

09/08/99

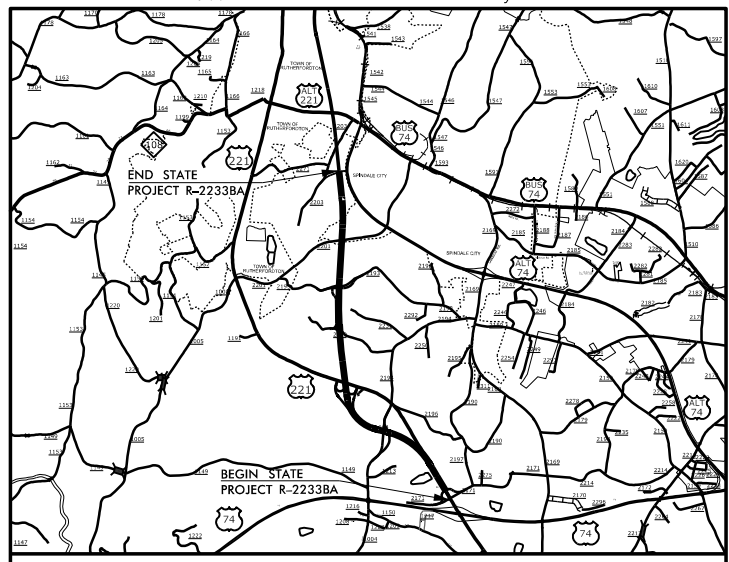
See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERMIT DRAWING
SHEET 1 OF 50

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2233BA	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34400.1.S5		PE	
34400.2.S5		RW & UTIL	

TIP PROJECT: R-2233BA



VICINITY MAP

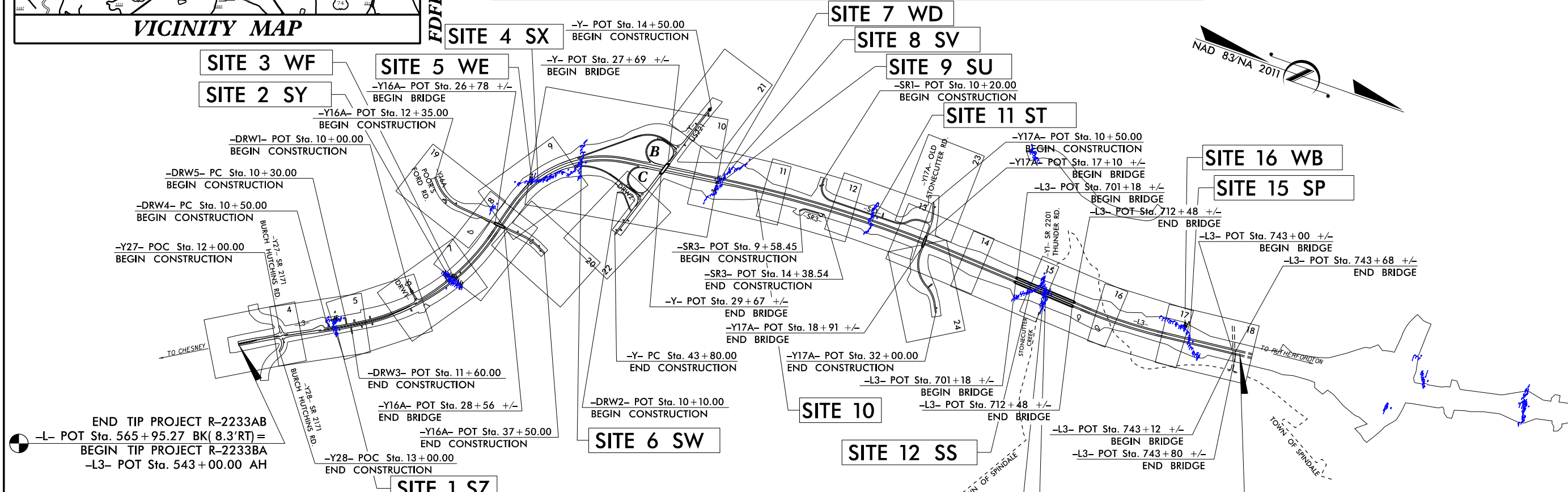
FDFI PLANS

RUTHERFORD COUNTY

LOCATION: RUTHERFORDTON BYPASS FROM US 74 BYPASS
TO US 221 SOUTH OF US 74 BUSINESS (CHARLOTTE ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING
AND STRUCTURES

PRELIMINARY WETLAND AND SURFACE WATER PERMIT DRAWINGS

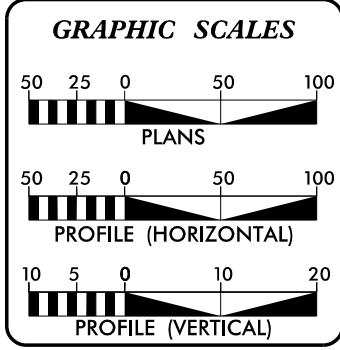


A PORTION OF THIS PROJECT IS CONTROLLED-ACCESS WITH ACCESS BEING LIMITED TO INTERCHANGES.
A PORTION OF THIS PROJECT IS PARTIAL CONTROLLED-ACCESS WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD XX.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF SPINDALE.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

NCDOT CONTACT: NATHAN ADIMA, P.E.

CONTRACT:



DESIGN DATA

ADT 2022 =	10400
ADT 2040 =	12900
K =	8 %
D =	55 %
T =	7 % *
V =	70 MPH
* TTST 2% DUAL 5%	
FUNC CLASS =	
ARTERIAL	
REGIONAL	TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2233BA =	3.589 MILES
LENGTH STRUCTURE TIP PROJECT R-2233BA =	0.227 MILES
TOTAL LENGTH TIP PROJECT R-2233BA =	3.816 MILES

STRUCTURE LENGTH BASED ON -L3- NB STATIONING.

PLANS PREPARED FOR NCDOT BY:

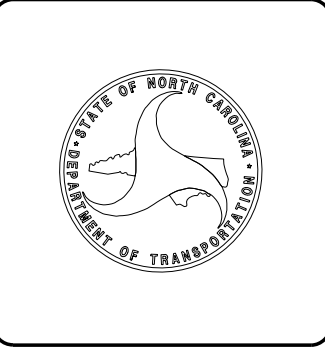
	2610 WYCLIFF ROAD SUITE 410 RALEIGH, NC 27607 PHONE: 919.881.9939 NC COA No. F-0929
	2012 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE: JUNE 19, 2020	DENNIS J. MORY, P.E. PROJECT ENGINEER
LETTING DATE: JUNE 20, 2023	BRYAN LAMBETH, P.E. PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



15/02/15
D:\GERRY
R2233BA Permit Drawings 20191206

**PERMIT DRAWING
SHEET 2 OF 50**

R/W SHEET NO. ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

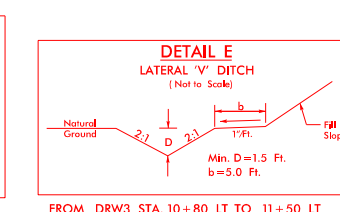
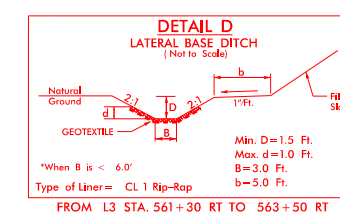
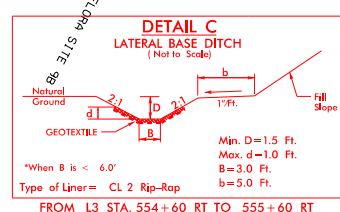
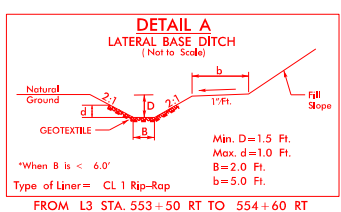
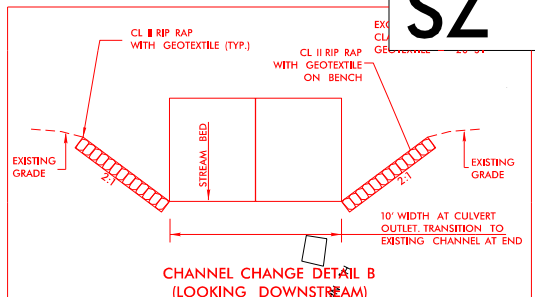
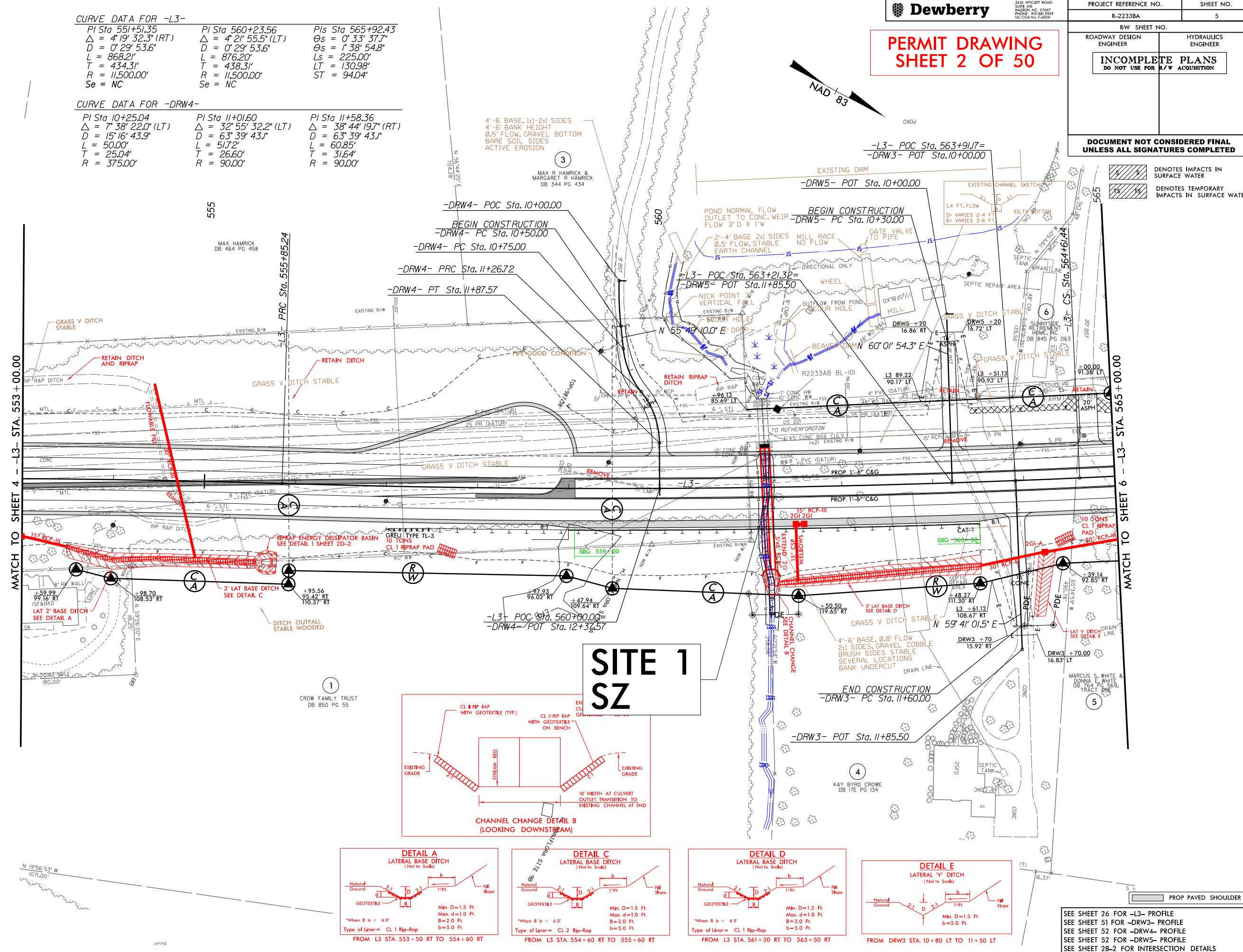
Denotes Impacts in Surface Water
Denotes Temporary Impacts in Surface Water

CURVE DATA FOR -L3-

PI Sta 551+51.35 Δ = 4° 19' 32.3" (RT) D = 0° 29' 53.6" L = 868.21' T = 434.31' R = 11,500.00' Se = NC	PI Sta 560+23.56 Δ = 4° 21' 55.5" (LT) D = 0° 29' 53.6" L = 876.20' T = 438.31' R = 11,500.00' Se = NC	PIs Sta 565+92.43 Θs = 0° 33' 37.7" D = 1° 38' 54.8" Ls = 225.00' LT = 130.98' ST = 94.04'
--	--	---

CURVE DATA FOR -DRW4-

PI Sta 10+25.04 Δ = 7° 38' 22.0" (LT) D = 15° 16' 43.9" L = 50.00' T = 25.04' R = 375.00'	PI Sta 11+01.60 Δ = 32° 55' 32.2" (LT) D = 63° 39' 43.1" L = 51.72' T = 26.60' R = 90.00'	PI Sta 11+58.36 Δ = 38° 44' 19.7" (RT) D = 63° 39' 43.1" L = 60.85' T = 31.64' R = 90.00'
--	--	--



SEE SHEET 26 FOR -L3- PROFILE
SEE SHEET 51 FOR -DRW3- PROFILE
SEE SHEET 52 FOR -DRW4- PROFILE
SEE SHEET 52 FOR -DRW5- PROFILE
SEE SHEET 2B-2 FOR INTERSECTION DETAILS

5/14/2019
D:\060894
R2233BA Permit Drawings 20191206
1262915
D:\060894
R2233BA Permit Drawings 20191206

RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

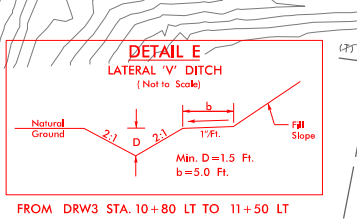
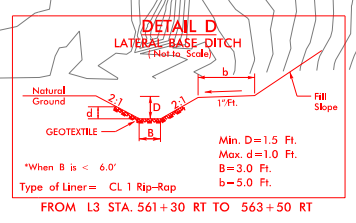
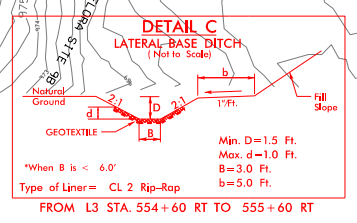
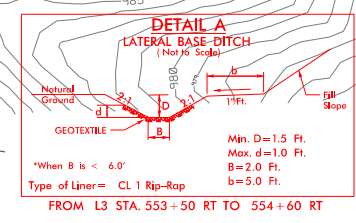
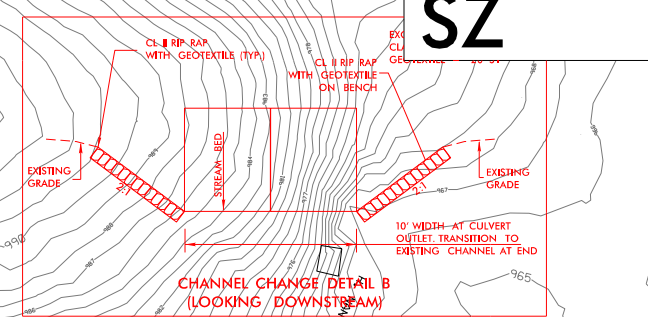
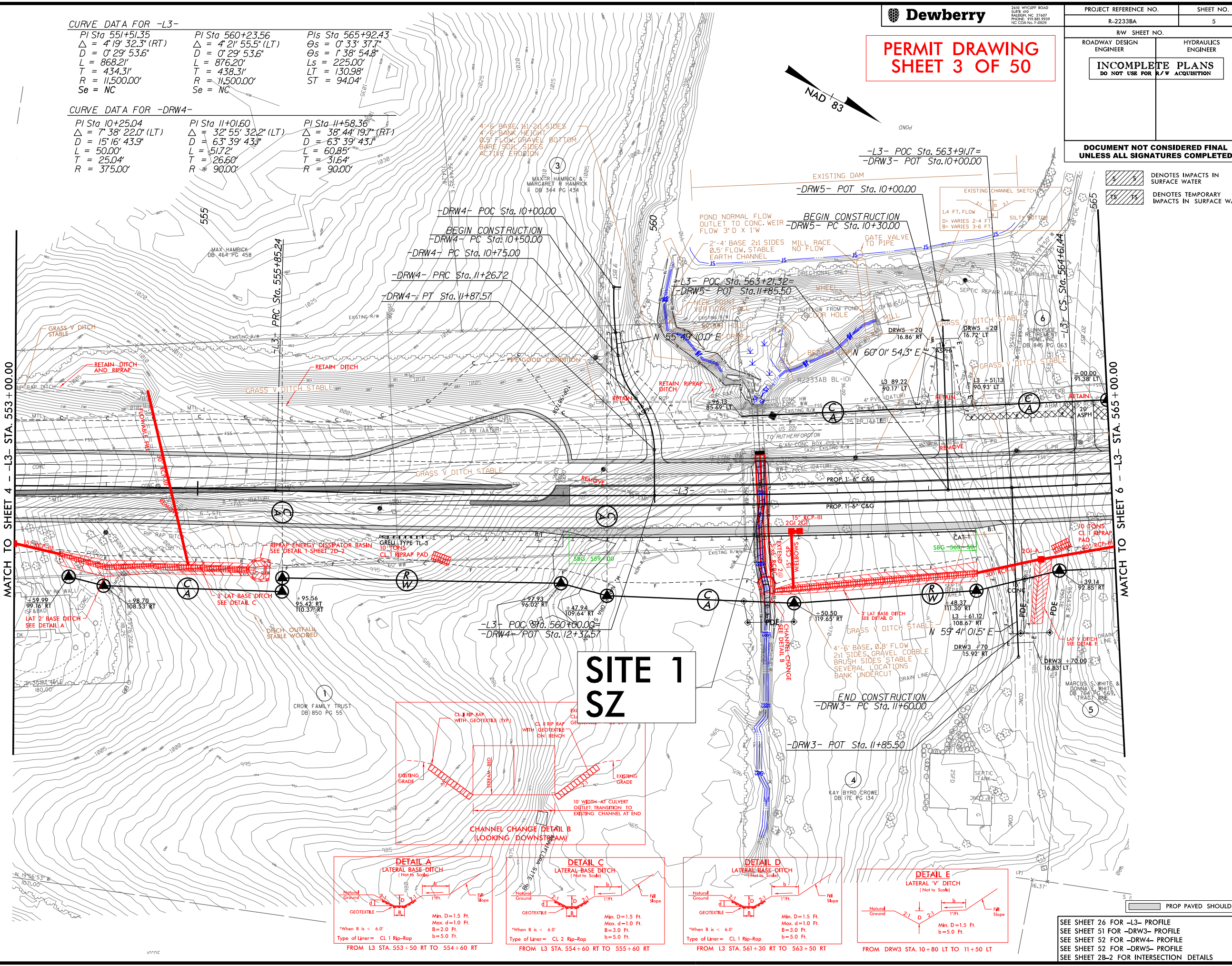
PERMIT DRAWING
SHEET 3 OF 50

CURVE DATA FOR -L3-

PI Sta 551+51.35 Δ = 4° 19' 32.3" (RT) D = 0' 29' 53.6" L = 868.21' T = 434.31' R = 11,500.00' Se = NC	PI Sta 560+23.56 Δ = 4° 21' 55.5" (LT) D = 0' 29' 53.6" L = 876.20' T = 438.31' R = 11,500.00' Se = NC	PIs Sta 565+92.43 Os = 0' 33' 37.7" Ds = 1' 38' 54.8" Ls = 225.00' LT = 130.98' ST = 94.04'
--	--	--

CURVE DATA FOR -DRW4-

PI Sta 10+25.04 Δ = 7° 38' 22.0" (LT) D = 15' 16' 43.9" L = 50.00' T = 25.04' R = 375.00'	PI Sta 11+01.60 Δ = 32° 55' 32.2" (LT) D = 63° 39' 43.1" L = 51.72' T = 26.60' R = 90.00'	PI Sta 11+58.36 Δ = 38° 44' 19.7" (RT) D = 63° 39' 43.1" L = 60.85' T = 31.64' R = 90.00'
--	--	--



SEE SHEET 26 FOR -L3- PROFILE
SEE SHEET 51 FOR -DRW3- PROFILE
SEE SHEET 52 FOR -DRW4- PROFILE
SEE SHEET 52 FOR -DRW5- PROFILE
SEE SHEET 2B-2 FOR INTERSECTION DETAILS

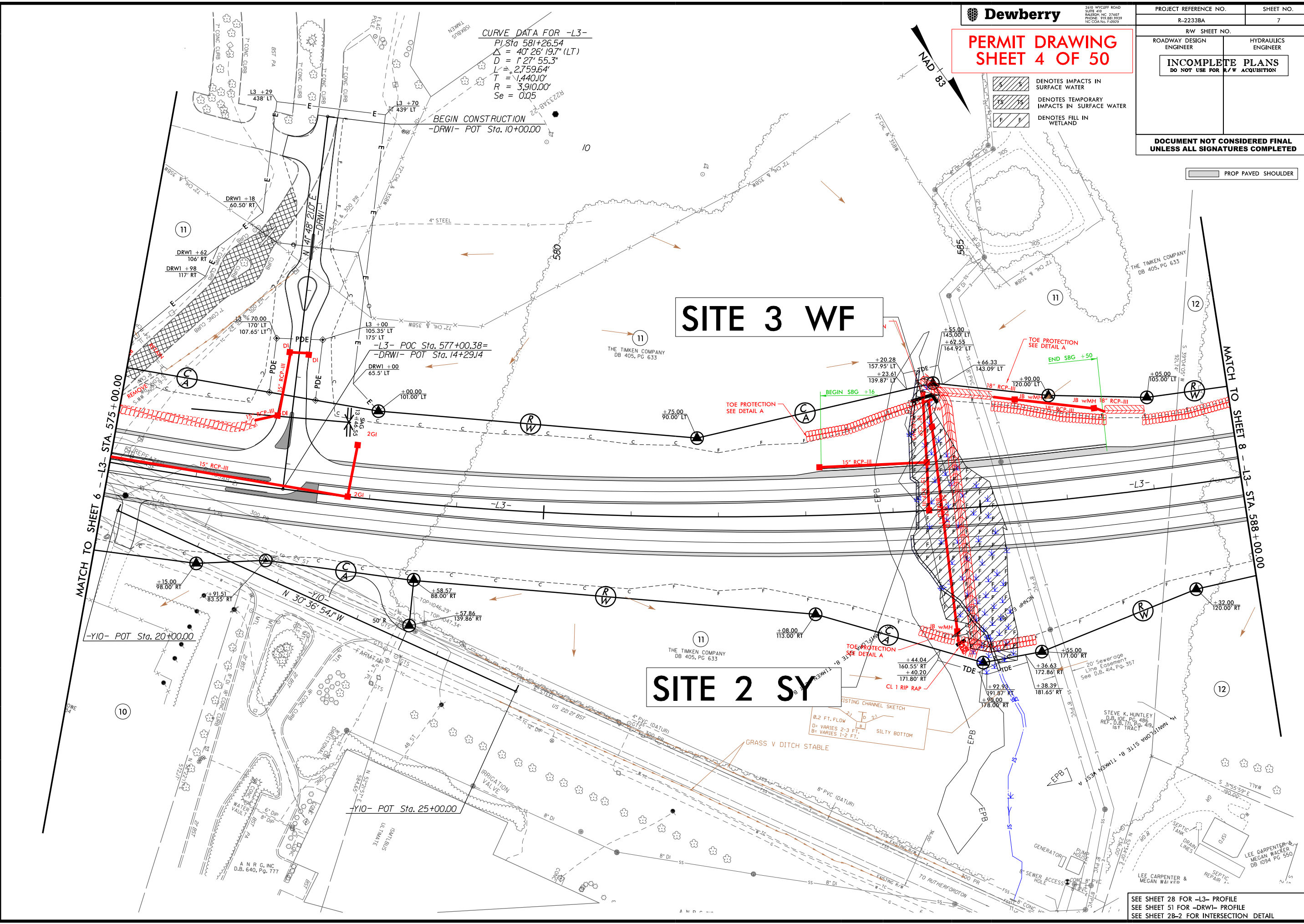
5/14/19
1562915
D:\069894
R2233BA Permit Drawings 20191206

PROJECT REFERENCE NO. R-2233BA	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 4 OF 50

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND

PROP PAVED SHOULDER



5/14/2019
 1562915
 D:\DEWBERRY
 R22333BA Permit Drawings 20191206

SEE SHEET 28 FOR -L3- PROFILE
 SEE SHEET 51 FOR -DRWI- PROFILE
 SEE SHEET 2B-2 FOR INTERSECTION DETAIL

PROJECT REFERENCE NO. R-2233BA	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

CURVE DATA FOR -L3-

PIs Sta 602+94.24	PI Sta 615+05.64
$\Theta_s = 5^{\circ} 09' 23.8"$	$\Delta = 57^{\circ} 14' 50.0"$ (RT)
$L_s = 360.00'$	$D = 2^{\circ} 51' 53.2"$
$LT = 240.10'$	$L = 1,998.30'$
$ST = 120.09'$	$T = 1,091.50'$
$RO = 360'$	$R = 2,000.00'$
	$Se = 0.08$

CURVE DATA FOR -RPB-

PIs Sta 10+66.68
$\Theta_s = 2^{\circ} 47' 56.4"$
$L_s = 200.00'$
$LT = 133.35'$
$T = 66.68'$
$RO = 200'$

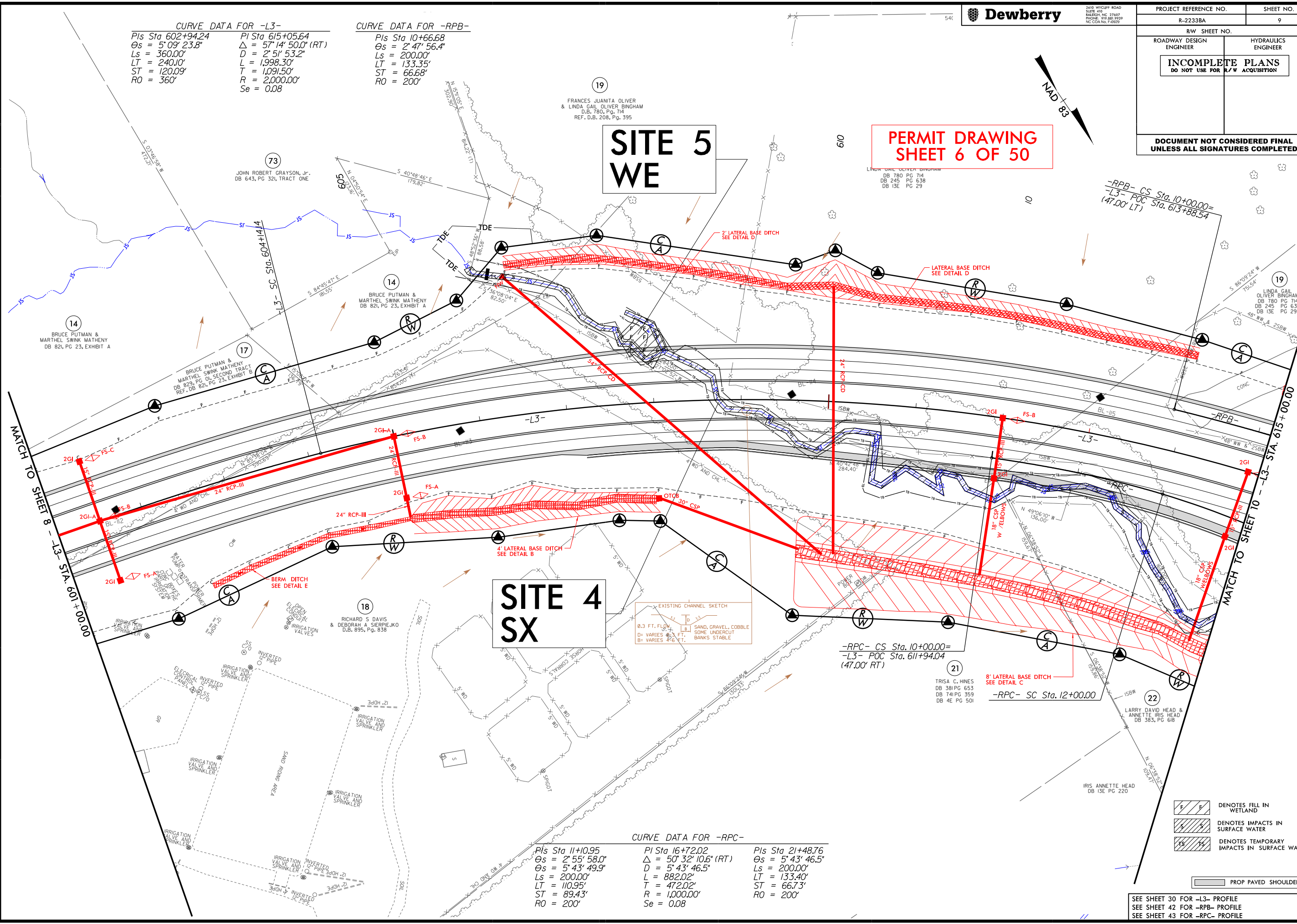
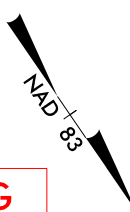
CURVE DATA FOR -RPC-

