



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

# PUBLIC NOTICE

**Comment Period Begins: February 12, 2019**  
**Comment Period Ends: March 14, 2019**  
**File Number: NAE-2018-00850**  
**In Reply Refer To: Mike Wierbonics**  
**Phone: (978) 318-8723**  
**E-mail: michael.s.wierbonics@usace.army.mil**

The District Engineer has received a permit application to conduct work in waters of the United States from **Jackson Woods Investment, LLC, 87 Main Street, Rutland, Massachusetts**. This work is proposed in non-tidal wetlands at an approximately  $\pm 63.2$ -acre, undeveloped, forested parcel on Union Street in Holden, Massachusetts.

The project proposes to construct an 88-lot residential subdivision and appurtenances located off of Union Street in Holden, Massachusetts. In order to access upland portions of the site for the residential subdivision, two wetland crossings will be constructed. This work involves the discharge of approximately 9,862 square feet (sf) of fill within non-tidal wetlands. Total permanent fill in non-tidal wetlands for the proposed project will be approximately 6,492 sf or 0.16 acres. Approximately 2,920 sf of temporary fill will be discharged for the grading the wetlands to direct flow into the culverts and for construction equipment access. Temporary fills will be restored to pre-existing grades and seeded with native vegetation. The first wetland crossing will permanently fill approximately 2,284 sf of non-tidal wetlands for the installation of a 60-inch high density polyethylene (HDPE) culvert with a large plunge pool at the inlet and wingwalls at the outlet and will temporarily fill approximately 1,220 sf of non-tidal wetlands for grading. The second wetland crossing will permanently fill approximately 4,658 sf for the installation of a 48-inch HDPE culvert with a ten-foot by 6-foot drop inlet structure and a 6-foot wide by 30-inch high weir and wingwalls at the outlet. Temporary fills associated with this culvert include approximately 1,700 sf for construction equipment access.

The work is shown on the attached plans entitled "GREENWOOD II LOCATED ON UNION STREET HOLDEN, MASSACHUSETTS" on 10 sheets, and dated "3/26/18" and on plans entitled "AMENDED DEFINITIVE PLAN GREENWOOD II LOCATED ON UNION STREET IN HOLDEN, MASSACHUSETTS" on three sheets and dated "September 07, 2015" and "January 24, 2019".

The applicant has taken measures to reduce impacts to wetlands throughout the initial permitting process. The first wetland crossing was redesigned at the behest of the US Army Corps of Engineers and the Massachusetts Dept. of Environmental Protection, which reduced the original wetland impacts by approximately 300 sf. Unavoidable impacts to non-tidal wetlands will be mitigated for through the creation of approximately 14,485 sf of palustrine wetland replication.

## **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.

**CENAE-R**  
**FILE NO. NAE-2018-00850**

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 U.S. Army Corps of Engineers, New England District (Corps), 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. The Corps will consider all comments received 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 Corps is reviewing the application for the potential impact on Federally-listed threatened or endangered species and their designated critical habitat pursuant to section 7 of the Endangered Species Act as amended. Our review will be concluded prior to the final decision.

**OTHER GOVERNMENT AUTHORIZATIONS**

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.

**COMMENTS**

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 Mike Wierbonics at (978) 318-8723, (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.**

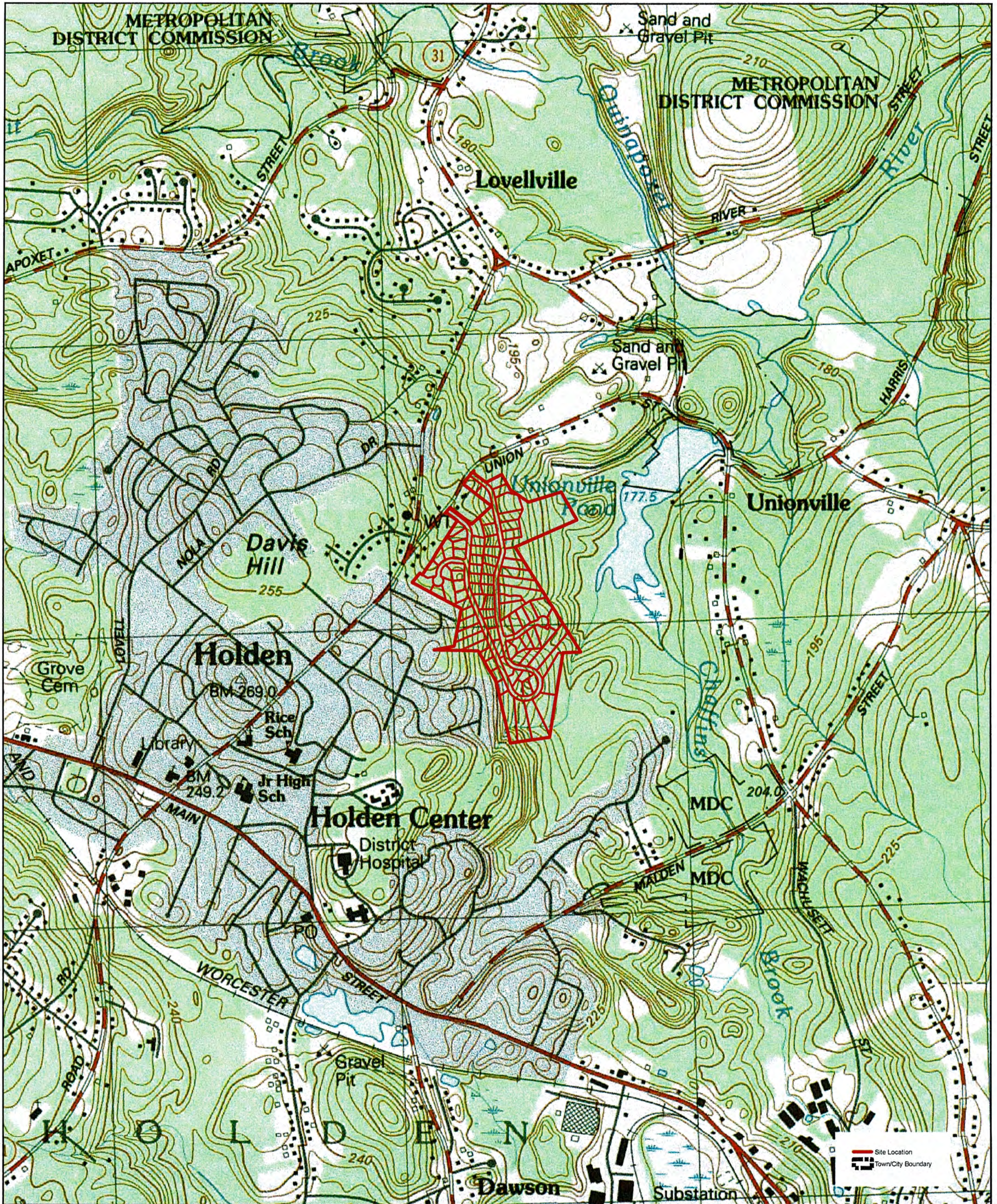


**Barbara H. Newman**  
**Chief, Permits and Enforcement Branch**  
**Regulatory Division**

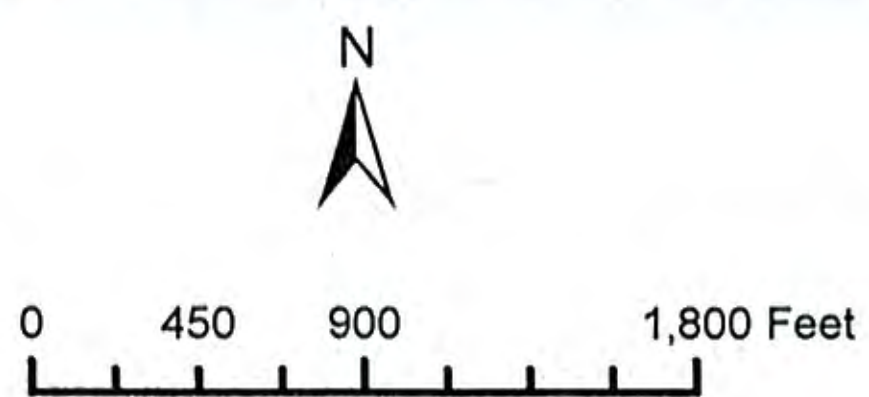
If you would prefer not to continue receiving Public Notices by email, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at [bettina.m.chaisson@usace.army.mil](mailto:bettina.m.chaisson@usace.army.mil). You may also check here ( ) and return this portion of the Public Notice to: Bettina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

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

<b>MASSACHUSETTS PUBLIC NOTICE WORKSHEET</b>		<b>Deadline:</b> 30-day <input checked="" type="checkbox"/> or 15-day <input type="checkbox"/>
<b>I. General Information</b>		
Project Name: Greenwood II Subdivision	File Number: NAE-2018-00850	Project Manager: Mike Wierbonics
(If applicable) Date of 401 WQC application: **Is applicable but date unknown	(If applicable) Date CZM Consistency Statement sent to State: N?A	(If applicable) Date Suitability Determination completed for open water disposal: N/A
<b>II. Admin, be sure to give the signed public notice back to the PM. Attach the electronic public notice mailing list and the record of copies sent per III below. The electronic public notice mailing list includes the U.S. Congressional representatives and senators in MA.</b>		
<b>III. Admin, mail paper copies or electronic copies via email (if known) to the following.</b>		
Applicant: Clealand Blair, Jr. Jackson Woods Investments, LLC 87 Main Street Rutland, Massachusetts 01543 cleajr@blairhomes.com	Agent: Lucas Environmental, LLC Christopher Lucas 500A Washington Street Quincy, Massachusetts 02169 cml@lucasenvironmental.net	
<u>Mayor/Selectman/Town Manager:</u> Peter Lukes Town Manager Town of Holden 1204 Main Street Holden, Massachusetts 01520	Conservation Commission (get email address from community website): Holden Conservation Commission Town of Holden 1204 Main Street Holden, Massachusetts 01520	
Other Town Officials:	<u>Postmaster</u> (with request to post): 01520	
<ul style="list-style-type: none"> <li>• Brona Simon, SHPO, MA Historic Commission, 220 Morrissey Blvd, Boston, MA 02125-3314.</li> <li>• Bettina Washington, Wampanoag THPO, Wampanoag Tribe of Gay Head (Aquinnah), 20 Black Brook Road, Aquinnah, MA 02535</li> <li>• Ramona Peters, THPO, Mashpee Wampanoag Tribe, 483 Great Neck Road South, Mashpee, MA 02649</li> <li>• Narragansett THPO, Narragansett Indian Longhouse, 4425 South County Trail, Charlestown, RI 02183</li> </ul>		
Abutters: See attached list.		
<p>33 CFR 325.3(d)(2) requires public notices to the first five agencies below. Check the appropriate boxes if the activity involves:</p> <p><input type="checkbox"/> Structures or dredging along the shores of the seas or Great Lakes, to the Coastal Engineering Research Center, Washington, DC 20016.</p> <p><input type="checkbox"/> Construction of fixed structures or artificial islands on the outer continental shelf or in the territorial seas, to the Assistant Secretary of Defense [Manpower, Installations, and Logistics (ASD(MI&amp;L))], Washington, DC 20310; the Director, Defense Mapping Agency (Hydrographic Center) Washington, DC 20390, Attention, Code NS12; and the National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Spring, Maryland 20910– 3282, and to affected military installations and activities.</p> <p><input type="checkbox"/> Construction of structures to enhance fish propagation (e.g., fishing reefs) along the coasts of the United States, to the Director, Office of Marine Recreational Fisheries, National Marine Fisheries Service, Washington, DC 20235.</p> <p><input type="checkbox"/> Construction of structures which may affect aircraft operations or for purposes associated with seaplane operations, to the Regional Director of the FAA.</p>		



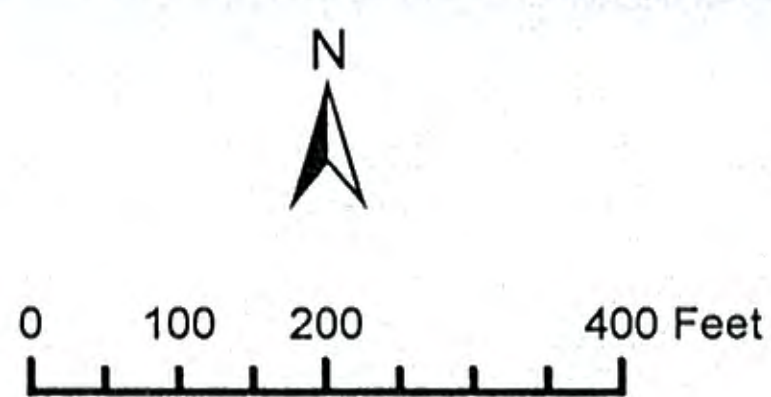
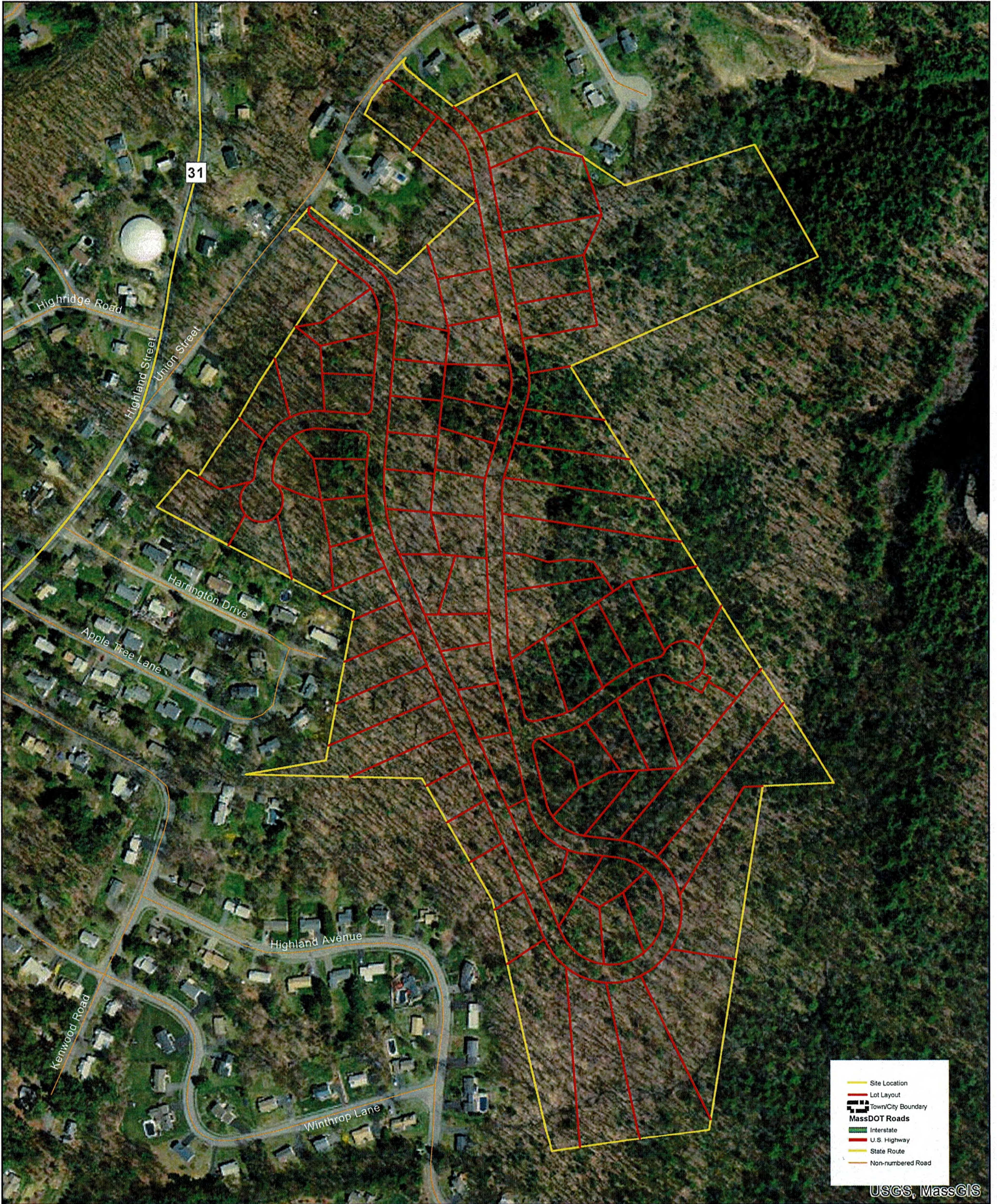
Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs, USGS Topographic Quadrangle Images



**USGS Map**  
 Greenwood II  
 Union Street  
 Holden, MA

Sheet 1 of 10



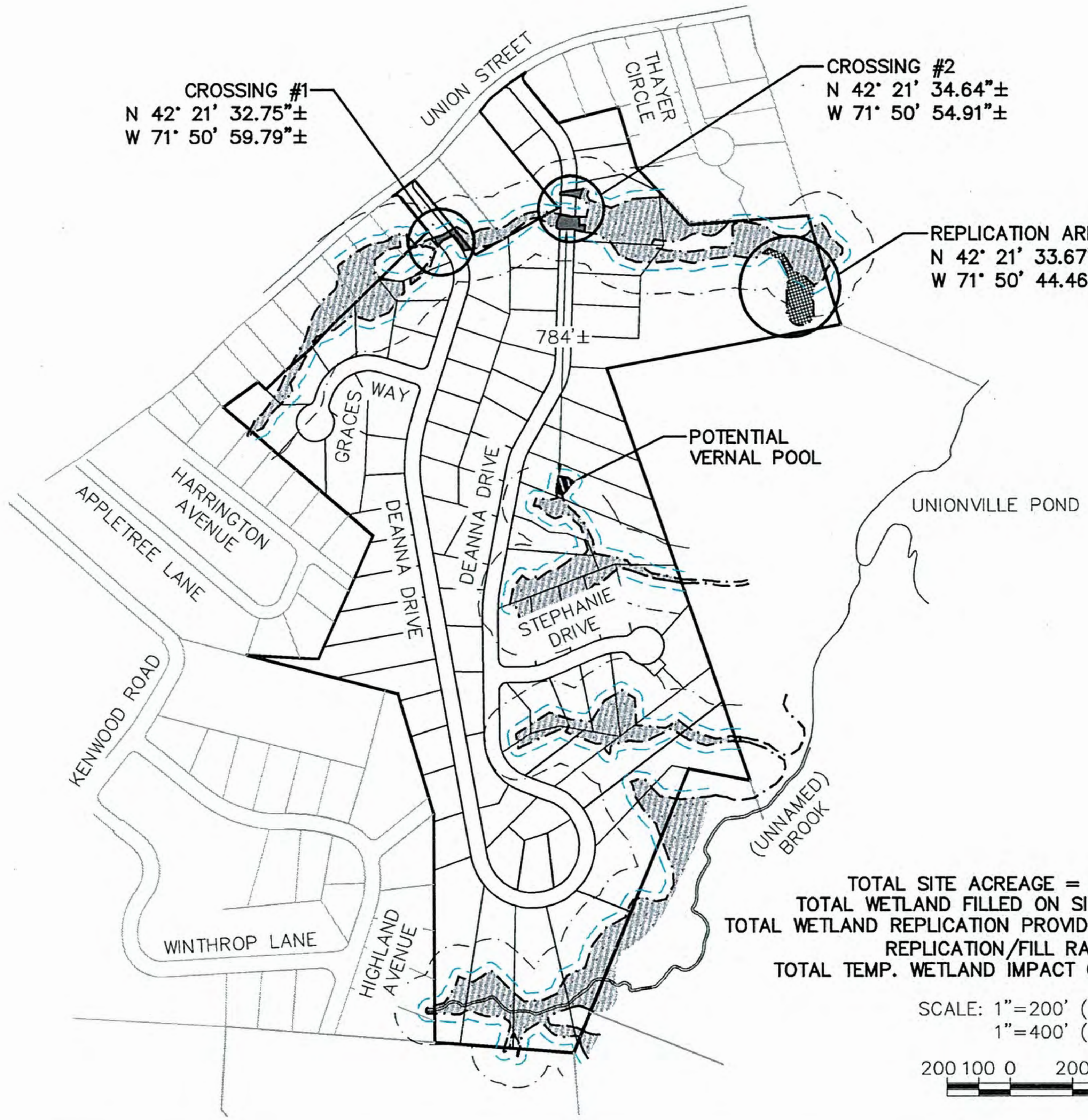


**Aerial Map  
Greenwood II  
Union Street  
Holden, MA**

**Sheet 2 of 10**



Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs; USGS Color Ortho Imagery - 30cm (2013/2014)



TOTAL SITE ACREAGE = 63.2± ACRES  
 TOTAL WETLAND FILLED ON SITE = 7,241.72 S.F.  
 TOTAL WETLAND REPLICATION PROVIDED ON SITE = 14,485 S.F.  
 REPLICATION/FILL RATIO = 2:1  
 TOTAL TEMP. WETLAND IMPACT ON SITE = 3,195 S.F.

