS AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND ACCURACY THEREOF, AND SHALL NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL HE/SHE HAS MADE THE REQUIRED MEASUREMENTS ON THE ACTUAL STRUCTURE AND THE EXTENT OF THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER. EXISTING STRUCTURE IS SHOWN THUS ----- EXCEPT AS NOTED.

**SURVEY NOTEBOOKS**

ELECTRONIC SURVEY WAS USED. A COPY OF THE DATA FILE MAY BE OBTAINED FROM MASSACHUSETTS DEPARTMENT OF TRANSPORTATION.

**BENCHMARK**

BENCH MARK: BENCHMARK 2, SPIKE IN 42" PINE CONSTRUCTION BASELINE STA. 11+99.37, 11.70' RT EL. 529.34.  
BENCHMARK 1, SPIKE IN 14" HEMLOCK CONSTRUCTION BASELINE STA. 13+13.08, 23.71' RT EL. 541.81.

ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

**DATE**

DATE TO BE PLACED ON THE OUTSIDE FACE OF THE DECK EXTERIOR EDGE AT MIDSPAN, BOTH SIDES. A SHEET SHOWING THE SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. THE DATE USED SHALL BE THE LATEST YEAR OF CONTRACT COMPLETION AS OF THE DATE THE FIRST SAFETY CURB IS CONSTRUCTED. BOTH SIDES SHALL FEATURE THE SAME DATE.

**FOUNDATIONS**

FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED DURING CONSTRUCTION, WITH THE APPROVAL OF THE ENGINEER.

**UNSUITABLE MATERIAL**

ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE AS DIRECTED BY THE ENGINEER.

**SEISMIC GROUND SHAKING HAZARD**

DESIGN SPECTRA:

$A_s = 0.066$   
 $S_{DS} = 0.156$   
 $S_{D1} = 0.063$

SITE CLASS = C

SEISMIC DESIGN CATEGORY (SDC) = A

**ANCHOR BOLTS**

ALL BRIDGE BEARING ANCHOR BOLTS SHALL BE SET BY TEMPLATE BEFORE THE CONCRETE IS PLACED, EXCEPT AT ABUTMENTS, WHERE CORING AND GROUTING MAY BE USED AT THE CONTRACTOR'S OPTION, PROVIDED THAT THE METHOD OF INSTALLATION WILL NOT CUT REINFORCING STEEL.

**REINFORCEMENT**

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31 GRADE 60. UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

MODIFICATION CONDITION	#4 BARS	#5 BARS
1. NONE	21"	26"
2. 12" OF CONCRETE BELOW BAR	29"	36"
3. COATED BARS, COVER < 3db, OR CLEAR SPACING < 6db	31"	39"
4. COATED BARS, ALL OTHER CASES	25"	31"
5. CONDITION 2. AND 3.	35"	44"
6. CONDITION 2. AND 4.	34"	43"

IF THE ABOVE BARS ARE SPACED 6" OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE. ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

REINFORCING STEEL PLACED AT THE FOLLOWING LOCATIONS SHALL BE EPOXY COATED: ABUTMENT STEMS, CURTAIN WALL, AND BACKWALLS; BRIDGE DECKS AND SAFETY CURBS; END DIAPHRAGMS AND KEEPER BLOCKS. ALL OTHER REINFORCING SHALL BE UNCOATED.

**UTILITIES**

THE CONTRACTOR SHALL LOCATE AND PROTECT FROM DAMAGE ALL EXISTING UTILITIES.

**CONCRETE MIXES**

THE FOLLOWING ELEMENTS ARE PRECAST: ABUTMENT STEMS AND CURTAIN WALLS, ABUTMENT BACKWALLS, APPROACH SLABS.

(1) (2) (3) TO BE USED IN CONSTRUCTION OF:  
4000 1 1/2 565 ABUTMENTS, PILE CAPS, APPROACH SLAB, APPROACH SLAB CLOSURE POURS, SUBSTRUCTURE CLOSURE POURS

4000 3/4 585 HP CEMENT CONCRETE BRIDGE DECK, END DIAPHRAGM

4000 3/4 610 ABUTMENT SHEAR KEYS, BACKWALLS, KEEPER BLOCKS

5000 3/4 685 HP CEMENT CONCRETE SAFETY CURBS

(1) 28 DAY COMPRESSIVE STRENGTH (PSI)

(2) MAXIMUM AGGREGATE SIZE (IN)

(3) CEMENTITIOUS CONTENT (POUND/C.Y.)

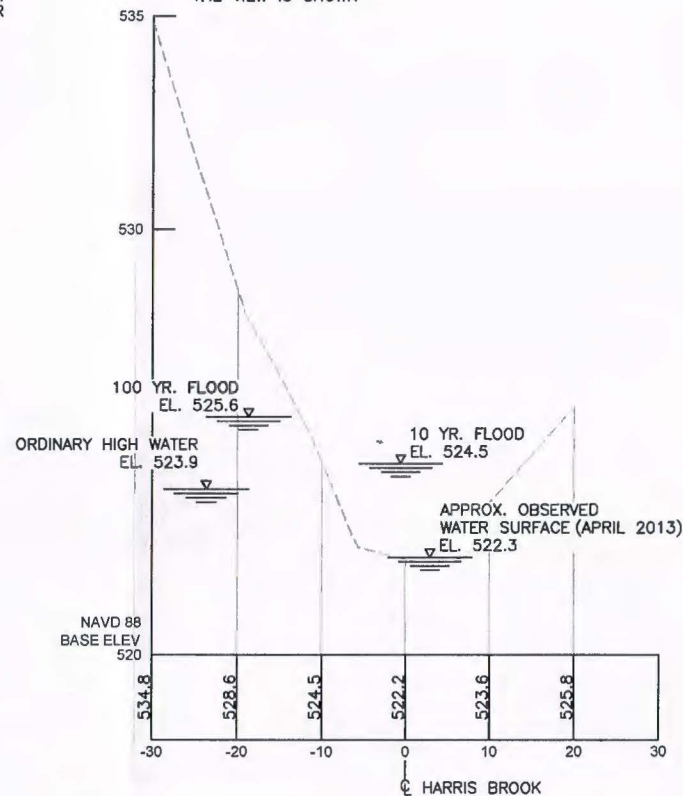
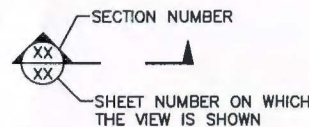
**STRUCTURAL STEEL**

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50 UNLESS OTHERWISE NOTED HEREIN. ALL STRUCTURAL STEEL SHALL BE HOT-DIP GALVANIZED.

**SCALES**

SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR HALF SIZE PRINTS.

**SECTION MARK**



NOTE: APPROACH CHANNEL GRADING WILL NOT BE ALTERED BY BRIDGE CONSTRUCTION.

**CHANNEL APPROACH SECTION**

SCALE: HORIZONTAL 1"=10'  
VERTICAL 1"=2'

SECTION AT APPROXIMATELY 40 FEET UPSTREAM OF PROPOSED BRIDGE CENTERLINE OF CONSTRUCTION.

**PELHAM MEETINGHOUSE ROAD**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		2	10

PROJECT FILE NO. 804429

**BRIDGE NOTES**

ESTIMATED QUANTITIES (NOT GUARANTEED)	
DEMOLITION OF BRIDGE NO. P-04-007(ORK)	1 LS
REINFORCED CONCRETE EXCAVATION	50 CY
BRIDGE EXCAVATION	260 CY
GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES	40 CY
CONTROLLED DENSITY FILL - NON-EXCAVATABLE	10 CY
CRUSHED STONE	40 TON
CRUSHED STONE FOR BRIDGE FOUNDATIONS	100 TON
GABIONS	70 CY
STONE MASONRY ABUTMENT IN CEMENT MORTAR	20 CY
STONE MASONRY WALL REMOVED AND REBUILT IN CEMENT MORTAR	10 CY
STONE MASONRY ABUTMENT REPAIRS	70 CF
GEOTEXTILE FABRIC FOR PERMANENT EROSION CONTROL	140 SY
COMPOST TOP SOIL	100 CY
SEEDING - RESTORATION MIX	900 SY
STRAW MULCH	900 SY
COMPOSTED MULCH FOR MODIFIED ROCK FILL	20 SY
MATTING FOR EROSION CONTROL	250 SY
DRILLED MICROPILE 10-3/4 INCH OUTSIDE DIAMETER	650 FT
MICROPILE VERIFICATION LOAD TEST	2 EA
MODIFIED ROCK FILL	130 TON
SPECIAL SLOPE PAVING UNDER BRIDGE - CEMENT CONCRETE	45 SY
CONTROL OF WATER - STRUCTURE NO. P-04-007 (B2N)	1 LS
BRIDGE STRUCTURE, BRIDGE NO. P-04-007 (B2N)	1 LS

