

Roadway Plans

Issued for: **Physical Alteration Permit Application**

Date Issued: January 19, 2010

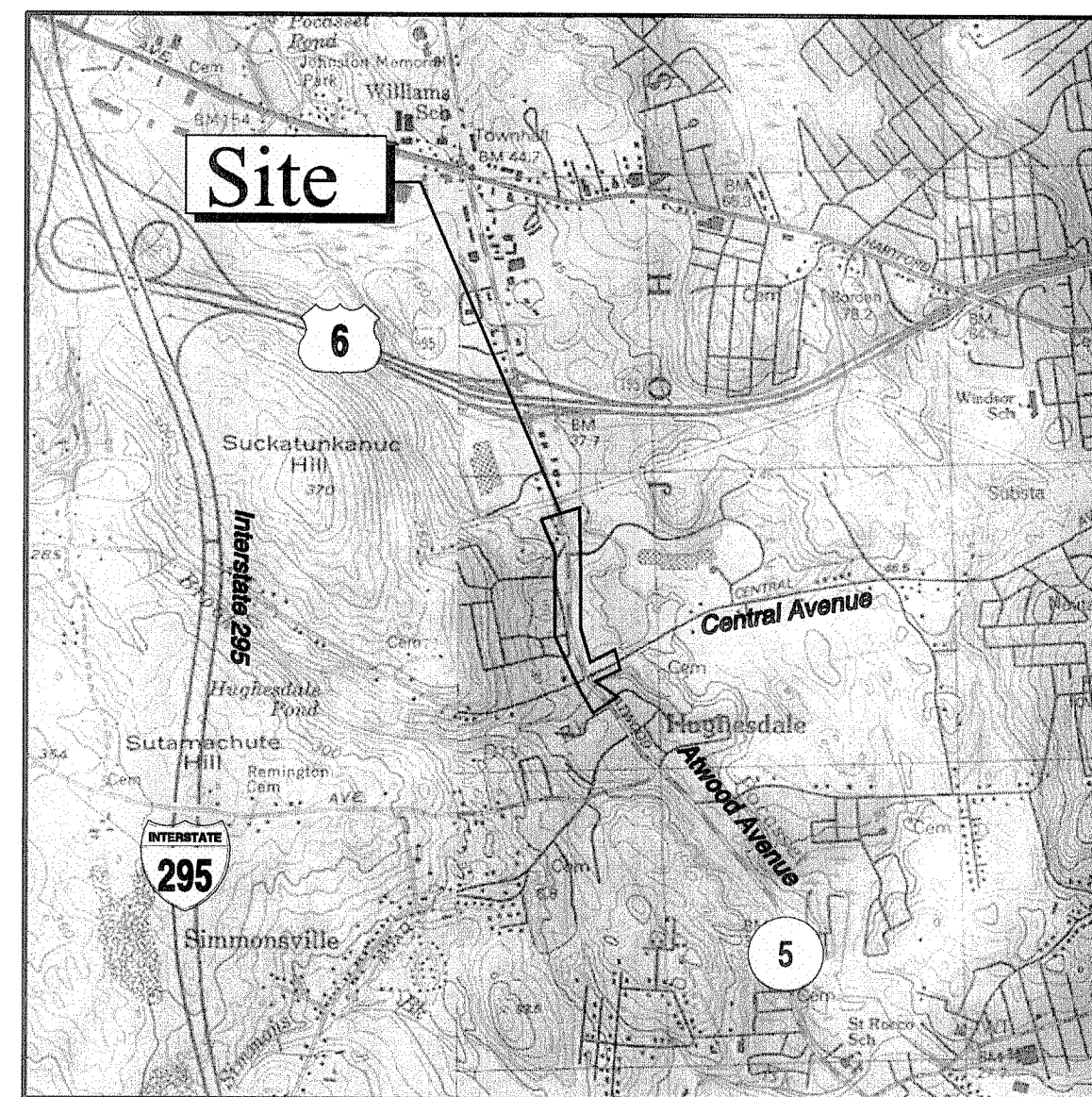
Latest Issue: January 19, 2010

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Off-Site Roadway Improvements

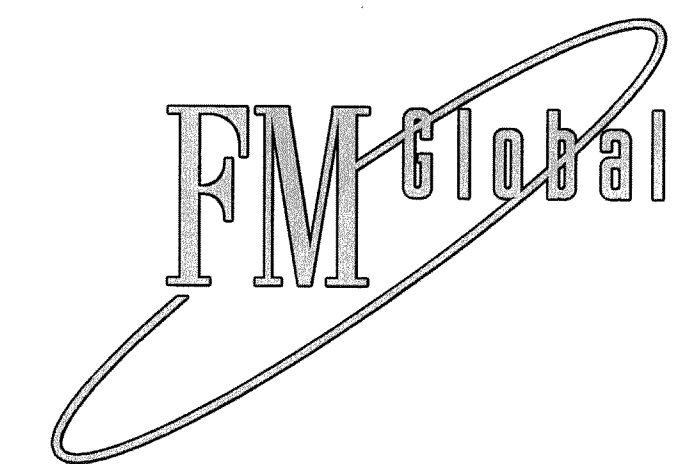
Atwood Avenue and Central Avenue
Johnston, Rhode Island



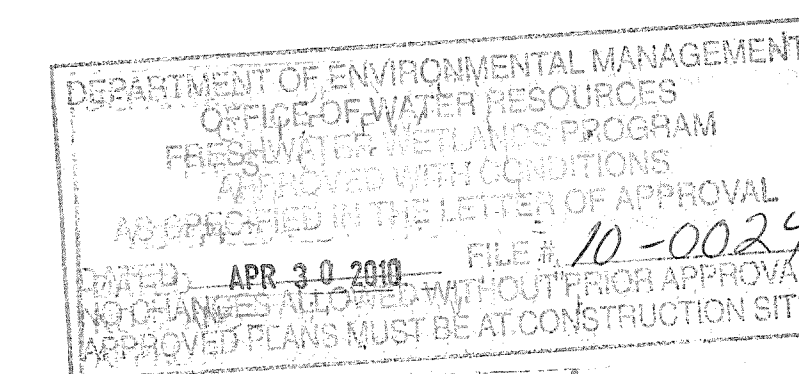
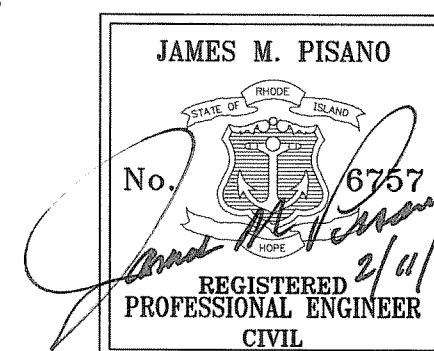
Site Location Map

Property Information

Owner/Applicant:
FM Global
1301 Atwood Avenue
Johnston, RI 02919
(401) 275 - 3000



Vanasse Hangen Brustlin, Inc.
Transportation
Land Development
Environmental Services
10 Dorrance Street, Suite 400
Providence, Rhode Island 02903
401.272.8100 • FAX 401.273.9694



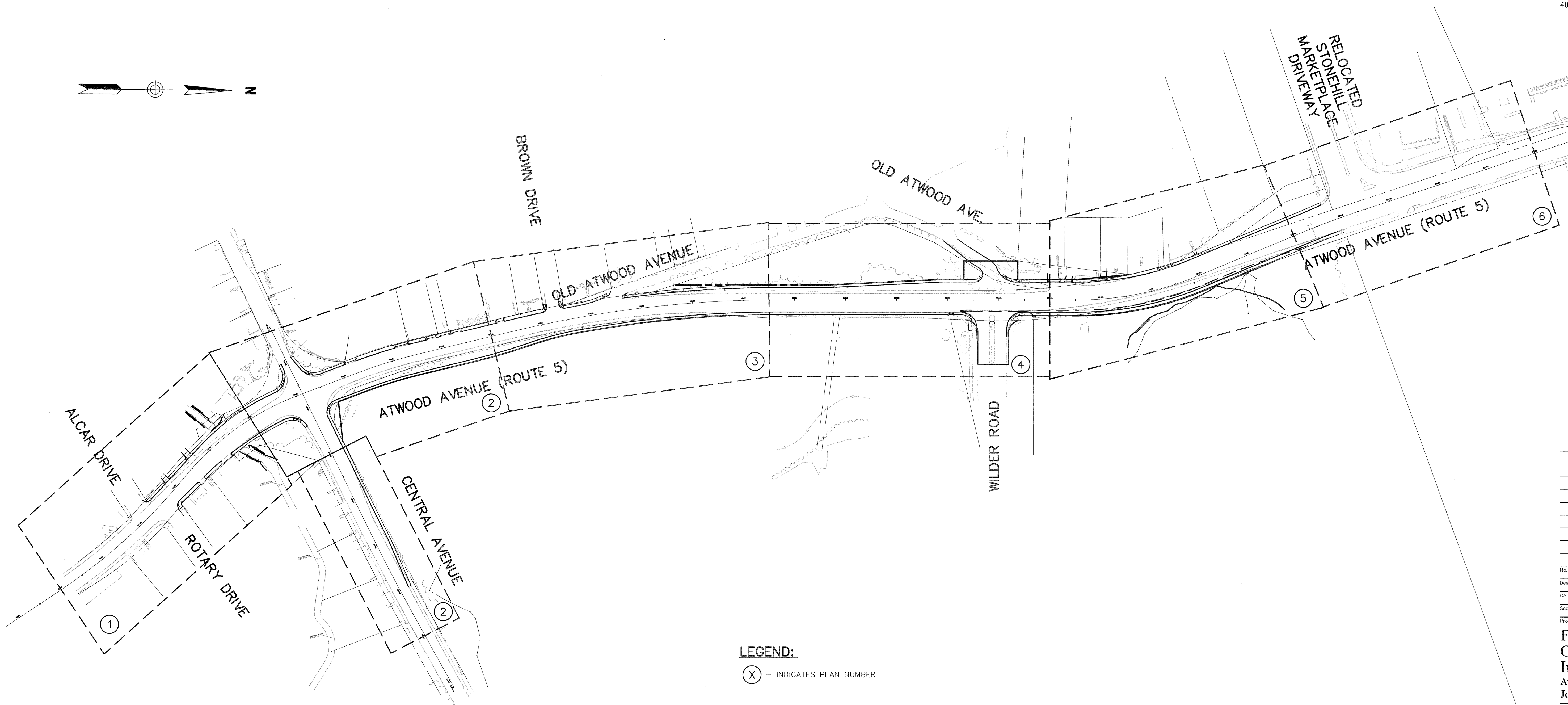
FM-Global 10-0024
KIDEN P.D.
ATWOOD AVE JOHNSTON
VHB Project No. 72012.30
Atwood Avenue, Johnston, RI
Issued for: PAPA - 12/16/08



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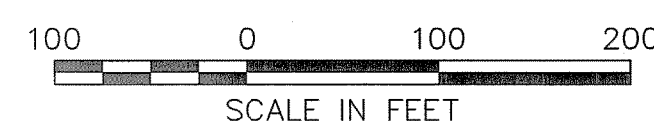
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LEGEND:

(X) - INDICATES PLAN NUMBER



No.	Revision	Date	Appvd.

Scale 1"=100'
Date January 19, 2010
Project Title
**FM-Global
Off-Site Road
Improvements**
Atwood Ave & Central Ave
Johnston, Rhode Island

Issued for
**Physical Alteration
Permit Application**

Drawing Title

Key Plan

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 21 2010 FILE # 10-0024
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Martin D. Wenzel

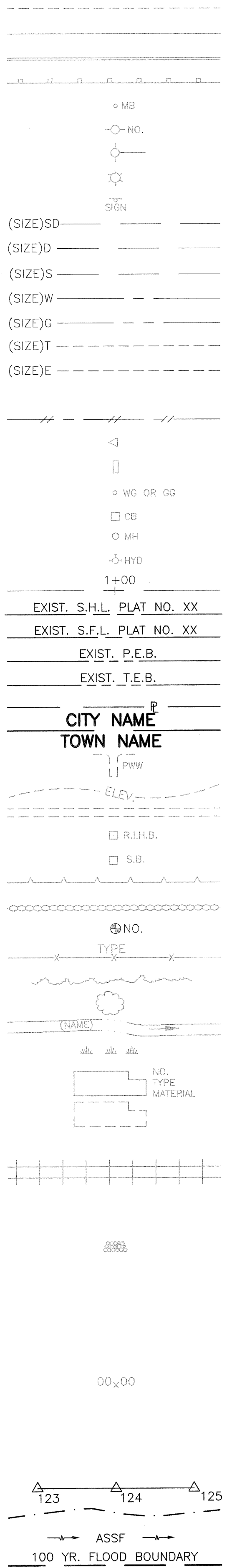
Drawing Number

C-1

Sheet 1 of 55

Project Number
72012.30

EXISTING



NEW

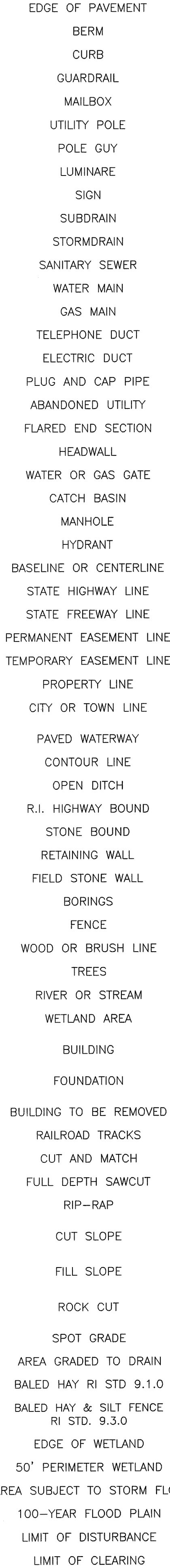


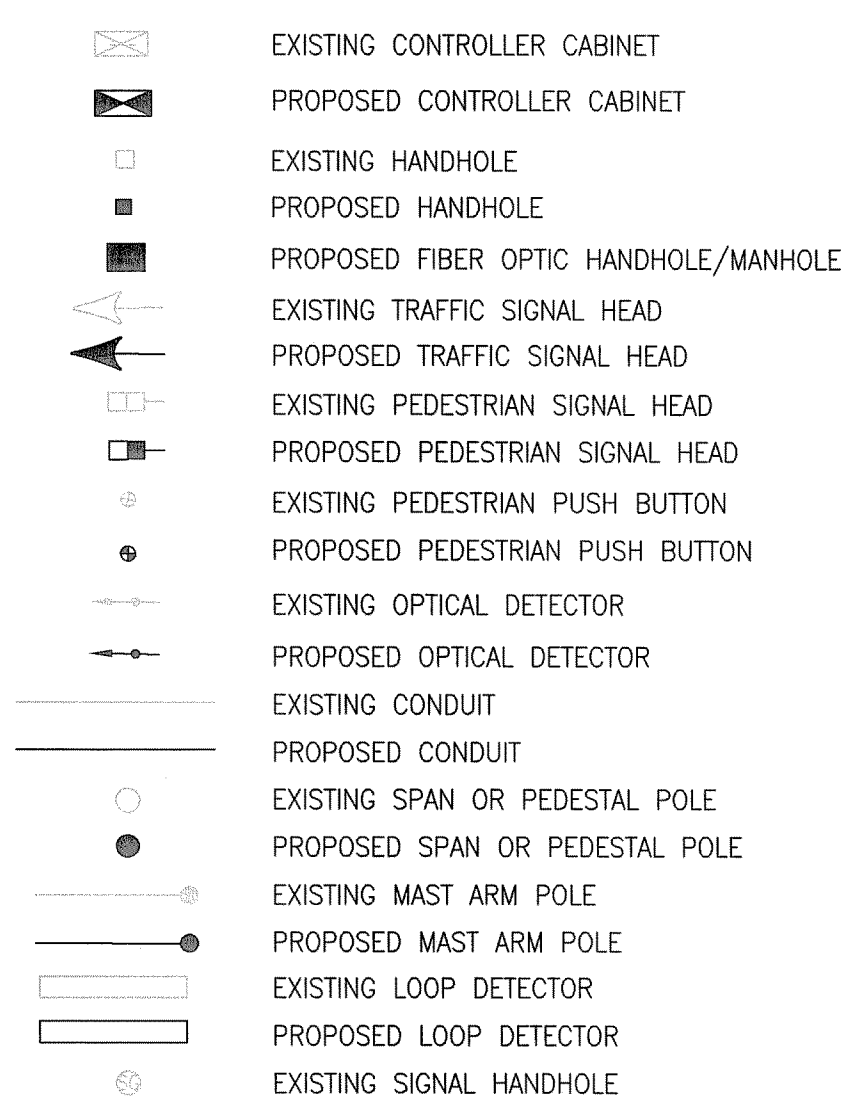
Table listing new features with codes (e.g., 1.1.0, 1.3.0, 2.1.0) and descriptions (e.g., UNDERDRAIN, CONCRETE CONNECTING COLLAR, CONCRETE HEADWALLS FOR PIPE CULVERTS).

Table listing new features with codes (e.g., 7.4.2, 7.5.0, 7.5.1A) and descriptions (e.g., GRANITE TRANSITION CURB, BITUMINOUS CONCRETE LIP CURB, BITUMINOUS BERM).

Table listing new features with codes (e.g., AB, ABM, AC, AD, AE, AFC, AFG, AG, AHH, ARM, AS, AT, AW, BCD, BPS, CCB, CCP, CFP, CG, CMH, CP, CPP, DB, DC, DCB, DDI, DF, DFC, DFE, DFG, DFH, DFP, DG, DH, DHB, DHD, DHH, DL, DMB, DMH, DMM, DOW, DP, DPB, DRB, DS, DSS, DSW, DTD, DUP, DW, DWL, FF, GET, IA, IDL, LOD, LOR, LS, NFH, NIC, NWB, NWVB, NWCB, NWSB, PCD, PS) and descriptions (e.g., ADJUST CATCH BASIN TO GRADE, ADJUST CATCH BASIN TO MANHOLE).

Table listing new features with codes (e.g., RCB, RCM, RFH, RHH, RLP, RM, RPM, RRP, RRS, RUP, SB, SBAE, SBTE, SD, SF, SGA, SGC, SGR, SH, SHD, SS, STS, TB, TEP, TNP, TBT, TBBC, TT, WCM, 4DY, 6W, 12W, 6WT, 4Y, 6Y, P.G.L., V.G.C.) and descriptions (e.g., RECONSTRUCT TYPE "D" CATCH BASIN, CATCH BASIN WITH GUTTER INLET).

TRAFFIC SIGNAL PLANS SYMBOL LEGEND



Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services

10 Dorrance Street, Suite 400 Providence, Rhode Island 02903 401.272.8100 • FAX 401.273.9694

Table with columns for No., Revision, Date, and Appr. for project tracking.