SCALE: 1"=200' (22x34)  
 1"=400' (11x17)



FIGURES PREPARED BY:  
**ProTerra**  
 DESIGN GROUP, LLC  
 4 Bay Road  
 Building A, Suite 200  
 Hadley, MA 01035  
 (413)320-4918

ENGINEER/DESIGNER:  

 New England Environmental Design, LLC  
 Environmental Consultants  
 Civil Engineering Consultants  
 Land Surveying Consultants  
 P.O. Box 378 Rutland, MA 01543  
 (508) 829-7222 Ph (508) 829-7522 Fax

NO.	DATE	REVISIONS
1	3/26/18	ISSUED FOR REVIEW
2	5/25/18	REVISED WETLANDS

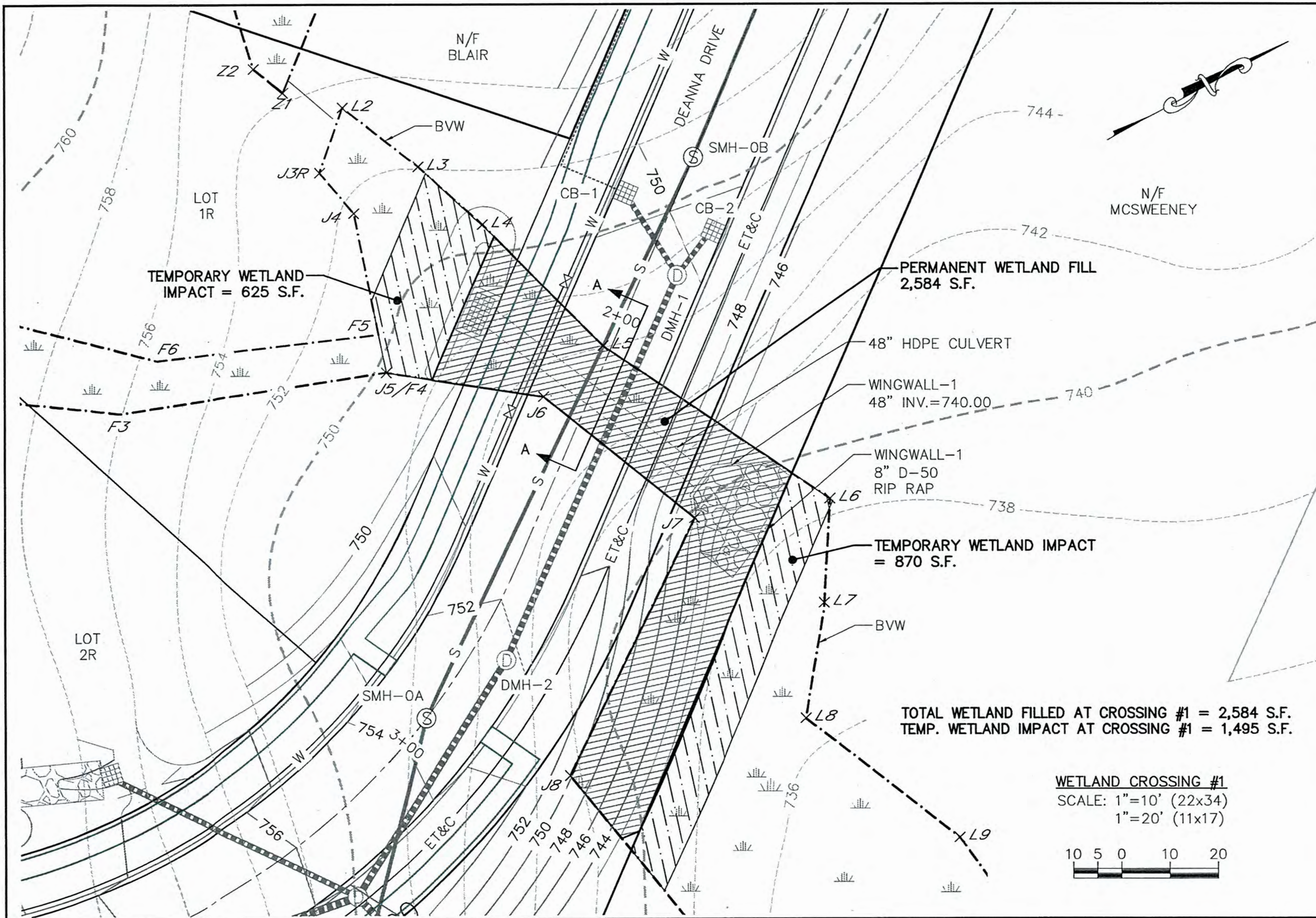
PROJECT TITLE:  
 GREENWOOD II  
 LOCATED ON  
 UNION STREET  
 HOLDEN, MASSACHUSETTS

APPLICANT:  
 JACKSON WOODS INVESTMENTS, LLC  
 87 MAIN STREET  
 RUTLAND, MA 01543

DATE: 3/26/18  
 DRAWN: STZ  
 CHECK: JMM/TEJ  
 SCALE: SEE PLAN  
 JOB NO.: 16-026

SHEET TITLE:  
 CROSSING &  
 REPLICATION PLANS

**FIGURE**  
 2.6



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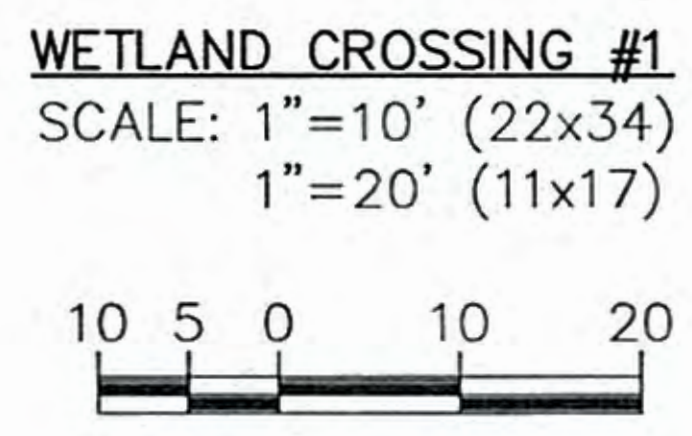
PROJECT TITLE:  
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APPLICANT:  
**JACKSON WOODS INVESTMENTS, LLC  
 87 MAIN STREET  
 RUTLAND, MA 01543**

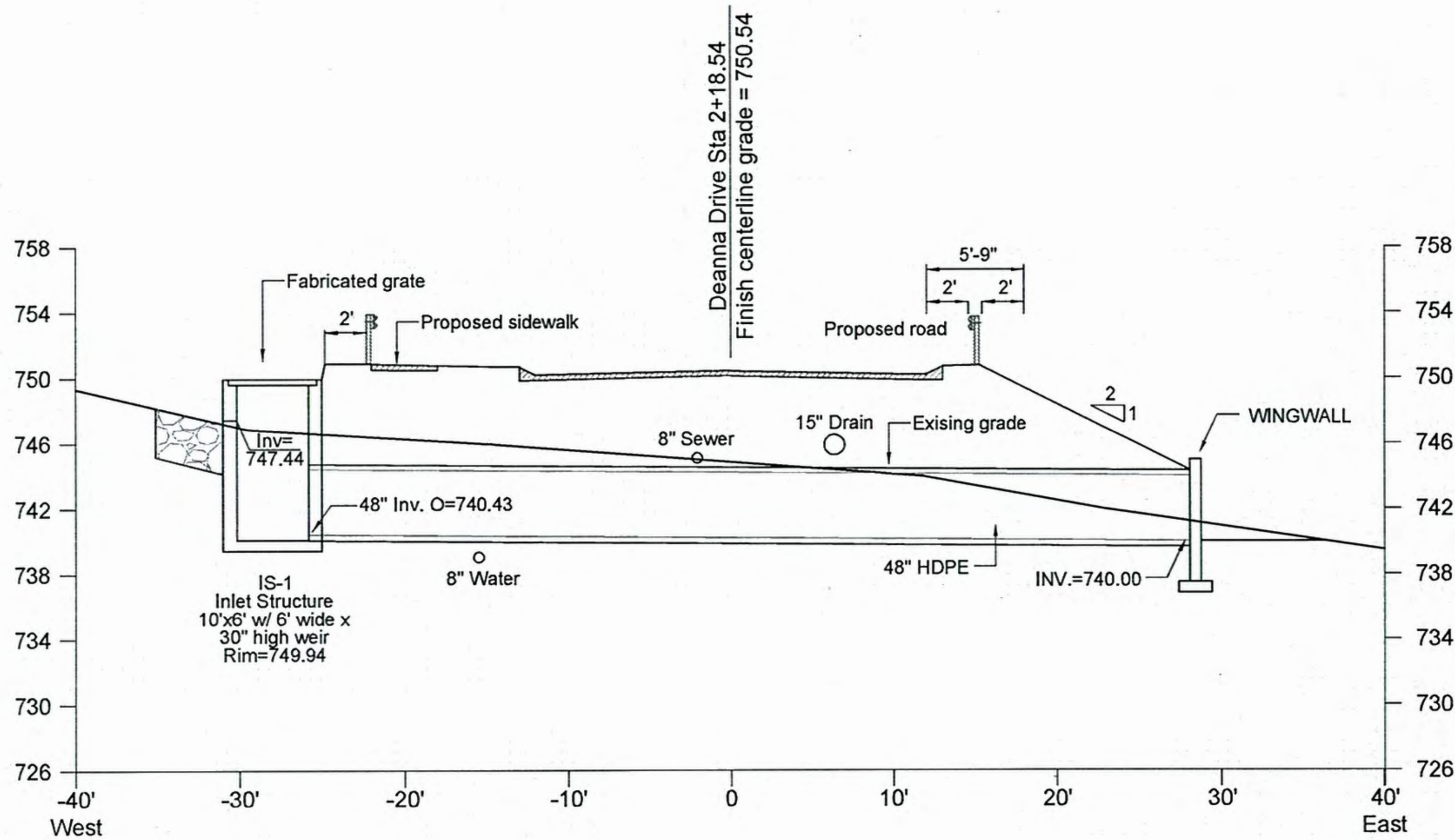
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**CROSSING & REPLICATION PLANS**

**FIGURE 2.7**







WETLAND CROSSING #1 (STATION 2+18.54)  
SECTION VIEW

SCALE: 1"=5' (22x34)  
1"=10' (11x17)

**GENERAL WETLAND CROSSING NOTES:**

1. PROVIDE EROSION CONTROL BARRIERS WHERE SHOWN UPSTREAM AND DOWNSTREAM OF THE CROSSING LOCATION.
2. PERFORM CONSTRUCTION OF CROSSING DURING LOW FLOW OR NO FLOW.
3. IF FLOW IS ENCOUNTERED, PROVIDE TEMPORARY SANDBAG DAM AND PUMP SYSTEM UPSTREAM TO DIVERT STREAM AROUND CONSTRUCTION AREA. PROVIDE DEWATERING BASIN IF PUMPING IS REQUIRED.
4. EXCAVATE REPLICATION AREA TO SUBGRADE AND UTILIZE TOPSOIL REMOVED FROM PROPOSED CROSSING WITH REPLICATION AREA (AUGMENT SOILS PER DEP REPLICATION GUIDELINES) REPLICATION AREA SHALL BE PLANTED IN ACCORDANCE WITH DEP REPLICATION GUIDELINES.
5. PROVIDE 12" SCREENED GRAVEL FOR FOOTING BEDDING AND INSTALL FOOTINGS AND CULVERT.
6. TRENCH / INSTALL AND BACKFILL DRAINAGE, WATER AND UTILITIES.
7. RESTORE ANY DISTURBANCE TO EXISTING WETLANDS.

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PROJECT TITLE: GREENWOOD II LOCATED ON UNION STREET HOLDEN, MASSACHUSETTS  
APPLICANT: JACKSON WOODS INVESTMENTS, LLC 87 MAIN STREET RUTLAND, MA 01543

DATE: 3/26/18

DRAWN: STZ

CHECK: JMM/TEJ

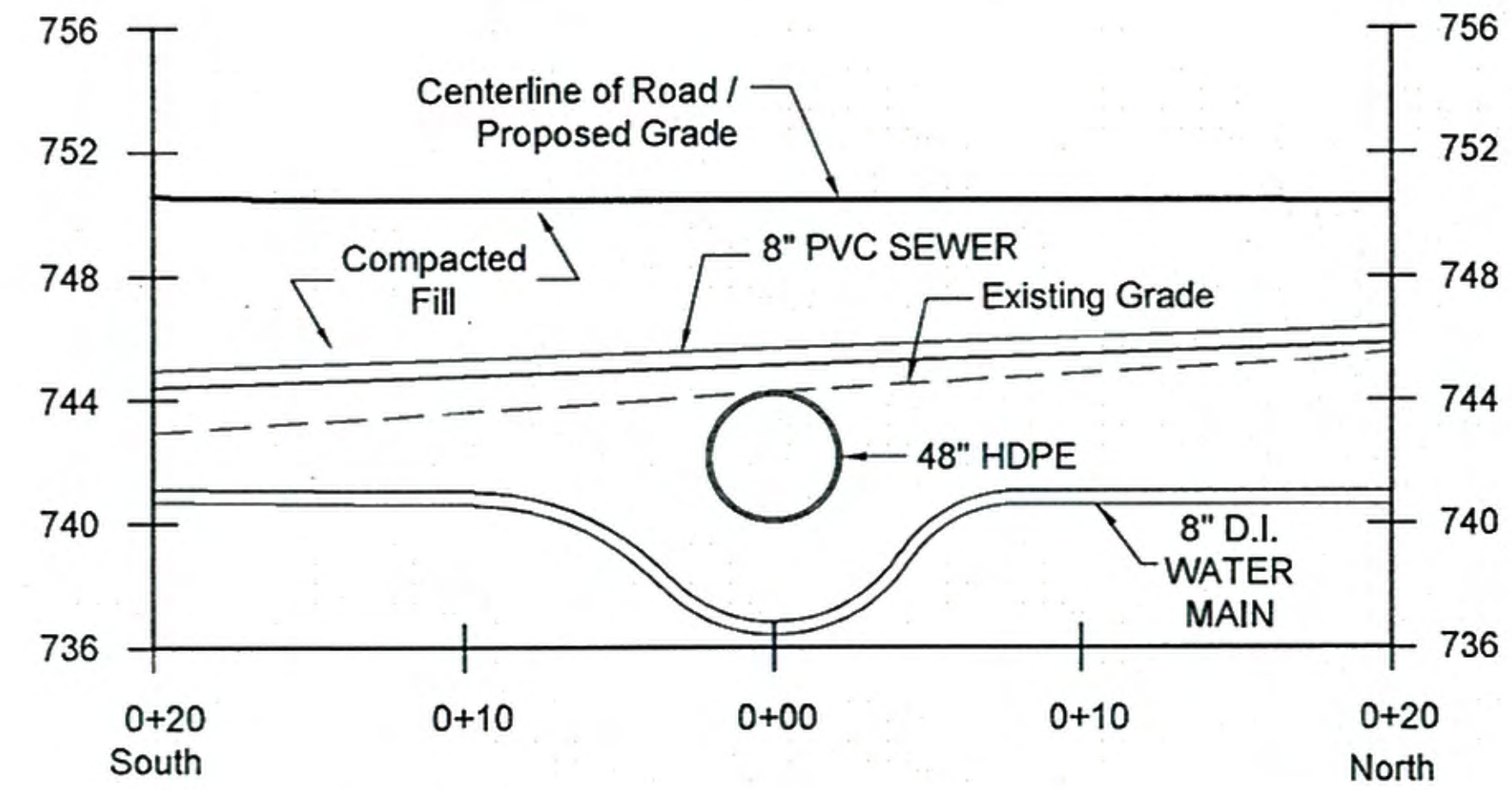
SCALE: SEE PLAN

JOB NO.: 16-026

SHEET TITLE:

CROSSING & REPLICATION PLANS

FIGURE  
2.8



**WETLAND CROSSING #1 (SECTION A-A)  
 @ ROAD CENTERLINE**  
 SCALE: 1"=5' (22x34)  
 1"=10' (11x17)

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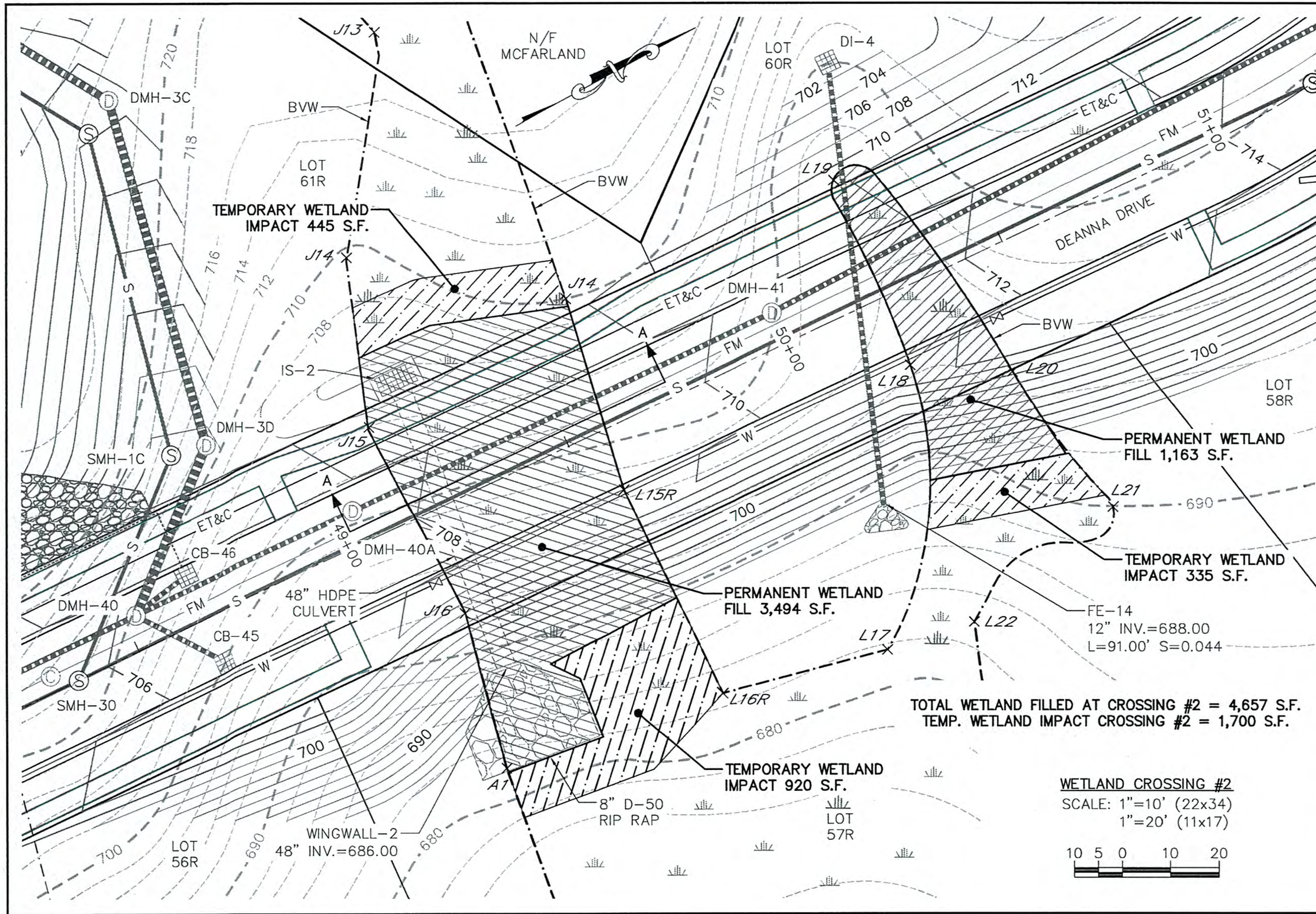
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**CROSSING &  
 REPLICATION PLANS**

**FIGURE  
 2.9**



FIGURES PREPARED BY:  
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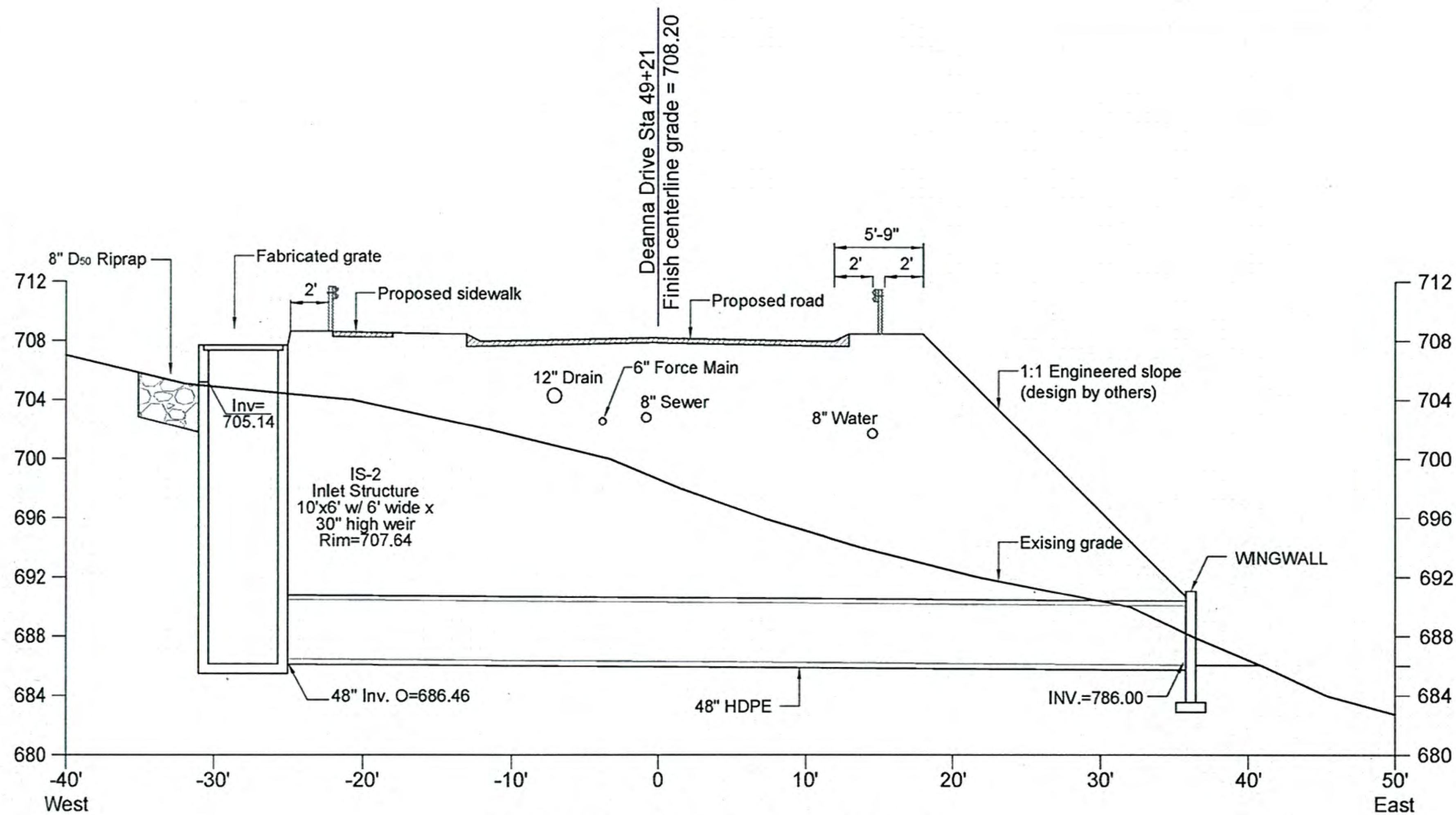
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**JACKSON WOODS INVESTMENTS, LLC 87 MAIN STREET RUTLAND, MA 01543**

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SHEET TITLE:  
**CROSSING & REPLICATION PLANS**

**FIGURE 2.10**

**WETLAND CROSSING #2**  
 SCALE: 1"=10' (22x34)  
 1"=20' (11x17)



WETLAND CROSSING #2 (STATION 49+21)  
SECTION VIEW

SCALE: 1"=5' (22x34)  
1"=10' (11x17)

GENERAL WETLAND CROSSING NOTES:

1. PROVIDE EROSION CONTROL BARRIERS WHERE SHOWN UPSTREAM AND DOWNSTREAM OF THE CROSSING LOCATION.
2. PERFORM CONSTRUCTION OF CROSSING DURING LOW FLOW OR NO FLOW.
3. IF FLOW IS ENCOUNTERED, PROVIDE TEMPORARY SANDBAG DAM AND PUMP SYSTEM UPSTREAM TO DIVERT STREAM AROUND CONSTRUCTION AREA. PROVIDE DEWATERING BASIN IF PUMPING IS REQUIRED.
4. EXCAVATE REPLICATION AREA TO SUBGRADE AND UTILIZE TOPSOIL REMOVED FROM PROPOSED CROSSING WITH REPLICATION AREA (AUGMENT SOILS PER DEP REPLICATION GUIDELINES) REPLICATION AREA SHALL BE PLANTED IN ACCORDANCE WITH DEP REPLICATION GUIDELINES.
5. PROVIDE 12" SCREENED GRAVEL FOR FOOTING BEDDING AND INSTALL FOOTINGS AND CULVERT.
6. TRENCH / INSTALL AND BACKFILL DRAINAGE, WATER AND UTILITIES.
7. RESTORE ANY DISTURBANCE TO EXISTING WETLANDS.