**HYDRAULIC DATA**

DRAINAGE AREA: 1.8 SQUARE MILES  
DESIGN DISCHARGE: 92.5 CUBIC FEET PER SECOND  
DESIGN FREQUENCY: 10 YEARS  
DESIGN VELOCITY: 2.6 FEET PER SECOND  
DESIGN HIGH WATER ELEVATION: 524.5 FEET

**BASE (100-YEAR) FLOOD DATA**

Q (100 YEAR): 237.5 CUBIC FEET PER SECOND  
WATER SURFACE ELEVATION: 525.6 FEET

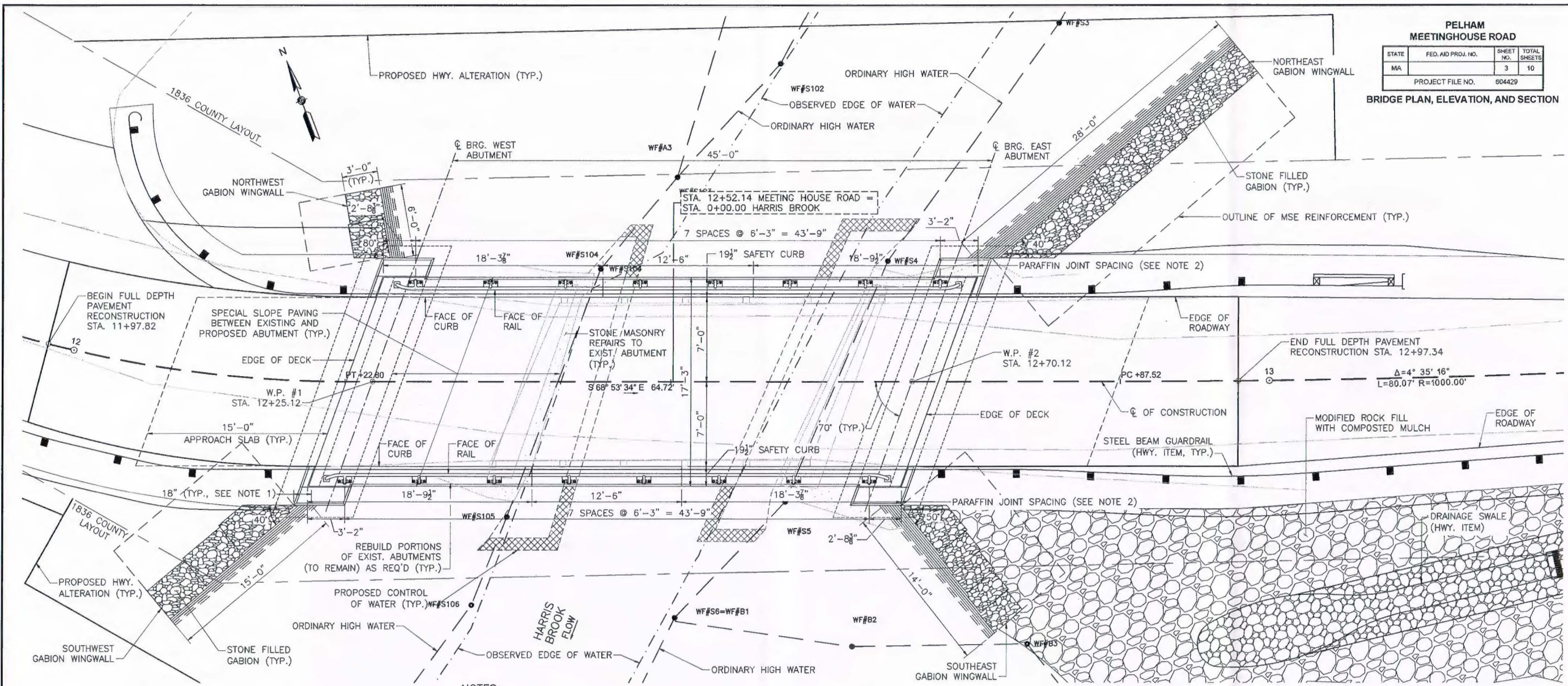
**FLOOD RECORD**

Q = UNKNOWN CUBIC FEET PER SECOND  
FREQUENCY (IF KNOWN): UNKNOWN YEARS  
DATE: UNKNOWN  
HISTORY OF ICE FLOES: NONE DOCUMENTED  
EVIDENCE OF SCOUR AND EROSION: MISALIGNMENT/SETTLEMENT OF BOTH EXISTING ABUTMENT FIELDSTONE BREASTWALLS.

604429 LEV2(P04007).DWG Plotted on 19-Jun-2014 10:17 AM 604429 WATER QUALITY CERTIFICATE SUBMISSION 08/13/14

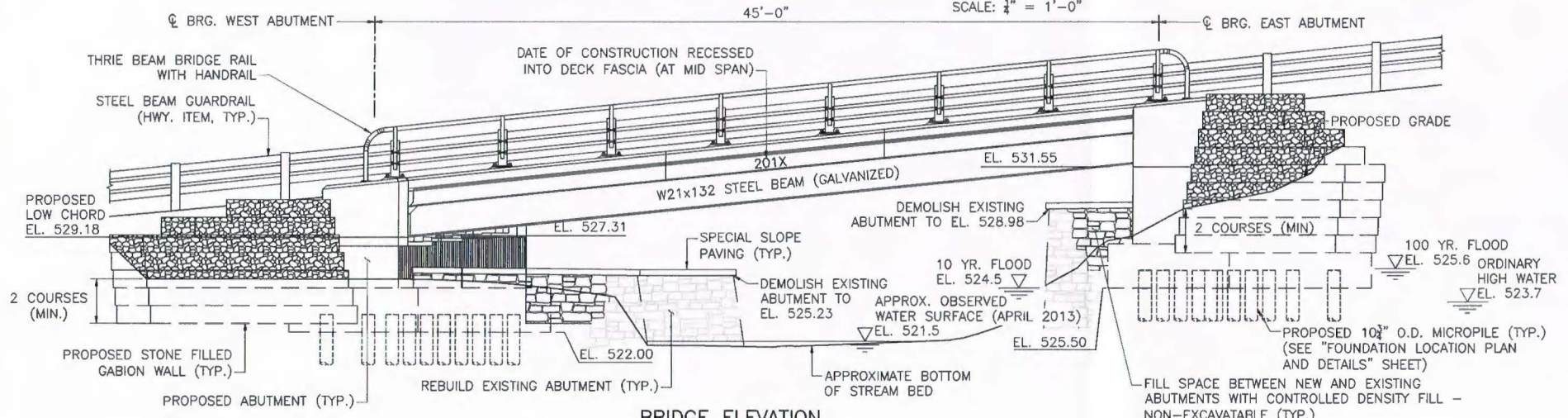
PELHAM MEETINGHOUSE ROAD			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		3	10
PROJECT FILE NO.		604429	

**BRIDGE PLAN, ELEVATION, AND SECTION**

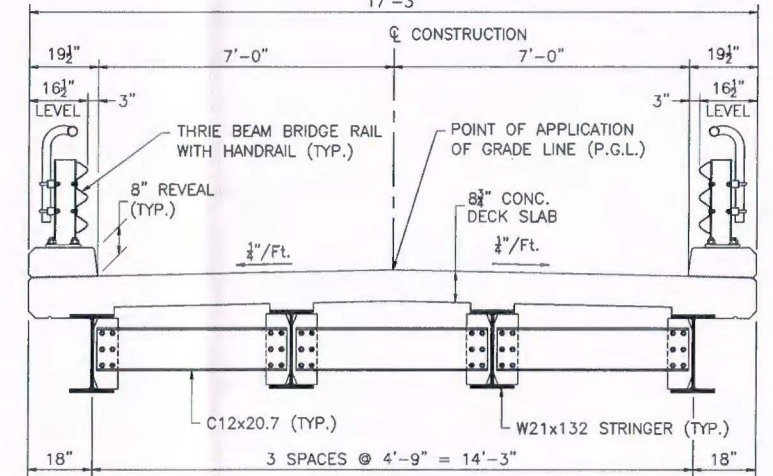


- NOTES:**
1. WINGWALL LENGTHS AND DIMENSIONS ARE GIVEN AT PROPOSED GRADE IN FRONT OF WALL.
  2. PARAFFIN AND RAIL POST DIMENSIONS ARE GIVEN ALONG FACE OF CURB.