Designed by, Drawn by, Checked by, CAD checked by, Approved by, Scale N.T.S., Date January 19, 2010, Project Title

FM-Global Off-Site Road Improvements Atwood Ave & Central Ave Johnston, Rhode Island

Physical Alteration Permit Application

Drawing Title

Plan Symbols & General Legend

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER RESOURCES FRESHWATER WETLANDS PROGRAM APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL DATED APR. 30, 2010 FILE # 10-0024 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL APPROVED PLANS MUST BE AT CONSTRUCTION SITE. Signature: Matthew D. Wencel

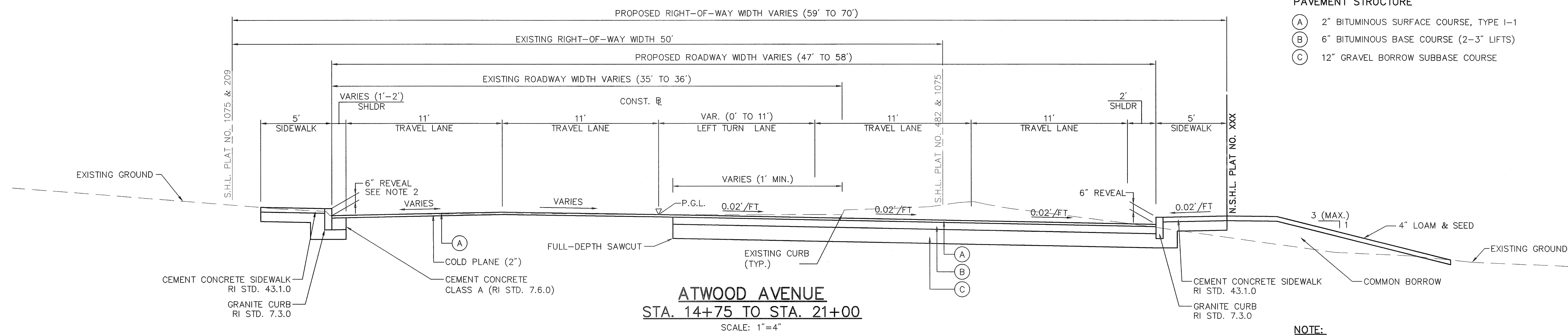
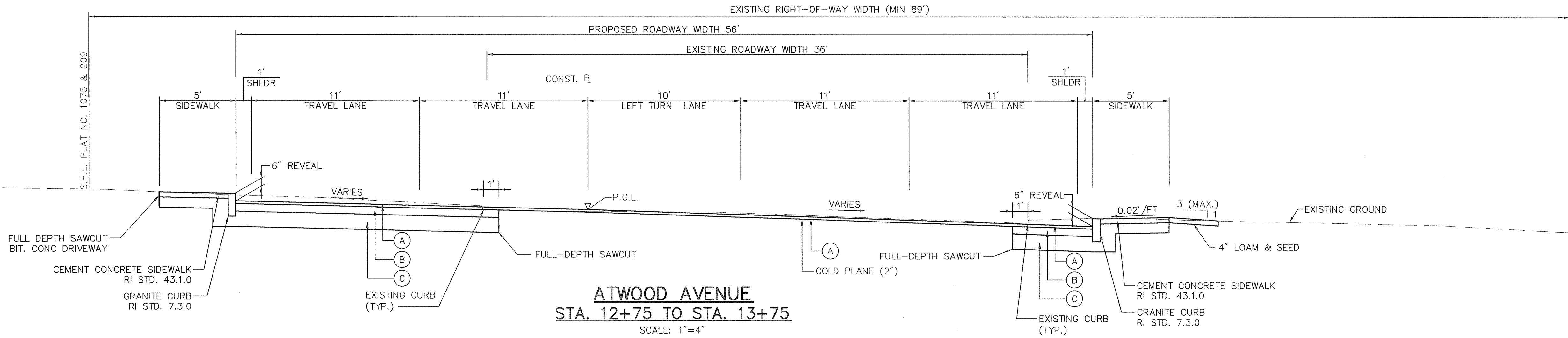
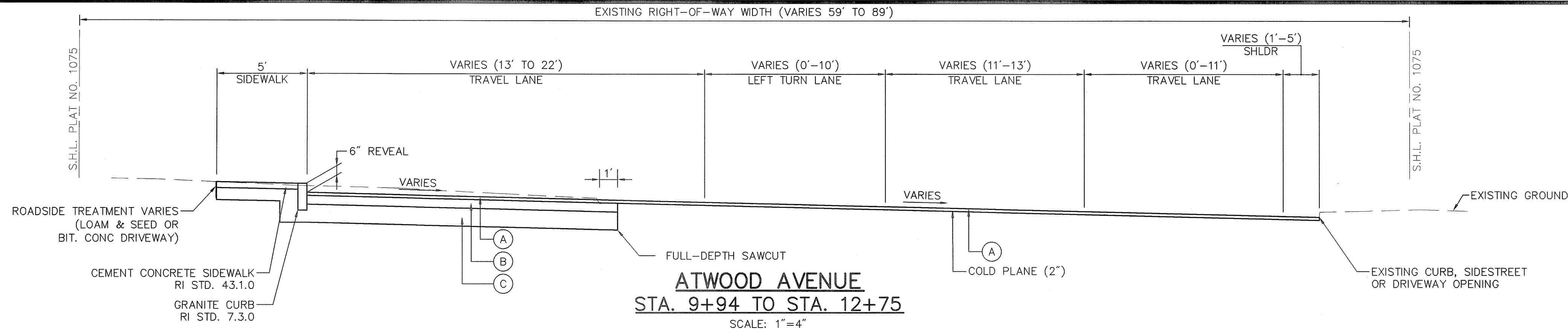
Drawing Number C-2 Sheet 2 of 55 Project Number 72012.30



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- PAVEMENT STRUCTURE**
- (A) 2" BITUMINOUS SURFACE COURSE, TYPE I-1
 - (B) 6" BITUMINOUS BASE COURSE (2-3" LIFTS)
 - (C) 12" GRAVEL BORROW SUBBASE COURSE

- NOTE:**
1. LEVELING COURSE SHALL BE BITUMINOUS BASE COURSE.
 2. THE CONTRACTOR SHALL INSTALL THE CURBING TO MAINTAIN THE ELEVATION AT THE BACK OF THE PROPOSED SIDEWALK AND PROVIDE A GRADE ACROSS THE PROPOSED SIDEWALK THAT MEETS THE R.I. STD. 43.1.0. THE REVEAL MAY BE LESS THAN 6 INCHES, THE MINIMUM ALLOWABLE REVEAL SHALL BE 2.5 INCHES.
 3. WHERE SIDEWALK EXISTS OR IS PROPOSED, MAINTAIN CLEARANCE (3 FOOT MINIMUM) TO CONFORM TO ADA.
 4. THE CONTRACTOR SHALL NOTE THAT PROPOSED GRADES ARE SHOWN ON THE GRADING PLANS IN AREAS OF VARYING CROSS SLOPE.
 5. PAVEMENT CORES ARE INCLUDED IN THE CONTRACT DOCUMENT (SEE THESE EXISTING PAVEMENT STRUCTURE).

No.	Revision	Date	Appr.

Designed by _____ Drawn by _____ Checked by _____

CAD checked by _____ Approved by _____

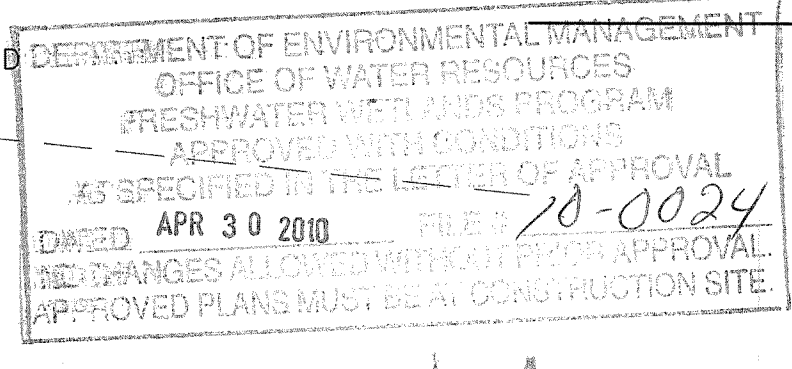
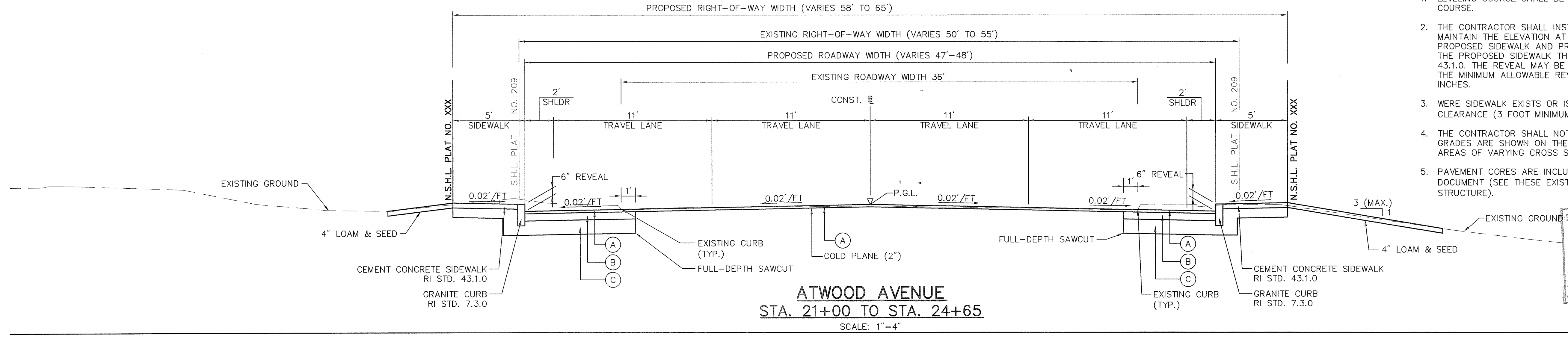
Scale 1"=4" Date January 19, 2010

Project Title

**FM-Global
Off-Site Road
Improvements**
Atwood Ave & Central Ave
Johnston, Rhode Island

Physical Alteration
Permit Application

Typical Sections No. 1



Drawing Number
C-5
Sheet 5 of 55
Project Number
72012.30

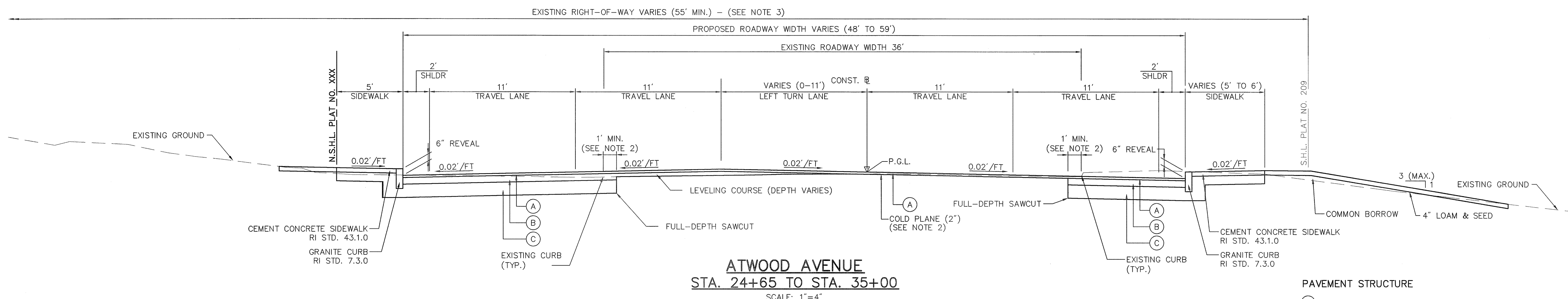


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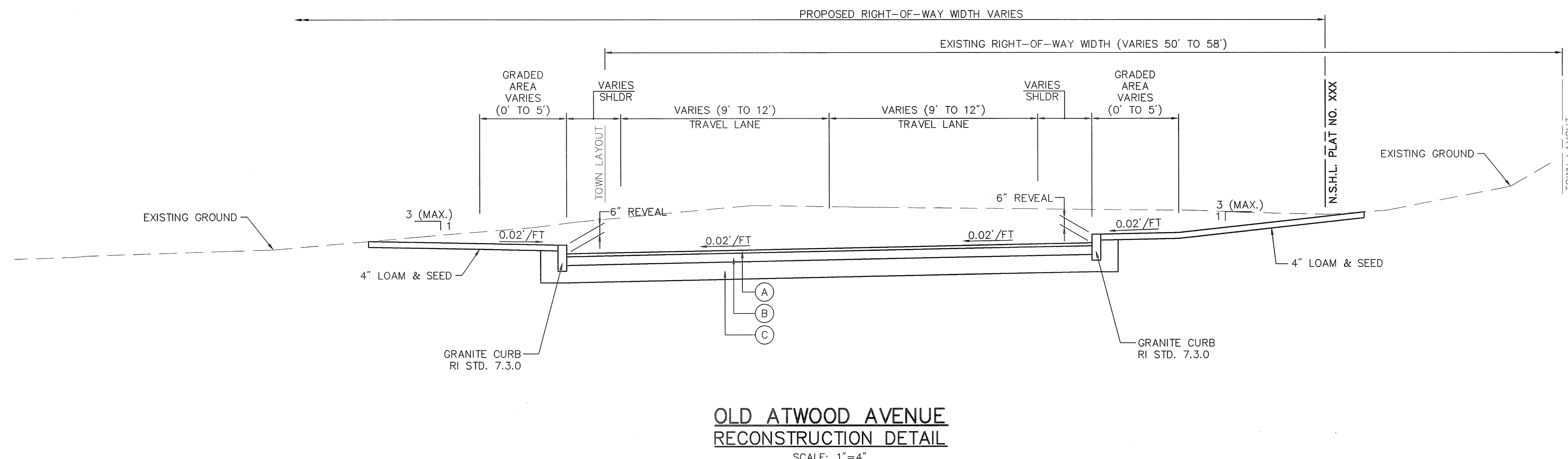
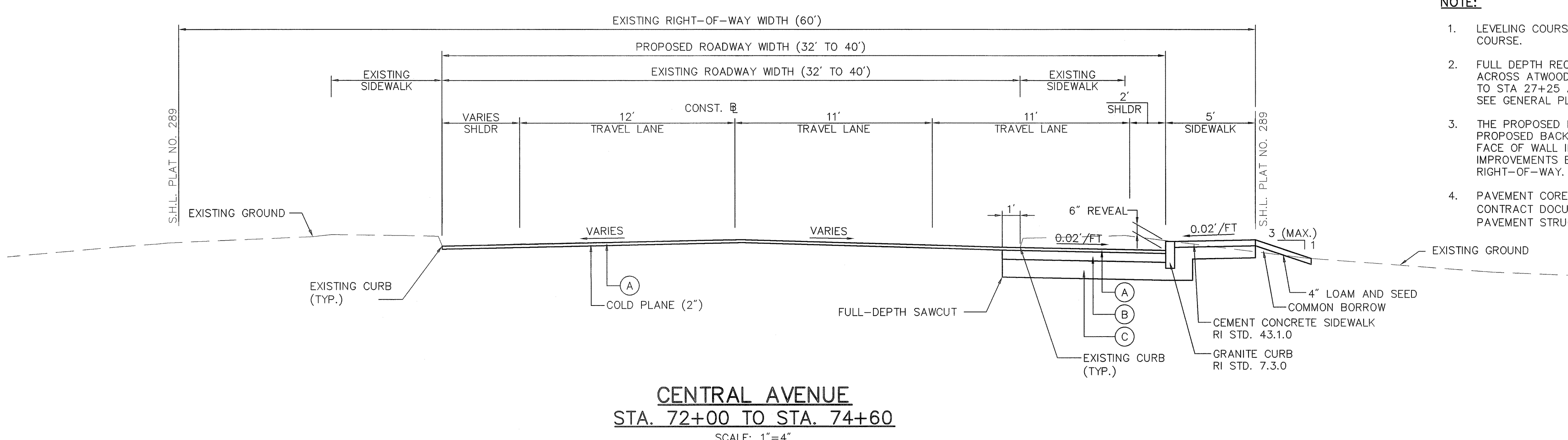
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FLB 22 230



- PAVEMENT STRUCTURE**
- (A) 2" BITUMINOUS SURFACE COURSE, TYPE I-1
 - (B) 6" BITUMINOUS BASE COURSE (2-3" LIFTS)
 - (C) 12" GRAVEL BORROW SUBBASE COURSE
- NOTE:**
1. LEVELING COURSE SHALL BE BITUMINOUS BASE COURSE.
 2. FULL DEPTH RECONSTRUCTION SHALL EXTEND ACROSS ATWOOD AVENUE BETWEEN STA 25+00 TO STA 27+25 AND STA 32+75 TO STA 34+75. SEE GENERAL PLANS FOR MORE INFORMATION.
 3. THE PROPOSED RIGHT-OF-WAY SHALL BE THE PROPOSED BACK OF SIDEWALK OR PROPOSED FACE OF WALL IN AREAS WHERE THE PROPOSED IMPROVEMENTS EXTEND BEYOND THE EXISTING RIGHT-OF-WAY.
 4. PAVEMENT CORES ARE INCLUDED IN THE CONTRACT DOCUMENT (SEE THESE EXISTING PAVEMENT STRUCTURE).



No.	Revision	Date	Appr.

Designed by	Drawn by	Checked by	Approved by
CAD checked by			
Scale 1"=4"	Date	January 19, 2010	
Project Title			

FM-Global
Off-Site Road
Improvements
Atwood Ave & Central Ave
Johnston, Rhode Island

Physical Alteration
Permit Application

Drawing Title

Typical Sections No. 2

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WATER RESOURCES
APPROVED WITH COMMENTS
AS SPECIFIED IN THE LETTER OF REVIEW
DATED APR 30 2010 FILE # 10-0024
NO CHANGES ALLOWED WITHOUT PROJECT APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Christopher D. Weneck

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C-6
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6 55
Project Number
72012.30

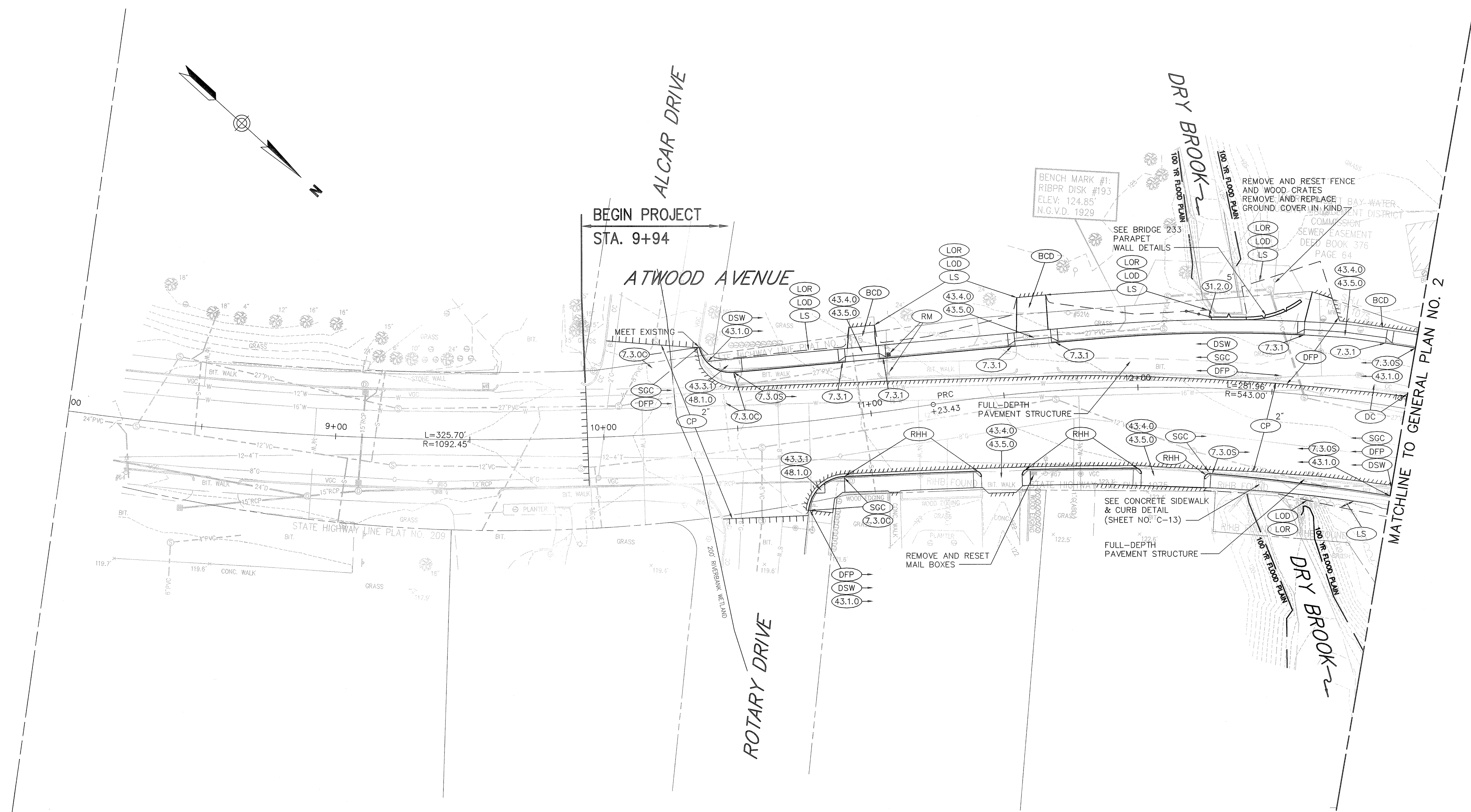


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No.	Revision	Date	Appr.

Designed by	Drawn by	Checked by
CAD checked by	Approved by	
Scale 1"=20'	Date	January 19, 2010
Project Title		

**FM-Global
Off-Site Road
Improvements**
Atwood Ave & Central Ave
Johnston, Rhode Island

Issued for
**Physical Alteration
Permit Application**

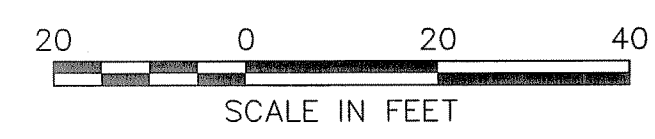
Drawing Title

**General
Plan No. 1**

- NOTES:**
1. THE CONTRACTOR SHALL INSTALL THE CURBING TO MAINTAIN THE ELEVATION AT THE BACK OF THE PROPOSED SIDEWALK AND PROVIDE A GRADE ACROSS THE PROPOSED SIDEWALK THAT MEETS THE R.I. STD. 43.1.0. THE REVEAL MAY BE LESS THAN 6 INCHES, THE MINIMUM ALLOWABLE REVEAL SHALL BE 2.5 INCHES.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR. 30 2010 FILE # 10-0024
NO CHANGES ALLOWED WITHOUT WRITTEN APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

Signature



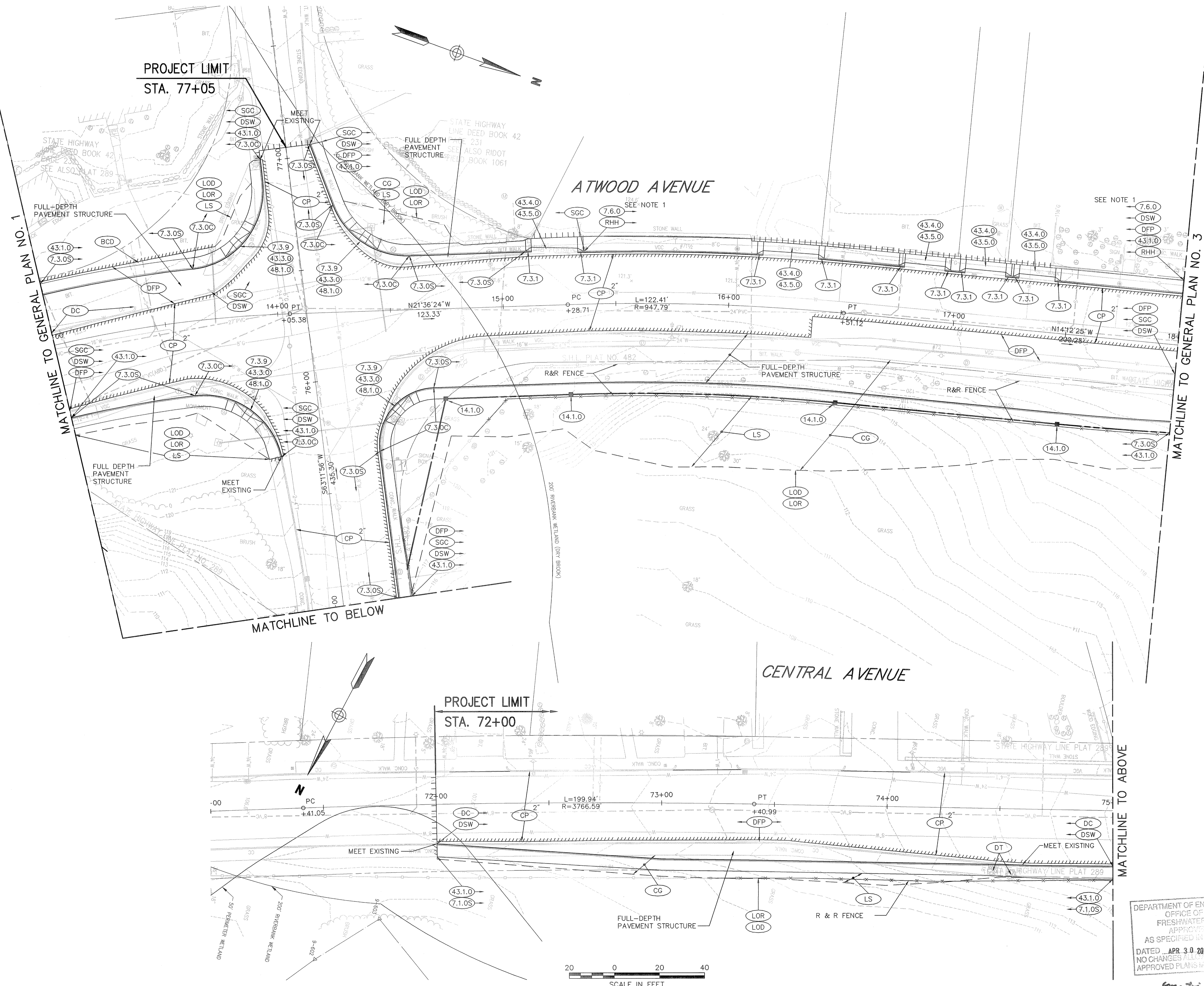
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7 55
Project Number
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- NOTES:**
1. THE CONTRACTOR SHALL INSTALL THE CURBING TO MAINTAIN THE ELEVATION AT THE BACK OF THE PROPOSED SIDEWALK AND PROVIDE A GRADE ACROSS THE PROPOSED SIDEWALK THAT MEETS THE R.I. STD. 43.1.0. THE REVEAL MAY BE LESS THAN 6 INCHES, THE MINIMUM ALLOWABLE REVEAL SHALL BE 2.5 INCHES.