PIs Sta 11+10.95	PI Sta 16+72.02	PIs Sta 21+48.76
$\Theta_s = 2^{\circ} 55' 58.0"$	$\Delta = 50^{\circ} 32' 10.6"$ (RT)	$\Theta_s = 5^{\circ} 43' 46.5"$
$\Theta_s = 5^{\circ} 43' 49.9"$	$D = 5^{\circ} 43' 46.5"$	$L_s = 200.00'$
$L_s = 200.00'$	$L = 882.02'$	$LT = 133.40'$
$LT = 110.95'$	$T = 472.02'$	$ST = 66.73'$
$ST = 89.43'$	$R = 1,000.00'$	$RO = 200'$
$RO = 200'$	$Se = 0.08$	

SITE 5 WE

SITE 4 SX

PERMIT DRAWING SHEET 6 OF 50



- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SEE SHEET 30 FOR -L3- PROFILE
SEE SHEET 42 FOR -RPB- PROFILE
SEE SHEET 43 FOR -RPC- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2233BA	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS	
DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL	
UNLESS ALL SIGNATURES COMPLETED	

CURVE DATA FOR -L3-

PIs Sta 602+94.24	PI Sta 615+05.64
$\Theta_s = 5^{\circ}09'23.8"$	$\Delta = 57^{\circ}14'50.0"$ (RT)
$L_s = 360.00'$	$D = 2^{\circ}51'53.2"$
$LT = 240.10'$	$L = 1,998.30'$
$ST = 120.09'$	$T = 1,091.50'$
$RO = 360'$	$R = 2,000.00'$
	$Se = 0.08$

CURVE DATA FOR -RPB-

PIs Sta 10+66.68
$\Theta_s = 2^{\circ}47'56.4"$
$L_s = 200.00'$
$LT = 133.35'$
$ST = 66.68'$
$RO = 200'$

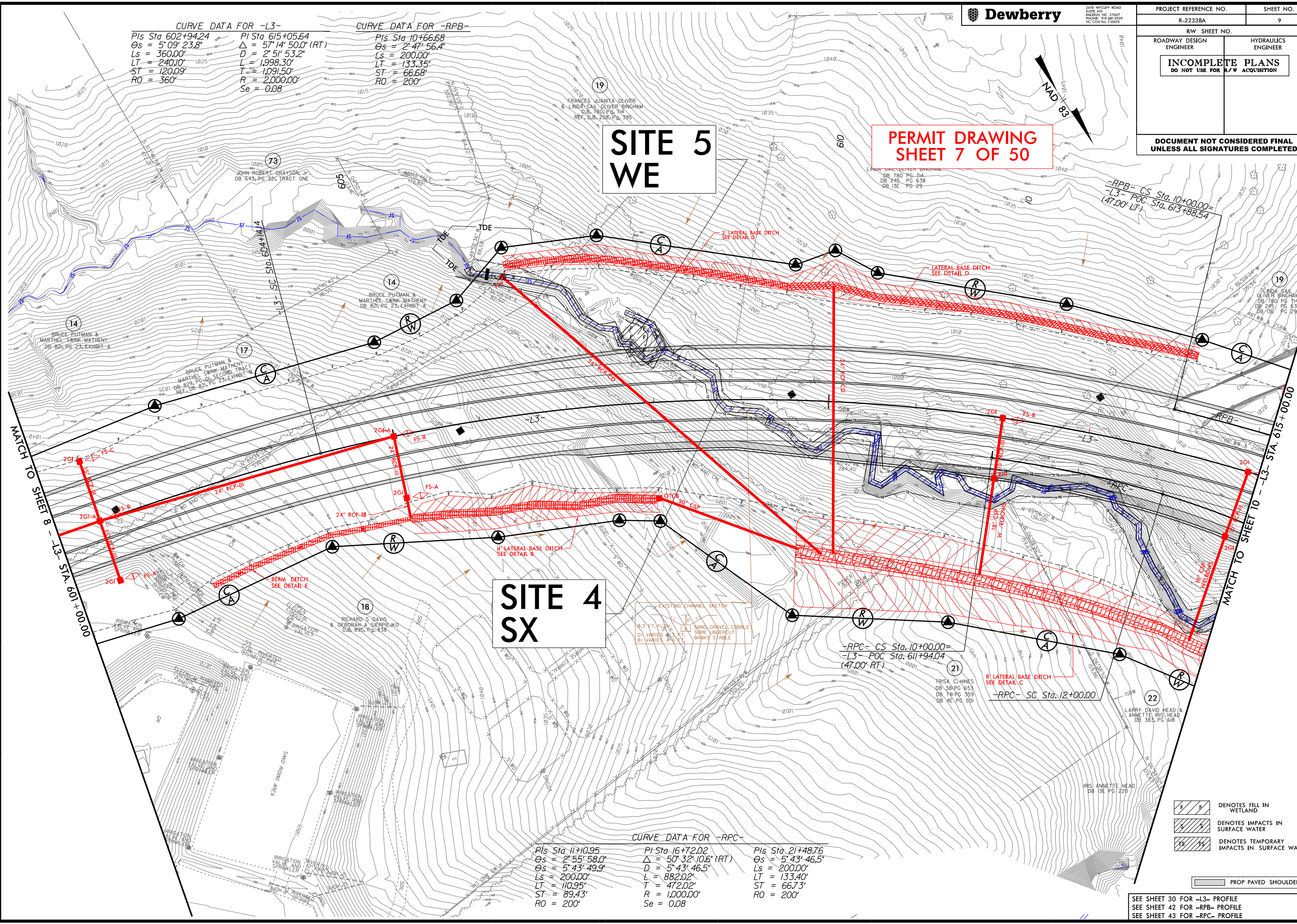
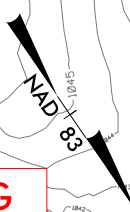
CURVE DATA FOR -RPC-

PIs Sta 11+10.95	PI Sta 16+72.02	PIs Sta 21+48.76
$\Theta_s = 2^{\circ}55'58.0"$	$\Delta = 50^{\circ}32'10.6"$ (RT)	$\Theta_s = 5^{\circ}43'46.5"$
$\Theta_s = 5^{\circ}43'49.9"$	$D = 5^{\circ}43'46.5"$	$L_s = 200.00'$
$L_s = 200.00'$	$L = 882.02'$	$LT = 133.40'$
$LT = 110.95'$	$T = 472.02'$	$ST = 66.73'$
$ST = 89.43'$	$R = 1,000.00'$	$RO = 200'$
$RO = 200'$	$Se = 0.08$	

SITE 5 WE

SITE 4 SX

PERMIT DRAWING SHEET 7 OF 50



- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROP PAVED SHOULDER

SEE SHEET 30 FOR -L3- PROFILE
SEE SHEET 42 FOR -RPB- PROFILE
SEE SHEET 43 FOR -RPC- PROFILE

Dewberry

PROJECT REFERENCE NO. R-22338A
SHEET NO. 17

ROADWAY DESIGN ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR CONSTRUCTION

PROF. PAVED SHOULDER

PERMIT DRAWING SHEET 8 OF 50

INDICATES IMPACTS IN SURFACE WATER
INDICATES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83

REVISIONS

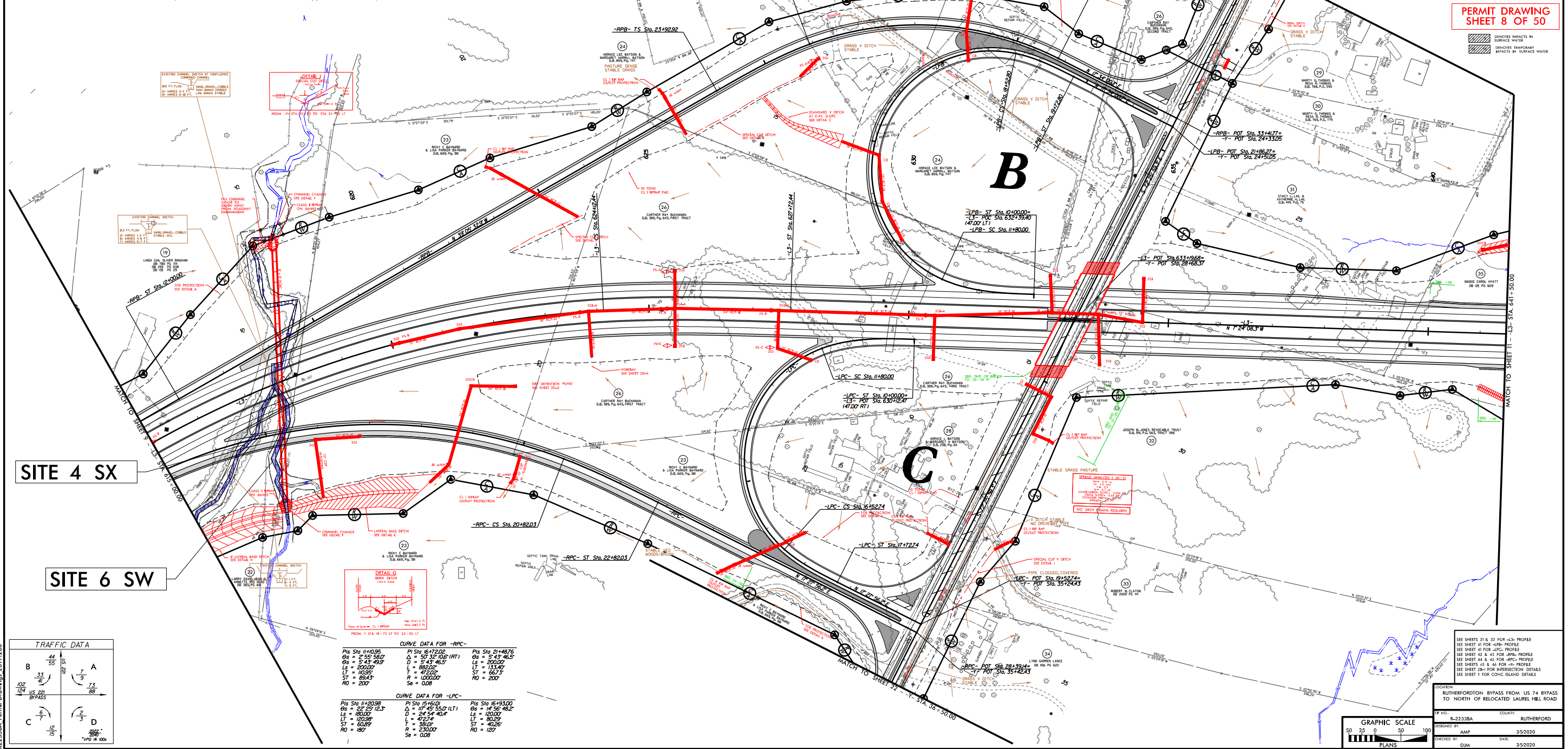
1	ISSUE FOR PERMIT
---	------------------

CURVE DATA FOR -RPR-

PI Sta 10+66.68 Os = 2° 47' 56.4" Ls = 200.00 Lt = 133.35 St = 66.68 Rd = 200'	PI Sta 25+26.45 Os = 9° 32' 57.5" Ls = 200.00 Lt = 133.55 St = 66.84 Rd = 200'	PI Sta 28+54.49 Os = 47° 06' 36.7 (RT) D = 9° 32' 57.5" Ls = 493.33 Lt = 240.00 St = 120.00 Rd = 200.00 Se = 0.08	PI Sta 65+05.64 Os = 57° 14' 50.0 (RT) D = 2° 54' 53.2" Ls = 1598.30 Lt = 240.00 St = 120.00 Rd = 350'	PI Sta 625+325.53 Os = 9° 09' 23.8" Ls = 360.00 Lt = 240.00 St = 120.00 Rd = 350'
---	---	--	--	--

CURVE DATA FOR -LPC-

PI Sta 11+20.98 Os = 22° 22' 12.3" Ls = 180.00 Lt = 102.98 St = 60.89 Rd = 180'	PI Sta 32+97.59 Os = 57° 35' 08.4 (RT) D = 24° 54' 40.4" Ls = 80.29 Lt = 247.59 St = 40.26 Rd = 120'	PI Sta 18+93.06 Os = 14° 56' 48.2" Ls = 120.00 Lt = 80.29 St = 40.26 Rd = 120'
--	--	---



12/6/2019
DEWBERRY
R-22338A Permit Drawings 20191206

GRAPHIC SCALE
50 25 0 50 100
PLANS

LOCATION: RUTHERFORDTON BYPASS FROM US 74 BYPASS TO NORTH OF RELOCATED LAUREL HILL ROAD

IP NO. R-22338A COUNTY RUTHERFORD

DESIGNED BY: AMP
CHECKED BY: DJM

DATE: 3/5/2020

SEE SHEETS 31 & 32 FOR -LPC- PROFILE
SEE SHEET 41 FOR -RPR- PROFILE
SEE SHEET 41 FOR -RPC- PROFILE
SEE SHEETS 42 & 43 FOR -RPR- PROFILE
SEE SHEETS 44 & 45 FOR -RPC- PROFILE
SEE SHEETS 46 & 46 FOR -LPC- PROFILE
SEE SHEET 28 FOR INTERSECTION DETAILS
SEE SHEET 1 FOR CONC ISLAND DETAILS

Dewberry

PROJECT REFERENCE NO. R-22338A
SHEET NO. 17

ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

PERMIT DRAWING SHEET 9 OF 50

PROF PAVED SHOULDER
 Hatched area: DENOTES IMPACTS IN SURFACE WATER
 Stippled area: DENOTES TEMPORARY IMPACTS IN SURFACE WATER

REVISIONS

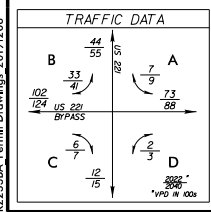
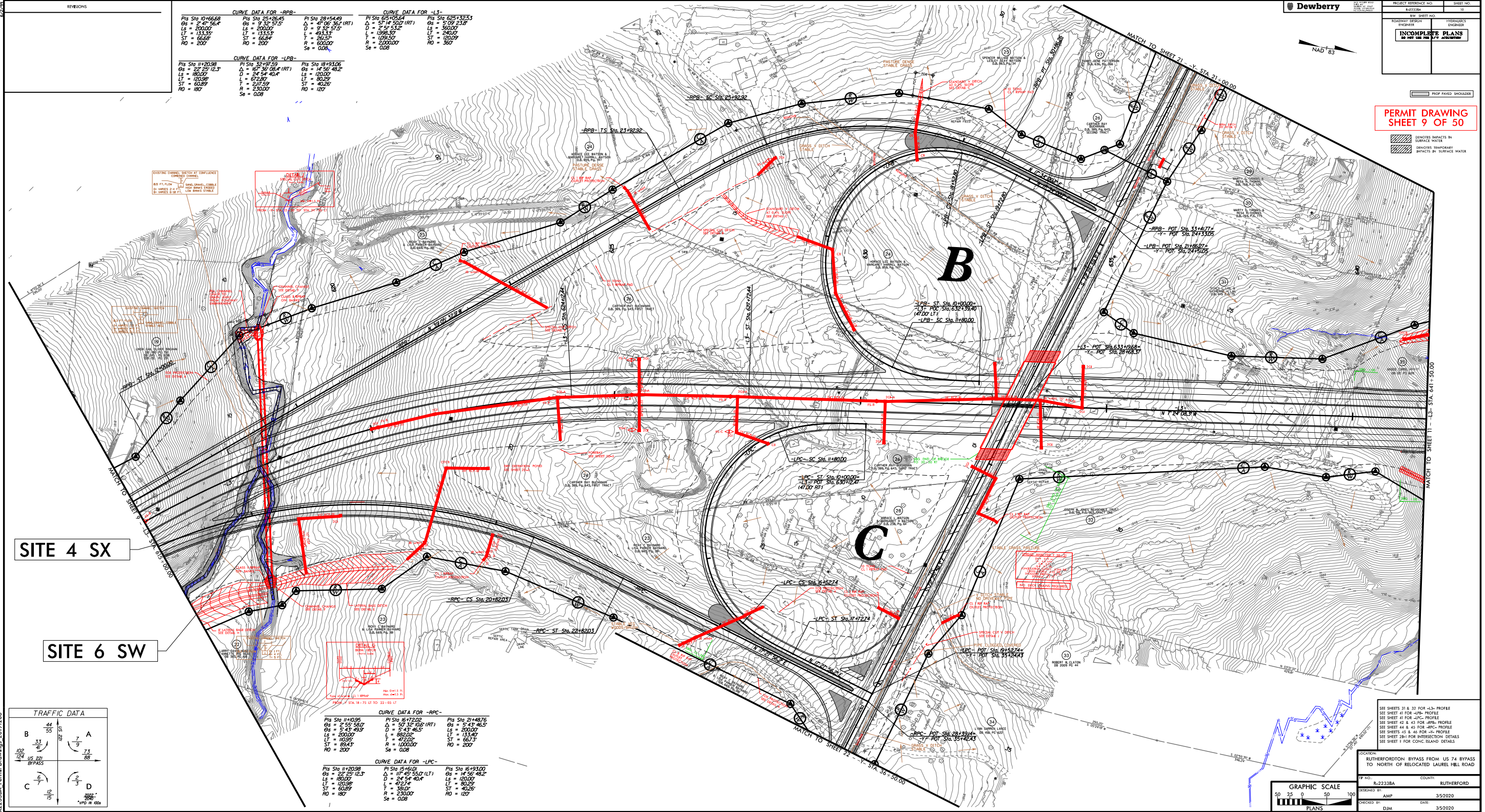
1	12/6/2019	DEWBERRY	R-22338A	Permit Drawings 20191206
---	-----------	----------	----------	--------------------------

CURVE DATA FOR -RPR-		CURVE DATA FOR -L3-	
PI Sta 10+66.68 G _s = 2° 47' 56.4" L _s = 200.00' LT = 133.35' ST = 66.68' RO = 200'	PI Sta 25+26.45 G _s = 9° 32' 57.5" L _s = 200.00' LT = 133.35' ST = 66.68' RO = 200'	PI Sta 28+54.49 G _s = 4° 06' 36.7" (RT) L _s = 9° 32' 57.5" L = 493.33' T = 263.57' R = 6000.00' Se = 0.08	PI Sta 65+05.64 G _s = 5° 14' 50.0" (RT) L _s = 2° 51' 53.2" L = 1998.30' T = 1094.14' R = 2000.00' Se = 0.08

CURVE DATA FOR -LPR-		CURVE DATA FOR -L3-	
PI Sta 11+20.98 G _s = 2° 22' 12.3" L _s = 180.00' LT = 102.98' ST = 60.89' RO = 180'	PI Sta 32+97.59 G _s = 5° 32' 08.4" (RT) L _s = 120.00' D = 24° 54' 40.4" L = 493.33' T = 247.59' R = 2300.00' Se = 0.08	PI Sta 18+93.06 G _s = 1° 56' 48.2" L _s = 120.00' L = 120.00' T = 40.26' R = 120'	PI Sta 65+05.64 G _s = 5° 14' 50.0" (RT) L _s = 2° 51' 53.2" L = 1998.30' T = 1094.14' R = 2000.00' Se = 0.08

CURVE DATA FOR -RPC-		CURVE DATA FOR -LPC-	
PI Sta 11+03.95 G _s = 2° 43' 49.5" L _s = 200.00' LT = 103.95' ST = 89.43' RO = 200'	PI Sta 15+72.02 G _s = 5° 43' 46.5" (RT) L _s = 200.00' D = 24° 54' 40.4" L = 493.33' T = 172.02' R = 1000.00' Se = 0.08	PI Sta 21+48.76 G _s = 1° 56' 48.2" L _s = 120.00' L = 120.00' T = 40.26' R = 120'	PI Sta 15+61.00 G _s = 1° 40' 55.0" (LT) L _s = 180.00' D = 24° 54' 40.4" L = 493.33' T = 103.95' R = 2300.00' Se = 0.08

CURVE DATA FOR -RPC-		CURVE DATA FOR -LPC-	
PI Sta 11+03.95 G _s = 2° 43' 49.5" L _s = 200.00' LT = 103.95' ST = 89.43' RO = 200'	PI Sta 15+72.02 G _s = 5° 43' 46.5" (RT) L _s = 200.00' D = 24° 54' 40.4" L = 493.33' T = 172.02' R = 1000.00' Se = 0.08	PI Sta 21+48.76 G _s = 1° 56' 48.2" L _s = 120.00' L = 120.00' T = 40.26' R = 120'	PI Sta 15+61.00 G _s = 1° 40' 55.0" (LT) L _s = 180.00' D = 24° 54' 40.4" L = 493.33' T = 103.95' R = 2300.00' Se = 0.08



GRAPHIC SCALE
 50 25 0 50 100
 PLANS

LOCATION: RUTHERFORDTON BYPASS FROM US 74 BYPASS TO NORTH OF RELOCATED LAUREL HILL ROAD

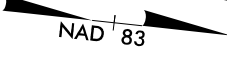
IP NO. R-22338A COUNTY RUTHERFORD
 DESIGNED BY AMP
 CHECKED BY DJM DATE 3/5/2020

SEE SHEETS 31 & 32 FOR -L3- PROFILE
 SEE SHEET 41 FOR -RPR- PROFILE
 SEE SHEET 41 FOR -LPC- PROFILE
 SEE SHEETS 42 & 43 FOR -RPC- PROFILE
 SEE SHEETS 45 & 46 FOR -LPR- PROFILE
 SEE SHEET 28 FOR INTERSECTION DETAILS
 SEE SHEET 7 FOR CONC ISLAND DETAILS

RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 10 OF 50

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND



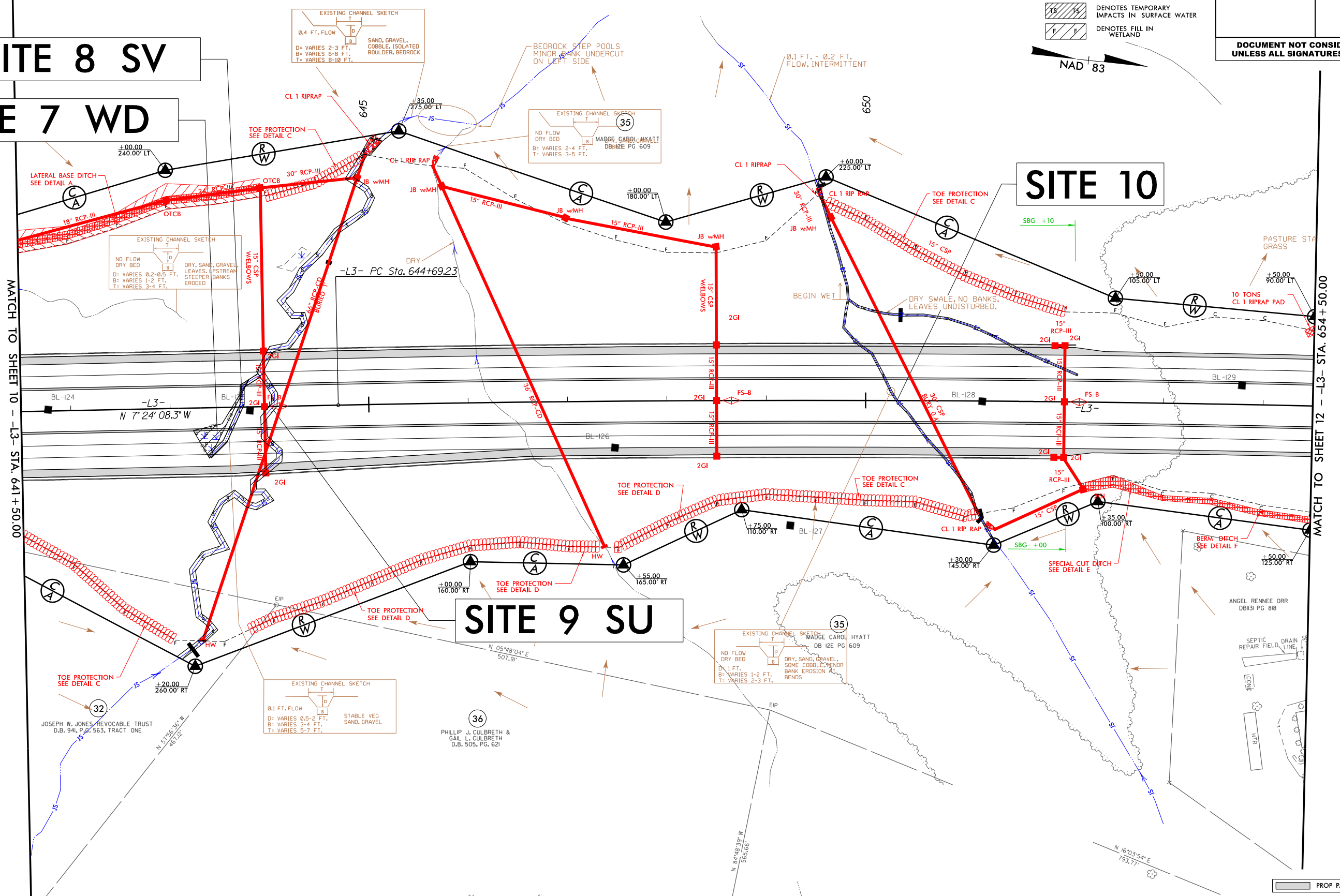
CURVE DATA FOR -L3-
 PI Sta 666+39.01
 $\Delta = 10^\circ 46' 42.6''$ (RT)
 $D = 0' 14' 56.8''$
 $L = 4,326.77'$
 $T = 2,169.79'$
 $R = 23,000.00'$
 $Se = NC$

SITE 8 SV

SITE 7 WD

SITE 10

SITE 9 SU



MATCH TO SHEET 10 - L3- STA. 641+50.00

MATCH TO SHEET 12 - L3- STA. 654+50.00

**PERMIT DRAWING
SHEET 11 OF 50**

RW SHEET NO. ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER
**INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION**

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND

SITE 8 SV

SITE 7 WD

SITE 10

SITE 9 SU

CURVE DATA FOR -L3-
PI Sta. 666+39.01
 $\Delta = 10^{\circ}46'42.6''$ (RT)
 $D = 0^{\circ}14'56.8''$
 $L = 4,326.77'$
 $T = 2,169.79'$
 $R = 23,000.00'$
 $S_e = NC$

MATCH TO SHEET 10 - L3- STA. 641+50.00

MATCH TO SHEET 12 - L3- STA. 654+50.00

PROP PAVED SHOULDER

5/14/99

CURVE DATA FOR -L3-
 PI Sta 666+39.01
 $\Delta = 10^\circ 46' 42.6''$ (RT)
 $D = 0' 14' 56.8''$
 $L = 4,326.77'$
 $T = 2,169.79'$
 $R = 23,000.00'$
 $Se = NC$