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(413)320-4918

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APPLICANT: **JACKSON WOODS INVESTMENTS, LLC 87 MAIN STREET RUTLAND, MA 01543**

DATE: 3/26/18  
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CHECK: JMM/TEJ  
SCALE: SEE PLAN  
JOB NO.: 16-026

SHEET TITLE:  
**CROSSING & REPLICATION PLANS**

**FIGURE 2.11**



FIGURES PREPARED BY:  
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 Haverhill, MA 01035  
 (413)320-4818

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**New England Environmental Design, LLC**  
 Environmental Consultants  
 Civil Engineering Consultants  
 Land Engineering Consultants  
 100 North Main Street  
 P.O. Box 376 Haverhill, MA 01033  
 (603) 828-2222 Ph. (603) 828-2522 Fax

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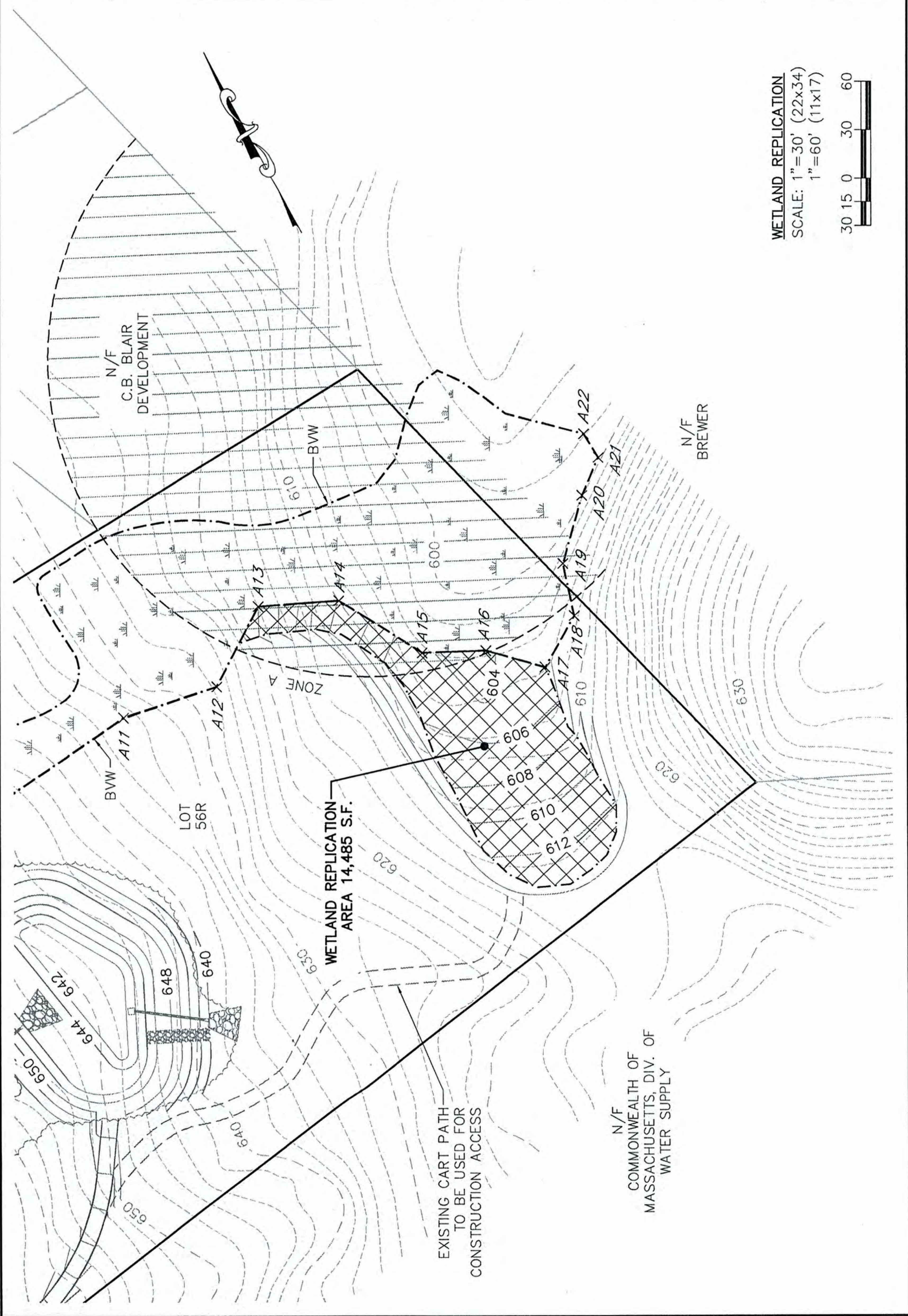
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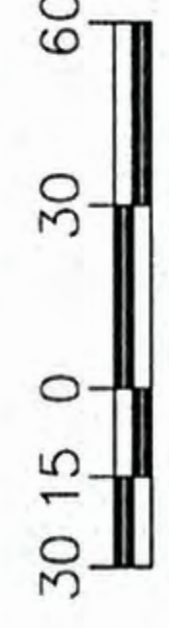
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 SCALE: SEE PLAN  
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CROSSING &  
 REPLICATION PLANS

**FIGURE  
 2.13**



WETLAND REPLICATION  
 SCALE: 1"=30' (22x34)  
 1"=60' (11x17)

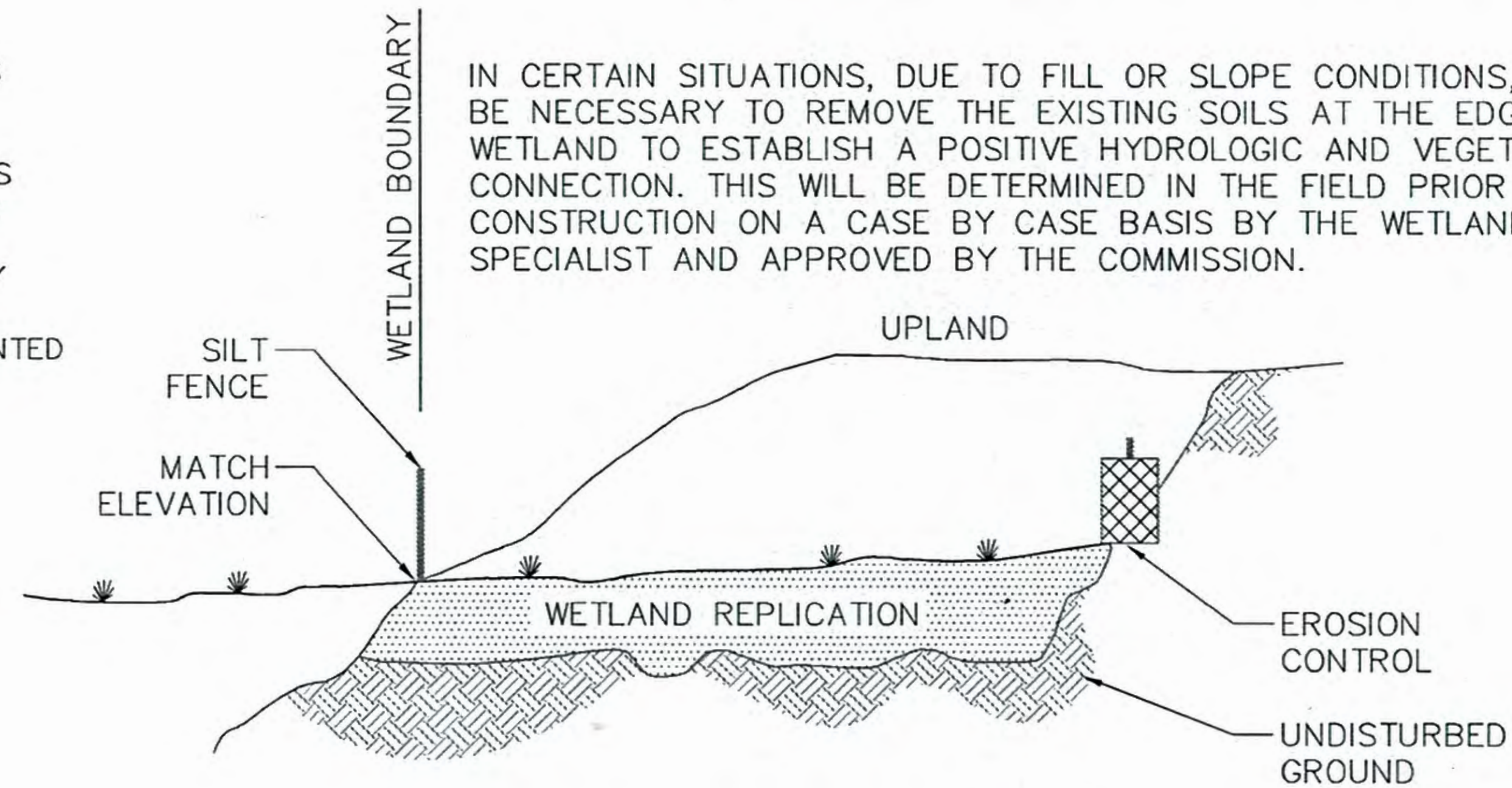


**CONSTRUCTION SEQUENCE FOR WETLAND REPLICATION:**

1. INSTALL PROPERLY TRENCHED SILT FENCING ALONG EDGE OF WETLANDS
2. EXISTING AND PROPOSED WETLAND BOUNDARIES ARE TO BE CLEARLY MARKED PRIOR TO CONSTRUCTION .
3. CUT TREES, STRIP, GRUB, AND EXCAVATE REPLICATION AREA. ANY LARGE ROCKS ENCOUNTERED DURING EXCAVATION MAY BE LEFT IN PLACE TO PROVIDE ADDITIONAL WILDLIFE HABITAT.
4. IF STOCKPILING ANY EXCAVATED WETLAND SOIL IT SHALL BE FOR SHORT PERIODS OF TIME ONLY AND SUCH PILES SHALL BE COVERED TO PREVENT LEACHING OR DEHYDRATION.
5. THE SPECIFIED PLANT SPECIES SHALL BE PLANTED IN THE REPLICATION AREA BY TRANSPLANT FROM ON-SITE OR NURSERY STOCK. SHRUBS SHALL BE PLANTED WITH AN AVERAGE SPACING OF 6' o.c., WOOD VEGETATION SHALL NOT BE PLANTED IN ROWS.
6. UPON COMPLETION OF GRADING OF THE REPLICATED AREA EROSION CONTROL SHALL BE INSTALLED ALONG THE UPPER BOUNDARY OF THE WETLAND REPLICATION AREA.
7. THE REPLICATION AREA SHALL BE MULCHED WITH 1 TO 2 INCHES OF LEAF COMPOST OR OR STRAW TO PROVIDE TEMPORARY EROSION CONTROL AND MOISTURE RETENTION.
8. THE REPLICATED AREAS ARE TO BE INSPECTED UPON COMPLETION AND DURING EACH OF THE TWO GROWING SEASONS FOLLOWING CONSTRUCTION.
9. EROSION CONTROL SHALL REMAIN THROUGHOUT CONSTRUCTION AND REPAIRED OR REPLACED AS NECESSARY.

ALL WETLAND REPLICATION AREAS ARE TO BE SEEDED WITH NEW ENGLAND WETLAND SEED MIX.

IN CERTAIN SITUATIONS, DUE TO FILL OR SLOPE CONDITIONS, IT MAY BE NECESSARY TO REMOVE THE EXISTING SOILS AT THE EDGE OF WETLAND TO ESTABLISH A POSITIVE HYDROLOGIC AND VEGETATIVE CONNECTION. THIS WILL BE DETERMINED IN THE FIELD PRIOR TO CONSTRUCTION ON A CASE BY CASE BASIS BY THE WETLAND SPECIALIST AND APPROVED BY THE COMMISSION.



**WETLAND REPLICATION CONSTRUCTION**  
NOT TO SCALE

**WETLAND ALTERATIONS AREAS**  
 TOTAL WETLAND FILL AREA = 7,241.72 S.F.  
 TOTAL REPLICATION AREA REQUIRED = 14,482 S.F.  
 TOTAL REPLICATION AREA PROVIDED = 14,485 S.F.  
 AREA TEMPORARY ALTERED BY CONSTRUCTION = 3,195 S.F.

FIGURES PREPARED BY:  
**ProTerra**  
 DESIGN GROUP, LLC  
 4 Bay Road  
 Building A, Suite 200  
 Hopedon, MA 01035  
 (413)320-4918

ENGINEER/DESIGNER:  
  
**New England Environmental Design, LLC**  
 Environmental Consultants  
 Civil Engineering Consultants  
 Land Surveying Consultants  
 P.O. Box 376 Rutland, MA 01543  
 (508) 829-7222 Ph. (508) 829-7522 Fax

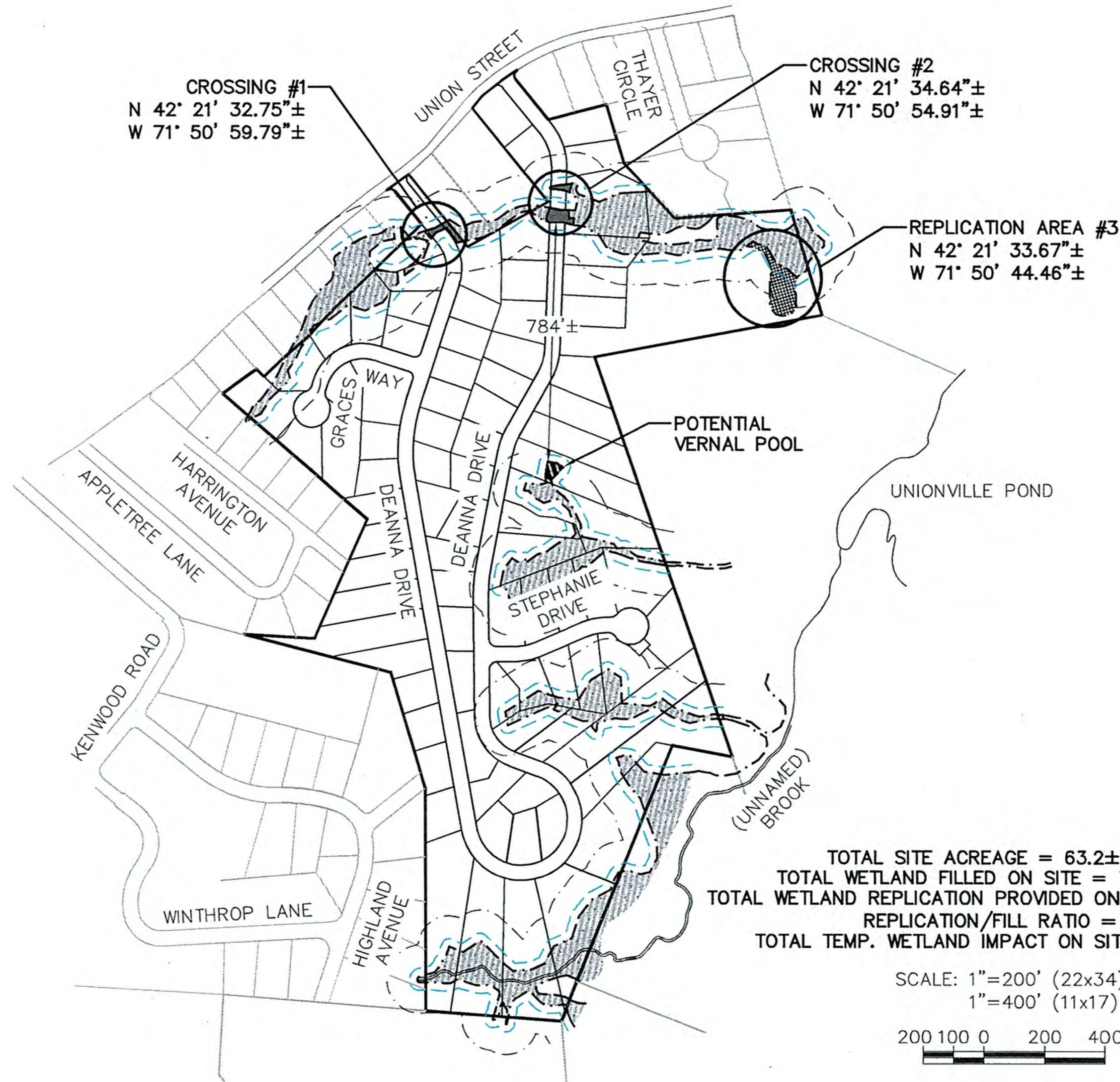
NO.	DATE	REVISIONS
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2	3/25/18	REVISED WETLANDS

PROJECT TITLE: **GREENWOOD II LOCATED ON UNION STREET HOLDEN, MASSACHUSETTS**  
 APPLICANT: **JACKSON WOODS INVESTMENTS, LLC 87 MAIN STREET RUTLAND, MA 01543**

DATE: 3/26/18  
 DRAWN: STZ  
 CHECK: JMM/TEJ  
 SCALE: SEE PLAN  
 JOB NO.: 16-026

SHEET TITLE:  
**CROSSING & REPLICATION PLANS**

**FIGURE 2.14**



FIGURES PREPARED BY:  
**ProTerra**  
 DESIGN GROUP, LLC  
 4 Boy Road  
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 RUTLAND, MA 01543**

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SHEET TITLE:  
**CROSSING &  
 REPLICATION PLANS**