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 CAD checked by _____ Approved by _____
 Scale 1"=20' Date January 19, 2010
 Project Title _____

**FM-Global
Off-Site Road
Improvements**
 Atwood Ave & Central Ave
 Johnston, Rhode Island

Issued for
**Physical Alteration
 Permit Application**

General
 Plan No. 2

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
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 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED APR 30 2010 FILE # 10-0024
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 APPROVED PLANS MUST BE AT CONTRACTOR'S SITE

Matthew S. Wenzel

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C-8
 Sheet of
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 72012.30

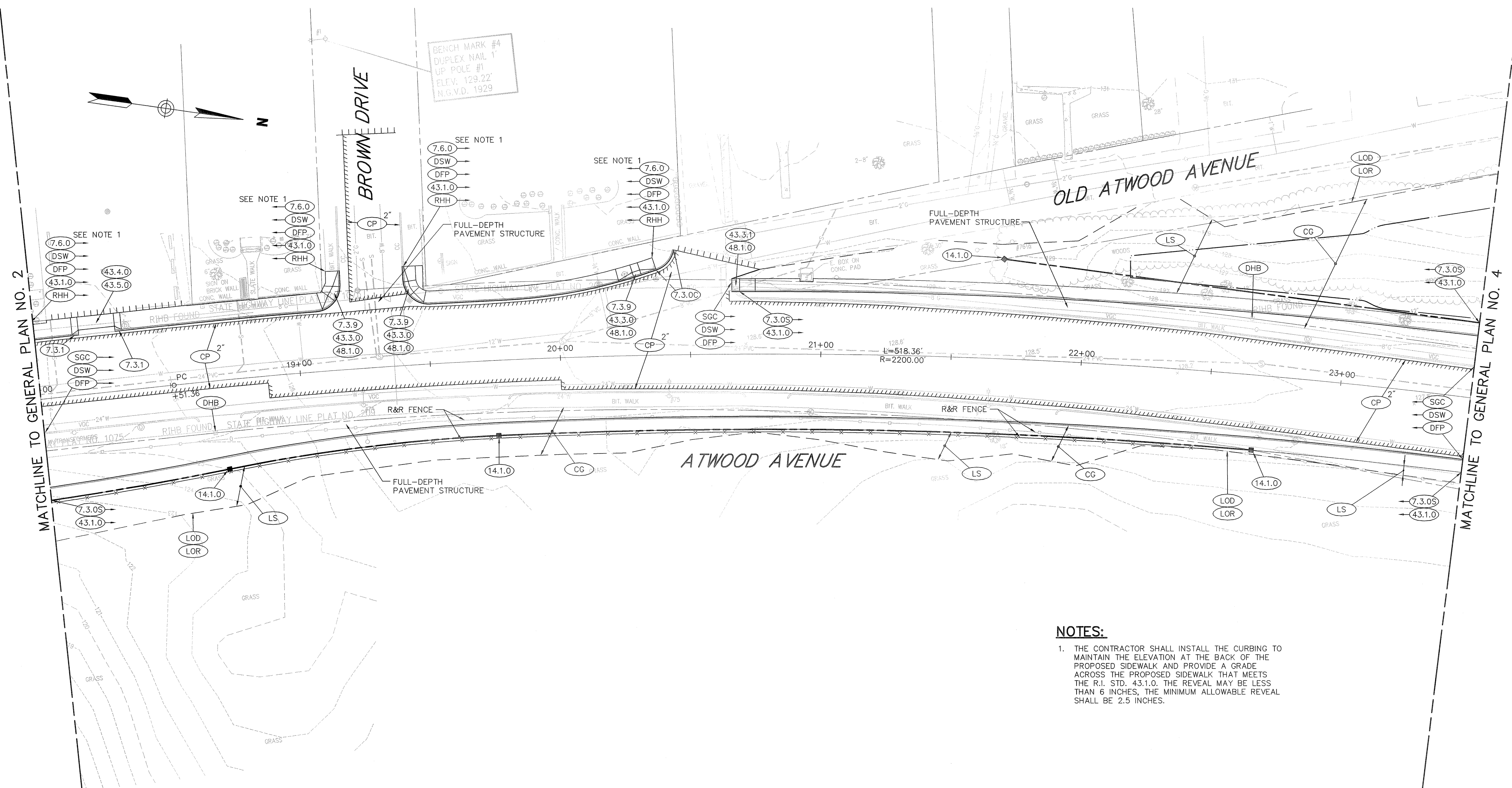


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NOTES:

1. THE CONTRACTOR SHALL INSTALL THE CURBING TO MAINTAIN THE ELEVATION AT THE BACK OF THE PROPOSED SIDEWALK AND PROVIDE A GRADE ACROSS THE PROPOSED SIDEWALK THAT MEETS THE R.I. STD. 43.1.0. THE REVEAL MAY BE LESS THAN 6 INCHES, THE MINIMUM ALLOWABLE REVEAL SHALL BE 2.5 INCHES.

No.	Revision	Date	Appr.

Designed by _____ Drawn by _____ Checked by _____
 CAD checked by _____ Approved by _____
 Scale: 1"=20' Date: **January 19, 2010**
 Project Title: _____

**FM-Global
Off-Site Road
Improvements**
Atwood Ave & Central Ave
Johnston, Rhode Island

Physical Alteration
Permit Application

General
Plan No. 3

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED **APR 30 2010** FILE # **10-0024**
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Martin D. Wenzel

Drawing Number
C-9
Sheet 9 of 55
Project Number
72012.30



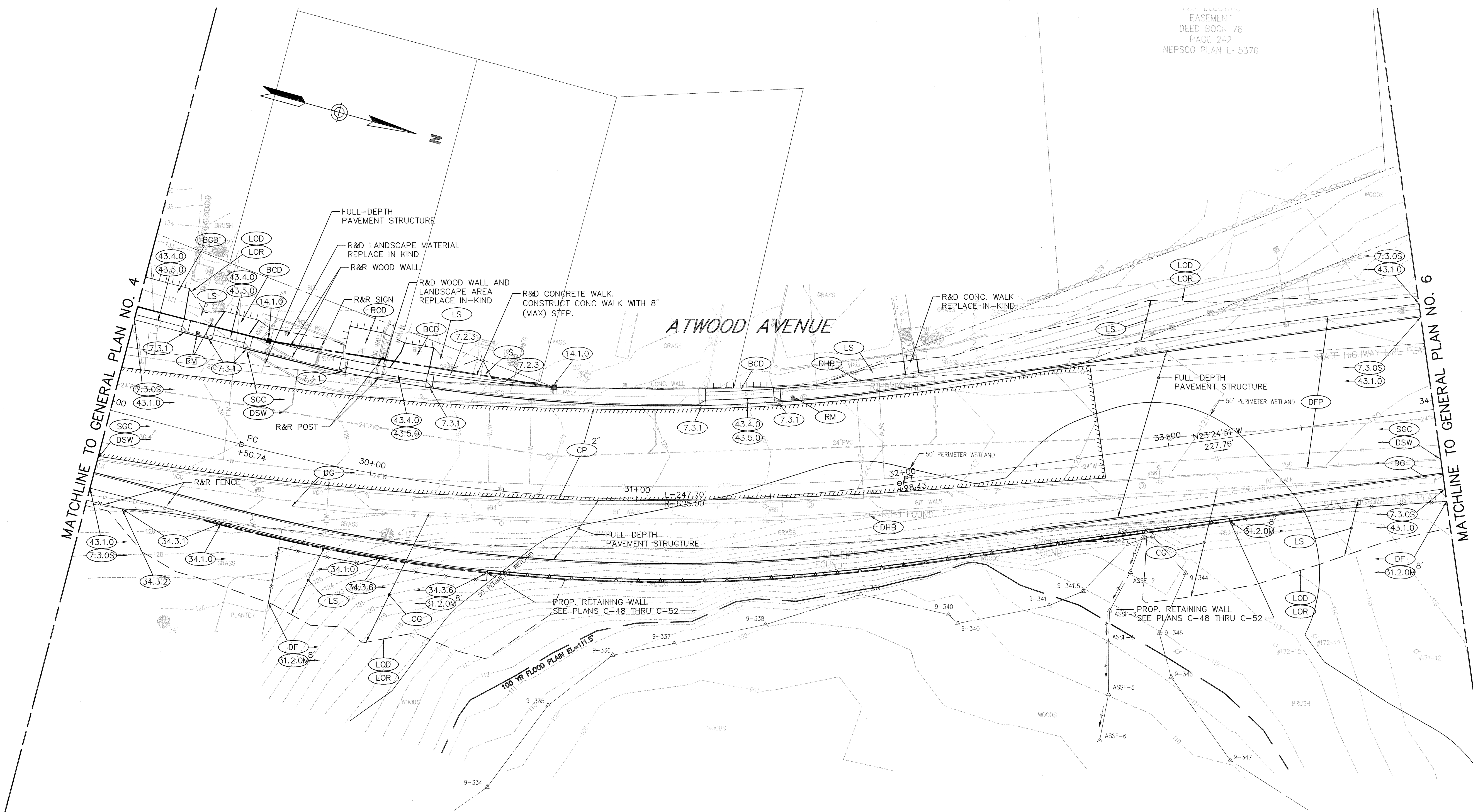


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EASEMENT
DEED BOOK 78
PAGE 242
NEPSCO PLAN L-5376

MATCHLINE TO GENERAL PLAN NO. 4

MATCHLINE TO GENERAL PLAN NO. 6

No.	Revision	Date	Appr.

Scale 1"=20'
Date January 19, 2010
Project Title
**FM-Global
Off-Site Road
Improvements**
Atwood Ave & Central Ave
Johnston, Rhode Island

Issued for
**Physical Alteration
Permit Application**

Drawing Title

**General
Plan No. 5**

- NOTES:**
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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Matthew D. Wencel



Drawing Number
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72012.30

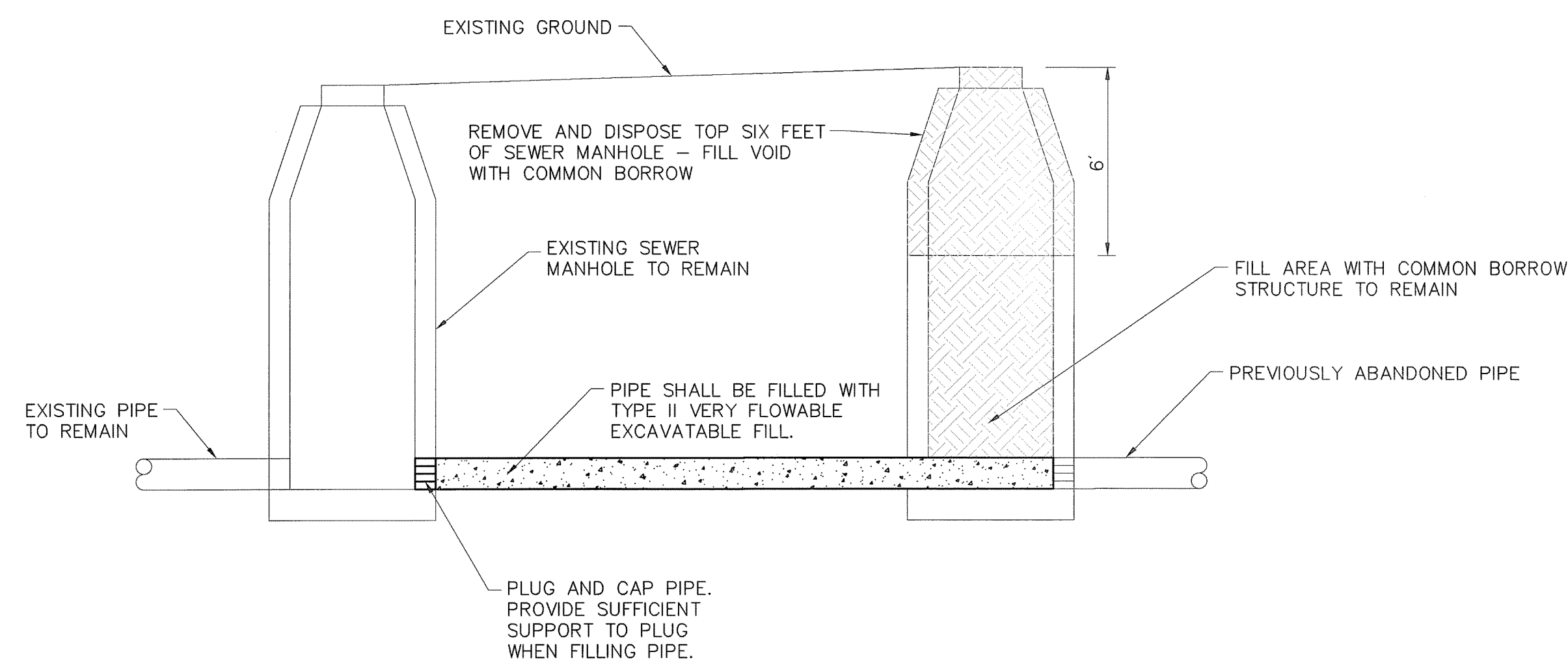


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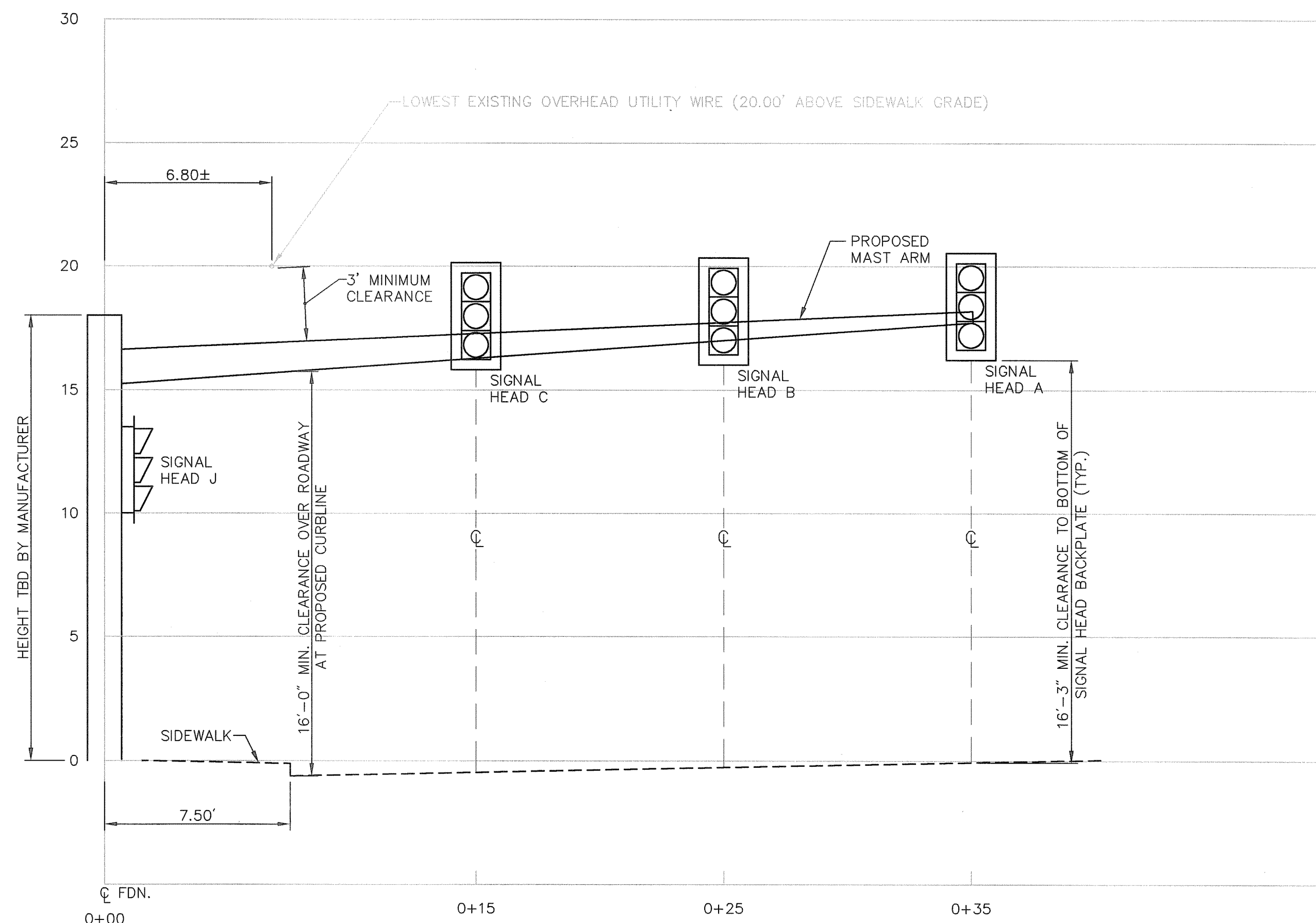
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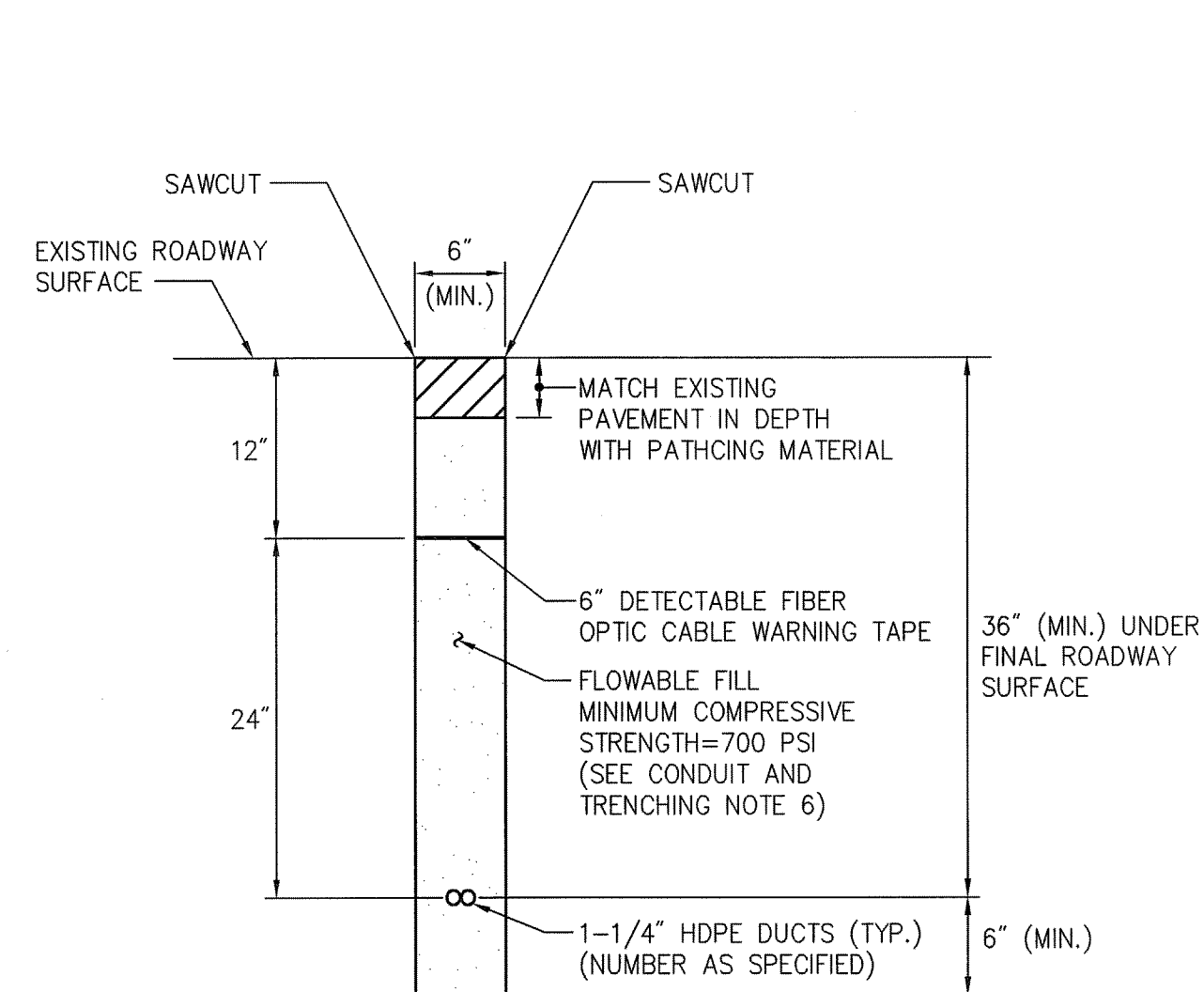
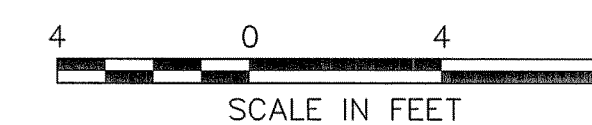
FEB 22 2010



