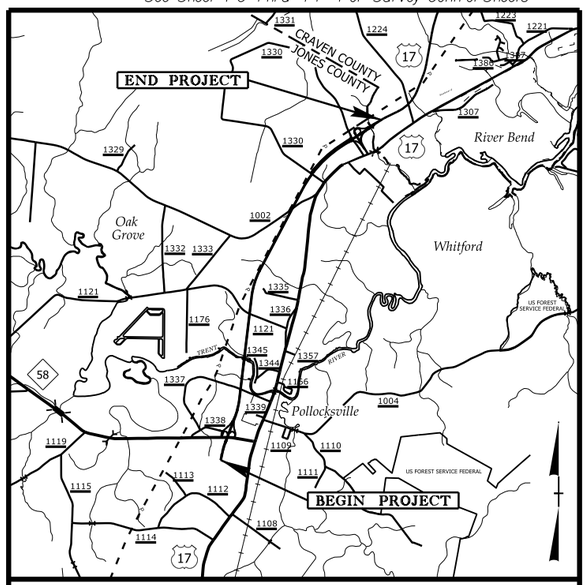
09/08/99

TIP PROJECT: R-2514D

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols
See Sheet 1-C Thru 1-F For Survey Control Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JONES & CRAVEN COUNTIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2514D	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34442.1.5		PE
34442.2.S5		R/W & UTILITIES

PERMIT DRAWING
SHEET 1 OF 84

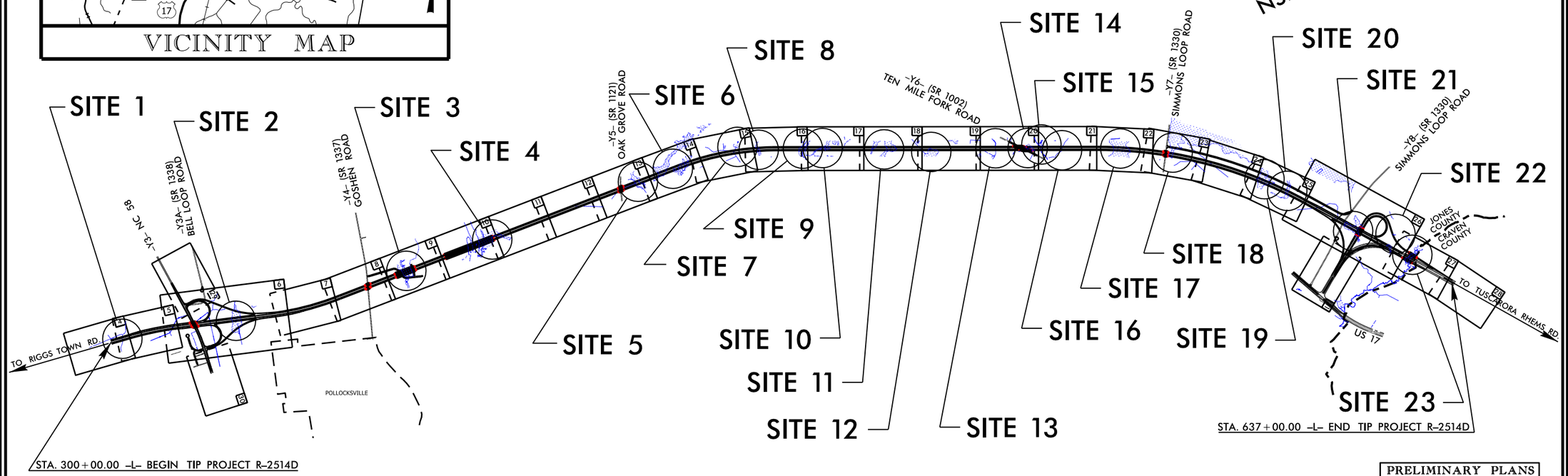
LOCATION: US 17 FROM SOUTH OF NC 58 TO THE NEW BERN BYPASS

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

WETLAND AND SURFACE WATER IMPACTS PERMIT

NAD 83/
NSRS 2007

SITE 8



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

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 2015 = 10,600
ADT 2035 = 15,700
DHV = 7 %
D = 65 %
T = 7 % *
V = 70 MPH
* TTST=4 % DUAL =3 %
FUNC CLASS = FREEWAY
STATEWIDE TIER

PROJECT LENGTH

LENGTH OF ROADWAY, TIP PROJECT R-2514D = 5.894 Miles
LENGTH OF STRUCTURES, TIP PROJECT R-2514D = 0.489 Miles
TOTAL LENGTH OF TIP PROJECT R-2514D = 6.383 Miles

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 27, 2013

LETTING DATE:
JUNE 16, 2015

JAMES A. SPEER, P.E.
PROJECT ENGINEER

DANIEL W. GARDNER, JR., P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2/26/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_PRM_tsh.dgn
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$$$$$$$$$$DGN$$$$$$$$$$
$$$$$USERNAME$$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	

R/W SHEET NO.

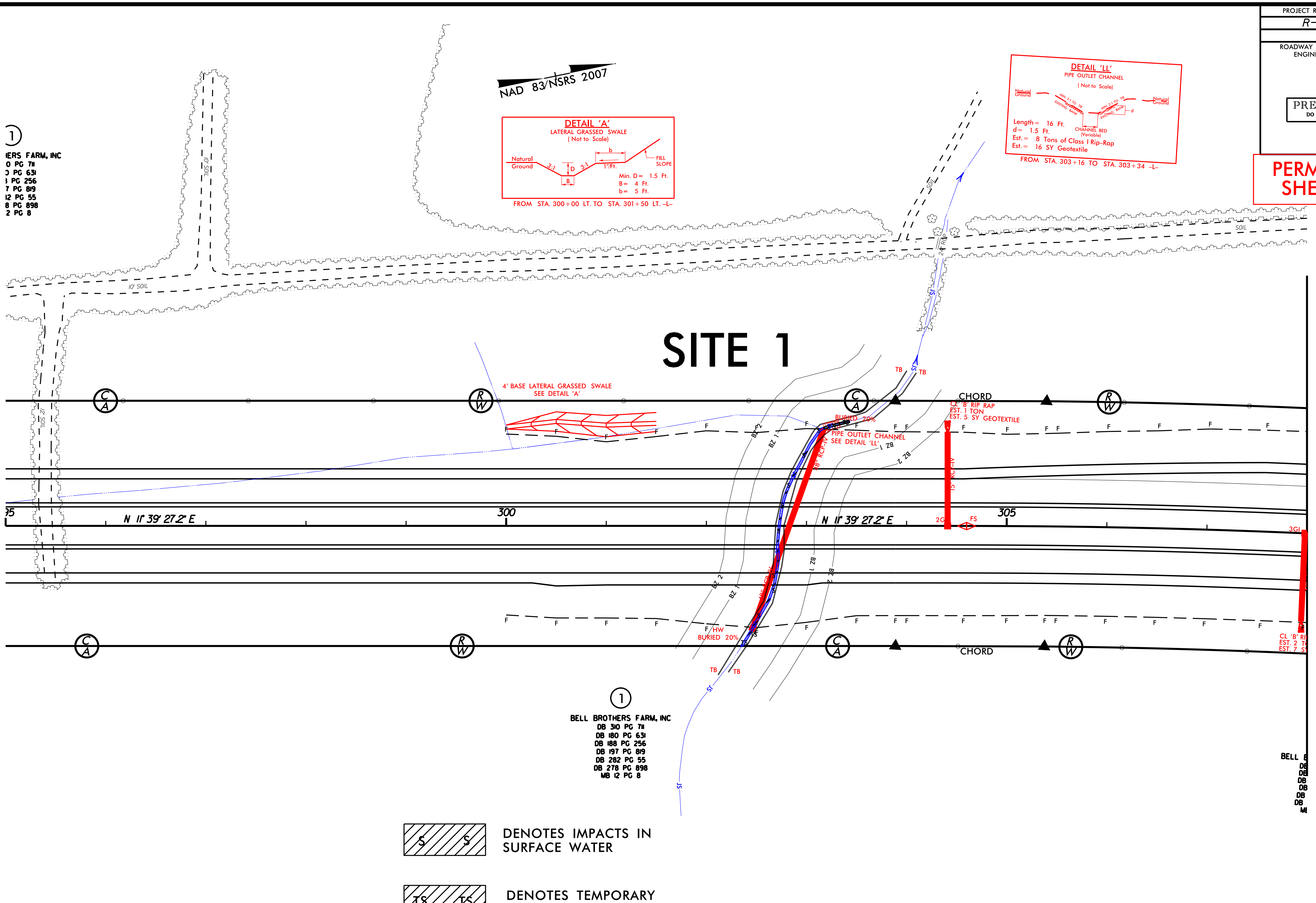
ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 2 OF 84

SITE 1



▨ S S — DENOTES IMPACTS IN SURFACE WATER

▨ TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

GRAPHIC SCALE

SEE SHEET 32 FOR -L- PROFILE

REVISIONS

8/17/99

3/19/2014
mjyork
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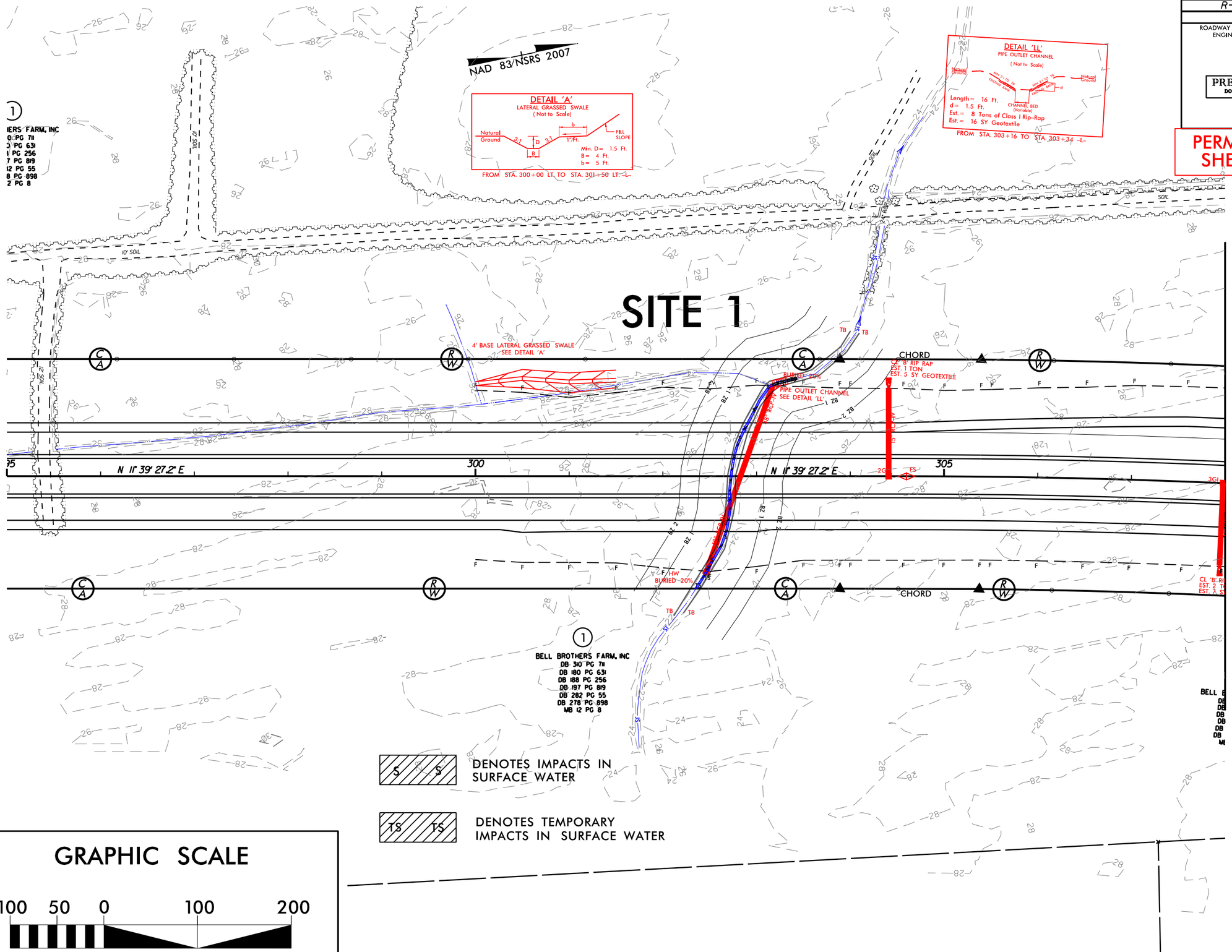
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 3 OF 84



SEE SHEET 32 FOR -L- PROFILE

REVISIONS

8/17/99

3/19/2014
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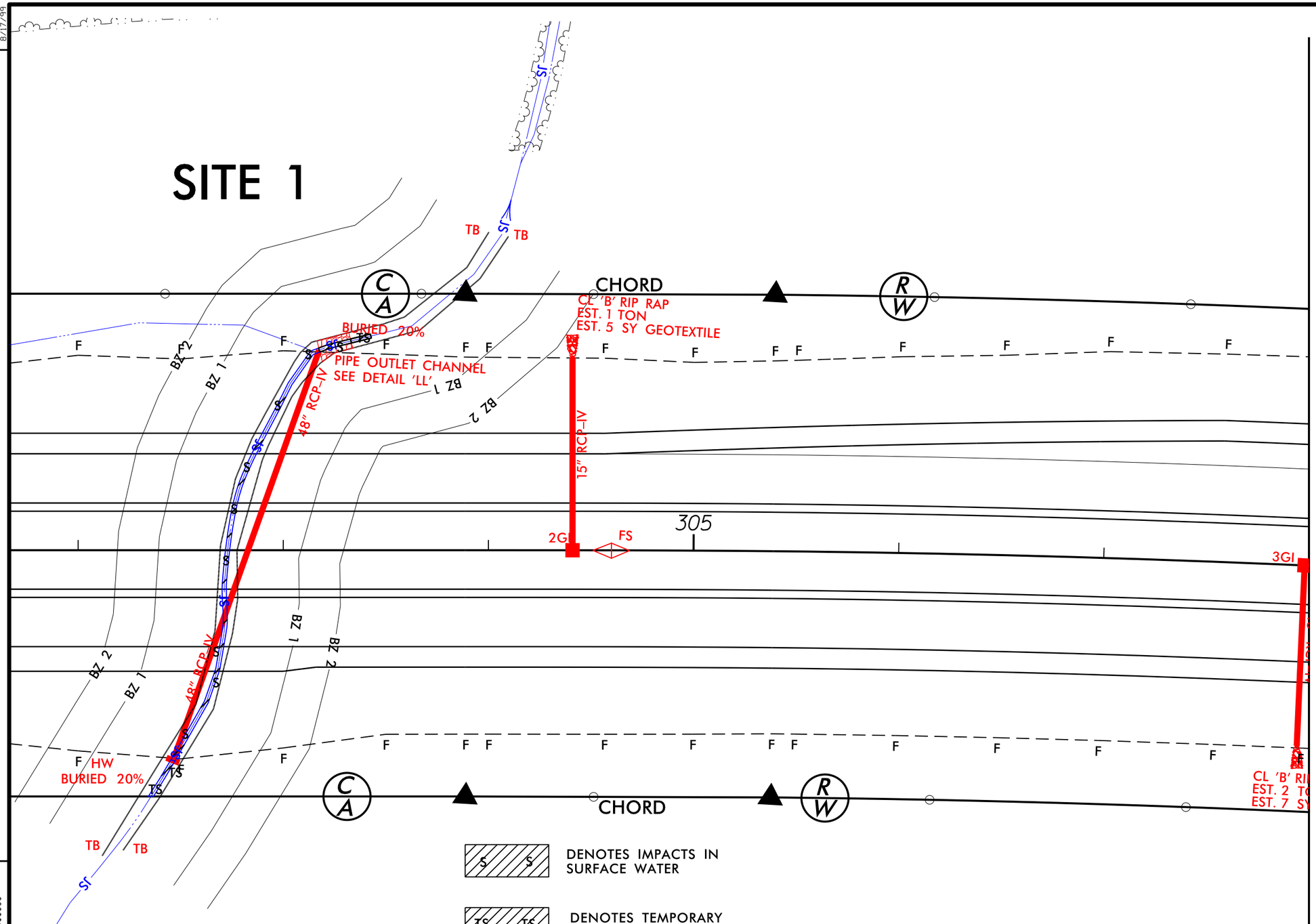
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 4 OF 84

SITE 1



–L– STA. 308+00.00

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

GRAPHIC SCALE

100 50 0 100 200

SEE SHEET 32 FOR –L– PROFILE

REVISIONS

8/17/99

3/19/2014
R-2514D
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
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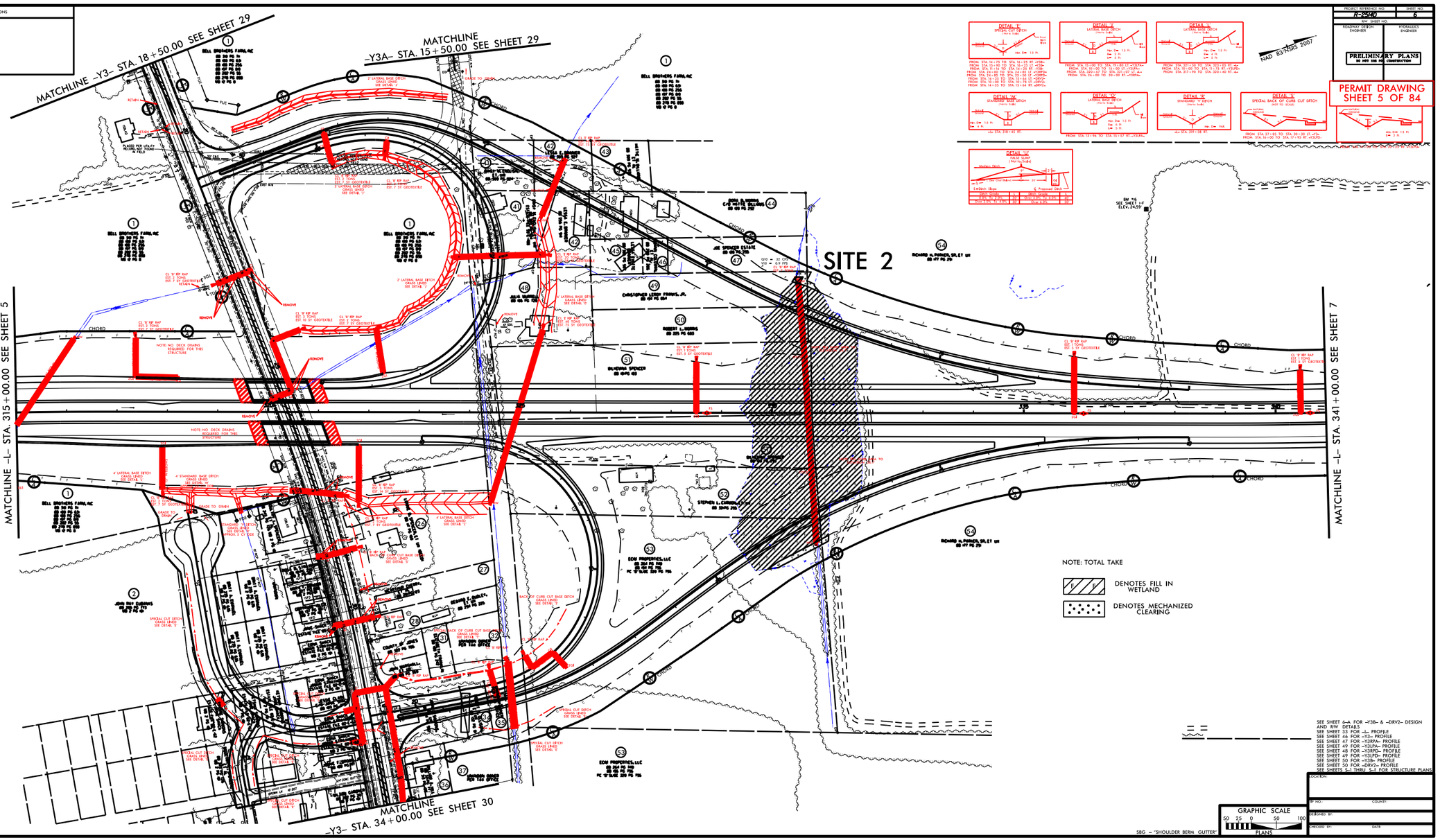

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	6

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 5 OF 84

SEE SHEET 6-A FOR -Y3B- & -DRV2- DESIGN AND R/W DETAILS
SEE SHEET 33 FOR -L- PROFILE
SEE SHEET 46 FOR -Y3- PROFILE
SEE SHEET 47 FOR -Y3RPA- PROFILE
SEE SHEET 49 FOR -Y3LPA- PROFILE
SEE SHEET 48 FOR -Y3RPD- PROFILE
SEE SHEET 49 FOR -Y3LPD- PROFILE
SEE SHEET 50 FOR -Y3B- PROFILE
SEE SHEET 50 FOR -DRV2- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

LOCATION:
TIP NO.:
COUNTY:
DESIGNED BY:
CHECKED BY:
DATE:

3/24/2014
mjyork
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$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

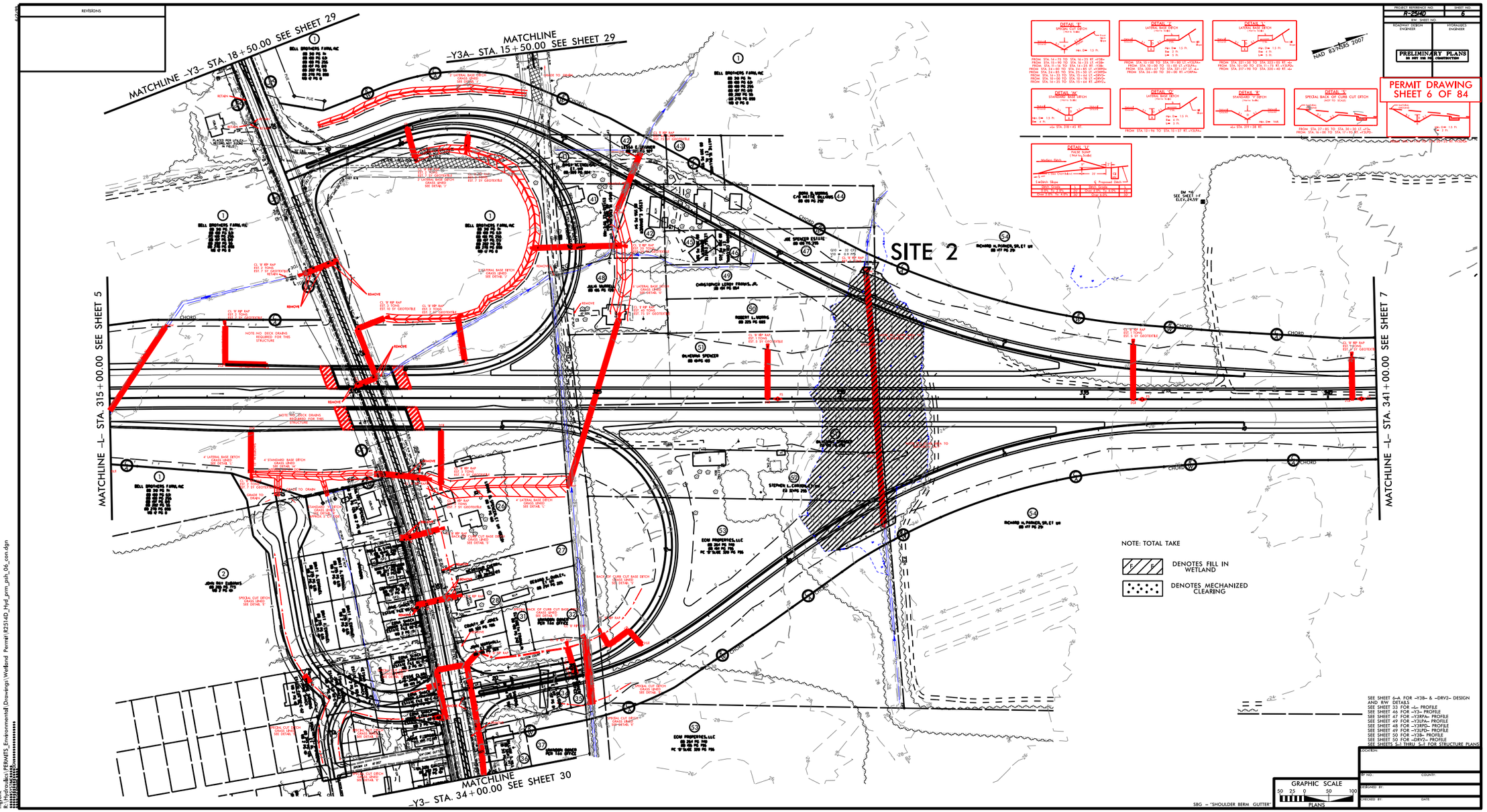
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 6 OF 84

NAD 83/NSRS 2007



LOCATION:

TIP NO. COUNTY:

DESIGNED BY:

CHECKED BY: DATE:

3/24/2014
mjrock
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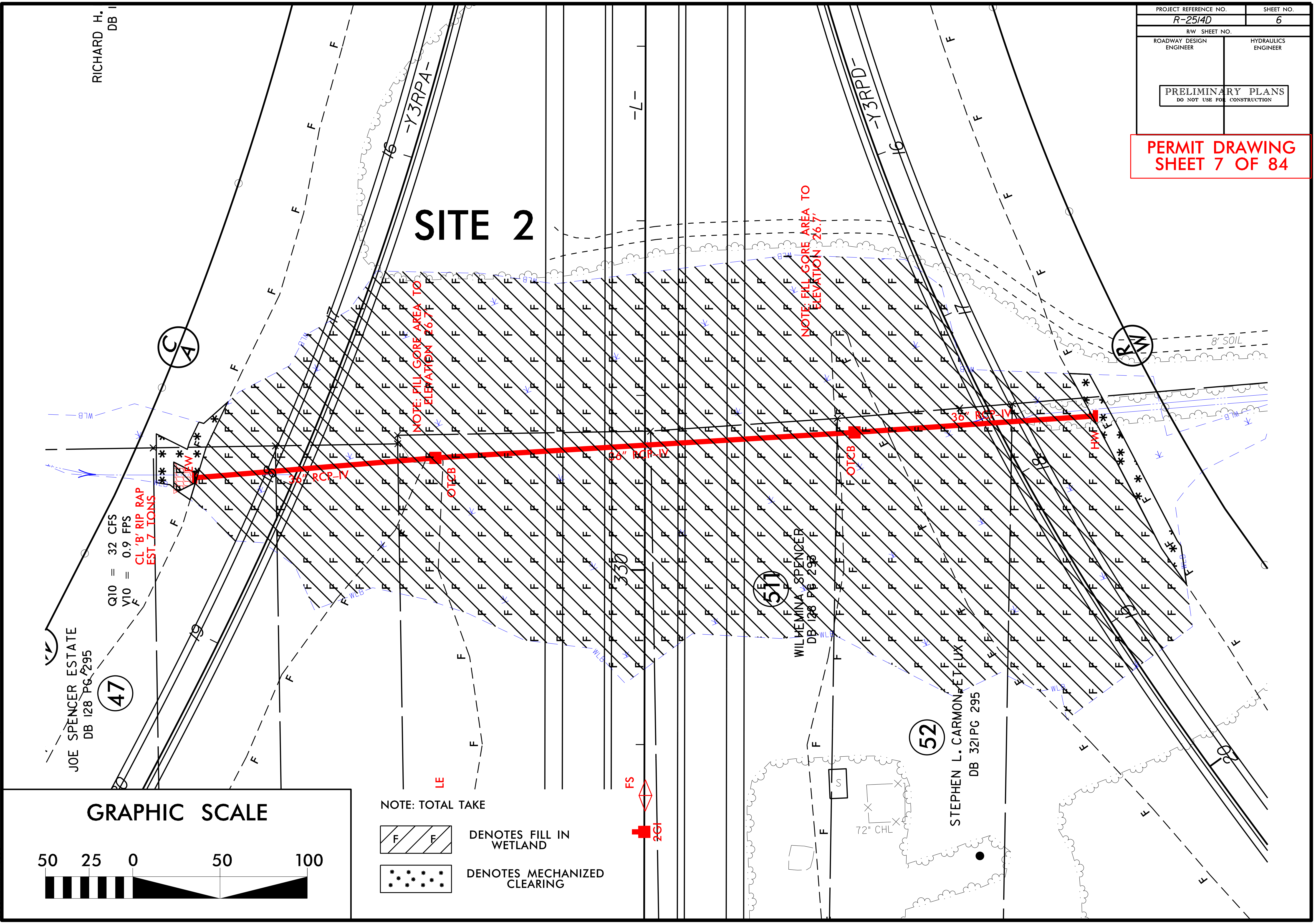
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 7 OF 84

SITE 2



NOTE: TOTAL TAKE

- ▨ F F — DENOTES FILL IN WETLAND
- ⁘ — DENOTES MECHANIZED CLEARING

REVISIONS

8/17/99

3/24/2014
mjyork
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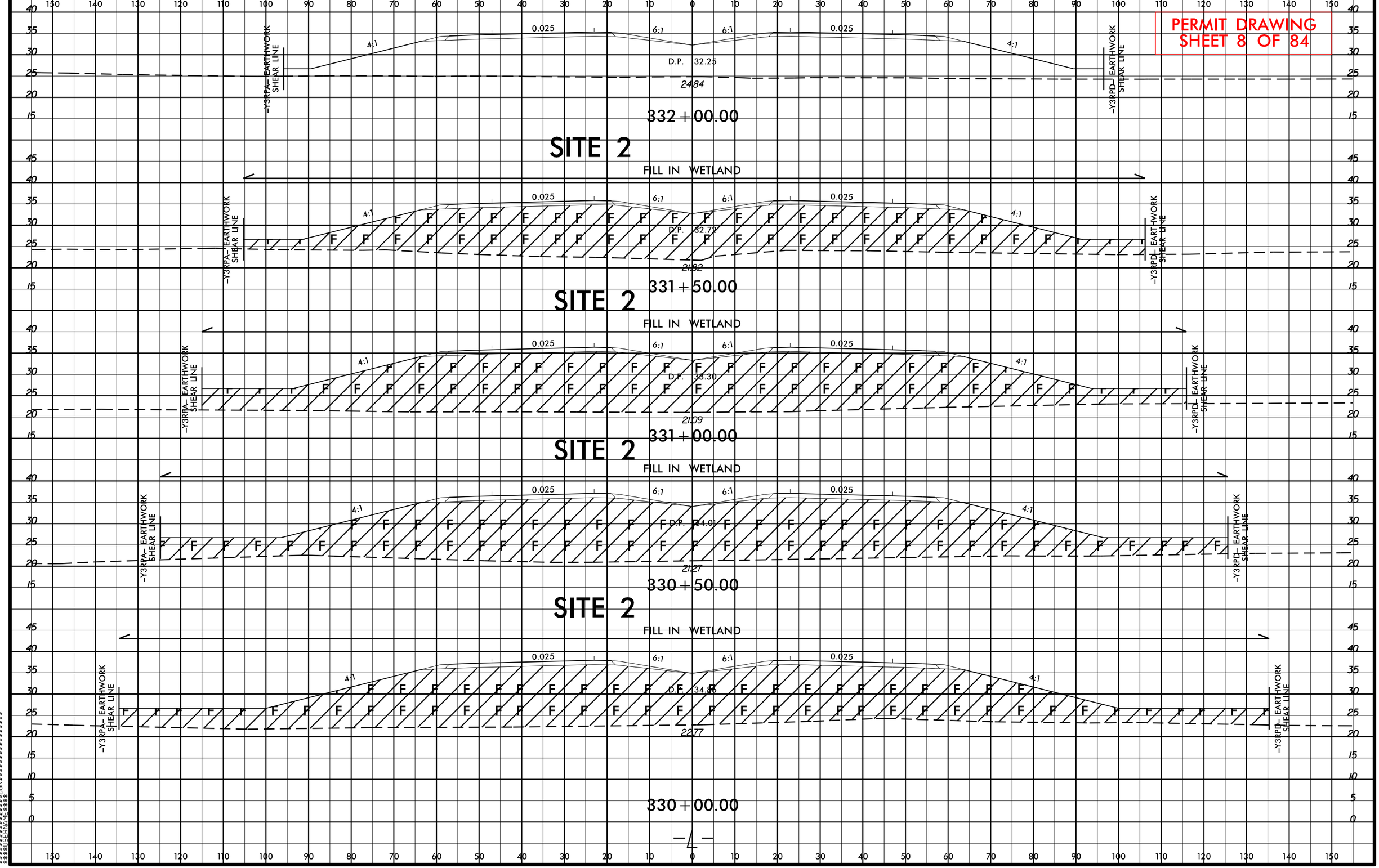
PROJ. REFERENCE NO.	SHEET NO.
R-2514D	X-18