**BRIDGE PLAN**  
SCALE: 1/4" = 1'-0"



**BRIDGE ELEVATION**  
SCALE: 1/4" = 1'-0"



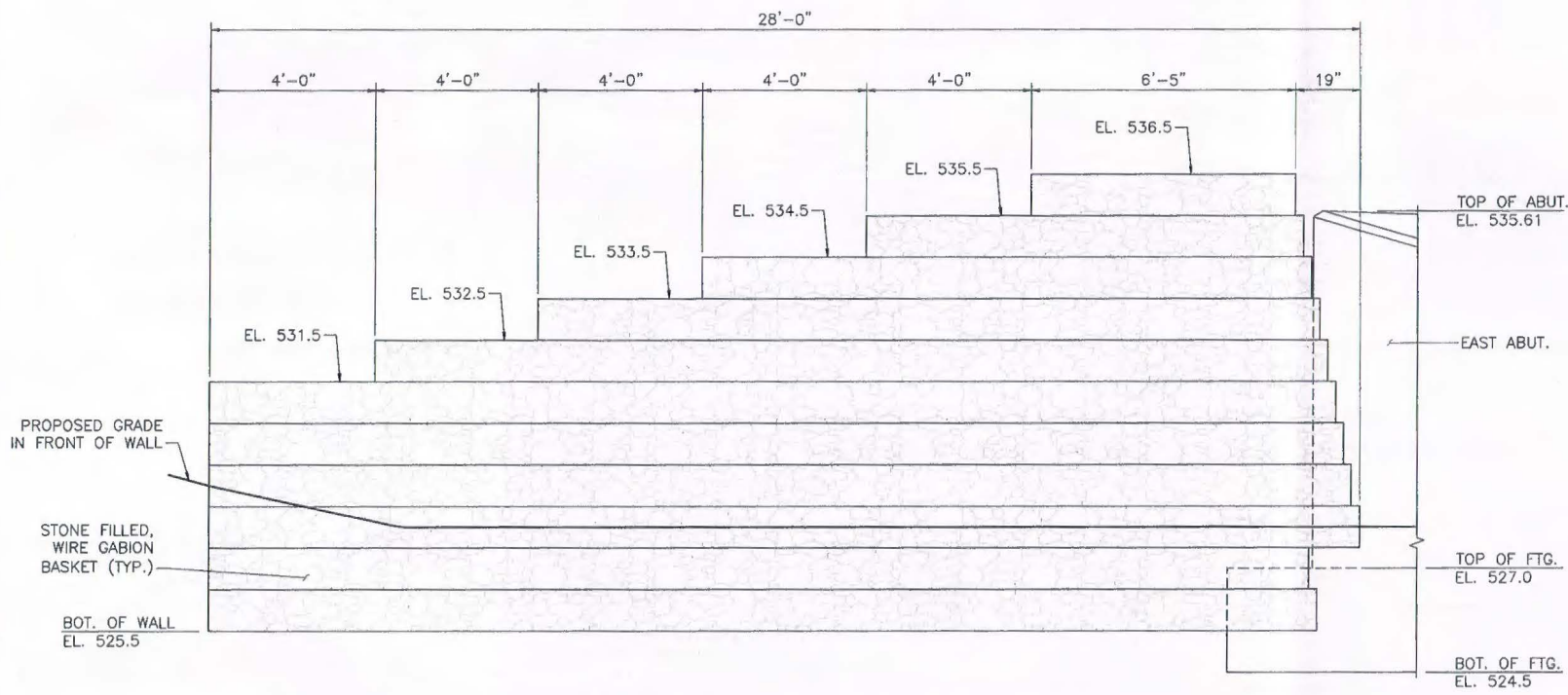
**TRANSVERSE SECTION**  
SCALE: 1/2" = 1'-0"

604429 WATER QUALITY CERTIFICATE SUBMISSION 06/13/14 Plotted on 19-Jun-2014 10:46 AM

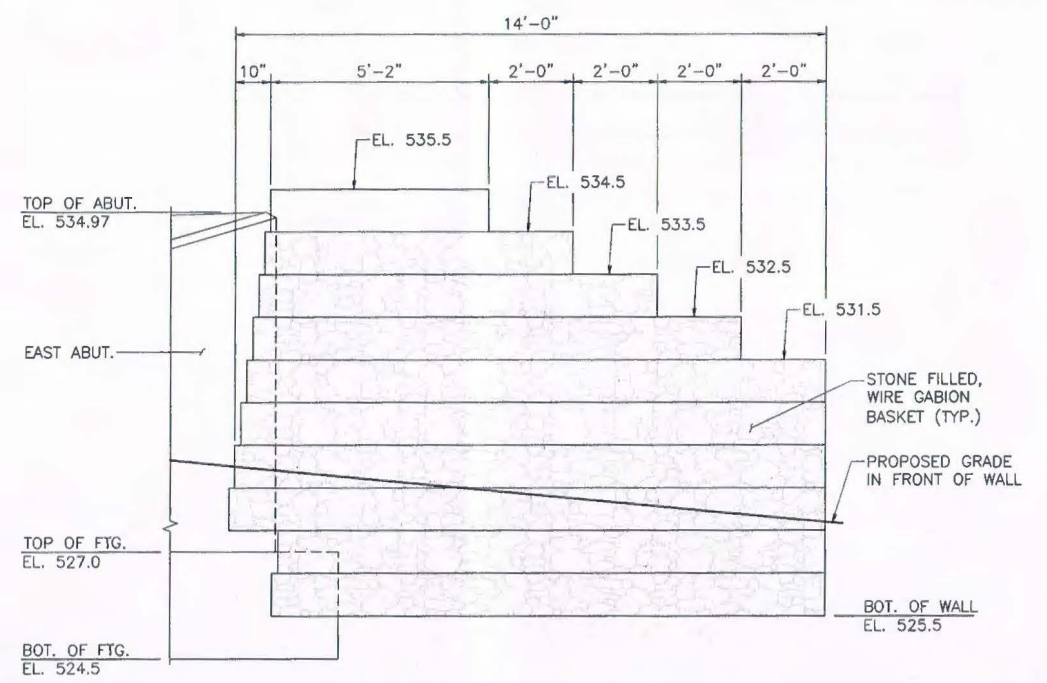
**PELHAM  
MEETINGHOUSE ROAD**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		4	10
PROJECT FILE NO.		804429	