Sheet 3  
 of 10



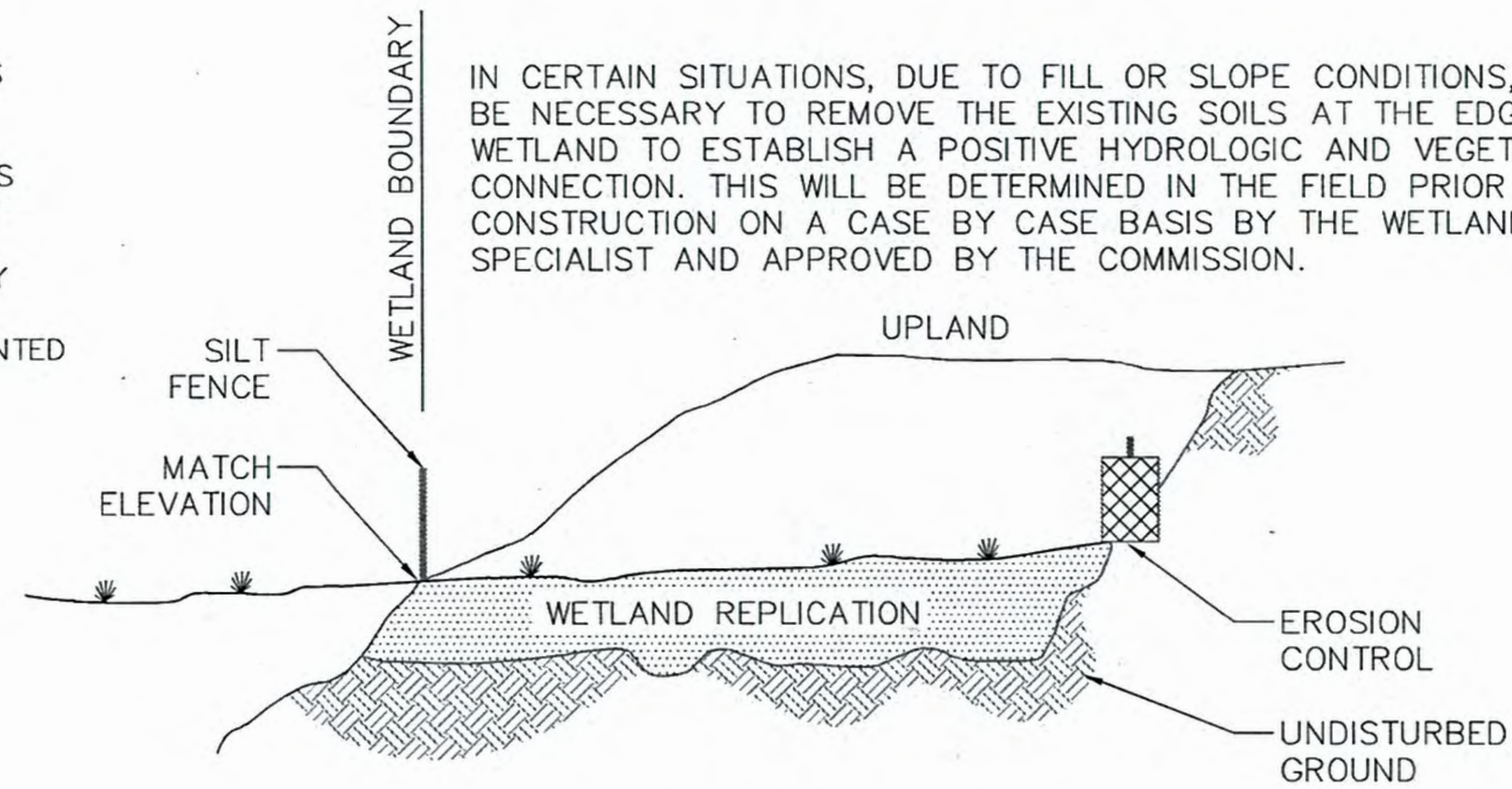


**CONSTRUCTION SEQUENCE FOR WETLAND REPLICATION:**

1. INSTALL PROPERLY TRENCHED SILT FENCING ALONG EDGE OF WETLANDS
2. EXISTING AND PROPOSED WETLAND BOUNDARIES ARE TO BE CLEARLY MARKED PRIOR TO CONSTRUCTION .
3. CUT TREES, STRIP, GRUB, AND EXCAVATE REPLICATION AREA. ANY LARGE ROCKS ENCOUNTERED DURING EXCAVATION MAY BE LEFT IN PLACE TO PROVIDE ADDITIONAL WILDLIFE HABITAT.
4. IF STOCKPILING ANY EXCAVATED WETLAND SOIL IT SHALL BE FOR SHORT PERIODS OF TIME ONLY AND SUCH PILES SHALL BE COVERED TO PREVENT LEACHING OR DEHYDRATION.
5. THE SPECIFIED PLANT SPECIES SHALL BE PLANTED IN THE REPLICATION AREA BY TRANSPLANT FROM ON-SITE OR NURSERY STOCK. SHRUBS SHALL BE PLANTED WITH AN AVERAGE SPACING OF 6' o.c., WOOD VEGETATION SHALL NOT BE PLANTED IN ROWS.
6. UPON COMPLETION OF GRADING OF THE REPLICATED AREA EROSION CONTROL SHALL BE INSTALLED ALONG THE UPPER BOUNDARY OF THE WETLAND REPLICATION AREA.
7. THE REPLICATION AREA SHALL BE MULCHED WITH 1 TO 2 INCHES OF LEAF COMPOST OR OR STRAW TO PROVIDE TEMPORARY EROSION CONTROL AND MOISTURE RETENTION.
8. THE REPLICATED AREAS ARE TO BE INSPECTED UPON COMPLETION AND DURING EACH OF THE TWO GROWING SEASONS FOLLOWING CONSTRUCTION.
9. EROSION CONTROL SHALL REMAIN THROUGHOUT CONSTRUCTION AND REPAIRED OR REPLACED AS NECESSARY.

ALL WETLAND REPLICATION AREAS ARE TO BE SEEDED WITH NEW ENGLAND WETLAND SEED MIX.

IN CERTAIN SITUATIONS, DUE TO FILL OR SLOPE CONDITIONS, IT MAY BE NECESSARY TO REMOVE THE EXISTING SOILS AT THE EDGE OF WETLAND TO ESTABLISH A POSITIVE HYDROLOGIC AND VEGETATIVE CONNECTION. THIS WILL BE DETERMINED IN THE FIELD PRIOR TO CONSTRUCTION ON A CASE BY CASE BASIS BY THE WETLAND SPECIALIST AND APPROVED BY THE COMMISSION.



**WETLAND REPLICATION CONSTRUCTION**  
NOT TO SCALE

**WETLAND ALTERATIONS AREAS**  
 TOTAL WETLAND FILL AREA = 7,241.72 S.F.  
 TOTAL REPLICATION AREA REQUIRED = 14,482 S.F.  
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**ProTerra**  
 DESIGN GROUP, LLC  
 4 Boy Road  
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 Hopedale, MA 01835  
 (413)320-4918

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 P.O. Box 378 Rutland, MA 01543  
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PROJECT TITLE: GREENWOOD II LOCATED ON UNION STREET HOLDEN, MASSACHUSETTS  
 APPLICANT: JACKSON WOODS INVESTMENTS, LLC 87 MAIN STREET RUTLAND, MA 01543

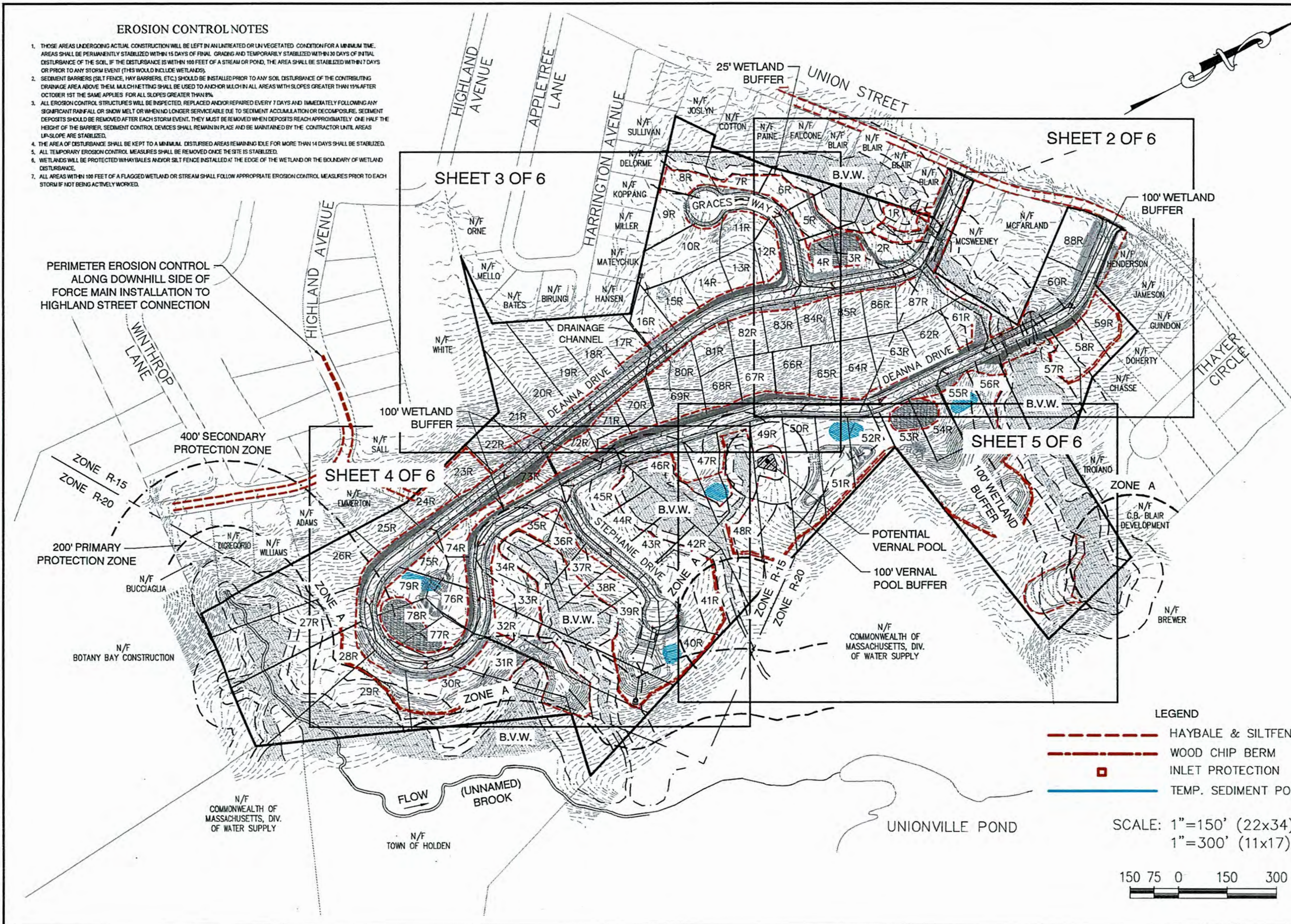
DATE: 3/26/18  
 DRAWN: STZ  
 CHECK: JMM/TEJ  
 SCALE: SEE PLAN  
 JOB NO.: 16-026

SHEET TITLE:  
**CROSSING & REPLICATION PLANS**

**EROSION CONTROL NOTES**

1. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME. AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 100 FEET OF A STREAM OR POND, THE AREA SHALL BE STABILIZED WITHIN 7 DAYS OR PRIOR TO ANY STORM EVENT (THIS WOULD INCLUDE WETLANDS).
2. SEDIMENT BARRIERS (SILT FENCE, HAY BARRIERS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 1% AFTER OCTOBER 1ST THE SAME APPLIES FOR ALL SLOPES GREATER THAN 5%.
3. ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UP-SLOPE ARE STABILIZED.
4. THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 14 DAYS SHALL BE STABILIZED.
5. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
6. WETLANDS WILL BE PROTECTED BY HAYBALES AND/OR SILT FENCE INSTALLED AT THE EDGE OF THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE.
7. ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL FOLLOW APPROPRIATE EROSION CONTROL MEASURES PRIOR TO EACH STORM IF NOT BEING ACTIVELY WORKED.

PERIMETER EROSION CONTROL  
ALONG DOWNHILL SIDE OF  
FORCE MAIN INSTALLATION TO  
HIGHLAND STREET CONNECTION



**LEGEND**

- HAYBALE & SILTFENCE
- WOOD CHIP BERM
- INLET PROTECTION
- TEMP. SEDIMENT POND

SCALE: 1"=150' (22x34)  
1"=300' (11x17)

150 75 0 150 300

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87 MAIN STREET  
RUTLAND, MA 01543**

DATE: 3/26/18  
DRAWN: STZ  
CHECK: JMM/TEJ  
SCALE: SEE PLAN  
JOB NO.: 16-026  
SHEET TITLE:  
**OVERALL  
EROSION CONTROL  
PLAN**

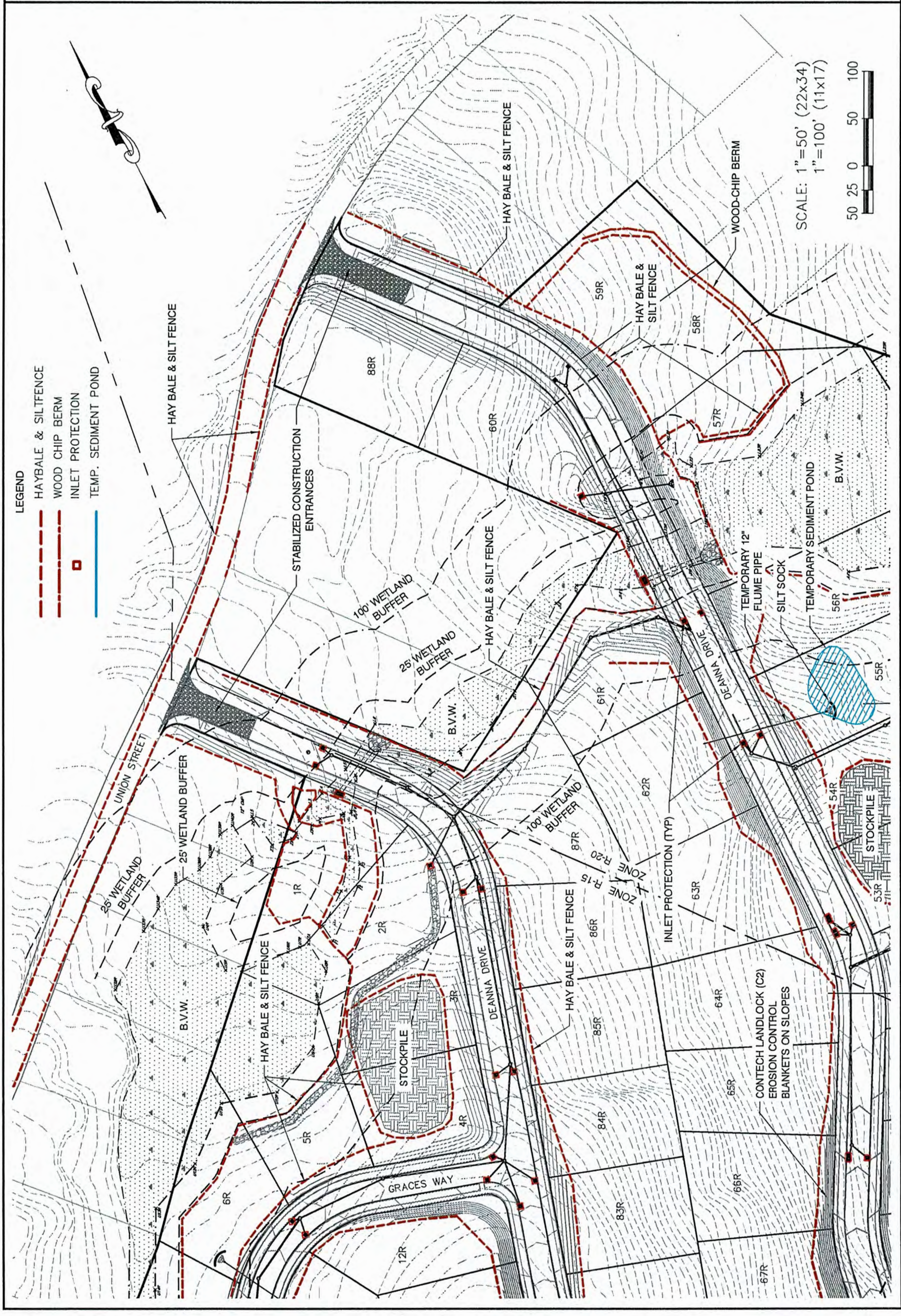
Sheet 6  
of 10

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 87 MAIN STREET  
 RUTLAND, MA 01543

DATE: 3/26/18  
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 CHECK: JMM/TEJ  
 SCALE: SEE PLAN  
 JOB NO.: 16-026  
 SHEET TITLE:  
**EROSION CONTROL PLAN**

Sheet 7  
 of 10



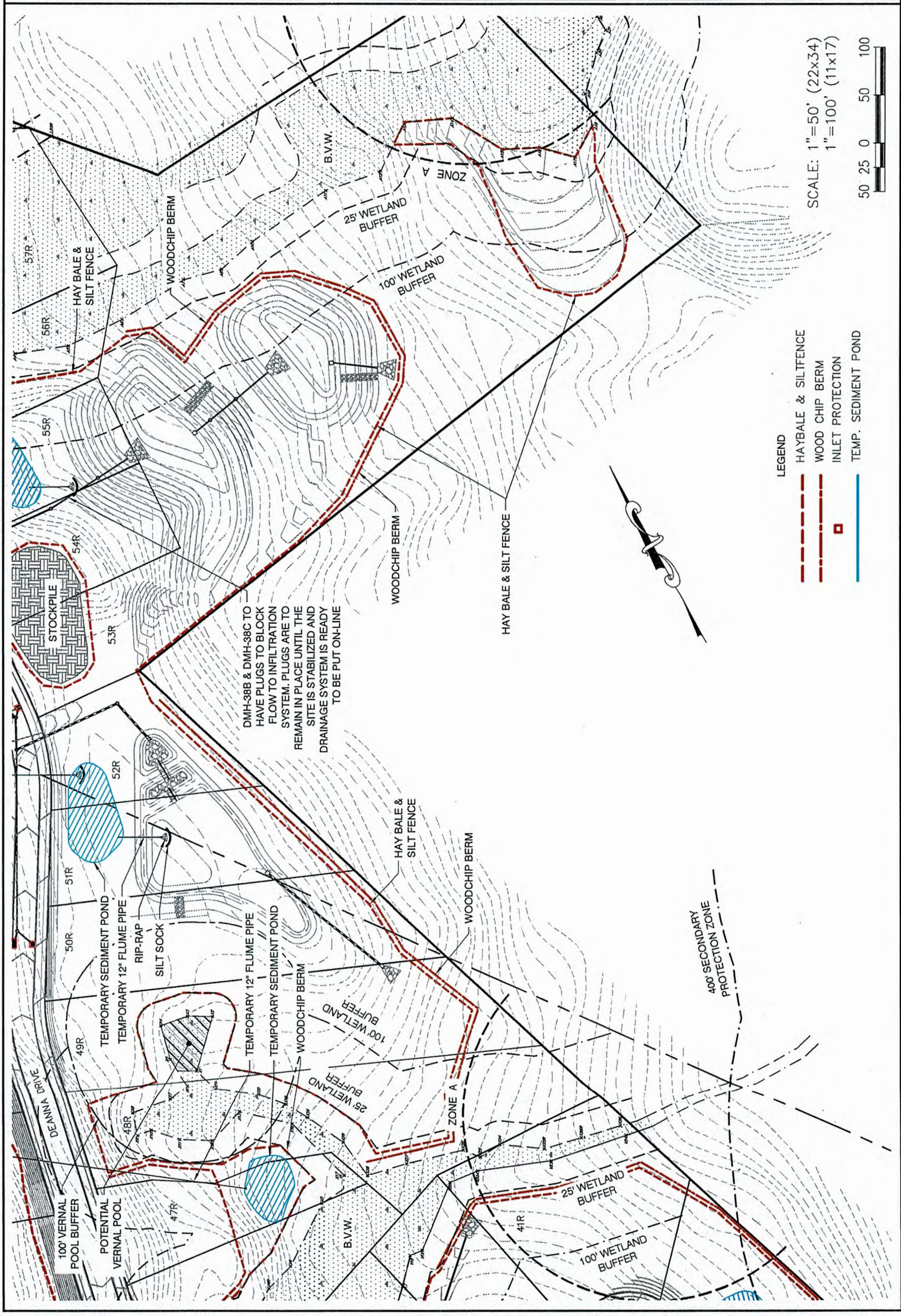
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DATE: 3/26/18  
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 CHECK: JMM/TEJ  
 SCALE: SEE PLAN  
 JOB NO.: 16-026  
 SHEET TITLE:  
**EROSION CONTROL PLAN**