0 5 10

PERMIT DRAWING
SHEET 8 OF 84



8/23/99

3/7/2014
mjyork
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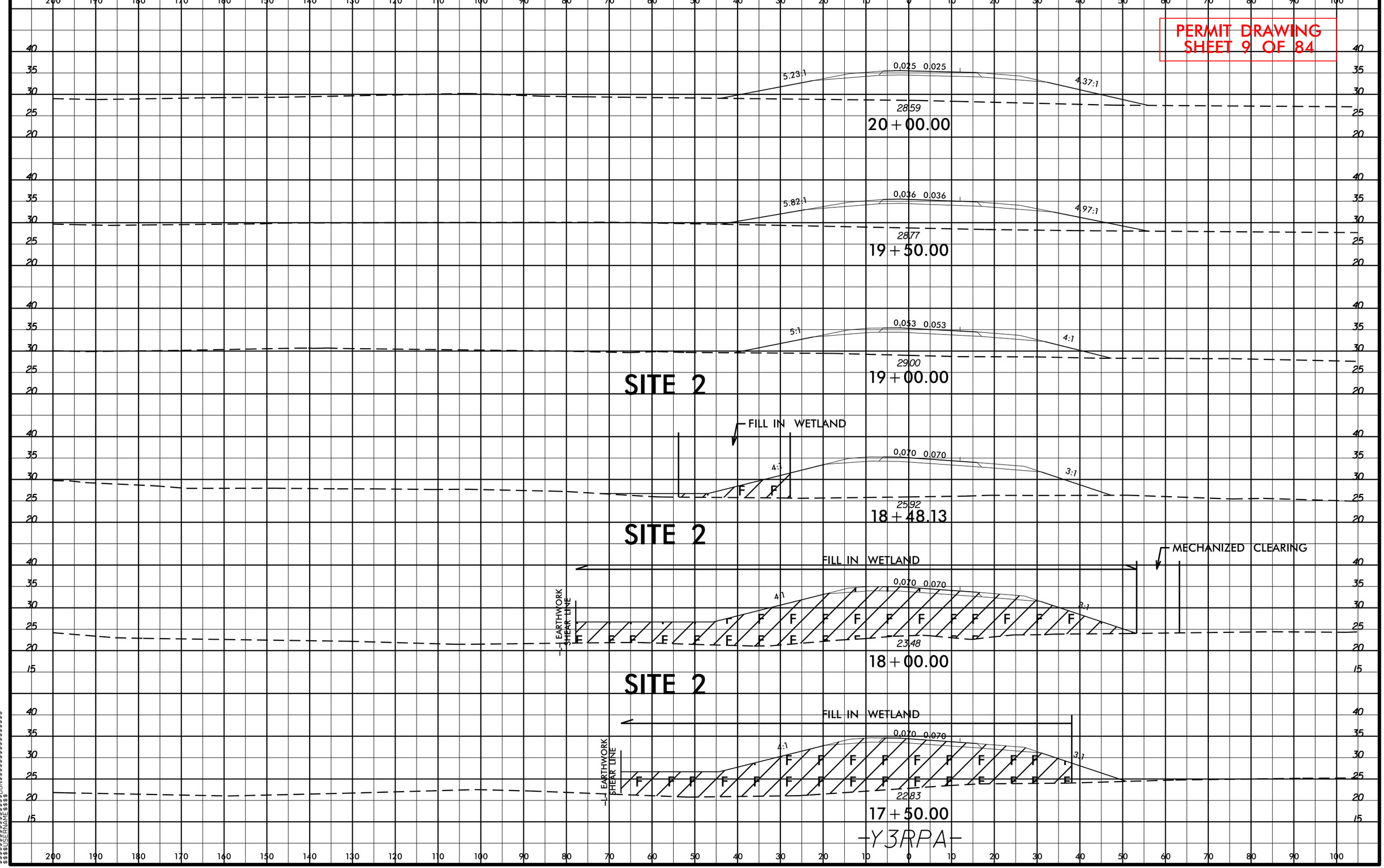
PERMIT DRAWING
SHEET 9 OF 84



8/23/99

3/7/2014
mjyork
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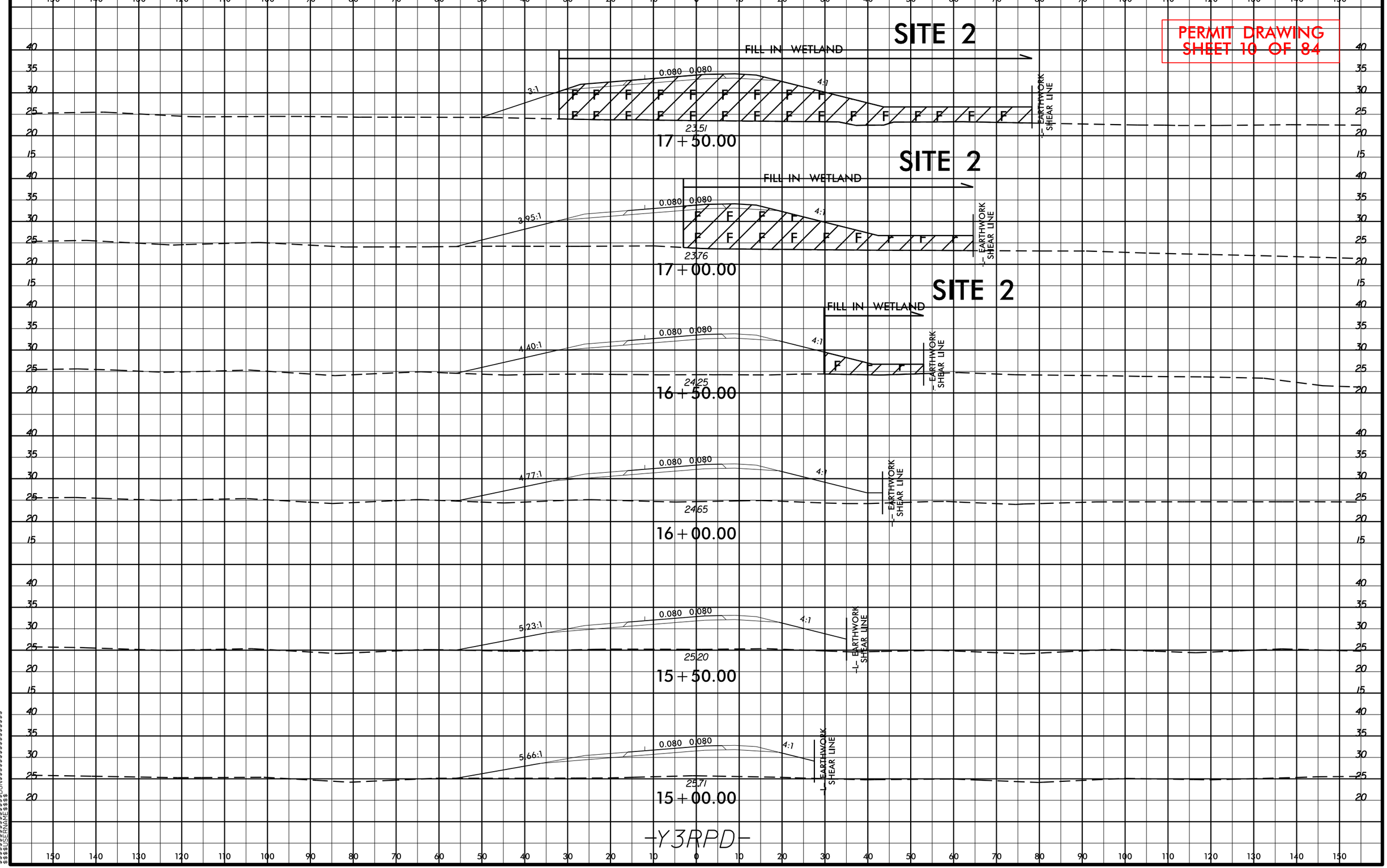
PROJ. REFERENCE NO.	SHEET NO.
R-2514D	X-164

PERMIT DRAWING
SHEET 10 OF 84



8/23/99

3/7/2014
mjones
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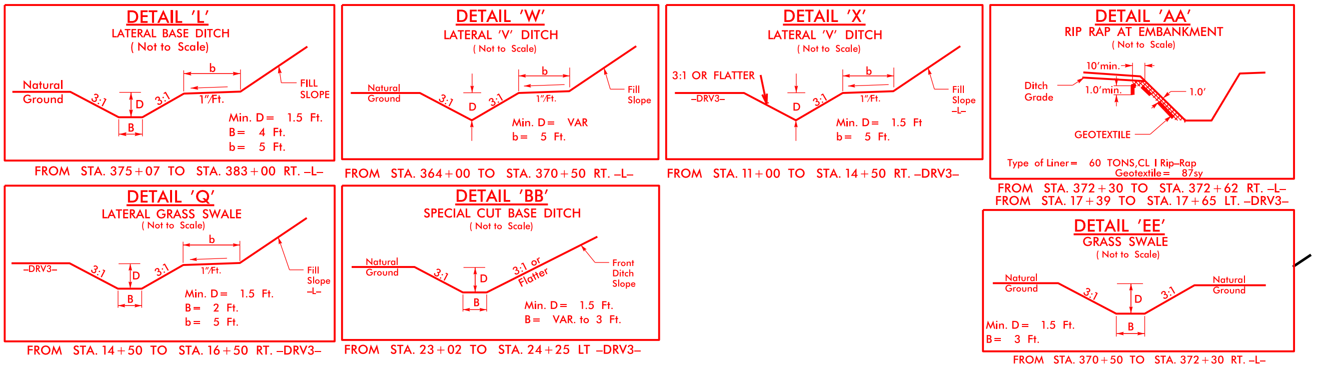
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

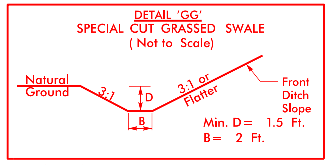
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

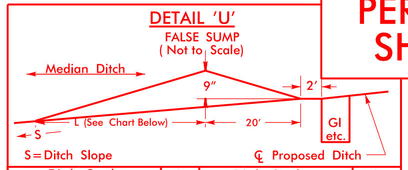
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 11 OF 84

F / F	DENOTES FILL IN WETLAND
TS / TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
S / S	DENOTES IMPACTS IN SURFACE WATER
HC / HC	DENOTES HAND CLEARING
✱ ✱ ✱	DENOTES MECHANIZED CLEARING

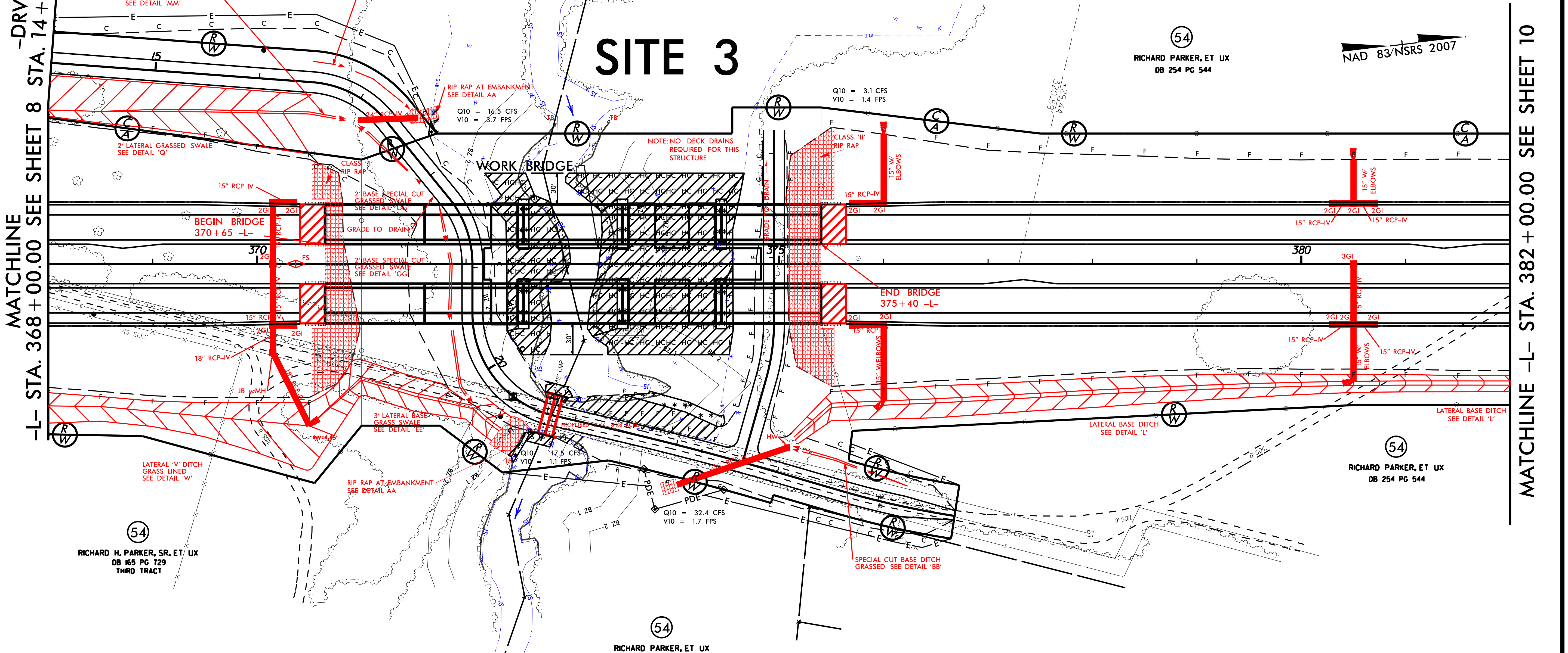






Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

SITE 3



SEE SHEET 35 FOR -L- PROFILE
SEE SHEET 52 FOR -DRV3- PROFILE
SEE SHEET 52 FOR -DRV4- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

SBG - "SHOULDER BERM GUTTER"

REVISIONS

8/17/99

3/18/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_09.dgn

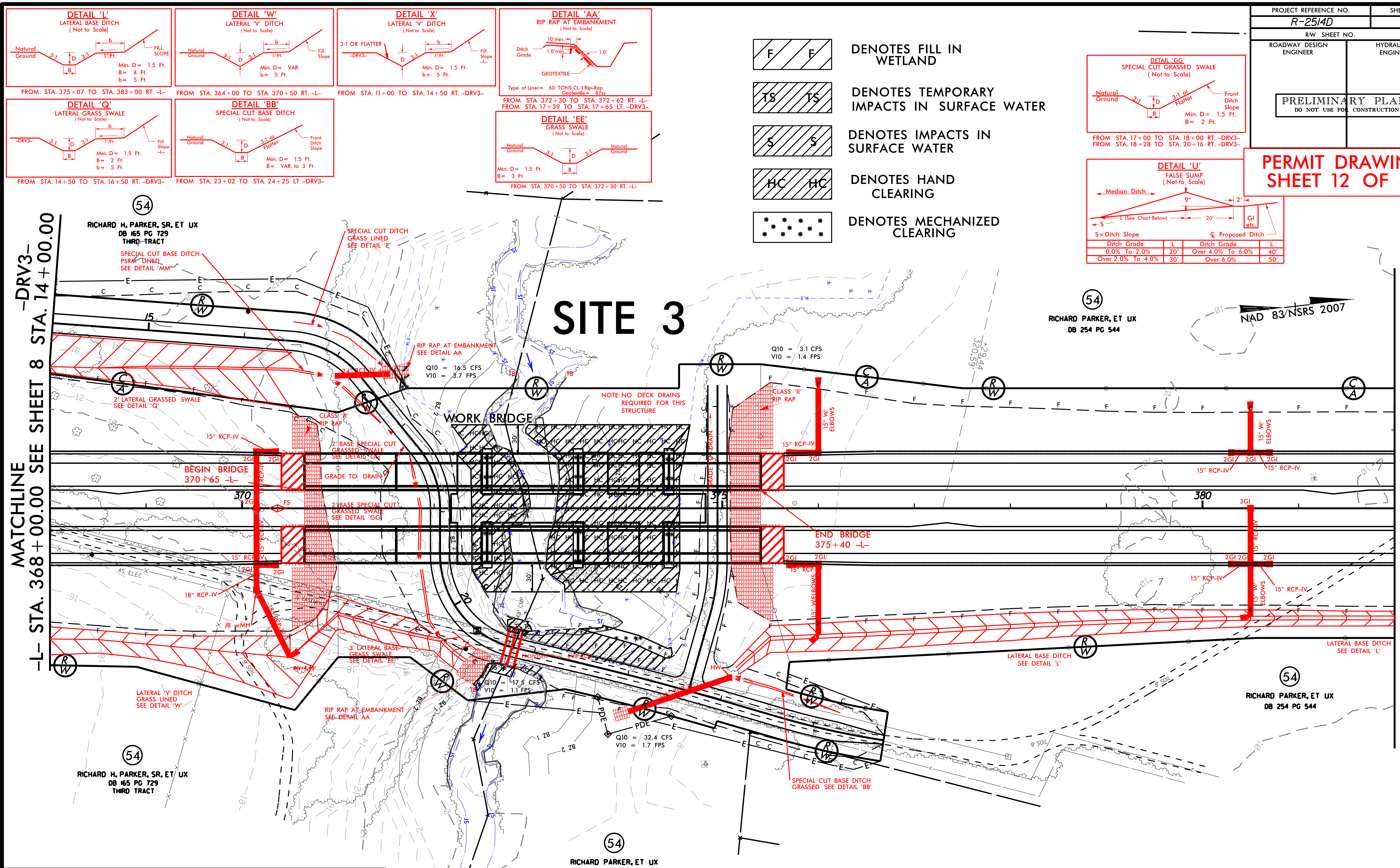
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	9

R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 12 OF 84



GRAPHIC SCALE

SEE SHEET 35 FOR -L- PROFILE
SEE SHEET 52 FOR -DRV3- PROFILE
SEE SHEET 52 FOR -DRV4- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

SBG - "SHOULDER BERM GUTTER"

8/17/99

REVISIONS

3/18/2014
mjyork
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$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 13 OF 84

SITE 3

F F — DENOTES FILL IN WETLAND

TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S — DENOTES IMPACTS IN SURFACE WATER

HC HC — DENOTES HAND CLEARING

DENOTES MECHANIZED CLEARING

Q10 = 16.5 CFS
V10 = 3.7 FPS

Q10 = 3.1 CFS
V10 = 1.4 FPS

WORK BRIDGE

NOTE: NO DECK DRAINS REQUIRED FOR THIS STRUCTURE

24" RCP-IV

CLASS 'II' RIP RAP

2' BASE SPECIAL CUT GRASSED SWALE SEE DETAIL 'GG'

GRADE TO DRAIN

15" RCP-IV

15" W/ ELBOWS

15" W/ELBOWS

BRIDGE 65 -L-

END BRIDGE 375+40 -L-

18" RCP-IV

JB w/MH

INV=4.45'

3' LATERAL BASE GRASS SWALE SEE DETAIL 'EE'

PROPOSED 1 @ 8'X8' RCBC

Q10 = 17.5 CFS
V10 = 1.1 FPS

Q10 = 32.4 CFS
V10 = 1.7 FPS

HW

-DRV3-

-DRV4-

GRAPHIC SCALE

50 25 0 50 100

8/17/99

REVISIONS

3/18/2014
mjrock
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$$$$$$USERNAME$$$$$$
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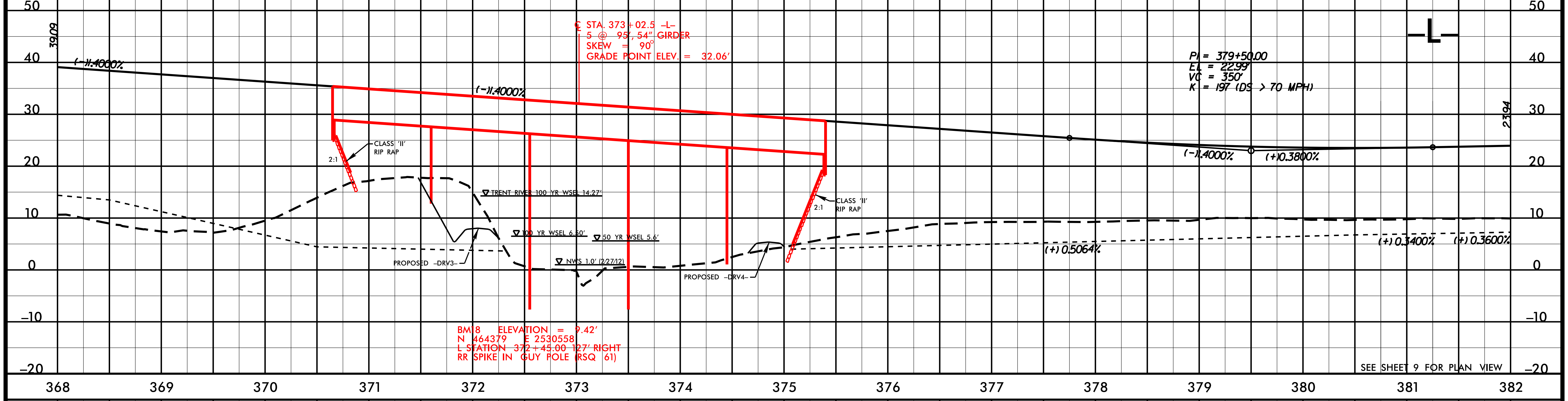
PERMIT DRAWING
SHEET 14 OF 84

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5/28/99

SITE 3



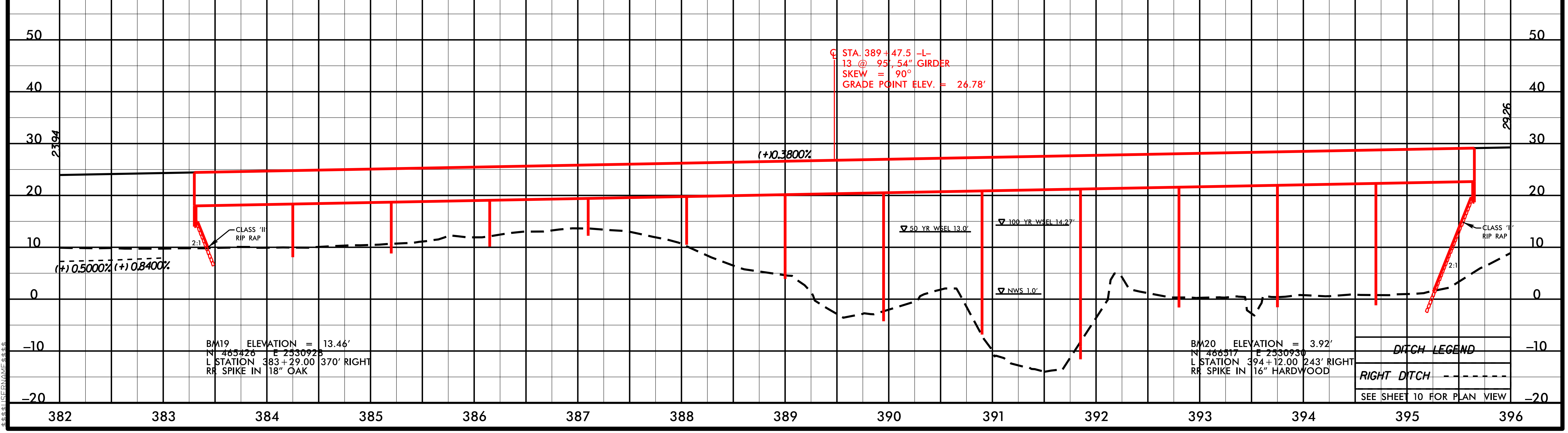
℄ STA. 373+02.5 –L–
5 @ 95', 54" GIRDER
SKEW = 90°
GRADE POINT ELEV. = 32.06'

PI = 379+50.00
EL = 22.99'
VC = 350'
K = 197 (DS > 70 MPH)

BM18 ELEVATION = 9.42'
N 464379 E 2530558
L STATION 372+45.00 127' RIGHT
RR SPIKE IN GUY POLE (RSQ 61)

SEE SHEET 9 FOR PLAN VIEW

SITE 4



℄ STA. 389+47.5 –L–
13 @ 95', 54" GIRDER
SKEW = 90°
GRADE POINT ELEV. = 26.78'

BM19 ELEVATION = 13.46'
N 465426 E 2530928
L STATION 383+29.00 370' RIGHT
RR SPIKE IN 18" OAK

BM20 ELEVATION = 3.92'
N 466517 E 2530930
L STATION 394+12.00 243' RIGHT
RR SPIKE IN 16" HARDWOOD

DITCH LEGEND

RIGHT DITCH - - - - - - -

SEE SHEET 10 FOR PLAN VIEW

2/27/2014
mjyork
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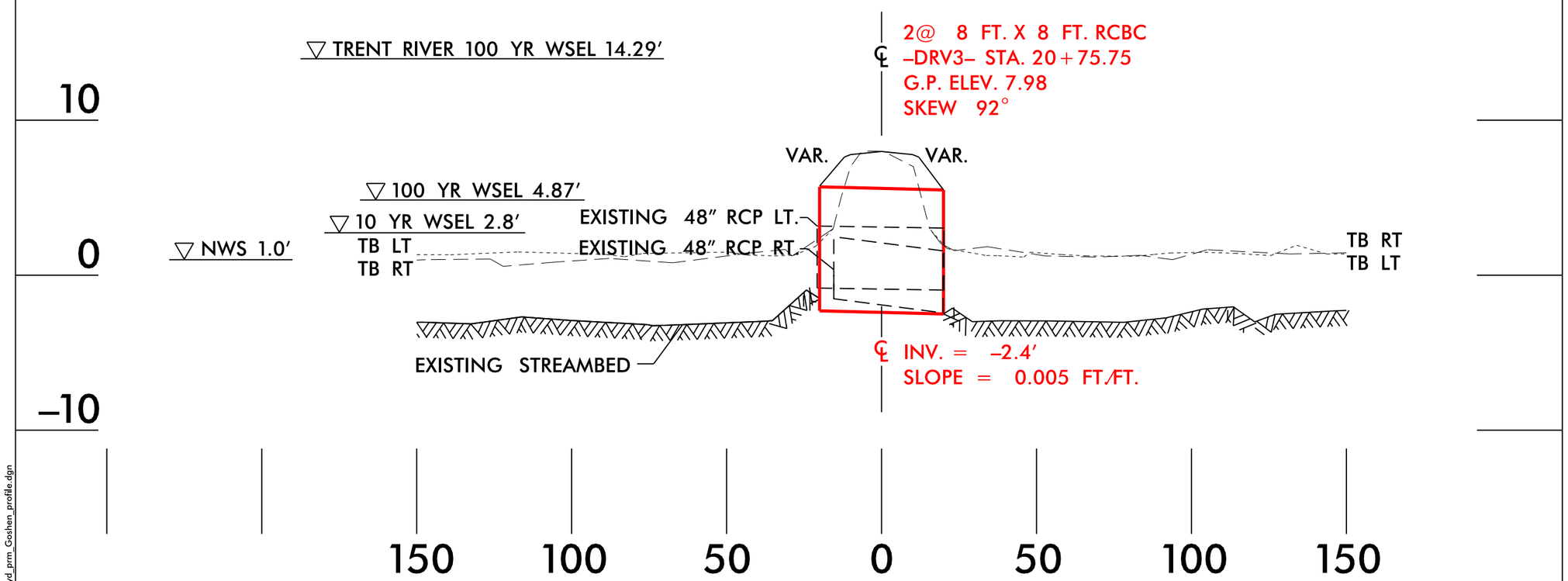
$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PERMIT DRAWING
SHEET 15 OF 84

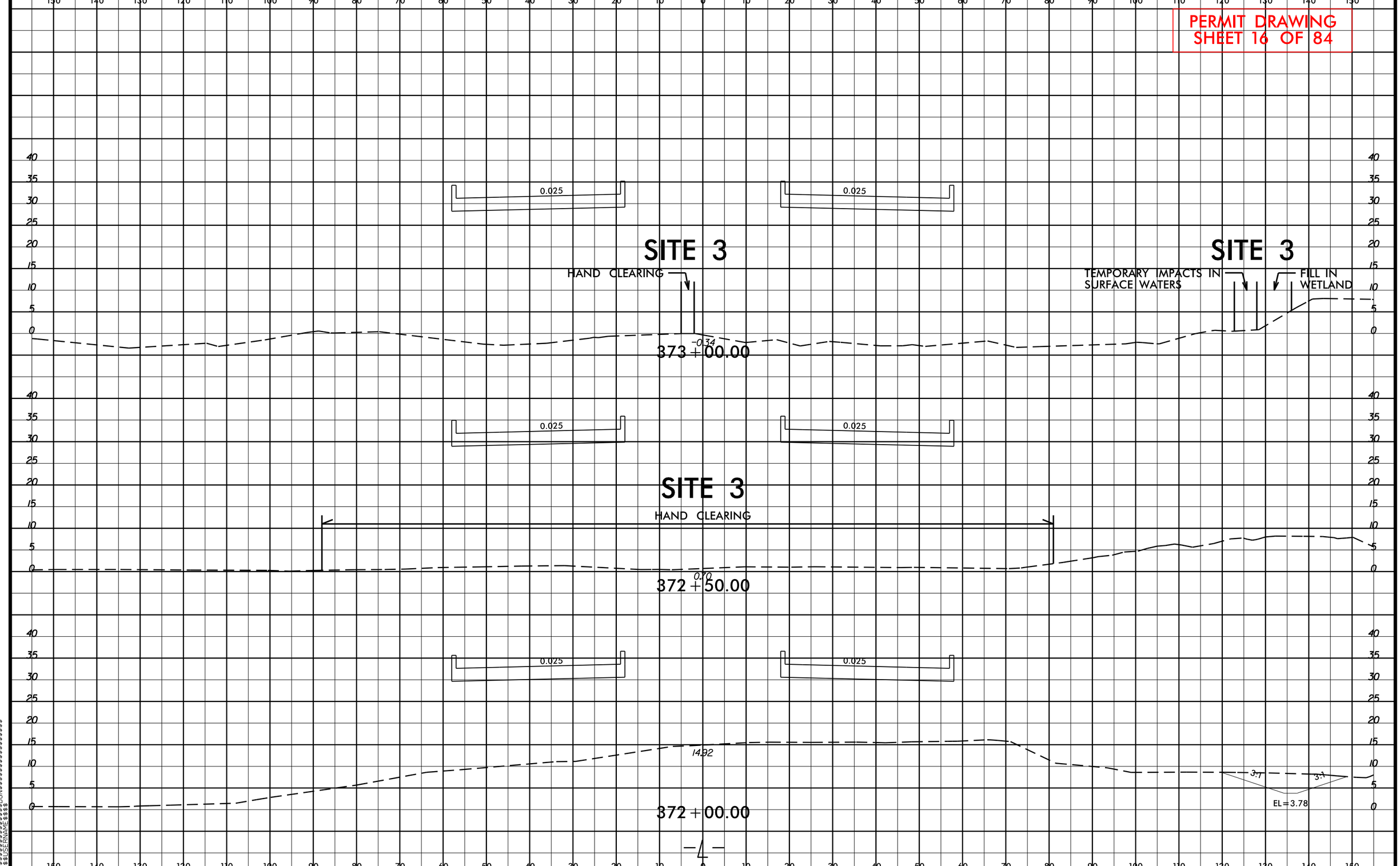


PROFILE

NCDOT
DIVISION OF HIGHWAYS
JONES COUNTY
PROJECT: 34442.1.5 (R-2514D)
US 17 FROM SOUTH OF NC 58
TO THE NEW BERN BYP

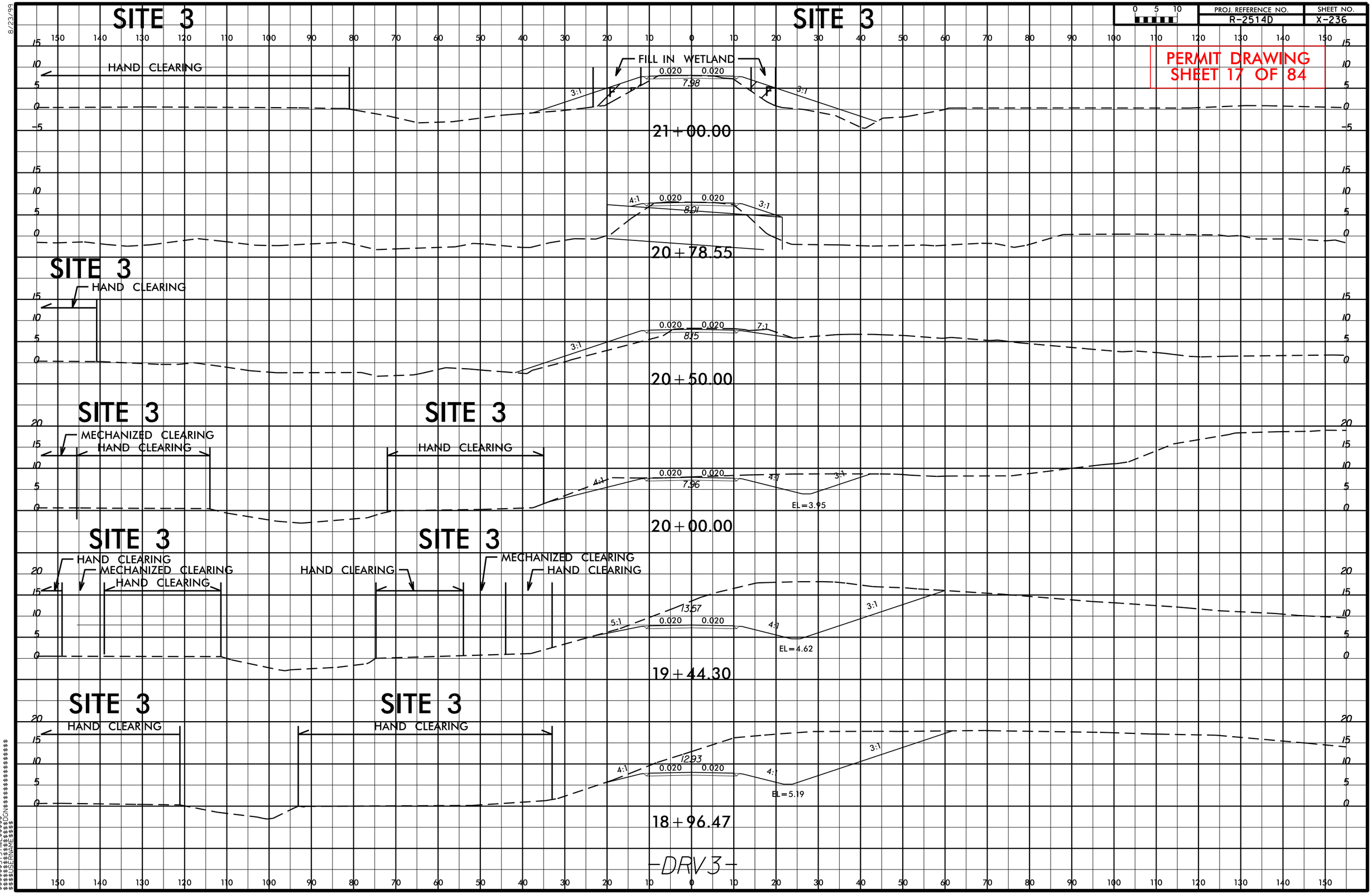
2/27/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_Goshen_profile.dgn