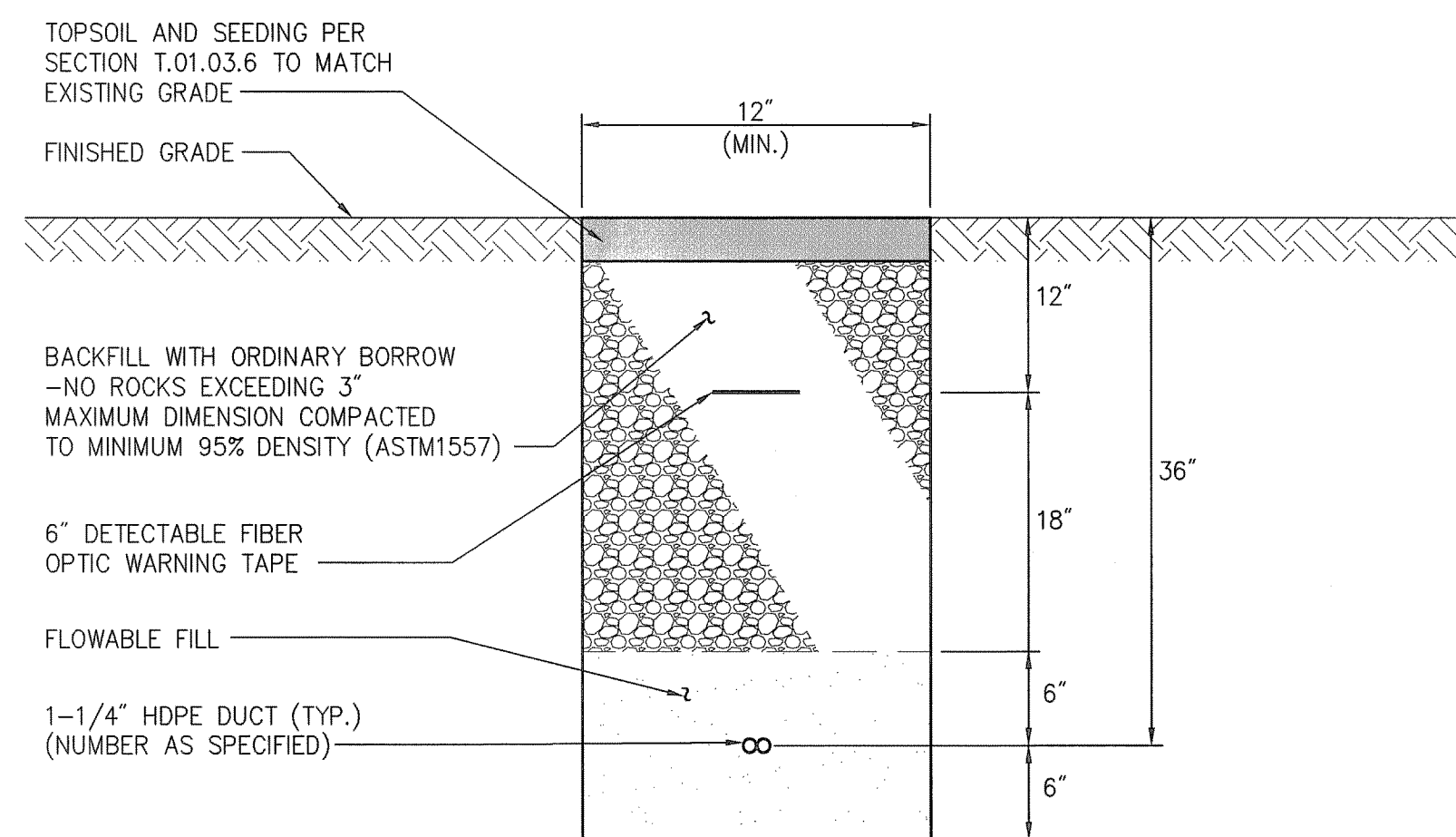
SEWER MANHOLE AND PIPE ABANDONMENT DETAIL
N.T.S.



PROFILE OF PROPOSED 35' MAST ARM ON NORTHEAST CORNER OF ATWOOD AVENUE (ROUTE 5)/WILDER ROAD/RELOCATED ATWOOD AVENUE INTERSECTION



TYPICAL HDPE FIBER DUCT TRENCH DETAIL UNDER EXISTING PAVED ROADWAY OR SIDEWALK SURFACES
NOT TO SCALE



TYPICAL HDPE FIBER DUCT TRENCH DETAIL UNDER UNPAVED SURFACES
NOT TO SCALE

CONDUIT AND TRENCHING NOTES:

1. PULL TAPES SHALL BE PROVIDED IN ALL UNUSED CONDUIT. NO PULL ROPES SHALL BE USED IN THE HDPE DUCTS.
2. LONGITUDINAL CONDUIT BENDS ALONG THE MAINLINE FIBER BACKBONE SHALL NOT EXCEED 20 DEGREES.
3. WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.
4. SEE SHEET NOS. 89-92 FOR ADDITIONAL INFORMATION ON CABLING BETWEEN DEVICES.
5. AN AUTOMATIC TRENCHING MACHINE SHALL BE USED FOR INSTALLING ALL HDPE DUCT UNDER EXISTING ROADWAYS UNLESS APPROVED BY THE ENGINEER.
6. IN AREAS WHERE THE HDPE FIBER DUCT IS TO CROSS EXISTING GAS FACILITIES, THE CONTRACTOR SHALL EXCAVATE A WIDER TRENCH SO THAT PROPER COMPACTION MAY BE OBTAINED WITHOUT THE USE OF FLOWABLE FILL.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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Signature

No.	Revision	Date	Appvd.

FM-Global
Off-Site Road
Improvements
Atwood Ave & Central Ave
Johnston, Rhode Island

Physical Alteration
Permit Application

Drawing Title

Miscellaneous
Details No. 2

Drawing Number

C-14

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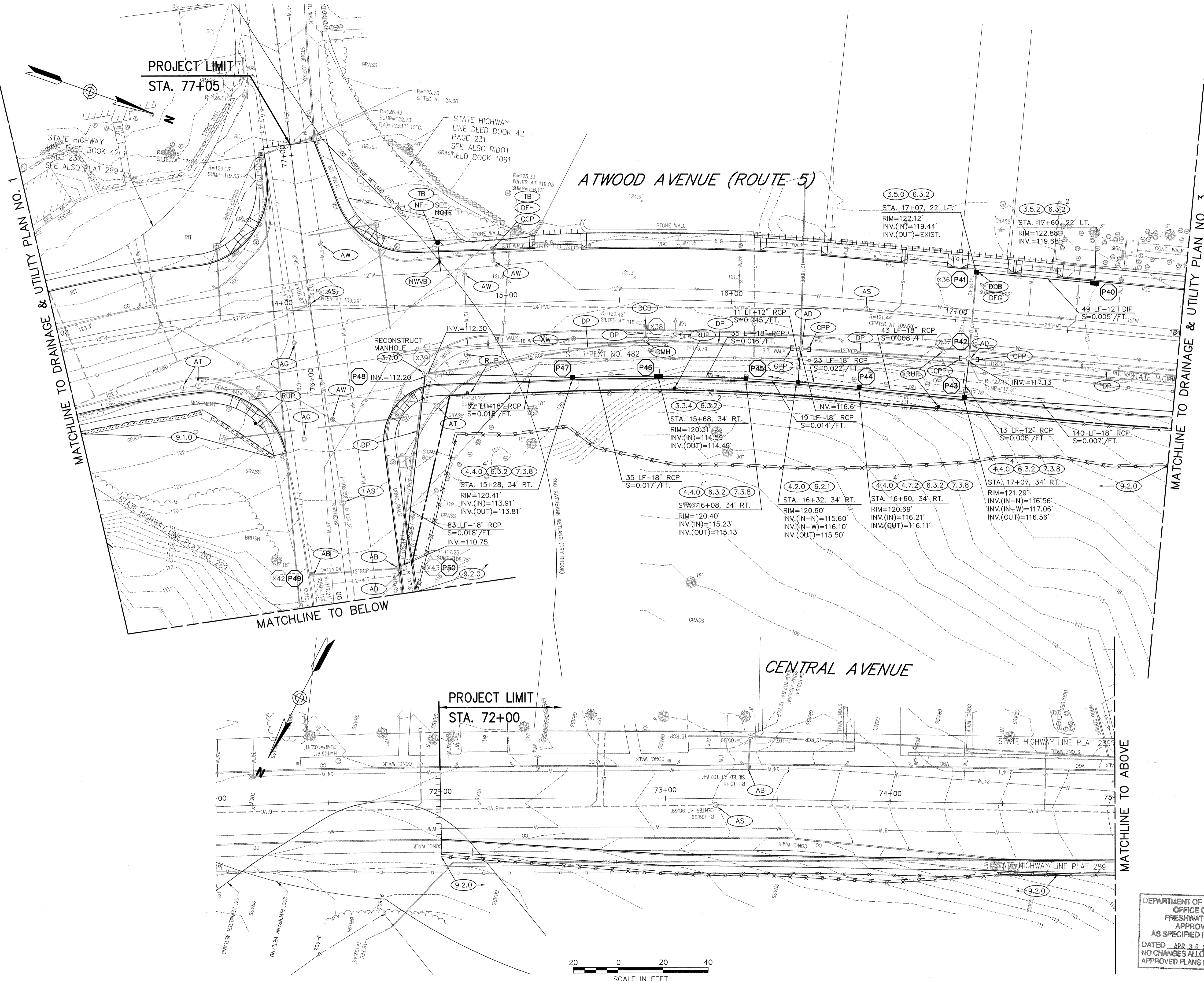
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NOTE:

1. MAINTAIN CLEARANCE (3 FOOT MINIMUM) TO CONFORM TO ADA.

No.	Revision	Date	Appr.

**FM-Global
Off-Site Road
Improvements**
Atwood Ave & Central Ave
Johnston, Rhode Island

Physical Alteration
Permit Application

Drawing Title

**Drainage & Utility
Plan No. 2**

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Project Number 72012.30

7201230 DU.DWG



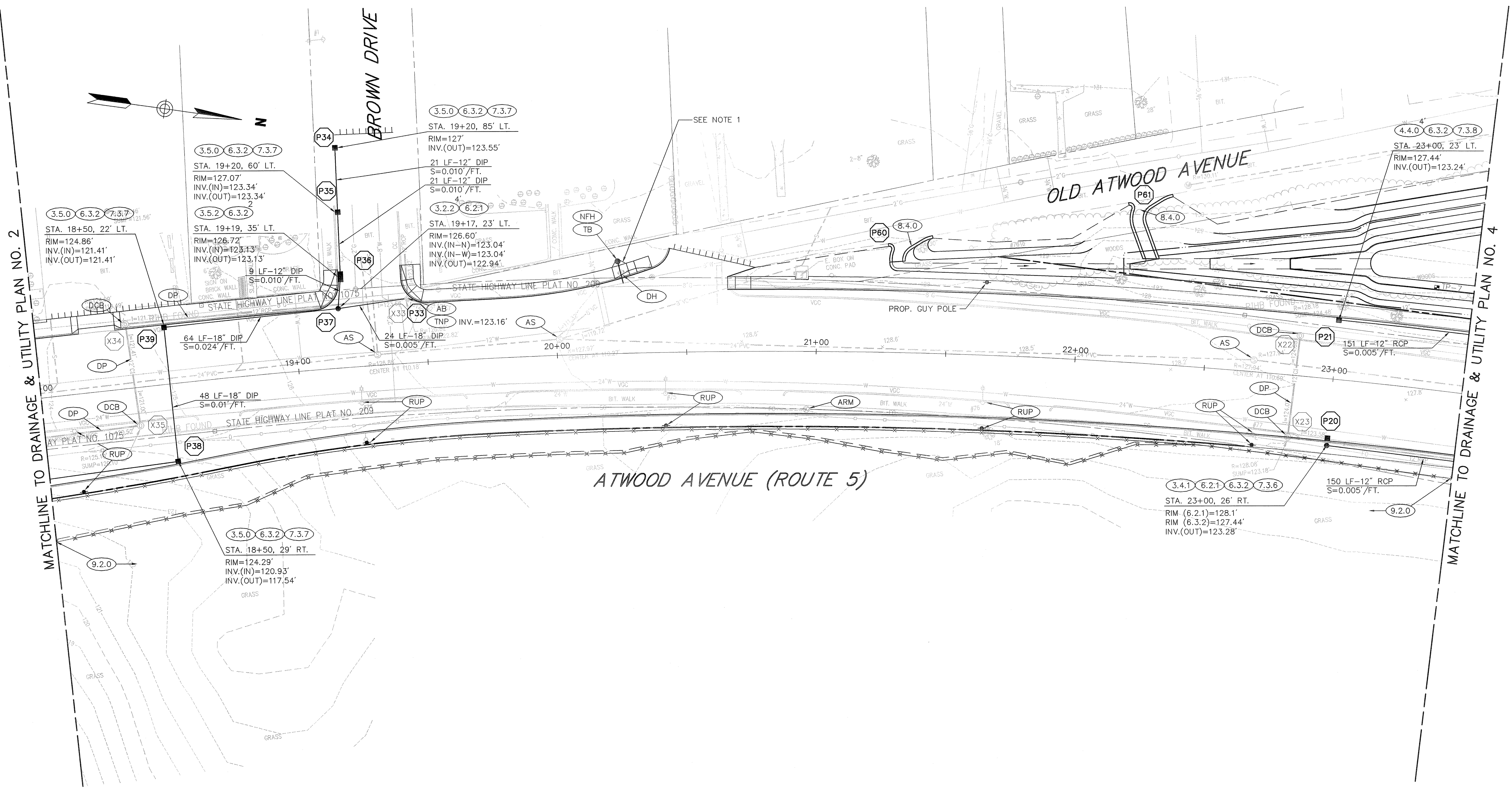


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NOTE:
1. MAINTAIN CLEARANCE (3 FOOT MINIMUM) TO CONFORM TO ADA.

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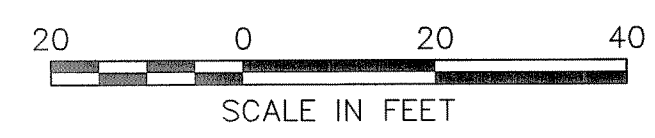
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CAD checked by	Approved by	
Scale	Date	January 19, 2010
Project Title		

FM-Global
Off-Site Road
Improvements
Atwood Ave & Central Ave
Johnston, Rhode Island

Physical Alteration
Permit Application

Drawing Title

Drainage & Utility
Plan No. 3



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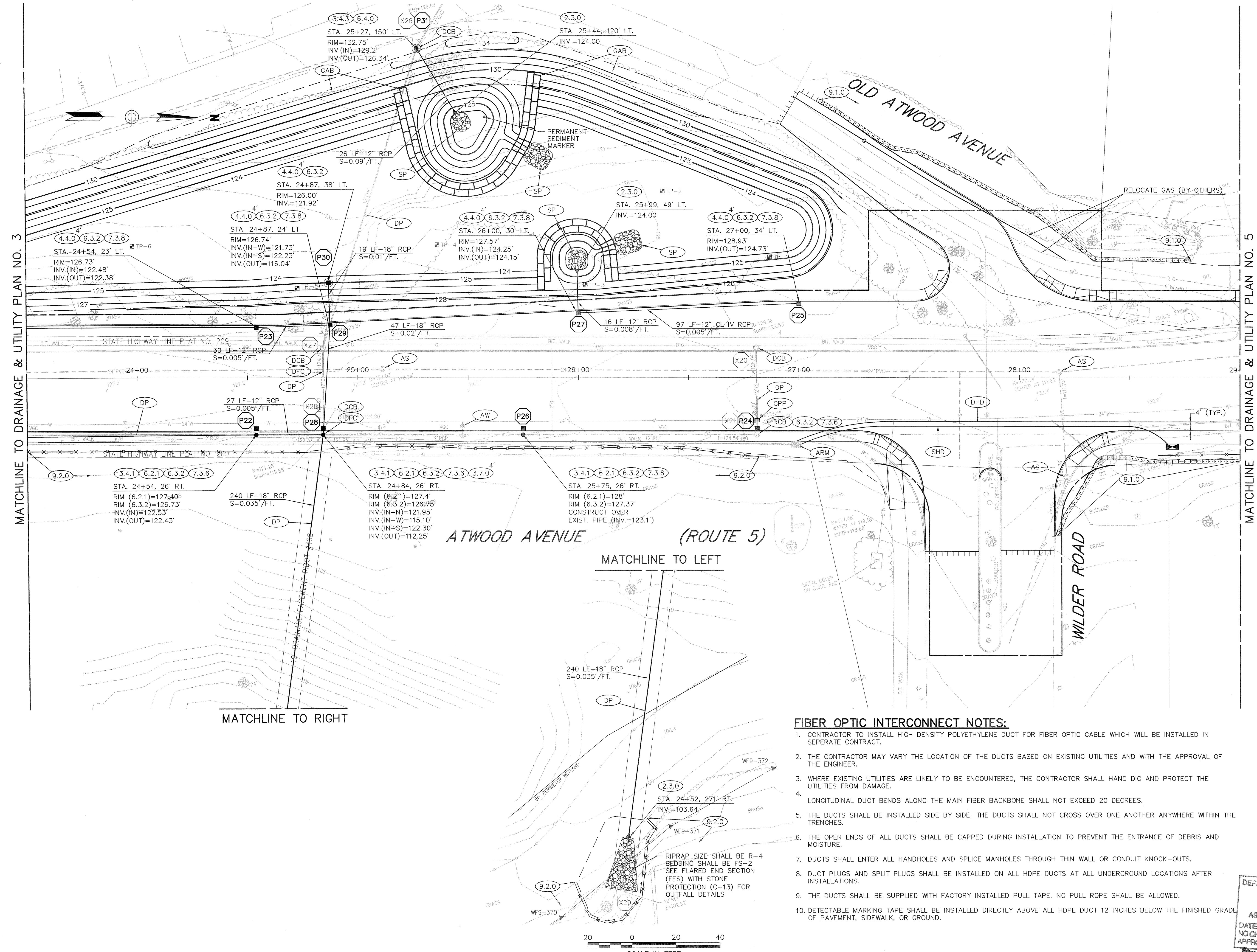


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NOTE:
1. WHERE SIDEWALK EXISTS OR IS PROPOSED, MAINTAIN CLEARANCE (3 FOOT MINIMUM) TO CONFORM TO ADA.

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Drainage & Utility Plan No. 4

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- FIBER OPTIC INTERCONNECT NOTES:**
- CONTRACTOR TO INSTALL HIGH DENSITY POLYETHYLENE DUCT FOR FIBER OPTIC CABLE WHICH WILL BE INSTALLED IN SEPERATE CONTRACT.
 - THE CONTRACTOR MAY VARY THE LOCATION OF THE DUCTS BASED ON EXISTING UTILITIES AND WITH THE APPROVAL OF THE ENGINEER.
 - WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, THE CONTRACTOR SHALL HAND DIG AND PROTECT THE UTILITIES FROM DAMAGE.
 - LONGITUDINAL DUCT BENDS ALONG THE MAIN FIBER BACKBONE SHALL NOT EXCEED 20 DEGREES.
 - THE DUCTS SHALL BE INSTALLED SIDE BY SIDE. THE DUCTS SHALL NOT CROSS OVER ONE ANOTHER ANYWHERE WITHIN THE TRENCHES.
 - THE OPEN ENDS OF ALL DUCTS SHALL BE CAPPED DURING INSTALLATION TO PREVENT THE ENTRANCE OF DEBRIS AND MOISTURE.
 - DUCTS SHALL ENTER ALL HANDHOLES AND SPLICE MANHOLES THROUGH THIN WALL OR CONDUIT KNOCK-OUTS.
 - DUCT PLUGS AND SPLIT PLUGS SHALL BE INSTALLED ON ALL HDPE DUCTS AT ALL UNDERGROUND LOCATIONS AFTER INSTALLATIONS.
 - THE DUCTS SHALL BE SUPPLIED WITH FACTORY INSTALLED PULL TAPE. NO PULL ROPE SHALL BE ALLOWED.
 - DETECTABLE MARKING TAPE SHALL BE INSTALLED DIRECTLY ABOVE ALL HDPE DUCT 12 INCHES BELOW THE FINISHED GRADE OF PAVEMENT, SIDEWALK, OR GROUND.