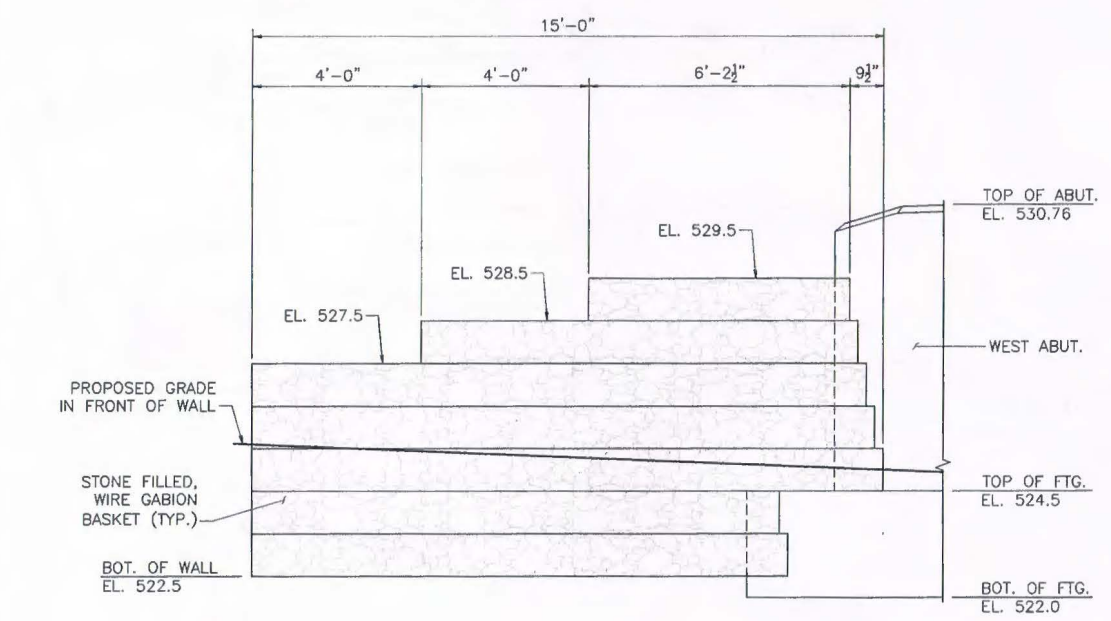
**WINGWALL ELEVATIONS AND SECTION**



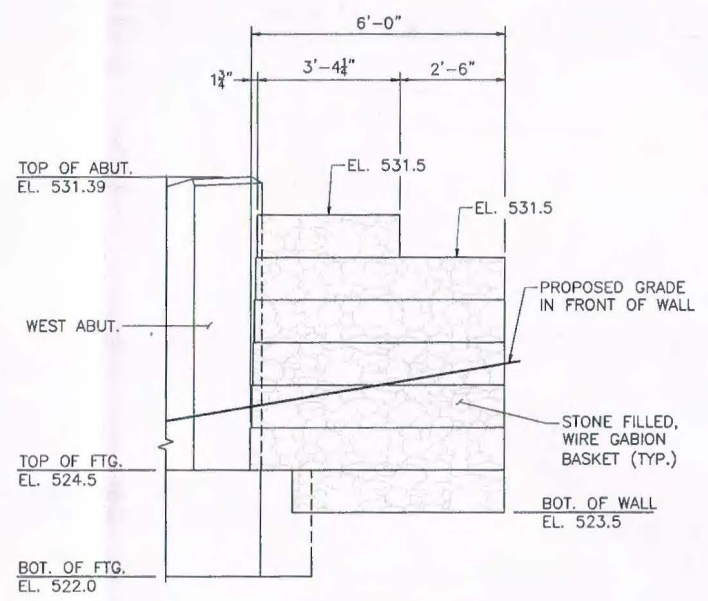
**NORTHEAST WINGWALL ELEVATION**  
SCALE: 1/2" = 1'-0"



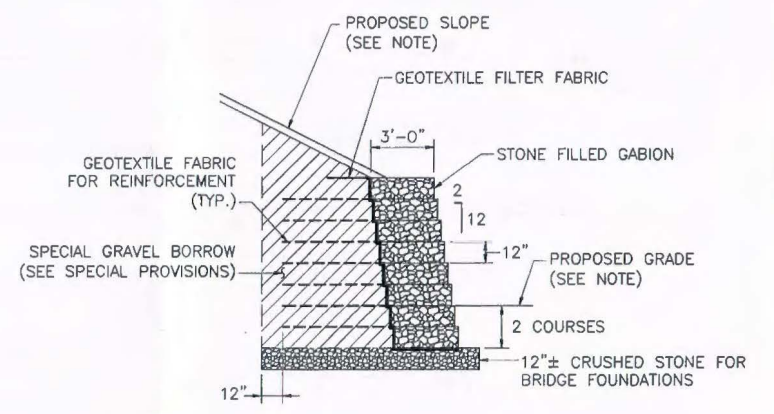
**SOUTHEAST WINGWALL ELEVATION**  
SCALE: 1/2" = 1'-0"



**SOUTHWEST WINGWALL ELEVATION**  
SCALE: 1/2" = 1'-0"



**NORTHWEST WINGWALL ELEVATION**  
SCALE: 1/2" = 1'-0"



**NOTE:**  
FOR SLOPE TREATMENTS AND PLANTINGS IN FRONT AND BEHIND WALL, REFER TO LANDSCAPE PLANS AND DETAILS SHEETS.

**SECTION - GABION WALL**  
SCALE: 1/4" = 1'-0"

**NOTE:**  
SEE "SECTION-GABION WALL" ON THIS SHEET FOR MSE, CRUSHED STONE, AND GABION BASKET CONSTRUCTION DETAILS.

604429\_EVI\F04007.DWG Plotted on 15-Jun-2014 10:50 AM 604429 WATER QUALITY CERTIFICATE SUBMISSION 06/15/14

**HIGHWAY GUARD DETAILS**

**STEEL W BEAM HIGHWAY GUARD (SINGLE FACED)**  
 STA. 12+00.46 LT TO STA. 12+15.90 LT  
 STA. 12+78.86 RT TO STA. 13+16.11 RT

**STEEL HIGHWAY GUARD TRANSITION BEAM**  
 STA. 12+11.02 RT  
 STA. 12+15.90 LT  
 STA. 12+72.61 RT  
 STA. 12+78.89 LT

**STEEL THRIE BEAM HIGHWAY GUARD (SINGLE FACED)**  
 STA. 12+16.80 RT TO STA. 12+22.62 RT  
 STA. 12+22.62 LT TO STA. 12+28.89 LT  
 STA. 12+66.36 RT TO STA. 12+72.61 RT  
 STA. 12+72.64 LT TO STA. 12+78.89 LT

**STEEL BEAM HIGHWAY GUARD TANGENT END TREATMENT**  
 STA. 11+87.80, 6.7' RT TO STA. 12+11.02, 7.8' RT  
 STA. 12+85.14, 7.3' LT TO STA. 13+10.29, 7.6' LT  
 STA. 13+16.11, 7.0' RT TO STA. 13+40.93, 6.1' RT