PERMIT DRAWING
SHEET 16 OF 84



PROJ. REFERENCE NO.	SHEET NO.
R-2514D	X-236

PERMIT DRAWING
SHEET 17 OF 84



8/23/99

3/7/2014
mjcurk
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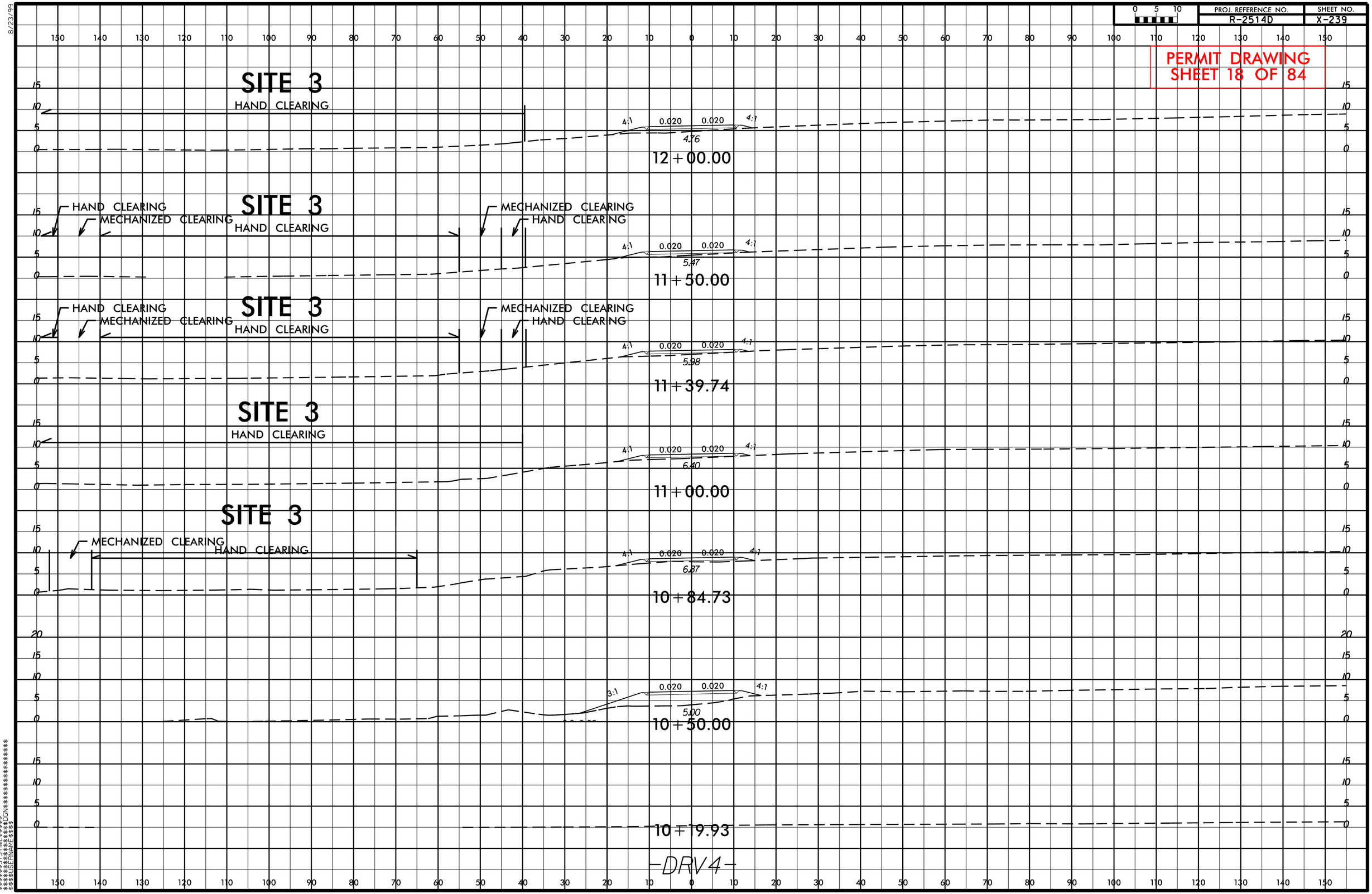
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

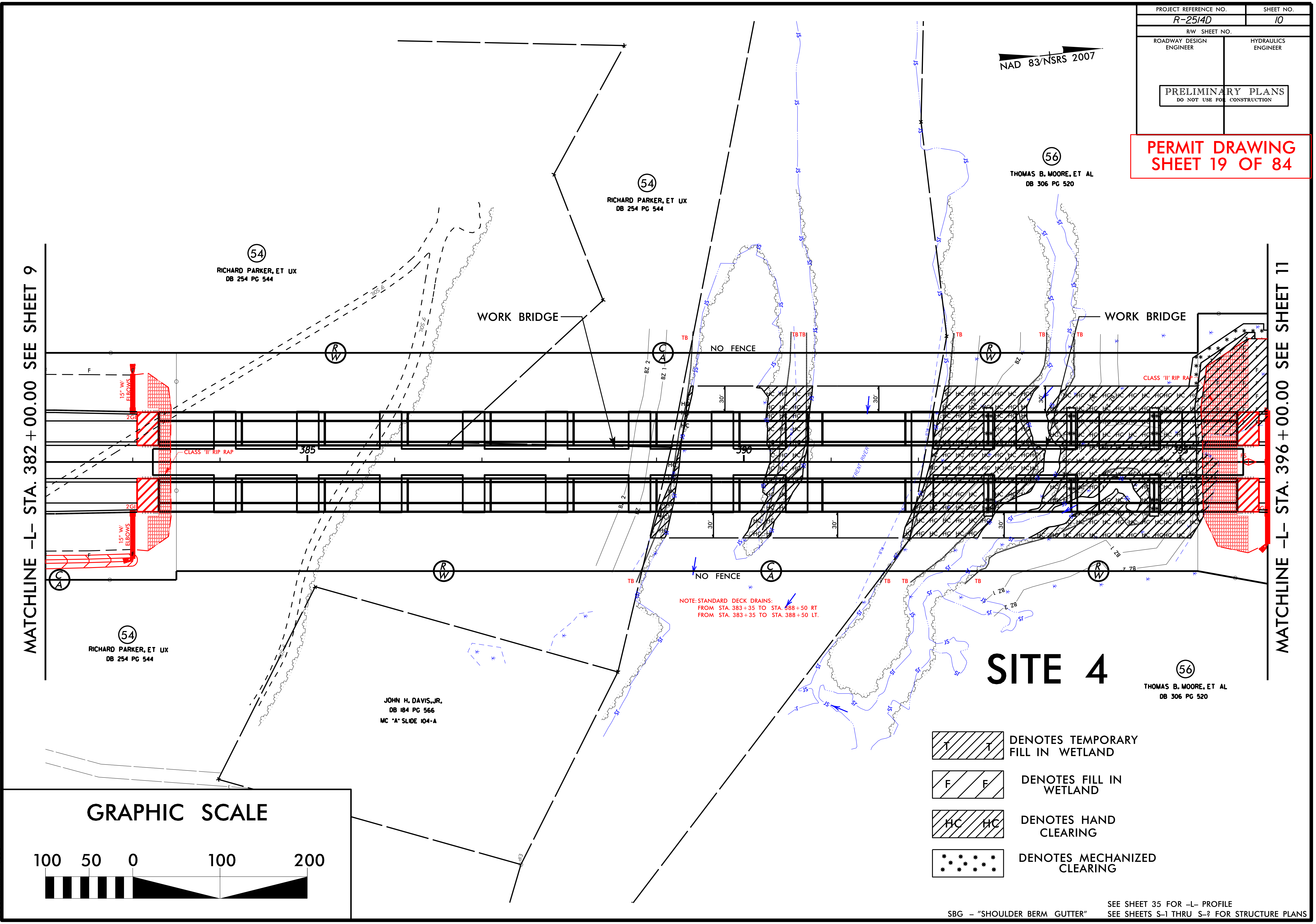
PERMIT DRAWING
SHEET 18 OF 84



PROJECT REFERENCE NO.	SHEET NO.
R-2514D	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 19 OF 84



REVISIONS

8/17/99

NOTE: STANDARD DECK DRAINS:
FROM STA. 383+35 TO STA. 388+50 RT
FROM STA. 383+35 TO STA. 388+50 LT.

▨ T T	DENOTES TEMPORARY FILL IN WETLAND
▨ F F	DENOTES FILL IN WETLAND
▨ HC HC	DENOTES HAND CLEARING
⁘	DENOTES MECHANIZED CLEARING

SBG - "SHOULDER BERM GUTTER"

SEE SHEET 35 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

3/18/2014
miyork
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$$$$$$SYSTIME$$$$$
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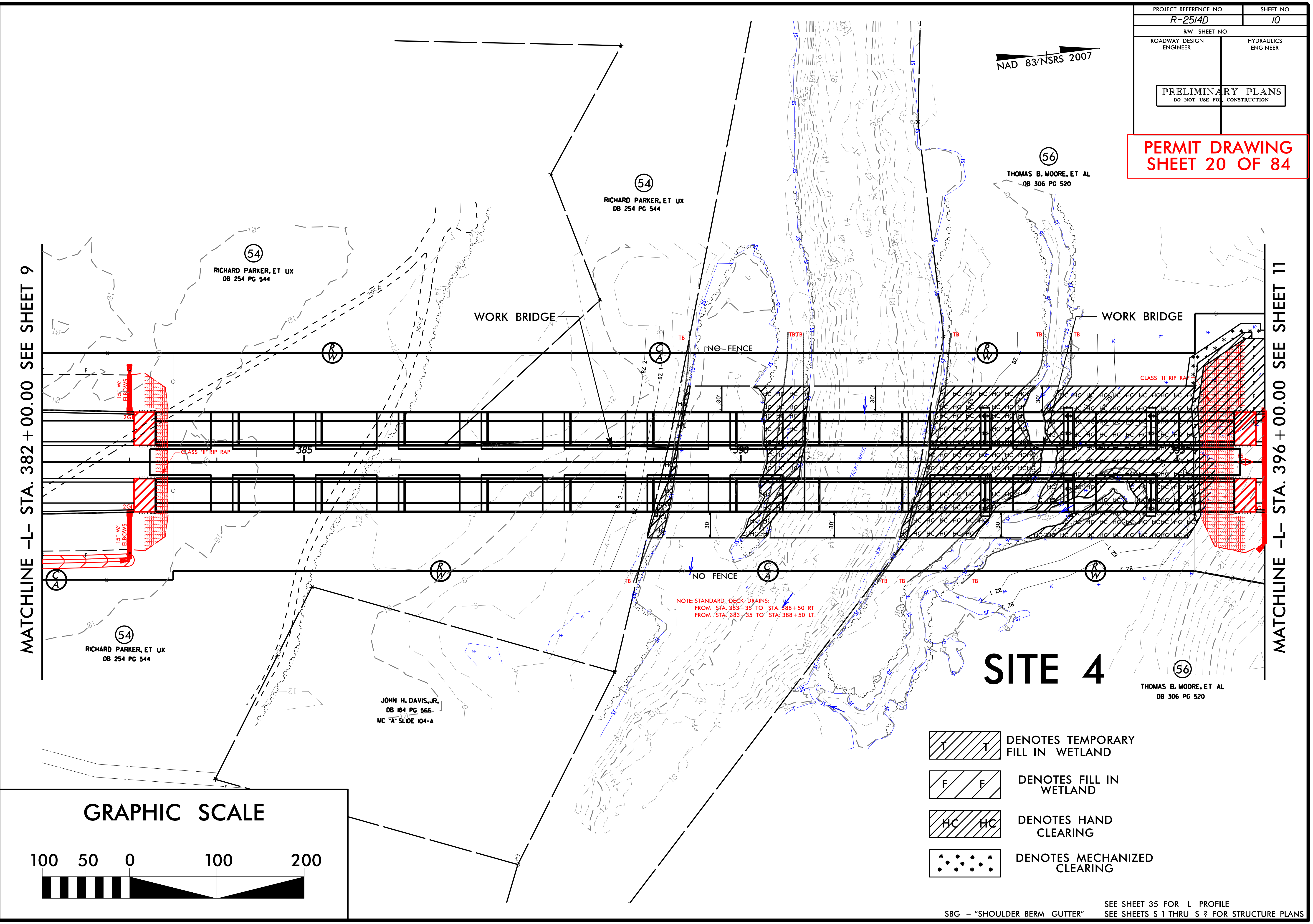
$$$$USERNAME$$$$



PROJECT REFERENCE NO.	SHEET NO.
R-2514D	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 20 OF 84

NOTE: STANDARD DECK DRAINS:
FROM STA. 383+35 TO STA. 388+50 RT
FROM STA. 383+35 TO STA. 388+50 LT.

T T	DENOTES TEMPORARY FILL IN WETLAND
F F	DENOTES FILL IN WETLAND
HC HC	DENOTES HAND CLEARING
* * *	DENOTES MECHANIZED CLEARING

SBG - "SHOULDER BERM GUTTER"

SEE SHEET 35 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

8/17/99

3/18/2014
mjyork
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$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	10

RW SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

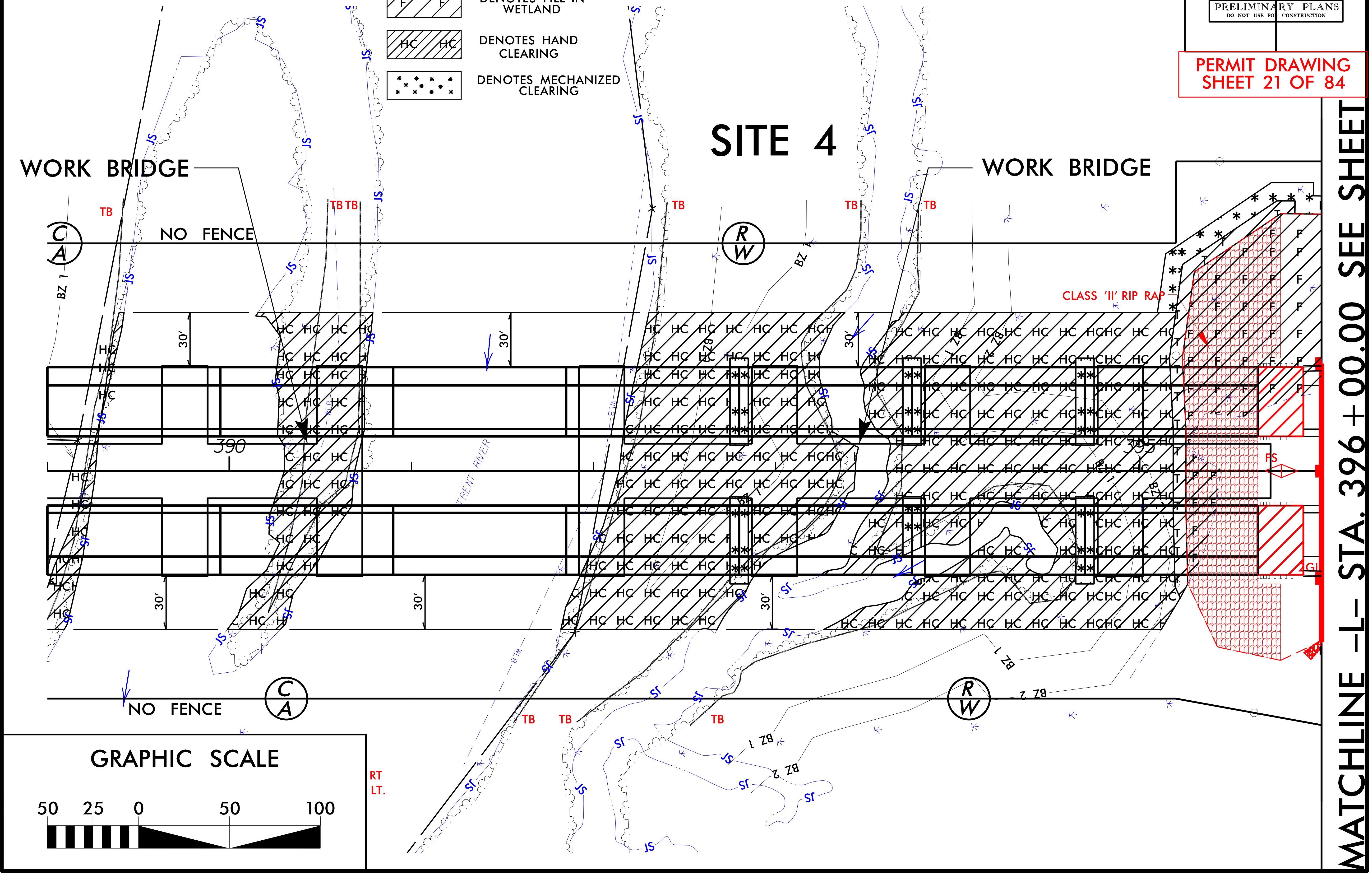
PERMIT DRAWING
SHEET 21 OF 84

▨ DENOTES TEMPORARY FILL IN WETLAND

▨ DENOTES FILL IN WETLAND

▨ DENOTES HAND CLEARING

⁘ DENOTES MECHANIZED CLEARING



8/17/99

REVISIONS

3/18/2014
mjyork
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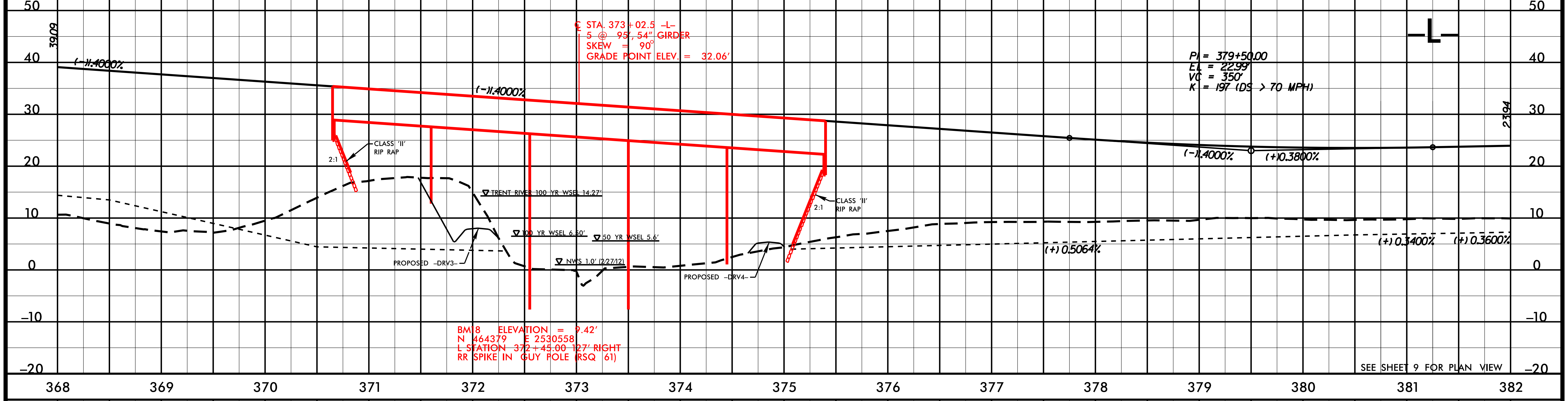
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PERMIT DRAWING
SHEET 22 OF 84

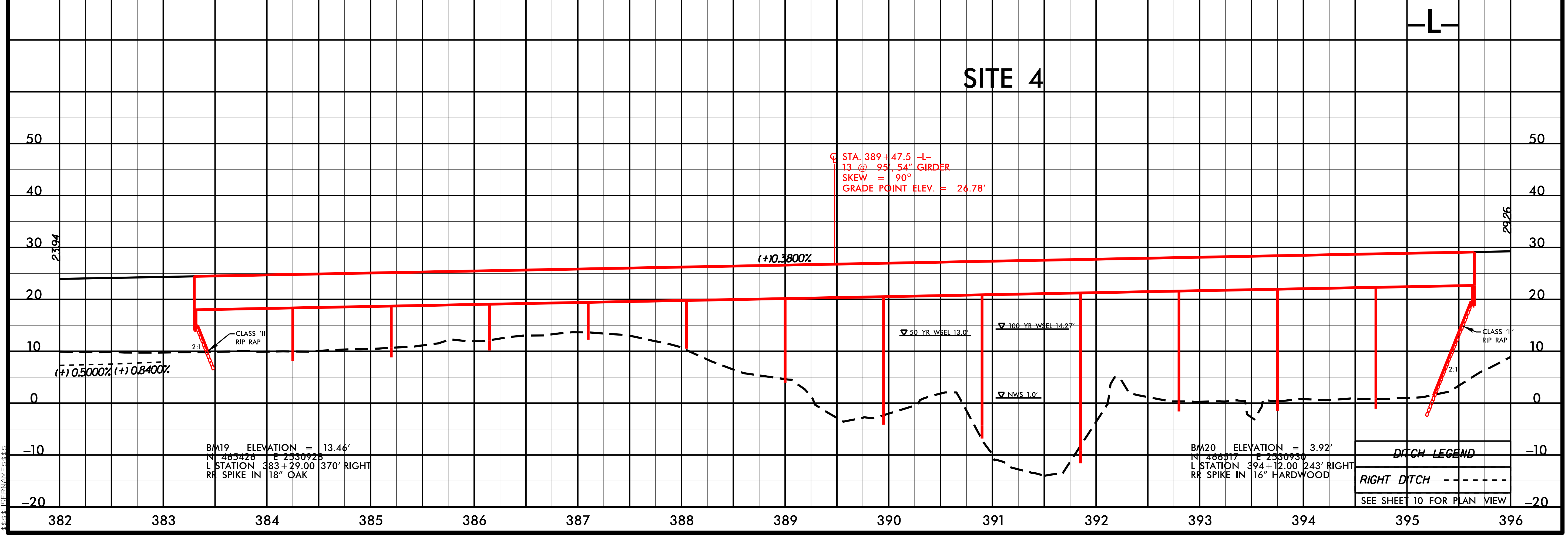
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SITE 3



SITE 4



5/28/99

2/27/2014
mjyork
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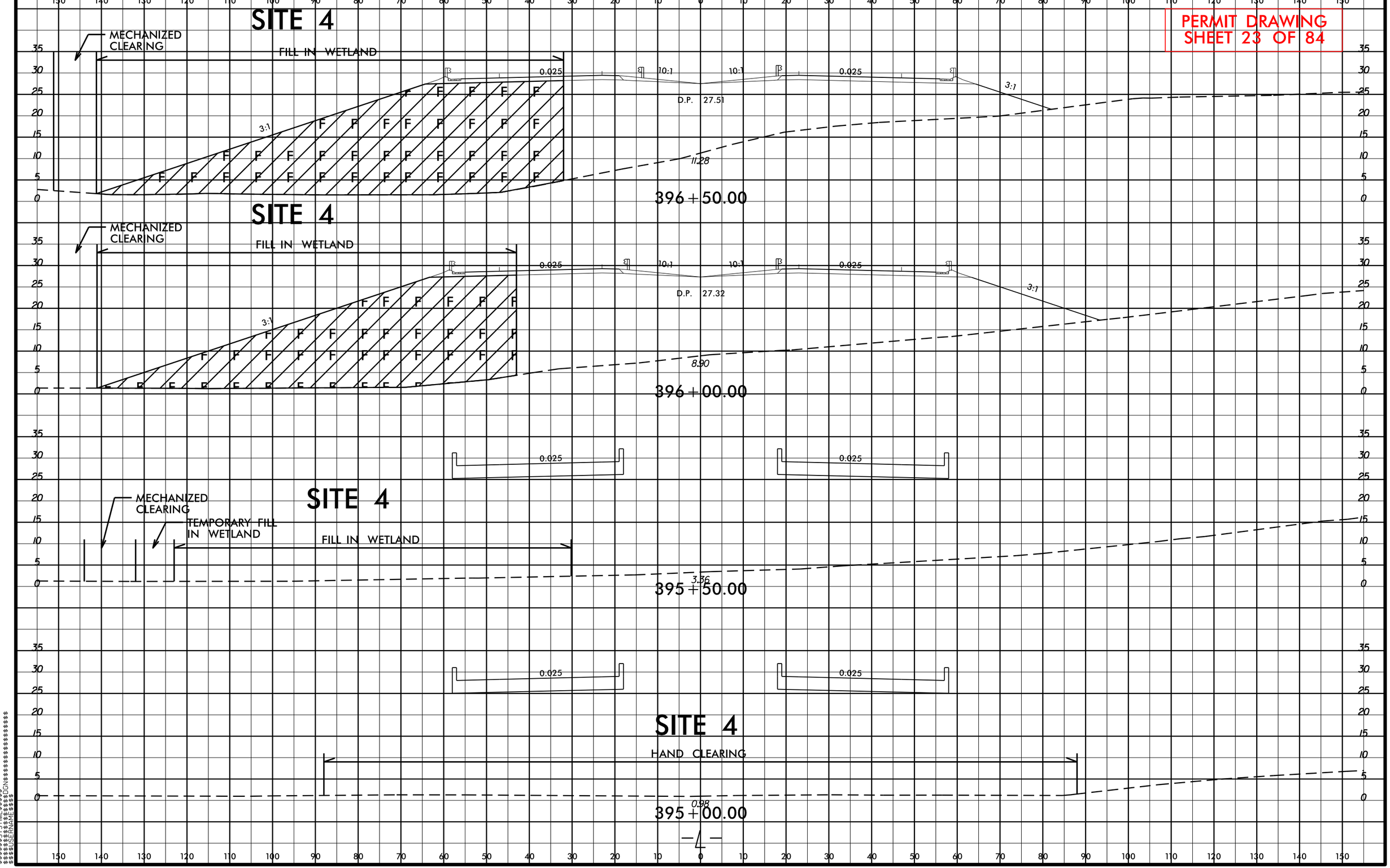
$$$$USERNAME$$$$

PROJ. REFERENCE NO. R-2514D

SHEET NO. X-49

PERMIT DRAWING
SHEET 23 OF 84



8/23/99

3/17/2014
mjyork
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$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$$

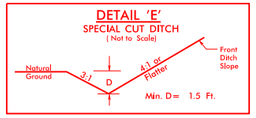
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 24 OF 84

NAD 83/NSRS 2007

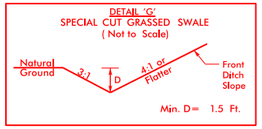
DETAIL 'E'
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 1.5 Ft.

FROM STA. 404+50 TO STA. 409+00 LT. –L–

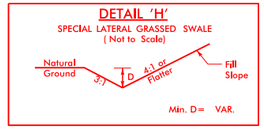
DETAIL 'G'
SPECIAL CUT GRASSED SWALE
(Not to Scale)



Min. D= 1.5 Ft.

FROM STA. 400+95 TO STA. 402+50 LT. –L–
FROM STA. 404+50 TO STA. 408+50 RT. –L–
FROM STA. 399+70 TO STA. 400+95 LT. –L–

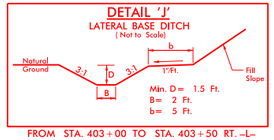
DETAIL 'H'
SPECIAL LATERAL GRASSED SWALE
(Not to Scale)



Min. D= VAR.

FROM STA. 402+50 TO STA. 404+50 LT. –L–

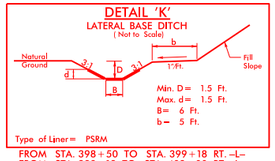
DETAIL 'J'
LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA. 403+00 TO STA. 403+50 RT. –L–

DETAIL 'K'
LATERAL BASE DITCH
(Not to Scale)

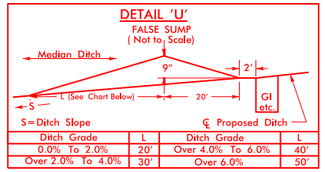


Min. D= 1.5 Ft.
Max. d= 1.5 Ft.
B= 6 Ft.
b= 5 Ft.

