Transportation

PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

September 23, 2016

U. S. Army Corps of Engineers
Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587

Attention: Mr. Andy Williams
NCDOT Coordinator

Subject: **Application for a Section 404 Nationwide Permit 33 and Section 401 Water Quality Certification for the replacement** of Bridge No. 374 over Sandy Creek on SR 2481 (Low Bridge Road), Randolph County, North Carolina, Federal Aid Project No. BRZ-2481(2), TIP No. B-5360.

Debit $240.00 from WBS Element No. 46074.1.1

REFERENCE:
1) Section 404 Nationwide Permits 13 and 23, issued April 20, 2016, USACE Action ID SAW-2011-0234
2) Section 401 Water Quality Certification, issued April 5, 2016, NCDENR-DWQ Water Quality Certification Project No. 2016-0253

Dear Sir:

As you are aware, the North Carolina Department of Transportation (NCDOT) proposes to replace existing Bridge No. 374 over Sandy Creek on SR 2481 in Randolph County. A temporary causeway is now proposed to remove one of the bents from the existing bridge. Therefore, a Nationwide Permit (NW) 33 is requested for the addition of 20 feet of temporary impacts. The total temporary impacts are now 73 feet. Please see enclosed revised permit drawings.

Regulatory Approvals

Section 404 Permit: All aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). In addition to the previously issued NW 23 and 33, the NCDOT requests that the project be authorized by a NW 33 for construction of a temporary causeway.

Section 401 Permit: In addition to the previously issued 401 General Certification numbers 3885 and 3891, we anticipate a 401 General Certification number 3893 will also apply to this project.

A copy of this permit application will be posted on the NCDOT Website at https://connect.ncdot.gov/resources/Environmental. Should you have any questions regarding this information, please contact Deanna Riffey at (919) 707-6151 or driffey@ncdot.gov

Sincerely,

for Philip S. Harris III, P.E., C.P.M.
Natural Environment Section Head

cc: NCDOT Permit Application Standard Distribution List

TIP PROJECT: B-5360

CONTRACT: C203805

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

RANDOLPH COUNTY

LOCATION: BRIDGE NO 374 OVER SANDY CREEK ON SR 2481 (LOW BRIDGE RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

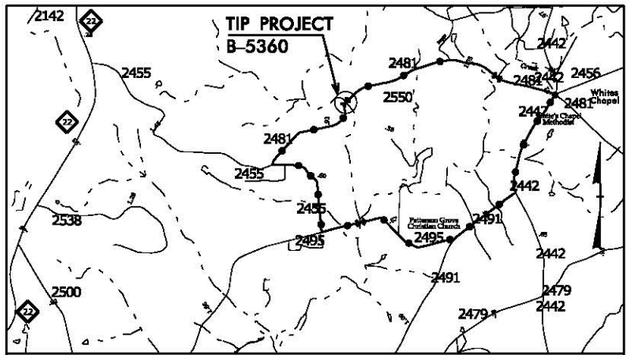
PERMIT DRAWING
SHEET 1 OF 7

REVISED 9/13/2016

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5360	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
46074.1.1	BRZ-2481(2)	PE
46074.2.1		R/W & UTIL.
46074.3.1		CONST.