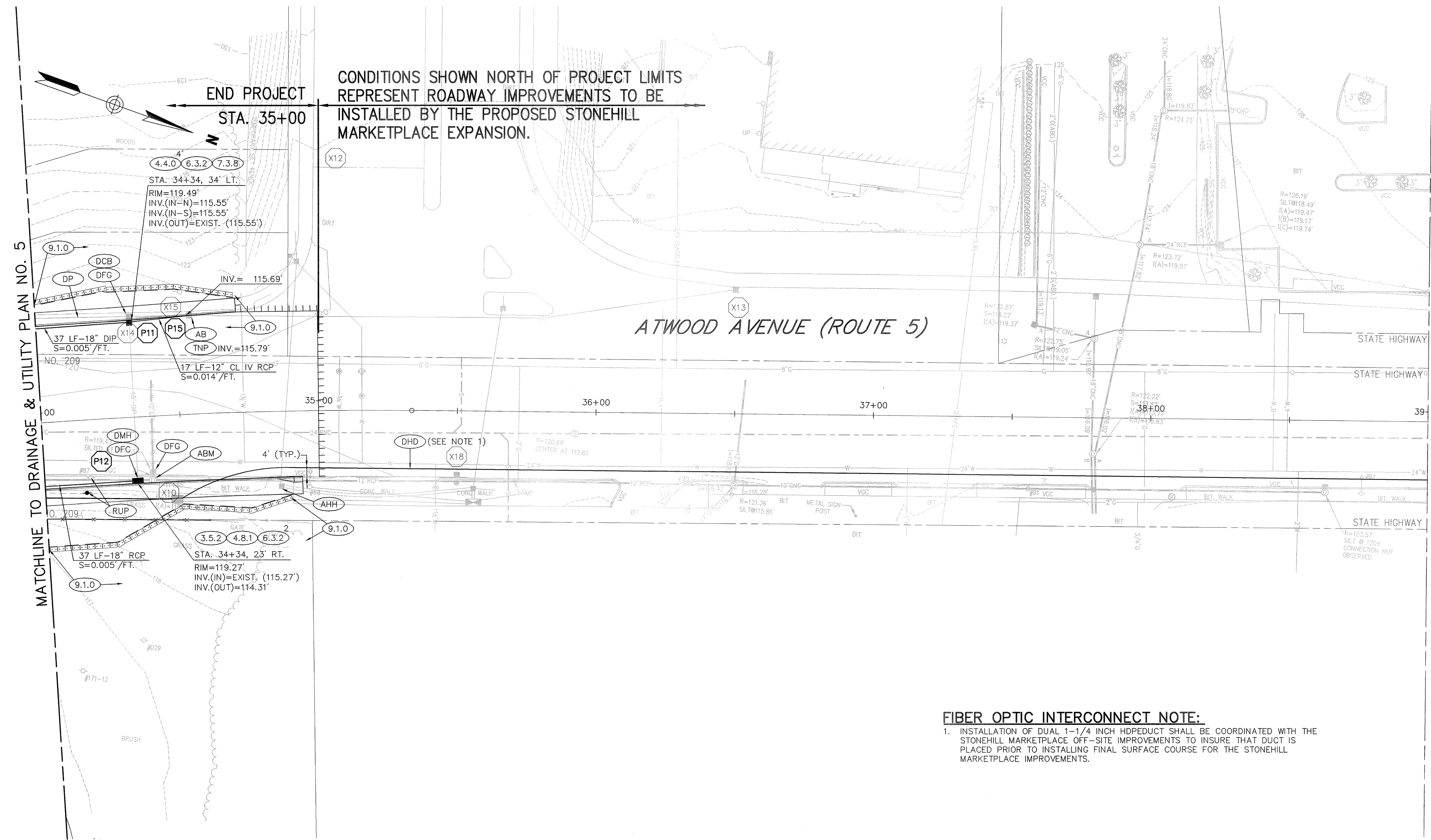


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CONDITIONS SHOWN NORTH OF PROJECT LIMITS REPRESENT ROADWAY IMPROVEMENTS TO BE INSTALLED BY THE PROPOSED STONEHILL MARKETPLACE EXPANSION.

NOTE:
1. WERE SIDEWALK EXISTS OR IS PROPOSED, MAINTAIN CLEARANCE (3 FOOT MINIMUM) TO CONFORM TO ADA.

No.	Revision	Date	Appr.

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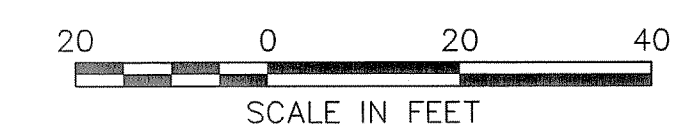
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Improvements**
Atwood Ave & Central Ave
Johnston, Rhode Island

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**Physical Alteration
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Drawing Title

**Drainage & Utility
Plan No. 6**

FIBER OPTIC INTERCONNECT NOTE:
1. INSTALLATION OF DUAL 1-1/4 INCH HDPE DUCT SHALL BE COORDINATED WITH THE STONEHILL MARKETPLACE OFF-SITE IMPROVEMENTS TO INSURE THAT DUCT IS PLACED PRIOR TO INSTALLING FINAL SURFACE COURSE FOR THE STONEHILL MARKETPLACE IMPROVEMENTS.



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7201230 DU.DWG

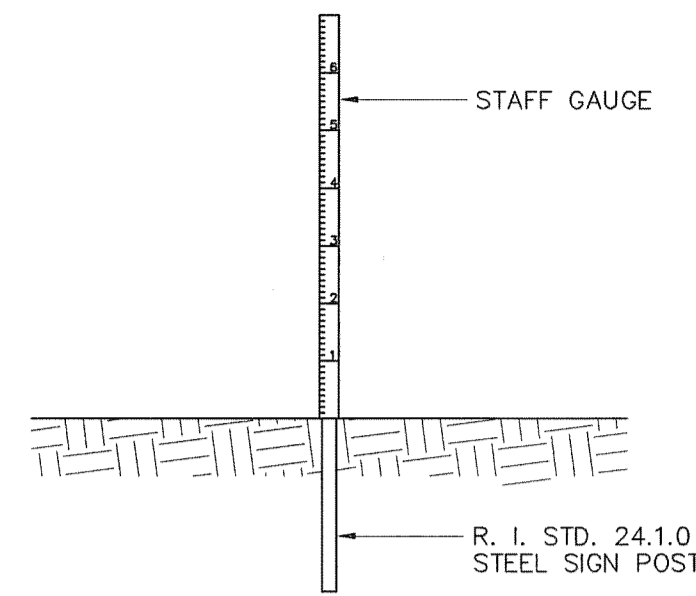


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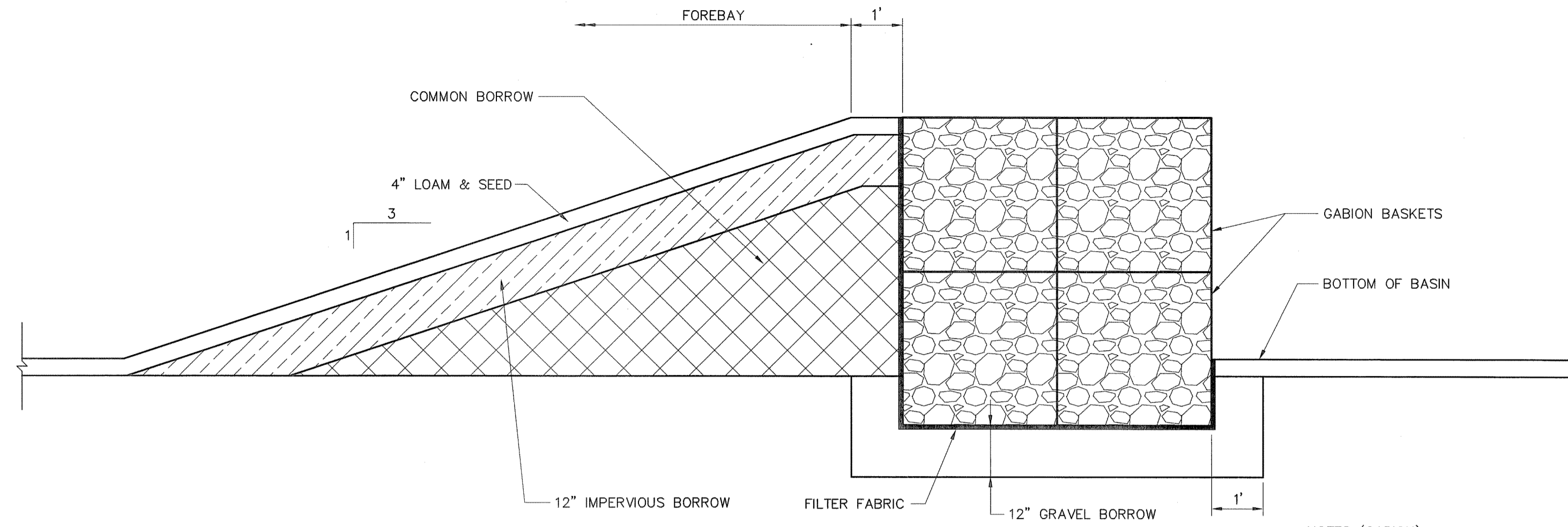
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**PERMANENT
SEDIMENT
MARKER**

SCALE: N.T.S.



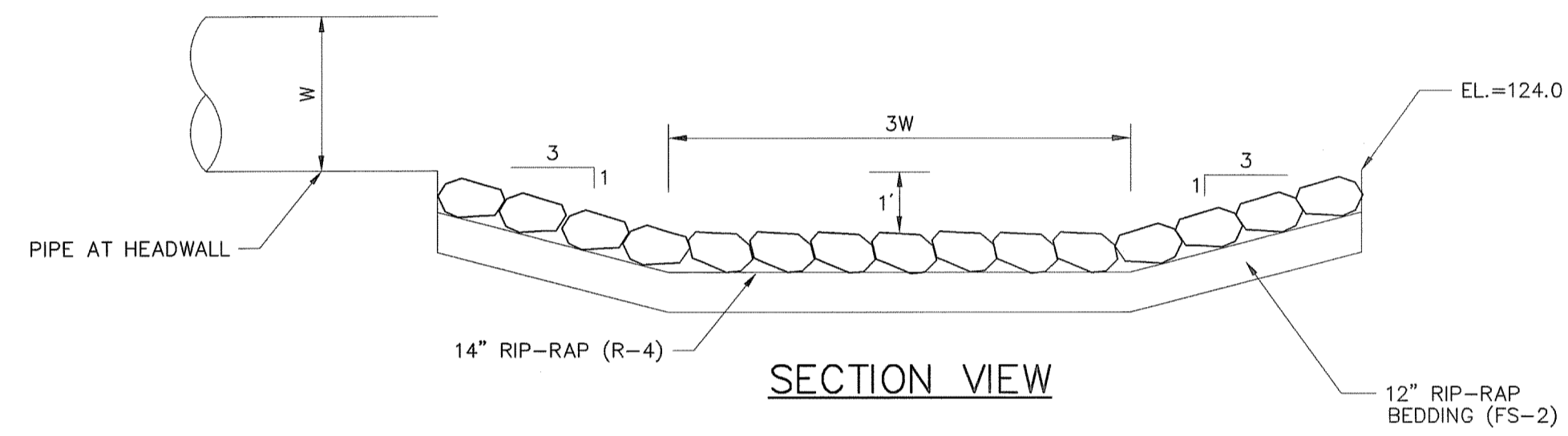
(GAB)

GABION DETAIL

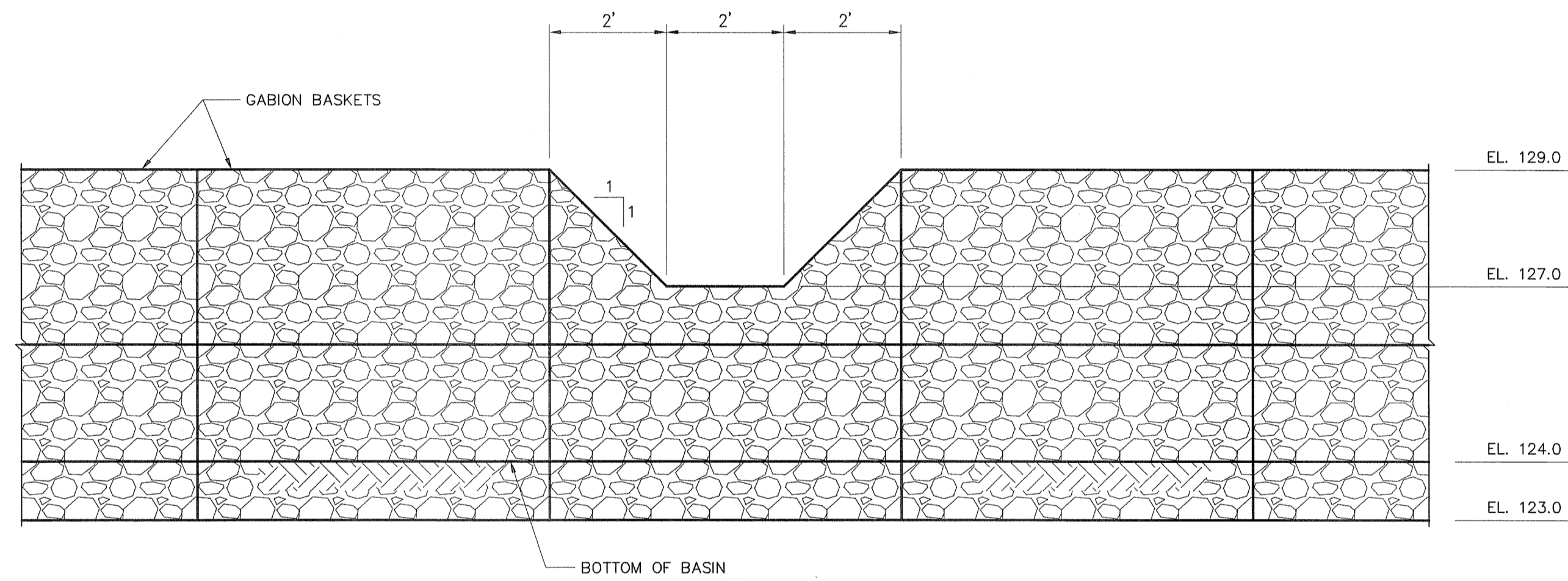
SCALE: 1"=2'

NOTES (GABION):

1. COMBINE GABIONS TO MEET WIDTH AND LENGTH DIMENSIONS AND ELEVATIONS SHOWN ON PLAN. TYPICAL GABION IS 3' WIDE x 3' HIGH x 6' LONG.
2. PROVIDE FILTER FABRIC IN ACCORDANCE WITH SECTION 206 OF THE RHODE ISLAND STANDARD SPECIFICATIONS FOR SOIL SEPARATION.
3. STONE FOR FILLING GABIONS SHALL BE GRADED RIPRAP STONE NO. R-4.

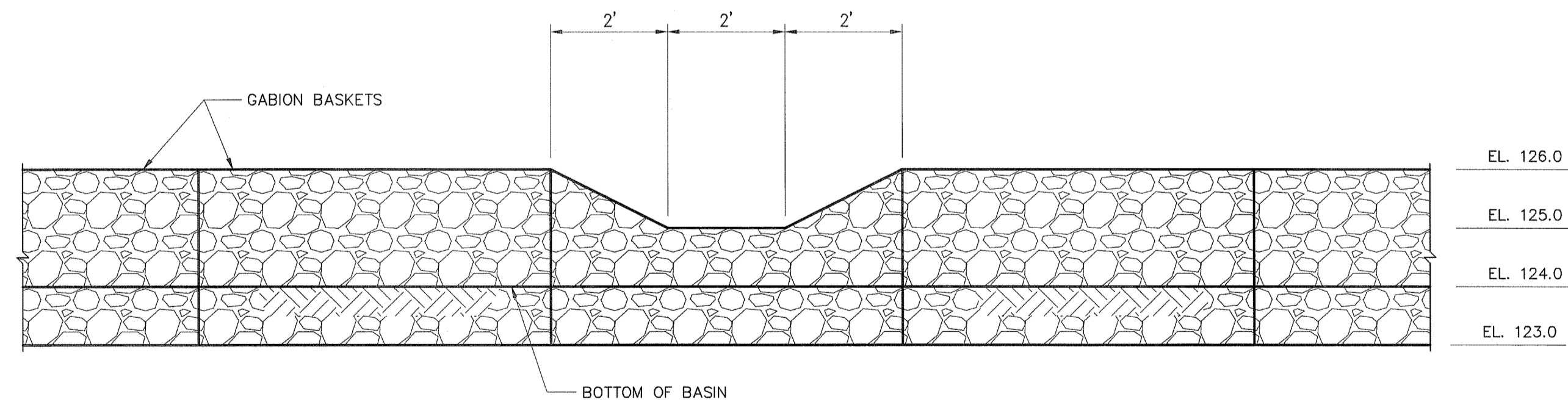


SECTION VIEW



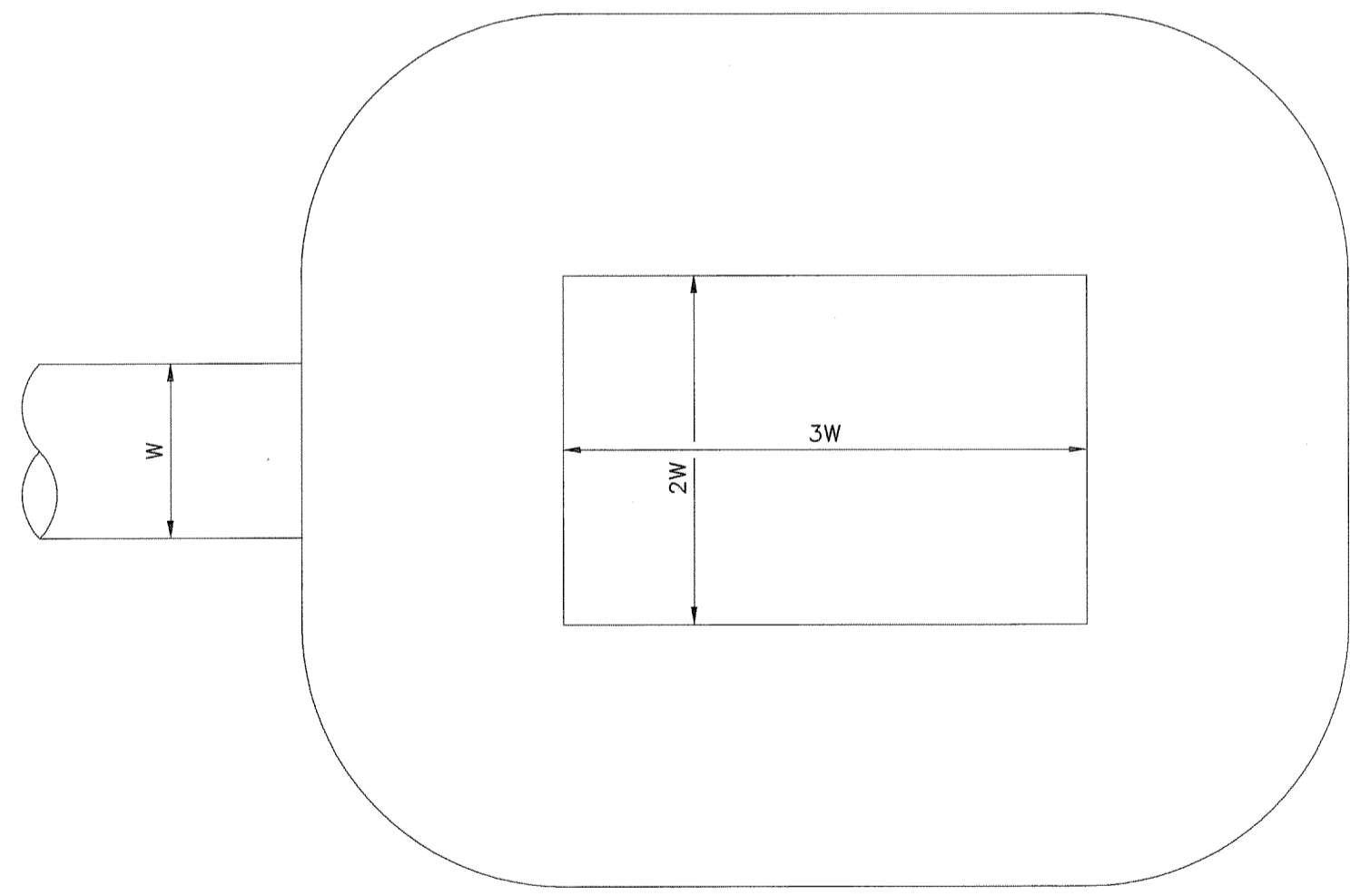
**GABION WEIR DETAIL
OUTFALL @ STA. 25+44, 120' LT.**

SCALE: 1"=2'



**GABION WEIR DETAIL
OUTFALL @ STA. 25+99, 49' LT.**

SCALE: 1"=2'



PLAN VIEW

(SP)

STONE PROTECTION AT OUTFALL/WEIR

SCALE: N.T.S.

NOTES (STONE PROTECTION):

1. DIMENSIONS MAY BE MODIFIED BY ENGINEER TO MEET FIELD CONDITIONS.
2. UNLESS OTHERWISE SPECIFIED, DUMPED RIP-RAP SHALL BE USED.
3. W IS INSIDE DIAMETER OF PIPE OR WIDTH OF WEIR BASE.