**STEEL W BEAM TERMINAL SECTION (SINGLE FACED) TEMPORARY DEWATERING 123 S.F.**  
 12+00.46, 18.8' LT

**TRAFFIC SIGNAL CONDUIT**

NONE

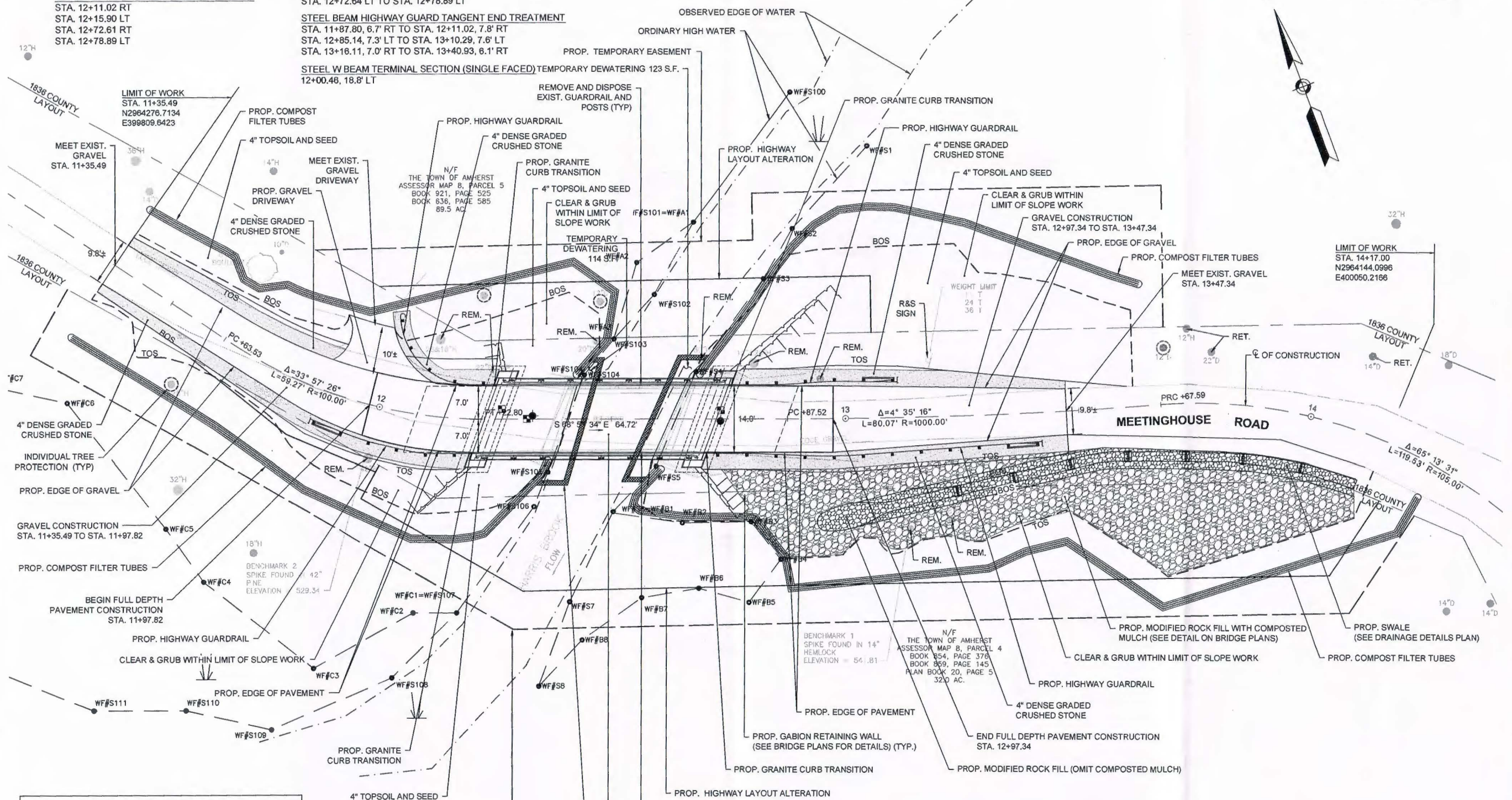
**WATER SUPPLY ALTERATIONS**

NONE

**DRAINAGE DETAILS**

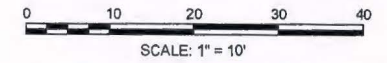
SEE DRAINAGE DETAILS PLAN

PELHAM MEETINGHOUSE ROAD			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		5	10
PROJECT FILE NO.		604429	
CONSTRUCTION PLAN			



LOCATION	RESOURCE AREA	TEMPORARY DEWATERING (S.F.)
WEST ABUTMENT	WATERS OF THE UNITED STATES	114
EAST ABUTMENT	WATERS OF THE UNITED STATES	123
TOTAL (S.F.)		237

FOR PROFILE:  
SEE SHEET NO. 6

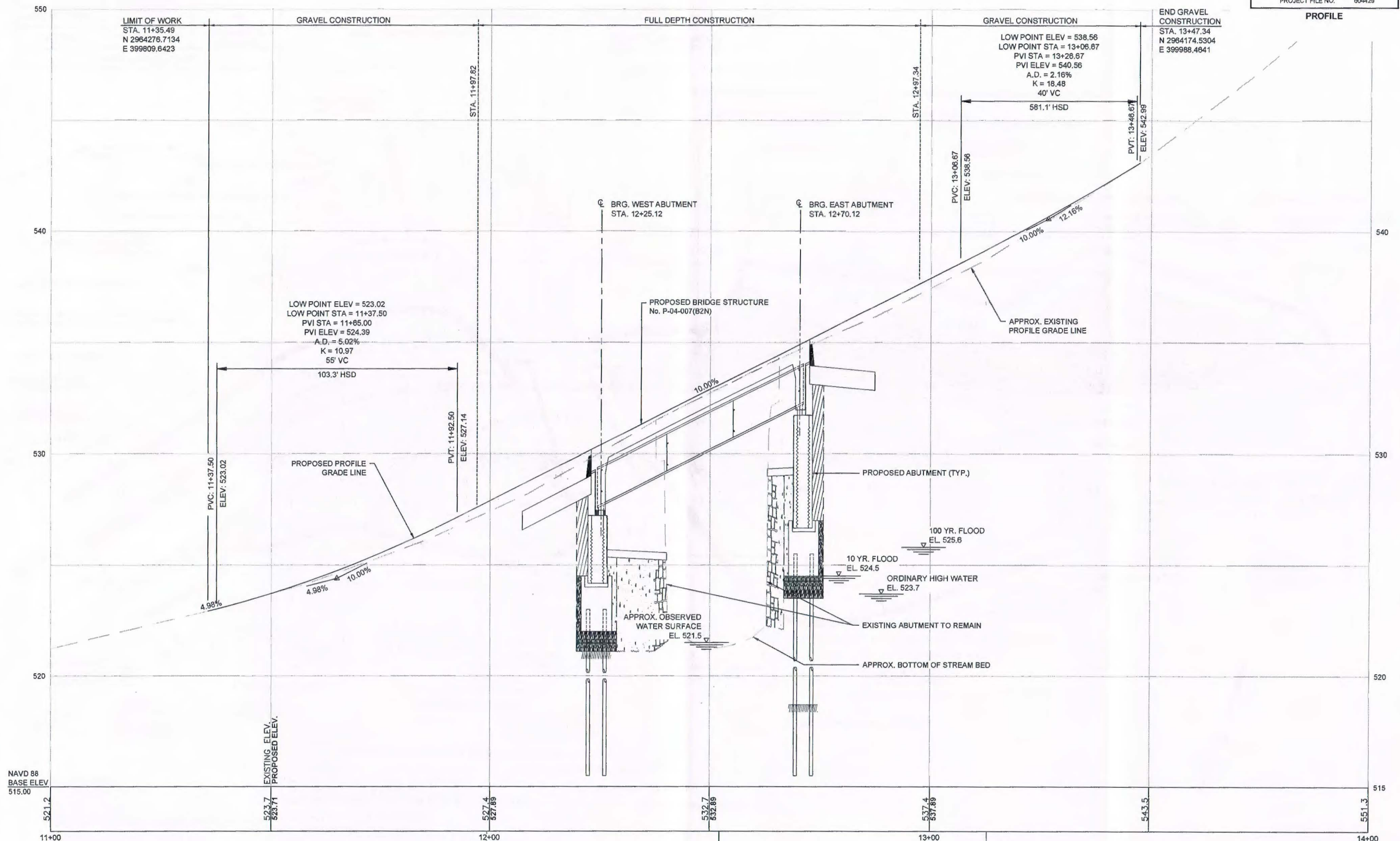


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PELHAM MEETINGHOUSE ROAD			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		6	10
PROJECT FILE NO.		604429	

**PROFILE**



NAVD 88  
BASE ELEV  
515.00

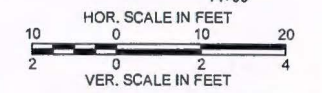
EXISTING ELEV.  
523.7  
PROPOSED ELEV.  
523.71

Benchmark 2  
Spike in 4" Pipe  
Elevation = 529.34  
Sta. 11+99.37, 11.70 RT

STA. 12+52.14 MEETINGHOUSE ROAD =  
STA. 0+00.00 HARRIS BROOK

Benchmark 1  
Spike in 14" Firelock  
Elevation = 541.81  
Sta. 13+13.08, 23.71 RT