Type of Liner= PSRM

FROM STA. 398+50 TO STA. 399+18 RT. –L–
FROM STA. 399+18 TO STA. 403+00 RT. –L–

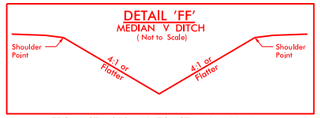
DETAIL 'U'
FALSE SUMP
(Not to Scale)



S=Ditch Slope

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

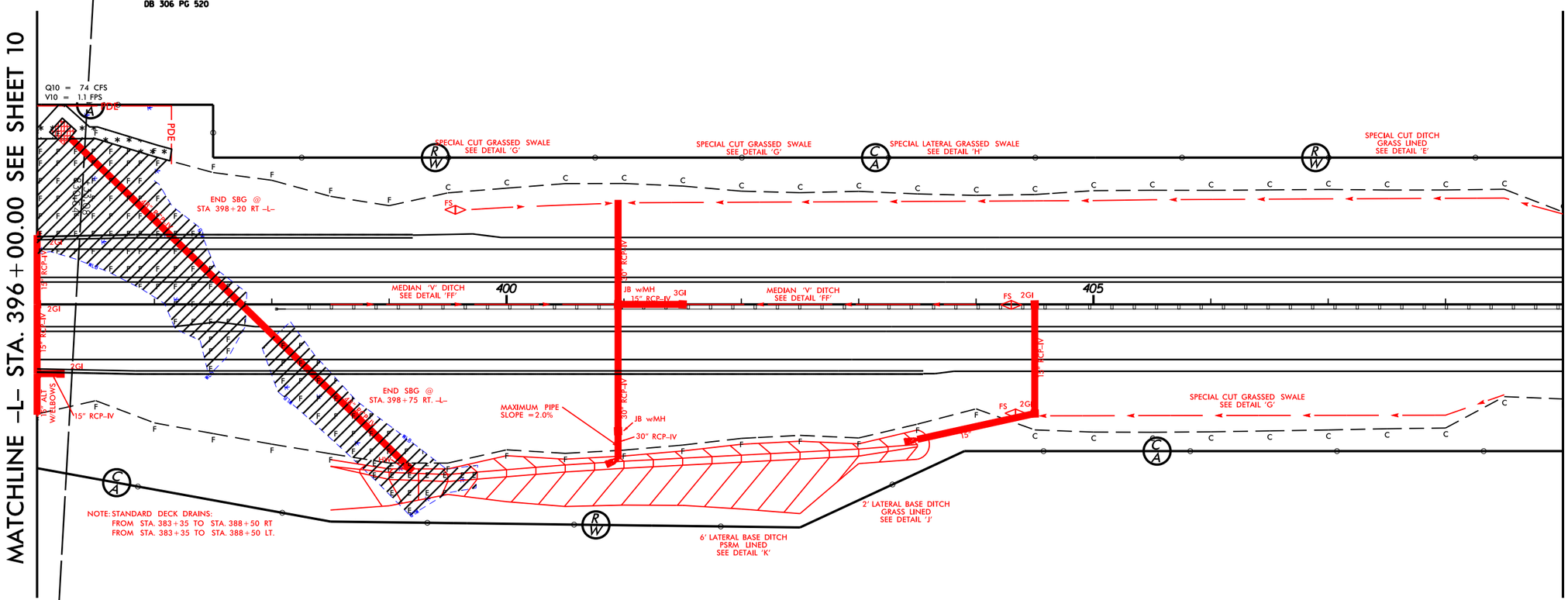
DETAIL 'FF'
MEDIAN 'V' DITCH
(Not to Scale)



FROM STA. 398+50 TO STA. 401+50 –L–
FROM STA. 401+50 TO STA. 404+00 –L–

(56)
THOMAS B. MOORE, ET AL
DB 306 PG 520

(57)
C. E. WILLIE, SR. HEIRS
DB 110 PG 221
MB 6 PG 26



SITE 4

(57)
C. E. WILLIE, SR. HEIRS
DB 110 PG 221
MB 6 PG 26

GRAPHIC SCALE

100 50 0 100 200

F F DENOTES FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

DENOTES MECHANIZED CLEARING

SBG – "SHOULDER BERM GUTTER"

SEE SHEET 36 FOR –L– PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

8/17/99

3/5/2014
mpark
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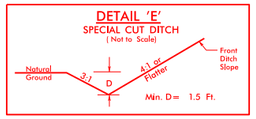

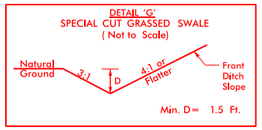

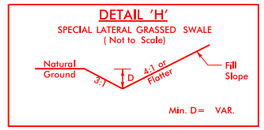

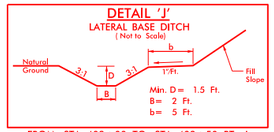

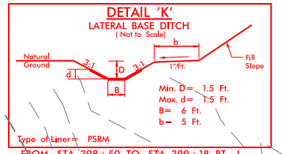

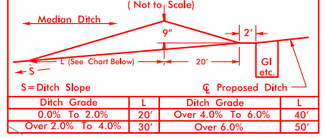

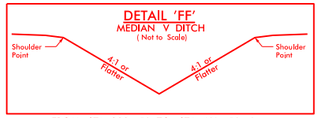

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	11

RW SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 25 OF 84

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

SITE 4

GRAPHIC SCALE

▨ F F DENOTES FILL IN WETLAND

▨ E E DENOTES EXCAVATION IN WETLAND

⁂ DENOTES MECHANIZED CLEARING

SBG – "SHOULDER BERM GUTTER"

SEE SHEET 36 FOR –L– PROFILE
SEE SHEETS S–1 THRU S–? FOR STRUCTURE PLANS

REVISIONS

8/17/99

3/5/2014
mjyork
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$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

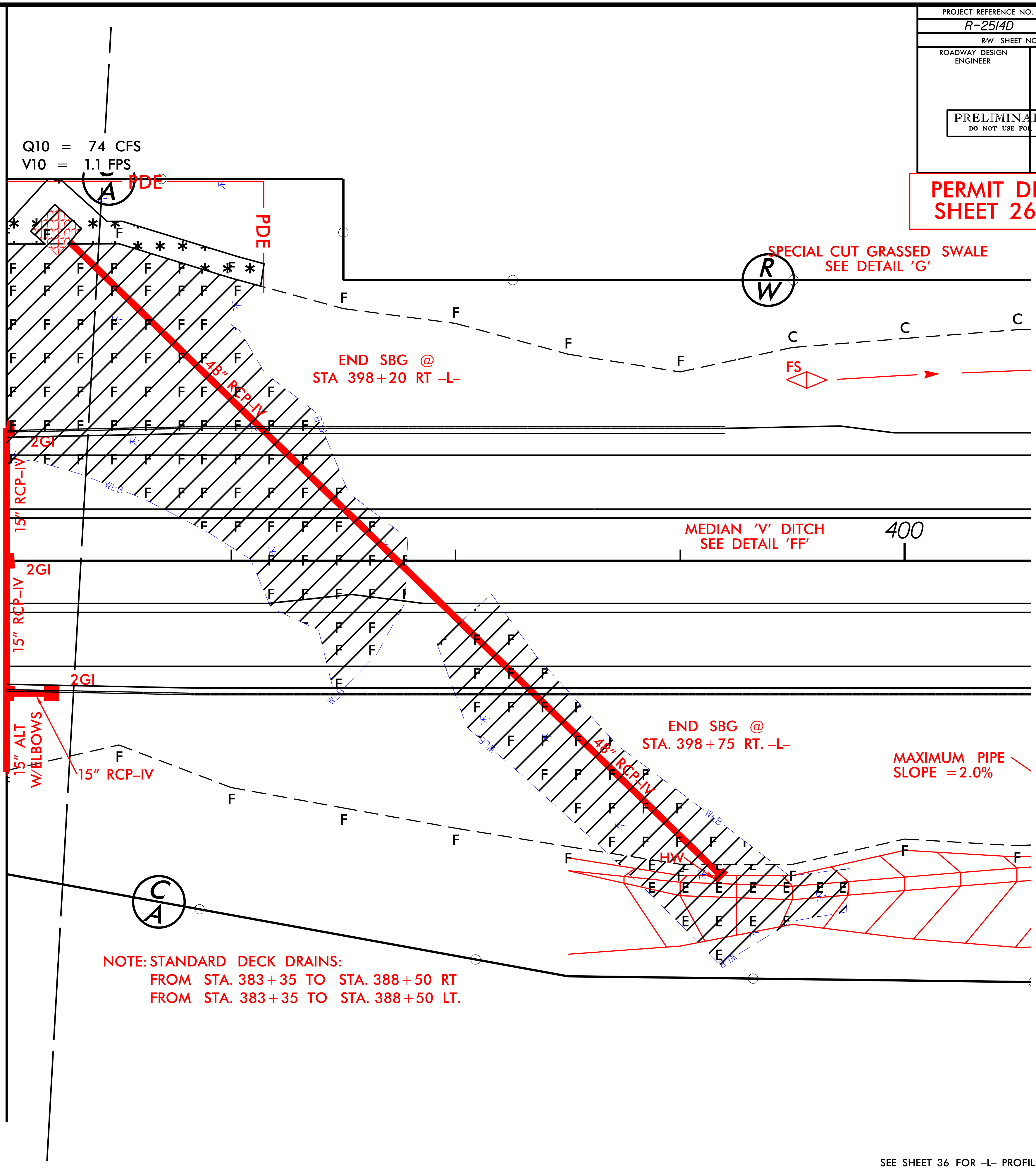
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 26 OF 84

SITE 4

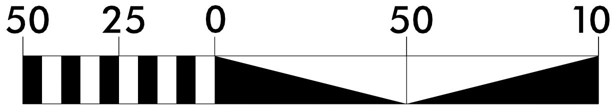
MATCHLINE -L- STA. 396+00.00 SEE SHEET 10

- ▨ F — DENOTES FILL IN WETLAND
- ▨ E — DENOTES EXCAVATION IN WETLAND
- ⁘ — DENOTES MECHANIZED CLEARING



NOTE: STANDARD DECK DRAINS:
FROM STA. 383+35 TO STA. 388+50 RT
FROM STA. 383+35 TO STA. 388+50 LT.

GRAPHIC SCALE



SBG - "SHOULDER BERM GUTTER"

SEE SHEET 36 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

8/17/99

3/5/2014
mjyork
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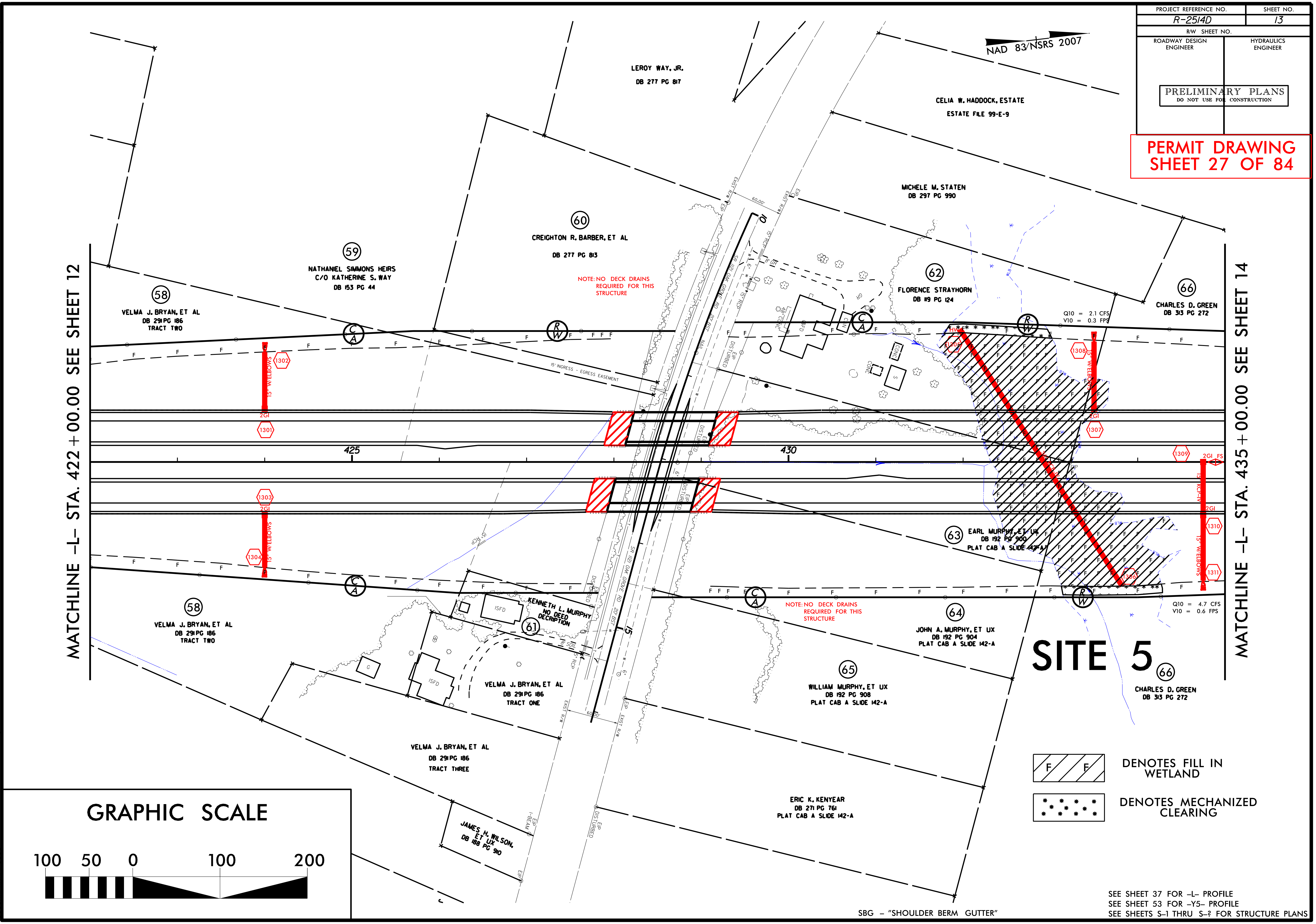
$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 27 OF 84



▨ DENOTES FILL IN WETLAND

⁘ DENOTES MECHANIZED CLEARING

SBG - "SHOULDER BERM GUTTER"

SEE SHEET 37 FOR -L- PROFILE
SEE SHEET 53 FOR -Y5- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

8/17/99

REVISIONS

3/6/2014
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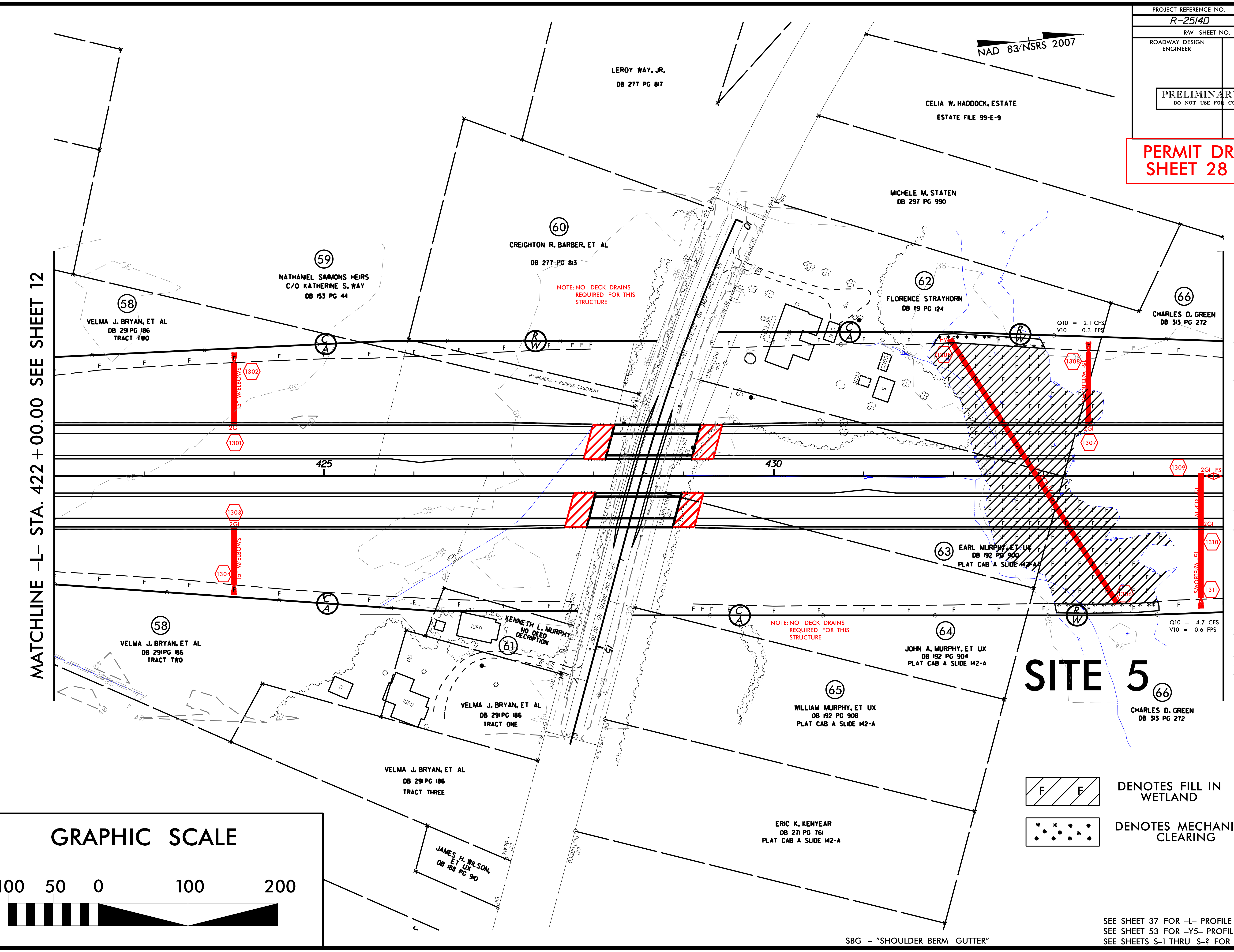
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 28 OF 84



GRAPHIC SCALE

100 50 0 100 200

▨ F F	DENOTES FILL IN WETLAND
* * *	DENOTES MECHANIZED CLEARING

SBG - "SHOULDER BERM GUTTER"

SEE SHEET 37 FOR -L- PROFILE
SEE SHEET 53 FOR -Y5- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

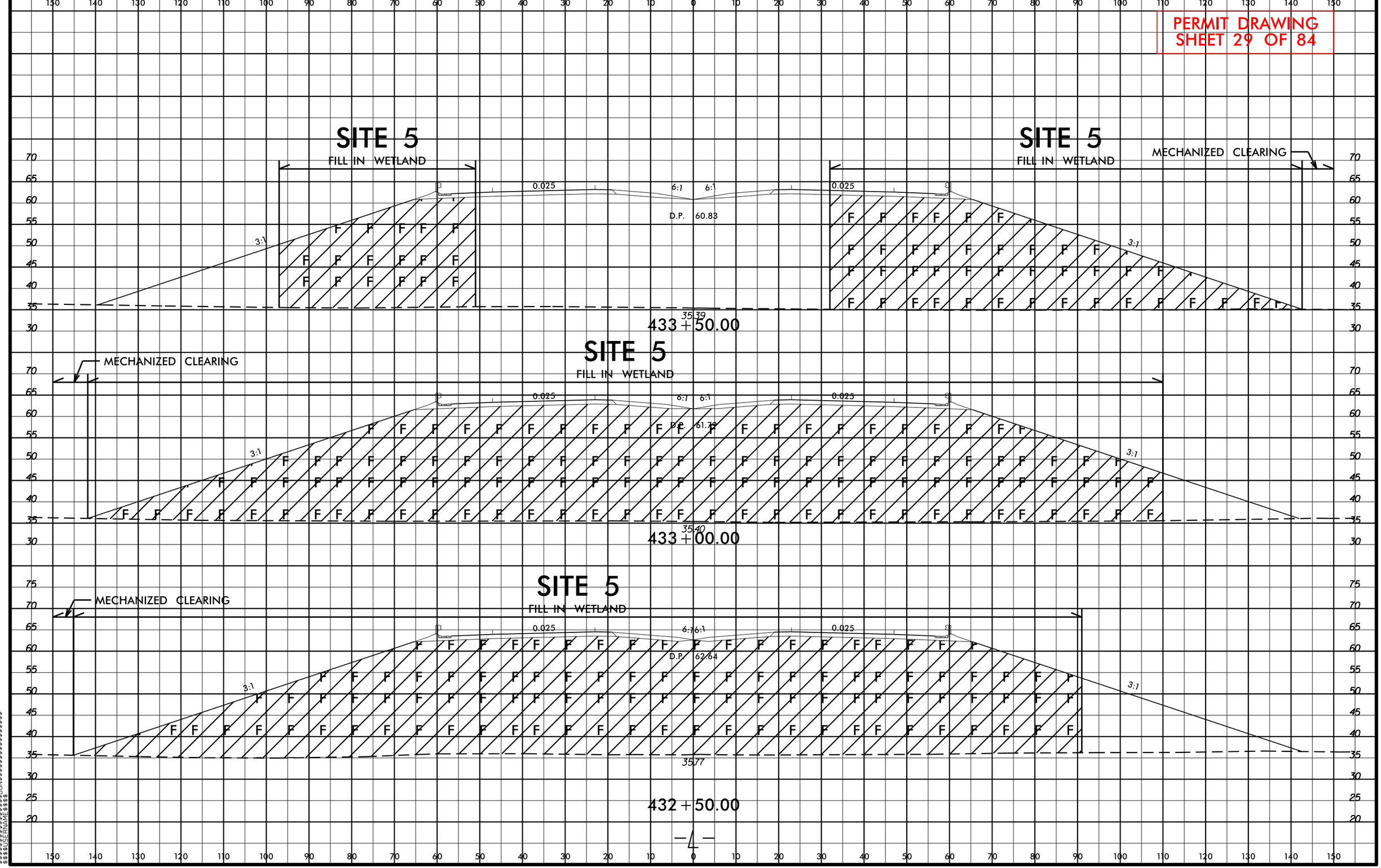
8/17/99

3/6/2014
mtyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_13_con.dgn

PROJ. REFERENCE NO.	SHEET NO.
R-2514D	X-66

0 5 10

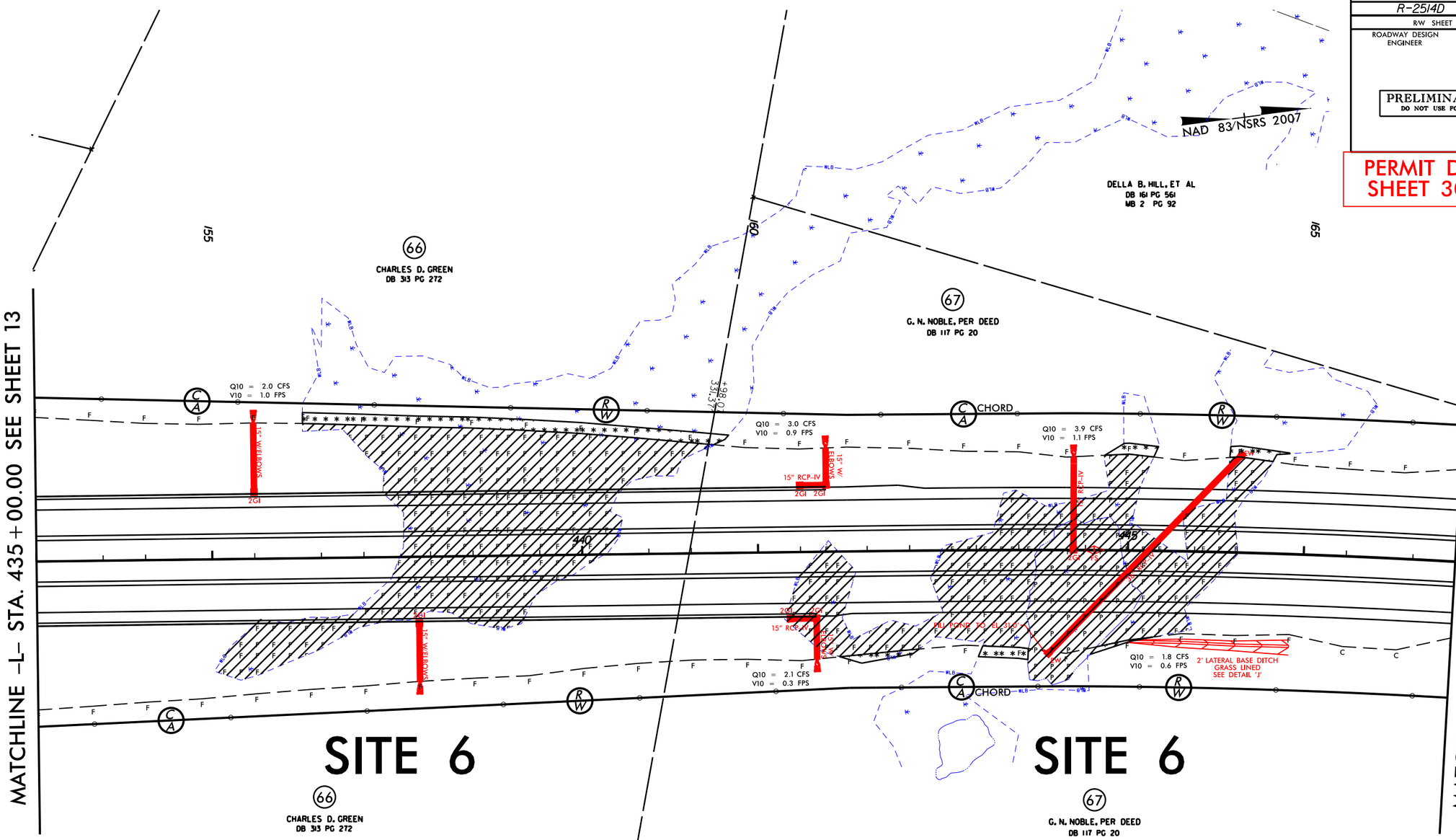
PERMIT DRAWING
SHEET 29 OF 84

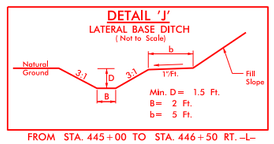


PROJECT REFERENCE NO.	SHEET NO.
R-2514D	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

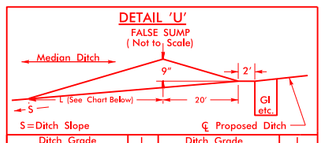
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 30 OF 84





FROM STA. 445+00 TO STA. 446+50 RT. -L-



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

F F DENOTES FILL IN WETLAND

P P DENOTES IMPACTS IN SURFACE WATER (POND)

DENOTES MECHANIZED CLEARING

GRAPHIC SCALE

100 50 0 100 200

SBG – "SHOULDER BERM GUTTER"

SEE SHEET 37 FOR -L- PROFILE

REVISIONS

8/17/99

3/6/2014
mbock
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_14.dgn
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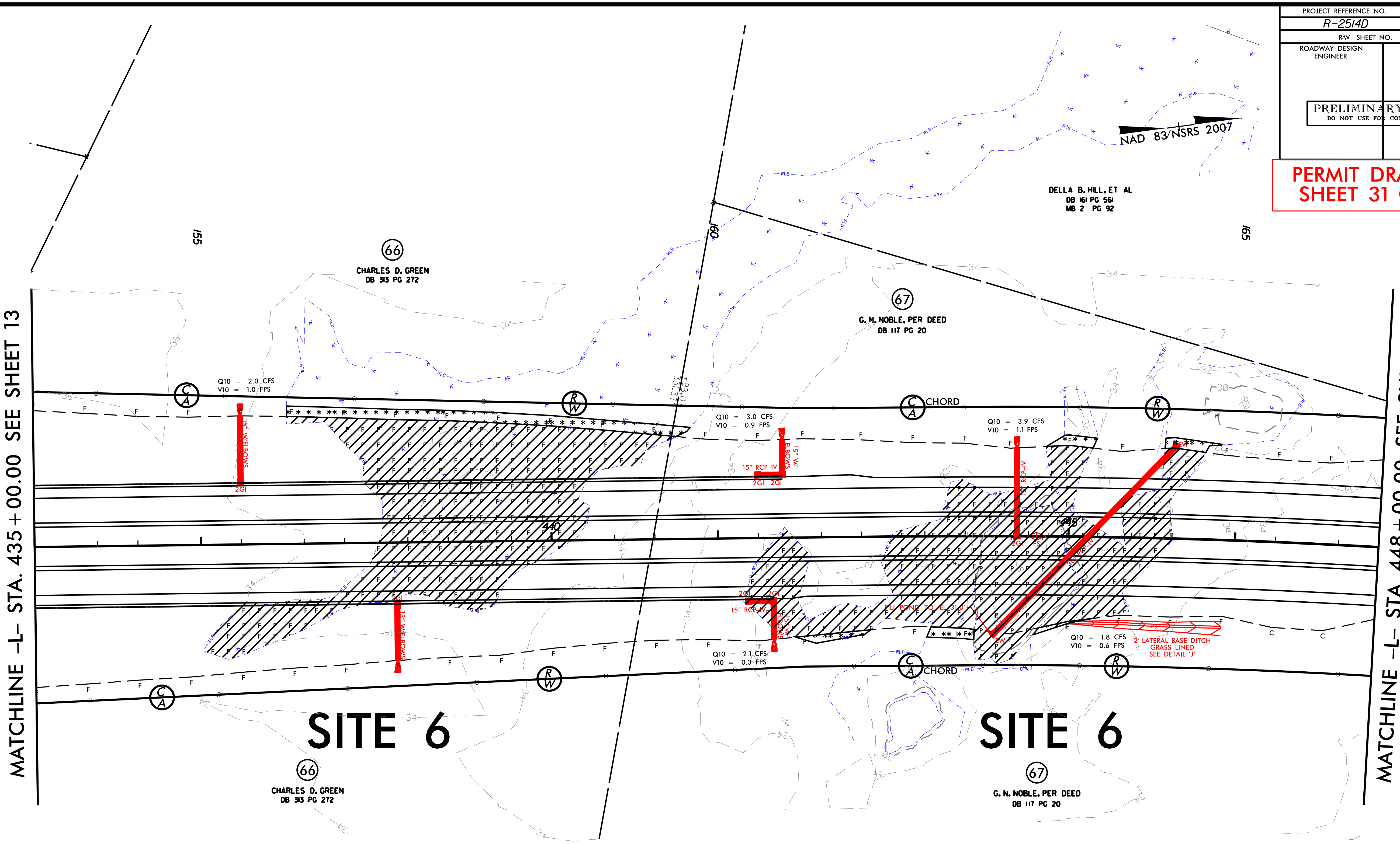
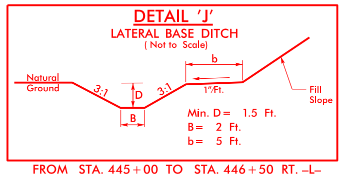
$$$$$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

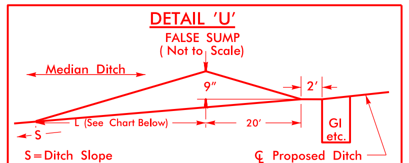
**PERMIT DRAWING
SHEET 31 OF 84**




DETAIL 'J'
LATERAL BASE DITCH
(Not to Scale)

Min. D = 1.5 Ft.
B = 2 Ft.
b = 5 Ft.

FROM STA. 445+00 TO STA. 446+50 RT. -L-


DETAIL 'U'
FALSE SUMP
(Not to Scale)

S = Ditch Slope
℄ Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

▨ F F	DENOTES FILL IN WETLAND
▨ P P	DENOTES IMPACTS IN SURFACE WATER (POND)
* * *	DENOTES MECHANIZED CLEARING

GRAPHIC SCALE

SBG - "SHOULDER BERM GUTTER"

SEE SHEET 37 FOR -L- PROFILE

REVISIONS

8/17/99

3/6/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_14_con.dgn
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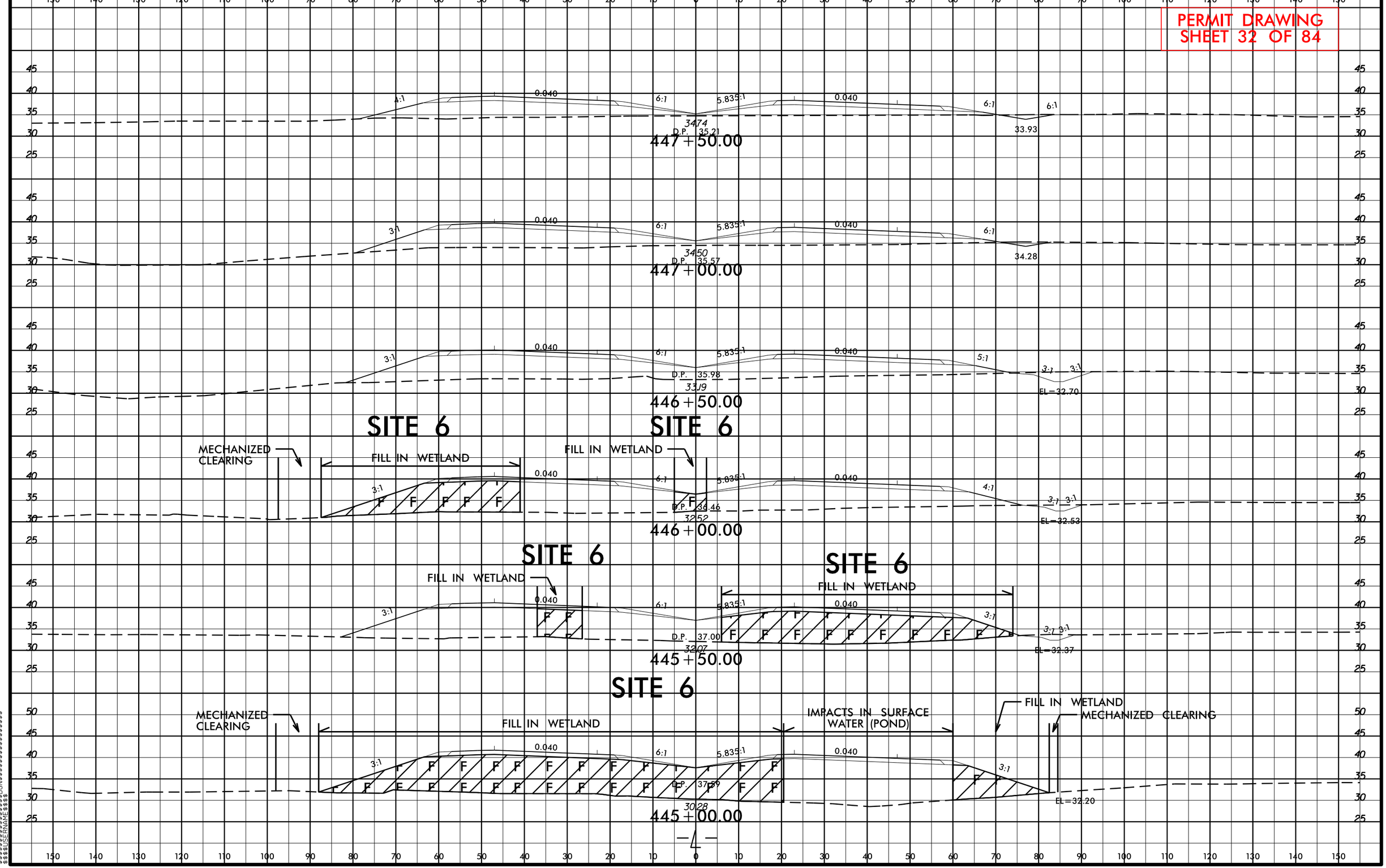
$$$$$$$$DGN$$$$$$$$$$$$$$
$$$USERNAME$$$$