Sheet 8  
 of 10

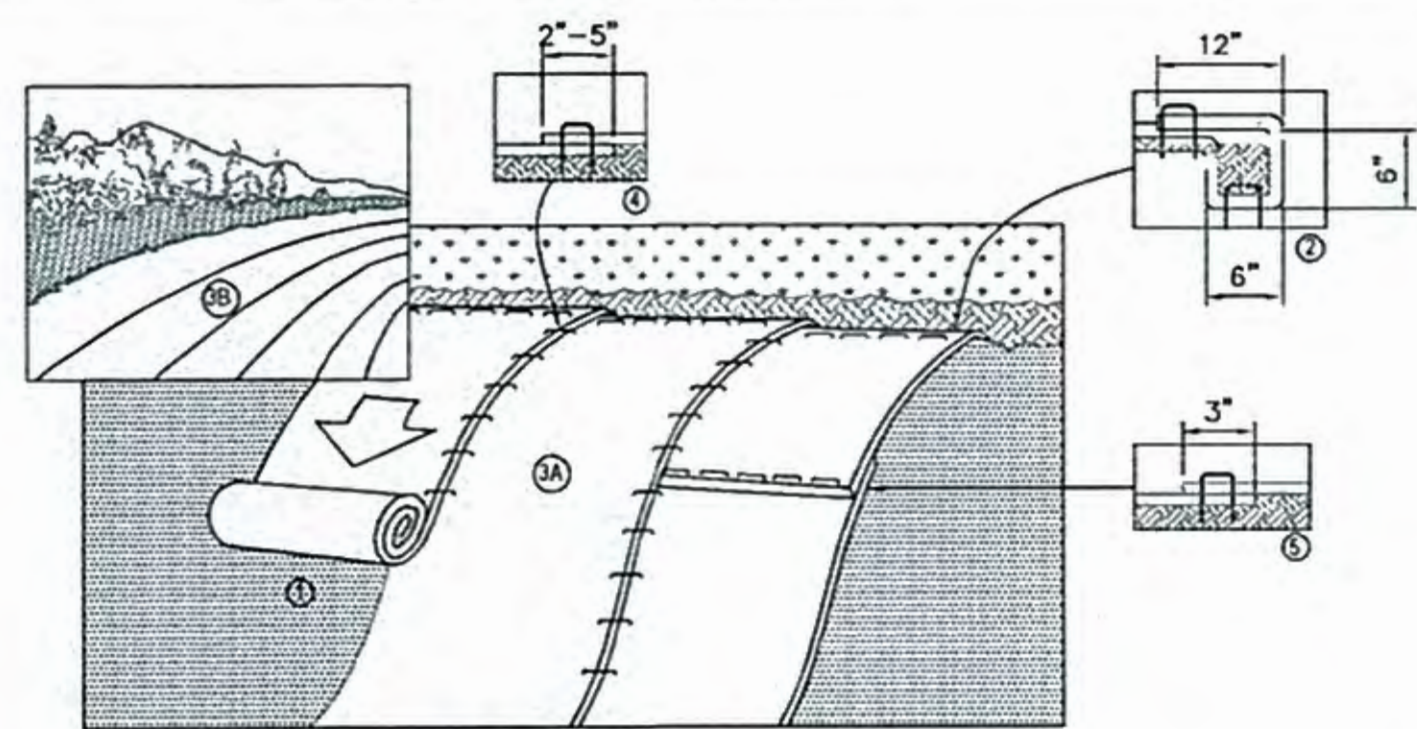


**LEGEND**

- HAYBALE & SILTFENCE
- WOOD CHIP BERM
- INLET PROTECTION
- TEMP. SEDIMENT POND

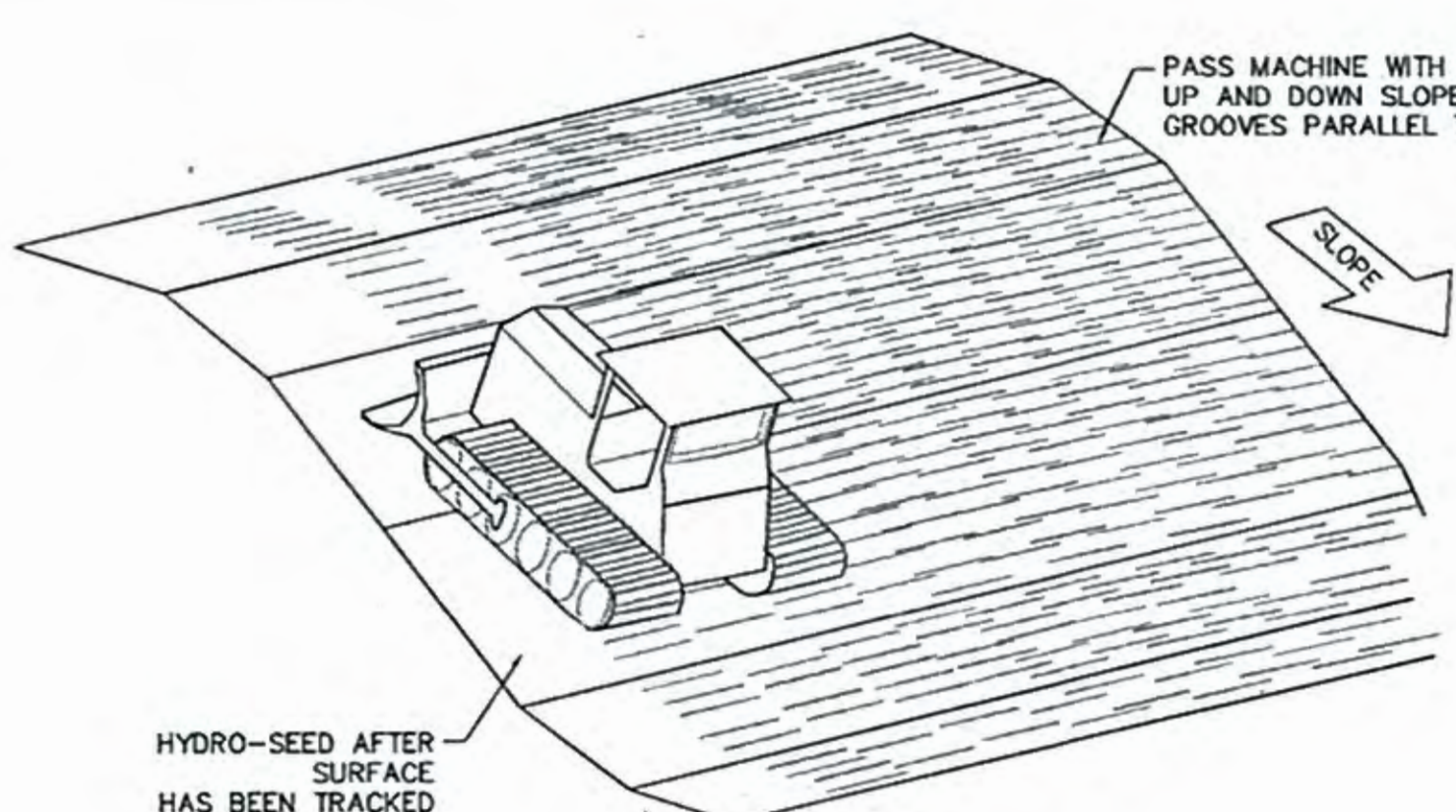
SCALE: 1"=50' (22x34)  
 1"=100' (11x17)

50 25 0 50 100

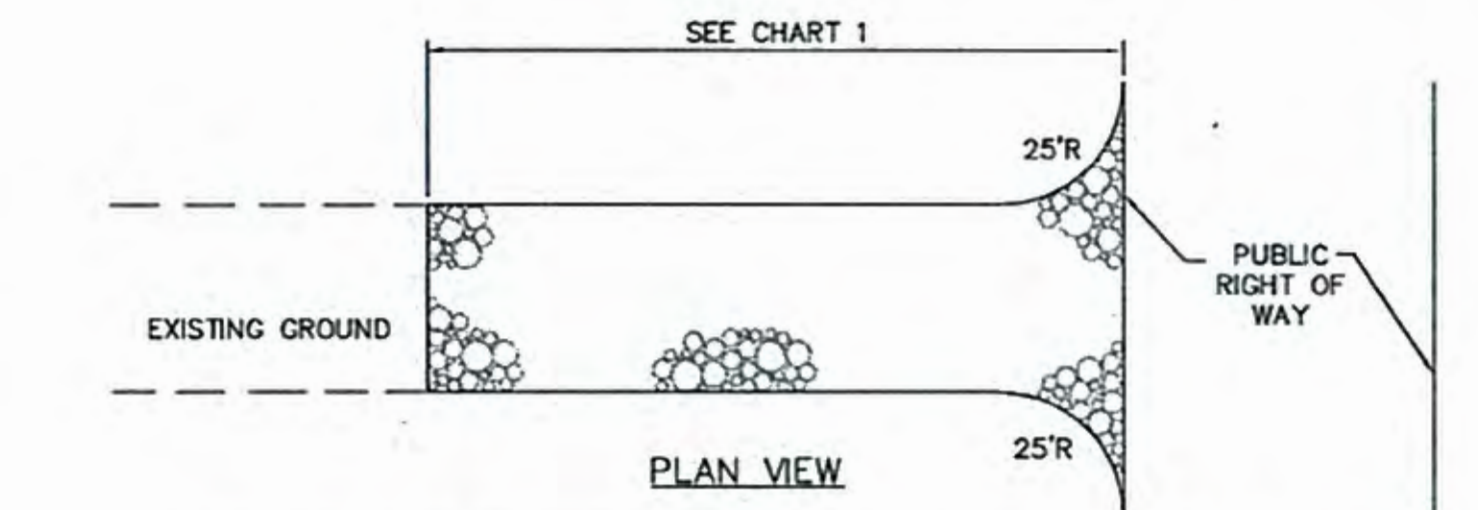
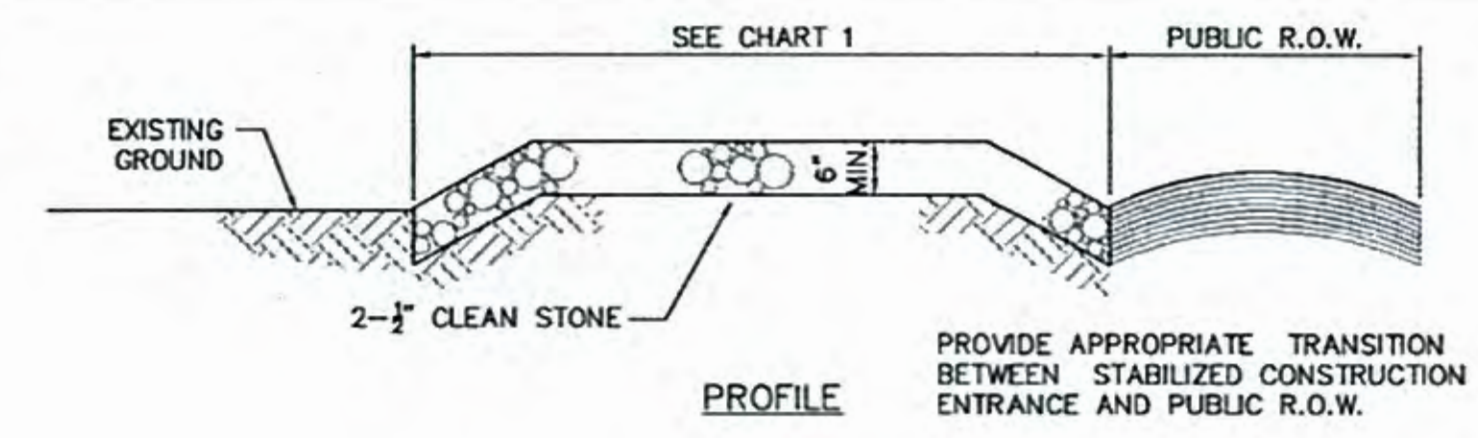


**SLOPE INSTALLATION**  
N.T.S.

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15CM) DEEP X 6" (15CM) WIDE TRENCH WITH APPROXIMATELY 12" (30CM) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30CM) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5CM-12.5CM) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30CM) APART ACROSS ENTIRE BLANKET WIDTH.



**SLOPE TRACKING DETAIL**  
N.T.S.

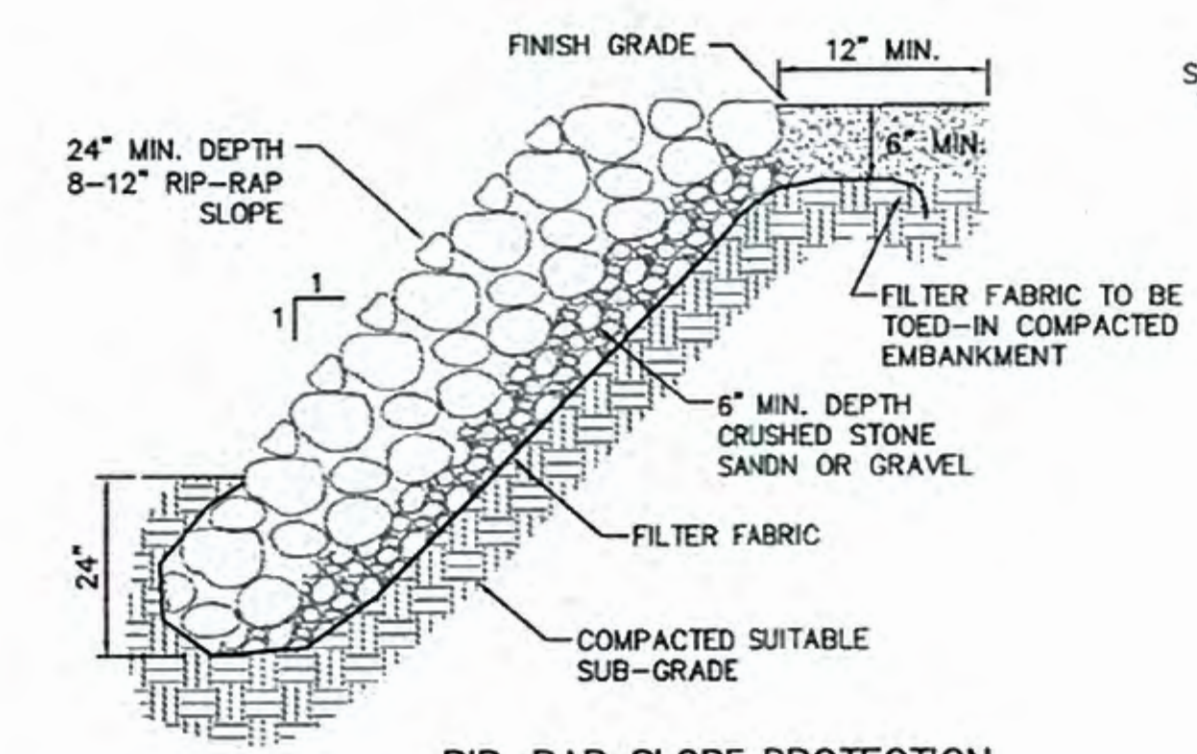


PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FT	100 FT
2% TO 5%	100 FT	200 FT
>5%	ENTIRE ENTRANCE STABILIZED WITH FABC BASE COURSE (1)	

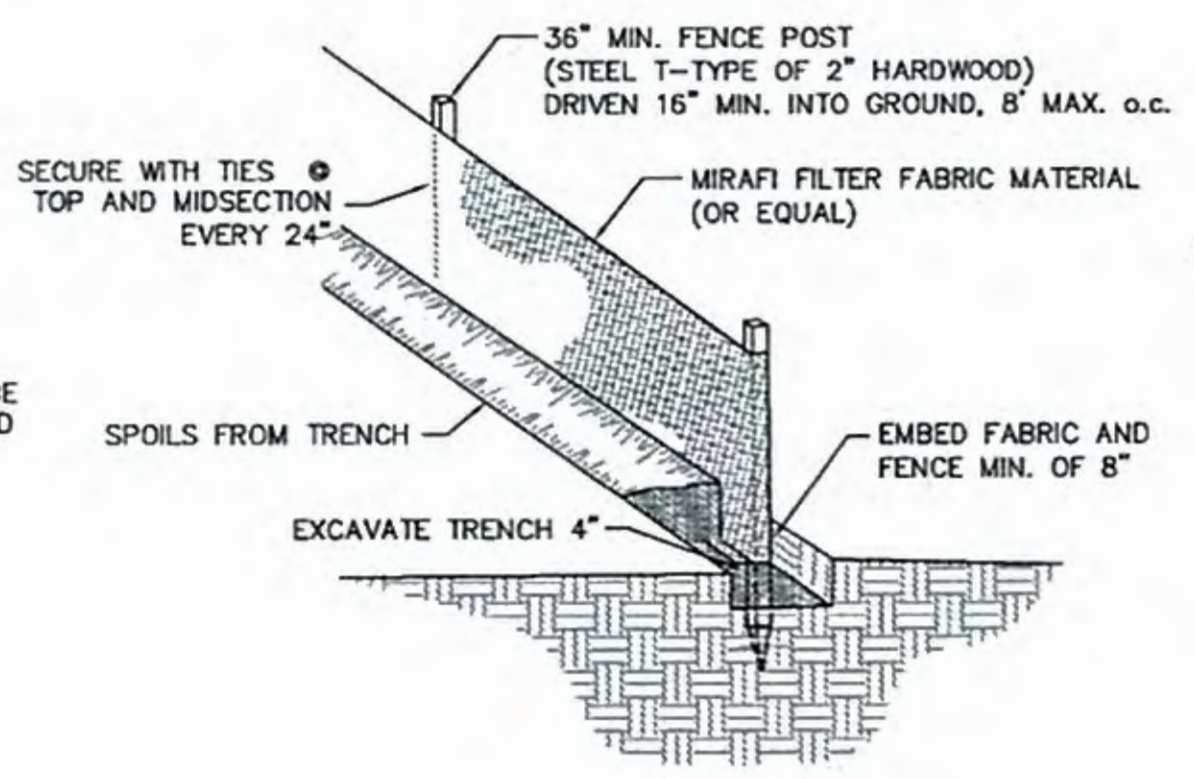
(1) AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

**STABILIZED CONSTRUCTION ENTRANCE**  
N.T.S.

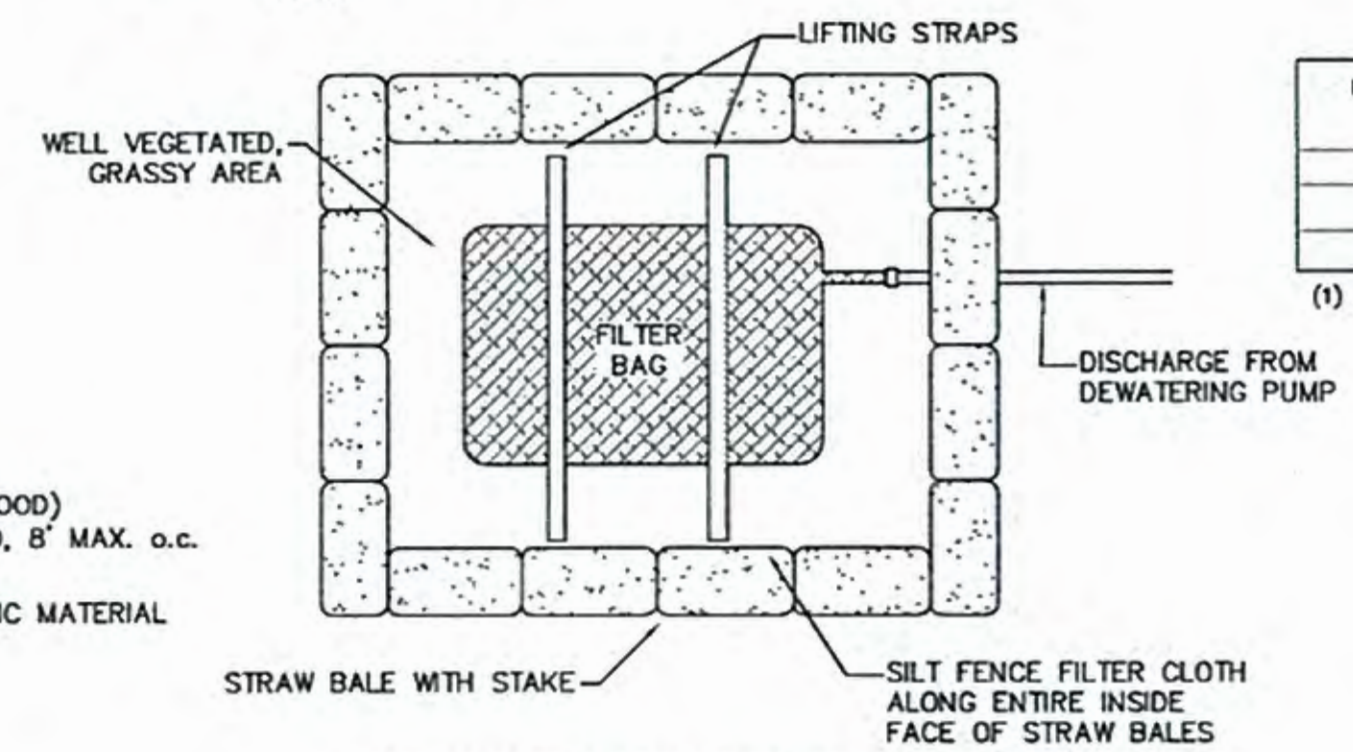
**EROSION CONTROL BLANKET**  
N.T.S.



**RIP-RAP SLOPE PROTECTION**  
N.T.S.



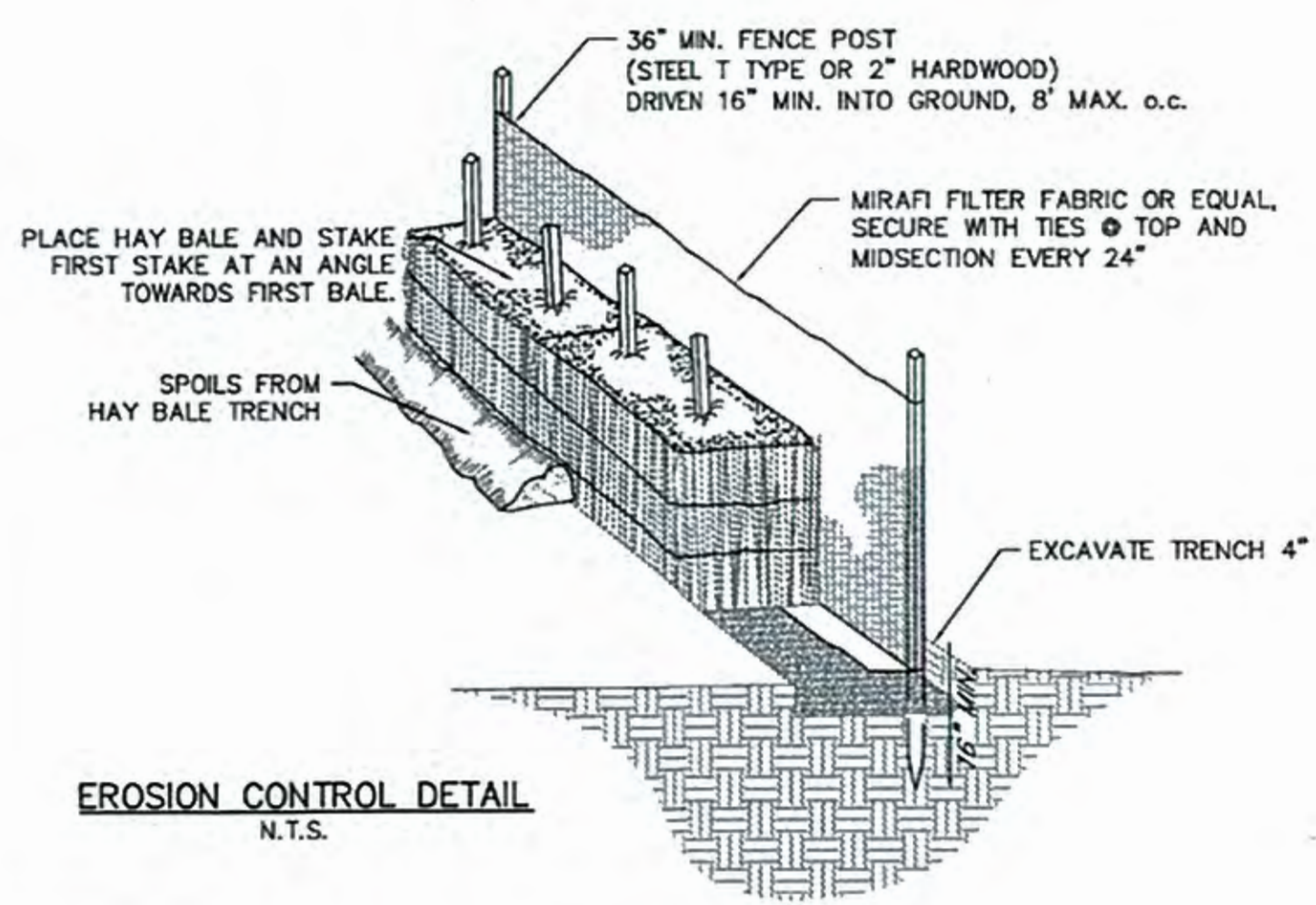
**SILT FENCE DETAIL**  
N.T.S.