CURVE DATA FOR -SRI-

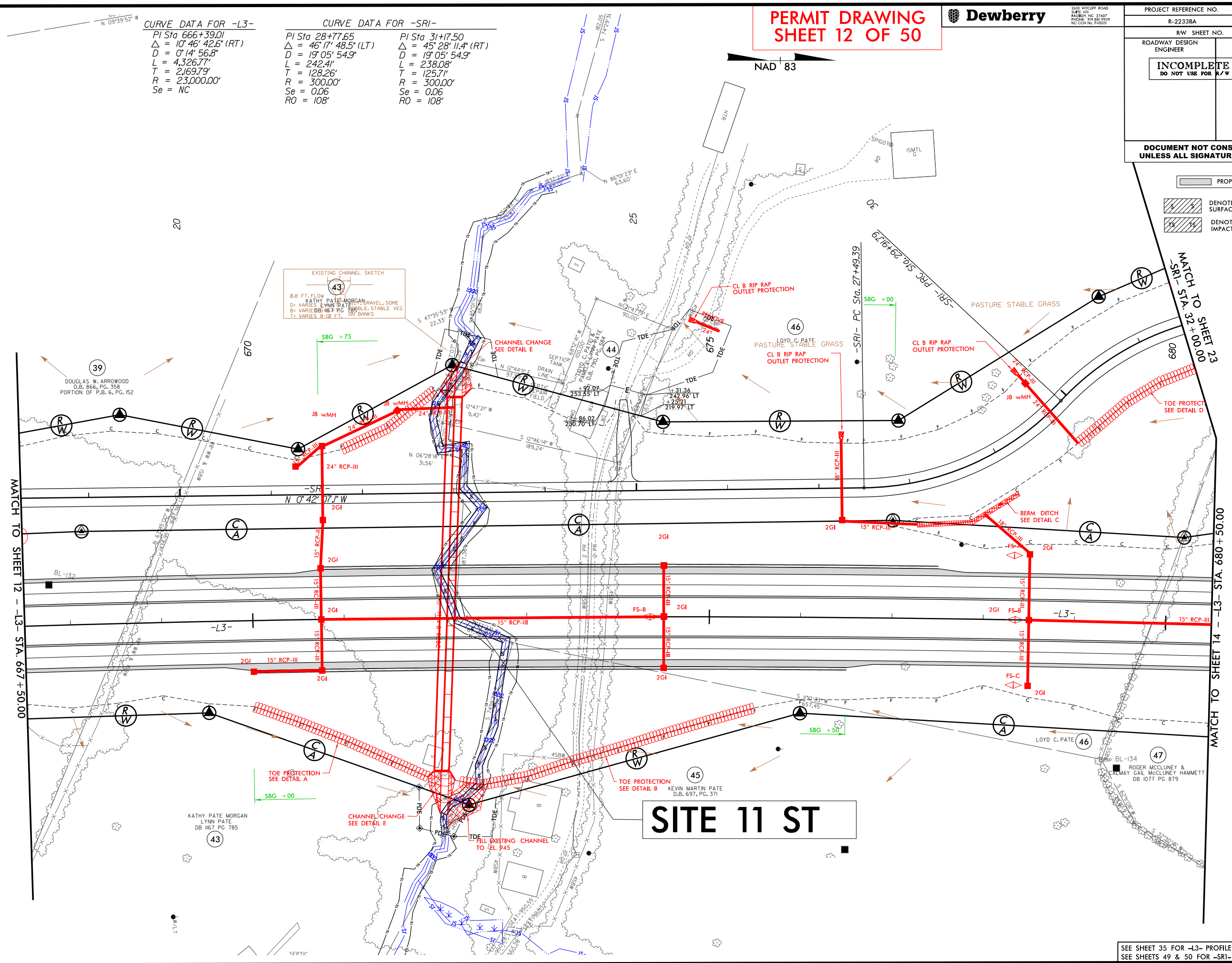
PI Sta 28+77.65	PI Sta 31+17.50
$\Delta = 46^\circ 17' 48.5''$ (LT)	$\Delta = 45^\circ 28' 11.4''$ (RT)
$D = 19^\circ 05' 54.9''$	$D = 19^\circ 05' 54.9''$
$L = 242.41'$	$L = 238.08'$
$T = 128.26'$	$T = 125.71'$
$R = 300.00'$	$R = 300.00'$
$Se = 0.06$	
$RO = 108'$	$RO = 108'$

**PERMIT DRAWING
SHEET 12 OF 50**



PROJECT REFERENCE NO. R-2233BA	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83



- PROP PAVED SHOULDER
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

EXISTING CHANNEL SKETCH
 0.8 FT. FLOW
 KATHY PATE MORGAN
 LYNN PATE
 DB 867 PG 785
 POSSIBLE STABLE VEG
 B= VARIES 0.5-1.5 FT
 T= VARIES 8-10 FT
 BY BANKS

SITE 11 ST

SEE SHEET 35 FOR -L3- PROFILE
 SEE SHEETS 49 & 50 FOR -SRI- PROFILE

12/6/2019
 DEWBERRY
 R-2233BA Permit Drawing 20191206

5/14/99

CURVE DATA FOR -L3-
 PI Sta 666+39.01
 $\Delta = 10^\circ 46' 42.6''$ (RT)
 $D = 0' 14' 56.8''$
 $L = 4,326.77'$
 $T = 2,169.79'$
 $R = 23,000.00'$
 $Se = NC$

CURVE DATA FOR -SRI-

PI Sta 28+77.65	$\Delta = 46^\circ 17' 48.5''$ (LT)	PI Sta 31+17.50	$\Delta = 45^\circ 28' 11.4''$ (RT)
$D = 19^\circ 05' 54.9''$	$L = 242.41'$	$D = 19^\circ 05' 54.9''$	$L = 238.08'$
$L = 242.41'$	$T = 128.26'$	$L = 238.08'$	$T = 125.71'$
$R = 300.00'$	$R = 300.00'$	$R = 300.00'$	$R = 300.00'$
$Se = 0.06$	$Se = 0.06$	$Se = 0.06$	$Se = 0.06$
$RO = 108'$	$RO = 108'$	$RO = 108'$	$RO = 108'$

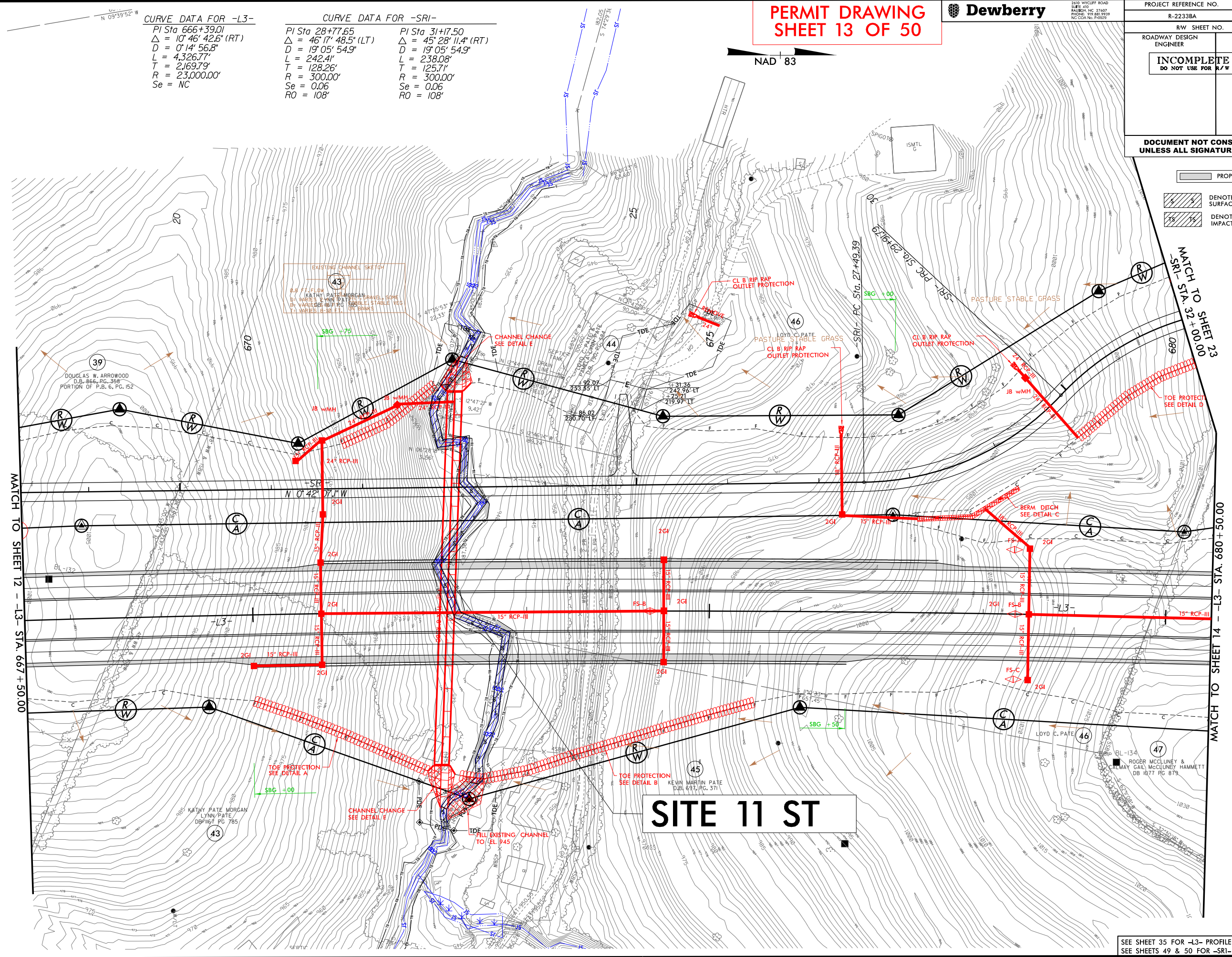
**PERMIT DRAWING
SHEET 13 OF 50**



PROJECT REFERENCE NO. R-2233BA	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

- PROP PAVED SHOULDER
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SITE 11 ST

SEE SHEET 35 FOR -L3- PROFILE
SEE SHEETS 49 & 50 FOR -SRI- PROFILE

12/6/2019
Dewberry
R-2233BA Permit Drawing 20191206

5/14/19



2010 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC CEA No. 79029

PROJECT REFERENCE NO. R-2233BA	SHEET NO. 15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

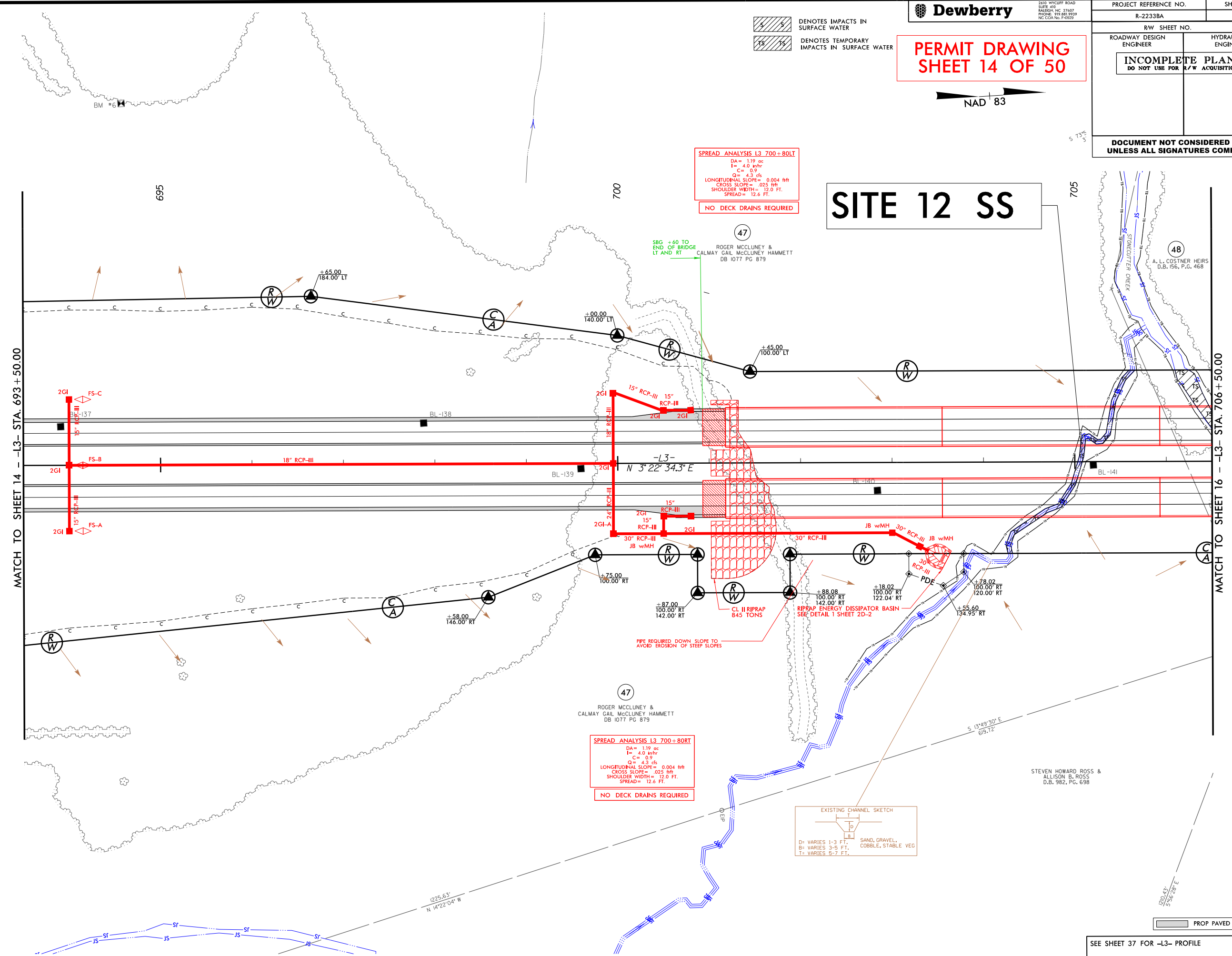
DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 14 OF 50

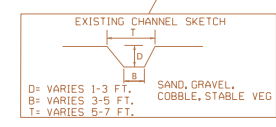


SITE 12 SS

SPREAD ANALYSIS L3 700+80T
 DA = 1.19 ac
 I = 4.0 mph
 C = 0.9
 Q = 4.3 cfs
 LONGITUDINAL SLOPE = 0.004 ft/ft
 CROSS SLOPE = .025 ft/ft
 SHOULDER WIDTH = 12.0 FT.
 SPREAD = 12.6 FT.
NO DECK DRAINS REQUIRED



SPREAD ANALYSIS L3 700+80T
 DA = 1.19 ac
 I = 4.0 mph
 C = 0.9
 Q = 4.3 cfs
 LONGITUDINAL SLOPE = 0.004 ft/ft
 CROSS SLOPE = .025 ft/ft
 SHOULDER WIDTH = 12.0 FT.
 SPREAD = 12.6 FT.
NO DECK DRAINS REQUIRED



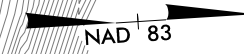
STEVEN HOWARD ROSS &
ALLISON B. ROSS
D.B. 982, PG. 698

15/02/19
 DEWBERRY
 R2233BA Permit Drawings_20191206

SEE SHEET 37 FOR -L3- PROFILE

PROJECT REFERENCE NO. R-22338A	SHEET NO. 15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

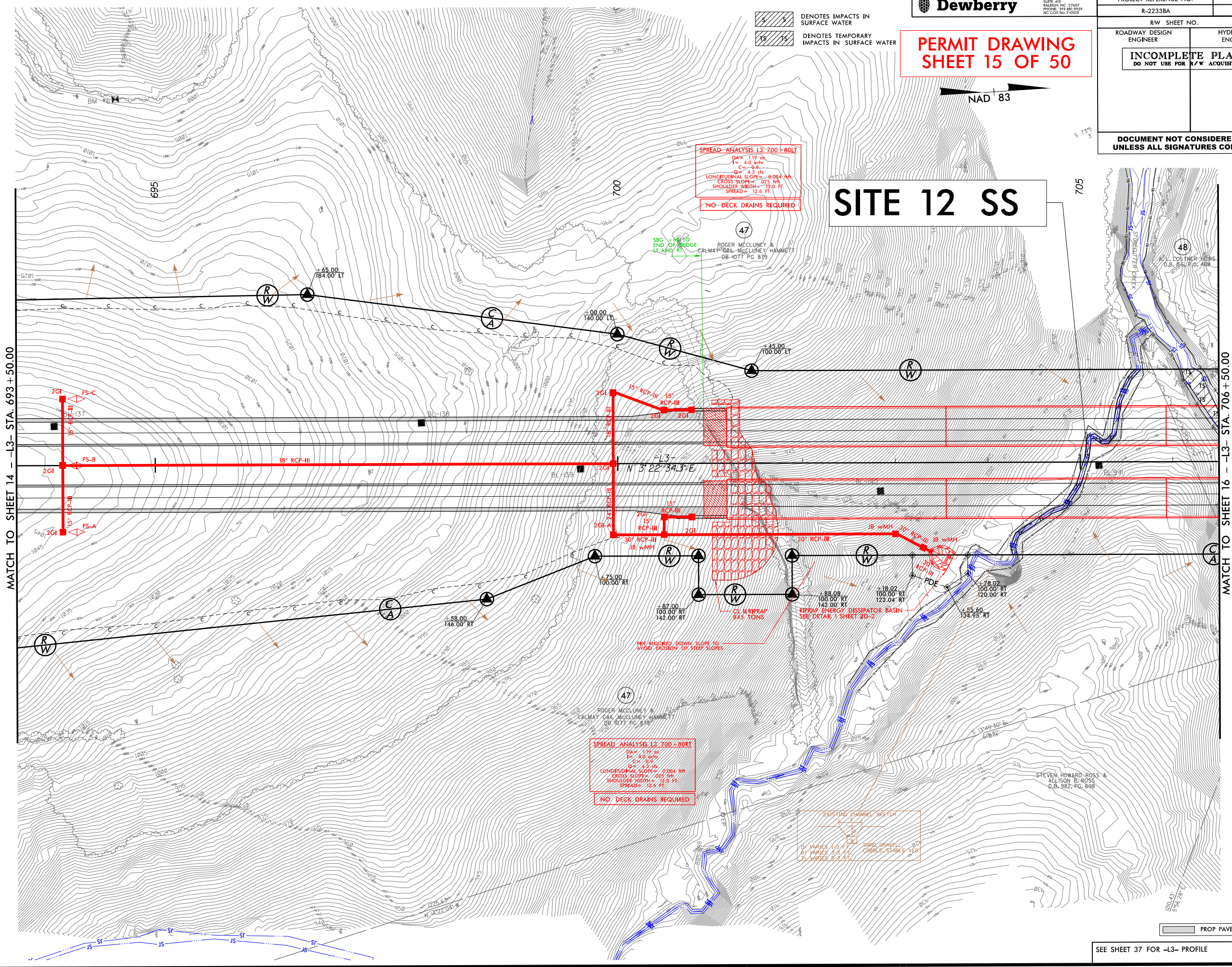
PERMIT DRAWING
SHEET 15 OF 50



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 12 SS



SPREAD ANALYSIS L3 700+80LT
 $DA = 1.19 \text{ in}$
 $T = 4.0 \text{ min}$
 $C = 0.2$
 $Q = 4.3 \text{ cfs}$
 LONGITUDINAL SLOPE = 0.004 MH
 CROSS SLOPE = 0.025 MH
 SHOULDER WIDTH = 12.0 FT
 SPREAD = 12.6 FT

NO DECK DRAINS REQUIRED

SPREAD ANALYSIS L3 700+80RT
 $DA = 1.19 \text{ in}$
 $T = 4.0 \text{ min}$
 $C = 0.2$
 $Q = 4.3 \text{ cfs}$
 LONGITUDINAL SLOPE = 0.004 MH
 CROSS SLOPE = 0.025 MH
 SHOULDER WIDTH = 12.0 FT
 SPREAD = 12.6 FT

NO DECK DRAINS REQUIRED

EXISTING CHANNEL SKETCH

OF VARIES 1-3 FT
 BY VARIES 3-5 FT
 TO VARIES 5-7 FT

BAND, BRAYEL
 COBBLE, STABLE VEG

PILE REQUIRED DOWN SLOPE TO AVOID EROSION OF STEEP SLOPES

CLN RIPRAP 645 TONS

RIPRAP ENERGY DISSIPATOR BASIN SEE DETAIL 1 SHEET 20-2

PROP PAVED SHOULDER

SEE SHEET 37 FOR -L3- PROFILE

INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 16 OF 50

CURVE DATA FOR -L3-

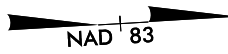
PI Sta 715+38.01	PI Sta 722+34.44
$\theta_s = 0^\circ 38' 11.8''$	$\Delta = 8^\circ 00' 19.6''$ (LT)
$L_s = 200.00'$	$D = 0^\circ 38' 11.8''$
$LT = 133.33'$	$L = 1,257.49'$
$ST = 66.67'$	$T = 629.77'$
$RO = 200'$	$R = 9,000.00'$
	$Se = 0.03$

CURVE DATA FOR -Y7-

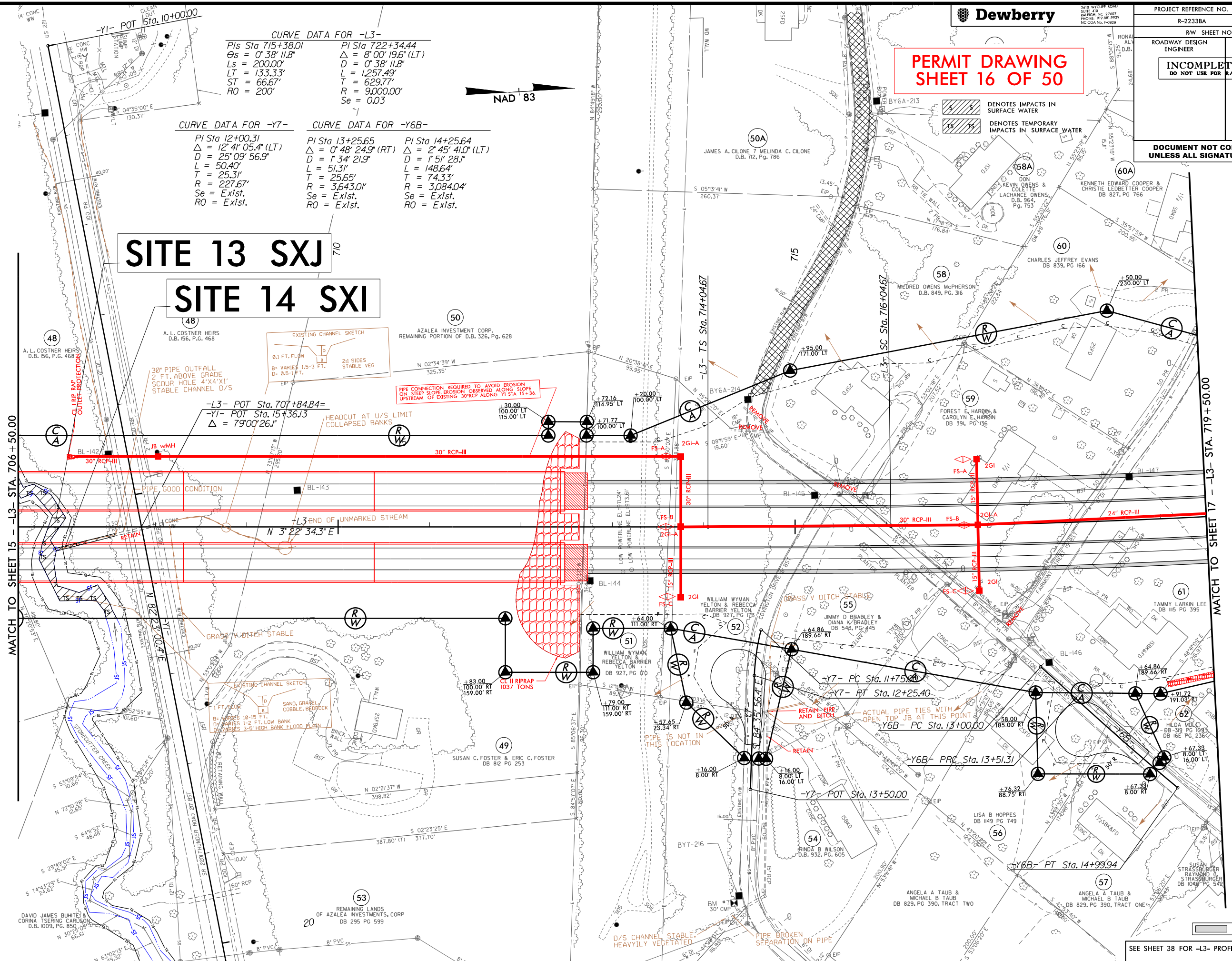
PI Sta 12+00.31	$\Delta = 12^\circ 41' 05.4''$ (LT)
$L = 50.40'$	$D = 25^\circ 09' 56.9''$
$T = 25.31'$	$L = 148.64'$
$R = 227.67'$	$T = 74.33'$
$Se = Exist.$	$R = 3,084.04'$
$RO = Exist.$	$Se = Exist.$

CURVE DATA FOR -Y6B-

PI Sta 13+25.65	PI Sta 14+25.64
$\Delta = 0^\circ 48' 24.9''$ (RT)	$\Delta = 2^\circ 45' 41.0''$ (LT)
$D = 1^\circ 34' 21.9''$	$D = 1^\circ 51' 28.1''$
$L = 51.31'$	$L = 148.64'$
$T = 25.65'$	$T = 74.33'$
$R = 3,643.01'$	$R = 3,084.04'$
$Se = Exist.$	$Se = Exist.$
$RO = Exist.$	$RO = Exist.$



SITE 13 SXJ
SITE 14 SXI



MATCH TO SHEET 15 - -L3- STA. 706+50.00

MATCH TO SHEET 17 - -L3- STA. 719+50.00

PROJECT REFERENCE NO. R-2233BA		SHEET NO. 16	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

PERMIT DRAWING
SHEET 17 OF 50

CURVE DATA FOR -L3-

PI Sta 715+38.01	PI Sta 722+34.44
$\Delta = 0^{\circ}38'11.8"$	$\Delta = 8^{\circ}00'19.6"$ (LT)
$L_s = 200.00'$	$D = 0^{\circ}38'11.8"$
$LT = 133.33'$	$L = 1257.49'$
$ST = 66.67'$	$T = 629.77'$
$RO = 200'$	$R = 9,000.00'$
	$Se = 0.03$

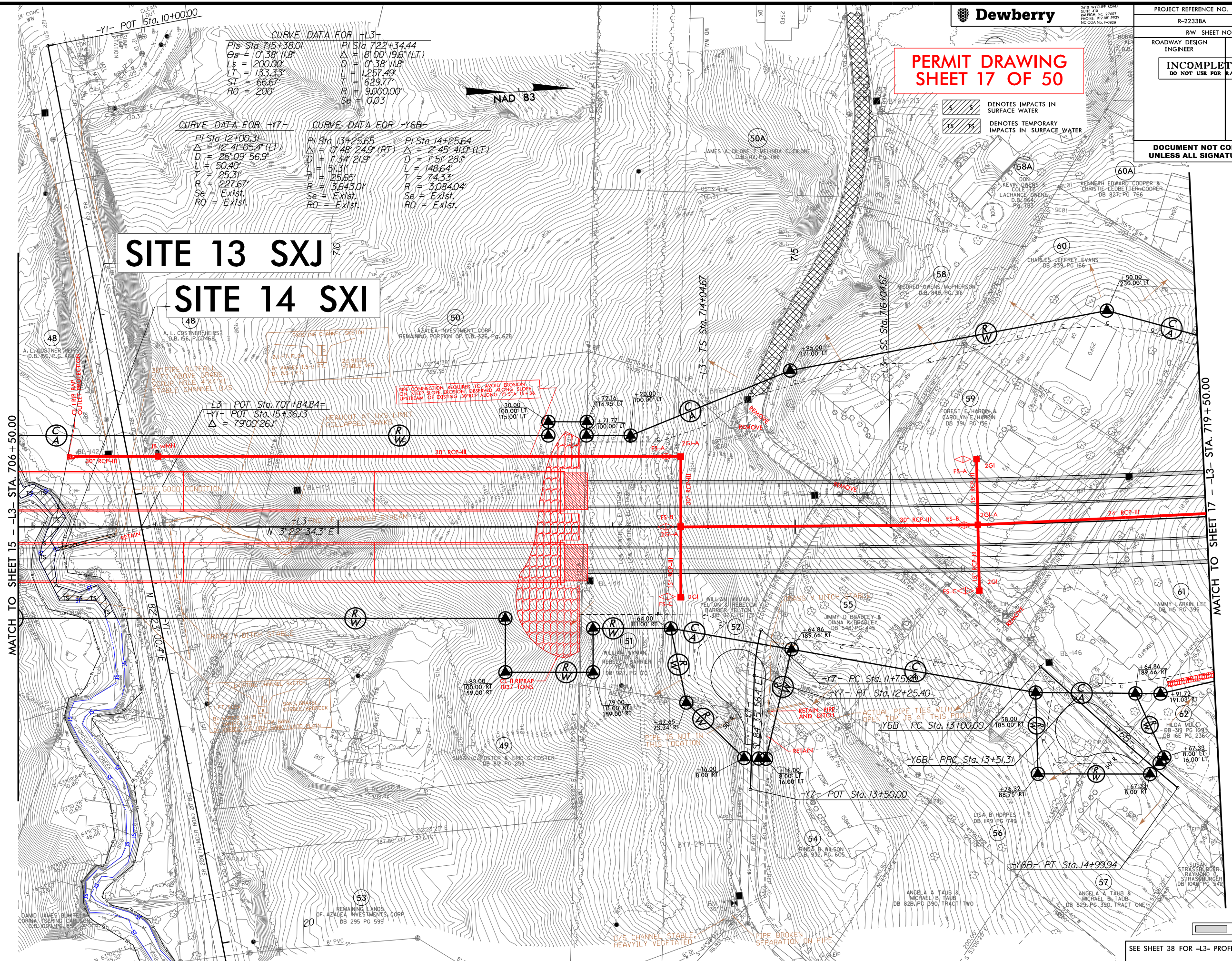
CURVE DATA FOR -Y7-

PI Sta 12+00.31	
$\Delta = 12^{\circ}41'05.4"$ (LT)	
$D = 25^{\circ}09'56.9"$	
$L = 50.40'$	
$T = 25.31'$	
$R = 227.67'$	
$Se = Exist.$	
$RO = Exist.$	

CURVE DATA FOR -Y6B-

PI Sta 13+25.65	PI Sta 14+25.64
$\Delta = 0^{\circ}48'24.9"$ (RT)	$\Delta = 2^{\circ}45'41.0"$ (LT)
$D = 1^{\circ}34'21.9"$	$D = 2^{\circ}51'28.1"$
$L = 51.31'$	$L = 148.64'$
$T = 25.65'$	$T = 74.33'$
$R = 3,643.01'$	$R = 3,084.04'$
$Se = Exist.$	$Se = Exist.$
$RO = Exist.$	$RO = Exist.$