FOR CONSTRUCTION PLAN:  
SEE SHEET NO. 5



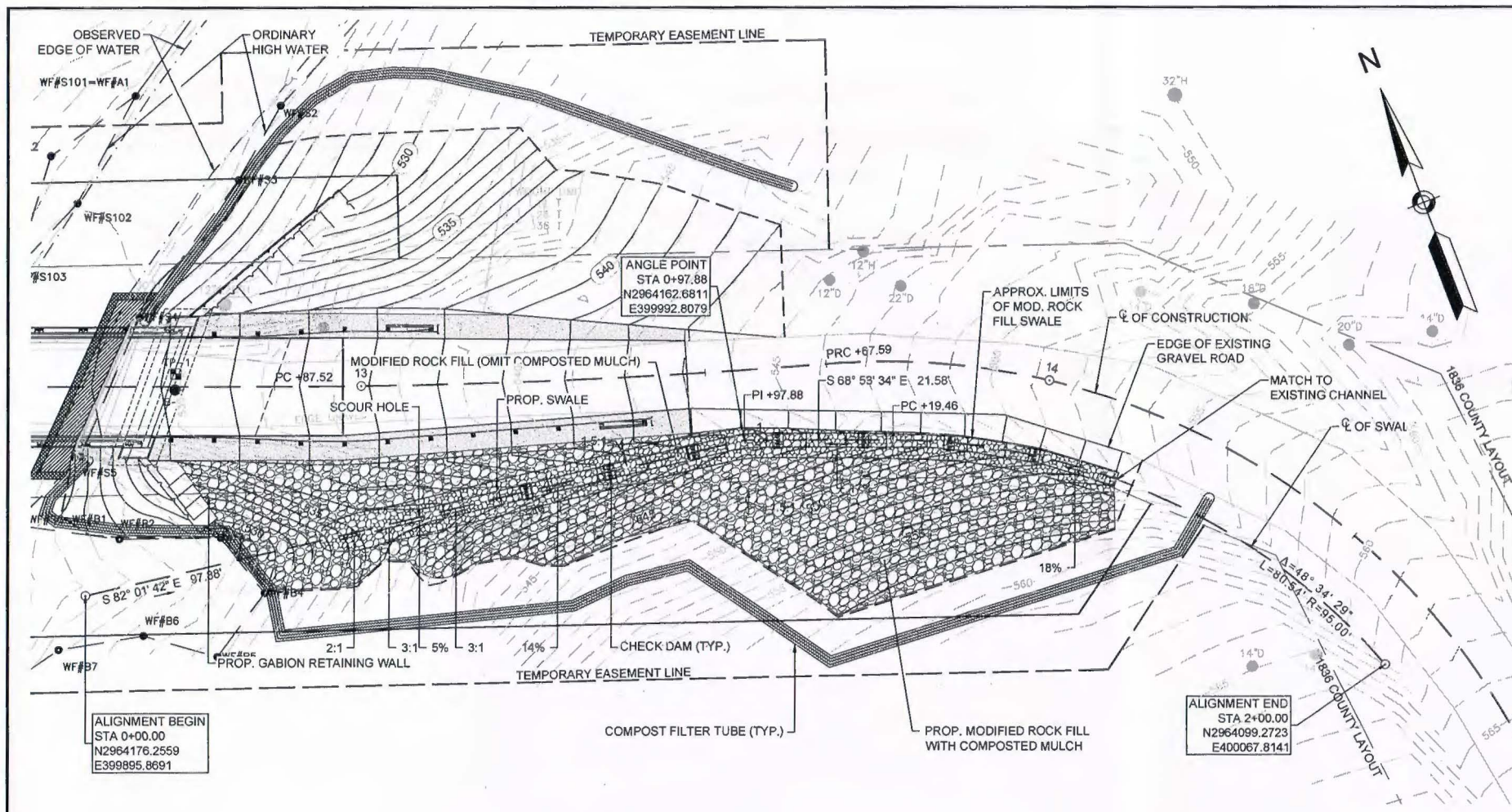
604429 WATER QUALITY CERTIFICATE SUBMISSION 06/13/14 Printed on 19-Jun-2014 11:30 AM

**PELHAM MEETINGHOUSE ROAD**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		7	10

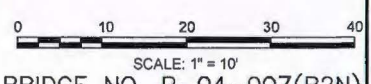
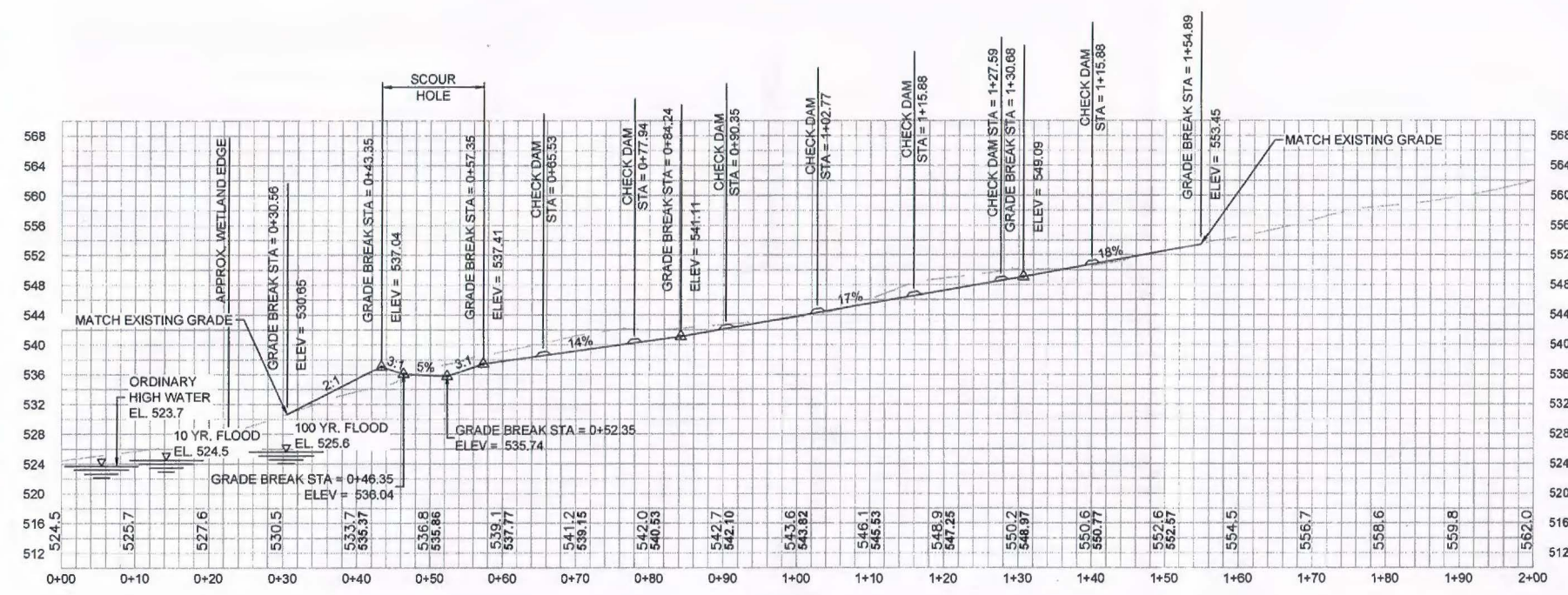
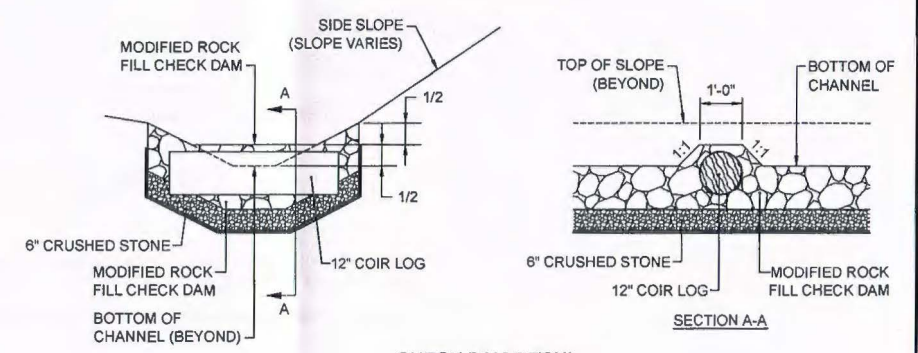
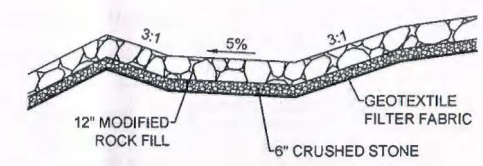
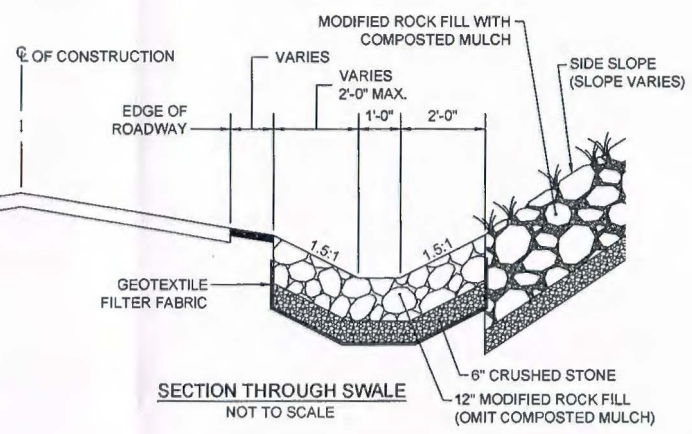
PROJECT FILE NO. 904429