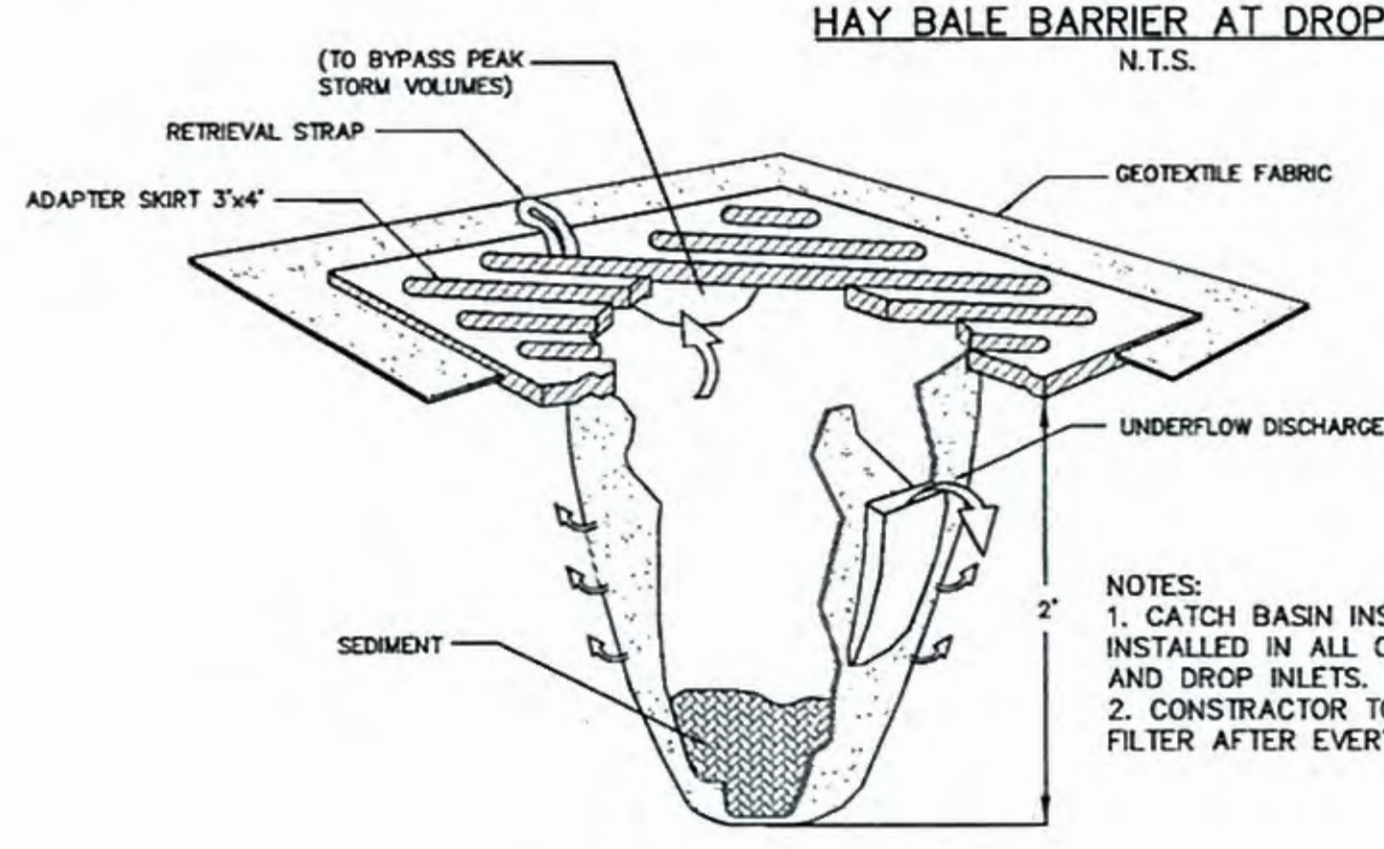
**DEWATERING PIT**  
N.T.S.



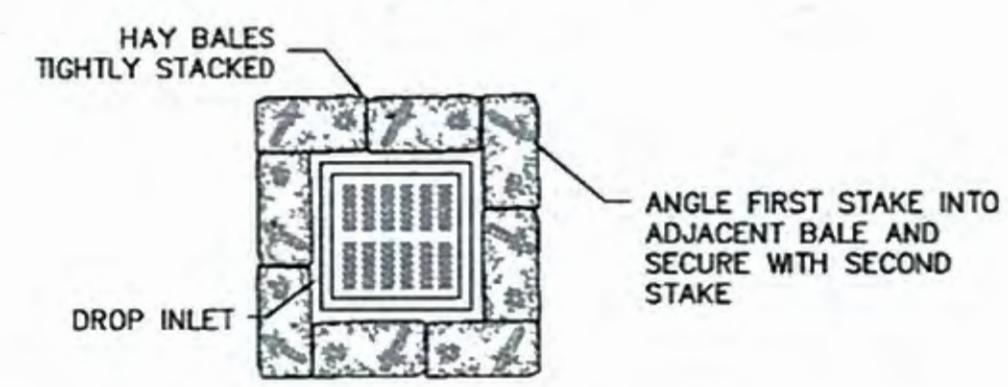
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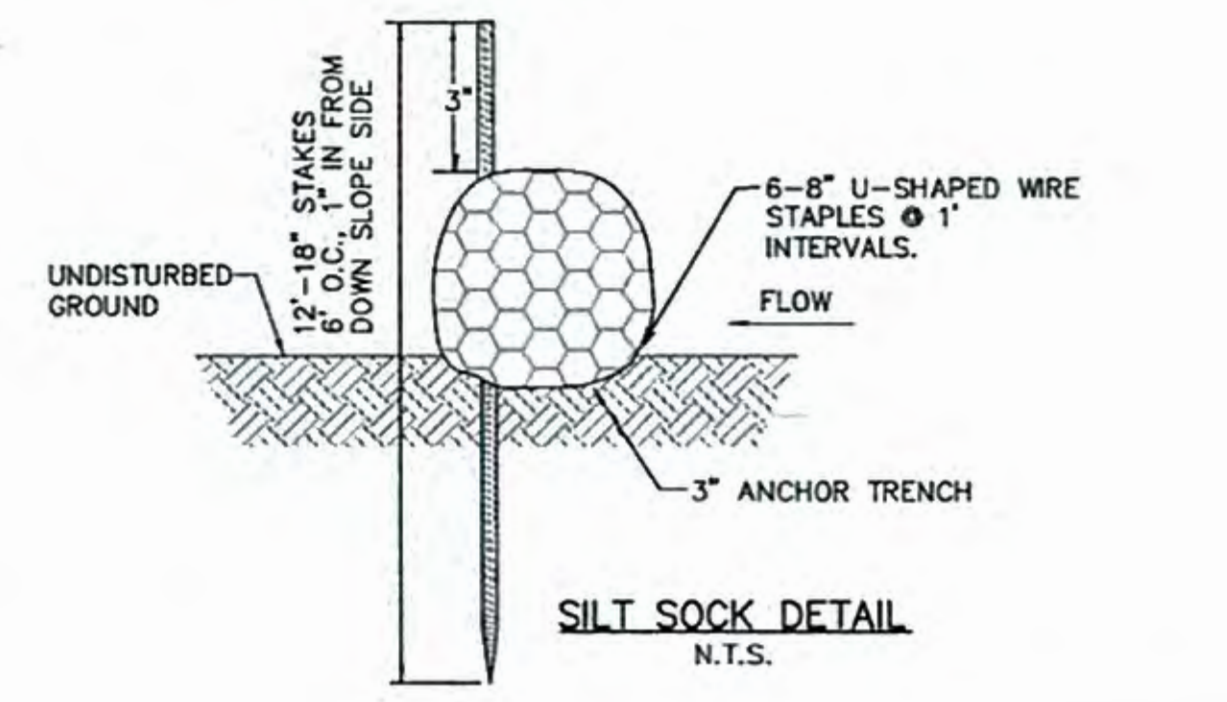
**EROSION CONTROL DETAIL**  
N.T.S.



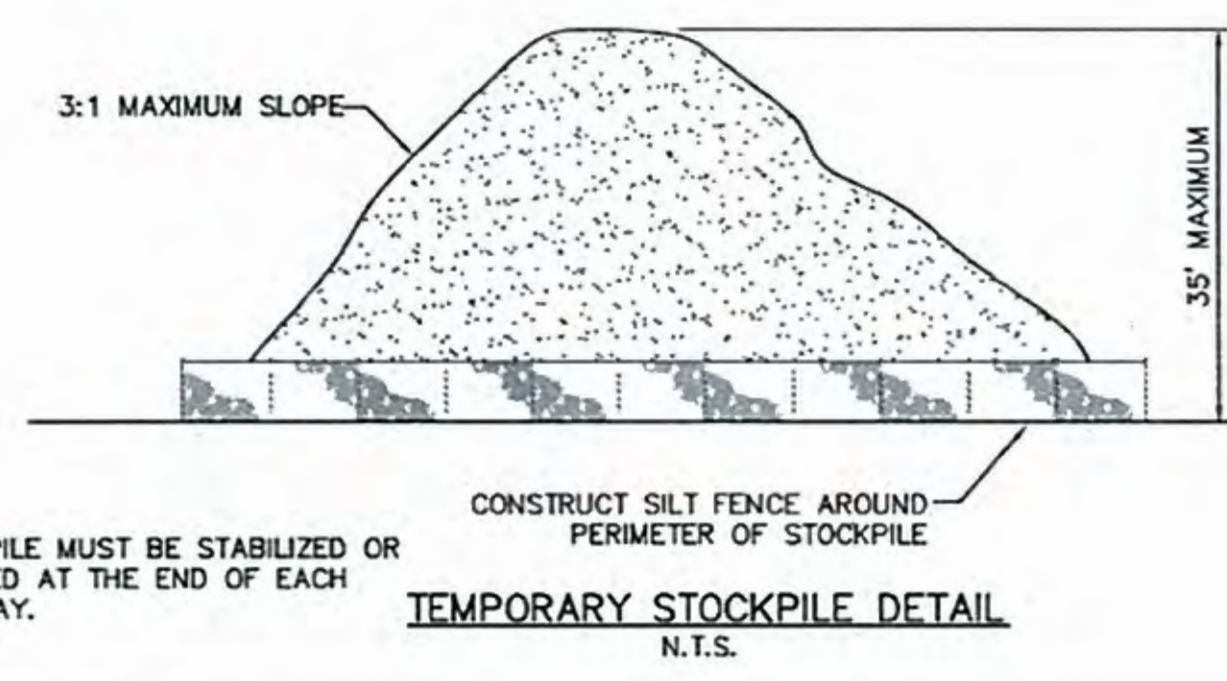
**INLET FILTER DETAIL**  
N.T.S.



**HAY BALE BARRIER AT DROP INLET**  
N.T.S.



**SILT SOCK DETAIL**  
N.T.S.



**TEMPORARY STOCKPILE DETAIL**  
N.T.S.

FIGURES PREPARED BY:  
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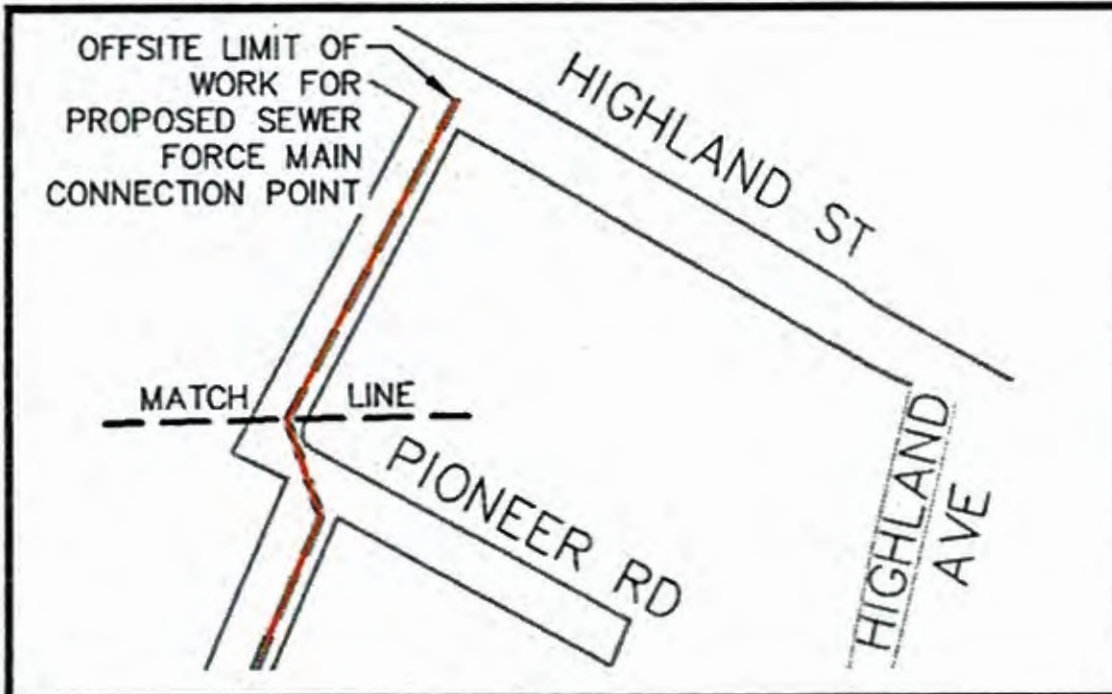
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APPLICANT:  
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87 MAIN STREET  
RUTLAND, MA 01543

DATE: 3/26/18  
DRAWN: STZ  
CHECK: JMM/TEJ  
SCALE: SEE PLAN  
JOB NO.: 16-026

SHEET TITLE:  
**EROSION CONTROL**  
DETAILS

Sheet 9  
of 10



FIGURES PREPARED BY:  
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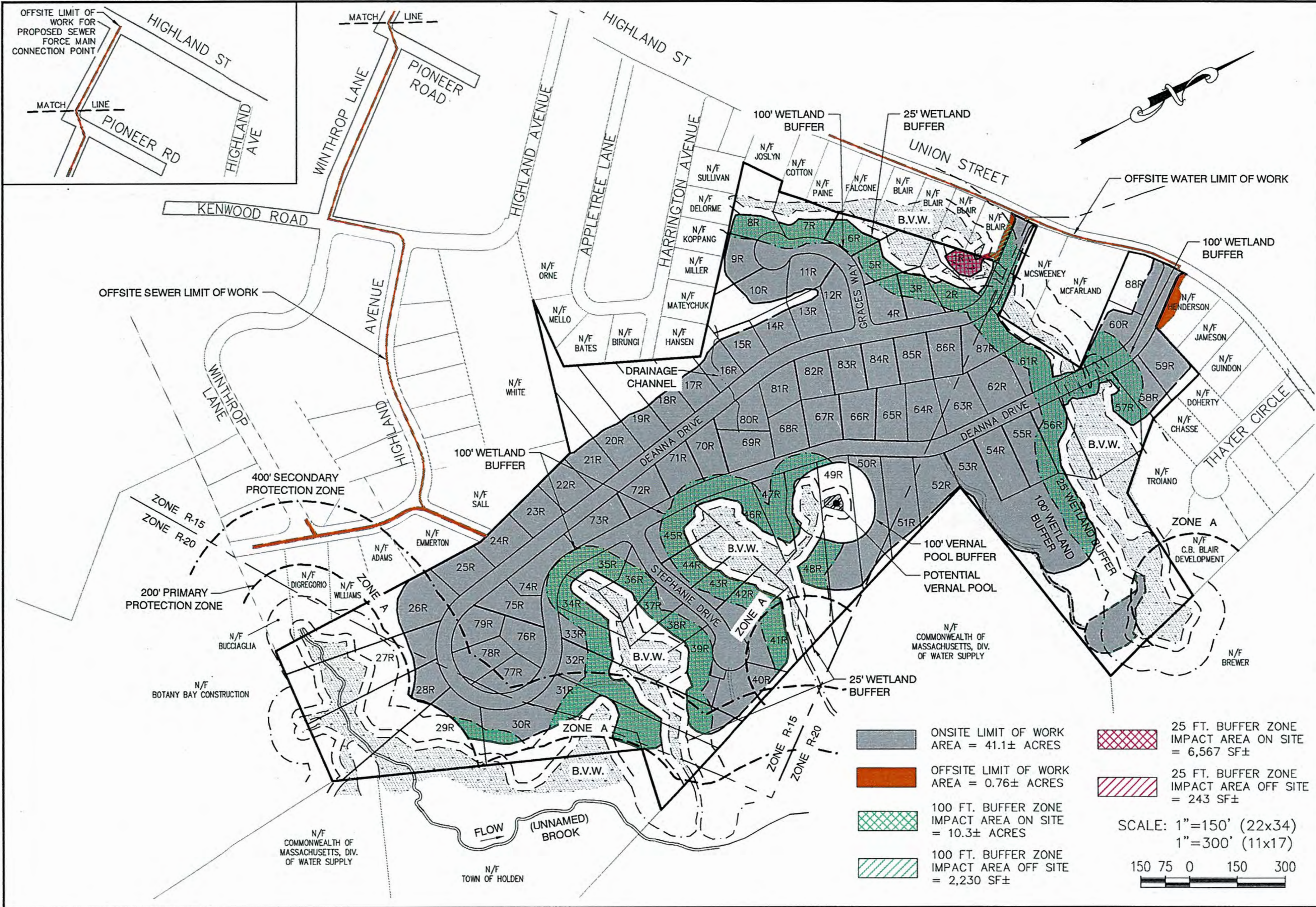
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APPLICANT:  
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 RUTLAND, MA 01543**

DATE: 3/26/18  
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 SCALE: SEE PLAN  
 JOB NO.: 16-026

SHEET TITLE:  
**LIMIT OF WORK PLAN**

Sheet 10  
 of 10







REVISIONS

REV#	DATE	COMMENT	BY
1			
2			
3			
4			
5			
6			

James B. Kallioch - PE No. 24532

TYPICAL LEGEND

DRILL HOLE	EXIST UTILITY POLE	EXIST UTILITY POLE
IRON PIPE	EXIST CATCH BASIN	EXIST CATCH BASIN
CONCRETE BOUND	P. CATCH BASIN	P. CATCH BASIN
BOUNDARY LINE	P. DRAIN MANHOLE	P. DRAIN MANHOLE
PROP. LOT LINE	P. DRAINAGE LINE	P. DRAINAGE LINE
EXISTENT LINE	P. SEWER MANHOLE	P. SEWER MANHOLE
SEWER LINE	P. SEWER CLEANOUT	P. SEWER CLEANOUT
SEWER LINE	P. SEWER LINE	P. SEWER LINE
TREE LINE	PROPOSED HYDRANT	PROPOSED HYDRANT
P. CONTOUR LINE	PROP. GATE VALVE	PROP. GATE VALVE
EXIST 1" CONTOUR	PROP. WATER LINE	PROP. WATER LINE
EXIST 2" CONTOUR	PROP. UTILITY LINE	PROP. UTILITY LINE
REMAINING WALL	GUARD RAIL	GUARD RAIL

THIS ENDORSEMENT MAKES NO DETERMINATION AS TO ZONING COMPLIANCE OR PLAN ACCURACY.

APPROVAL UNDER THE SUBDIVISION CONTROL LAW IS REQUIRED.

HOLDEN PLANNING BOARD:

Date: \_\_\_\_\_

Certificate of No Appeal

Decision of the Town of Holden Planning Board approving this plan was recorded in the office of the Holden Town Clerk on \_\_\_\_\_ Date: \_\_\_\_\_ And no notice of appeal therefrom received by the Holden Town Clerk during the 20 days following.