SITE 13 SXJ
SITE 14 SXI



MATCH TO SHEET 15 - L3- STA. 706+50.00

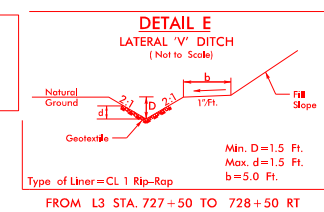
MATCH TO SHEET 17 - L3- STA. 719+50.00

SEE SHEET 38 FOR -L3- PROFILE

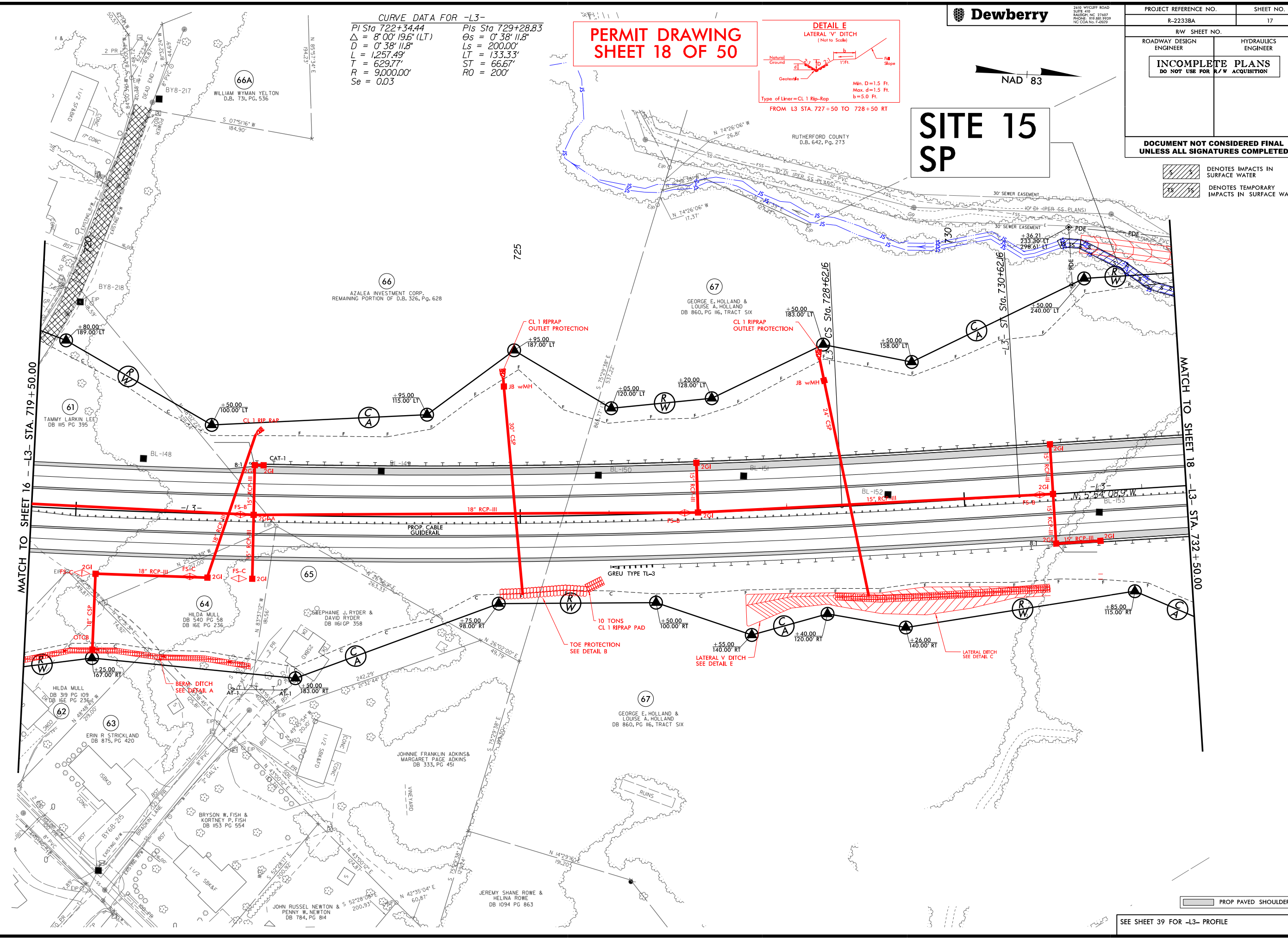
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

CURVE DATA FOR -L3-
 PI Sta 722+34.44 Pls Sta 729+28.83
 $\Delta = 8^{\circ}00'19.6"$ (LT) $\Theta_s = 0^{\circ}38'11.8"$
 $D = 0^{\circ}38'11.8"$ $L_s = 200.00'$
 $L = 1,257.49'$ $LT = 133.33'$
 $T = 629.77'$ $ST = 66.67'$
 $R = 9,000.00'$ $RO = 200'$
 $Se = 0.03$

PERMIT DRAWING SHEET 18 OF 50



SITE 15 SP



- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROP PAVED SHOULDER

SEE SHEET 39 FOR -L3- PROFILE

5/14/2019 12:56:01 PM D:\069894\22233BA Permitt Drawings\20191206

5/14/19



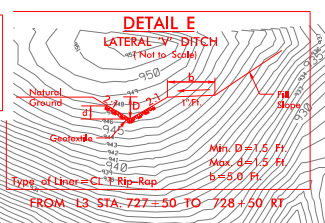
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.883.9329
NC CDA No. P-0009

PROJECT REFERENCE NO.	SHEET NO.
R-2233BA	17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

CURVE DATA FOR -L3-

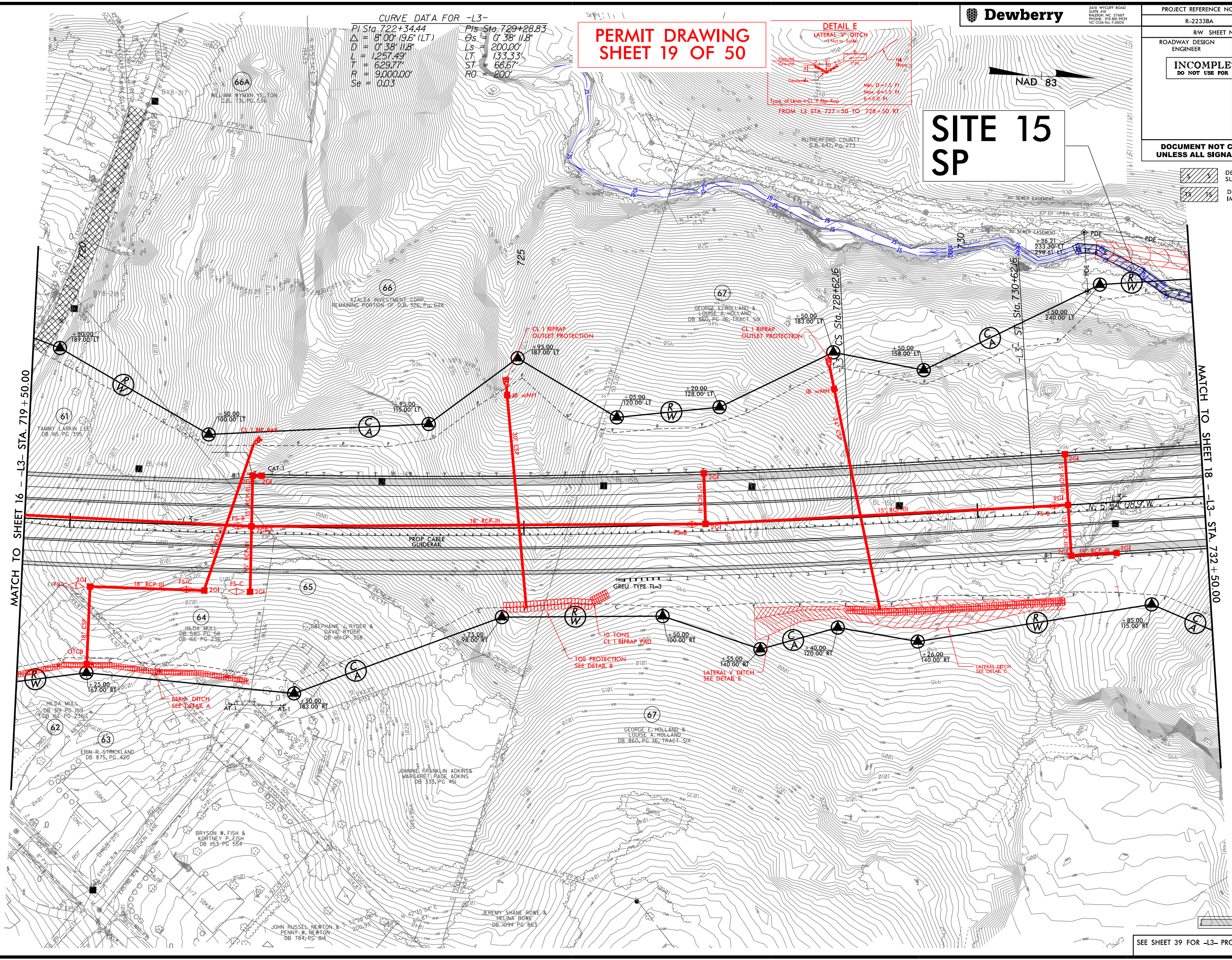
PI Sta. 722+34.44	PIs Sta. 729+28.83
$\Delta = 8^{\circ}00'19.6"$ (LT)	$\Theta_s = 0^{\circ}38'11.8"$
$D = 0^{\circ}38'11.8"$	$L_s = 200.00'$
$L = 1257.49'$	$LT = 133.33'$
$R = 629.77'$	$ST = 66.67'$
$R = 9,000.00'$	$RO = 200'$
$S_e = 0.03$	

PERMIT DRAWING SHEET 19 OF 50



SITE 15 SP

NAD 83



DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROP PAVED SHOULDER

SEE SHEET 39 FOR -L3- PROFILE

15/02/19
Dewberry
R-2233BA Permit Drawings 20191205

5/14/99

Dewberry 2410 WYCLIFF ROAD SUITE 410 RALEIGH, NC 27607 PHONE: 919.833.9299 NC CDA No. P-2002		PROJECT REFERENCE NO. R-2233BA	SHEET NO. 18
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

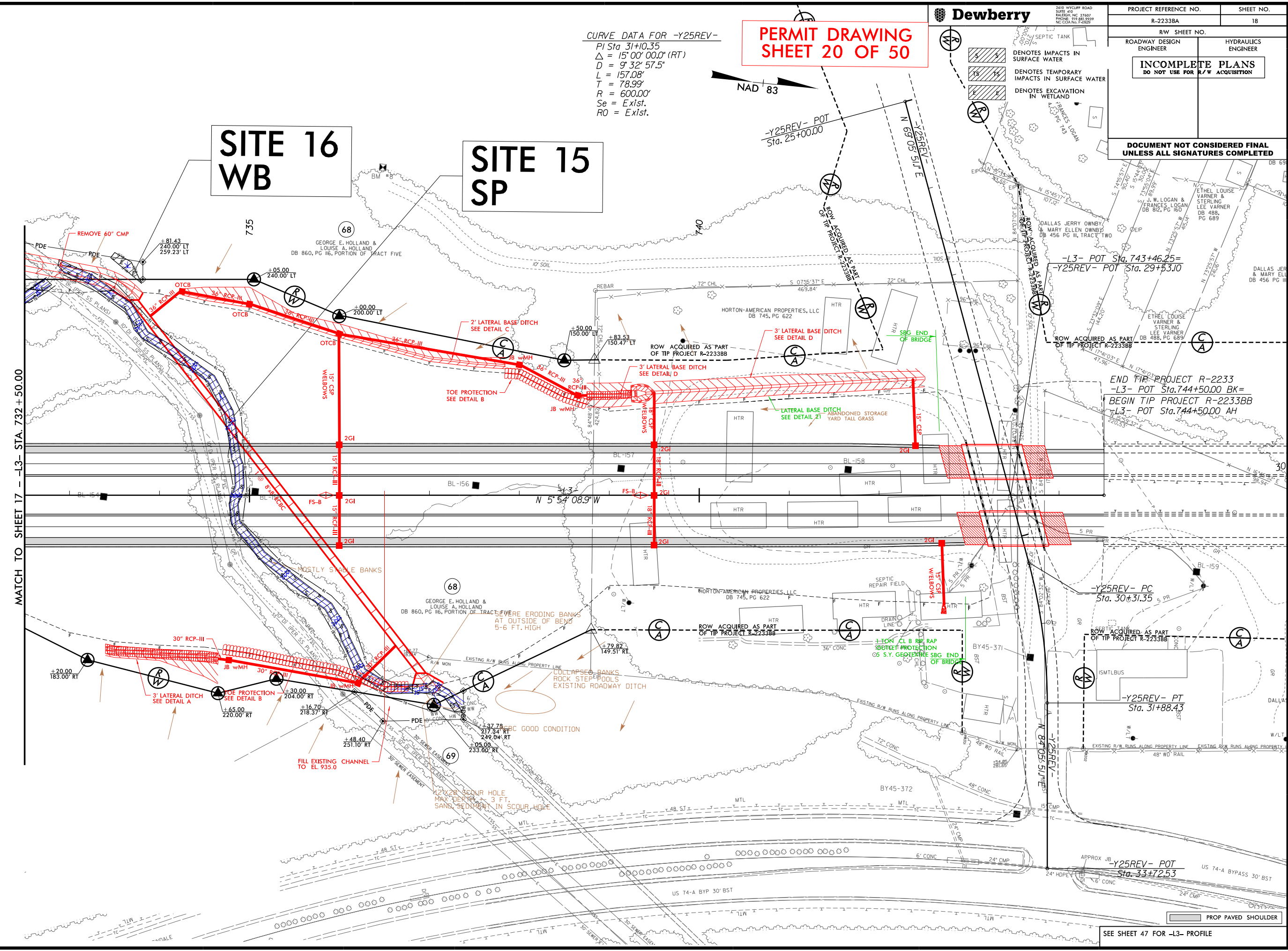
CURVE DATA FOR -Y25REV-
 PI Sta 31+10.35
 $\Delta = 15^{\circ}00'00.0"$ (RT)
 $D = 9^{\circ}32'57.5"$
 $L = 157.08'$
 $T = 78.99'$
 $R = 600.00'$
 $Se = Exist.$
 $RO = Exist.$

PERMIT DRAWING
SHEET 20 OF 50



SITE 16
WB

SITE 15
SP



MATCH TO SHEET 17 - L3- STA. 732 + 50.00

END TIP PROJECT R-2233
 -L3- POT Sta.744+50.00 BK=
 BEGIN TIP PROJECT R-2233BB
 -L3- POT Sta.744+50.00 AH

12/6/2015
 D:\2015\2233BA\Drawings\20191206
 2233BA Permit Drawings_20191206

SEE SHEET 47 FOR -L3- PROFILE

5/14/19



2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.801.9299
NC CCA No. P-2020

PROJECT REFERENCE NO.	SHEET NO.
R-2233BA	18
ROW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 21 OF 50

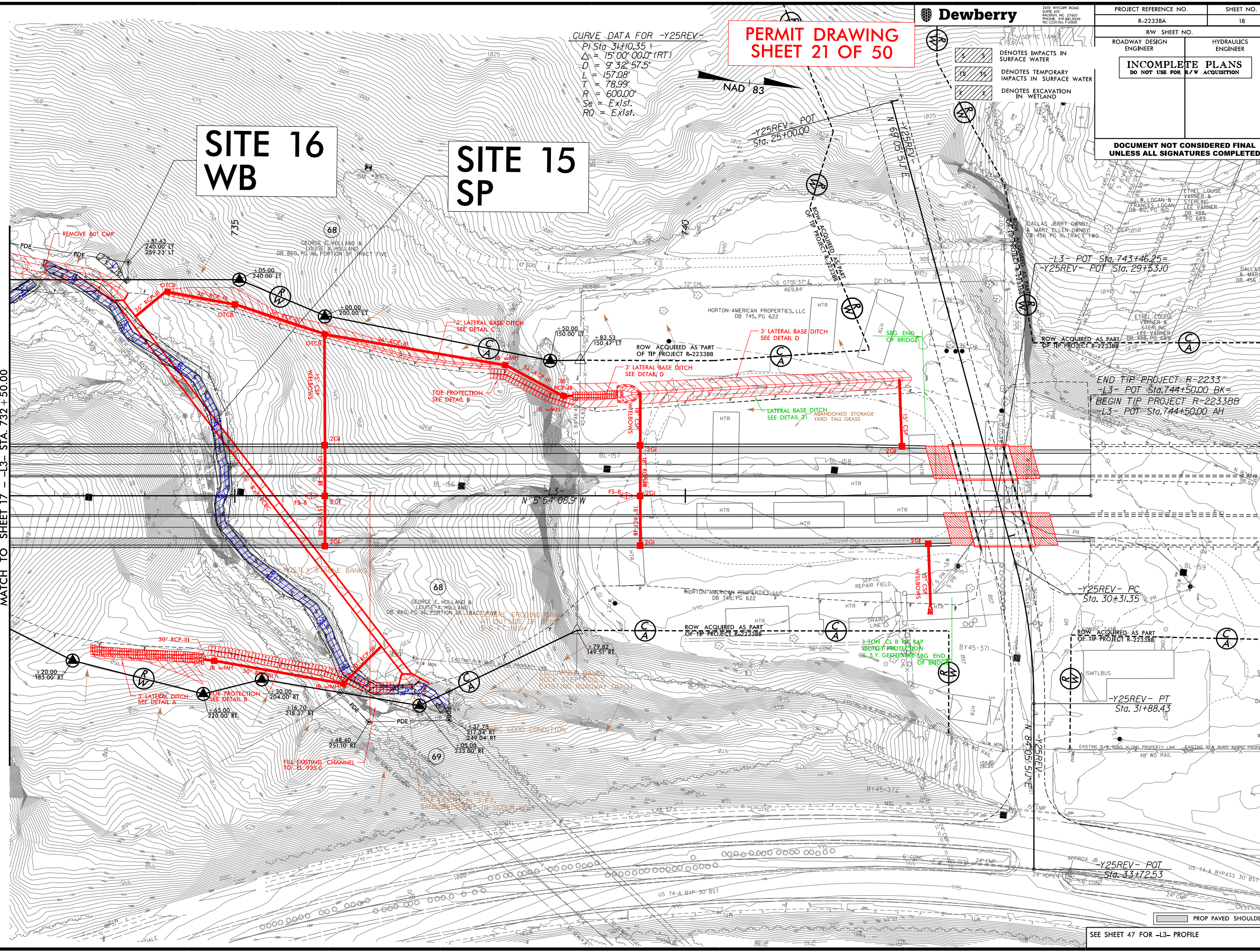
CURVE DATA FOR -Y25REV-
 PI Sta. 31+10.35
 $\Delta = 15^{\circ}00'00.0''$ (RT)
 $D = 9^{\circ}32'57.5''$
 $L = 157.08'$
 $T = 78.99'$
 $R = 600.00'$
 $Se = Exist.$
 $RO = Exist.$

SITE 16
WB

SITE 15
SP

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES EXCAVATION IN WETLAND

MATCH TO SHEET 17 - L3- STA. 732 + 50.00



12/6/2015
Dewberry
R-2233BA Permit Drawings_20191206

SEE SHEET 47 FOR -L3- PROFILE

5/14/99

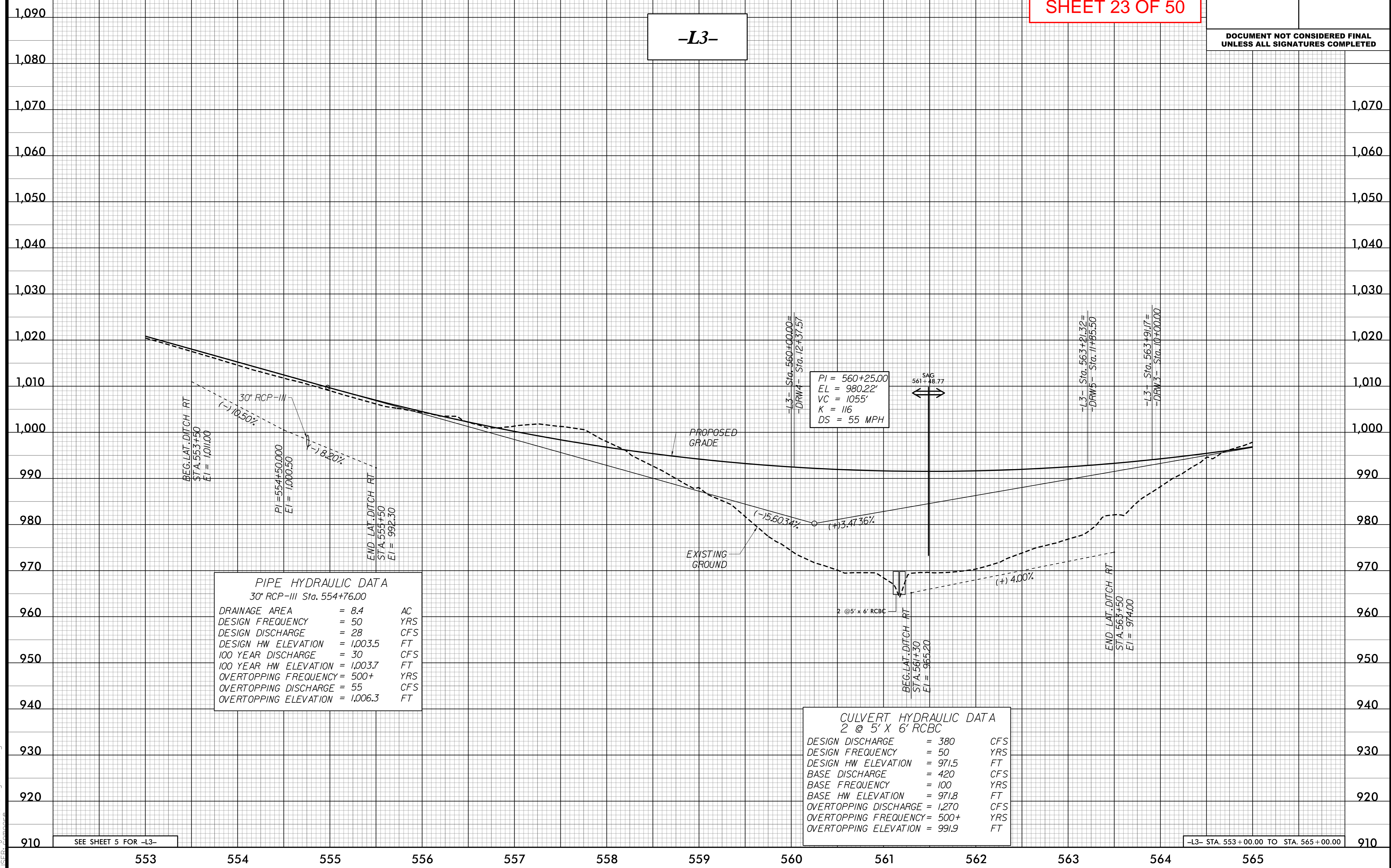
DITCH LEGEND
 RIGHT DITCH - - - - -

ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

**PERMIT DRAWING
 SHEET 23 OF 50**

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

-L3-



PIPE HYDRAULIC DATA
 30" RCP-III Sta. 554+76.00

DRAINAGE AREA	= 8.4	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 28	CFS
DESIGN HW ELEVATION	= 1,003.5	FT
100 YEAR DISCHARGE	= 30	CFS
100 YEAR HW ELEVATION	= 1,003.7	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 55	CFS
OVERTOPPING ELEVATION	= 1,006.3	FT

CULVERT HYDRAULIC DATA
 2 @ 5' X 6' RCBC

DESIGN DISCHARGE	= 380	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 971.5	FT
BASE DISCHARGE	= 420	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 971.8	FT
OVERTOPPING DISCHARGE	= 1,270	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 991.9	FT

SEE SHEET 5 FOR -L3-

-L3- STA. 553+00.00 TO STA. 565+00.00

3/5/2020 2:32:20 PM
 JTS:FC:J:\R2233BA\PLD\dj\PL26.dgn

5/14/99

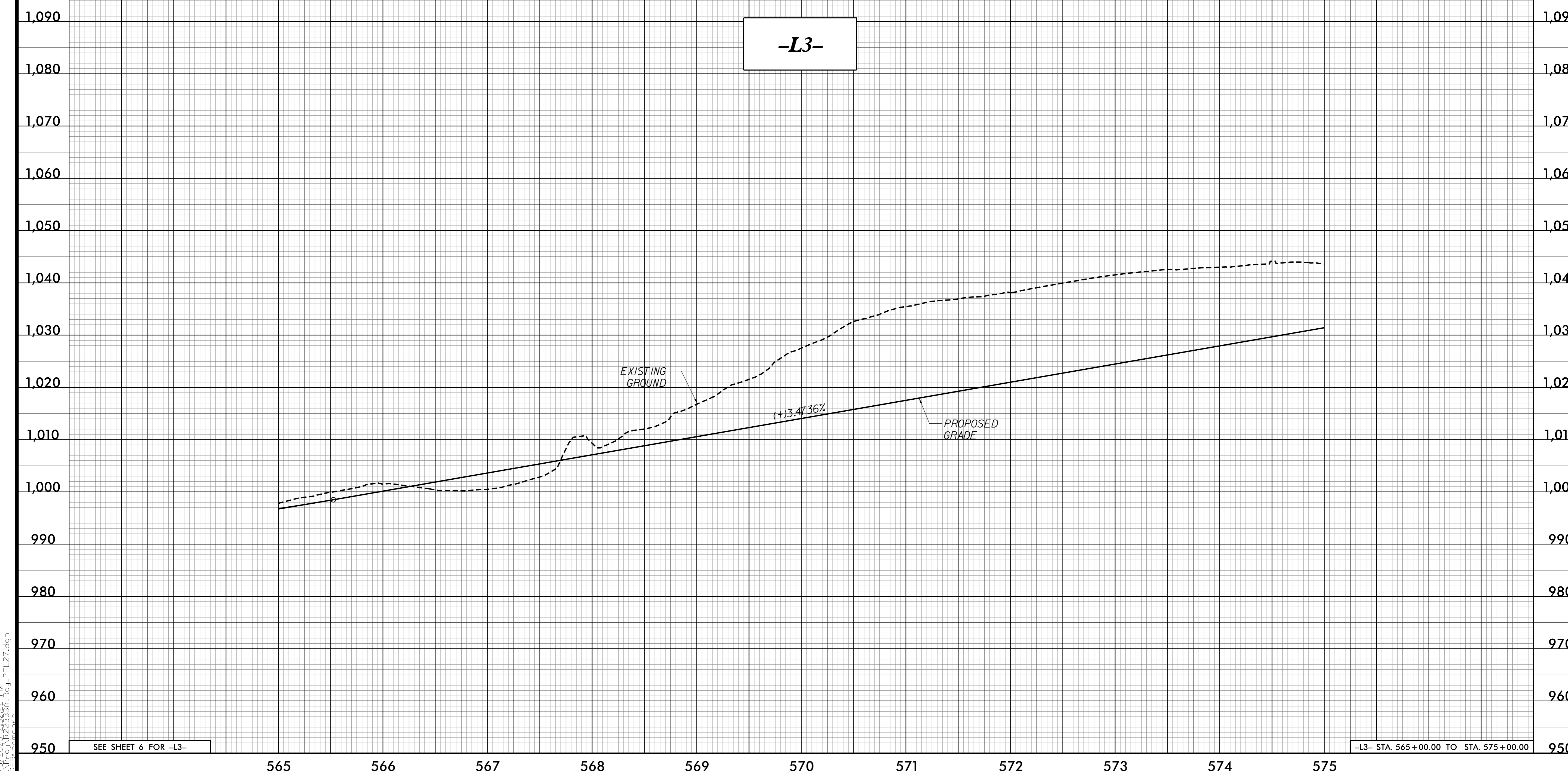
Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.883.9729
NC CCA No. F-0029