**DRAINAGE DETAILS**



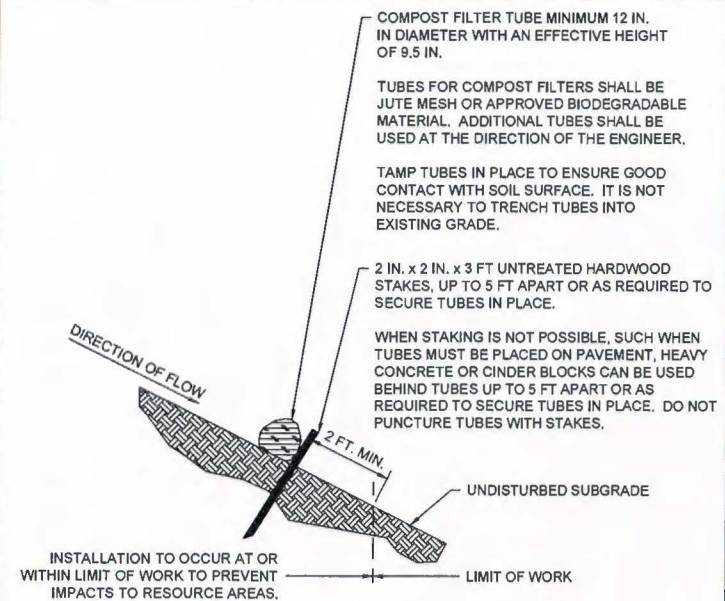
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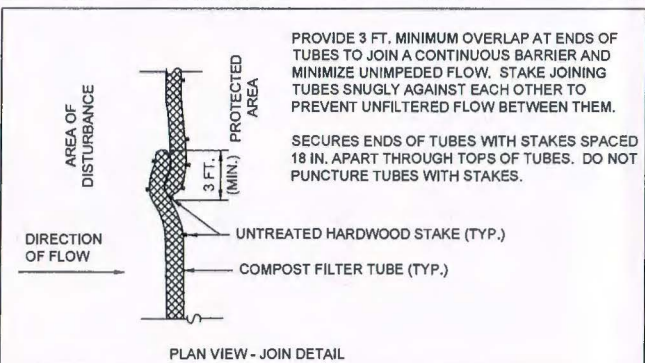
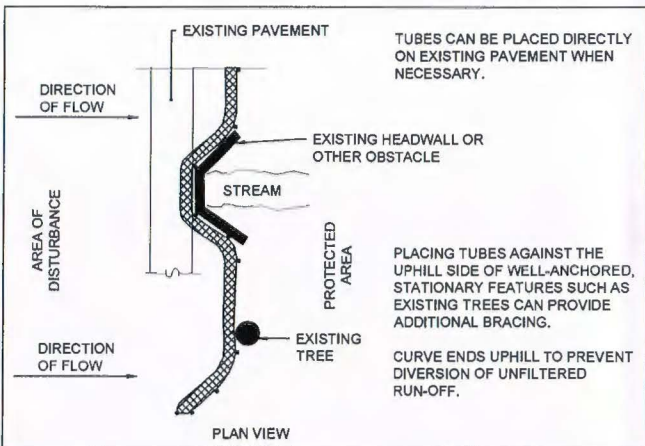


604429\_EV7(P04007).DWG Plotted on 18-Jun-2014 12:08 PM 604429 WATER QUALITY CERTIFICATE SUBMISSION 06/13/14

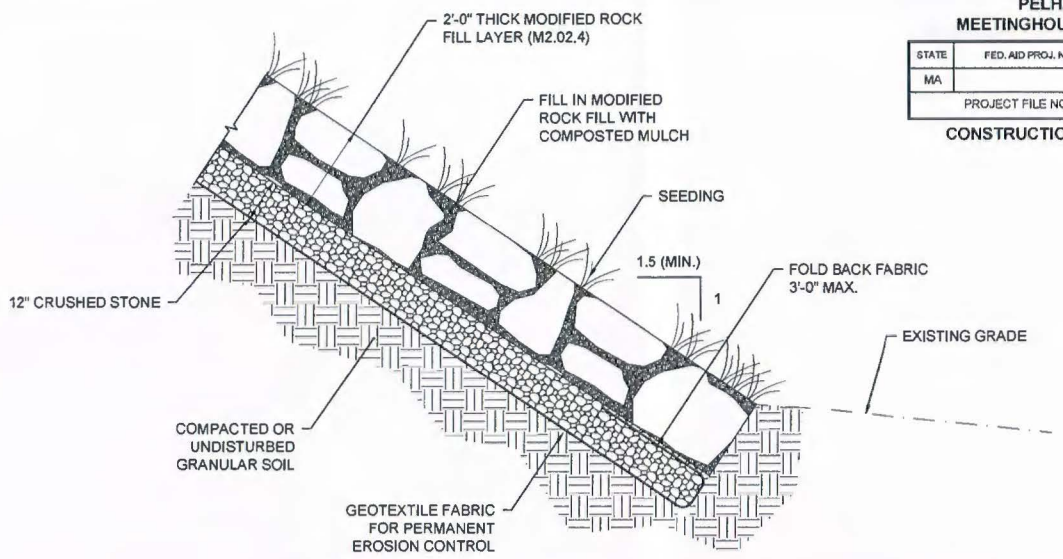
PELHAM MEETINGHOUSE ROAD			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		8	10
PROJECT FILE NO.		604429	
CONSTRUCTION DETAILS			



- GENERAL NOTES:
1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
  2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
  3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
  4. CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.

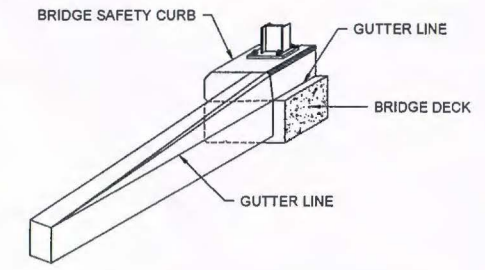
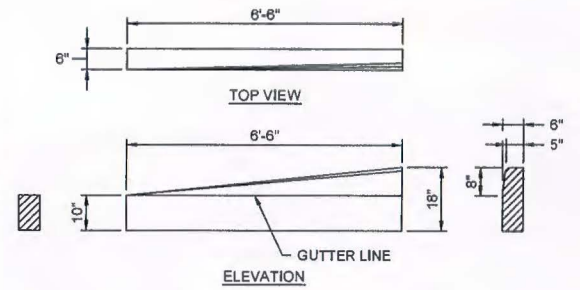


SINGLE COMPOST FILTER TUBE DETAIL  
NOT TO SCALE



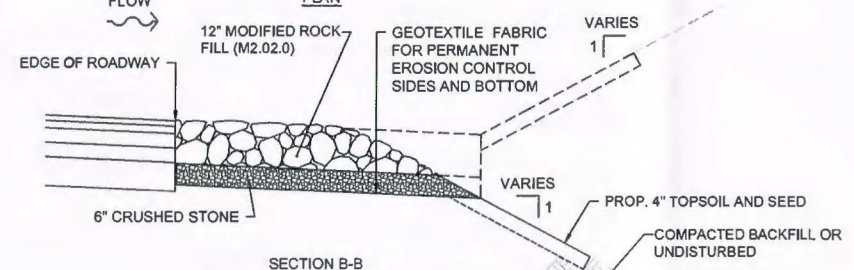
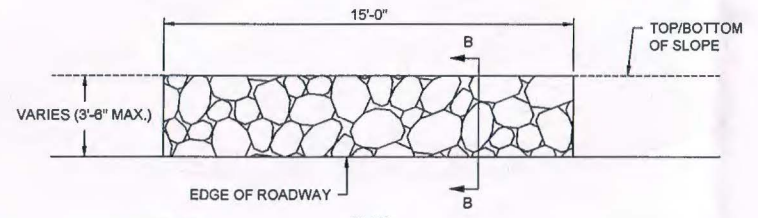
- NOTES:
1. ALL RECOMMENDATIONS SHALL BE UTILIZED FOR INSTALLATION.
  2. IF BEDROCK IS ENCOUNTERED CLOSER THAN 3'-0" TO FINISH GRADE, ELIMINATE CRUSHED STONE LAYER THICKNESS AND GEOTEXTILE FABRIC.