PERMIT DRAWING
SHEET 32 OF 84



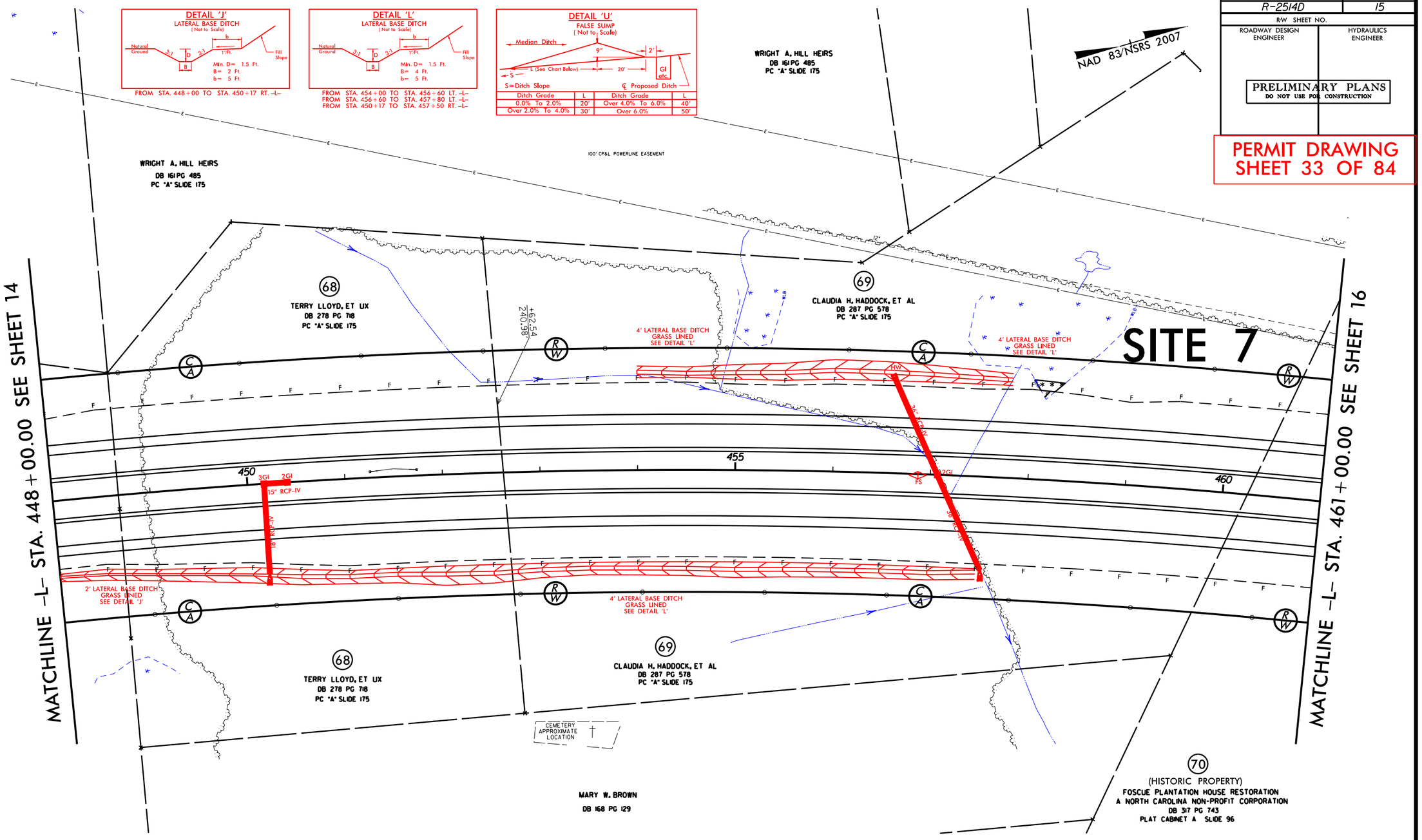
8/23/99

3/19/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_xpl_L_PART_2.dgn
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$USERNAME$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 33 OF 84



GRAPHIC SCALE

100 50 0 100 200

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

SEE SHEET FOR 38 -L- PROFILE

REVISIONS

8/17/99

2/27/2014
mjrock
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_pmt_gsh_15.dgn
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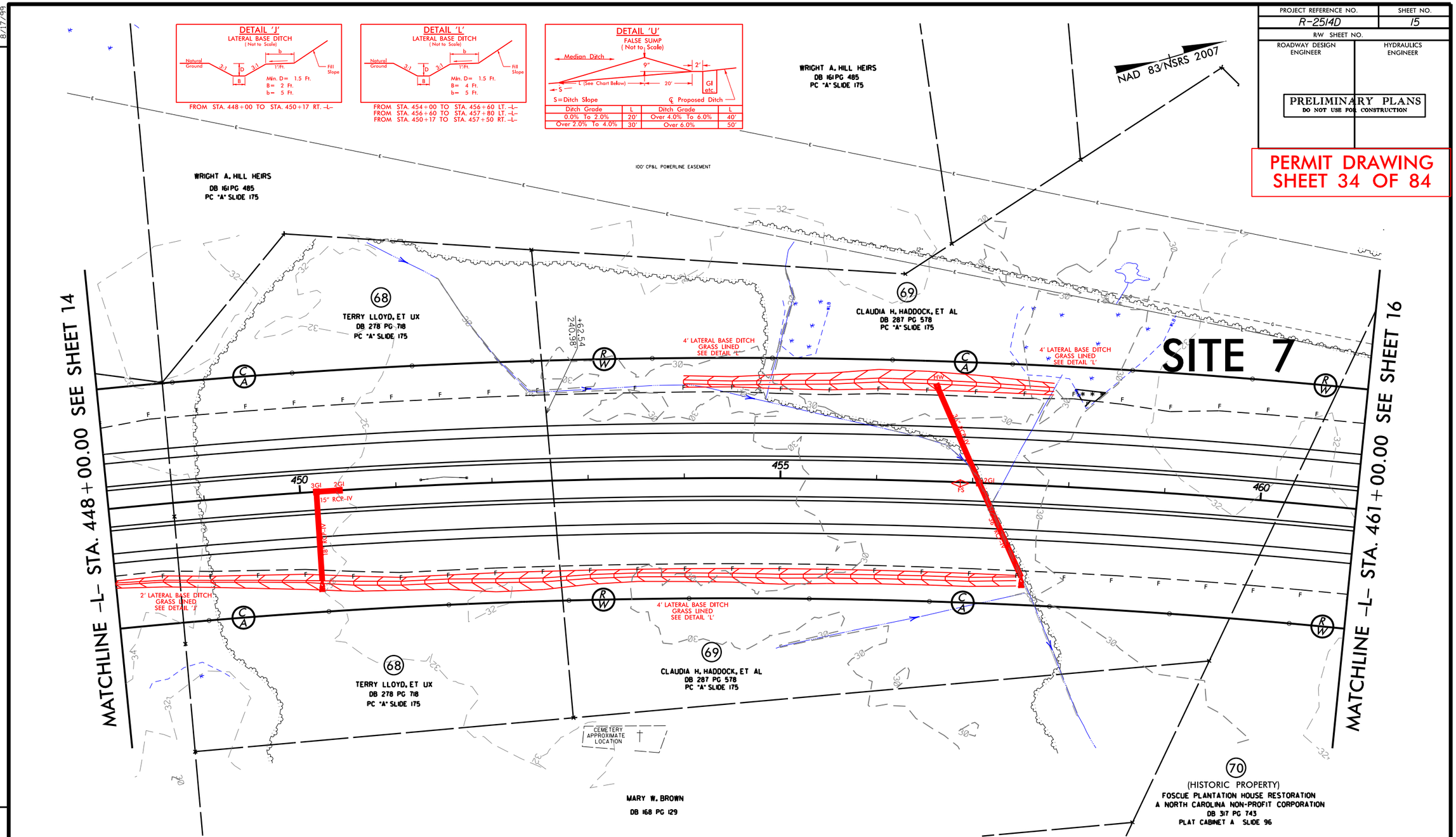
$$$$$$$$USER$$$$$$$$
$$$$$$$$DGNSETUP$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 34 OF 84



SEE SHEET FOR 38 -L- PROFILE

REVISIONS

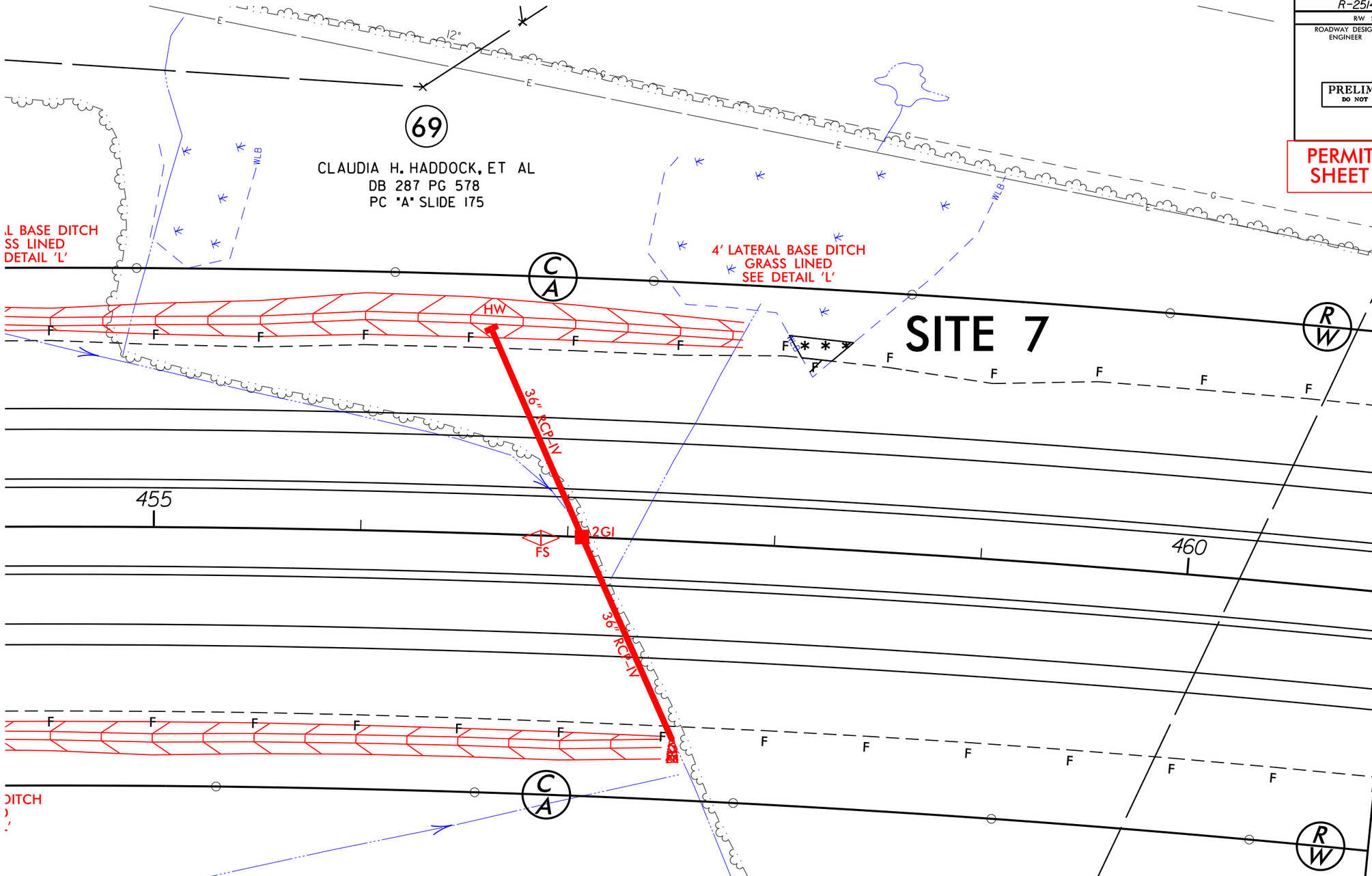
8/17/99

2/27/2014
mpeck
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_pmt_gsh_15_con.dgn
$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$USERNAME$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 35 OF 84



2/27/2014
mjyork
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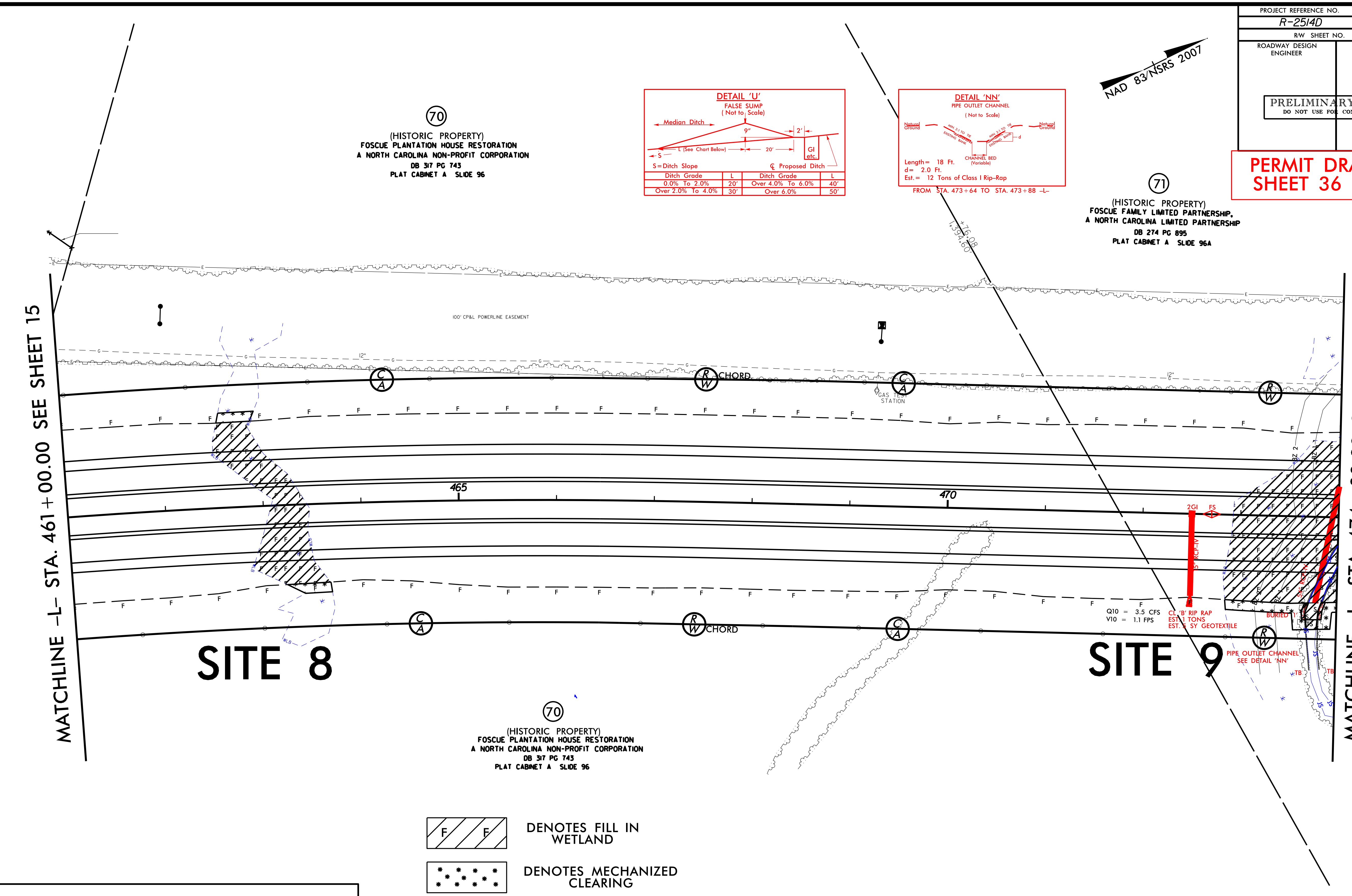
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 36 OF 84



DETAIL 'U'
FALSE SUMP
(Not to Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

DETAIL 'NN'
PIPE OUTLET CHANNEL
(Not to Scale)

Length = 18 Ft.
d = 2.0 Ft.
Est. = 12 Tons of Class I Rip–Rap
FROM STA. 473+64 TO STA. 473+88 –L–

▨ F F	DENOTES FILL IN WETLAND
* * *	DENOTES MECHANIZED CLEARING
▨ S S	DENOTES IMPACTS IN SURFACE WATER
▨ TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

GRAPHIC SCALE

SEE SHEET 38 FOR –L– PROFILE

REVISIONS

8/17/99

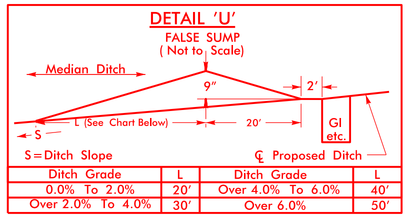
3/19/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_16.dgn
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

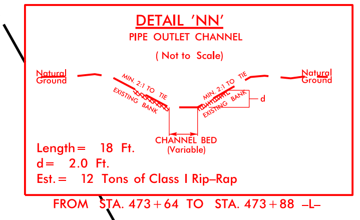
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 37 OF 84

NAD 83/NSRS 2007

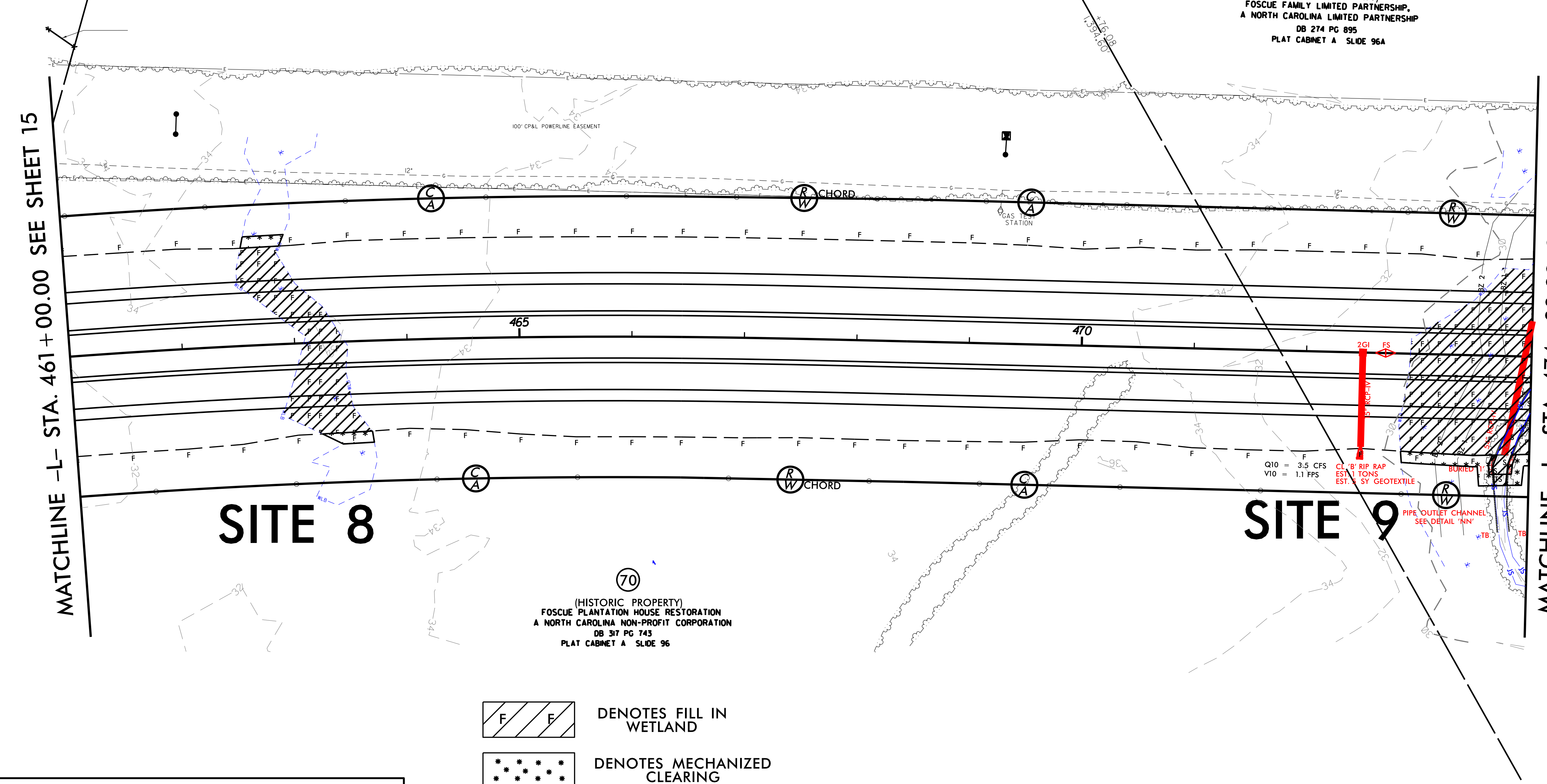


Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'



Length = 18 Ft.
d = 2.0 Ft.
Est. = 12 Tons of Class I Rip–Rap

FROM STA. 473+64 TO STA. 473+88 –L–



▨ F F DENOTES FILL IN WETLAND

⁘ DENOTES MECHANIZED CLEARING

▨ S S DENOTES IMPACTS IN SURFACE WATER

▨ TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

GRAPHIC SCALE

SEE SHEET 38 FOR –L– PROFILE

8/17/99

REVISIONS

3/19/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_16_con.dgn
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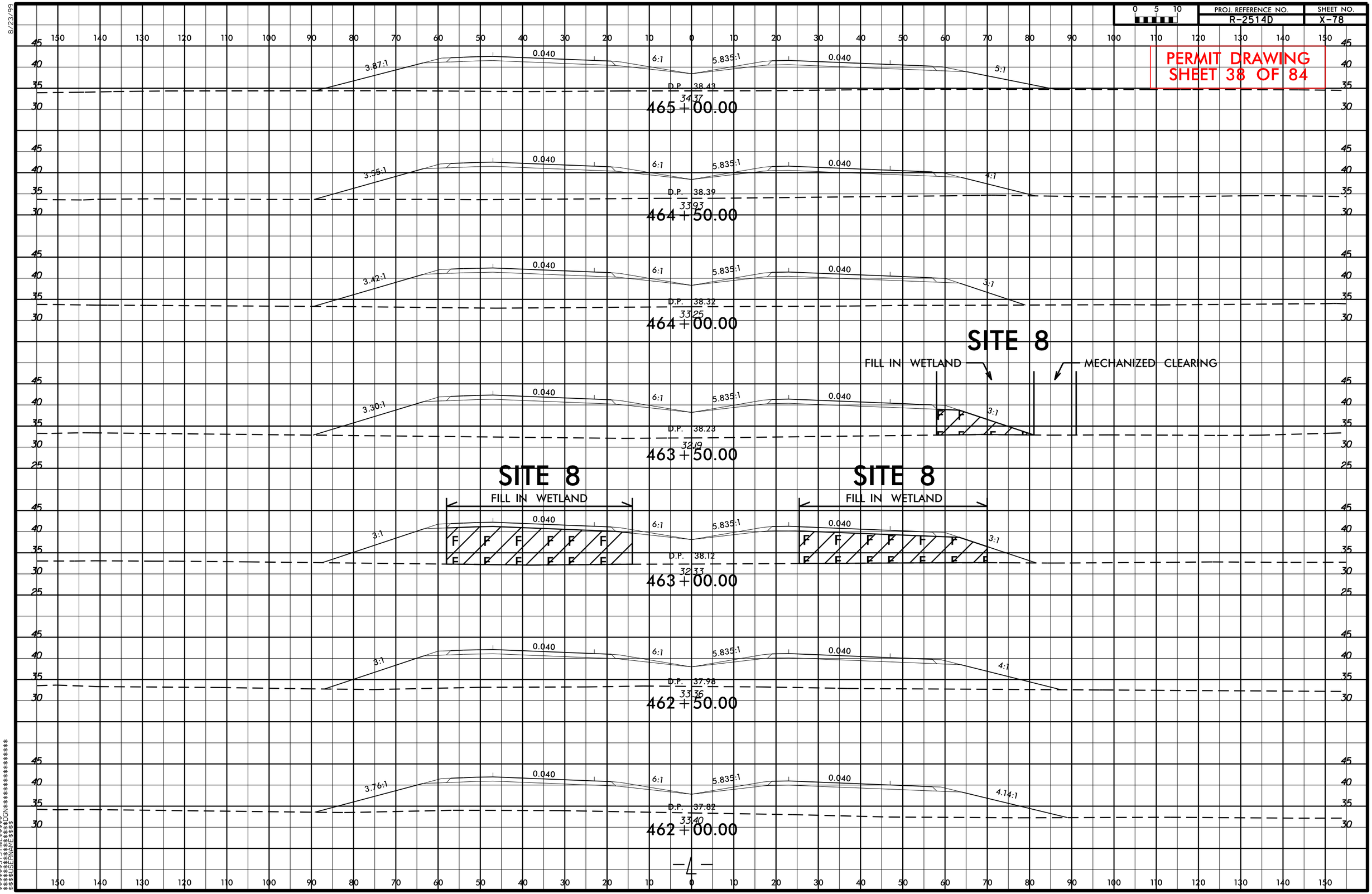
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PERMIT DRAWING
SHEET 38 OF 84



8/23/99
3/19/2014
mjyork
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$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	

R/W SHEET NO.

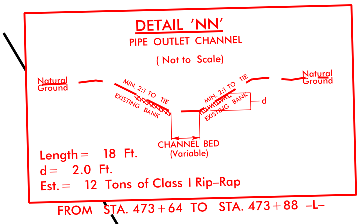
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 39 OF 84

8/17/99

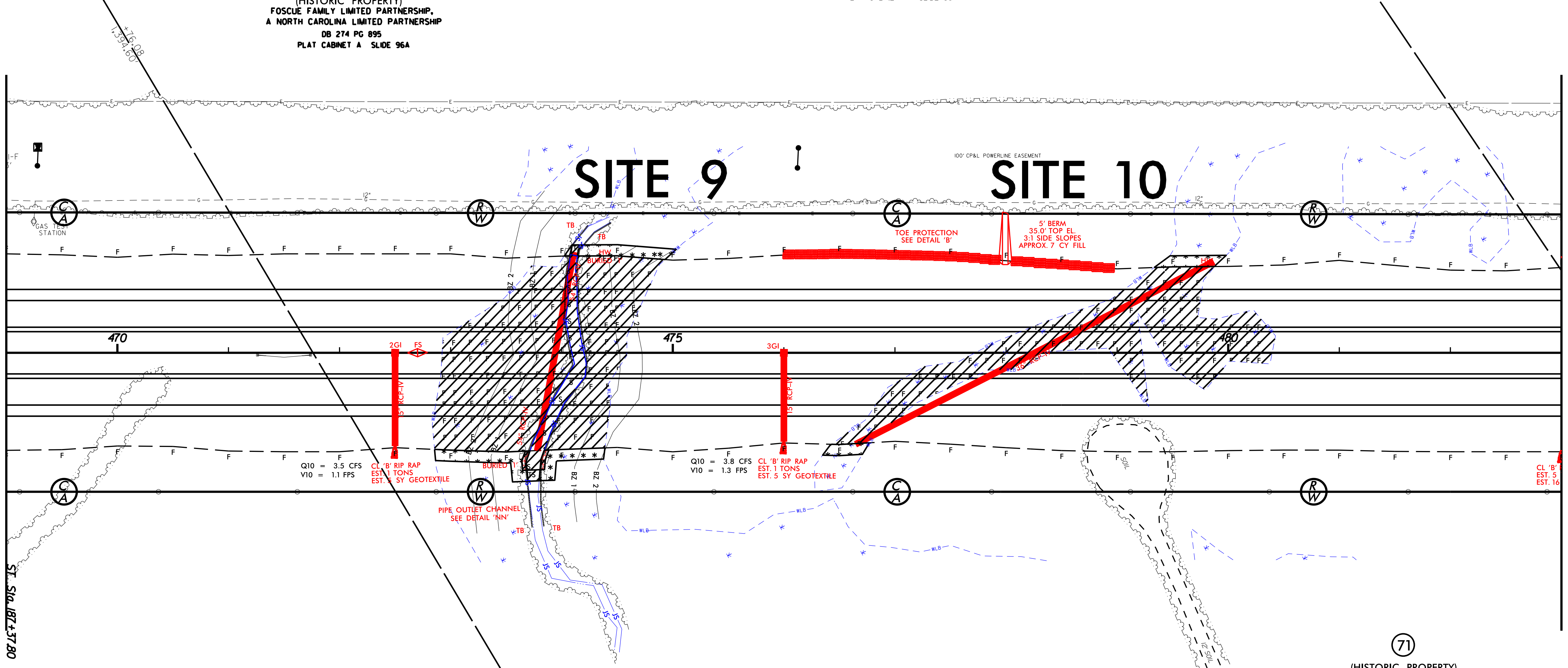
REVISIONS



DETAIL 'NN'
PIPE OUTLET CHANNEL
(Not to Scale)

Length = 18 Ft.
d = 2.0 Ft.
Est. = 12 Tons of Class I Rip-Rap

FROM STA. 473+64 TO STA. 473+88 -L-



71
(HISTORIC PROPERTY)
FOSCUE FAMILY LIMITED PARTNERSHIP,
A NORTH CAROLINA LIMITED PARTNERSHIP
DB 274 PG 895
PLAT CABINET A SLIDE 96A

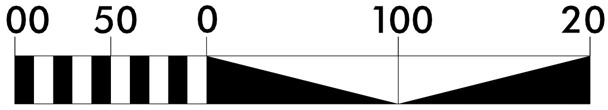
▨ DENOTES FILL IN WETLAND

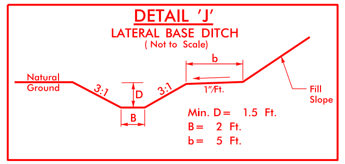
⁂ DENOTES MECHANIZED CLEARING

▨ DENOTES IMPACTS IN SURFACE WATER

▨ DENOTES TEMPORARY IMPACTS IN SURFACE WATER

GRAPHIC SCALE

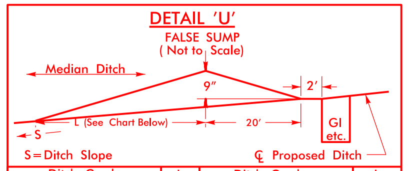




DETAIL 'J'
LATERAL BASE DITCH
(Not to Scale)

Min. D = 1.5 Ft.
B = 2 Ft.
b = 5 Ft.