PROJECT REFERENCE NO. R-2233BA
SHEET NO. 27

PERMIT DRAWING
SHEET 24 OF 50

ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



3/5/2020 2:32:22 PM
ITSEFG\JARR2338A_Rdy_PFL27.dgn

SEE SHEET 6 FOR -L3-

-L3- STA. 565+00.00 TO STA. 575+00.00

5/14/99

DITCH LEGEND
 LEFT DITCH - - - - -

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

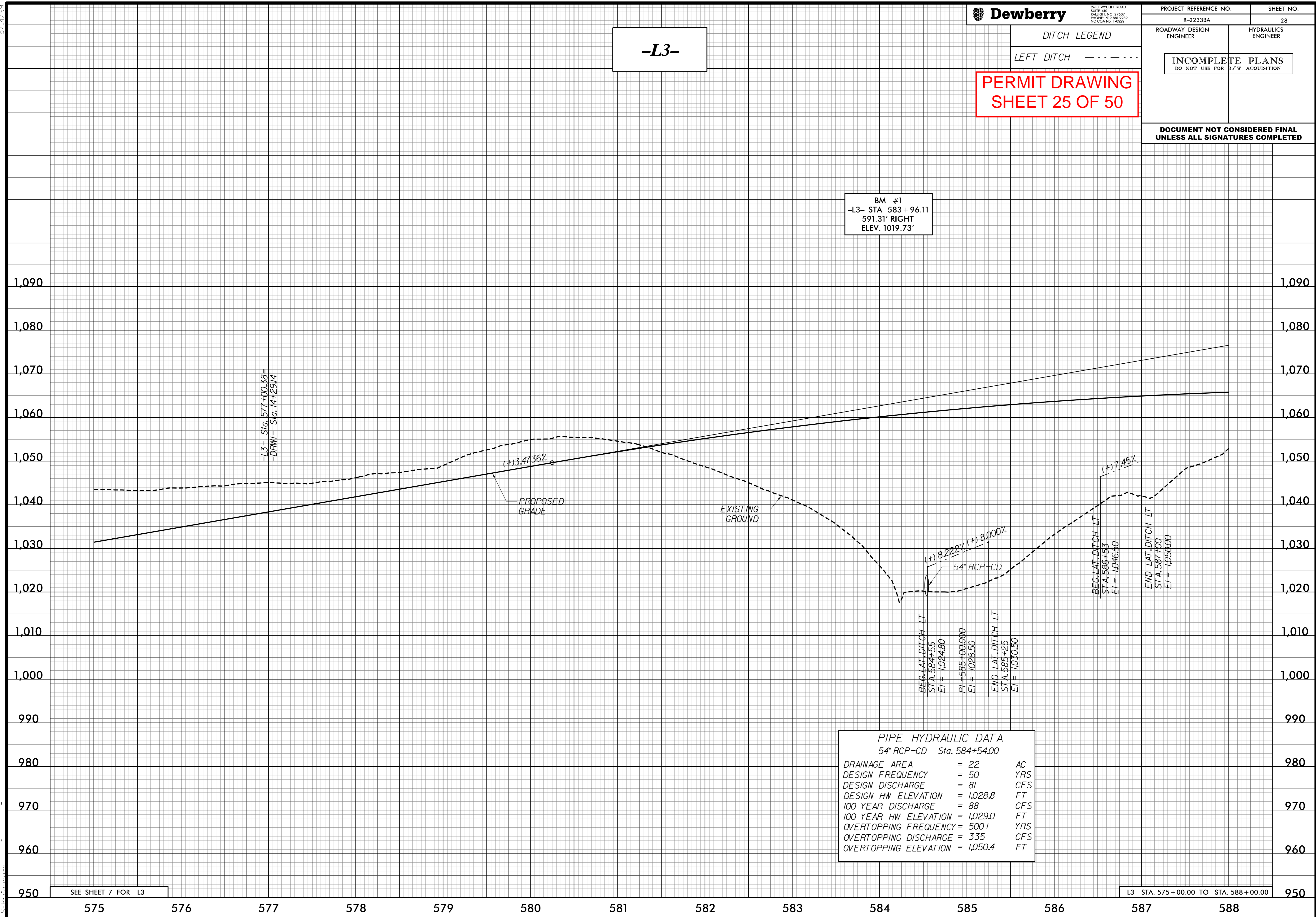
**PERMIT DRAWING
 SHEET 25 OF 50**

**INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION**

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

-L3-

BM #1
 -L3- STA 583+96.11
 591.31' RIGHT
 ELEV. 1019.73'



PIPE HYDRAULIC DATA
 54" RCP-CD Sta. 584+54.00

DRAINAGE AREA	= 22	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 81	CFS
DESIGN HW ELEVATION	= 1,028.8	FT
100 YEAR DISCHARGE	= 88	CFS
100 YEAR HW ELEVATION	= 1,029.0	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 335	CFS
OVERTOPPING ELEVATION	= 1,050.4	FT

3/5/2020 2:32:24 PM
 J:\SEFCO\NR2233BA\RDY\PF128.dgn

SEE SHEET 7 FOR -L3-

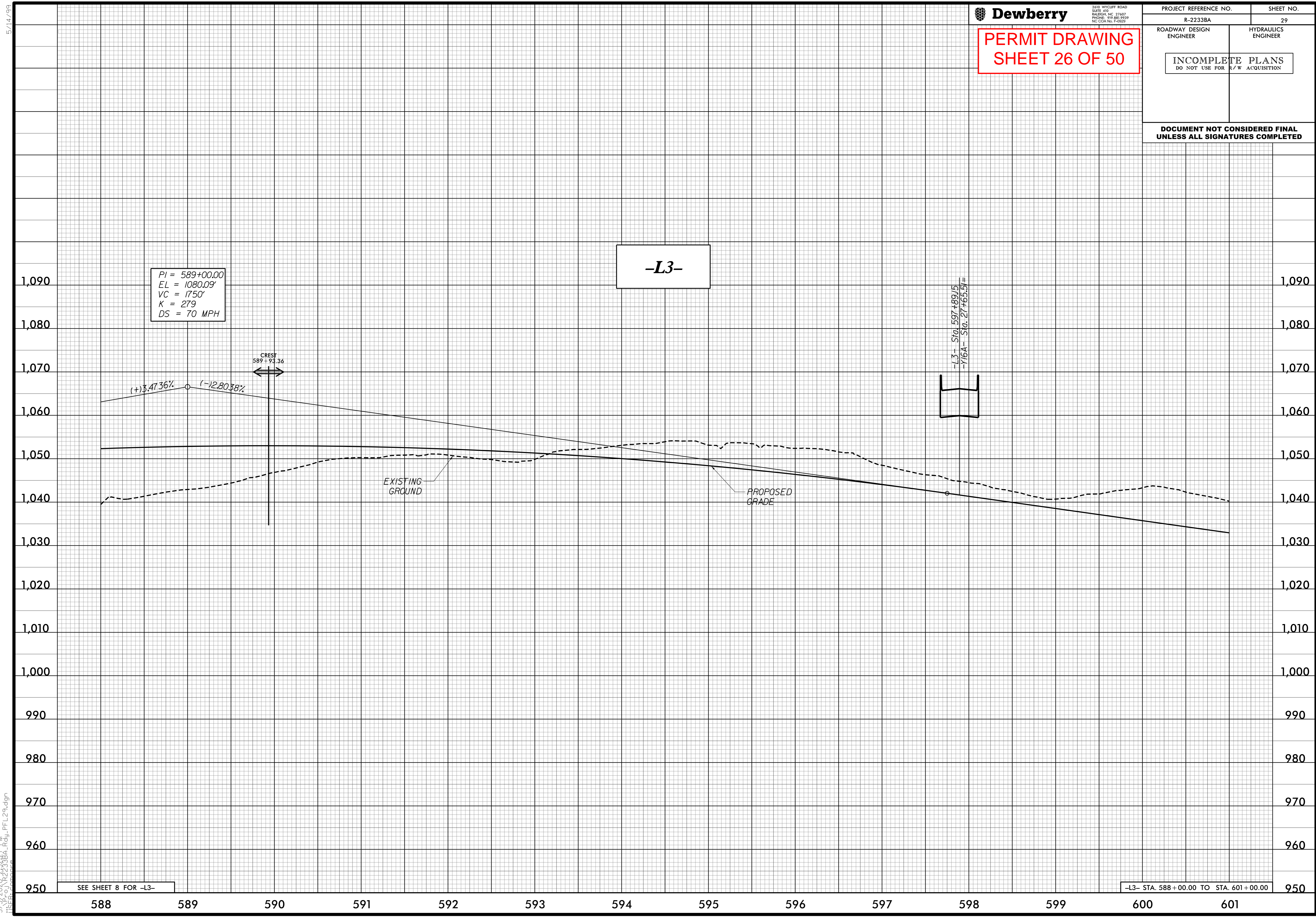
-L3- STA. 575+00.00 TO STA. 588+00.00

5/14/2020

PERMIT DRAWING
SHEET 26 OF 50

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



SEE SHEET 8 FOR -L3-

-L3- STA. 588+00.00 TO STA. 601+00.00

3/5/2020 2:32:27 PM
 J:\SEFCO\NR2233BA\RDY_PFI_29.dgn

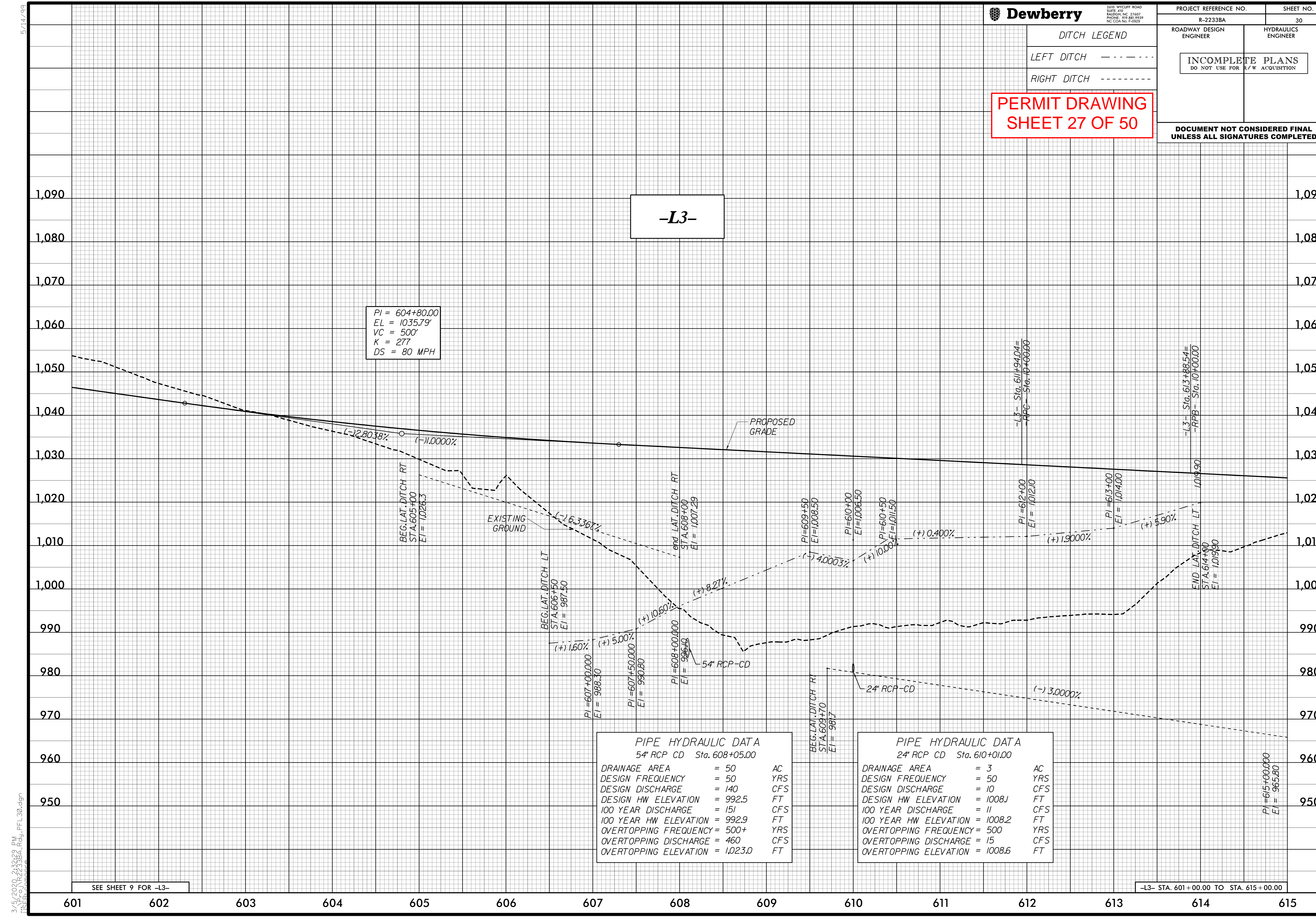
5/14/99

DITCH LEGEND
 LEFT DITCH - - - - -
 RIGHT DITCH - - - - -

ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

PERMIT DRAWING SHEET 27 OF 50

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PI = 604+80.00
 EL = 1035.79'
 VC = 500'
 K = 277
 DS = 80 MPH

-L3-

PIPE HYDRAULIC DATA
 54" RCP CD Sta. 608+05.00

DRAINAGE AREA	= 50	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 140	CFS
DESIGN HW ELEVATION	= 992.5	FT
100 YEAR DISCHARGE	= 151	CFS
100 YEAR HW ELEVATION	= 992.9	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 460	CFS
OVERTOPPING ELEVATION	= 1,023.0	FT

PIPE HYDRAULIC DATA
 24" RCP CD Sta. 610+01.00

DRAINAGE AREA	= 3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 10	CFS
DESIGN HW ELEVATION	= 1008.1	FT
100 YEAR DISCHARGE	= 11	CFS
100 YEAR HW ELEVATION	= 1008.2	FT
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING DISCHARGE	= 15	CFS
OVERTOPPING ELEVATION	= 1008.6	FT

SEE SHEET 9 FOR -L3-

-L3- STA. 601+00.00 TO STA. 615+00.00

3/5/2020 2:32:23 PM
 J:\SEFCO\NR2233BA\RDY-PFL-30.dgn

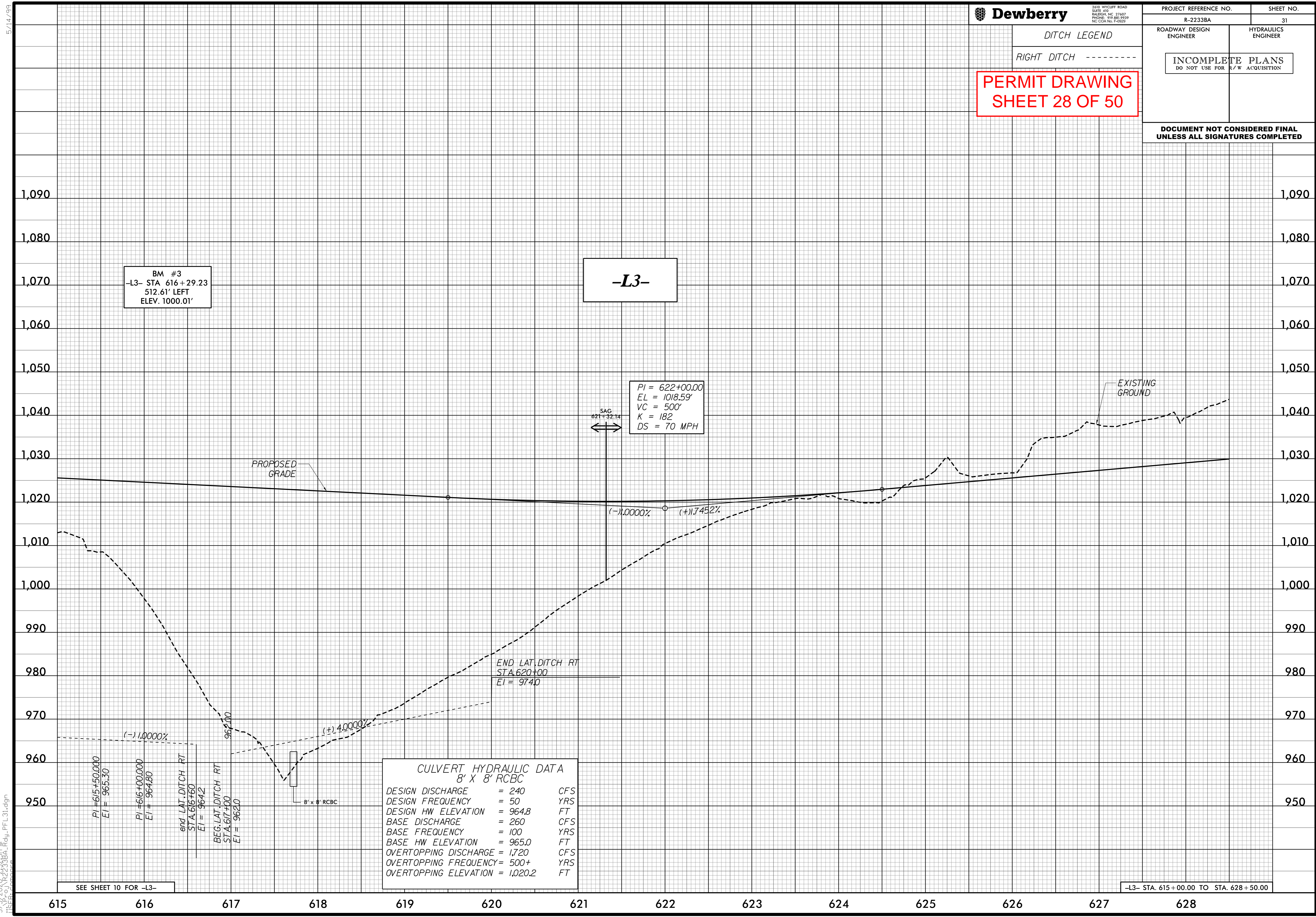
5/14/99

DITCH LEGEND
 RIGHT DITCH - - - - -

INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING
SHEET 28 OF 50

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



BM #3
 -L3- STA 616+29.23
 512.61' LEFT
 ELEV. 1000.01'

-L3-

PI = 622+00.00
 EL = 1018.59'
 VC = 500'
 K = 182
 DS = 70 MPH

CULVERT HYDRAULIC DATA
8' X 8' RCBC

DESIGN DISCHARGE	= 240	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 964.8	FT
BASE DISCHARGE	= 260	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 965.0	FT
OVERTOPPING DISCHARGE	= 1720	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 1,020.2	FT

SEE SHEET 10 FOR -L3-

-L3- STA. 615+00.00 TO STA. 628+50.00

3/5/2020 2:33:31 PM
 ITSEFC\JNR22338A\RDJ_PFL_31.dgn

5/14/99

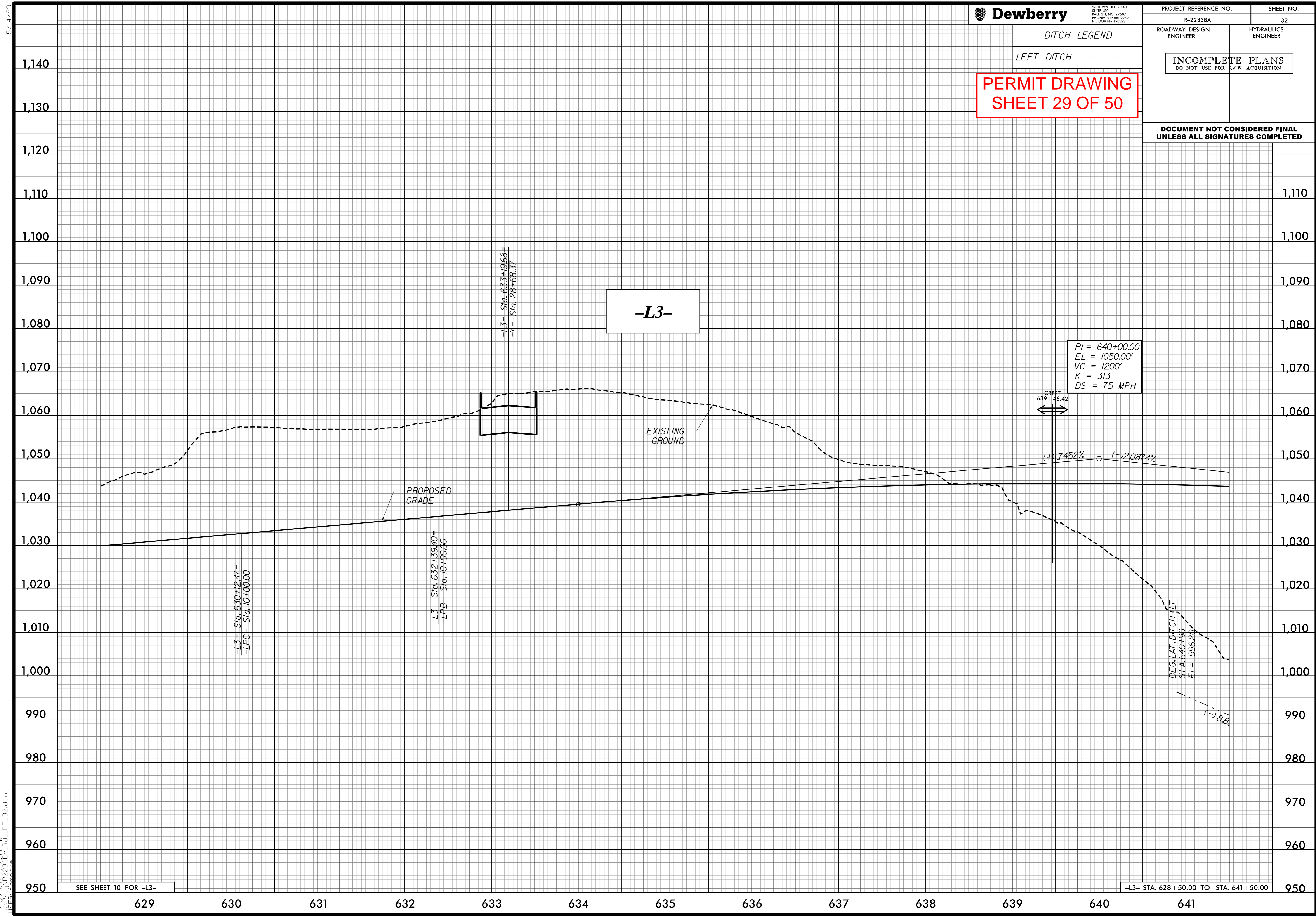
DITCH LEGEND
 LEFT DITCH - - - - -

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

**PERMIT DRAWING
 SHEET 29 OF 50**

**INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION**

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



-L3-

PI = 640+00.00
 EL = 1050.00'
 VC = 1200'
 K = 313
 DS = 75 MPH

CREST
 639+46.42

(+)1.7452% (-)2.0874%

BEG. LAT. DITCH CUT
 STA. 640+190
 EL = 996.20

(-)8.8%

SEE SHEET 10 FOR -L3-

-L3- STA. 628+50.00 TO STA. 641+50.00

3/5/2020 2:33:33 PM
 J:\SEFCO\NR2233BA\RDY_PFL 32.dgn

5/14/99

DITCH LEGEND

LEFT DITCH - - - - -

RIGHT DITCH - - - - -

ROADWAY DESIGN ENGINEER

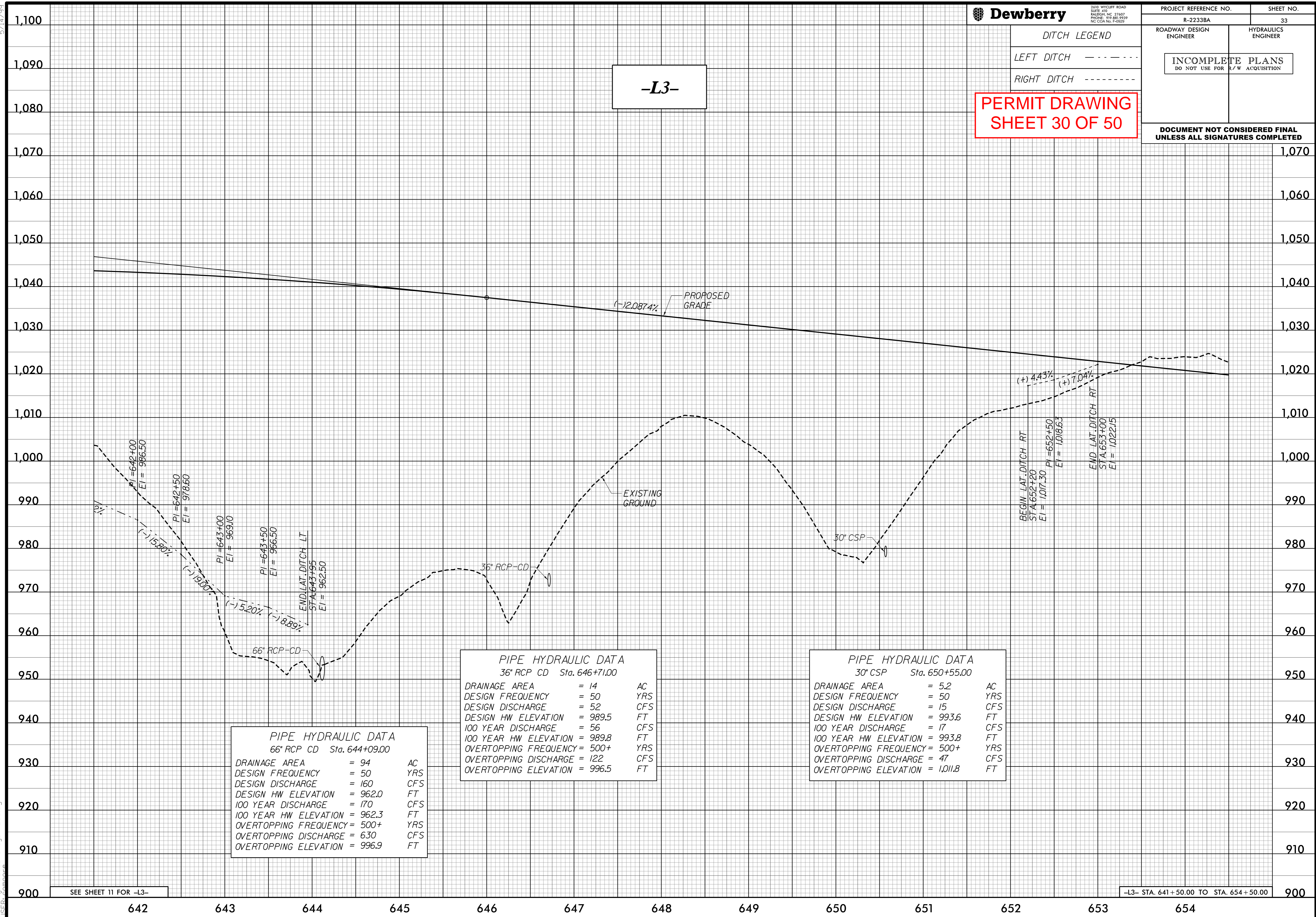
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING
SHEET 30 OF 50

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

-L3-



PIPE HYDRAULIC DATA
66" RCP CD Sta. 644+09.00

DRAINAGE AREA	= 94	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 160	CFS
DESIGN HW ELEVATION	= 962.0	FT
100 YEAR DISCHARGE	= 170	CFS
100 YEAR HW ELEVATION	= 962.3	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 630	CFS
OVERTOPPING ELEVATION	= 996.9	FT

PIPE HYDRAULIC DATA
36" RCP CD Sta. 646+71.00

DRAINAGE AREA	= 14	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 52	CFS
DESIGN HW ELEVATION	= 989.5	FT
100 YEAR DISCHARGE	= 56	CFS
100 YEAR HW ELEVATION	= 989.8	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 122	CFS
OVERTOPPING ELEVATION	= 996.5	FT

PIPE HYDRAULIC DATA
30" CSP Sta. 650+55.00

DRAINAGE AREA	= 5.2	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 15	CFS
DESIGN HW ELEVATION	= 993.6	FT
100 YEAR DISCHARGE	= 17	CFS
100 YEAR HW ELEVATION	= 993.8	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 47	CFS
OVERTOPPING ELEVATION	= 1,011.8	FT