PART 1

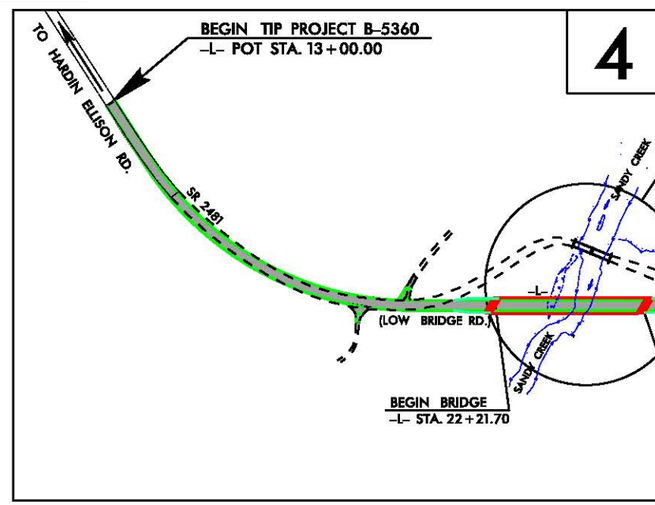


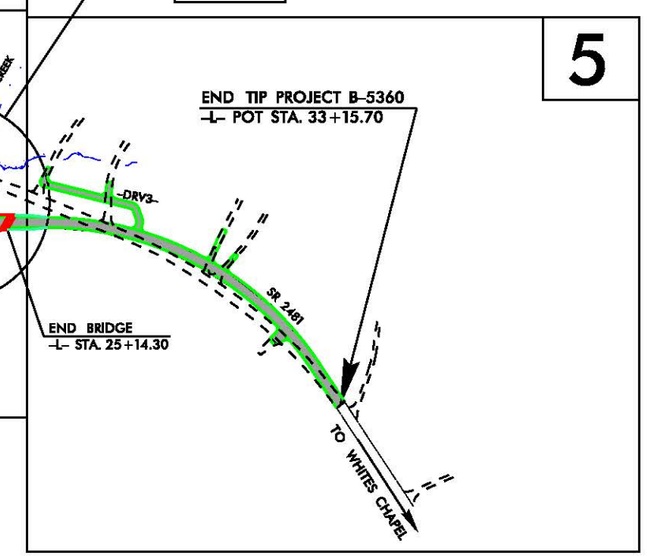
VICINITY MAP

OFFSITE DETOUR

WETLAND AND SURFACE WATER IMPACTS PERMIT

NAD 83/
NA 2011





DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE AND NIGHTTIME STOPPING SIGHT DISTANCE.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2014 = 400 VPD
ADT 2040 = 700 VPD
K = 13 %
D = 60 %
T = 9 % *
V = 40 MPH
* TTST = 1% DUAL 8%
FUNC CLASS = RURAL, LOCAL

SUB REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-5360 = 0.327 MI
LENGTH OF STRUCTURE TIP PROJECT B-5360 = 0.055 MI
TOTAL LENGTH OF STATE TIP PROJECT B-5360 = 0.382 MI

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 9, 2015

LETTING DATE:
OCTOBER 18, 2016

JAMES A. SPEER, PE
PROJECT ENGINEER

NYA K. BOAYUE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 042644 ENGINEER Craig J. Lee P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 020111 ENGINEER NYA K. BOAYUE P.E.
SIGNATURE:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

9/13/2016
dlee
N:\Hydraulics\PERMITS Environmental\2016 09 09 Permit Mod. for Causeway\B5360_Hyd_prm_1_tsh.dgn
$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
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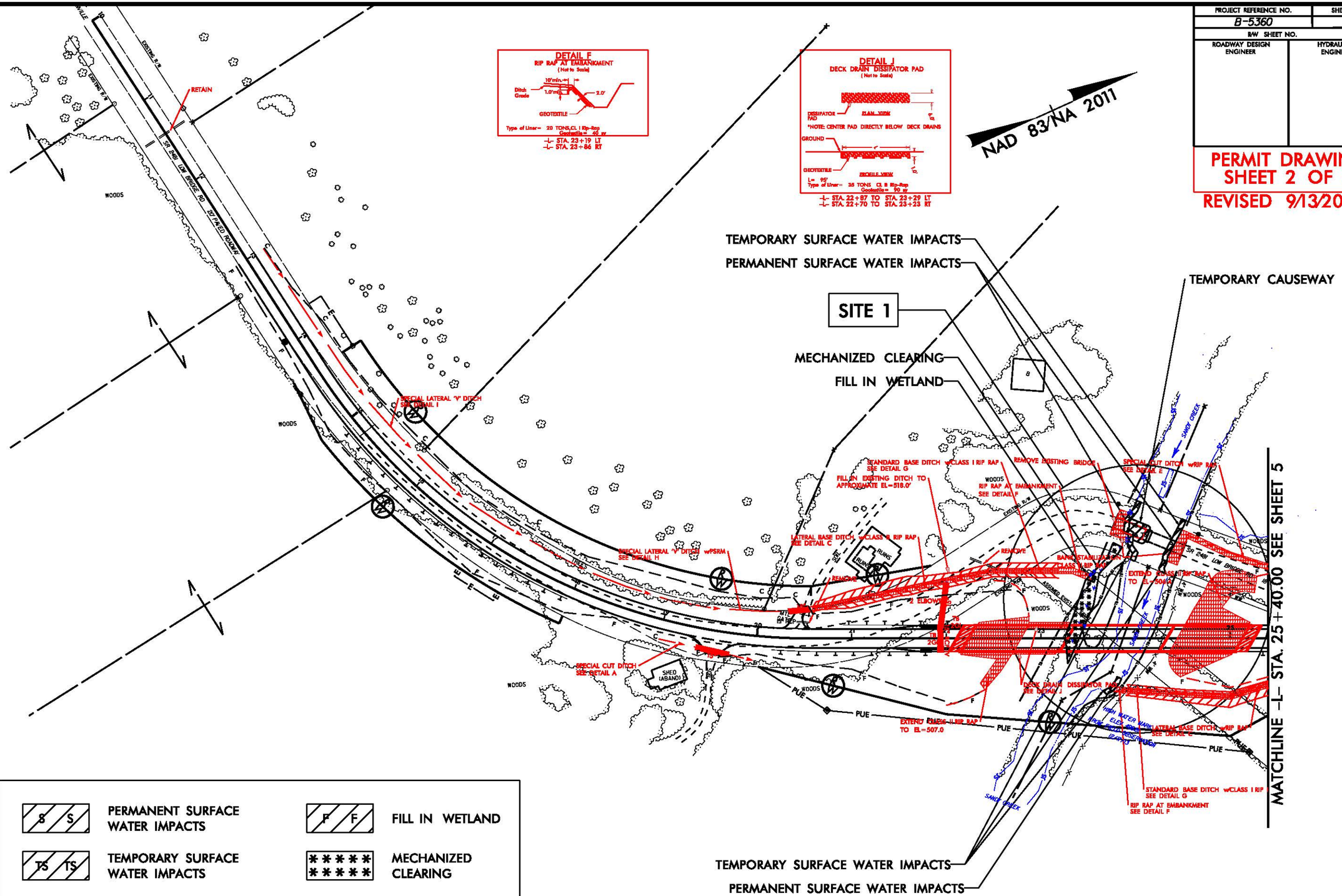
PROJECT REFERENCE NO.	SHEET NO.
B-5360	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 2 OF 7
REVISED 9/13/2016