Town Clerk \_\_\_\_\_ Date \_\_\_\_\_

AMENDED DEFINITIVE PLAN GREENWOOD II

LOCATED ON UNION STREET HOLDEN, MASSACHUSETTS SCALE: AS NOTED

OWNED BY & PREPARED FOR

JACKSON WOODS INVESTMENTS, LLC. 87 MAIN STREET RUTLAND, MA. 01543



Environmental Consultants ■ CIVIL Engineering Consultants Land Surveying Consultants P.O. Box 374 Rutland, MA 01543 (508) 829-7222 Ph. (508) 829-7222 Fax

Date: January 24, 2019

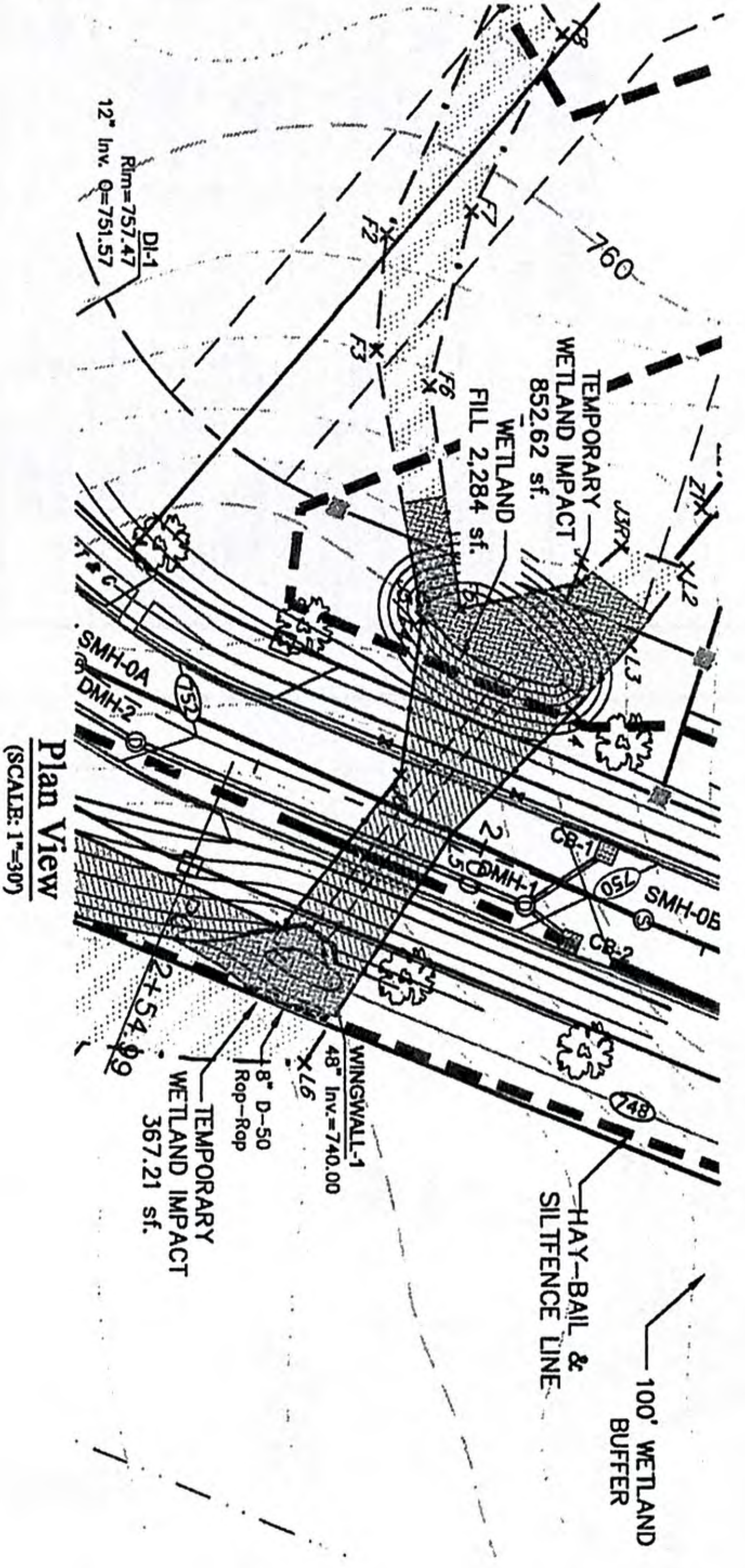
Drawn By: RMG

Checked By: JBK

Job #: 907-13

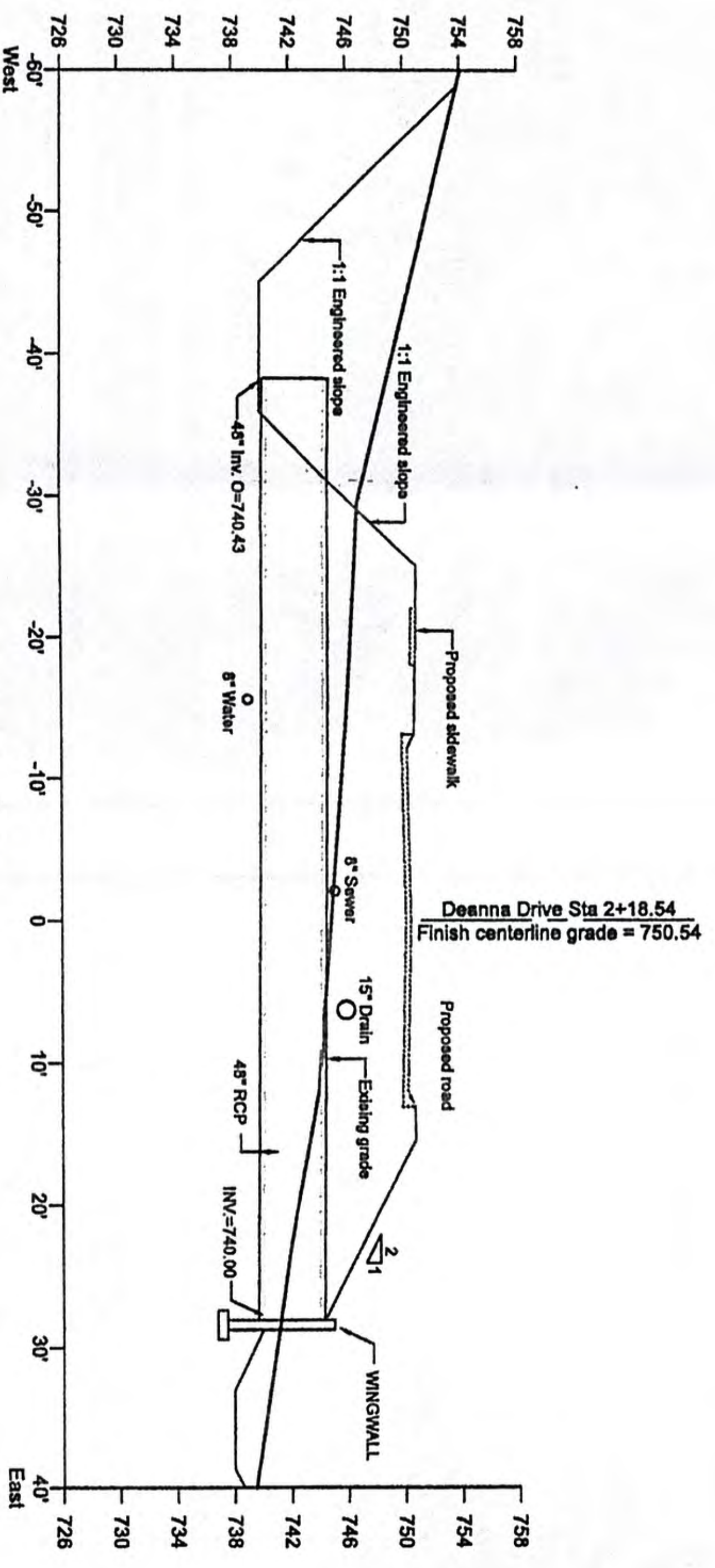
WC-06

FIGURE 2.6



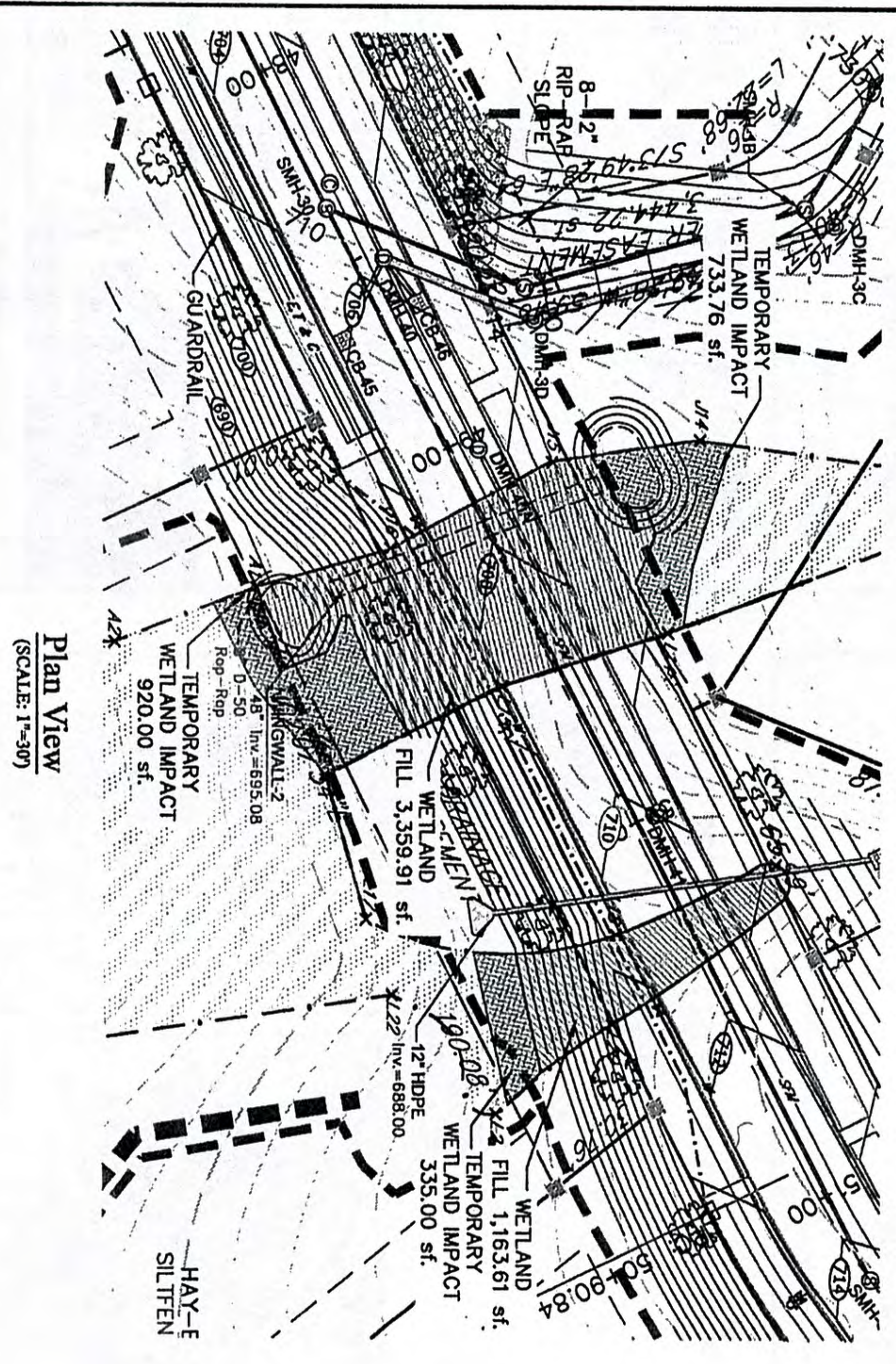
Plan View (SCALE: 1"=50')

Section View (SCALE: 1"=10')



WETLAND CROSSING NO. 1 (STATION 2+18.54)

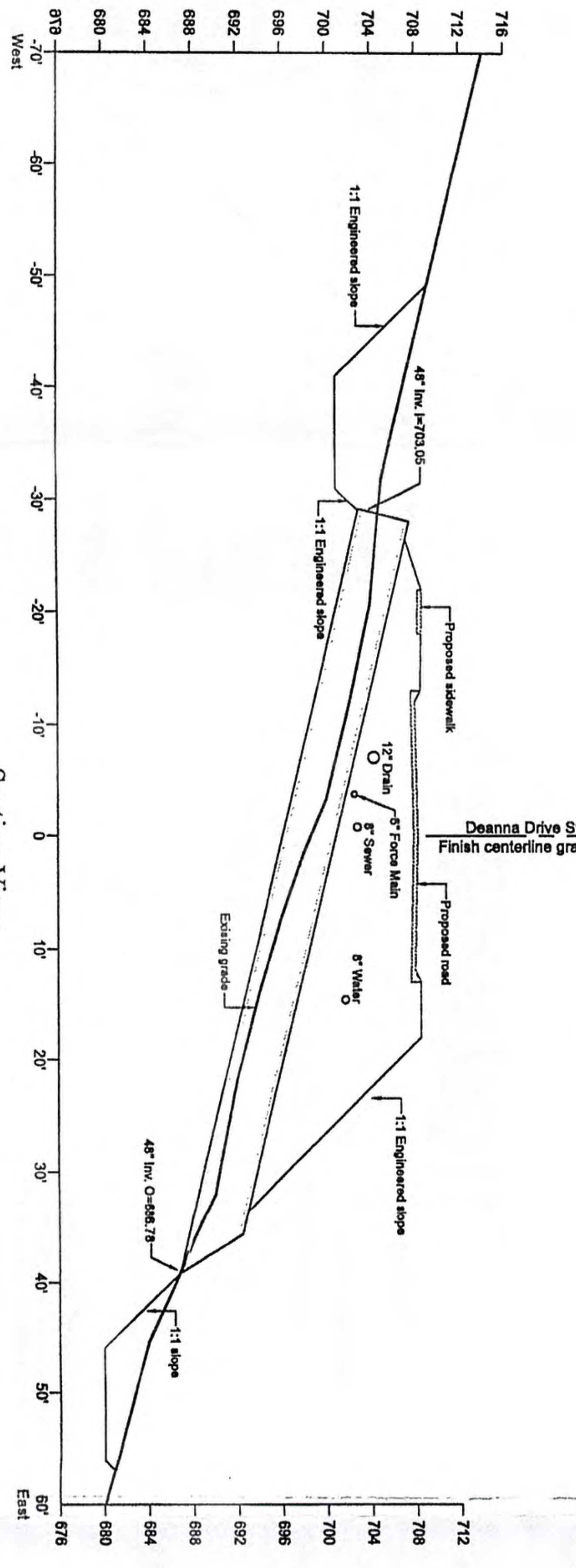
WETLAND ALTERATION AREAS  
TOTAL WETLAND FILL AREA = 6,897.52 s.f.  
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TOTAL REPLICATION AREA PROVIDED = 14,485.00 s.f.  
AREA TEMPORARILY ALTERED BY CONSTRUCTION = 3,208.59 s.f.



Plan View (SCALE: 1"=30')

- GENERAL WETLAND CROSSING NOTES:**
1. PROVIDE EROSION CONTROL BARRIERS WHERE SHOWN UPSTREAM AND DOWNSTREAM OF THE CROSSING.
  2. CROSSING LOCATION: POSITION OF CROSSING DURING LOW FLOW OR NO FLOW.
  3. IF FLOW IS ENCOUNTERED, PROVIDE TEMPORARY SAMBAG DAM AND PUMP SYSTEM UPSTREAM TO DIVERT STREAM AROUND CONSTRUCTION AREA. PROVIDE DEWATERING BASIN IF PUMPING IS REQUIRED.
  4. EXCAVATE REPLICATION AREA TO SUBGRADE AND UTILIZE TOPSOIL REMOVED FROM PROPOSED REPLICATION WITH REPLICATION AREA (AUGMENT SOILS PER DEP REPLICATION GUIDELINES).
  5. PROVIDE 12" SCREENED GRAVEL FOR FOOTING BEDDING AND INSTALL FOOTINGS AND CULVERT.
  6. BENCH / INSTALL AND BACKFILL DRAINAGE, WATER AND UTILITIES.
  7. RESTORE ANY DISTURBANCE TO EXISTING WETLANDS.

NOTE: THE VELOCITY OF THE WATER RUNNING THROUGH THE PIPE WILL LIKELY EXCEED EXISTING CONDITIONS.



Section View (SCALE: 1"=10')

WETLAND CROSSING NO. 2 (STATION 49+21)

REV	DATE	COMMENT	BY
1			
2			
3			
4			
5			

James B. Kelleoch - PE No. 24532

TYPICAL LEGEND	
DRILL HOLE	EXIST. UTILITY POLE
IRON PIPE	EXIST. CATCH BASIN
CONCRETE BOUND	P. CATCH BASIN
BOUNDARY LINE	P. DRAIN MANHOLE
PROP. LOT LINE	P. DRAINAGE LINE
EASEMENT LINE	P. SEWER MANHOLE
SEWER LINE	P. SEWER CLEANOUT
TREE LINE	PROPOSED W/GRANT
P. CONTIGUOUS	PROP. GATE VALVE
EXIST. 10' CONTOUR	PROP. WATERLINE
EXIST. 2' CONTOUR	PROP. UTILITY LINE
RETAINING WALL	GUARD RAIL

THIS ENDORSEMENT MAKES NO DETERMINATION AS TO ZONING COMPLIANCE OR PLAN ACCURACY.

APPROVAL UNDER THE SUBDIVISION CONTROL LAW IS REQUIRED.

HOLDEN PLANNING BOARD:

Date: \_\_\_\_\_

Town Clerk \_\_\_\_\_ Date \_\_\_\_\_

**Certificate of No Appeal**  
 Decision of the Town of Holden Planning Board approving this plan was recorded in the office of the Holden Town Clerk on \_\_\_\_\_  
 Date: \_\_\_\_\_  
 And no notice of appeal there from received by the Holden Town Clerk during the 20 days following.