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Infiltration/Detention
Basin Details

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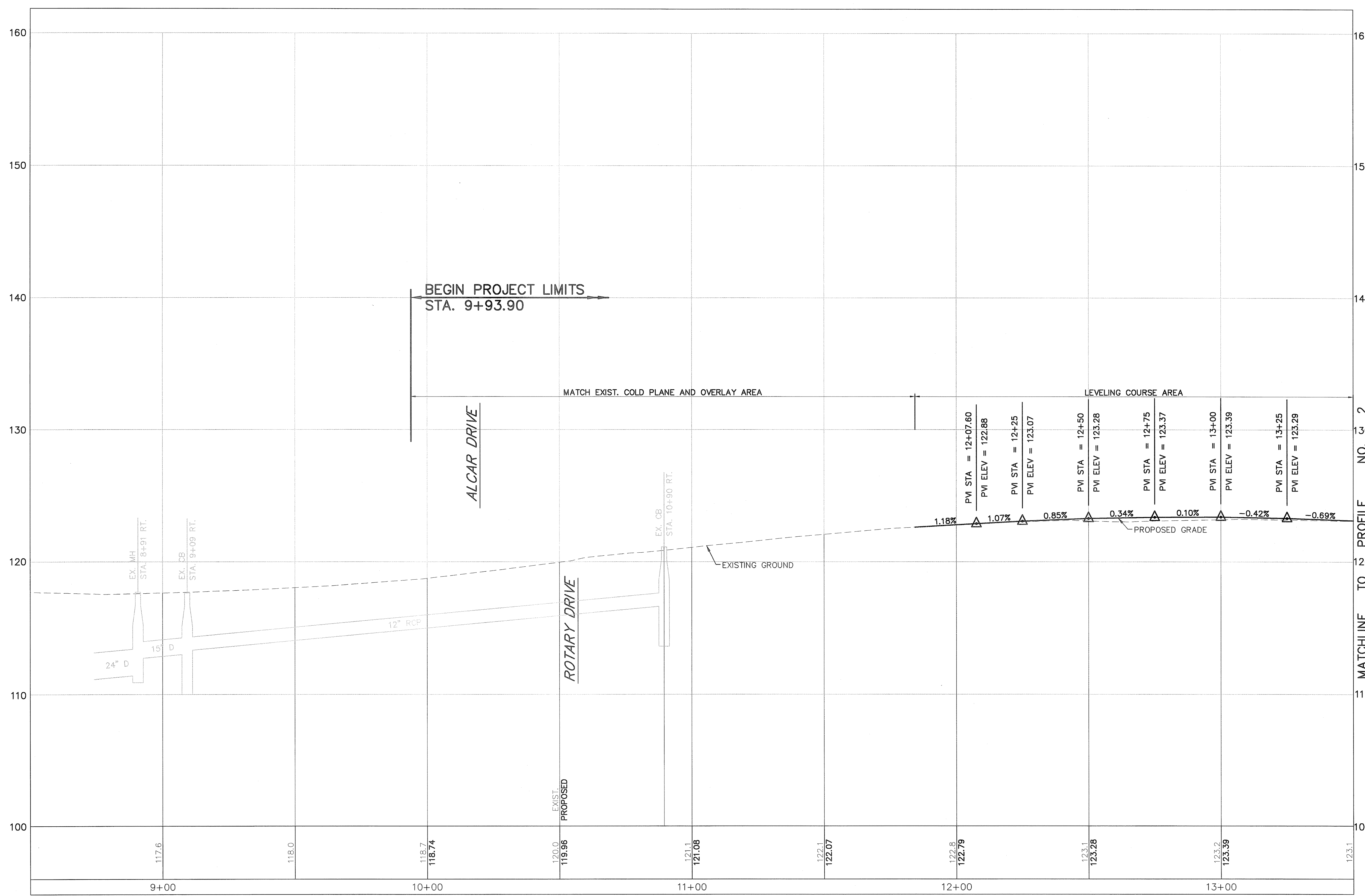


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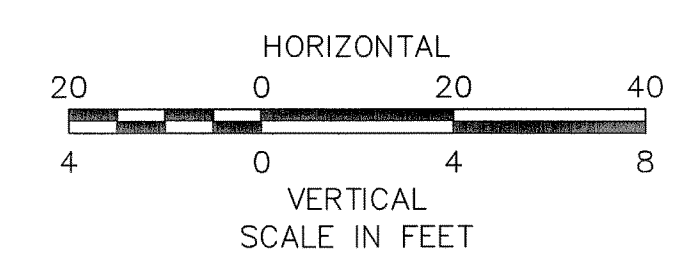
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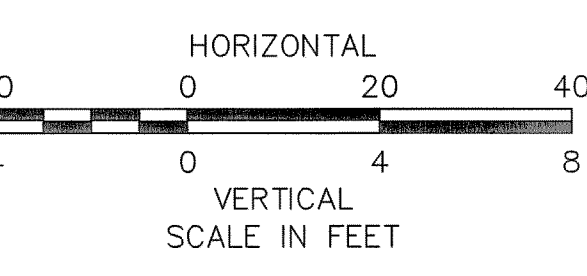
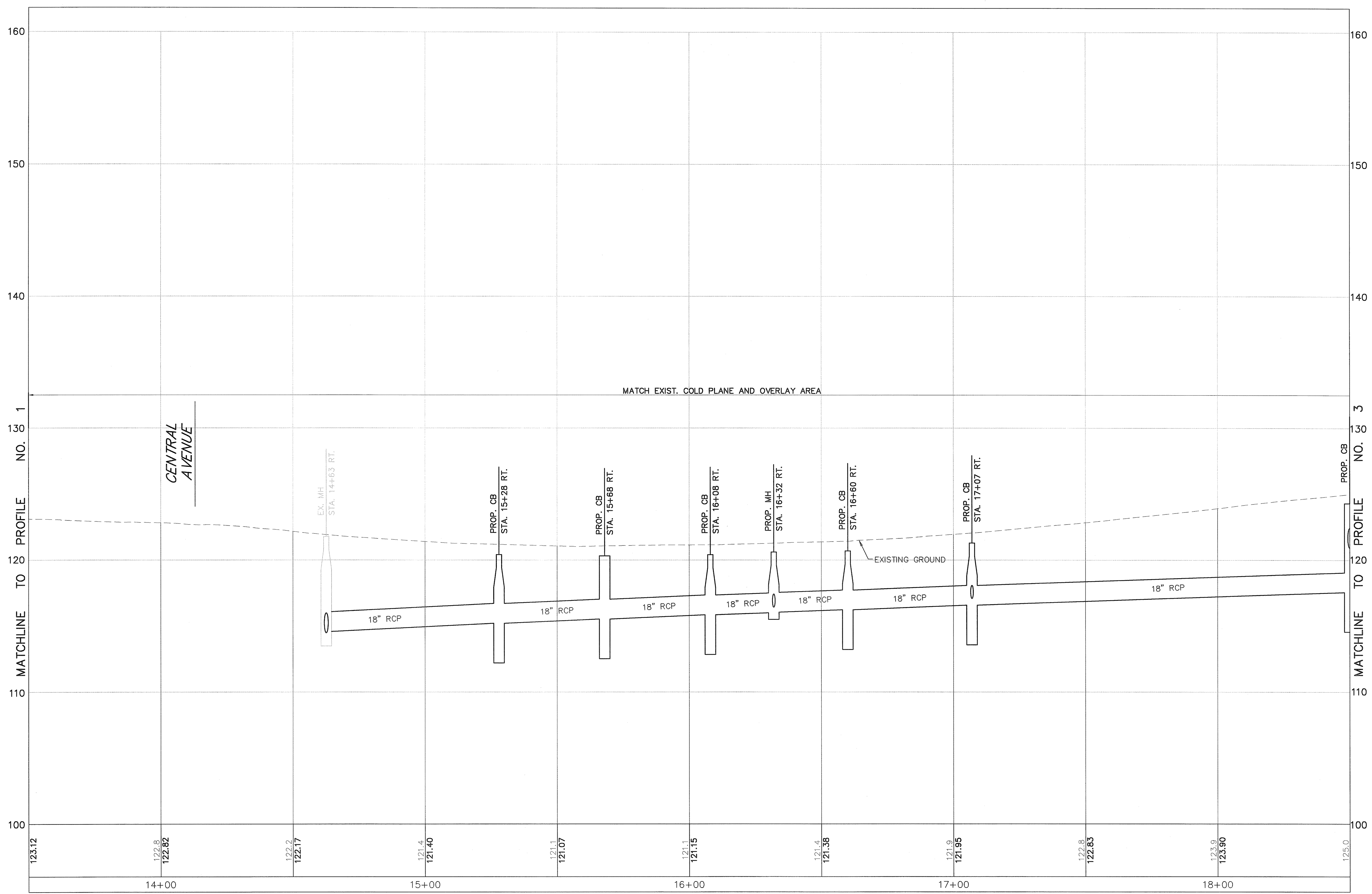


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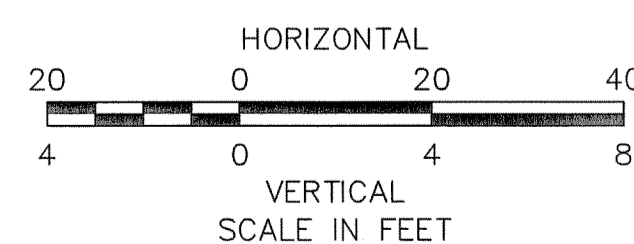
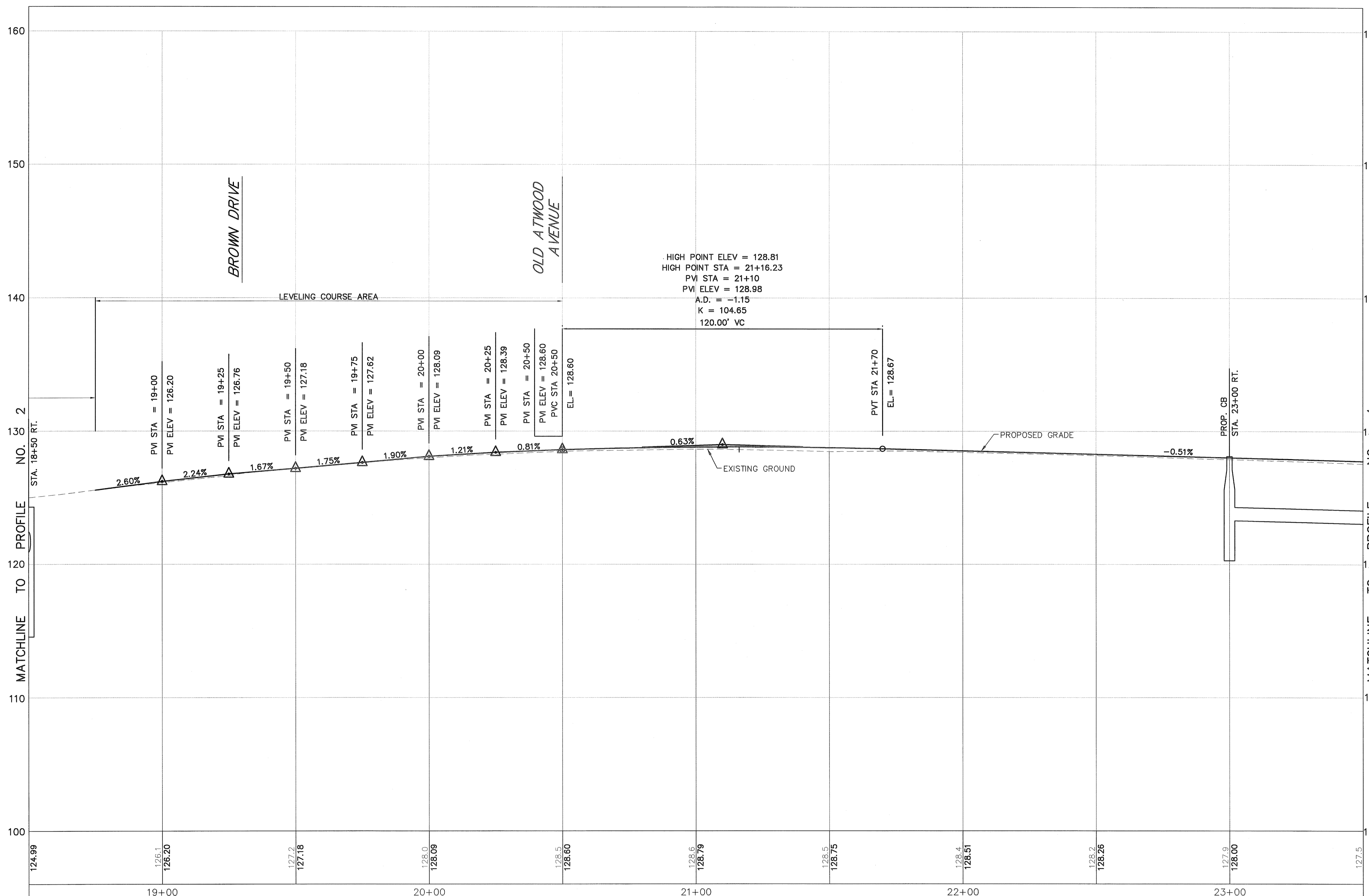


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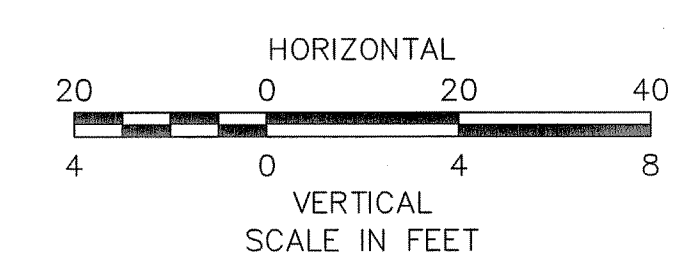
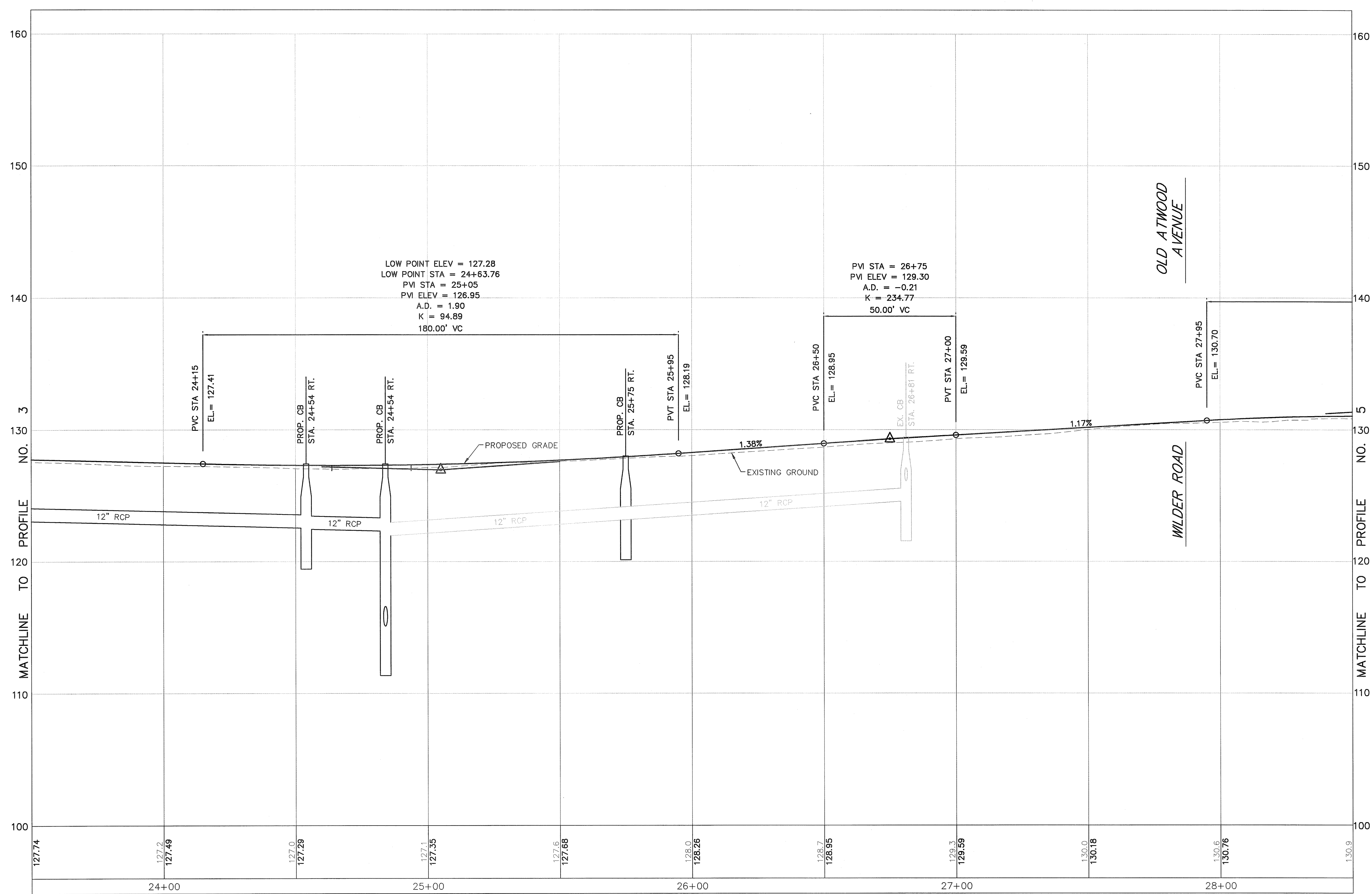


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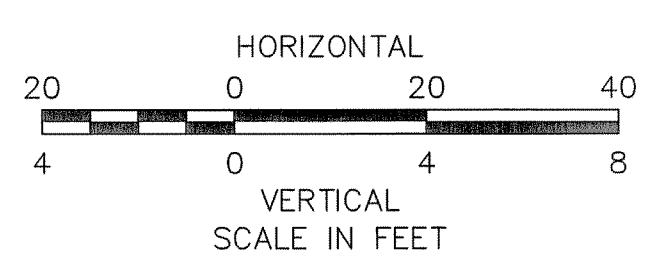
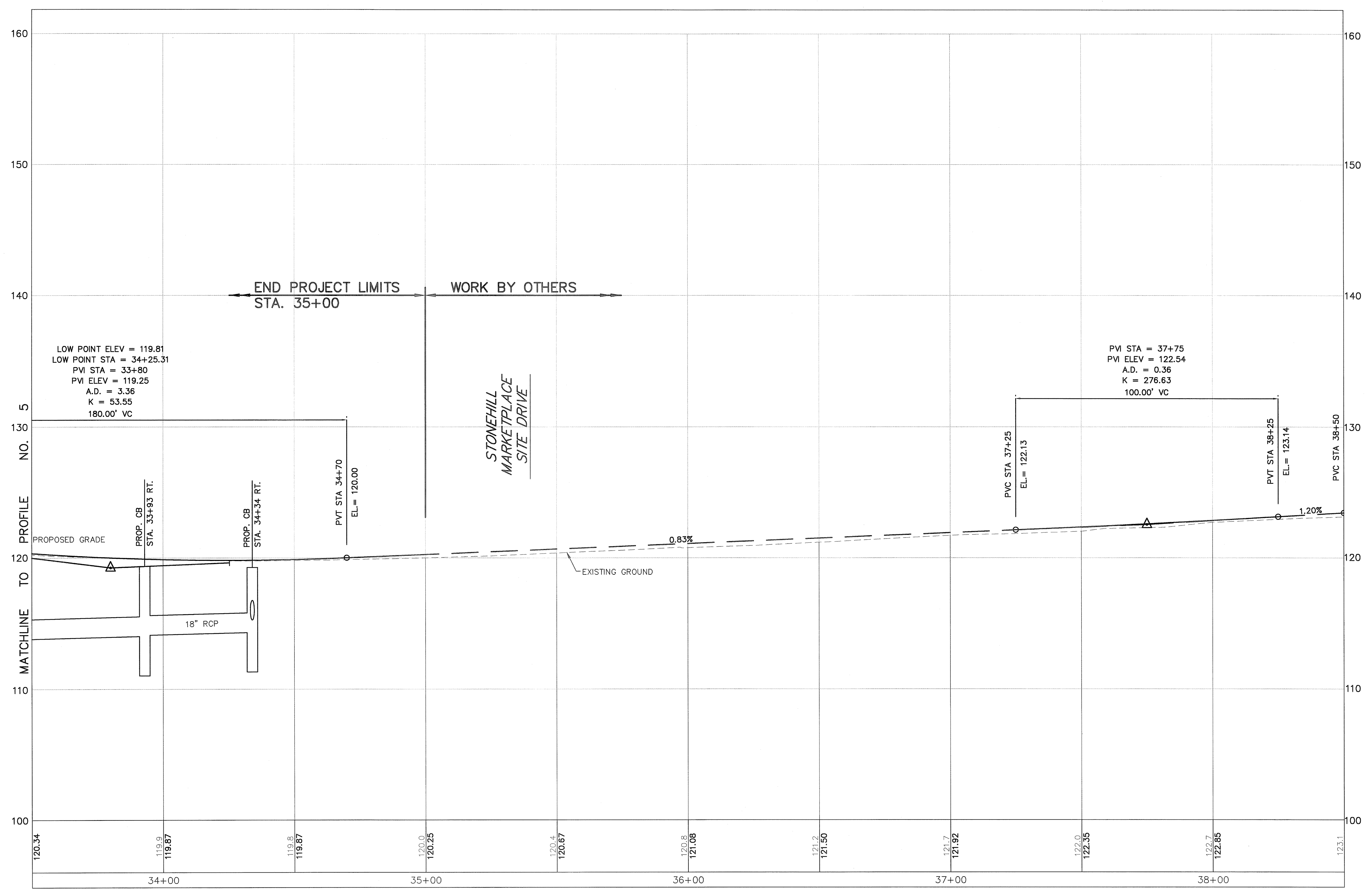