NAD 83/NA 2011



SEE SHEET 6 FOR PROFILE
SEE SHEETS S-1 TO S-22 FOR STRUCTURE PLANS

REVISIONS

8/17/99

9/13/2016
dbw
N:\Structure\Work\PERMITS Environmental\2016 09 09 Permit Mod. for Causeway\B5360_Hyd_prm_2_psh.dgn
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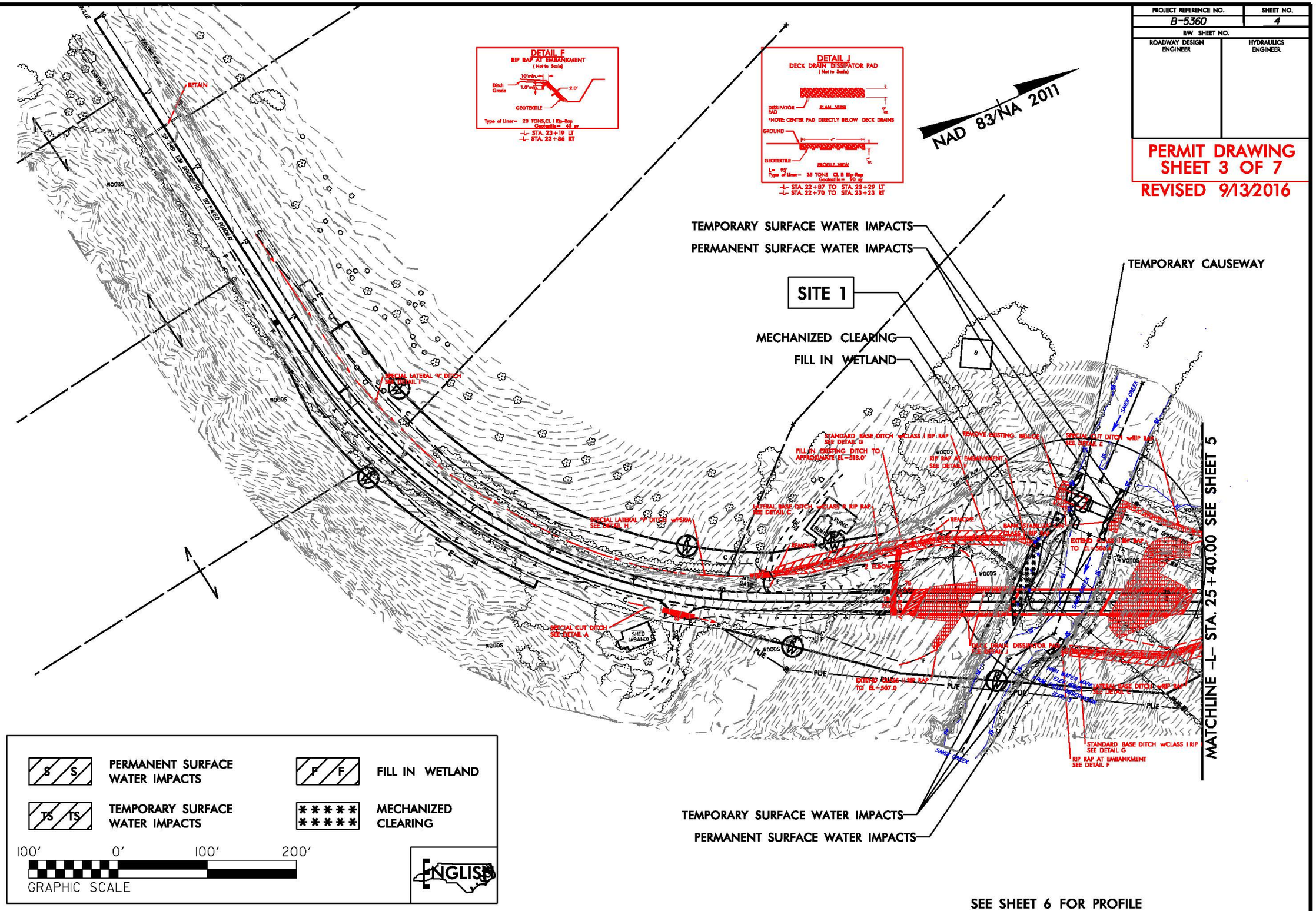
PROJECT REFERENCE NO.	SHEET NO.
B-5360	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 3 OF 7
REVISED 9/13/2016