FROM STA. 483+00 TO STA. 483+85 LT. -L-
FROM STA. 483+85 TO STA. 485+00 LT. -L-



DETAIL 'U'
FALSE SUMP
(Not to Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

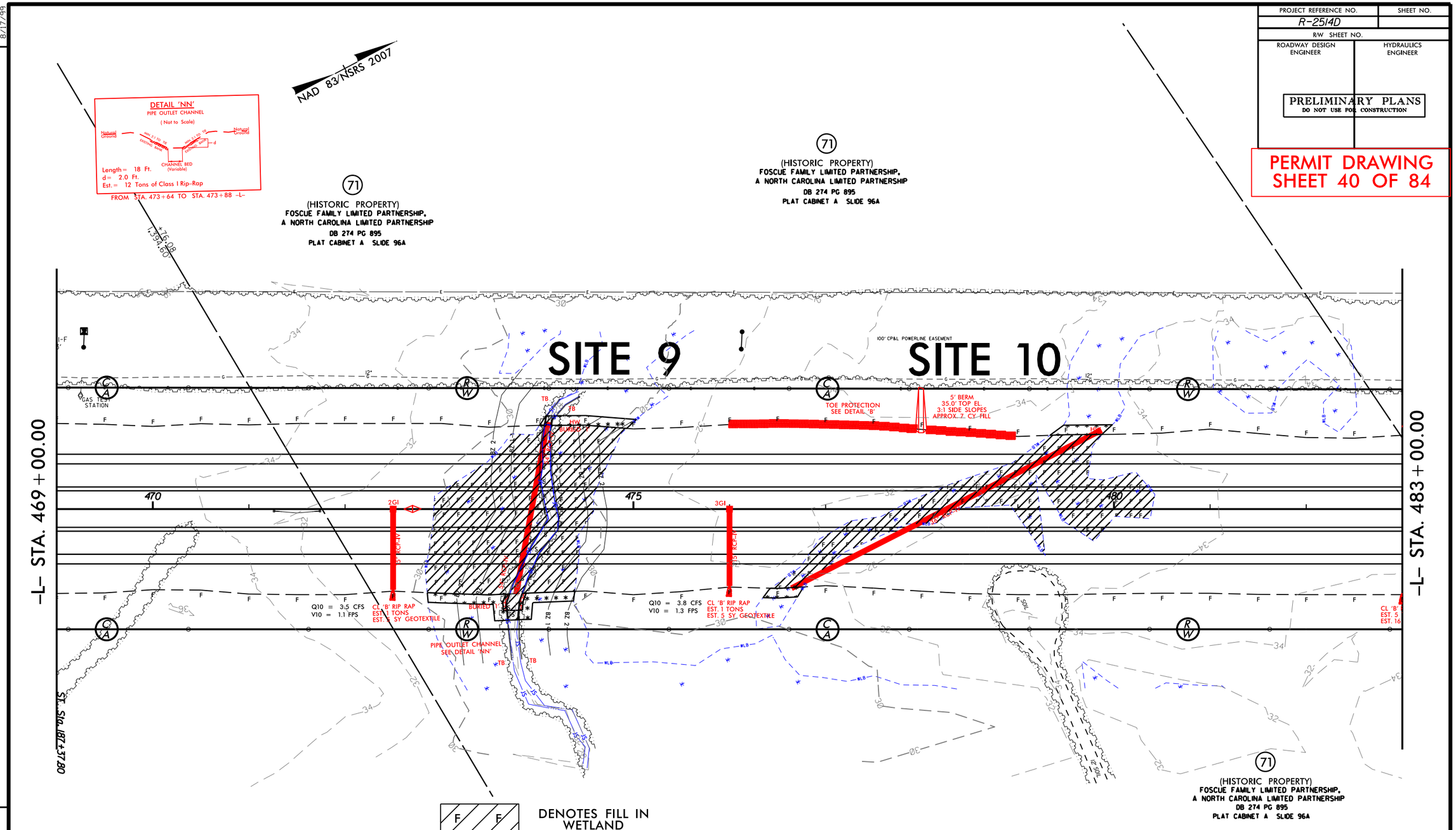
SEE SHEET 39 FOR -L- PROFILE

3/19/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_site_9-10.dgn
$$$$$$$$SYSTIME$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 40 OF 84



F F — DENOTES FILL IN WETLAND

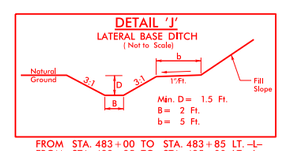
DENOTES MECHANIZED CLEARING

S S — DENOTES IMPACTS IN SURFACE WATER

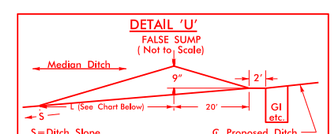
TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

GRAPHIC SCALE

100 50 0 100 200



FROM STA. 483+00 TO STA. 483+85 LT. -L-
FROM STA. 483+85 TO STA. 485+00 LT. -L-



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

SEE SHEET 39 FOR -L- PROFILE

REVISIONS

8/17/99

3/19/2014
mycot
R:\Hydraulics\PERMITS Environmental Drawings\Wetland Permit\R2514D_Hyd_prm_site_9-10_con.dgn
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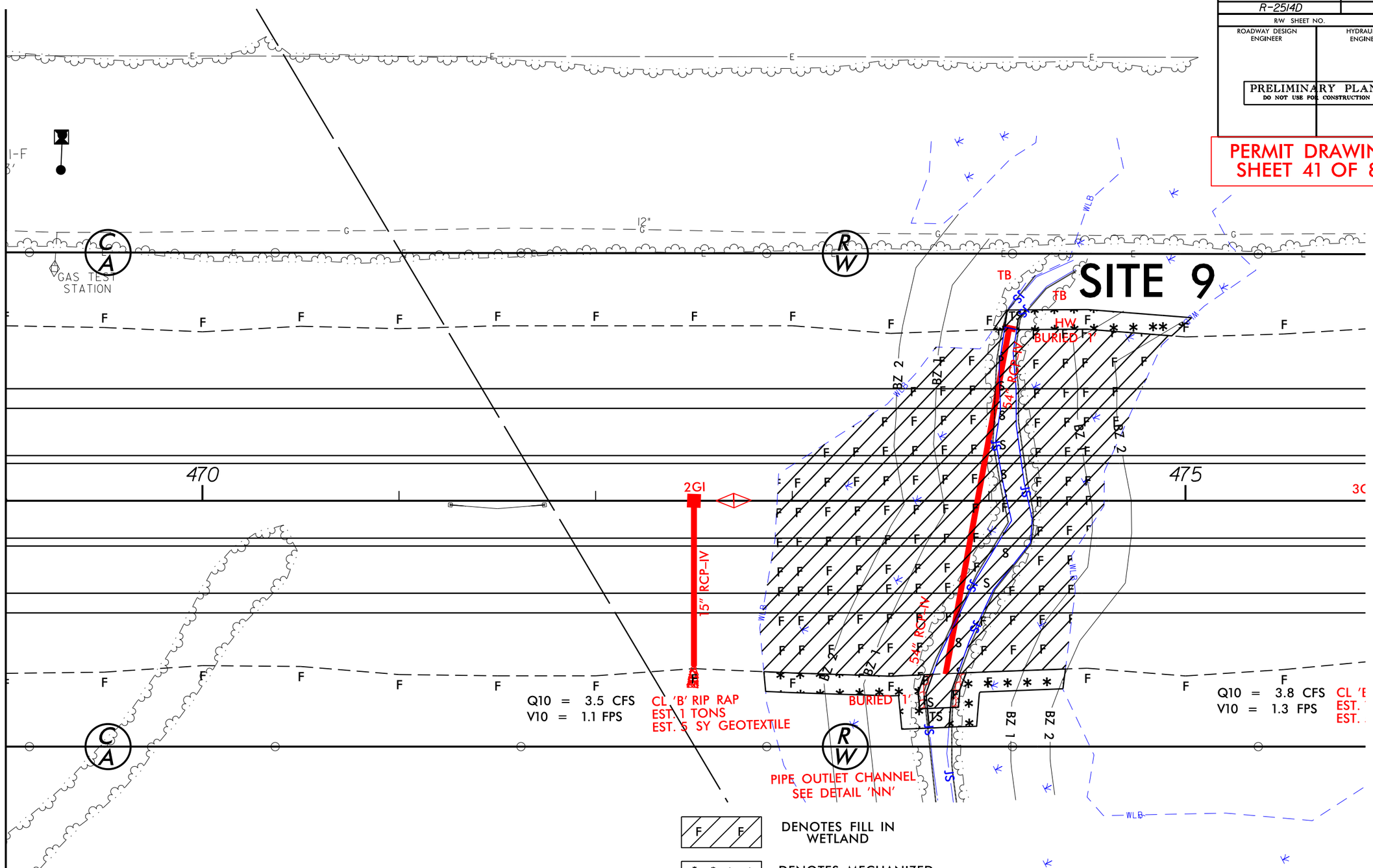
$$$$$$$$$$CTDGN$$$$$$$$$$
$$$$$$$$$$CTLENGUNIT$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 41 OF 84



REVISIONS

8/17/99

3/19/2014
myoot
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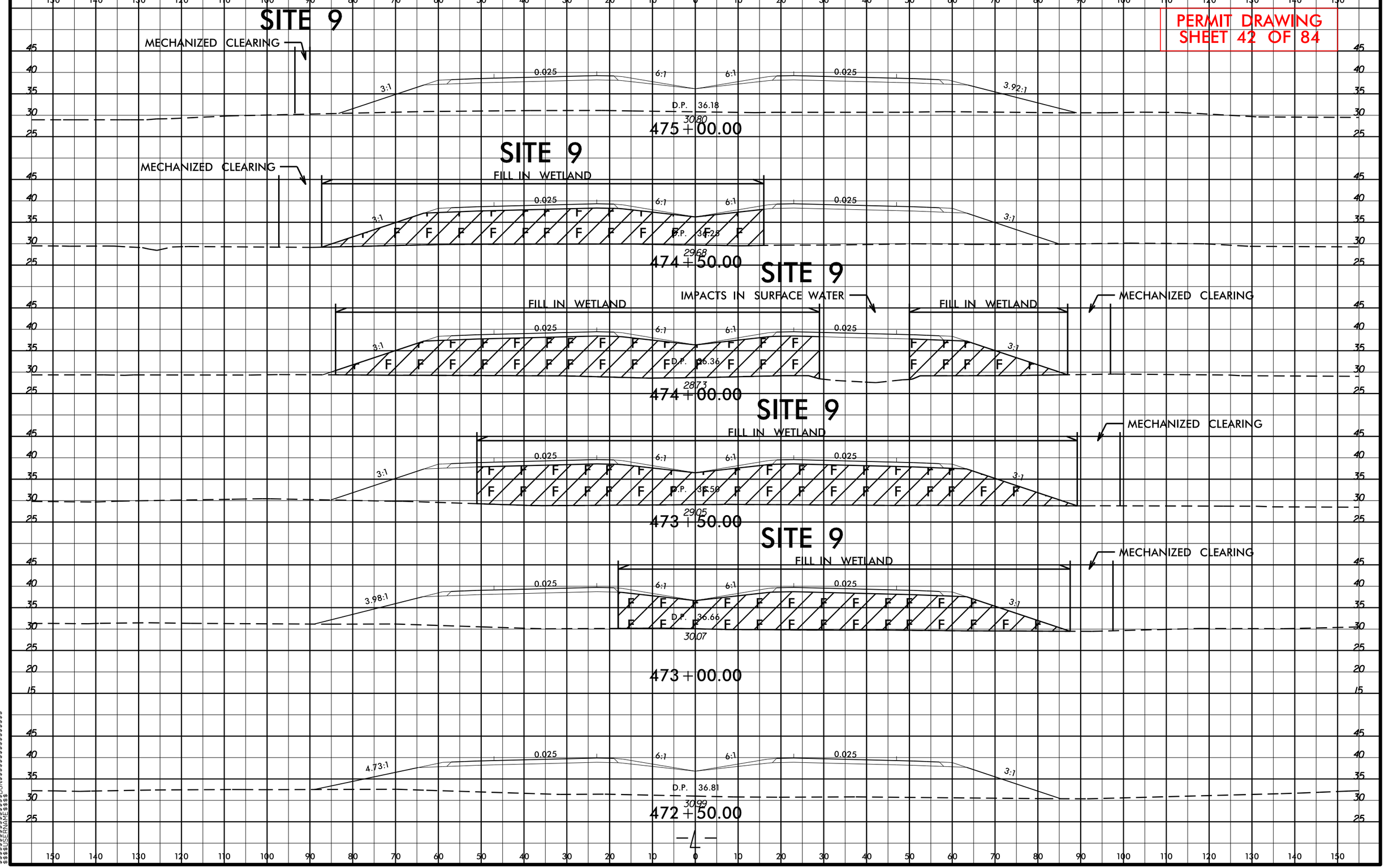
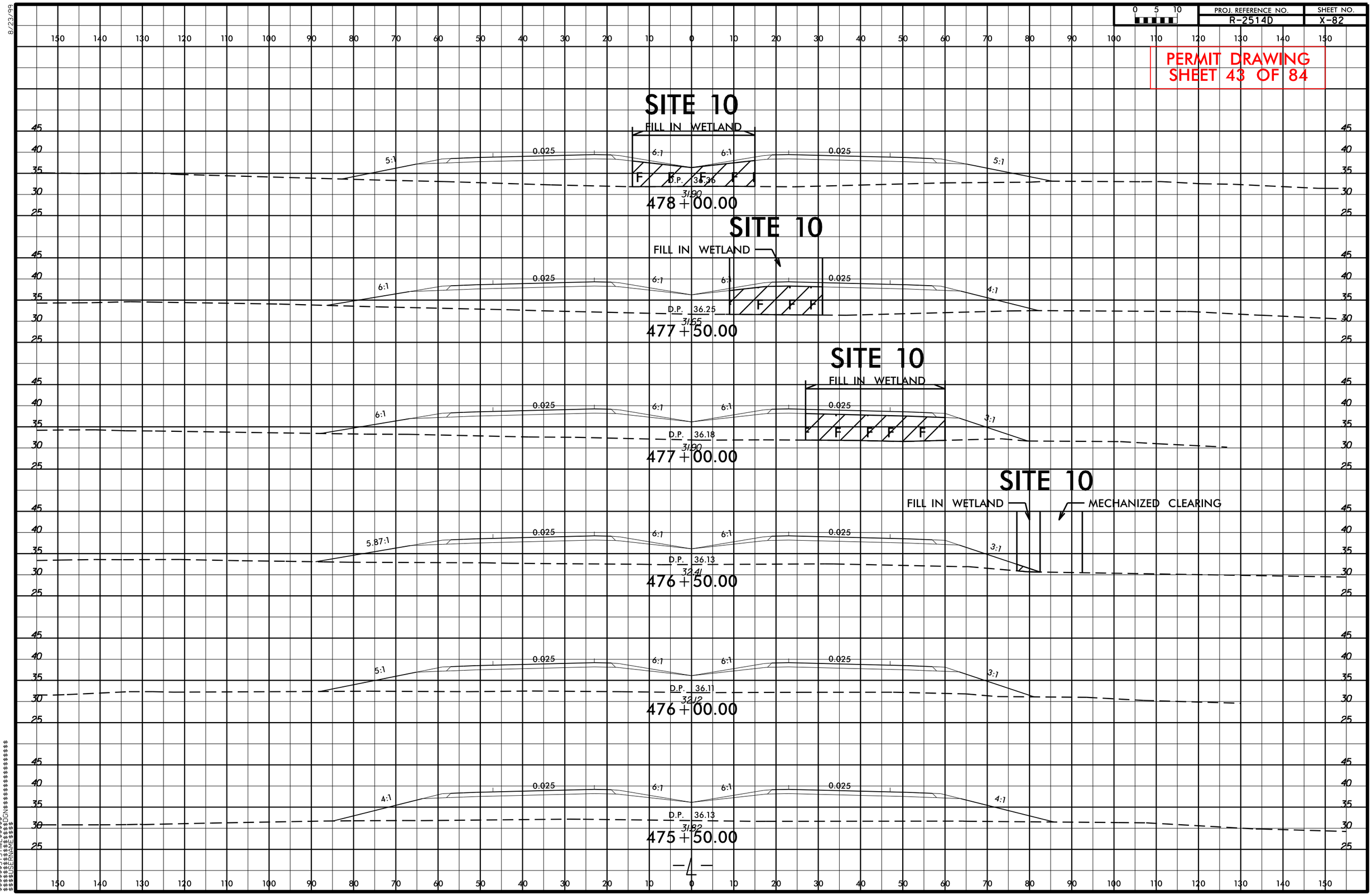
$$$$$$$$$$CTIME$$$$$$
$$$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

PERMIT DRAWING
SHEET 42 OF 84



PERMIT DRAWING
SHEET 43 OF 84



8/23/99

3/19/2014
mjyork
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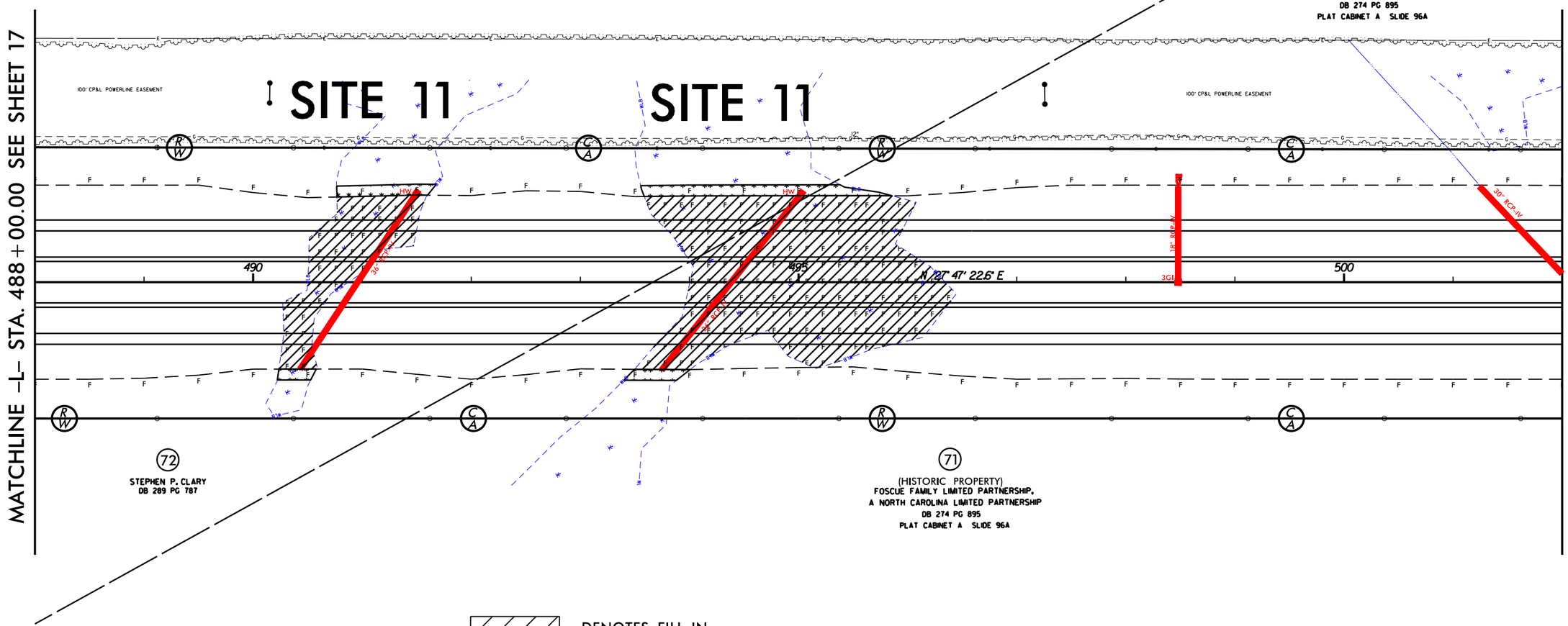
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 44 OF 84

NAD 83/NSRS 2007



F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

GRAPHIC SCALE

100 50 0 100 200

SEE SHEET 39 FOR -L- PROFILE

REVISIONS

8/17/99

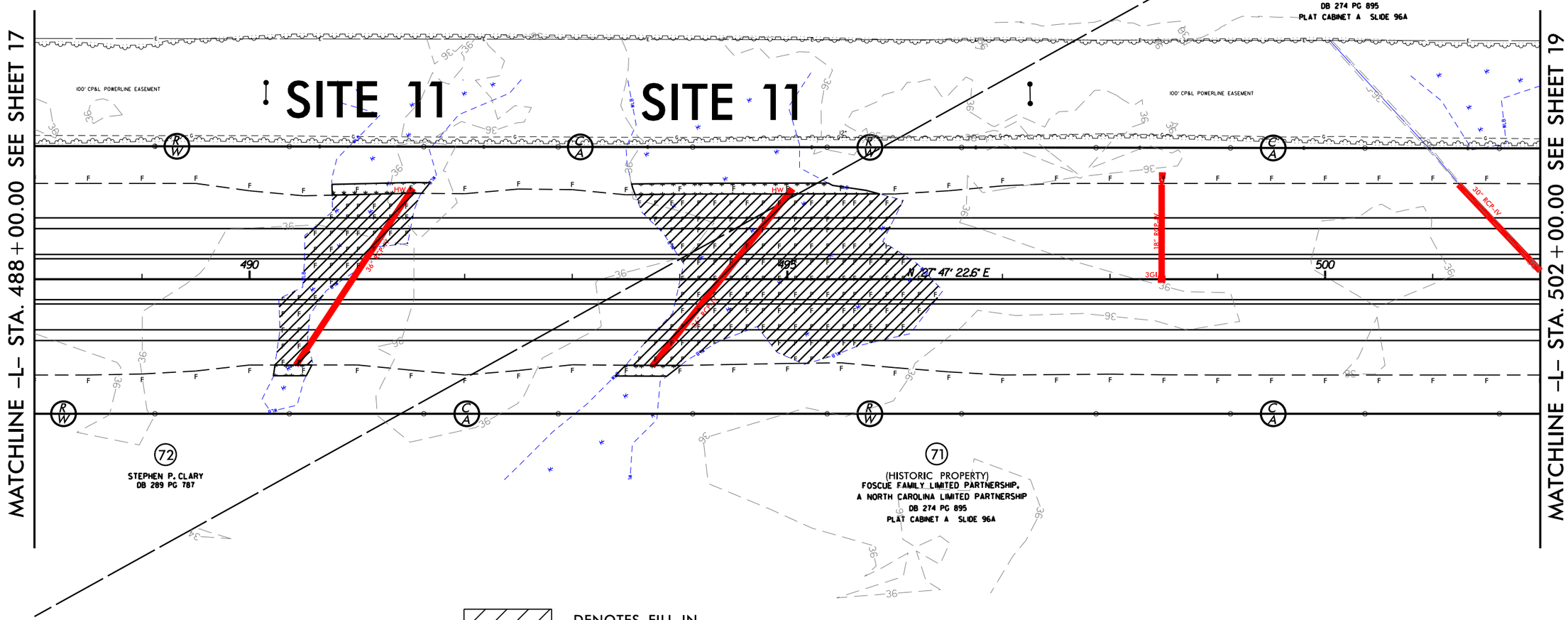
2/27/2014
mpeck
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_18.dgn
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$DGNS$$$$$$$$
$$$$$$$$$$$$$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 45 OF 84

NAD 83/NSRS 2007



F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

GRAPHIC SCALE

100 50 0 100 200

SEE SHEET 39 FOR -L- PROFILE

REVISIONS

8/17/99

2/27/2014
mlyon
n:\hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_18_con.dgn
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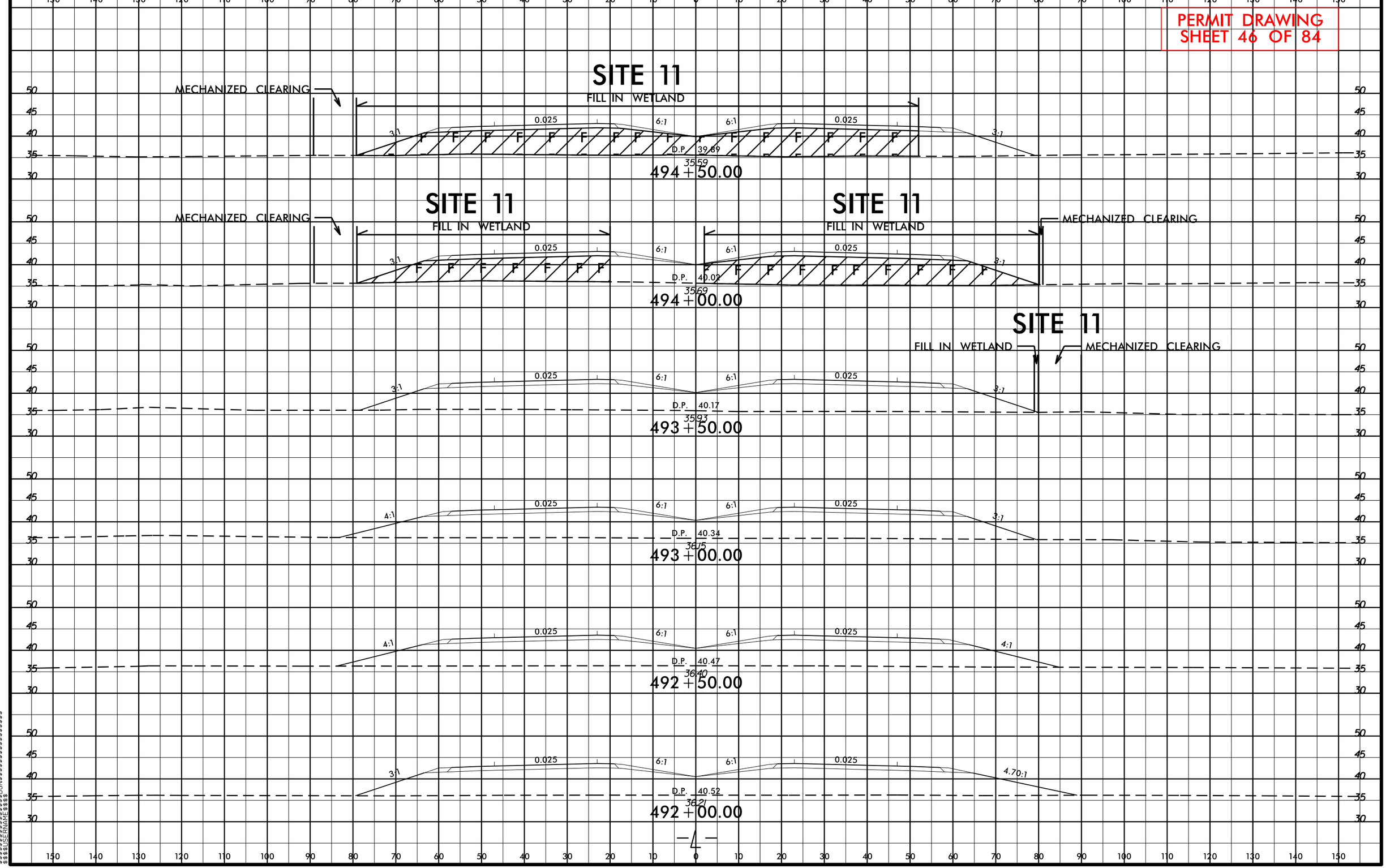
$$$$SYSTIME$$$$
$$$$DGN$$$$

PERMIT DRAWING
SHEET 46 OF 84



8/23/99

3/19/2014
mjyork
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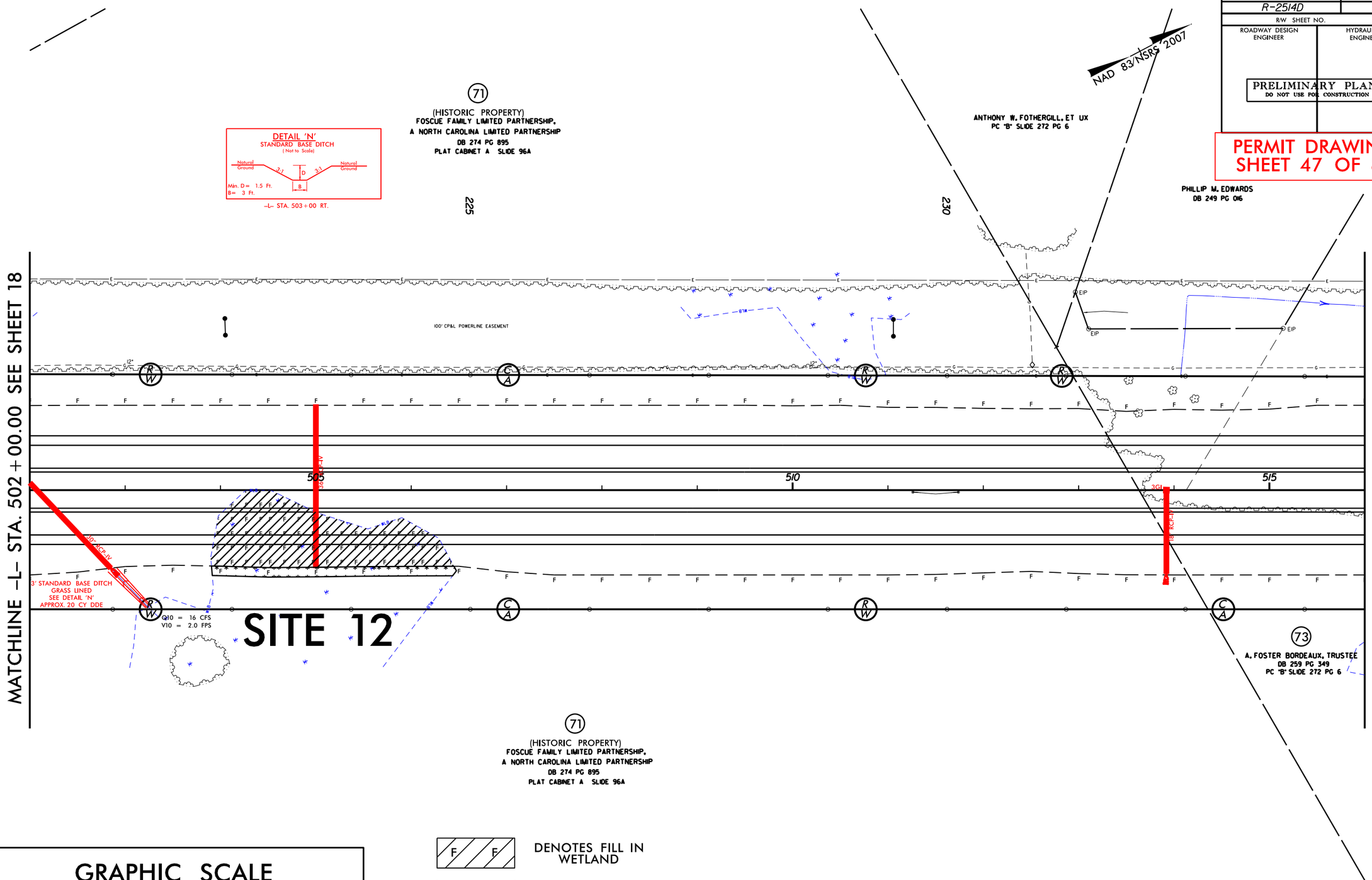
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$USERNAME$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 47 OF 84



SEE SHEET 40 FOR -L- PROFILE

REVISIONS

8/17/99

3/6/2014
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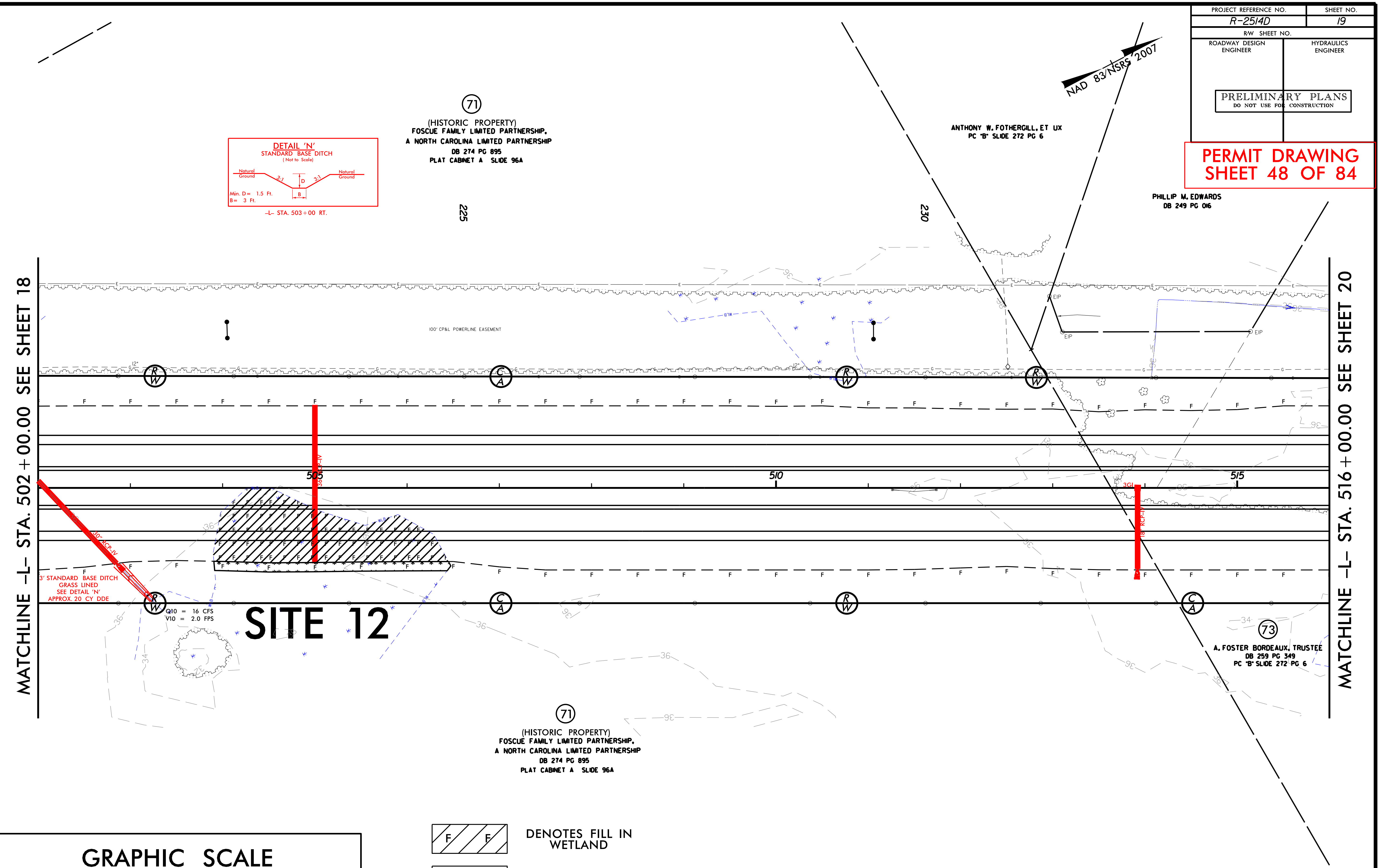
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$USER$$$$$$$$DGN$$$$$$$$$$$$
$$$$$$$$LSTEXTENT$$$$$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