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Signature

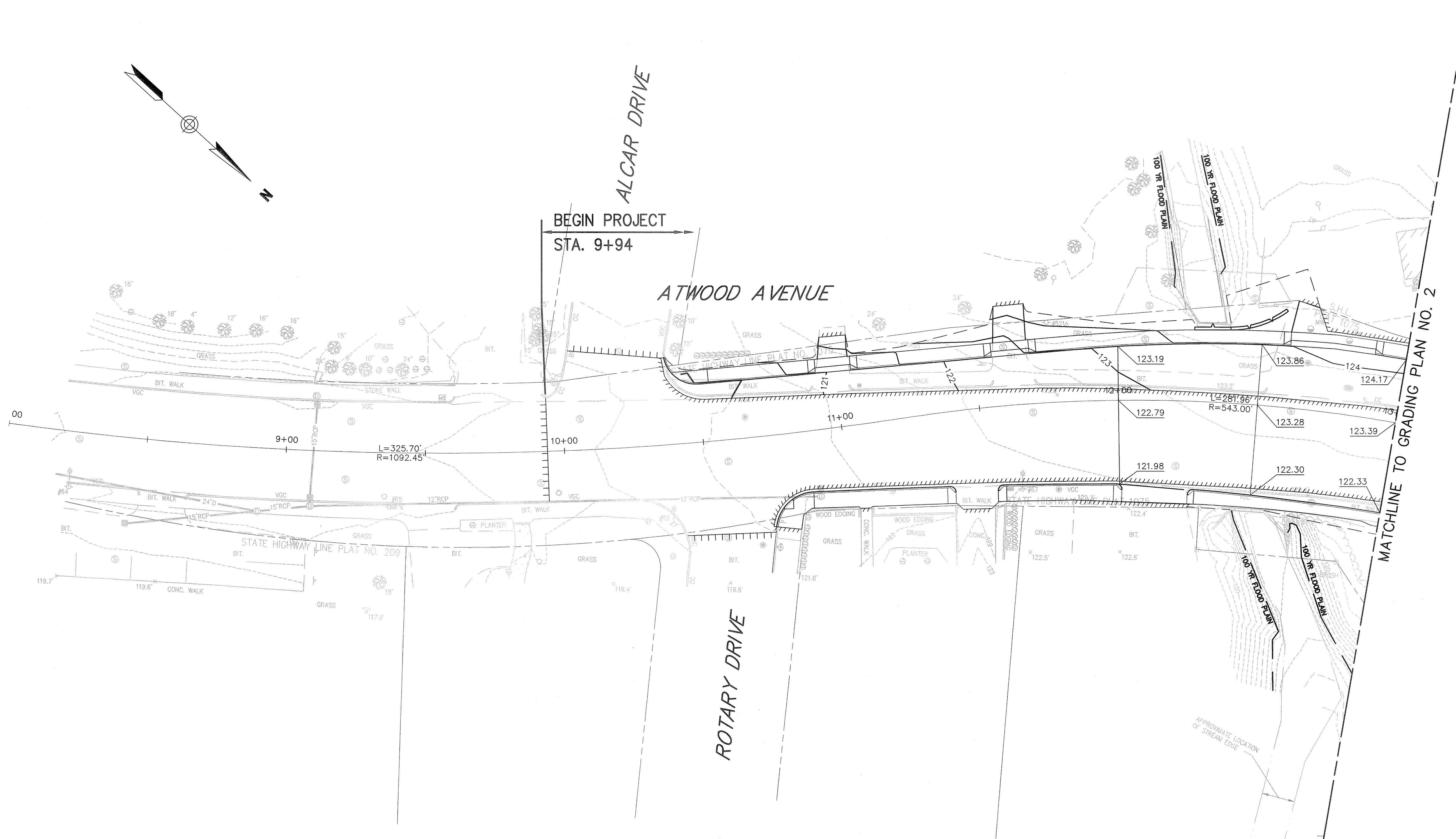


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NOTES:

1. THE ELEVATIONS SHOW AT THE CURB ARE PROPOSED GUTTER GRADES.
2. WHERE PROPOSED GRADING IS NOT SHOWN IN THE ROADWAY, THE INTENT IS TO COLD PLANE & OVERLAY TO MAINTAIN EXISTING ELEVATIONS.

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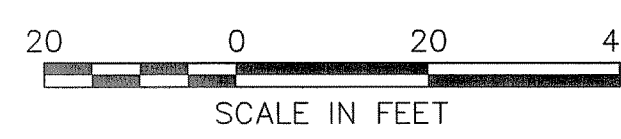
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Ernesto D. Wences



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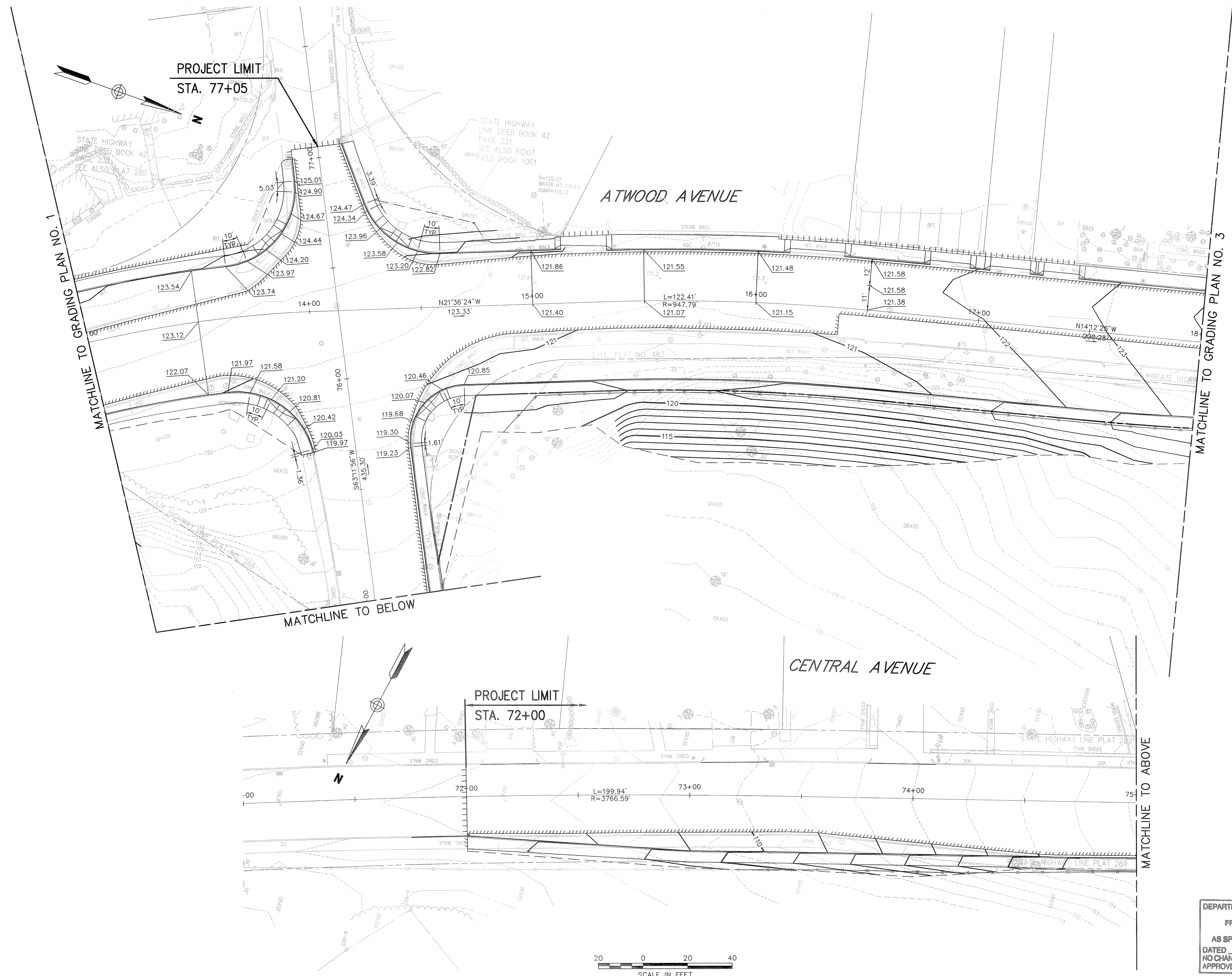
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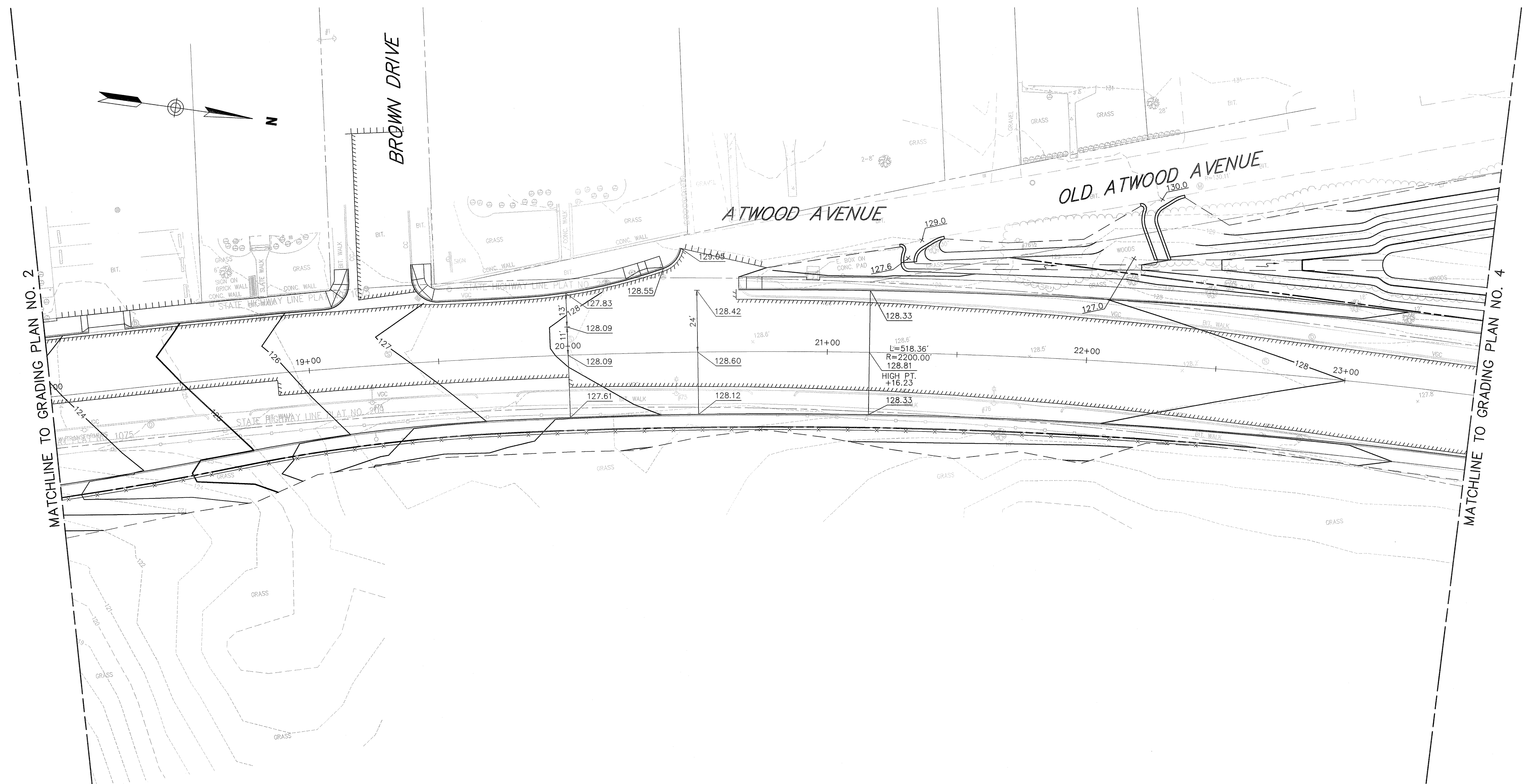


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**Grading
Plan No. 3**

- NOTES:**
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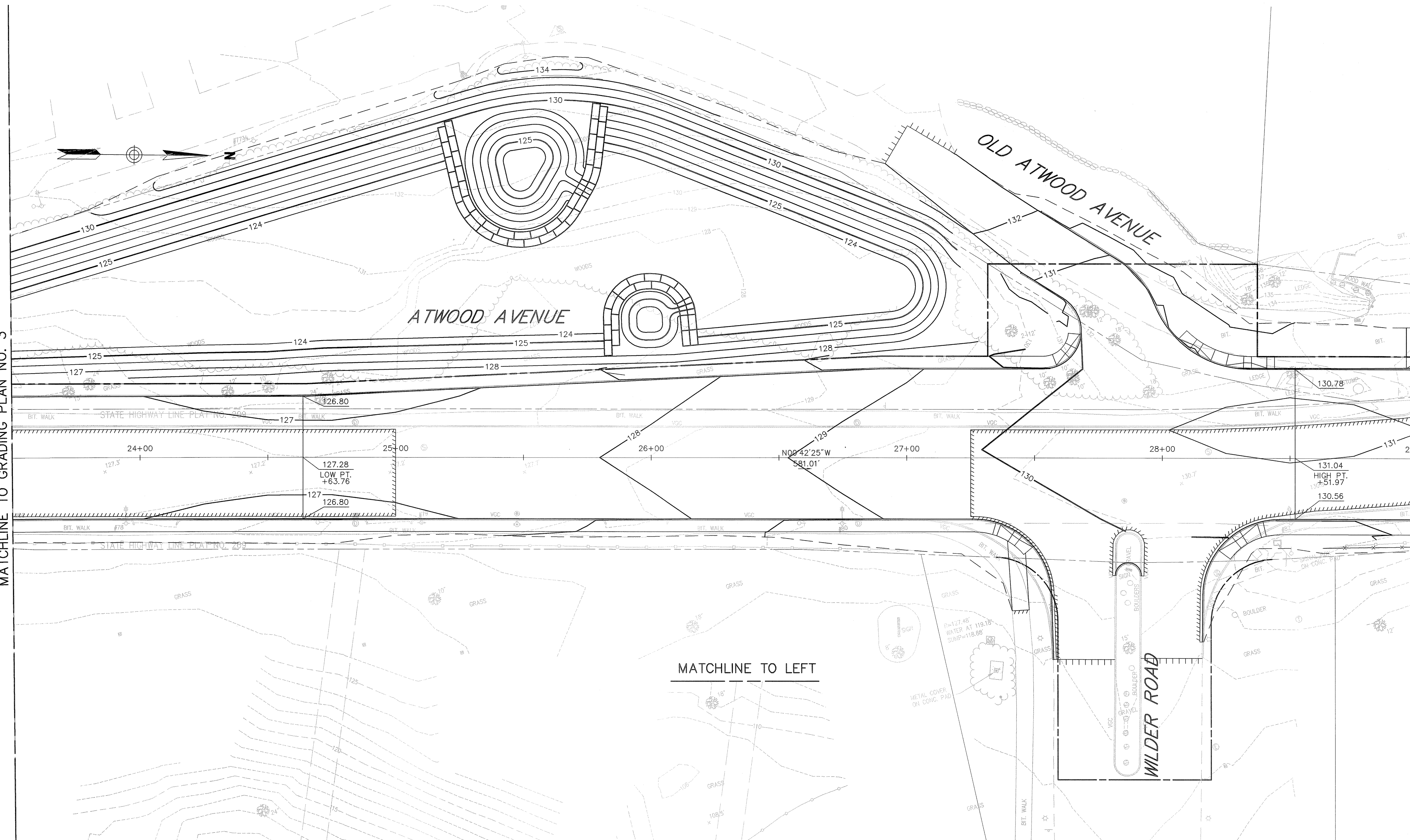
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MATCHLINE TO GRADING PLAN NO. 3

MATCHLINE TO GRADING PLAN NO. 5



MATCHLINE TO RIGHT

MATCHLINE TO LEFT



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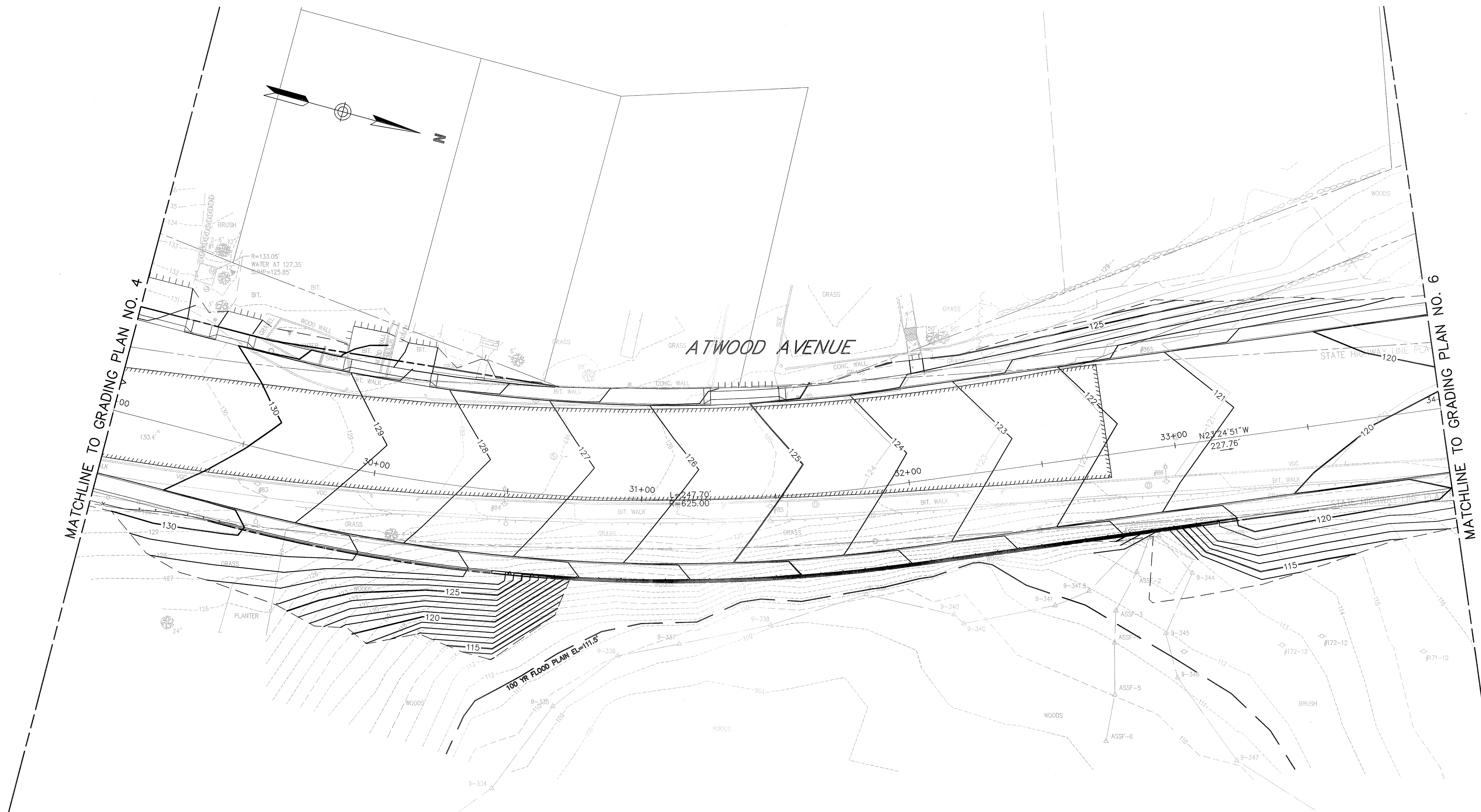


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**Grading
Plan No. 5**

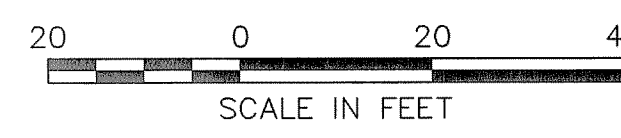
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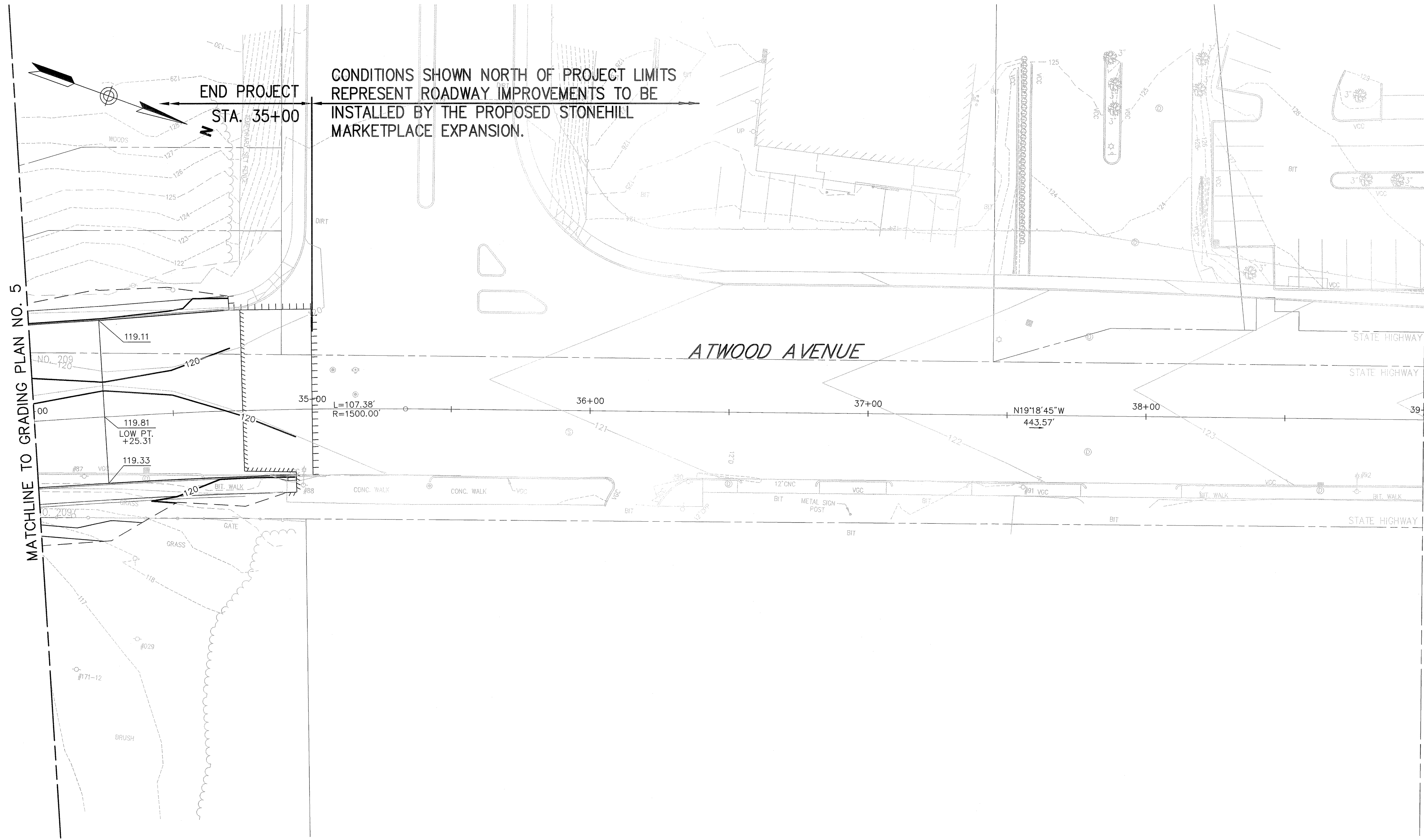


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CONDITIONS SHOWN NORTH OF PROJECT LIMITS REPRESENT ROADWAY IMPROVEMENTS TO BE INSTALLED BY THE PROPOSED STONEHILL MARKETPLACE EXPANSION.