SEE SHEET 6 FOR PROFILE
SEE SHEETS S-1 TO S-22 FOR STRUCTURE PLANS

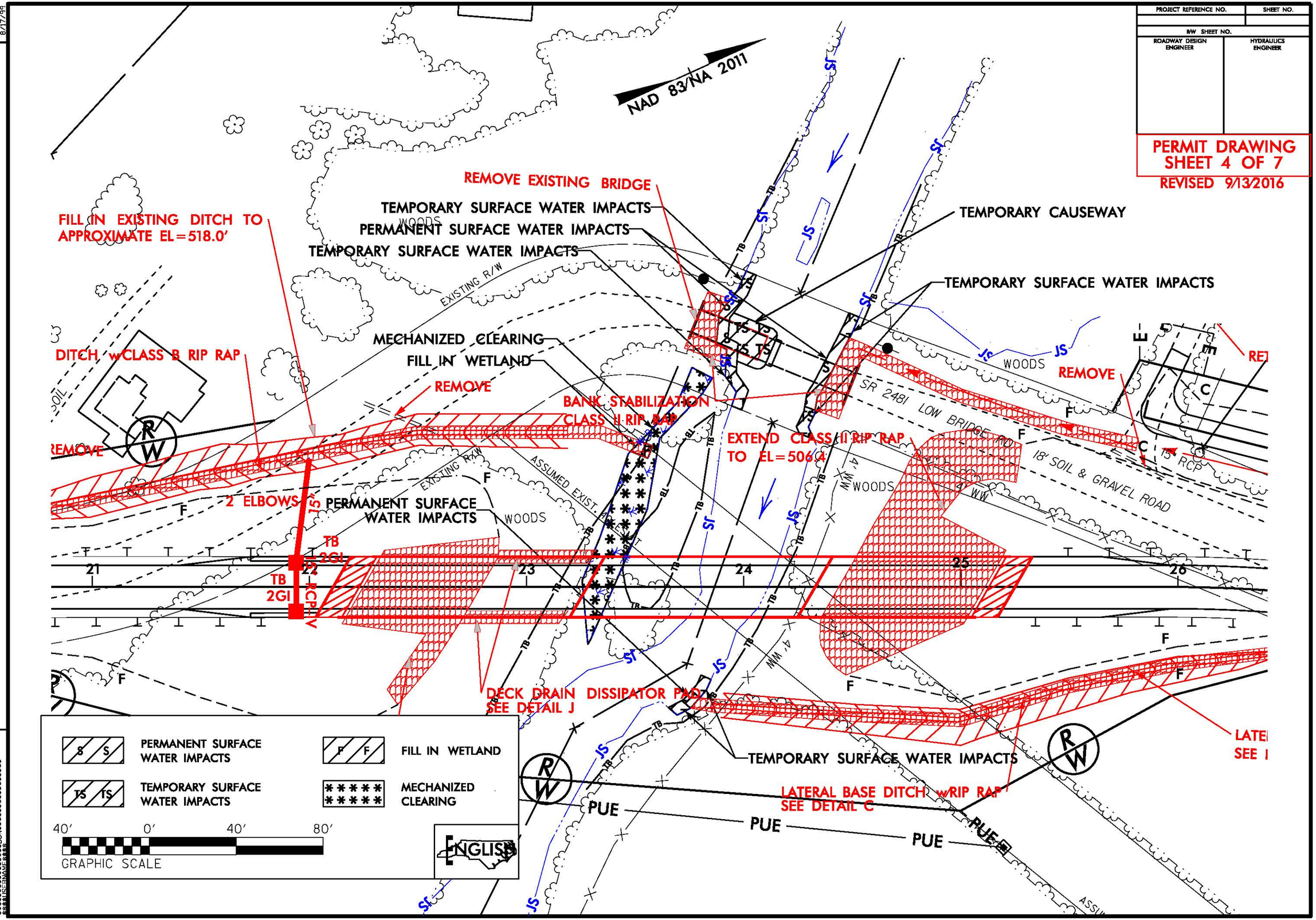
REVISIONS

8/17/99

9/13/2016