SEE SHEET 11 FOR -L3-

-L3- STA. 641+50.00 TO STA. 654+50.00

3/5/2020 2:33:35 PM
 ITSEFCO\NR2233BA\RDJ_PFL_33.dgn

5/14/99

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.883.9729
NC CCA No. F-0029

PROJECT REFERENCE NO. R-2233BA SHEET NO. 34

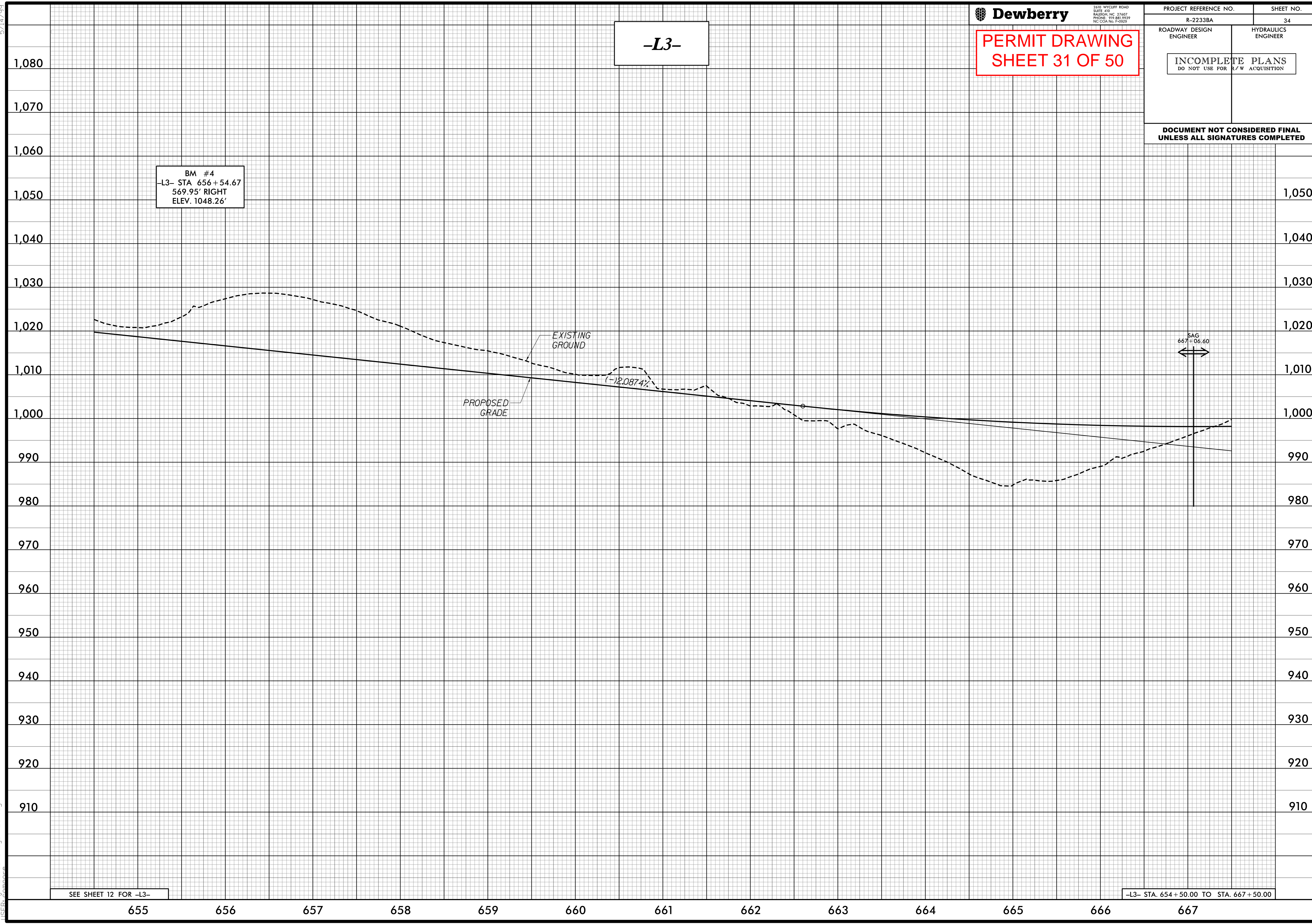
ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

-L3-

PERMIT DRAWING
SHEET 31 OF 50

BM #4
-L3- STA 656+54.67
569.95' RIGHT
ELEV. 1048.26'



SEE SHEET 12 FOR -L3-

-L3- STA. 654+50.00 TO STA. 667+50.00

3/5/2020 2:33:38 PM
J:\SEFCO\NR2233BA\RDY_PFL 34.dgn

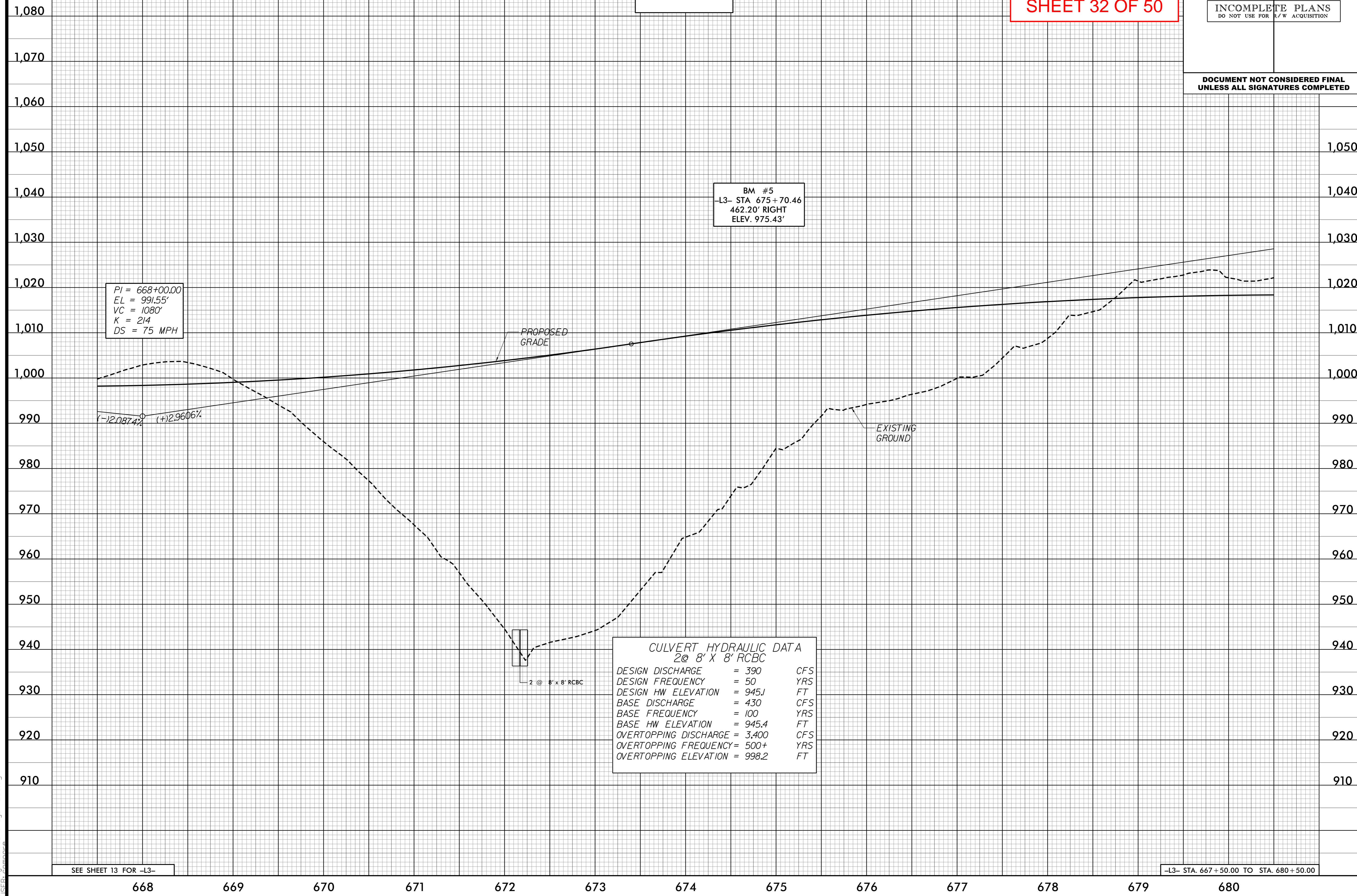
5/14/99

PERMIT DRAWING
SHEET 32 OF 50

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER
INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

-L3-



SEE SHEET 13 FOR -L3-

-L3- STA. 667+50.00 TO STA. 680+50.00

3/5/2020 2:32:40 PM
 JTS:EG:JNR:2233BA-L_Rdy_PFL 35.dgn

5/14/1999

PERMIT DRAWING
SHEET 34 OF 50

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER
 INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

-L3-

BM #6
 -L3- STA 695+58.14
 395.76' LEFT
 ELEV. 1000.12'

PI = 697+00.00
 EL = 973.00'
 VC = 860'
 K = 181
 DS = 70 MPH

SAG
 699+95.13

-14.0000% (+)0.7440%

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1,000	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 860.7	FT
BASE DISCHARGE	= 1,200	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 861.3	FT
OVERTOPPING DISCHARGE	= 100,000	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 975.7	FT
DATE OF SURVEY	= 4/3/2019	
W.S. ELEVATION AT DATE OF SURVEY	= 857.0	FT

SEE SHEET 15 FOR -L3-

-L3- STA. 693+50.00 TO STA. 706+50.00

3/5/2020 2:32:44 PM
 JTS:EG:JNR:2233BA_L_Rdy_PFL 37.dgn

5/14/99



2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.883.9329
NC CCA No. F-0029

PROJECT REFERENCE NO. R-2233BA SHEET NO. 38

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING
SHEET 35 OF 50

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

-L3-

BM #7
-L3- STA 714.33.14
411.46' RIGHT
ELEV. 974.54'

-L3- Sta. 707+84.84=
-YI- Sta. 15+36.73

(+10.7440%

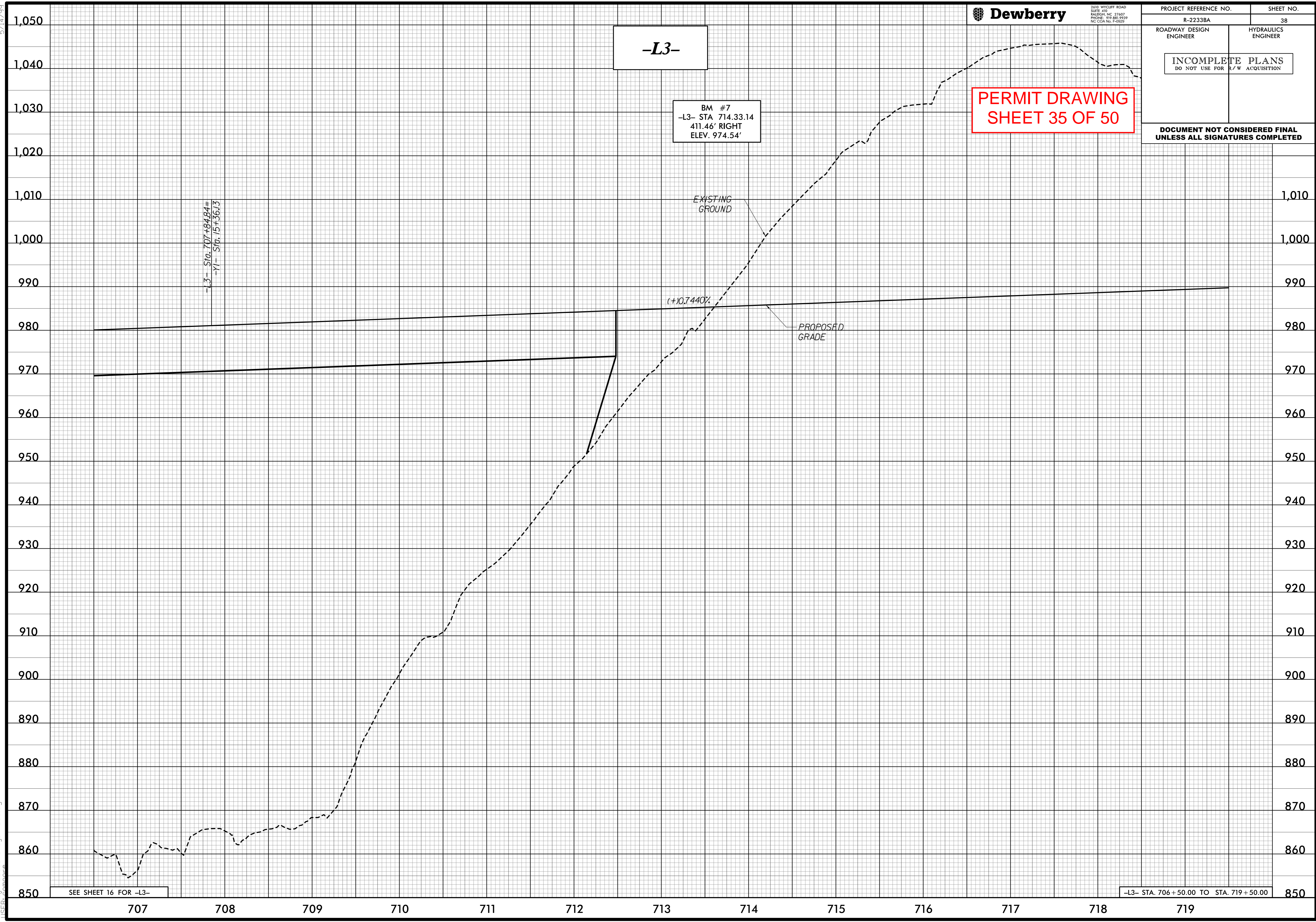
EXISTING
GROUND

PROPOSED
GRADE

SEE SHEET 16 FOR -L3-

-L3- STA. 706+50.00 TO STA. 719+50.00

3/5/2020 2:32:46 PM
JTS:EG:JNR:2233BA_L_Rdy_PFL 38.dgn



5/14/99

DITCH LEGEND
 RIGHT DITCH - - - - -

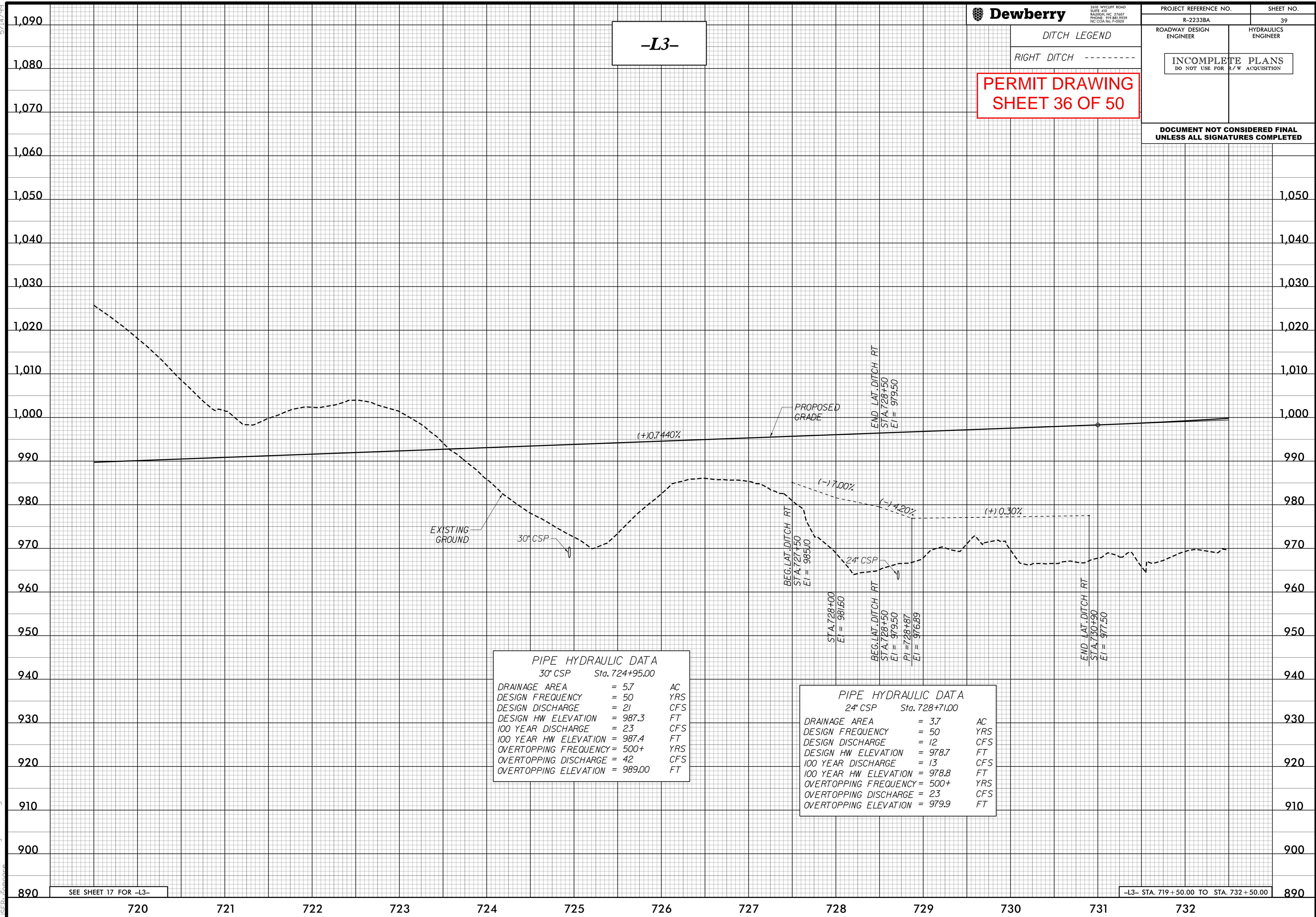
ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

**PERMIT DRAWING
 SHEET 36 OF 50**

**INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION**

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

-L3-



PIPE HYDRAULIC DATA
 30" CSP Sta. 724+95.00

DRAINAGE AREA	= 5.7	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 21	CFS
DESIGN HW ELEVATION	= 987.3	FT
100 YEAR DISCHARGE	= 23	CFS
100 YEAR HW ELEVATION	= 987.4	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 42	CFS
OVERTOPPING ELEVATION	= 989.00	FT

PIPE HYDRAULIC DATA
 24" CSP Sta. 728+71.00

DRAINAGE AREA	= 3.7	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 12	CFS
DESIGN HW ELEVATION	= 978.7	FT
100 YEAR DISCHARGE	= 13	CFS
100 YEAR HW ELEVATION	= 978.8	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 23	CFS
OVERTOPPING ELEVATION	= 979.9	FT

SEE SHEET 17 FOR -L3-

-L3- STA. 719+50.00 TO STA. 732+50.00

3/5/2020 2:32:49 PM
 JTS\FEG\JNR\2233BA\RDY_PFL_39.dgn

5/14/99

DITCH LEGEND
 LEFT DITCH - - - - -
 RIGHT DITCH - - - - -

ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 37 OF 50

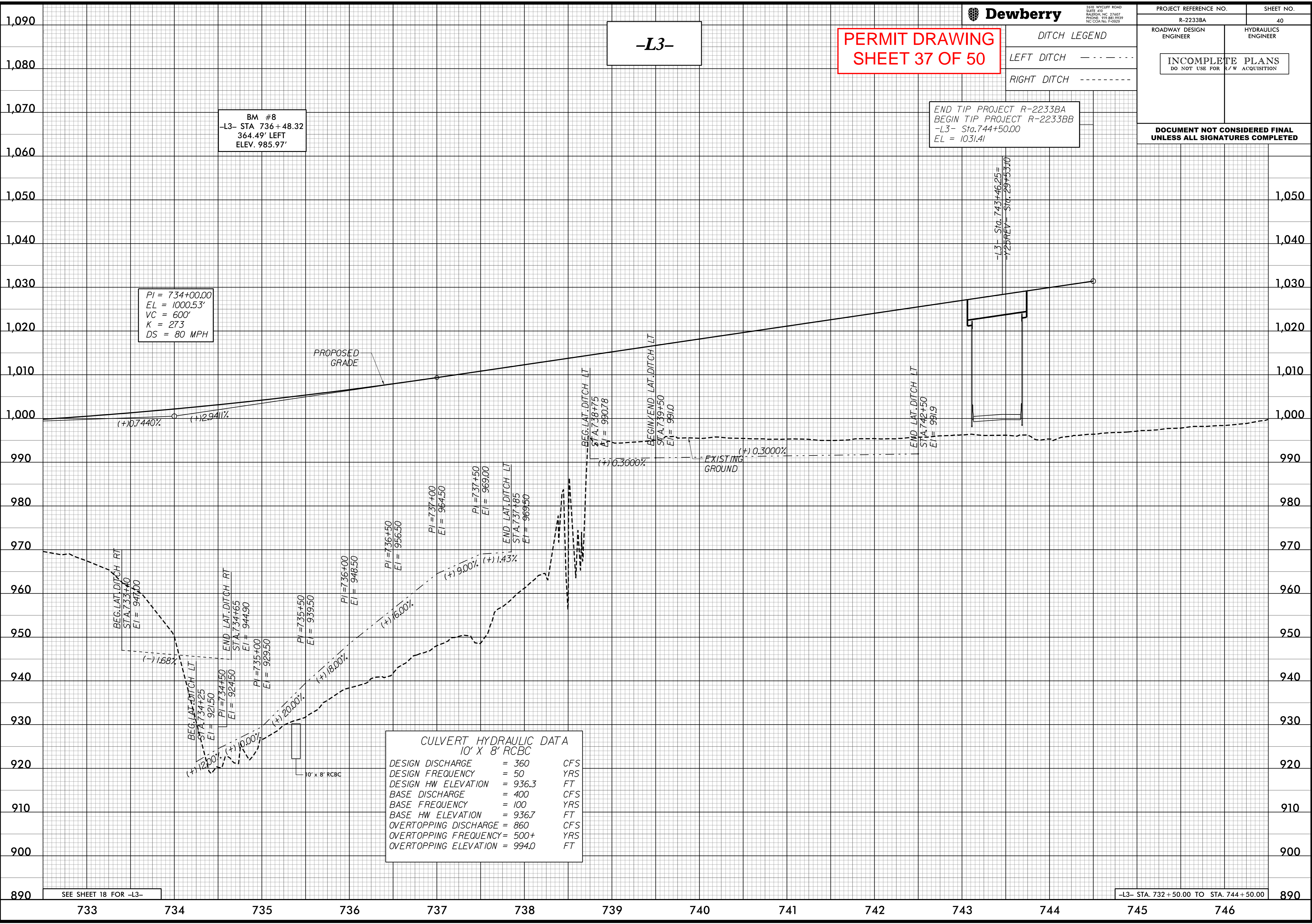
END TIP PROJECT R-2233BA
 BEGIN TIP PROJECT R-2233BB
 -L3- Sta. 744+50.00
 EL = 1031.41

BM #8
 -L3- STA 736 + 48.32
 364.49' LEFT
 ELEV. 985.97'

PI = 734+00.00
 EL = 1000.53'
 VC = 600'
 K = 273
 DS = 80 MPH

CULVERT HYDRAULIC DATA
 10' X 8' RCBC

DESIGN DISCHARGE	= 360	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 936.3	FT
BASE DISCHARGE	= 400	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 936.7	FT
OVERTOPPING DISCHARGE	= 860	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 994.0	FT



3/5/2020 2:32:51 PM
 ITSEFC\JNR2233BBL\rdj_pfl_40.dgn

SEE SHEET 18 FOR -L3-

-L3- STA. 732 + 50.00 TO STA. 744 + 50.00

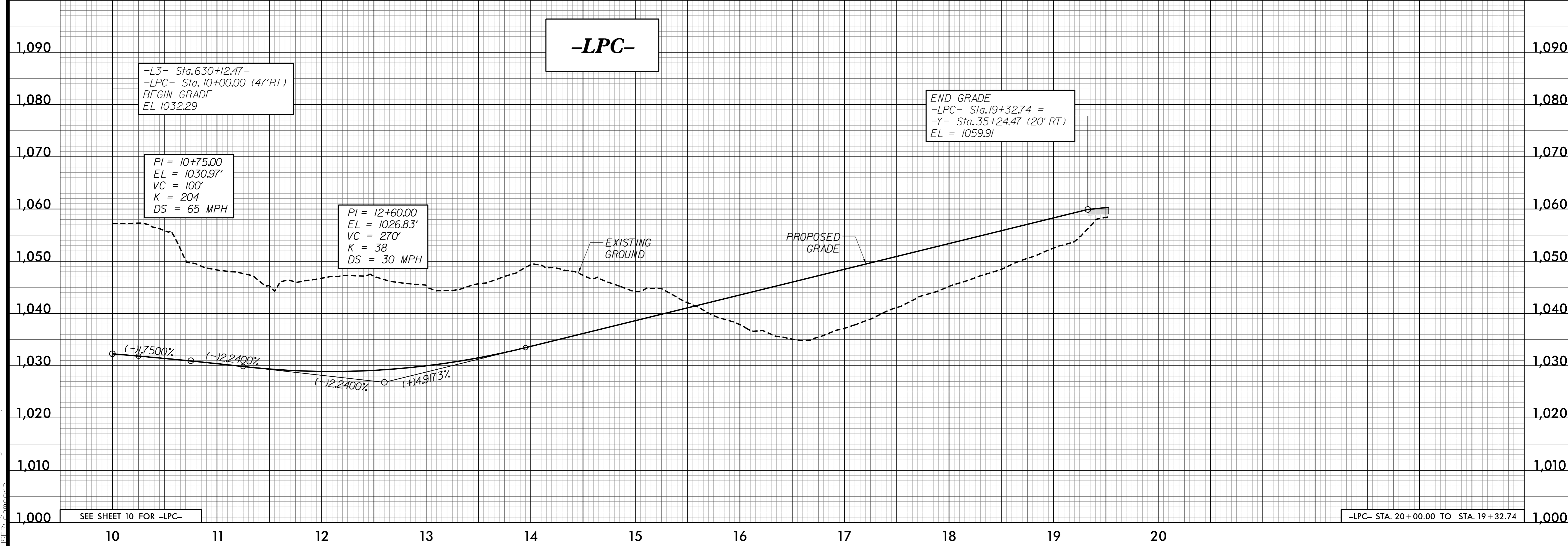
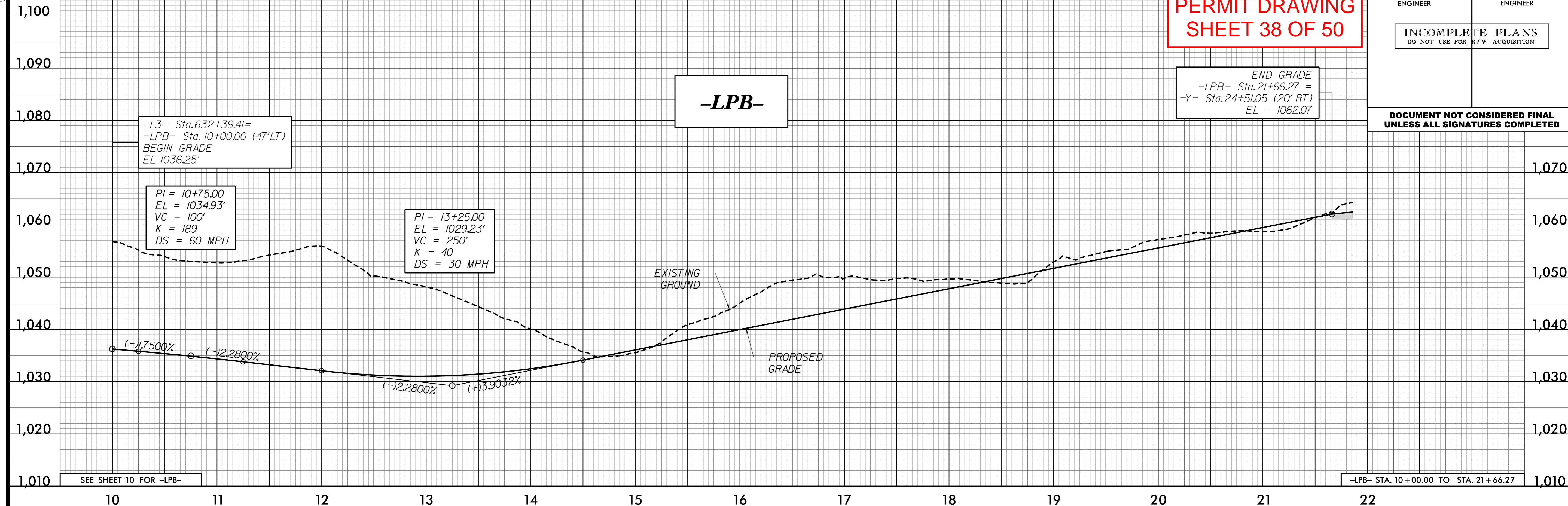
5/28/99

**PERMIT DRAWING
SHEET 38 OF 50**

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
-------------------------	---------------------

**INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION**

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



3/5/2020 2:32:53 PM
 J:\SEF\01\2233BA\LPB.dgn

PERMIT DRAWING
SHEET 39 OF 50

ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

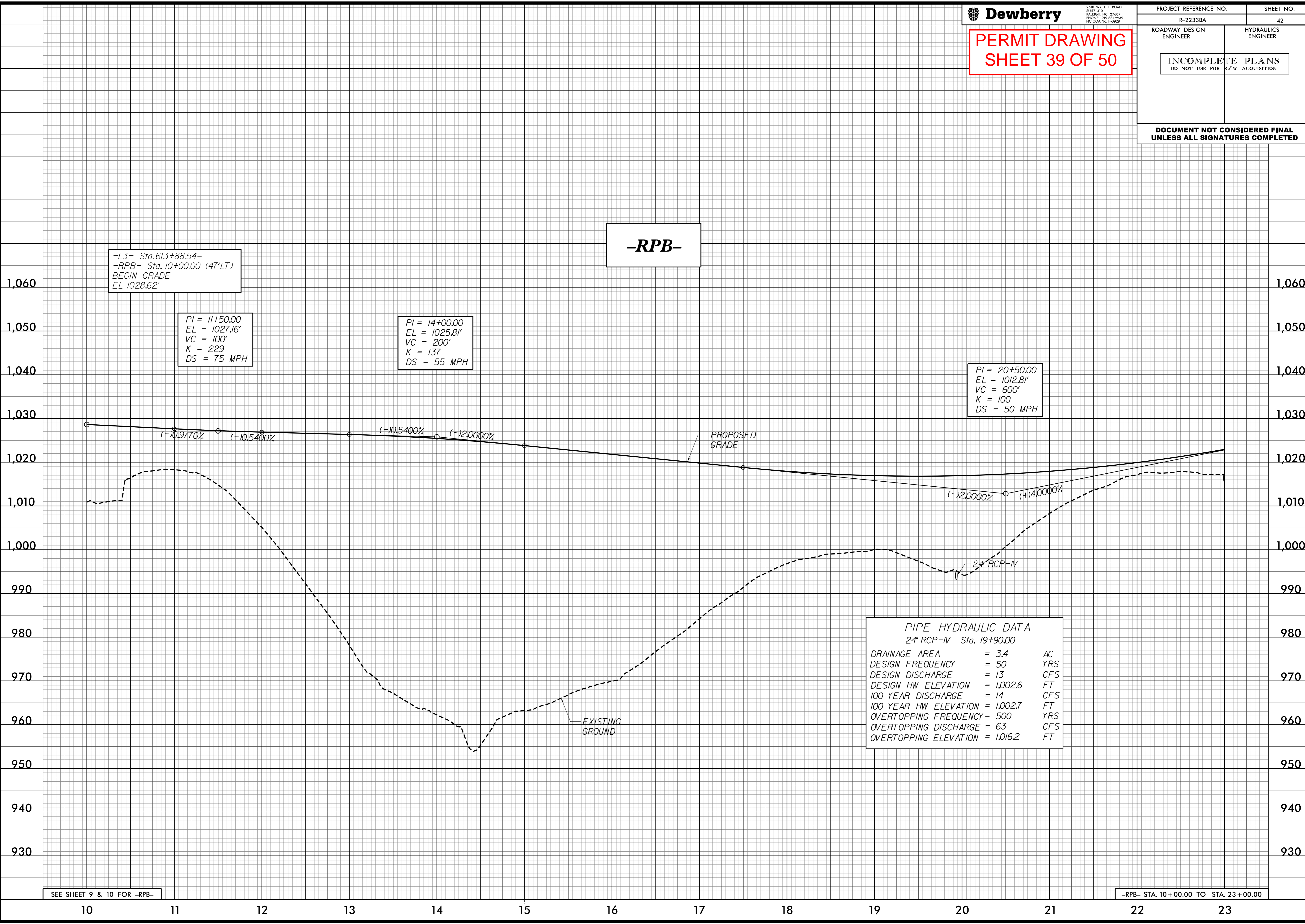
-RPB-

-L3- Sta. 613+88.54=
-RPB- Sta. 10+00.00 (47'LT)
BEGIN GRADE
EL 1028.62'

PI = 11+50.00
EL = 1027.16'
VC = 100'
K = 229
DS = 75 MPH

PI = 14+00.00
EL = 1025.81'
VC = 200'
K = 137
DS = 55 MPH

PI = 20+50.00
EL = 1012.81'
VC = 600'
K = 100
DS = 50 MPH



PIPE HYDRAULIC DATA
24" RCP-IV Sta. 19+90.00

DRAINAGE AREA	= 3.4	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 13	CFS
DESIGN HW ELEVATION	= 1,002.6	FT
100 YEAR DISCHARGE	= 14	CFS
100 YEAR HW ELEVATION	= 1,002.7	FT
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING DISCHARGE	= 63	CFS
OVERTOPPING ELEVATION	= 1,016.2	FT

SEE SHEET 9 & 10 FOR -RPB-

-RPB- STA. 10+00.00 TO STA. 23+00.00

5/14/99

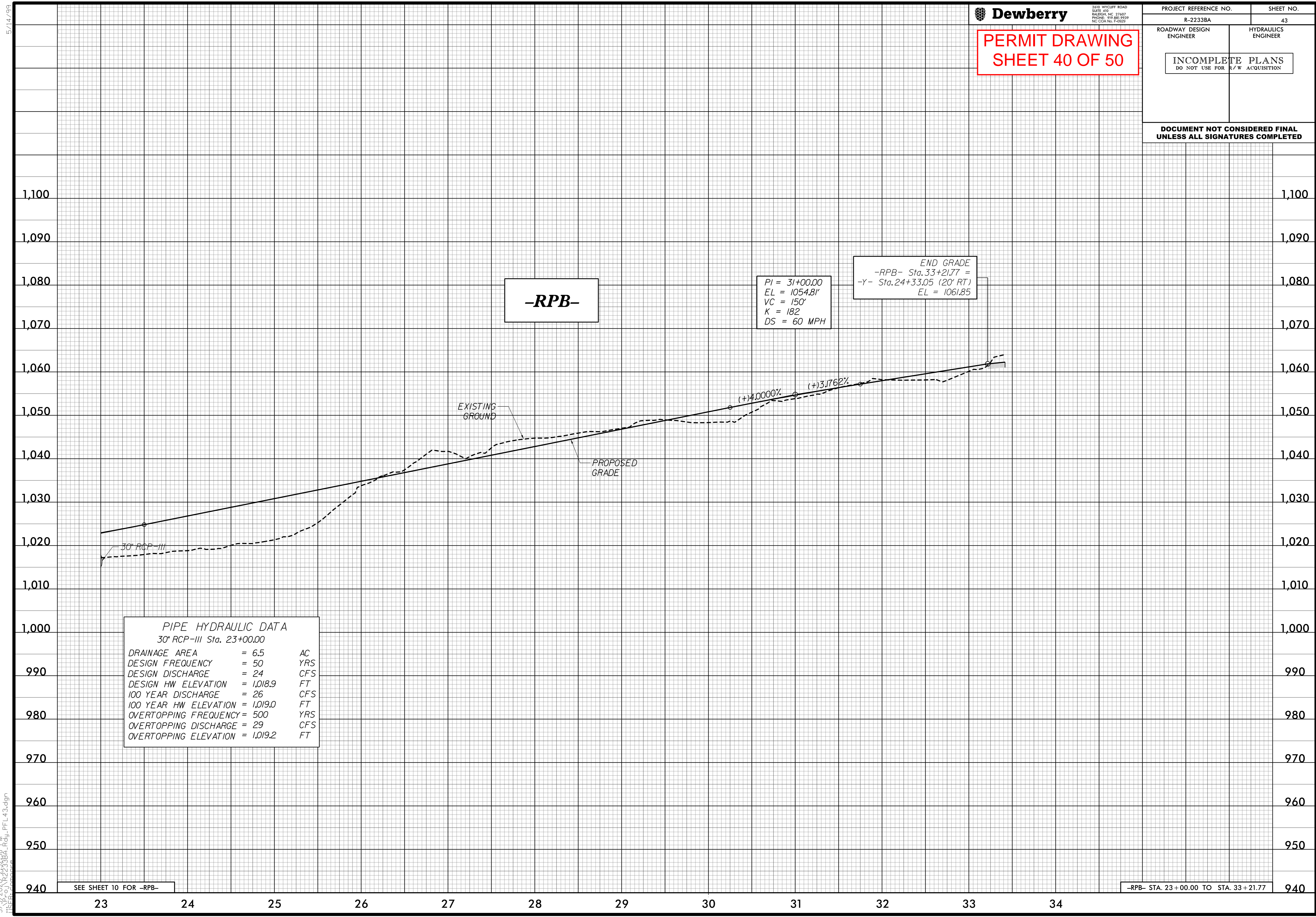
3/5/2020 2:32:56 PM
J:\SEF\JNR\2233BA\RDY\PF\42.dgn

5/14/99

**PERMIT DRAWING
 SHEET 40 OF 50**

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER
**INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION**

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



-RPB-

PI = 31+00.00
 EL = 1054.81'
 VC = 150'
 K = 182
 DS = 60 MPH

END GRADE
 -RPB- Sta. 33+21.77 =
 -Y- Sta. 24+33.05 (20' RT)
 EL = 1061.85

PIPE HYDRAULIC DATA
 30" RCP-III Sta. 23+00.00

DRAINAGE AREA	= 6.5	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 24	CFS
DESIGN HW ELEVATION	= 1,018.9	FT
100 YEAR DISCHARGE	= 26	CFS
100 YEAR HW ELEVATION	= 1,019.0	FT
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING DISCHARGE	= 29	CFS
OVERTOPPING ELEVATION	= 1,019.2	FT

SEE SHEET 10 FOR -RPB-

-RPB- STA. 23+00.00 TO STA. 33+21.77

3/5/2020 2:32:58 PM
 J:\SEFCO\NR2233BA\RDY_PFL43.dgn

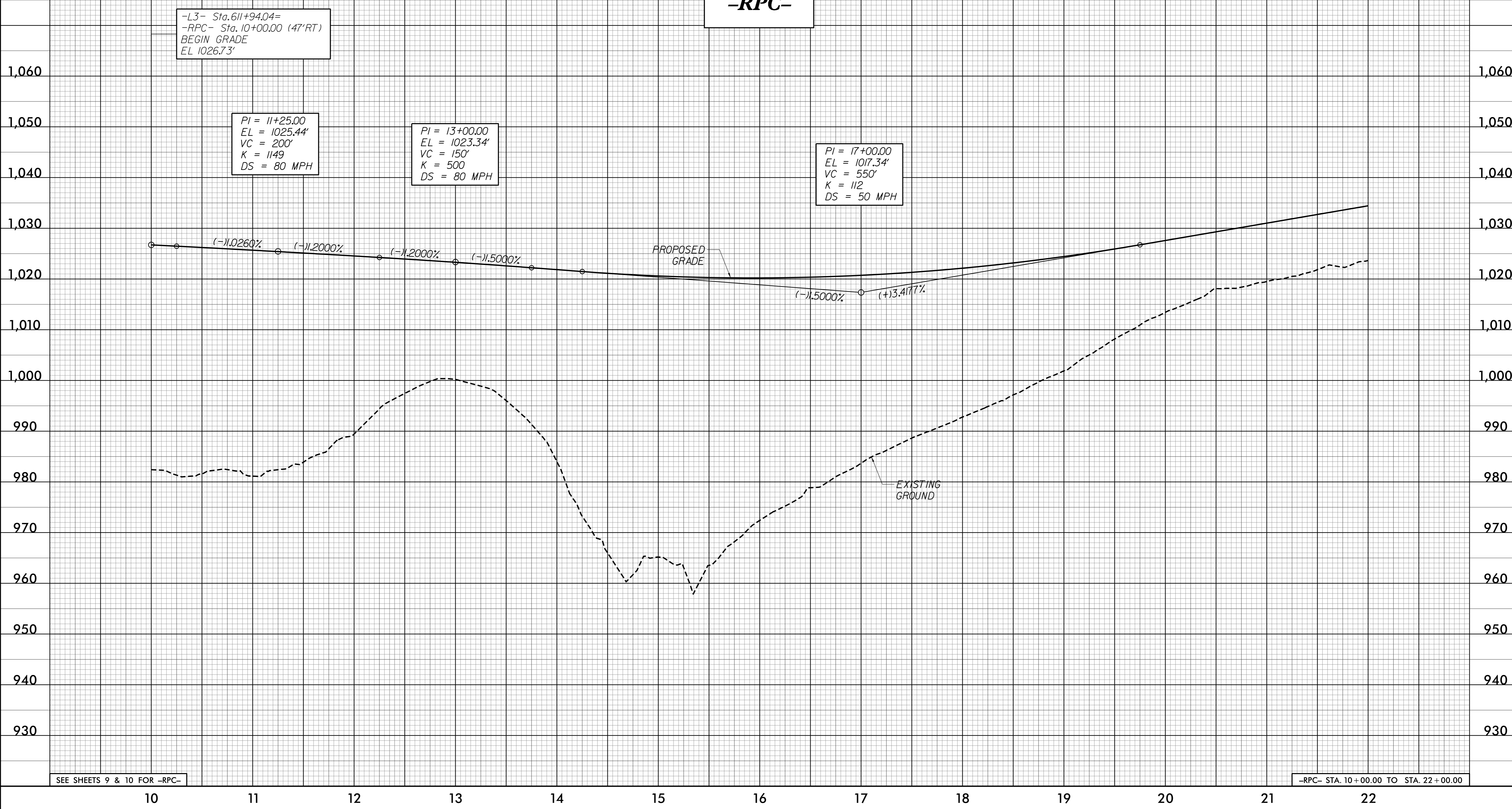
5/14/99

PERMIT DRAWING
SHEET 41 OF 50

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

-RPC-



SEE SHEETS 9 & 10 FOR -RPC-

-RPC- STA. 10+00.00 TO STA. 22+00.00

3/5/2020 2:33:00 PM
 J:\SEF\J\NR2233BA\RDy_PFL 44.dgn

5/28/99



2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.883.9329
NC CCA No. F-0029

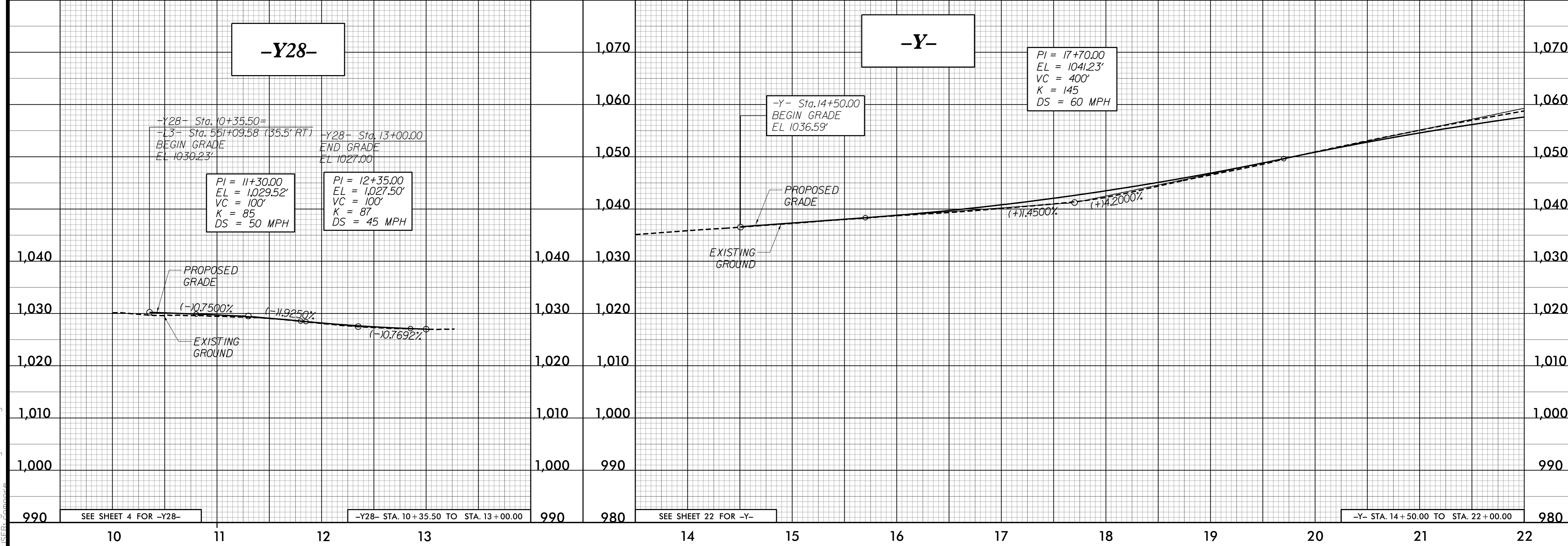
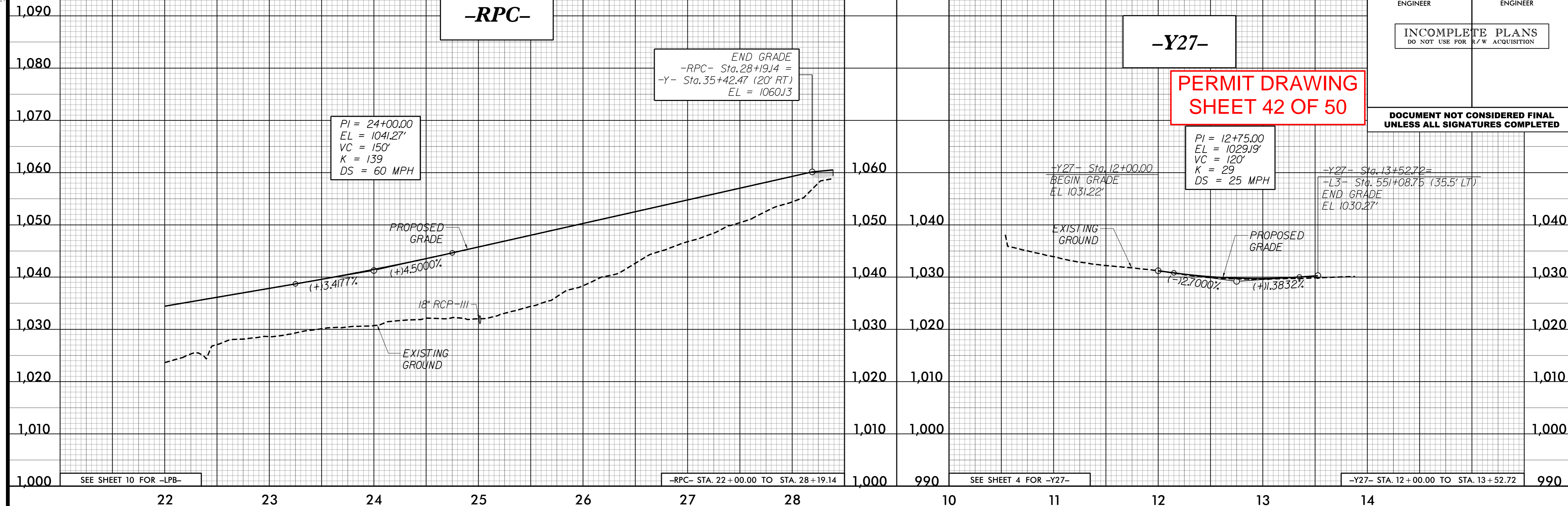
PROJECT REFERENCE NO. R-2233BA SHEET NO. 45

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 42 OF 50



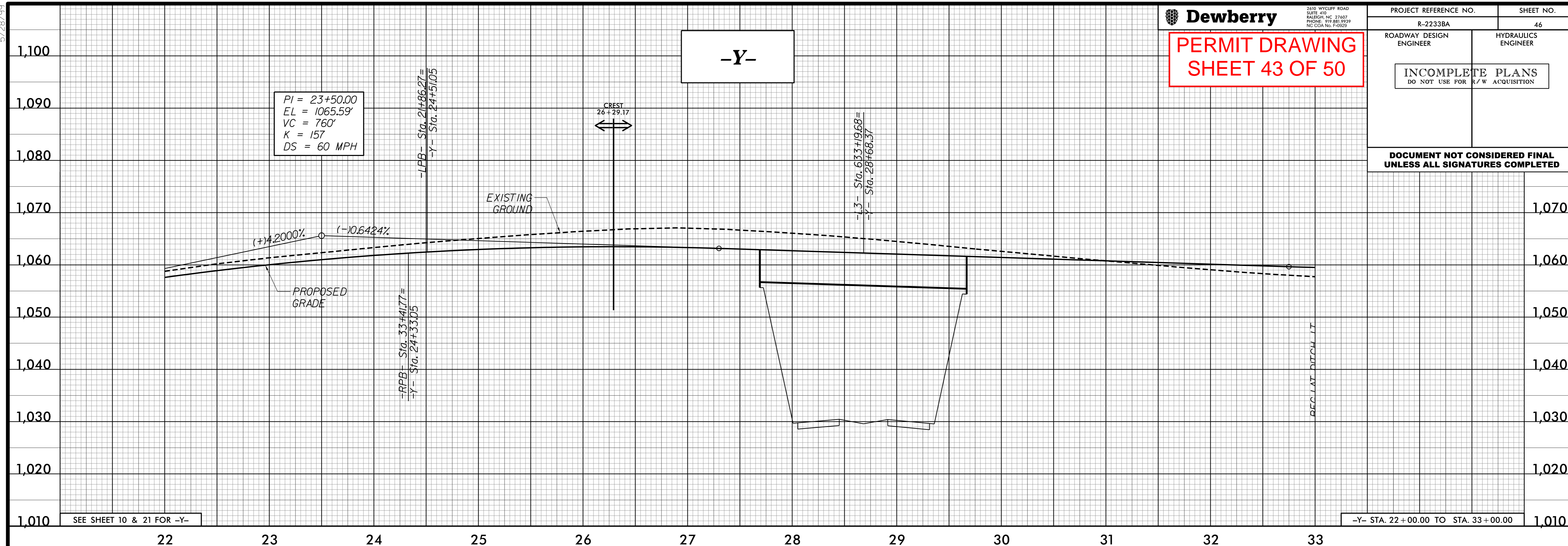
3/5/2020 2:33:02 PM
ITSEFC\JNR23338A_Rdy_PFL45.dgn

5/28/99

PERMIT DRAWING
SHEET 43 OF 50

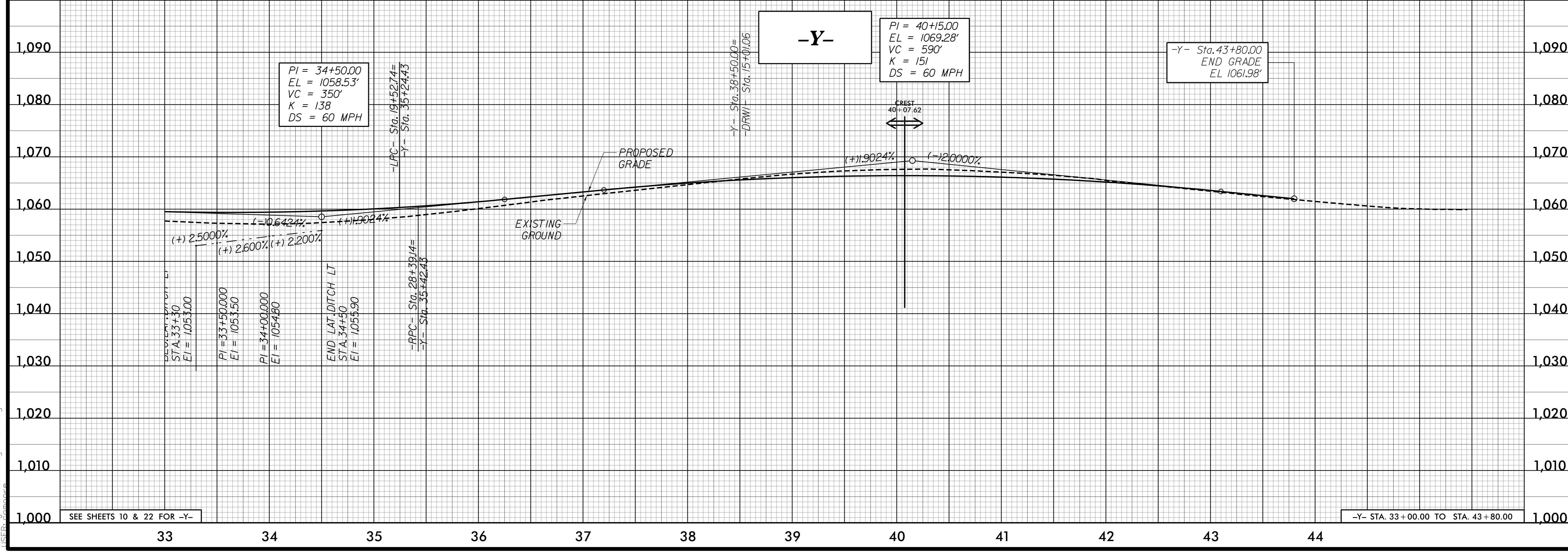
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SEE SHEET 10 & 21 FOR -Y-

-Y- STA. 22+00.00 TO STA. 33+00.00



SEE SHEETS 10 & 22 FOR -Y-

-Y- STA. 33+00.00 TO STA. 43+80.00

3/5/2020 2:33:05 PM
 ITSEFC:\R2233BA\RDY_PFL46.dgn

5/28/99

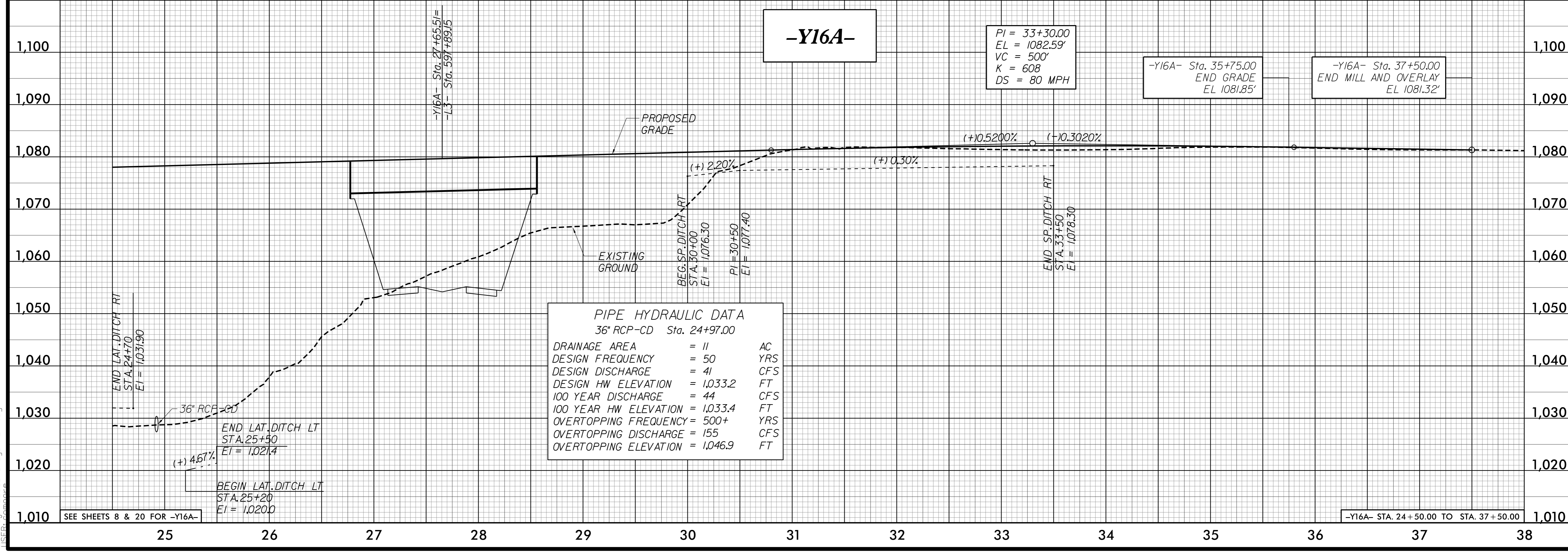
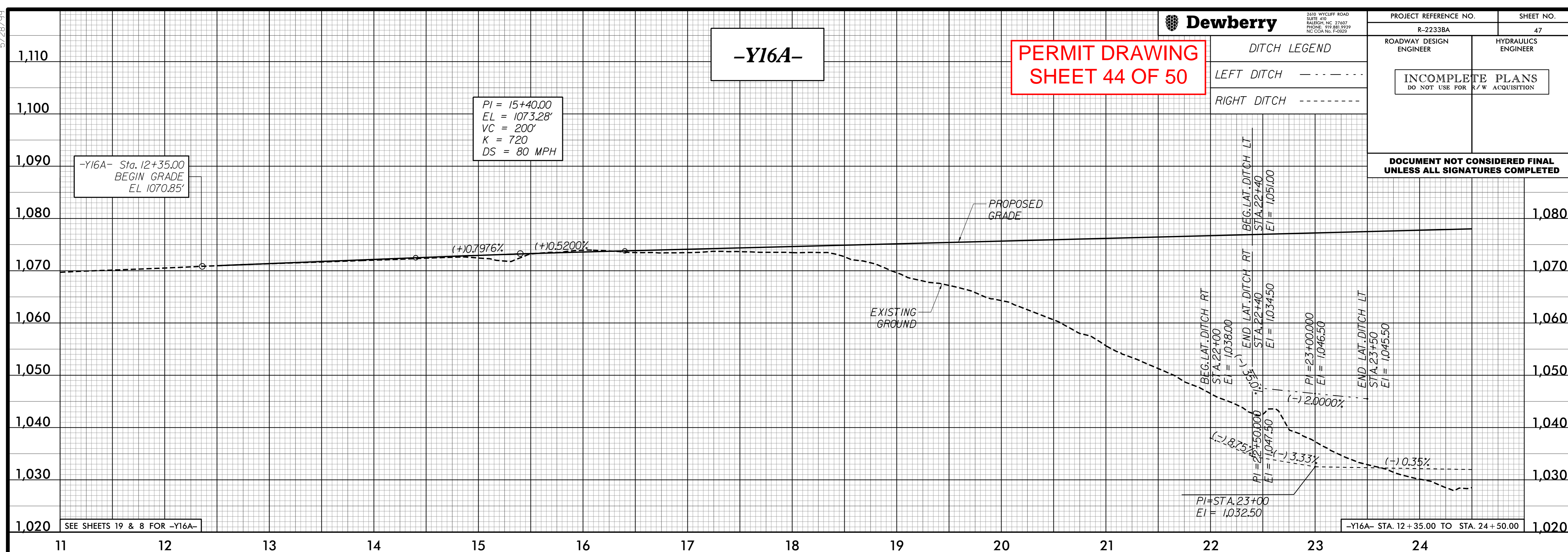
**PERMIT DRAWING
 SHEET 44 OF 50**