**AMENDED DEFINITIVE PLAN  
 GREENWOOD II**

LOCATED ON  
 UNION STREET  
 HOLDEN, MASSACHUSETTS

SCALE: AS NOTED

**OWNED BY & PREPARED FOR**

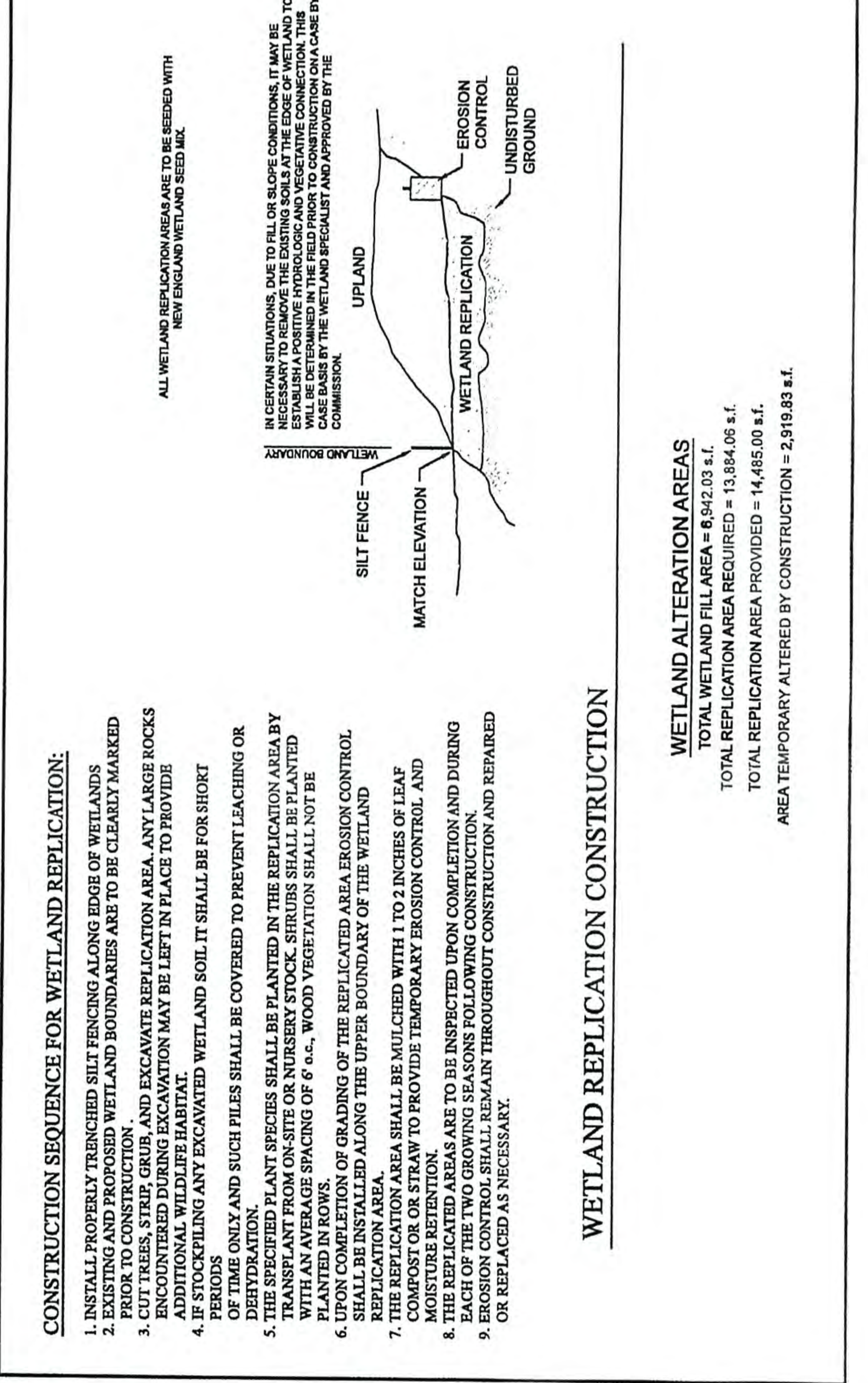
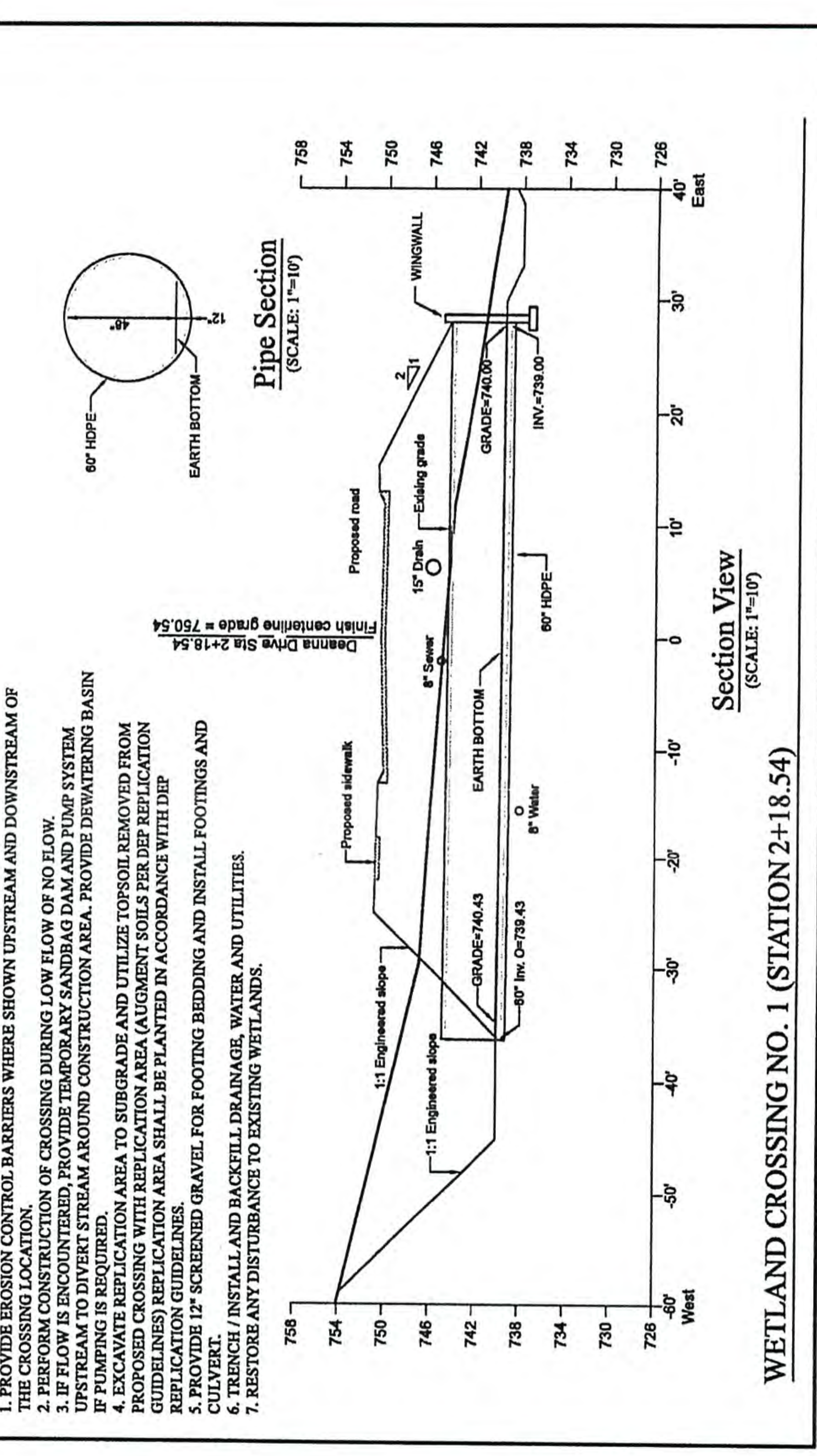
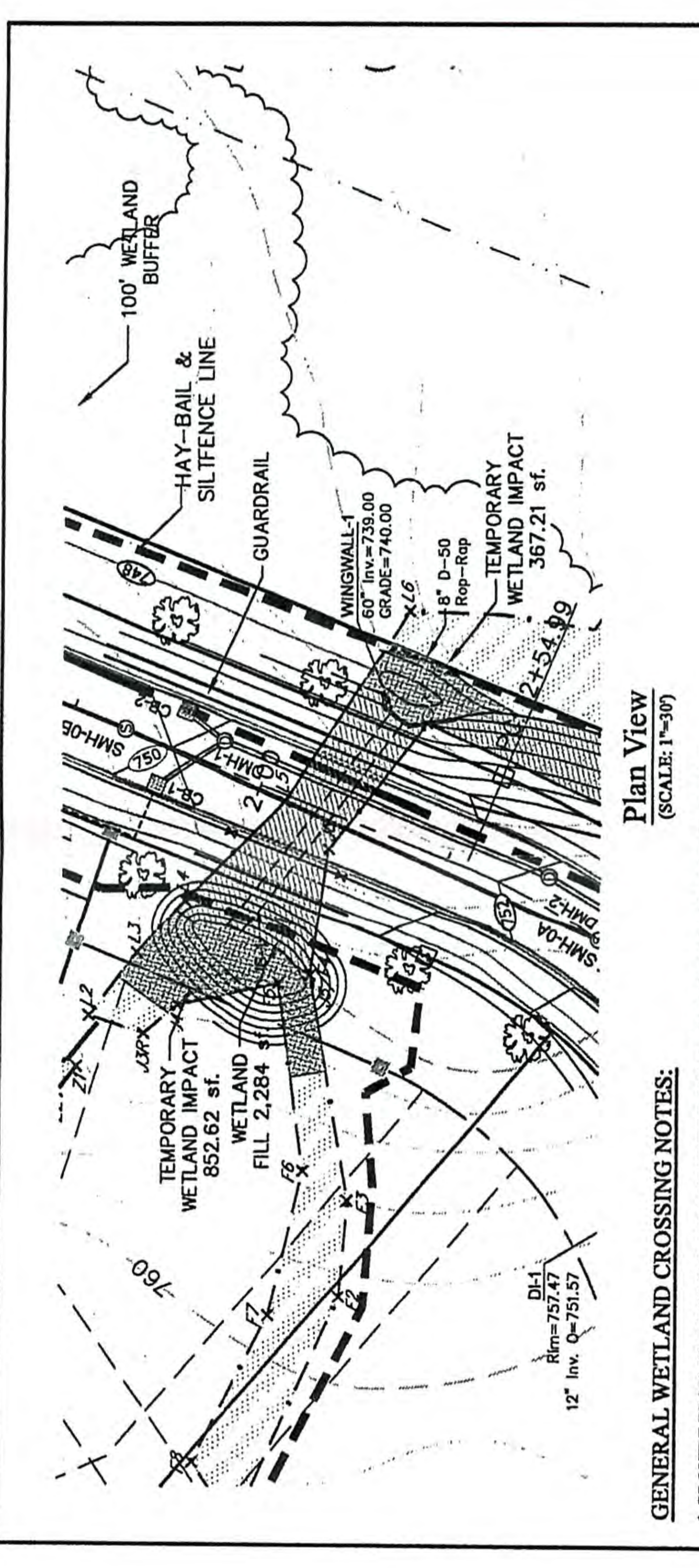
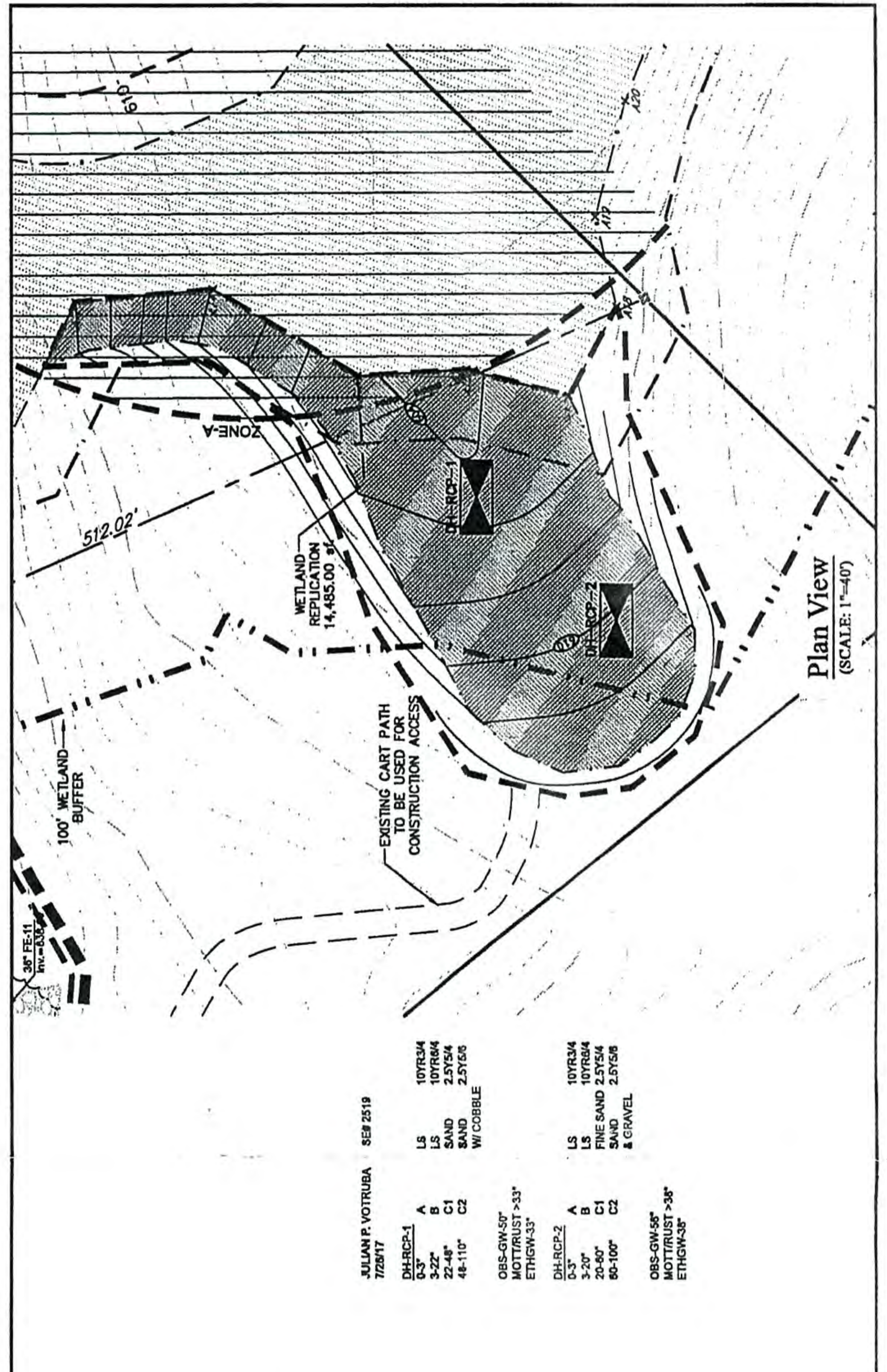
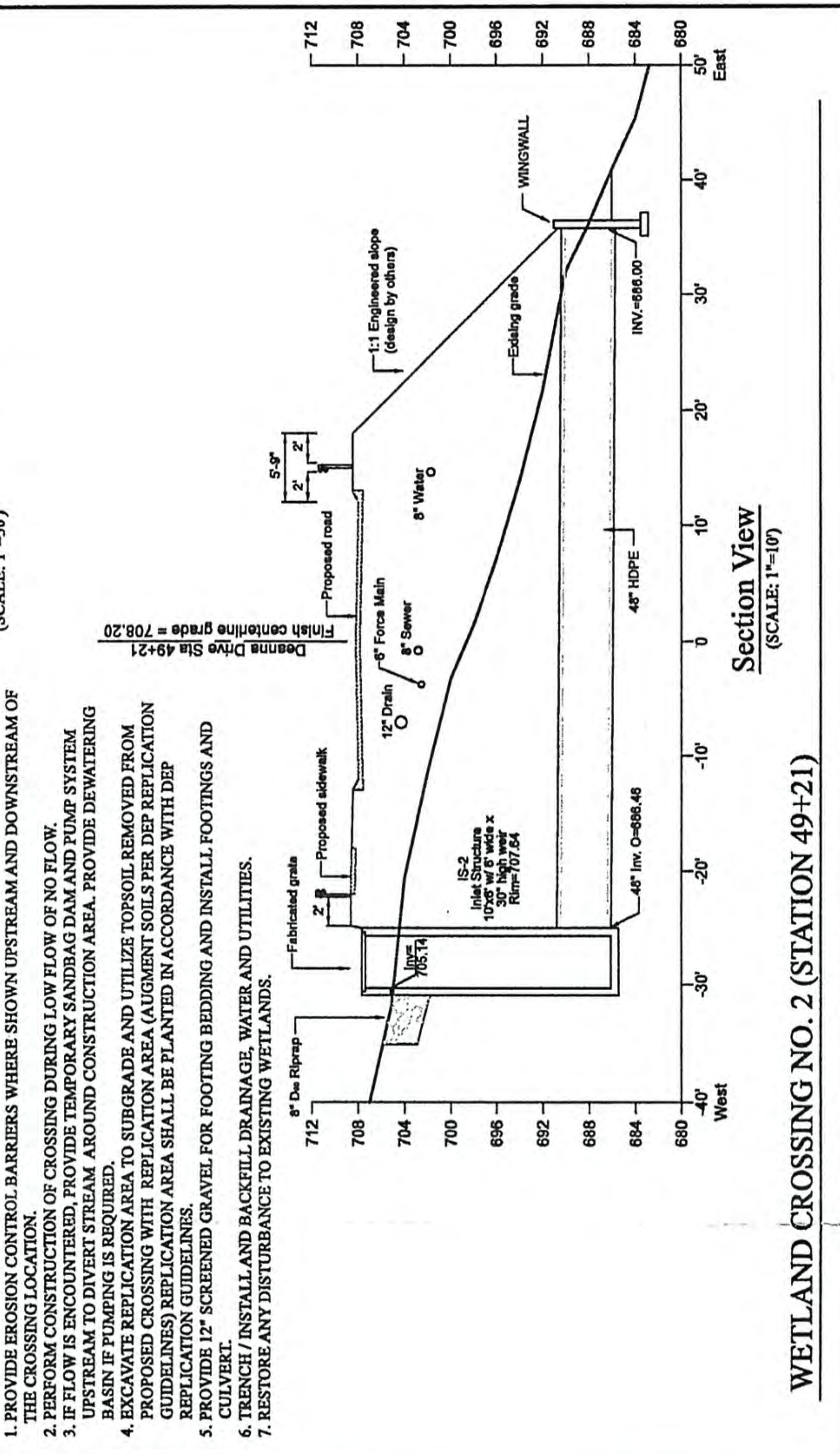
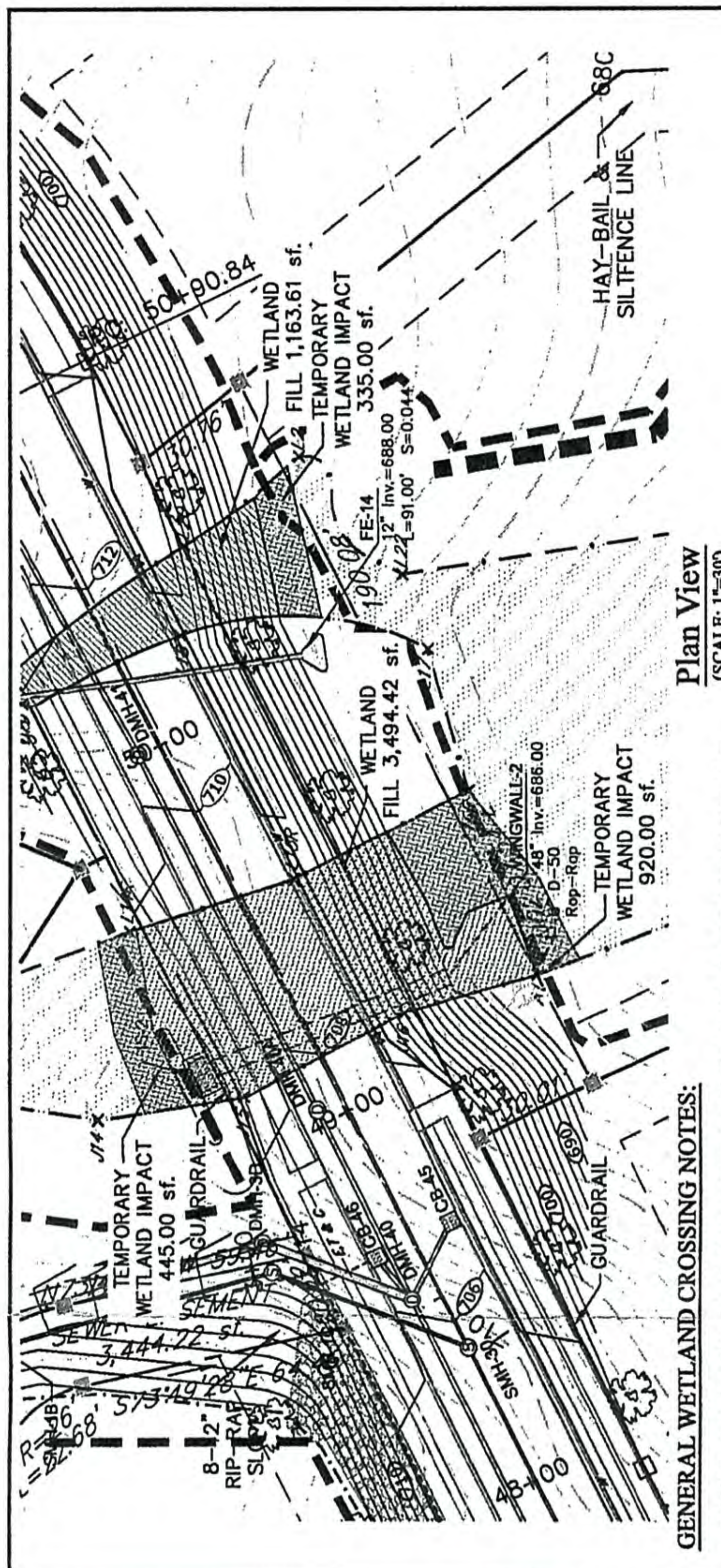
JACKSON WOODS INVESTMENTS, LLC.  
 87 MAIN STREET  
 RUTLAND, MA. 01543

**New England Environmental Design, LLC**

Environmental Consultants ■ Civil Engineering Consultants  
 Land Surveying Consultants  
 P.O. Box 376 Rutland, MA 01543  
 (609) 523-7222 Ph (609) 529-7522 Fax

Date: January 24, 2019  
 Drawn By: RMG  
 Checked By: JBK  
 Job #: 907-13

FIGURE: 2.7



**GENERAL WETLAND CROSSING NOTES:**

1. PROVIDE EROSION CONTROL BARRIERS WHERE SHOWN UPSTREAM AND DOWNSTREAM OF THE CROSSING LOCATION.
2. PERFORM CONSTRUCTION OF CROSSING DURING LOW FLOW OF NO FLOW.
3. IF FLOW IS ENCOUNTERED, PROVIDE TEMPORARY SANDBAG DAM AND PUMP SYSTEM UPSTREAM TO DIVERT STREAM AROUND CONSTRUCTION AREA. PROVIDE Dewatering BASIN IF PUMPING IS REQUIRED.
4. EXCAVATE REPLICATION AREA TO SUBGRADE AND UTILIZE TOPSOIL REMOVED FROM PROPOSED CROSSING WITH REPLICATION AREA (AUGMENT SOILS PER DEP REPLICATION GUIDELINES). REPLICATION AREA SHALL BE PLANTED IN ACCORDANCE WITH DEP REPLICATION GUIDELINES.
5. PROVIDE 12" SCREENED GRAVEL FOR FOOTING BEDDING AND INSTALL FOOTINGS AND CULVERT.
6. TRENCH / INSTALL AND BACKFILL DRAINAGE, WATER AND UTILITIES.
7. RESTORE ANY DISTURBANCE TO EXISTING WETLANDS.

**CONSTRUCTION SEQUENCE FOR WETLAND REPLICATION:**

1. INSTALL PROPERLY TRENCHED SILT FENCING ALONG EDGE OF WETLANDS
2. EXISTING AND PROPOSED WETLAND BOUNDARIES ARE TO BE CLEARLY MARKED PRIOR TO CONSTRUCTION.
3. CUT TREES, STUMP, GRUB, AND EXCAVATE REPLICATION AREA. ANY LARGE ROCKS ENCOUNTERED DURING EXCAVATION MAY BE LEFT IN PLACE TO PROVIDE WILDLIFE HABITAT.
4. BE STOCKPILING ANY EXCAVATED WETLAND SOIL. IT SHALL BE FOR SHORT PERIODS OF TIME ONLY AND SUCH PILES SHALL BE COVERED TO PREVENT LEACHING OR DEHYDRATION.
5. THE SPECIFIED PLANT SPECIES SHALL BE PLANTED IN THE REPLICATION AREA BY TRANSPLANT FROM ON-SITE OR NURSERY STOCK. SHRUBS SHALL BE PLANTED WITH AN OPEN SPACE SPACING OF 6' o.c., WOOD VEGETATION SHALL NOT BE PLANTED IN ANY AREAS.
6. UPON COMPLETION OF GRADING OF THE REPLICATED AREA EROSION CONTROL SHALL BE INSTALLED ALONG THE UPPER BOUNDARY OF THE WETLAND REPLICATION AREA.
7. THE REPLICATION AREA SHALL BE MULCHED WITH 1 TO 2 INCHES OF LEAF COMPOST OR OR STRAW TO PROVIDE TEMPORARY EROSION CONTROL AND SOIL MOISTURE RETENTION.
8. THE REPLICATION AREA SHALL BE INSPECTED UPON COMPLETION AND DURING EACH OF THE TWO GROWING SEASONS FOLLOWING.
9. EROSION CONTROL SHALL REMAIN THROUGHOUT CONSTRUCTION AND REPAIRED OR REPLACED AS NECESSARY.

**WETLAND ALTERATION AREAS**  
 TOTAL WETLAND FILL AREA = 6,942.03 s.f.  
 TOTAL REPLICATION AREA REQUIRED = 13,884.06 s.f.  
 TOTAL REPLICATION AREA PROVIDED = 14,485.00 s.f.  
 AREA TEMPORARILY ALTERED BY CONSTRUCTION = 2,919.89 s.f.