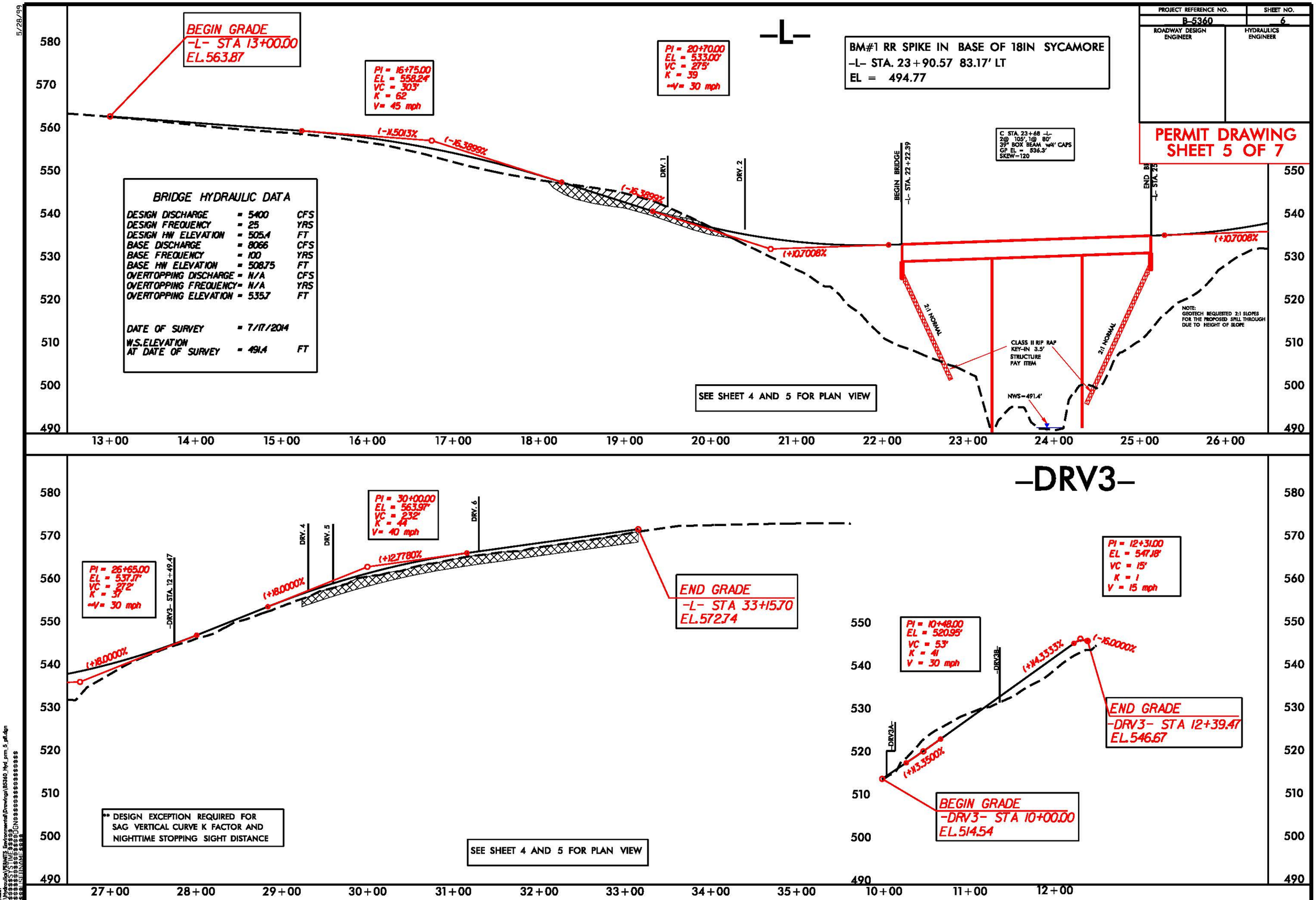
PROJECT REFERENCE NO.	SHEET NO.
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 4 OF 7
REVISED 9/13/2016