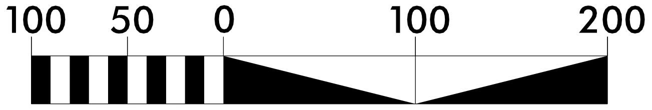
PERMIT DRAWING
SHEET 48 OF 84



▨ F DENOTES FILL IN WETLAND

* DENOTES MECHANIZED CLEARING

GRAPHIC SCALE



SEE SHEET 40 FOR -L- PROFILE

REVISIONS

8/17/99

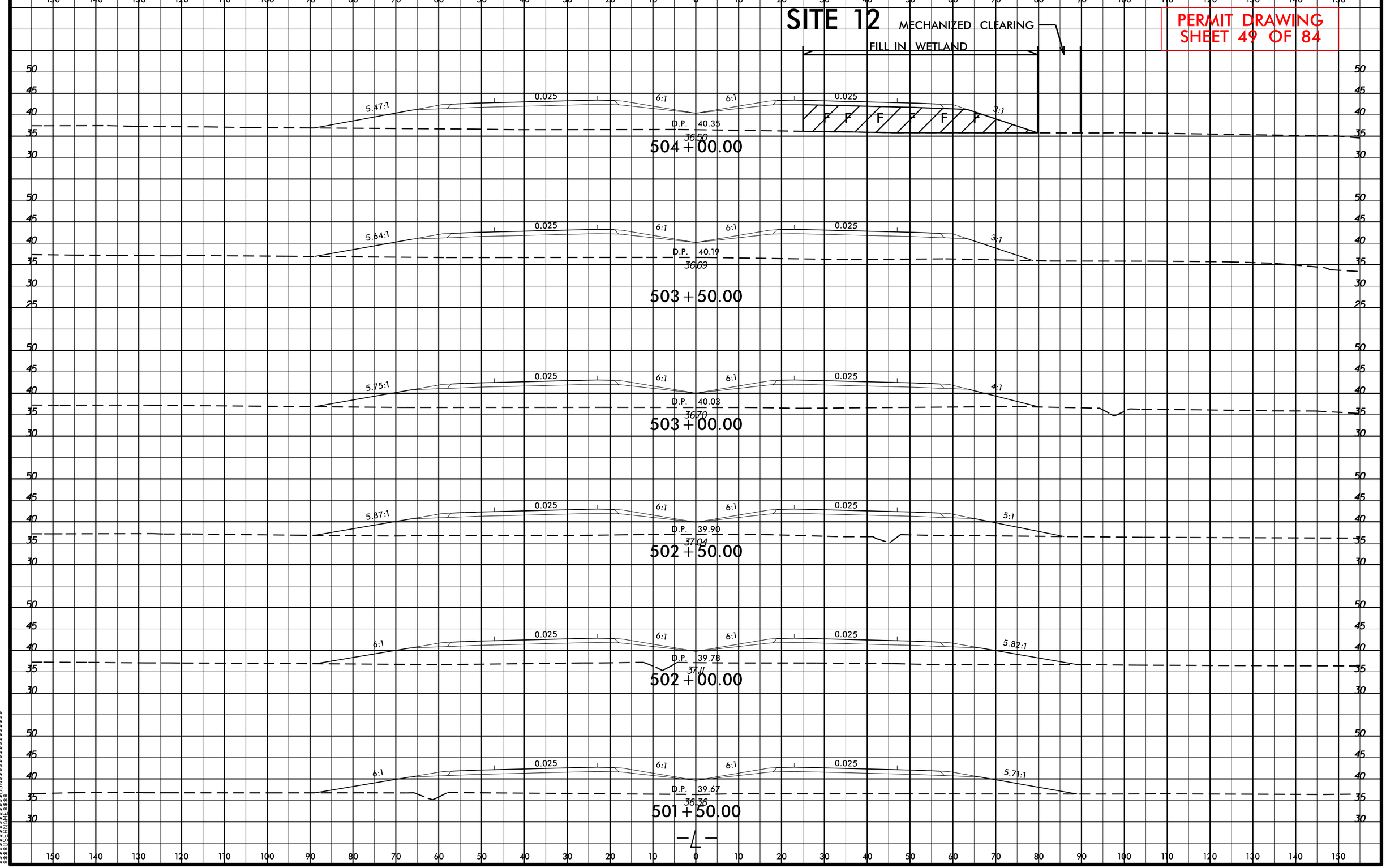
3/6/2014
mtyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_19_con.dgn
$$$$$SYSTIME$$$$$
$$$$$USERNAME$$$$$

PERMIT DRAWING
SHEET 49 OF 84

SITE 12

MECHANIZED CLEARING

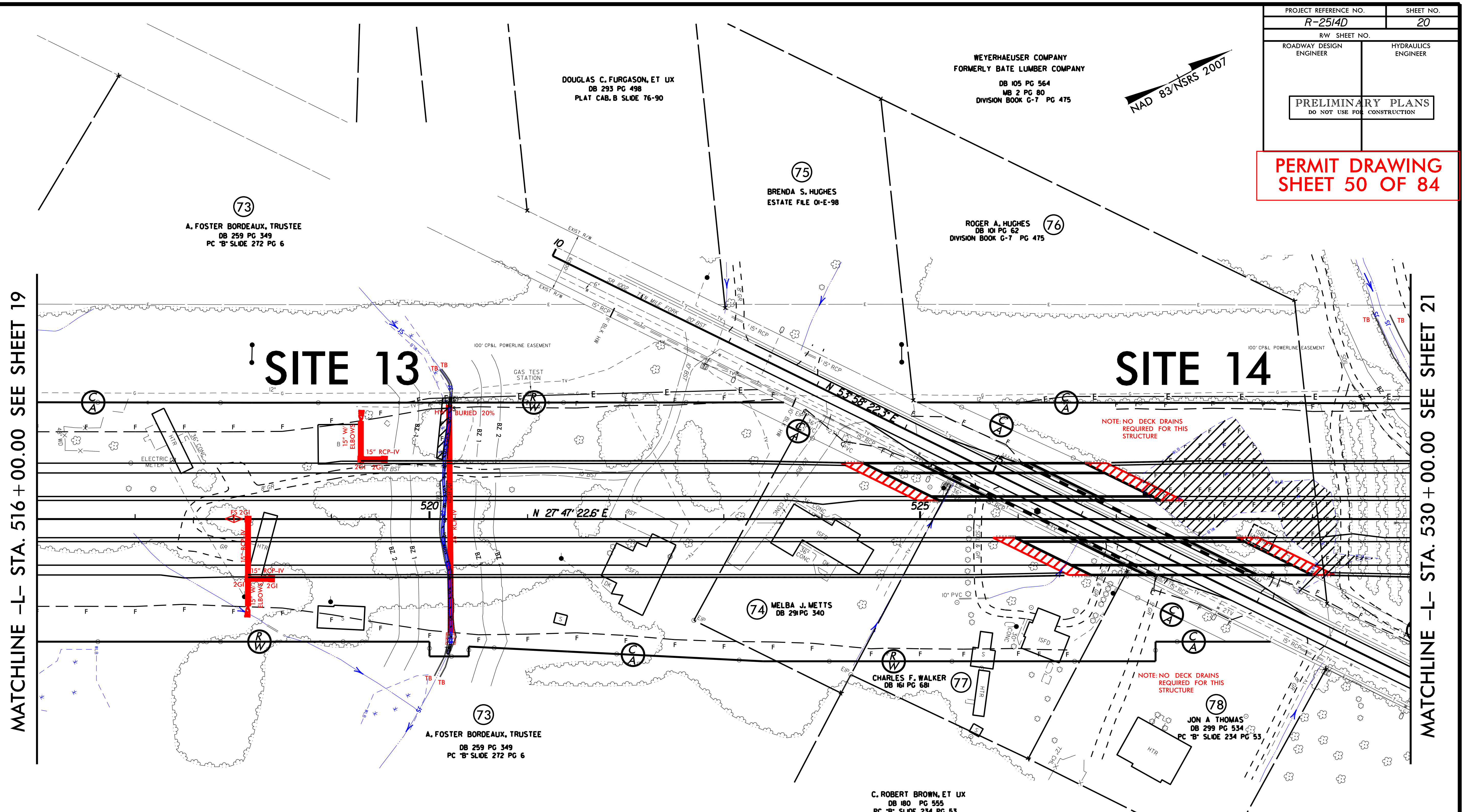
FILL IN WETLAND

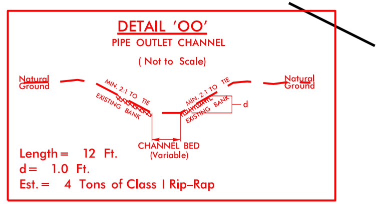


PROJECT REFERENCE NO.	SHEET NO.
R-2514D	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 50 OF 84





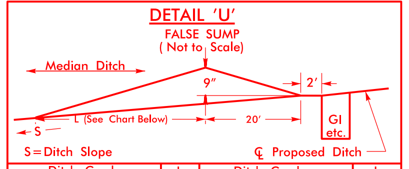
DETAIL 'OO'

PIPE OUTLET CHANNEL

(Not to Scale)

Length = 12 Ft.
d = 1.0 Ft.
Est. = 4 Tons of Class I Rip–Rap

FROM STA. 520+16 TO STA. 520+27 –L–



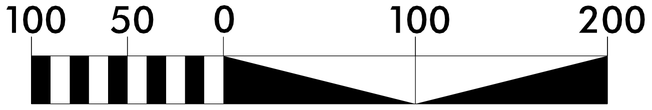
DETAIL 'U'

FALSE SUMP
(Not to Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

▨ S S	DENOTES IMPACTS IN SURFACE WATER
▨ TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
▨ F F	DENOTES FILL IN WETLAND
∴	DENOTES MECHANIZED CLEARING

GRAPHIC SCALE



SBG – "SHOULDER BERM GUTTER"
SFCB – "SINGLE FACED CONCRETE BARRIER"

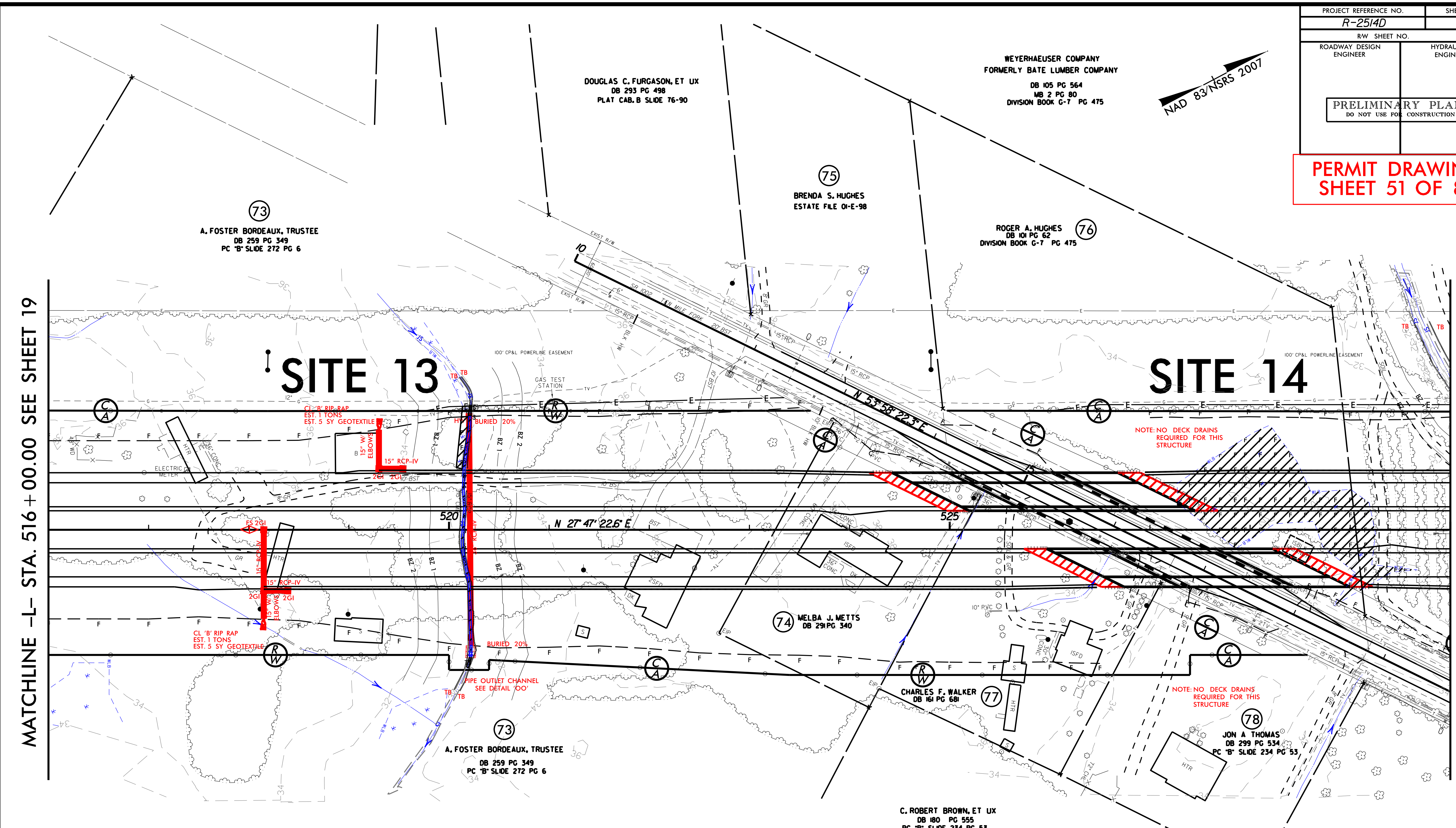
SEE SHEET 40 FOR -L- PROFILE
SEE SHEET 53 FOR -Y6- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

4/16/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_20.dgn
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 51 OF 84



STEPHANIE S. KEECH
DB 226 PG 645
PC "B" SLIDE 234 PG 53

C. ROBERT BROWN, ET UX
DB 186 PG 906
PC "B" SLIDE 234 PG 53

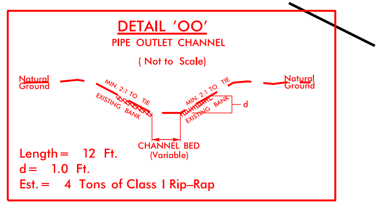
▨ S S — DENOTES IMPACTS IN SURFACE WATER

▨ TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

▨ F F — DENOTES FILL IN WETLAND

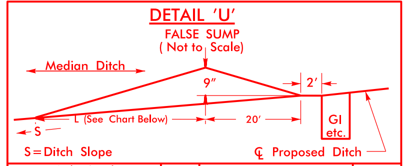
⁘ — DENOTES MECHANIZED CLEARING

GRAPHIC SCALE



Length = 12 Ft.
d = 1.0 Ft.
Est. = 4 Tons of Class I Rip–Rap

FROM STA. 520+16 TO STA. 520+27 -L-



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

SBG – "SHOULDER BERM GUTTER"
SFCB – "SINGLE FACED CONCRETE BARRIER"

SEE SHEET 40 FOR -L- PROFILE
SEE SHEET 53 FOR -Y6- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

4/16/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_20_con.dgn
$$$$$$SYSTIME$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 52 OF 84

SITE 13

MATCHLINE -L- STA. 516+00.00 SEE SHEET 19

100' CP&L POWERLINE EASEMENT

GAS TEST STATION

EXIST R/W

CL 'B' RIP RAP
EST. 1 TONS
EST. 5 SY GEOTEXTILE

HW 15" BURIED 20%

15" W/ ELBOWS

15" RCP-IV

2GI 2GI

10' BST

8' GR

ELECTRIC METER

HTR

36" CONC

48" WD

BZ 1

BZ 2

520

N 27° 47' 22.6" E

FS 2GI

15" RCP-IV

36" RCP-IV

2SFD

DK

BST

CL 'B' RIP RAP
EST. 1 TONS
EST. 5 SY GEOTEXTILE

BURIED 20%

PIPE OUTLET CHANNEL
SEE DETAIL 'OO'

S S	DENOTES IMPACTS IN SURFACE WATER
TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
F F	DENOTES FILL IN WETLAND
	DENOTES MECHANIZED CLEARING

73

A. FOSTER BORDEAUX, T

DB 259 PG 349
PC "B" SLIDE 272 PC

GRAPHIC SCALE

50 25 0 50 100

REVISIONS

8/17/99

4/6/2014
mpost
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_20X2_SITE13.dgn
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$$$$$$$$$$USER$$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$$$$$ENGINE$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	20

RW SHEET NO.

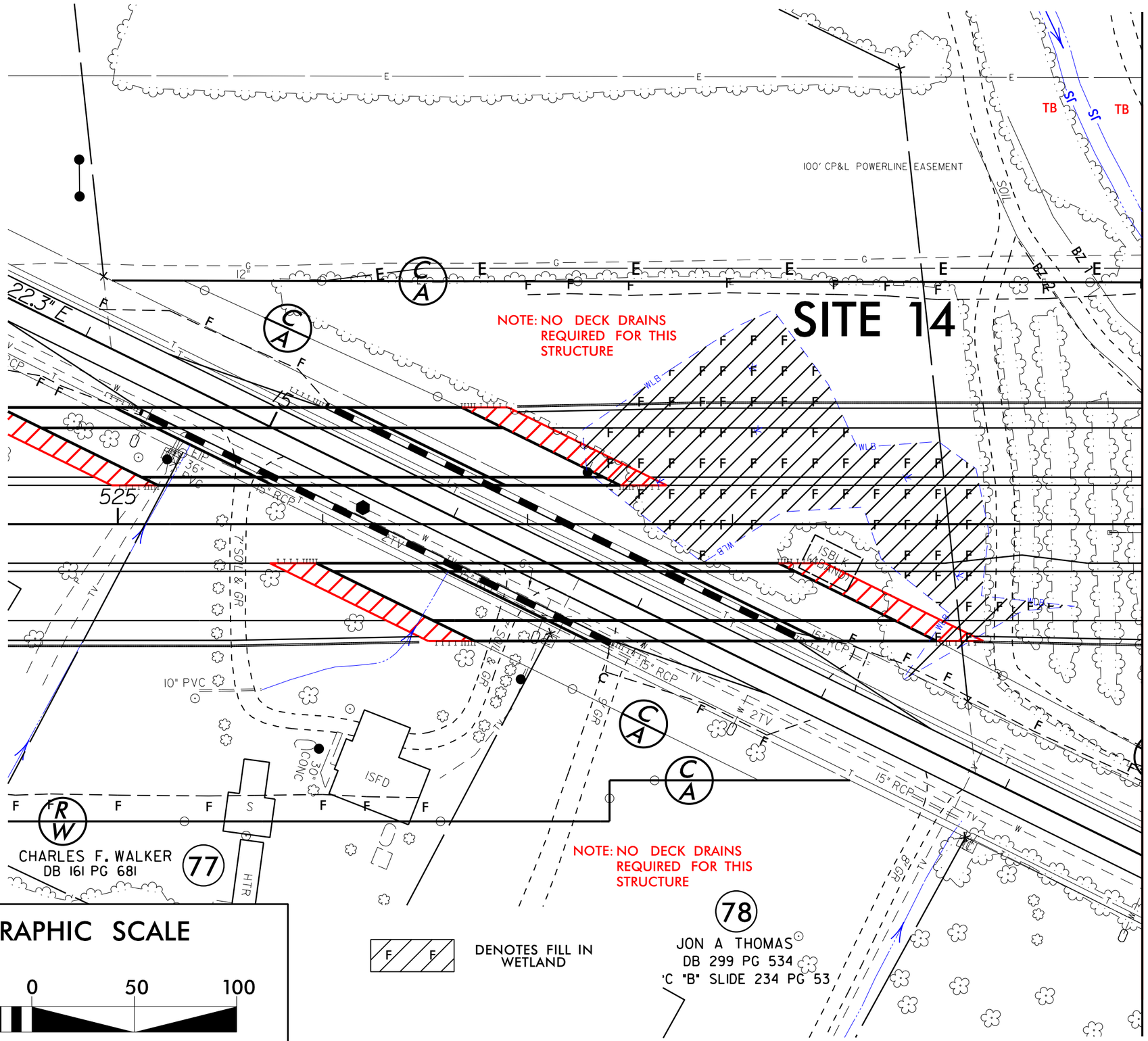
ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 53 OF 84

SITE 14



NOTE: NO DECK DRAINS REQUIRED FOR THIS STRUCTURE

NOTE: NO DECK DRAINS REQUIRED FOR THIS STRUCTURE

CHARLES F. WALKER
DB 161 PG 681

JON A THOMAS
DB 299 PG 534
C "B" SLIDE 234 PG 53

GRAPHIC SCALE

50 25 0 50 100

▨ DENOTES FILL IN WETLAND

MATCHLINE -L- STA. 530+00.00 SEE SHEET 21

REVISIONS

8/17/99

2/27/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_20X2_SITE14.dgn
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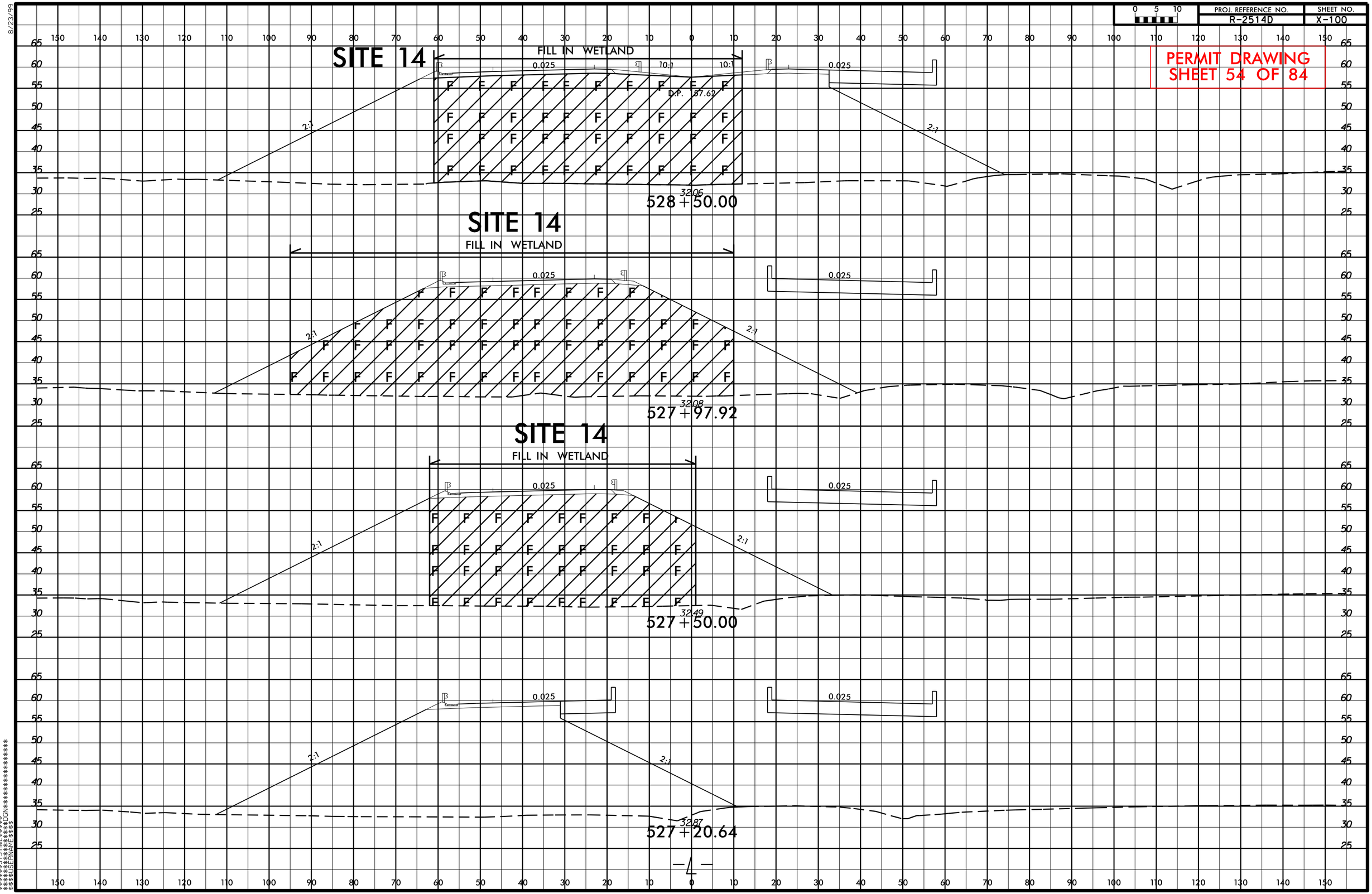
$$$$$$$$$DGN$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
R-2514D	X-100

PERMIT DRAWING
SHEET 54 OF 84



8/23/99

3/9/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_xpl_L_PART_3.dgn
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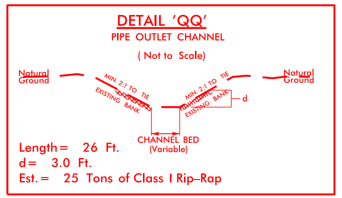
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	21
R/W SHEET NO.	____
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 55 OF 84

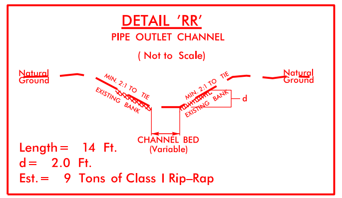
NAD 83/NSRS 2007



DETAIL 'QQ'
PIPE OUTLET CHANNEL
(Not to Scale)

Length = 26 Ft.
d = 3.0 Ft.
Est. = 25 Tons of Class I Rip–Rap

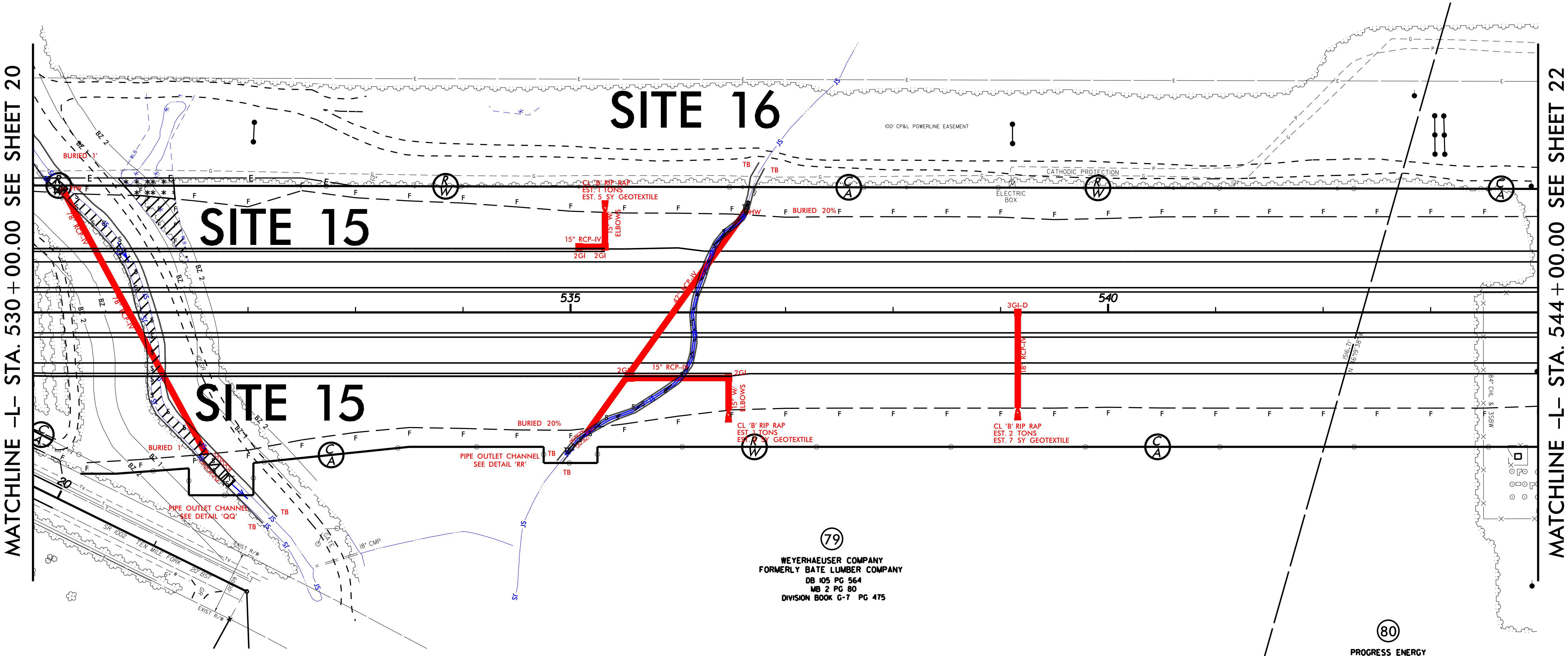
FROM STA. 531+54 TO STA. 531+85 –L–



DETAIL 'RR'
PIPE OUTLET CHANNEL
(Not to Scale)

Length = 14 Ft.
d = 2.0 Ft.
Est. = 9 Tons of Class I Rip–Rap

FROM STA. 534+99 TO STA. 535+18 –L–

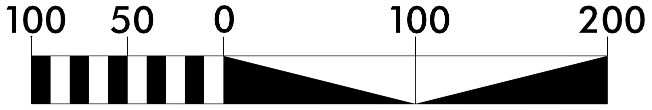


79
WEYERHAEUSER COMPANY
FORMERLY BATE LUMBER COMPANY
DB 105 PG 564
MB 2 PG 80
DIVISION BOOK G-7 PG 475

80
PROGRESS ENERGY
FORMERLY CAROLINA POWER & LIGHT COMPANY
(RHEMS 230 KV SUBSTATION)
DB 155 PG 576
DB 166 PG 210

▨ S S	DENOTES IMPACTS IN SURFACE WATER
▨ TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
▨ F F	DENOTES FILL IN WETLAND
* * *	DENOTES MECHANIZED CLEARING

GRAPHIC SCALE



SBG – "SHOULDER BERM GUTTER"

SEE SHEET 41 FOR –L– PROFILE

REVISIONS

8/17/99

4/6/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_21.dgn
$$$$$$SYSTIME$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

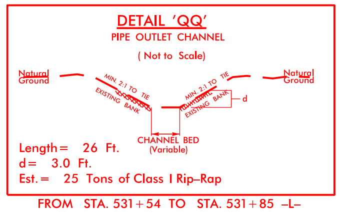
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 56 OF 84

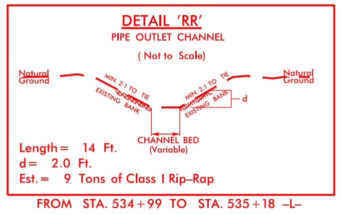
8/17/99

REVISIONS


DETAIL 'QQ'
PIPE OUTLET CHANNEL
(Not to Scale)

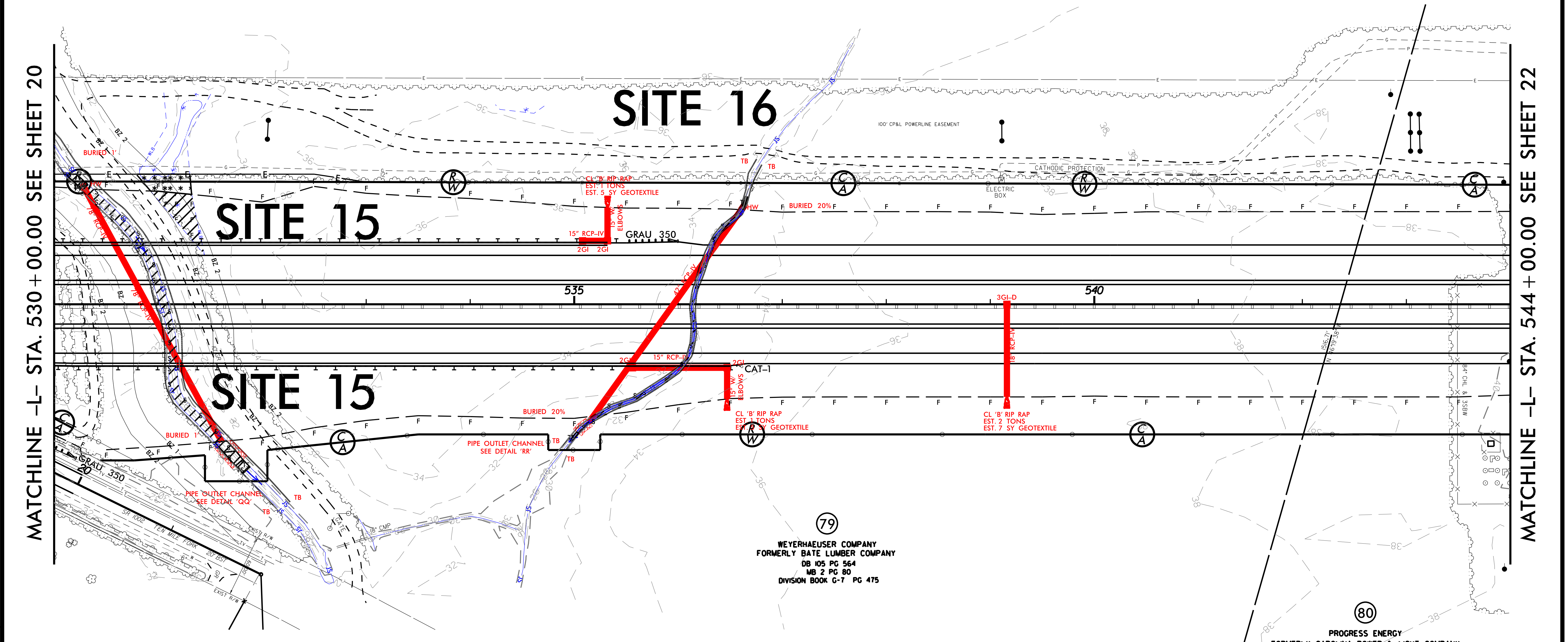
Length = 26 Ft.
d = 3.0 Ft.
Est. = 25 Tons of Class I Rip–Rap

FROM STA. 531+54 TO STA. 531+85 –L–

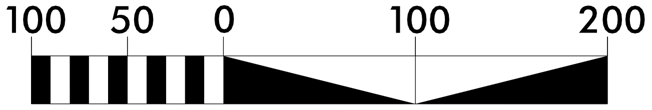

DETAIL 'RR'
PIPE OUTLET CHANNEL
(Not to Scale)

Length = 14 Ft.
d = 2.0 Ft.
Est. = 9 Tons of Class I Rip–Rap

FROM STA. 534+99 TO STA. 535+18 –L–



GRAPHIC SCALE



▨ S S	DENOTES IMPACTS IN SURFACE WATER
▨ TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
▨ F F	DENOTES FILL IN WETLAND
⁂	DENOTES MECHANIZED CLEARING

SBG – "SHOULDER BERM GUTTER"