- NOTES:**
1. THE ELEVATIONS SHOW AT THE CURB ARE PROPOSED GUTTER GRADES.
 2. WHERE PROPOSED GRADING IS NOT SHOWN IN THE ROADWAY, THE INTENT IS TO COLD PLANE & OVERLAY TO MAINTAIN EXISTING ELEVATIONS.

No.	Revision	Date	Appr.

Designed by _____ Drawn by _____ Checked by _____
 CAD checked by _____ Approved by _____
 Scale 1"=20' Date January 19, 2010
 Project Title

FM-Global
Off-Site Road
Improvements
Atwood Ave & Central Ave
Johnston, Rhode Island

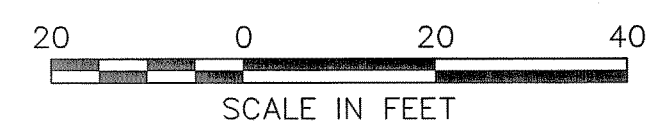
Issued for
Physical Alteration
Permit Application

Drawing Title

Grading
Plan No. 6

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 30 2010 FILE # 10-0024
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

Drawing Number
C-45
Sheet of 45 55
Project Number
72012.30



Martin D. Wenzel

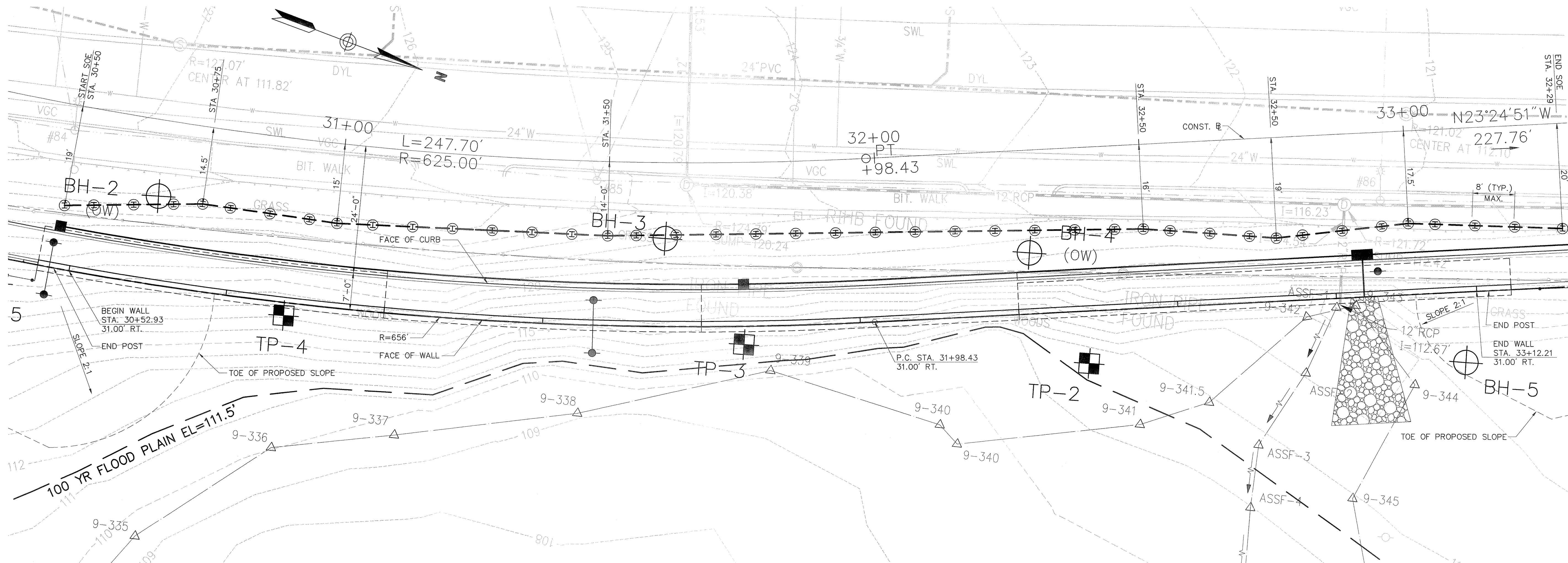


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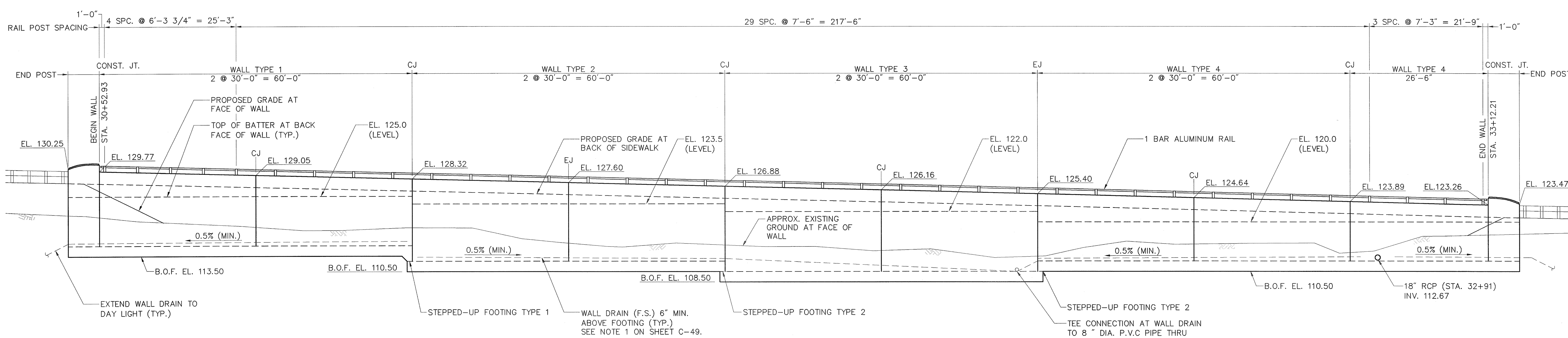
Transportation
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FEB 2 2 2010



PLAN
SCALE: 1"=10'



ELEVATION
SCALE: 1"=10'

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LEGEND:
CJ = CONTRACTION JOINT
EJ = EXPANSION JOINT
B.O.F. = BOTTOM OF FOOTING
CLSM = CONTROLLED LOW STRENGTH MATERIAL
S.O.E. = SUPPORT OF EXCAVATION

No.	Revision	Date	Appvd.

Scale 1"=10'
Date January 19, 2010
Project Title
**FM-Global
Off-Site Road
Improvements**
Atwood Ave & Central Ave
Johnston, Rhode Island

Issued for
**Physical Alteration
Permit Application**

Drawing Title

**Retaining Wall
Plan and Elevation**

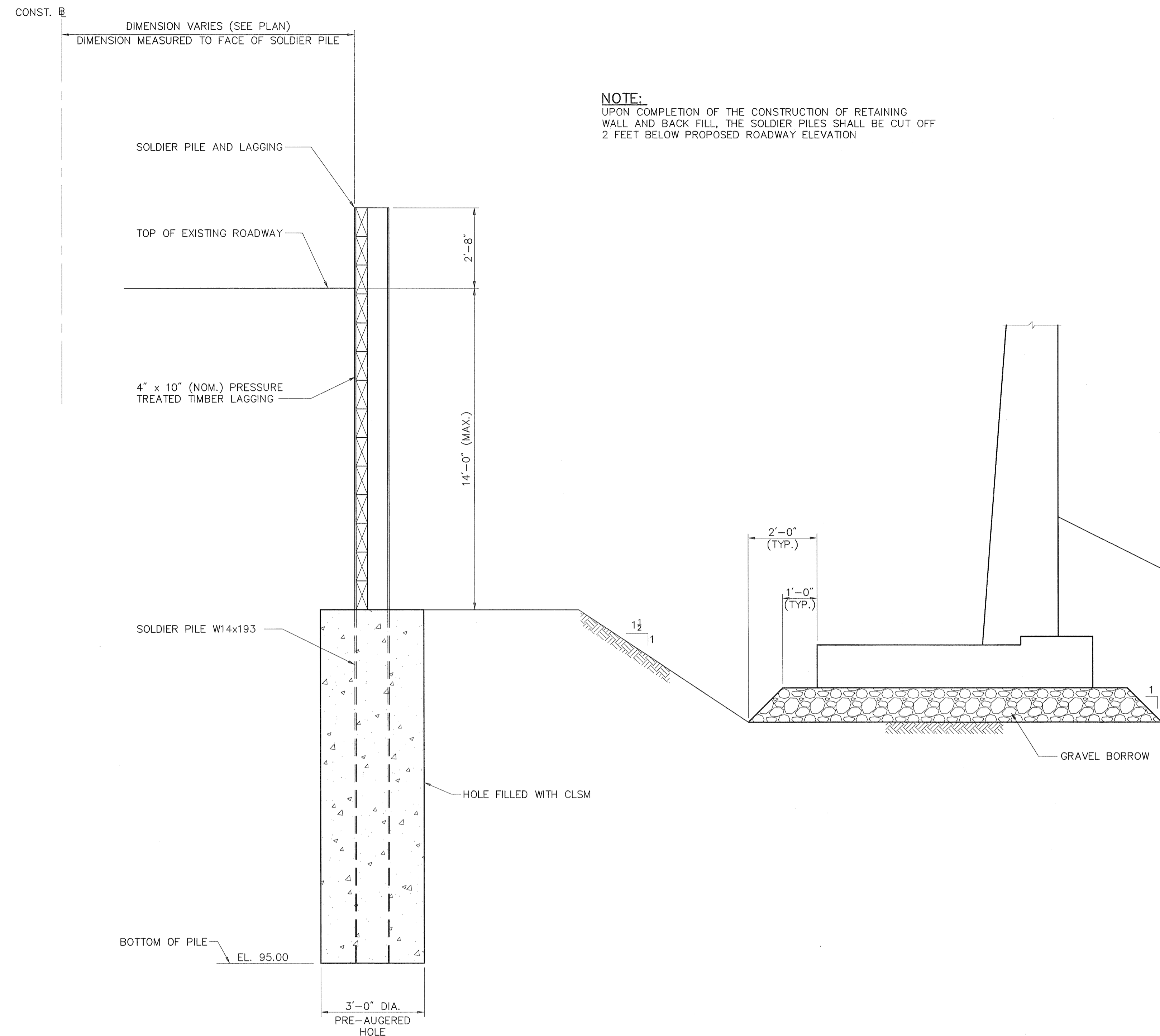
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Project Number
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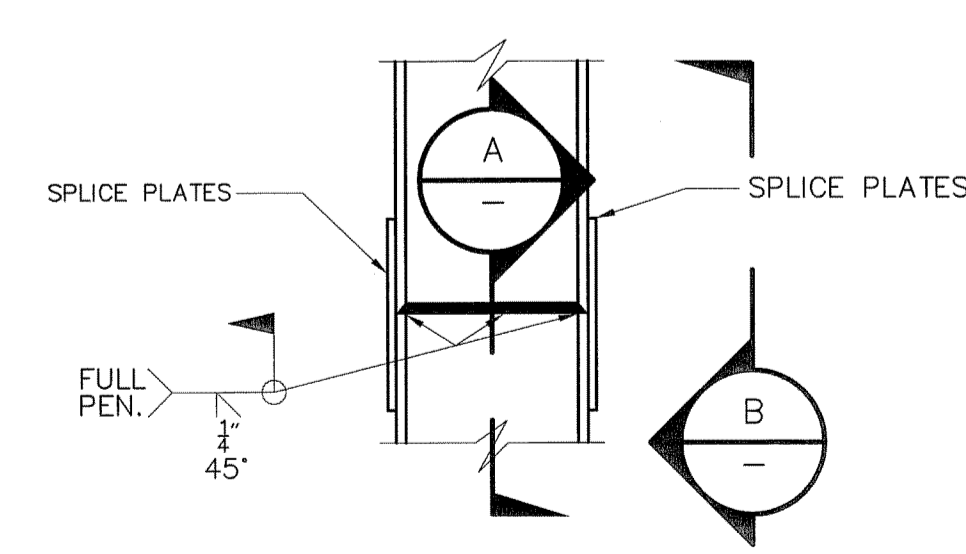
NOTE:
UPON COMPLETION OF THE CONSTRUCTION OF RETAINING WALL AND BACK FILL, THE SOLDIER PILES SHALL BE CUT OFF 2 FEET BELOW PROPOSED ROADWAY ELEVATION

NOTES:

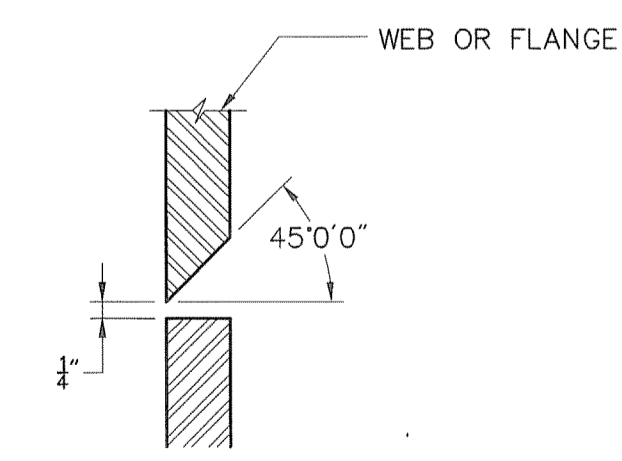
1. EACH SOLDIER PILE SHALL BE INSTALLED PLUMB IN A PRE-AUGERED/PRE-DRILLED 3-FOOT DIA. HOLE TO THE ELEVATION SHOWN.
2. THE PRE-AUGERED HOLE SHALL BE FILLED WITH CONTROLLED LOW STRENGTH MATERIAL ($f_c=2100$ PSI).
3. EXCAVATION SHALL NOT COMMENCE UNTIL A MINIMUM OF SEVEN (7) DAYS AFTER PLACEMENT OF CLSM.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO USE THOSE METHODS AND EQUIPMENT TO MAINTAIN THE SIDEWALLS OF THE EXCAVATED HOLE, AND COMPLETELY CLEAN OUT AND REMOVE SPOIL MATERIALS, CUTTINGS AND WATER FROM THE HOLE PRIOR TO THE INSTALLATION OF THE H PILE.
5. ALL STEEL PILES SHALL CONFORM TO A.S.T.M. A709, GRADE 36.
6. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, INFORMATION ON THE TYPE OF EQUIPMENT PROPOSED TO BE USED, METHODS OF OPERATION, SEQUENCE OF PILE INSTALLATION, AND DETAILS OF ALL EQUIPMENT AND ACCESSORIES.
7. ALL WELDING SHALL BE IN ACCORDANCE WITH THE LATEST ANSI/AASHTO/AWS D1.5-2002 BRIDGE WELDING CODE AND STRUCTURAL WELDING CODE - REINFORCING STEEL (AWS D1.4).
8. CONTRACTOR SHALL CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO STARTING THE WORK TO VERIFY LOCATIONS OF EXISTING UTILITIES.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH UTILITY COMPANIES.
10. CONCRETE PLACED BELOW GROUND WATER ELEVATION SHALL BE PLACED BY TREMIE METHOD.
11. THE EARTH RETAINING SYSTEM HAS BEEN DESIGNED FOR 250 PSF SURCHARGE LOADING WHICH SHALL NOT BE EXCEEDED WITHIN A HORIZONTAL DISTANCE OF TWICE THE EXPOSED HEIGHT WALL HEIGHT MEASURED FROM THE BACK OF WALL.

FEB 22 2010

TEMPORARY SUPPORT DETAILS
NOT TO SCALE

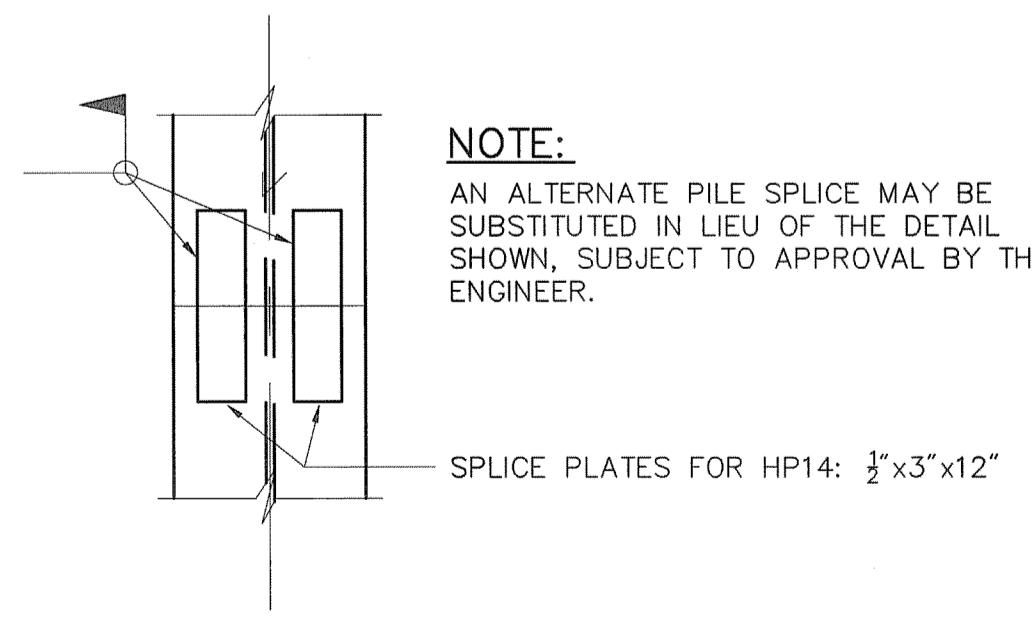


ELEVATION

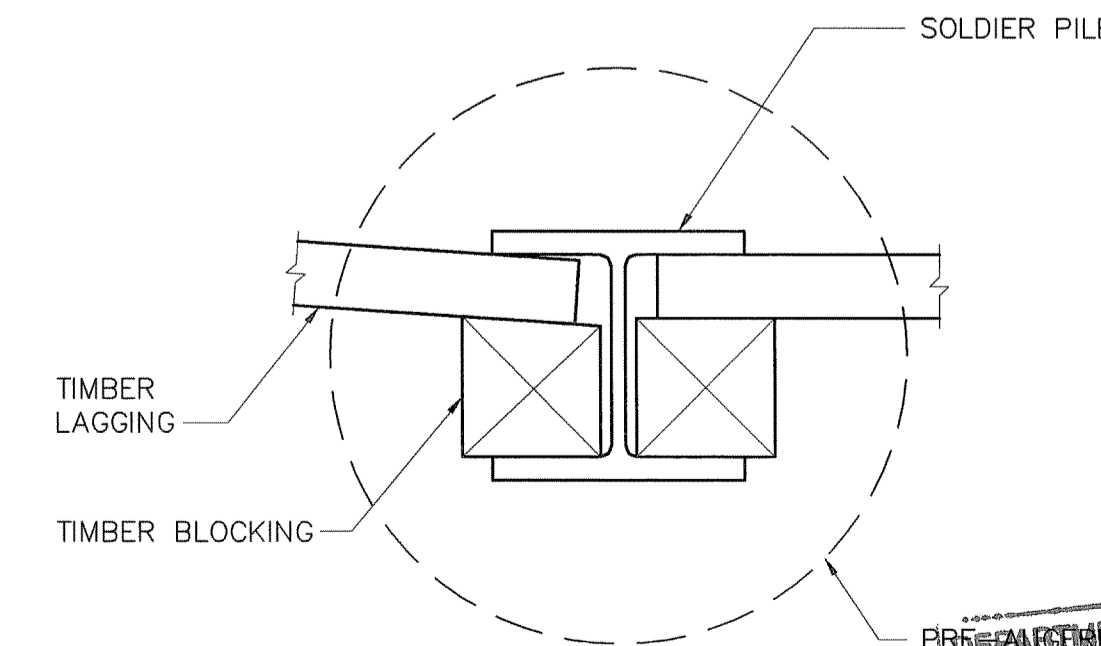


DETAIL A

PILE SPLICE DETAIL
NOT TO SCALE



DETAIL B



LAGGING DETAIL
NOT TO SCALE

No.	Revision	Date	App'd.

Designed by _____ Drawn by _____ Checked by _____
CAD checked by _____ Approved by _____
Scale **As Shown** Date **January 19, 2010**
Project Title

FM-Global
Off-Site Road
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Issued for
**Physical Alteration
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Drawing Title
**Temporary Support
Details**

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Matthew D. Wenzel

Drawing Number
C-51
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Project Number
72012.30
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