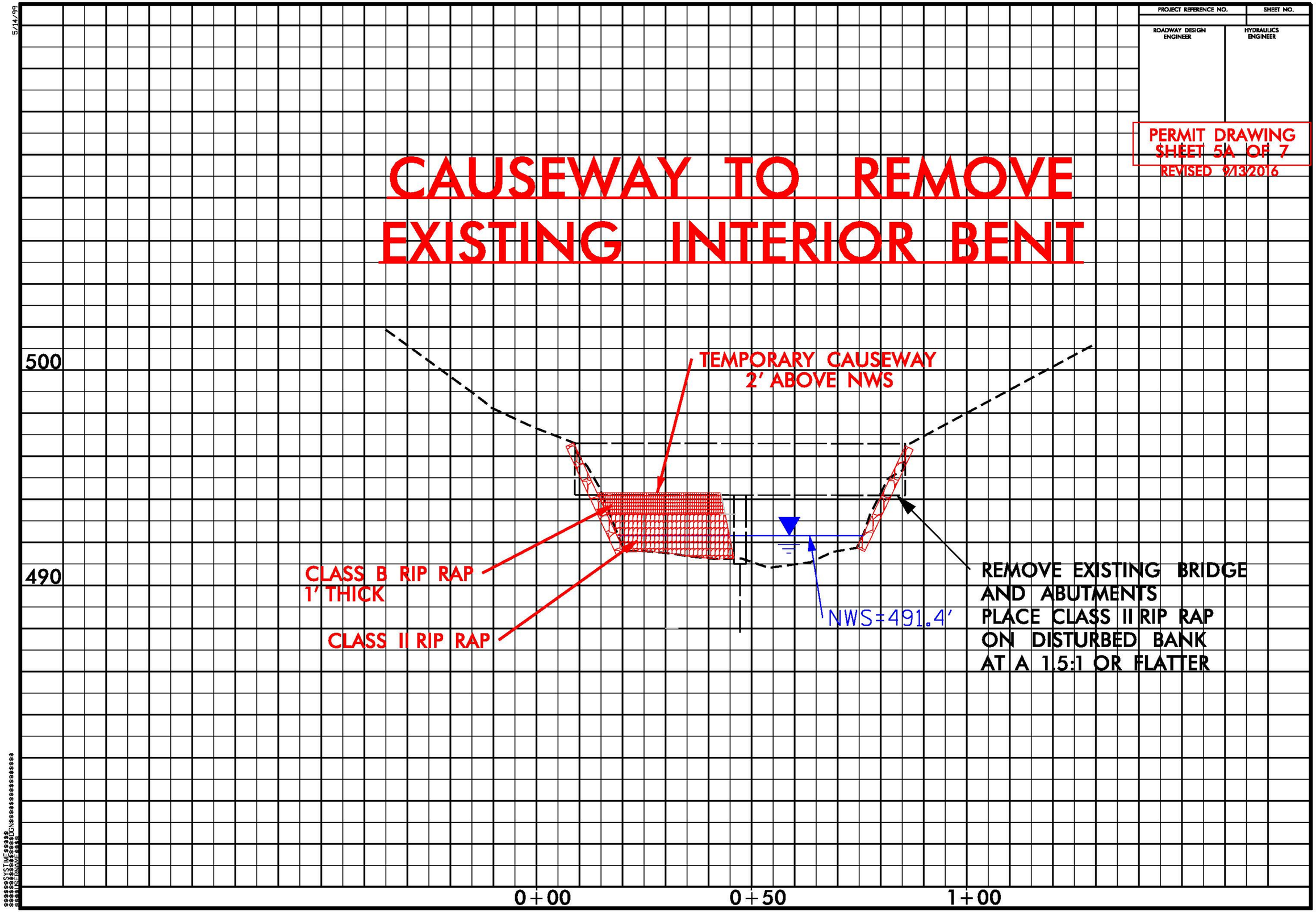


REVISIONS

8/17/99

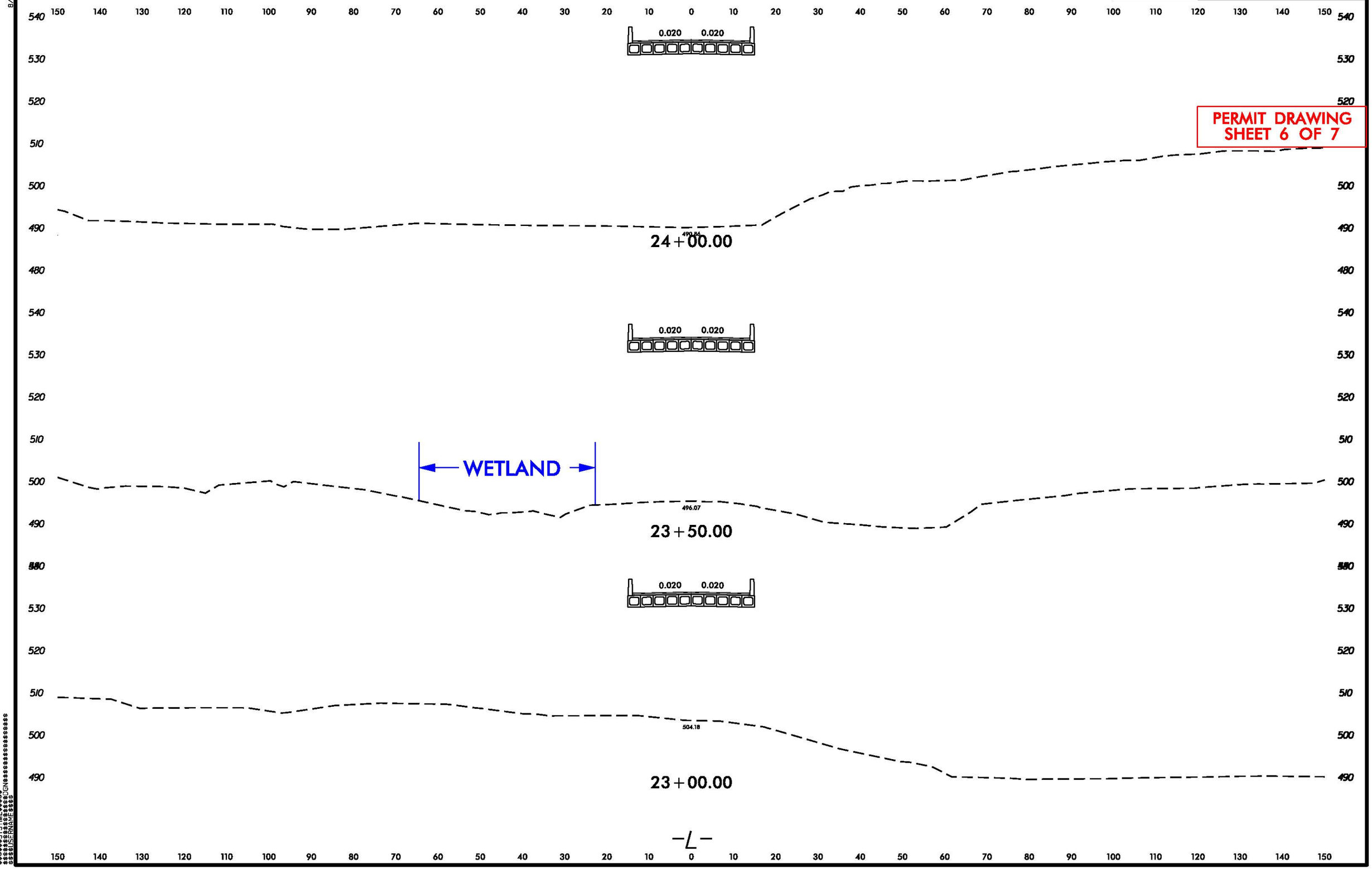


PROJECT REFERENCE NO.
B-5360
SHEET NO.
6
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING
SHEET 5 OF 7
-L-
BEGIN GRADE
-L- STA 13+00.00
EL.563.87
PI = 16+75.00
EL = 558.24'
VC = 303'
K = 62
V= 45 mph
PI = 20+70.00
EL = 533.00'
VC = 275'
K = 39
V= 30 mph
BM#1 RR SPIKE IN BASE OF 18IN SYCAMORE
-L- STA. 23+90.57 83.17' LT
EL = 494.77
C STA. 23+68 -L-
2@ 105', 1@ 80'
39" BOX BEAM w/4' CAPS
GP EL = 536.3'
SKEW=120
BRIDGE HYDRAULIC DATA
DESIGN DISCHARGE = 5400 CFS
DESIGN FREQUENCY = 25 YRS
DESIGN HW ELEVATION = 505.4 FT
BASE DISCHARGE = 8066 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 508.75 FT
OVERTOPPING DISCHARGE = N/A CFS
OVERTOPPING FREQUENCY = N/A YRS
OVERTOPPING ELEVATION = 535.7 FT
DATE OF SURVEY = 7/17/2014
W.S.ELEVATION AT DATE OF SURVEY = 491.4 FT
(-)1.5013%
(-)6.3899%
(-)6.3899%
(+)0.7008%
(+)0.7008%
DRV. 1
DRV. 2
BEGIN BRIDGE
-L- STA. 22+22.39
END BR