MODIFIED ROCK FILL DETAIL  
NOT TO SCALE



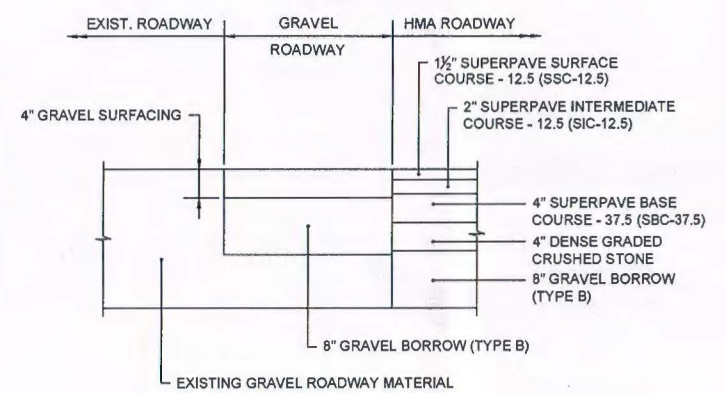
DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION. FOR THE OTHER DIRECTION USE OPPOSITE HAND.

GRANITE CURB TRANSITION DETAIL  
NOT TO SCALE

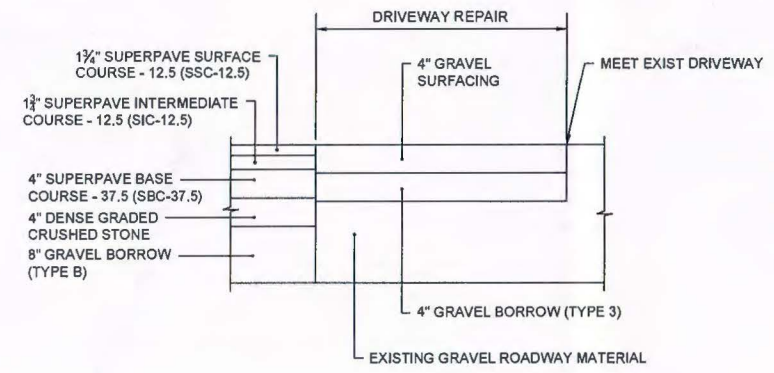


NOTE: SHALL BE IN ACCORDANCE WITH SECTION 983 OF THE MASSDOT STANDARD SPECIFICATIONS.

MODIFIED ROCK FILL PAD DETAIL  
NOT TO SCALE



GRAVEL ROAD TO HMA TRANSITION  
NOT TO SCALE






GRAVEL DRIVEWAY  
NOT TO SCALE

604429\_EVI(04007).DWG Plotted on 19-Jun-2014 12:41 PM 604429 WATER QUALITY CERTIFICATE SUBMISSION 08/13/14

PLANT LIST -Harris Brook only

SYM	QTY	NAME	SIZE	REMARKS
ASAc5	6	Acer soccharum Maple - Sugar	2-2.5 IN CAL	SINGLE LEADER
BLUh2	4	Betula lutea Birch - Yellow	6-8 FT	MULTI-LEADER
LLc4	2	Larix laricina Eastern Larch	1.5-2 IN CAL	SINGLE LEADER FULL TO GROUND
PSTh2	23	Pinus strobus Pine - White	6-8 FT	SINGLE LEADER FULL TO GROUND
HVsd3	19	Hamamelis virginiana Witchhazel - Common	2-3 FT	FULL
IGNg1	53	Ilex glabra 'Nigra' Inkberry 'Nigra'	1 Gallon	FULL
IGs2	45	Ilex glabra Inkberry	2-2.5 FT	FULL
VCs2	25	Vaccinium corymbosum Blueberry - Highbush	2-2.5 FT	FULL
VDs1	41	Viburnum dentatum Viburnum - Arrowwood	12-18"	FULL
TUBELINGS	36	Salix nigra Black Willow	APPROX. 6-24"	MIX EQUALLY
TUBELINGS	36	Salix discolor Pussy Willow	APPROX. 6-24"	MIX EQUALLY
TUBELINGS	36	Cornus sericea Red Osier Dogwood	APPROX. 6-24"	MIX EQUALLY

-  RESTORATION SEED OVER TWO INCHES COMPOST TOPSOIL (SLOPES GREATER THAN 3:1 SHALL USE JUTE MESH)
-  RESTORATION SEED ON COMPOST MULCH OVER RIPRAP
-  TREE PROTECTION FENCE LOCATE AROUND DRIPLINE OF TREE

PELHAM  
MEETINGHOUSE ROAD

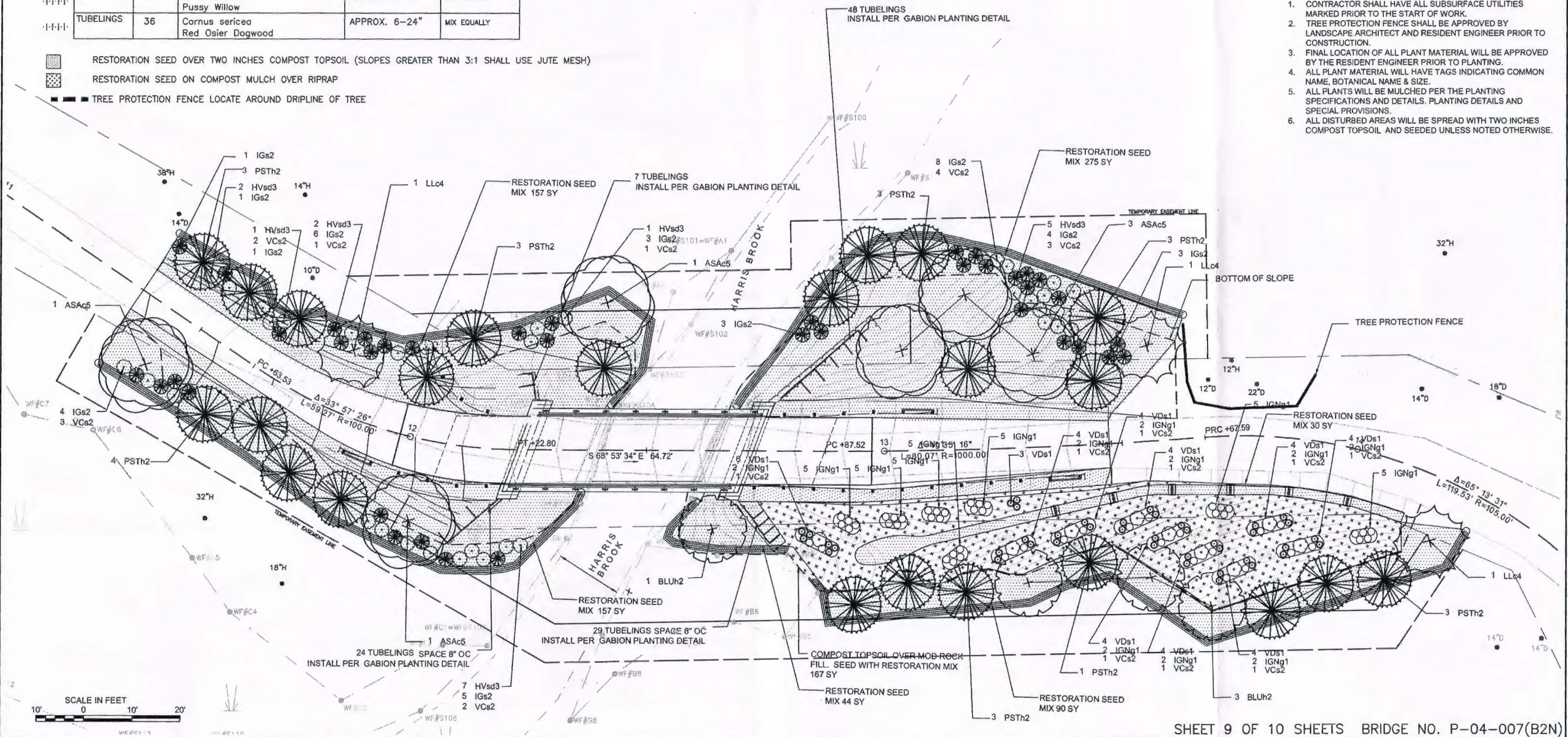
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		9	10
PROJECT FILE NO.		804429	

LANDSCAPE PLAN



PLANTING NOTES

- CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
- TREE PROTECTION FENCE SHALL BE APPROVED BY LANDSCAPE ARCHITECT AND RESIDENT ENGINEER PRIOR TO CONSTRUCTION.
- FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
- ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
- ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
- ALL DISTURBED AREAS WILL BE SPREAD WITH TWO INCHES COMPOST TOPSOIL AND SEEDED UNLESS NOTED OTHERWISE.



60429 WATER QUALITY CERTIFICATE SUBMISSION 08/13/14  
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