DITCH LEGEND
 LEFT DITCH - - - - -
 RIGHT DITCH - - - - -

ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

**INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION**

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



PIPE HYDRAULIC DATA
 36" RCP-CD Sta. 24+97.00

DRAINAGE AREA	= 11	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 41	CFS
DESIGN HW ELEVATION	= 1,033.2	FT
100 YEAR DISCHARGE	= 44	CFS
100 YEAR HW ELEVATION	= 1,033.4	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 155	CFS
OVERTOPPING ELEVATION	= 1,046.9	FT

3/5/2020 2:33:07 PM
 JTS:EG:JNR:223338A_Rdy_PFL 47.dgn

5/28/99

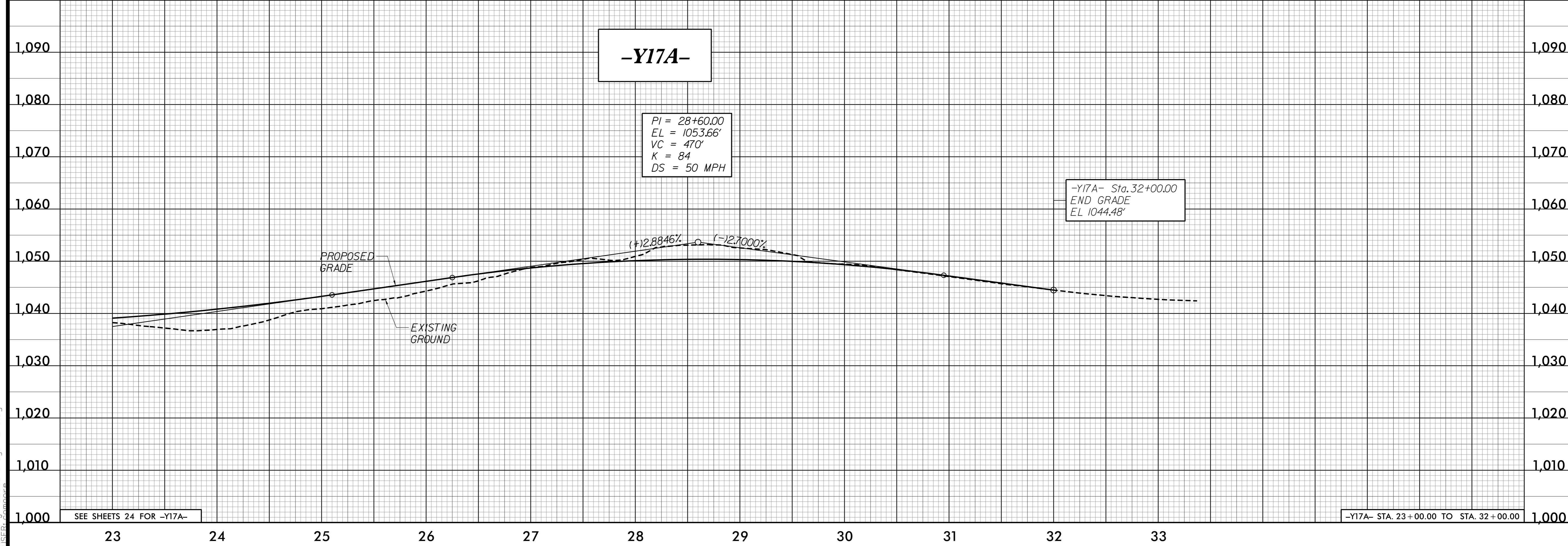
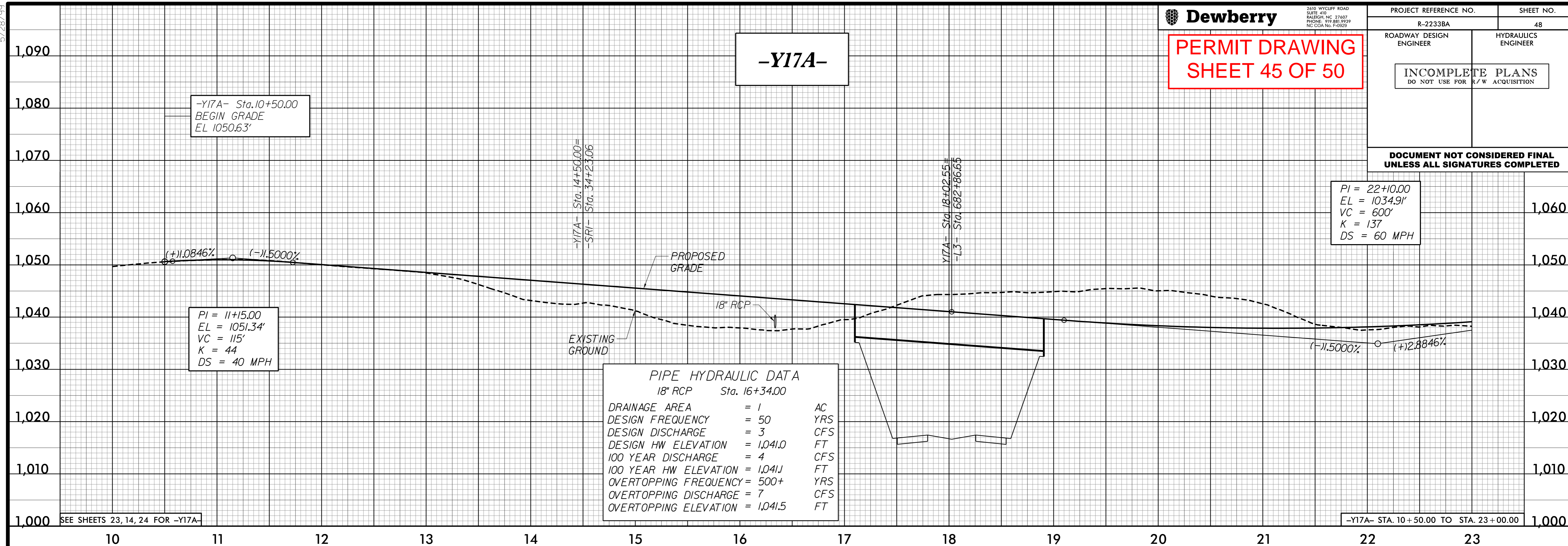
PERMIT DRAWING
SHEET 45 OF 50

ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PI = 22+10.00
 EL = 1034.91'
 VC = 600'
 K = 137
 DS = 60 MPH



3/5/2020 2:33:03 PM
 ITSEFC\JNR22338A_Rdy_PFL48.dgn

5/14/99

**PERMIT DRAWING
 SHEET 46 OF 50**

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER
**INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION**

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

-SRI-

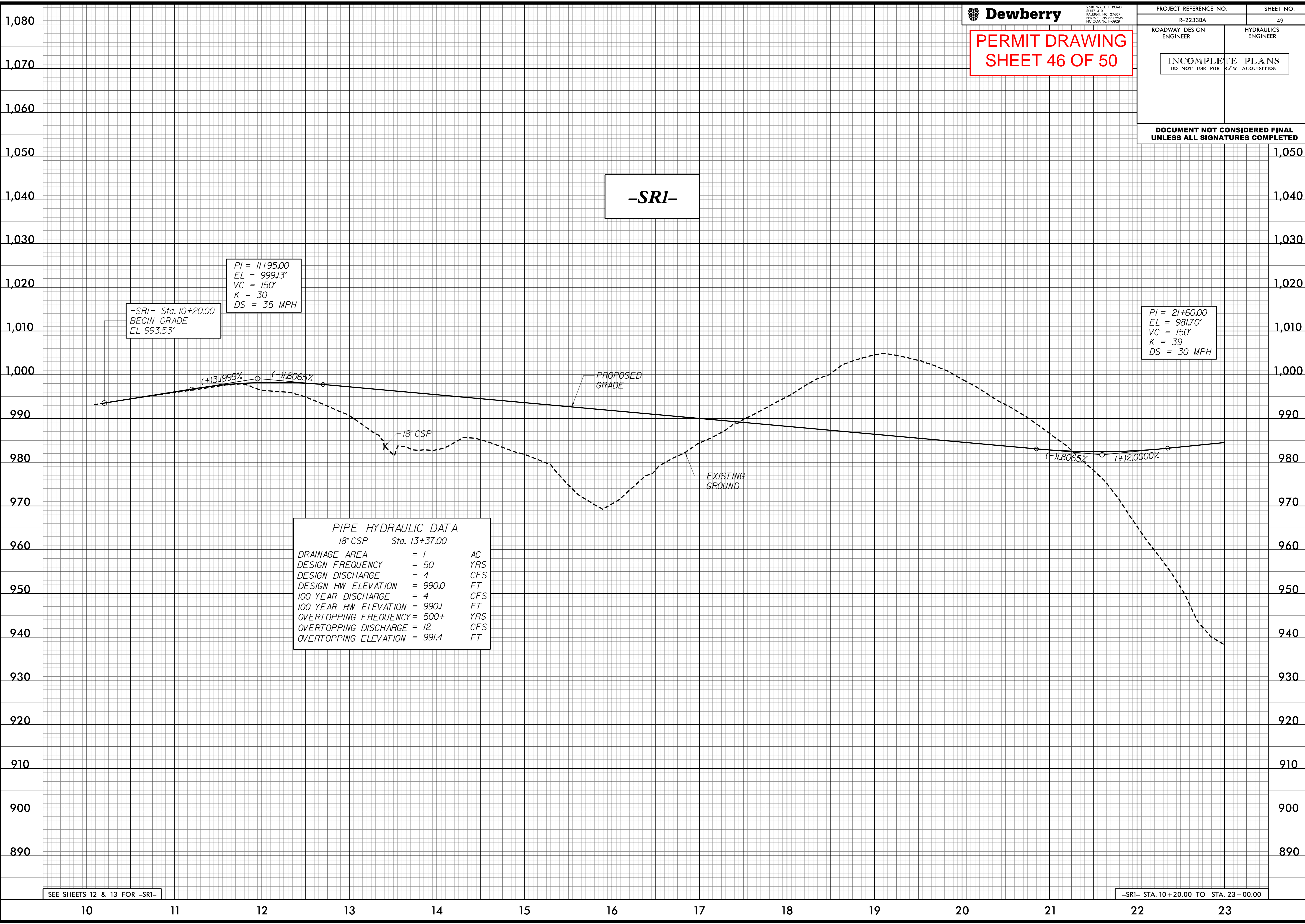
-SRI- Sta. 10+20.00
 BEGIN GRADE
 EL 993.53'

PI = 11+95.00
 EL = 999.13'
 VC = 150'
 K = 30
 DS = 35 MPH

PI = 21+60.00
 EL = 981.70'
 VC = 150'
 K = 39
 DS = 30 MPH

PIPE HYDRAULIC DATA
 18" CSP Sta. 13+37.00

DRAINAGE AREA	= 1	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 4	CFS
DESIGN HW ELEVATION	= 990.0	FT
100 YEAR DISCHARGE	= 4	CFS
100 YEAR HW ELEVATION	= 990.1	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 12	CFS
OVERTOPPING ELEVATION	= 991.4	FT



SEE SHEETS 12 & 13 FOR -SRI-

-SRI- STA. 10+20.00 TO STA. 23+00.00

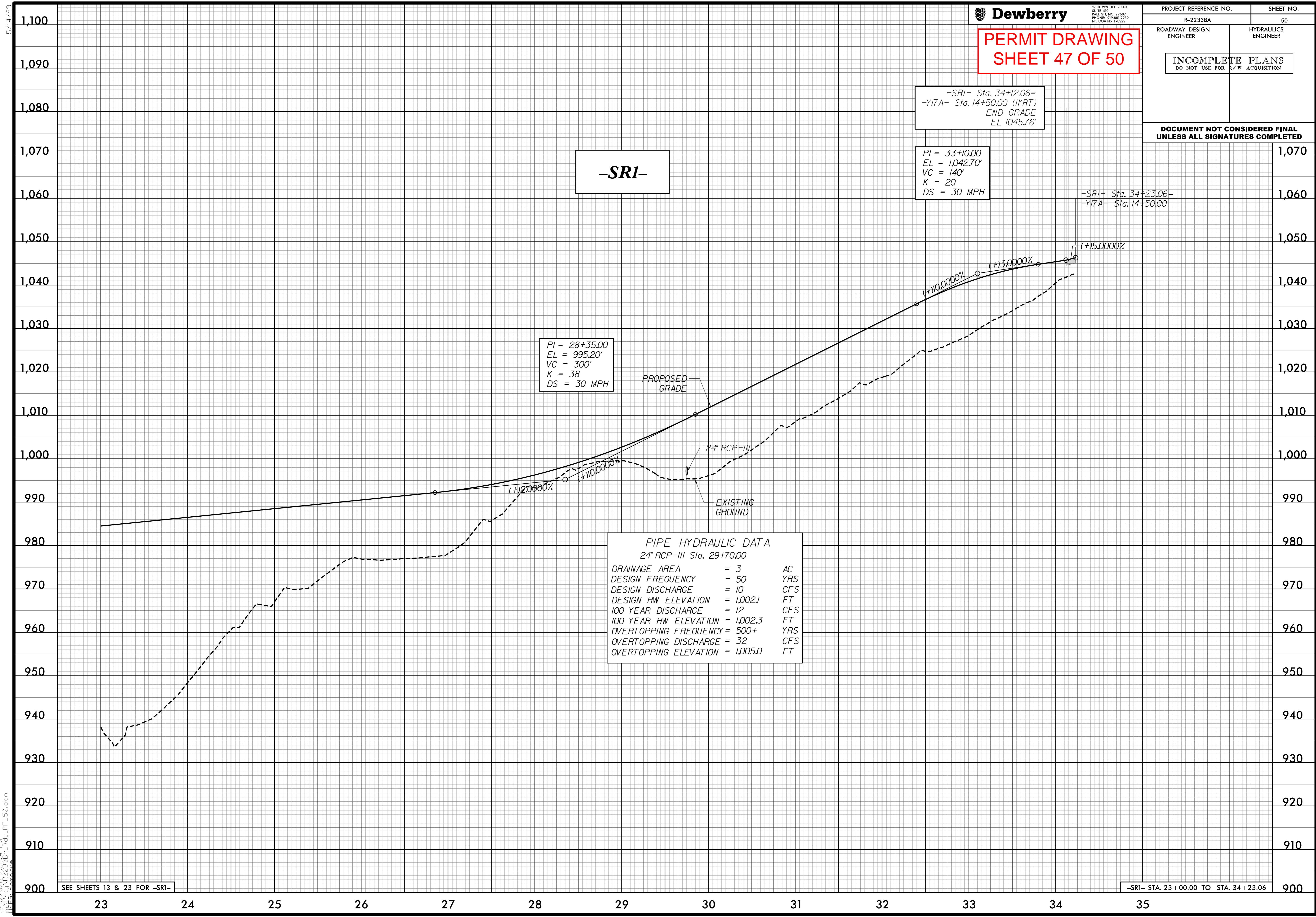
3/5/2020 2:33:31 PM
 J:\SEF\01\2233BA\1\RDY_PFL_49.dgn

5/14/99

**PERMIT DRAWING
 SHEET 47 OF 50**

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER
**INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION**

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



-SRI-

PI = 28+35.00
 EL = 995.20'
 VC = 300'
 K = 38
 DS = 30 MPH

PI = 33+10.00
 EL = 1,042.70'
 VC = 140'
 K = 20
 DS = 30 MPH

-SRI- Sta. 34+12.06=
 -Y1A- Sta. 14+50.00 (11"RT)
 END GRADE
 EL 1045.76'

-SRI- Sta. 34+23.06=
 -Y1A- Sta. 14+50.00

PIPE HYDRAULIC DATA
 24" RCP-III Sta. 29+70.00
 DRAINAGE AREA = 3 AC
 DESIGN FREQUENCY = 50 YRS
 DESIGN DISCHARGE = 10 CFS
 DESIGN HW ELEVATION = 1,002.1 FT
 100 YEAR DISCHARGE = 12 CFS
 100 YEAR HW ELEVATION = 1,002.3 FT
 OVERTOPPING FREQUENCY = 500+ YRS
 OVERTOPPING DISCHARGE = 32 CFS
 OVERTOPPING ELEVATION = 1,005.0 FT

SEE SHEETS 13 & 23 FOR -SRI-

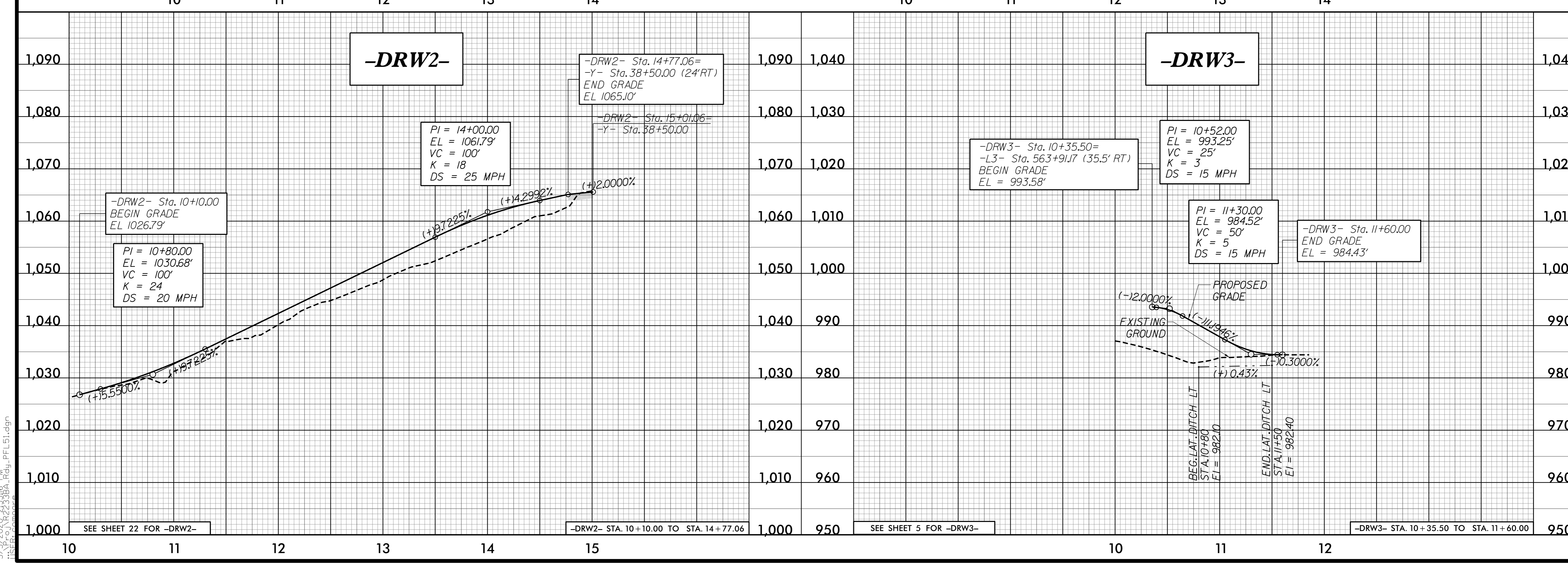
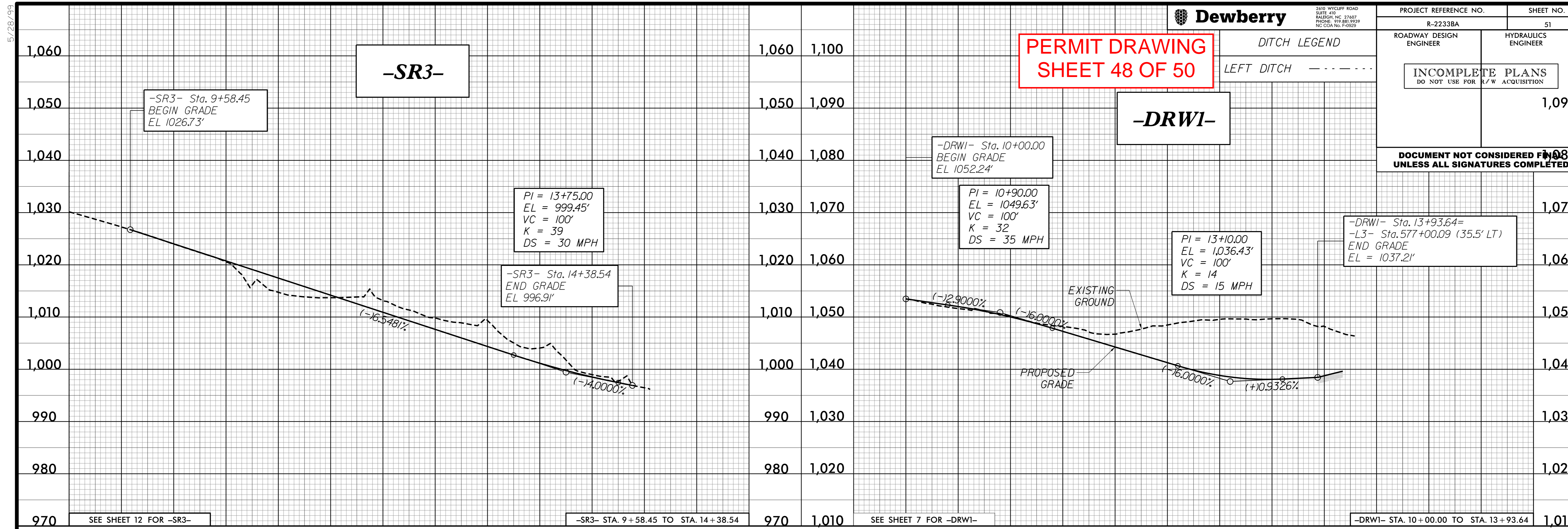
-SRI- STA. 23+00.00 TO STA. 34+23.06

3/5/2020 2:33:14 PM
 JTS:EG:JNR:2233BA-Rdy-PFL50.dgn

PERMIT DRAWING
SHEET 48 OF 50

DITCH LEGEND

LEFT DITCH - - - - -



5/28/99
3/5/2020 2:33:16 PM
ITSEFC\JNR2233BA_Rdy_PFI_01.dgn

5/28/99



2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.883.9329
NC CCA No. F-0029

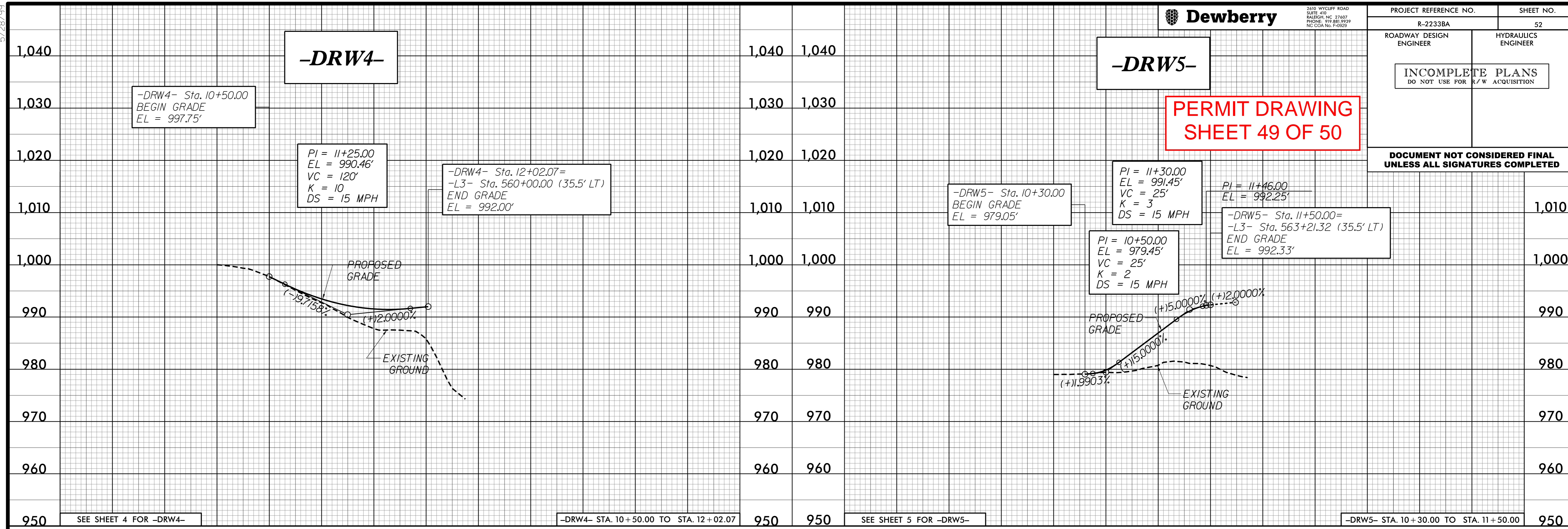
PROJECT REFERENCE NO. R-2233BA SHEET NO. 52

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING
SHEET 49 OF 50

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SEE SHEET 4 FOR -DRW4-

-DRW4- STA. 10+50.00 TO STA. 12+02.07

SEE SHEET 5 FOR -DRW5-

-DRW5- STA. 10+30.00 TO STA. 11+50.00

3/5/2020 2:33:48 PM
ITSEFC\JNR2233BA_Rdy_PFI.L2.dgn

10 11 12 13 14 15

WETLAND AND SURFACE WATER IMPACTS SUMMARY													
Site No.	JD ID	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
				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	SZ	L3 561+11 TO 561+24 RT	2 -5' x 6' RCBC						0.02		136		
1	SZ	L3 561+11 TO 561+24 RT	CHANNEL REALIGNMENT						< 0.01	< 0.01	24	18	
2	SY	L3 584+19 TO 585+04	54" RCP	0.03					0.02	< 0.01	323	60	
3	WF	L3 584+16 TO 585+35	ROADWAY FILL	0.47			0.02						
3	WF	L3 584+16 TO 585+35	TEMPORARY BYPASS CHANNEL			0.01							
4	SX	L3 606+50 TO 617+50	54" RCP						0.21	< 0.01	1509	43	
5	WE	L3 607+66 TO 608+22 LT	ROADWAY FILL	0.04									
6	SW	L3 616+76 TO 618+60	8' X 6' RCBC						0.09		583		
6	SW	L3 617+00 RT	CHANNEL REALIGNMENT						< 0.01	< 0.01	21	5	
6	SW	L3 618+58 LT	CHANNEL REALIGNMENT						0.01	< 0.01	75	18	
7	WD	L3 643+23 TO 643+80 RT	ROADWAY FILL	0.01									
8	SV	L3 643+38 RT TO 643+91 LT	ROADWAY FILL						< 0.01		102		
9	SU	L3 643+13 RT TO 645+10 LT	66" RCP						0.10	< 0.01	702	29	
9	SU	L3 645+10 LT	CL II RIPRAP ON BANKS						< 0.01	< 0.01	20	10	
10		L3 649+55 LT TO 651+18 RT	30" RCP						0.03	< 0.01	620	29	
10		L3 649+55 LT	CL II RIPRAP ON BANKS						< 0.01	< 0.01	8	10	
11	ST	L3 671+97 LT TO 672+82 RT	9' x 8' RCBC						0.10		582		
11	ST	L3 672+08 RT	CHANNEL REALIGNMENT						< 0.01	< 0.01	44	23	
11	ST	L3 672+34 LT	CHANNEL REALIGNMENT						< 0.01	< 0.01	36	35	
12	SS	L3 705+00 RT TO 705+10 LT	TEMPORARY WORK BRIDGE							0.03		272	
13	SR	L3 706+79 RT TO 707+02 LT	TEMPORARY WORK BRIDGE							0.08		290	
14	SQ	L3 706+90 RT TO 707+54 RT	TEMPORARY STREAM CROSSING							< 0.01		67	
15	SP	L3 733+34 LT TO 736+81 RT	8' X 8' RCBC						0.14		605		
15	SP	L3 731+47 TO 732+16 LT	CHANNEL REALIGNMENT						0.02		92		
15	SP	L3 732+16 TO 732+71 LT	ROADWAY FILL						0.01		60		
15	SP	L3 732+71 TO 733+34 LT	CHANNEL REALIGNMENT						0.02		76		
15	SP	L3 731+22 TO 731+47 LT	CHANNEL REALIGNMENT							< 0.01		24	
15	SP	L3 736+81 TO 737+26 RT	CHANNEL REALIGNMENT						0.01		46		
15	SP	L3 737+26 TO 737+36 RT	CHANNEL REALIGNMENT							< 0.01		18	
16	WB	L3 733+46 LT TO 733+80 LT	CHANNEL REALIGNMENT			< 0.01							
TOTALS*:				0.56		0.02	0.02		0.81	0.15	5664	951	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 2/20/2020
 RUTHERFORD
 R-2233BA
 34400.1.S5
 SHEET 50 OF 50