-L- STA. 25
2:1 NORMAL
2:1 NORMAL
CLASS II RIP RAP
KEY-IN 3.5'
STRUCTURE
PAY ITEM
NWS=491.4'
NOTE:
GEOTECH REQUESTED 2:1 SLOPES FOR THE PROPOSED SPILL THROUGH DUE TO HEIGHT OF SLOPE
SEE SHEET 4 AND 5 FOR PLAN VIEW
580
570
560
550
540
530
520
510
500
490
13+00
14+00
15+00
16+00
17+00
18+00
19+00
20+00
21+00
22+00
23+00
24+00
25+00
26+00
-DRV3-
PI = 26+65.00
EL = 537.17'
VC = 272'
K = 37
V= 30 mph
-DRV3- STA. 12+49.47
(+)8.0000%
(+)8.0000%
DRV. 4
DRV. 5
PI = 30+00.00
EL = 563.97'
VC = 232'
K = 44
V= 40 mph
(+)12.7780%
DRV. 6
END GRADE
-L- STA 33+15.70
EL.572.74
PI = 12+31.00
EL = 547.18'
VC = 15'
K = 1
V = 15 mph
PI = 10+48.00
EL = 520.95'
VC = 53'
K = 41
V = 30 mph
-DRV3B-
(+)14.3333%
(-)6.0000%
END GRADE
-DRV3- STA 12+39.47
EL.546.67
-DRV3A-
(+)13.3500%
BEGIN GRADE
-DRV3- STA 10+00.00
EL.514.54
** DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K FACTOR AND NIGHTTIME STOPPING SIGHT DISTANCE
SEE SHEET 4 AND 5 FOR PLAN VIEW
27+00
28+00
29+00
30+00
31+00
32+00
33+00
34+00
35+00
10+00
11+00
12+00


PROJECT REFERENCE NO.
SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING
SHEET 5A OF 7
REVISED 9/13/2016
CAUSEWAY TO REMOVE
EXISTING INTERIOR BENT
500
490
TEMPORARY CAUSEWAY
2' ABOVE NWS
CLASS B RIP RAP
1' THICK
CLASS II RIP RAP
NWS=491.4'
REMOVE EXISTING BRIDGE
AND ABUTMENTS
PLACE CLASS II RIP RAP
ON DISTURBED BANK
AT A 1.5:1 OR FLATTER
0+00
0+50
1+00
5/14/99

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
B-5360	X-7



WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	23+25 to 23+85 -L-	proposed bridge				0.03						
	23+50 -L- LT	rip rap at embankment	< 0.01									
1	23+78 to 24+50 -L- LT	bank stabilization						< 0.01	< 0.01	37	36	
	23+78 -L- RT	bank stabilization						< 0.01	< 0.01	6	17	
1	-L- 23+75 to 24+50 LT	Temporary Causeway							< 0.01		20	
		(Existing Bridge)										
TOTALS*:			< 0.01			0.03		< 0.01	0.02	44	73	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
Revised September 13, 2016
Randolph
B-5360
46074.1.1

Revised 2013 10 24