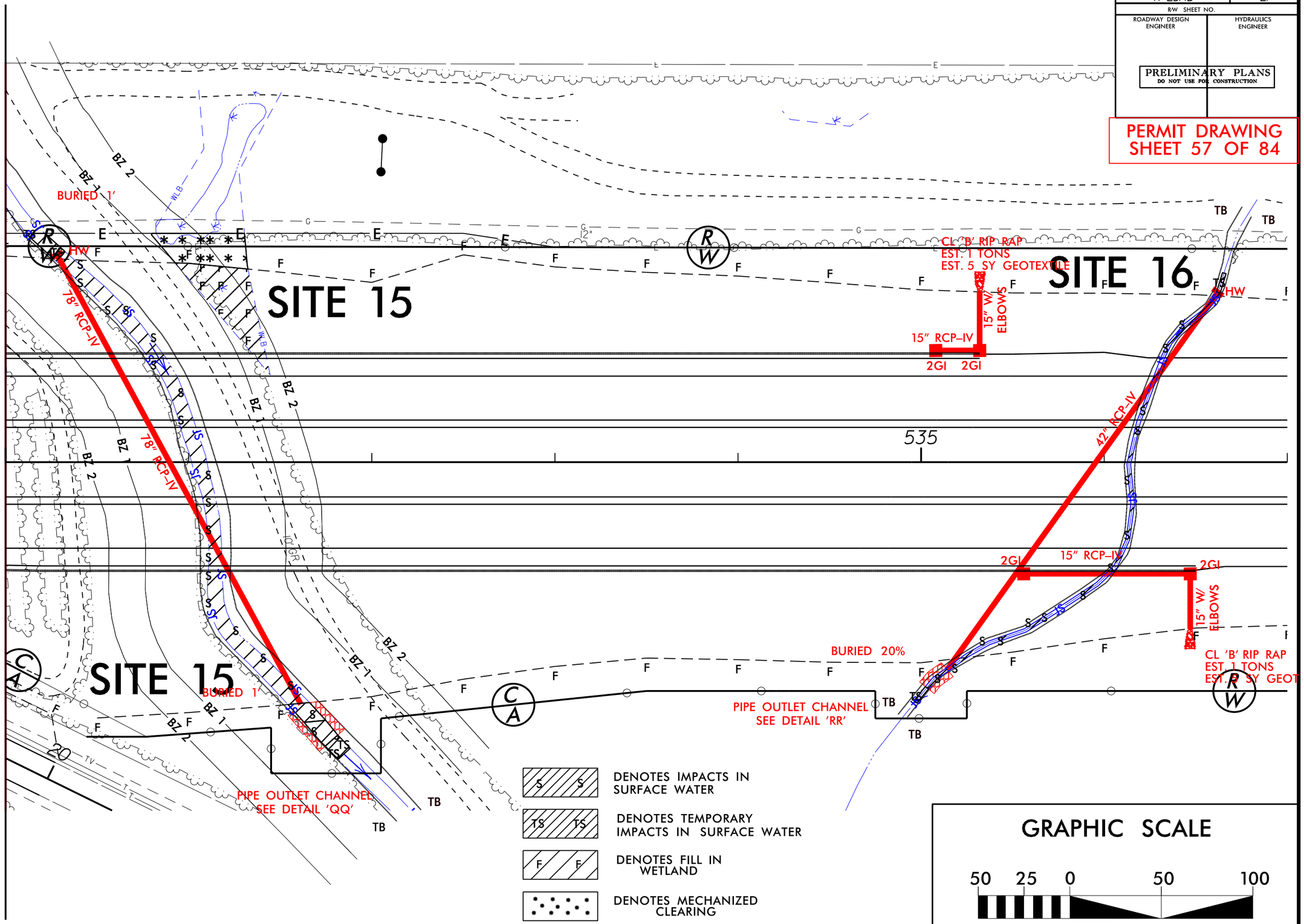
SEE SHEET 41 FOR –L– PROFILE

4/16/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_21_con.dgn
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 57 OF 84



REVISIONS

8/17/99

4/6/2014
mycot
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_21X2.dgn
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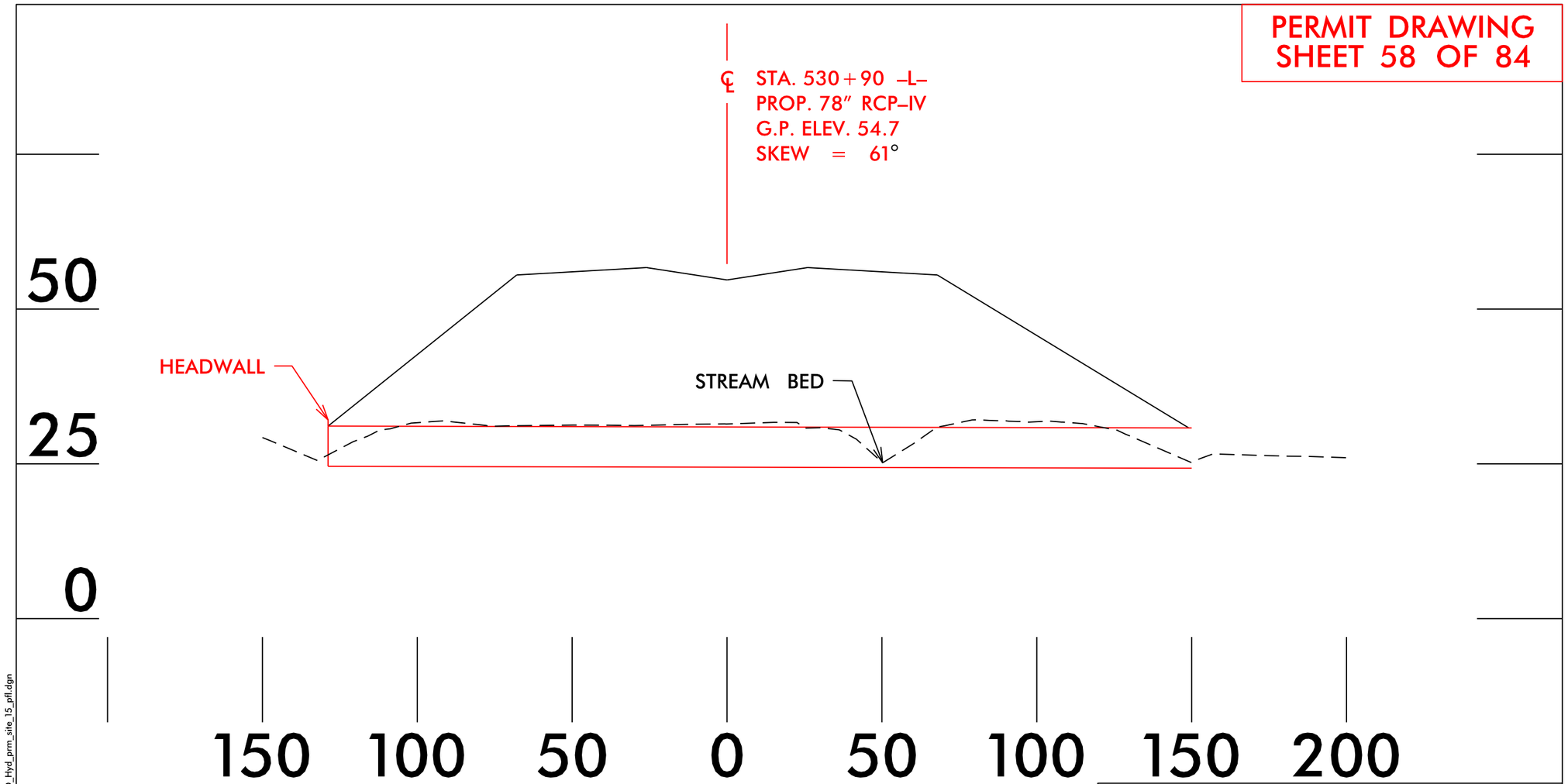
$$$$$$$$$$SYSTIME$$$$$$$$$$
$$$$$$$$$$DGNSIZE$$$$$$$$$$

PERMIT DRAWING
SHEET 58 OF 84



PROFILE

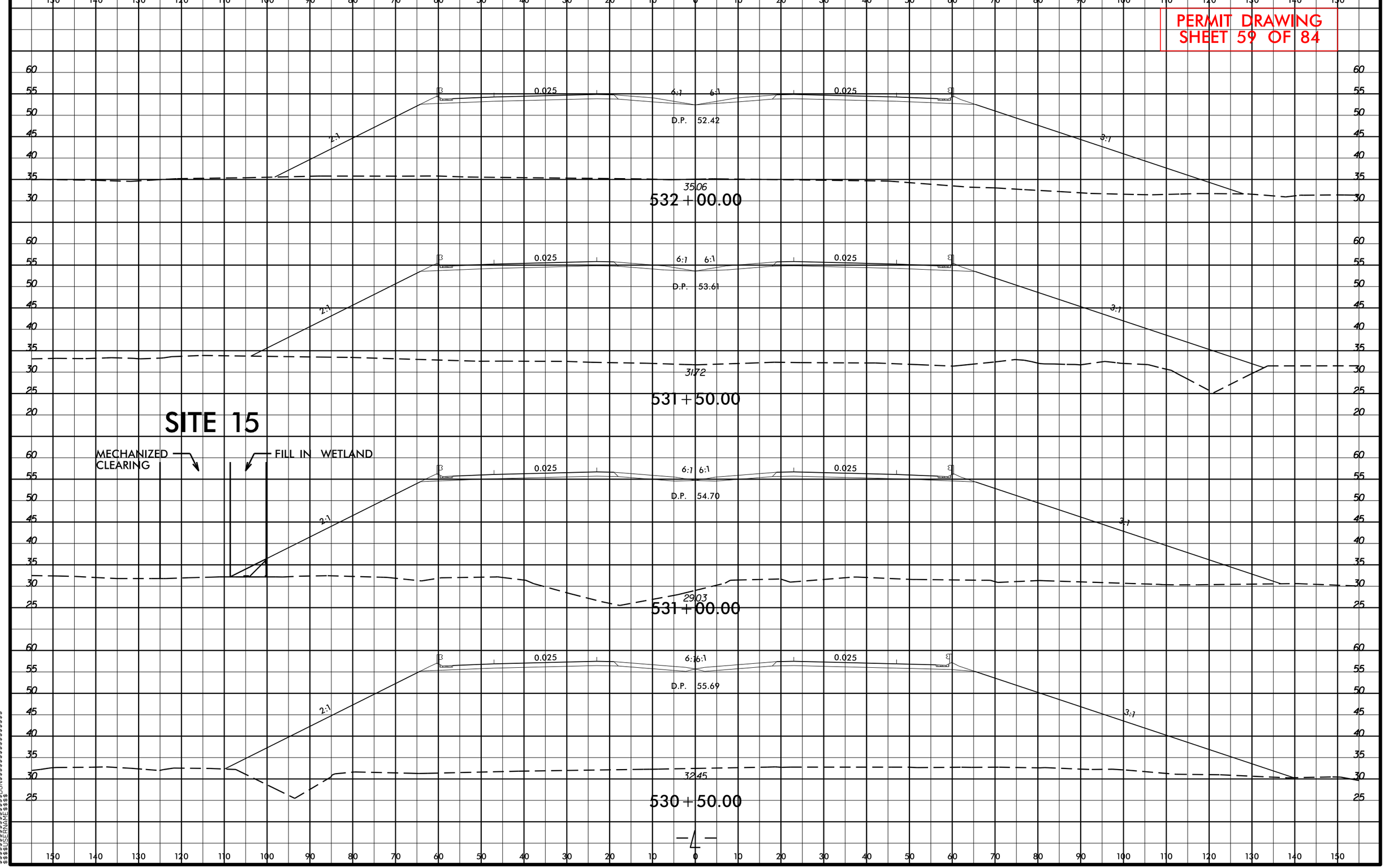
NCDOT
DIVISION OF HIGHWAYS
JONES COUNTY
PROJECT: 34442.1.5 (R-2514D)
US 17 FROM SOUTH OF NC 58
TO THE NEW BERN BYP

2/27/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_site_15_pfl.dgn

PROJ. REFERENCE NO.	SHEET NO.
R-2514D	X-102

PERMIT DRAWING
SHEET 59 OF 84

SITE 15



8/23/99

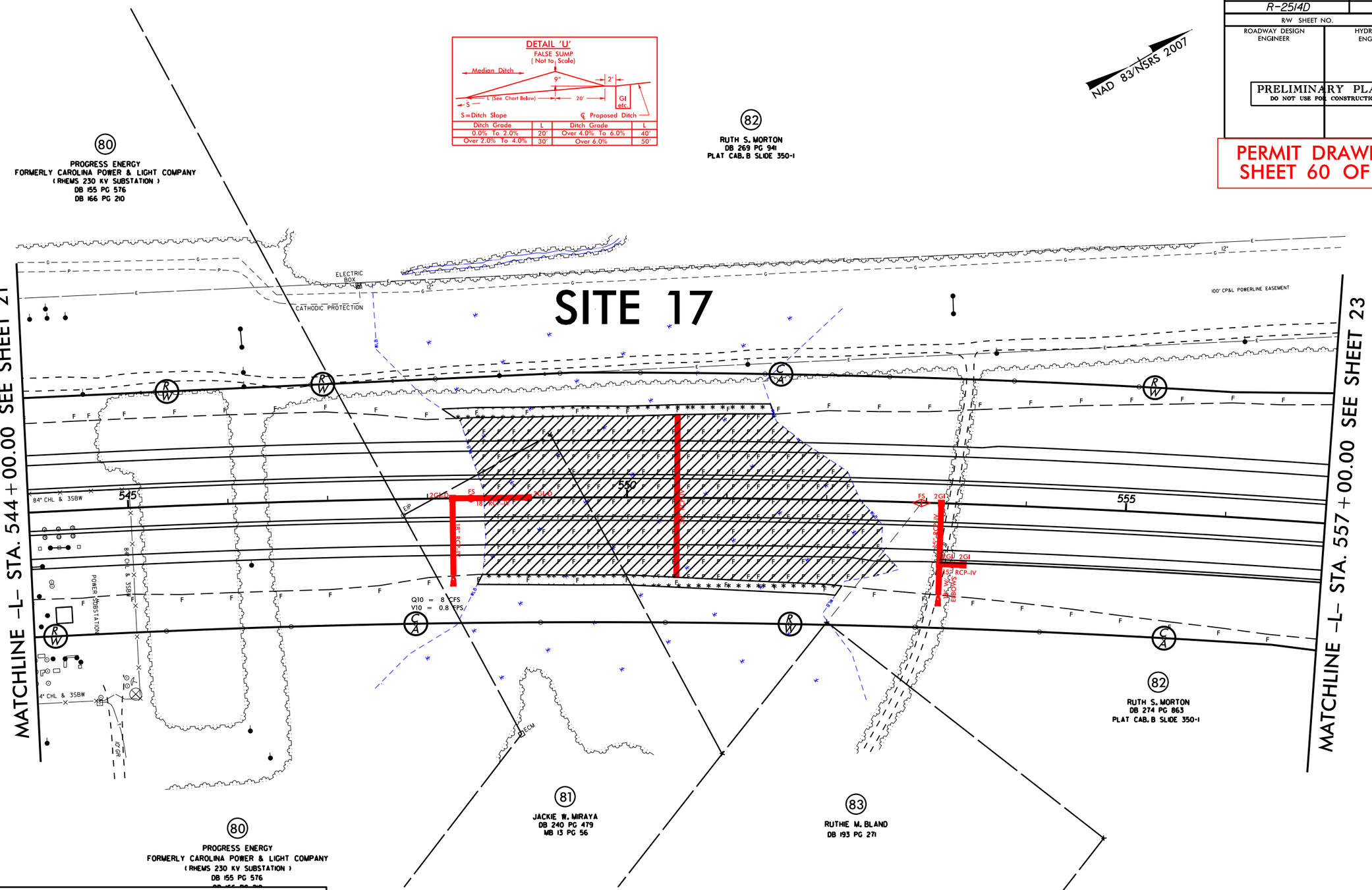
3/19/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_xpl_L_PART_3.dgn
$$$$SYSTIME$$$$
$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 60 OF 84

NAD 83/NSRS 2007



SBG – "SHOULDER BERM GUTTER"

SEE SHEET 41 FOR -L- PROFILE

REVISIONS

8/17/99

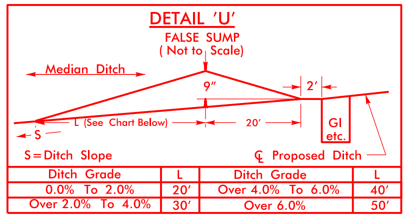
3/6/2014
mlyon
R:\Hydraulics\PERMITS Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_22.dgn
$$$$$$$$$$CVSTIME$$$$$$
$$$$$$$$$$CVSDGN$$$$$$
$$$$$$$$$$CELENGUF$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 61 OF 84

NAD 83/NSRS 2007

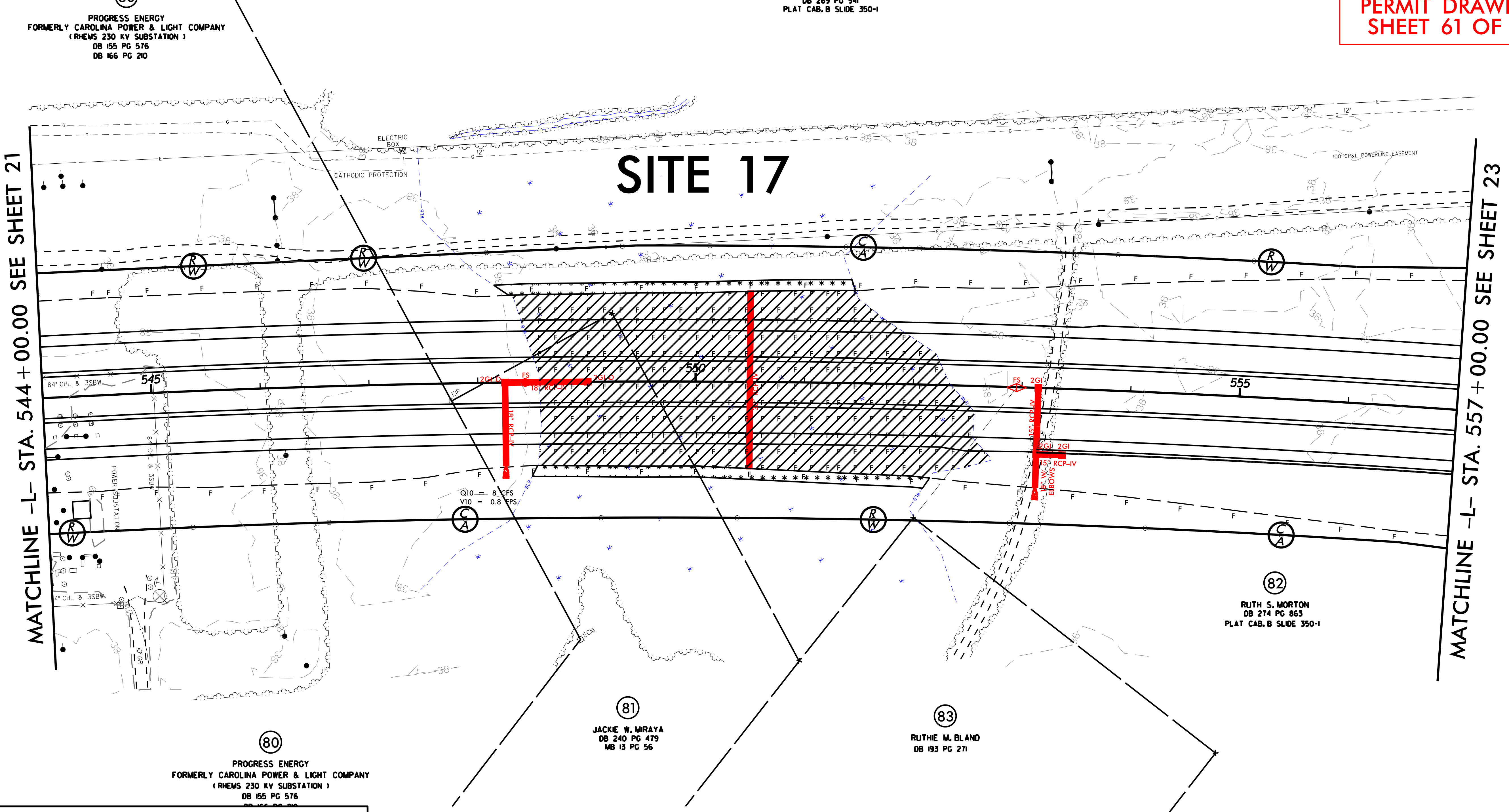


DETAIL 'U'
FALSE SUMP
(Not to Scale)

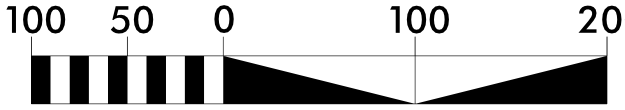
Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

(80)
PROGRESS ENERGY
FORMERLY CAROLINA POWER & LIGHT COMPANY
(RHEMS 230 KV SUBSTATION)
DB 155 PG 576
DB 166 PG 210

(82)
RUTH S. MORTON
DB 269 PG 941
PLAT CAB. B SLIDE 350-1



GRAPHIC SCALE



▨ F F	DENOTES FILL IN WETLAND
* * *	DENOTES MECHANIZED CLEARING

SBG – "SHOULDER BERM GUTTER"

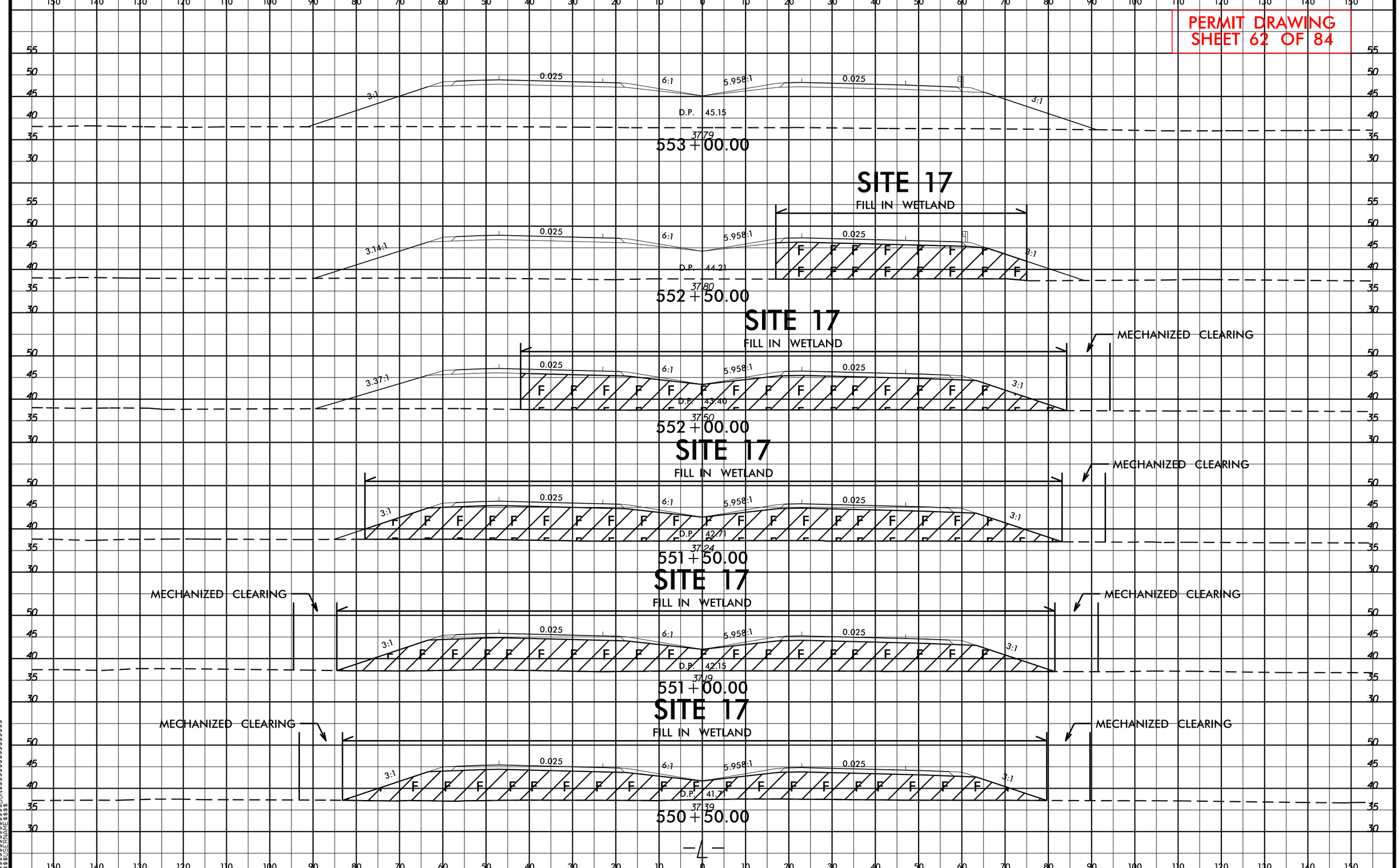
SEE SHEET 41 FOR -L- PROFILE

REVISIONS

8/17/99

3/6/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_22_con.dgn
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PERMIT DRAWING
SHEET 62 OF 84



8/23/99
3/19/2014
mjyork
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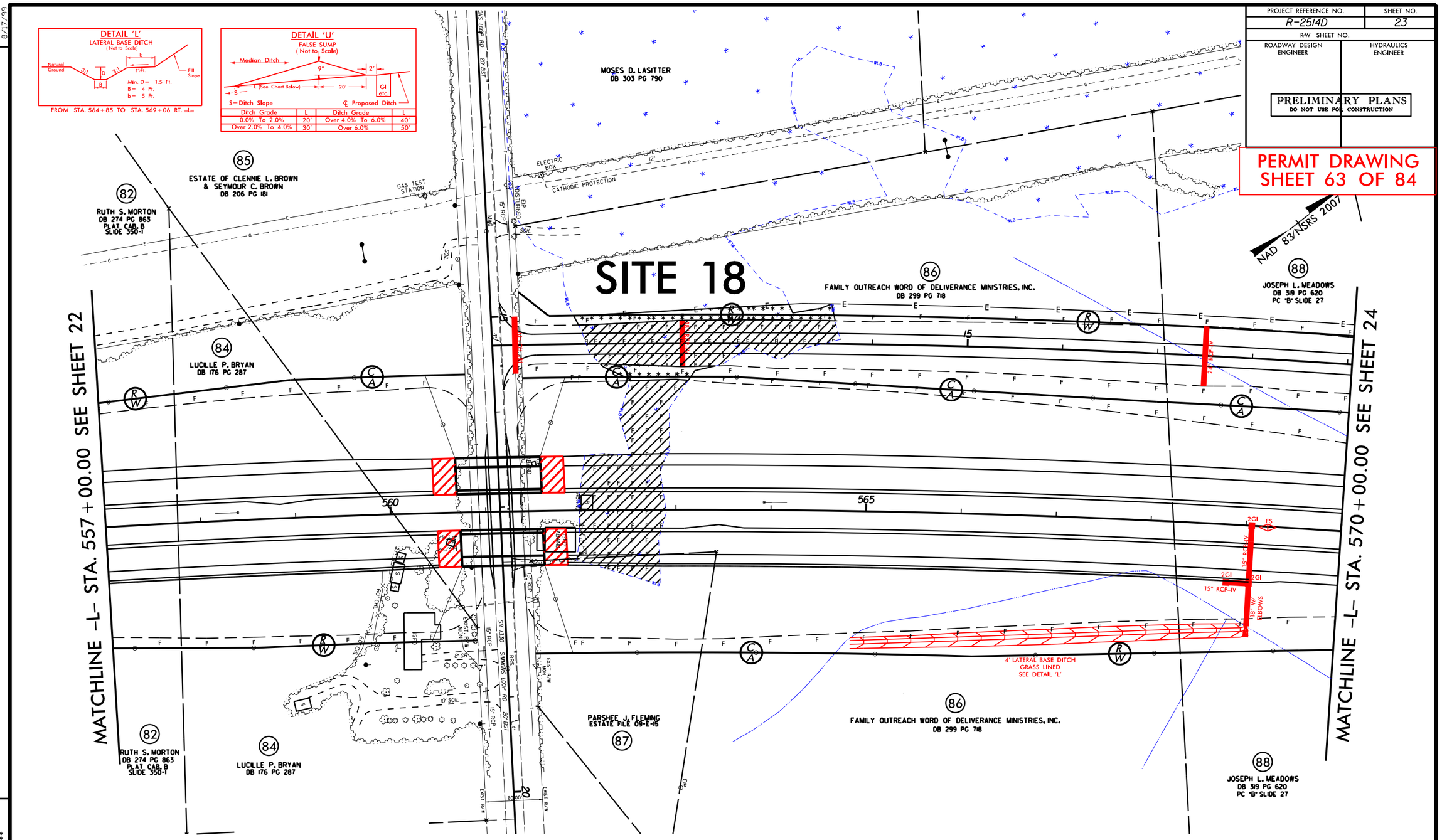
$$$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 63 OF 84



GRAPHIC SCALE

100 50 0 100 200

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

SBG – "SHOULDER BERM GUTTER"

SEE SHEET 42 FOR -L- PROFILE
SEE SHEET 54 FOR -Y7- PROFILE
SEE SHEET 55 FOR -Y8A- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

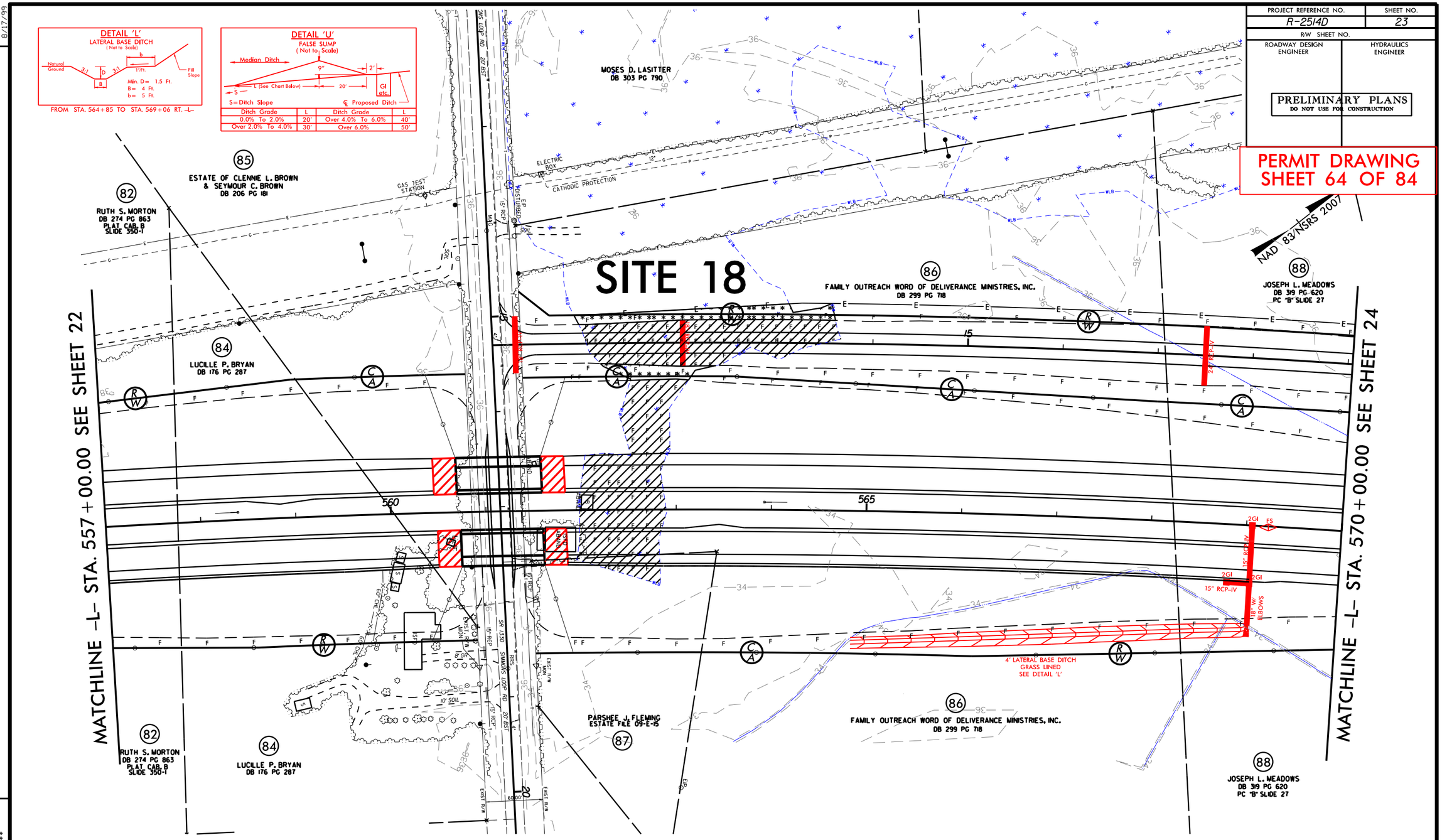
8/17/99

3/24/2014
mjack
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_23.dgn
$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 64 OF 84



SBG – "SHOULDER BERM GUTTER"

SEE SHEET 42 FOR -L- PROFILE
SEE SHEET 54 FOR -Y7- PROFILE
SEE SHEET 55 FOR -Y8A- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

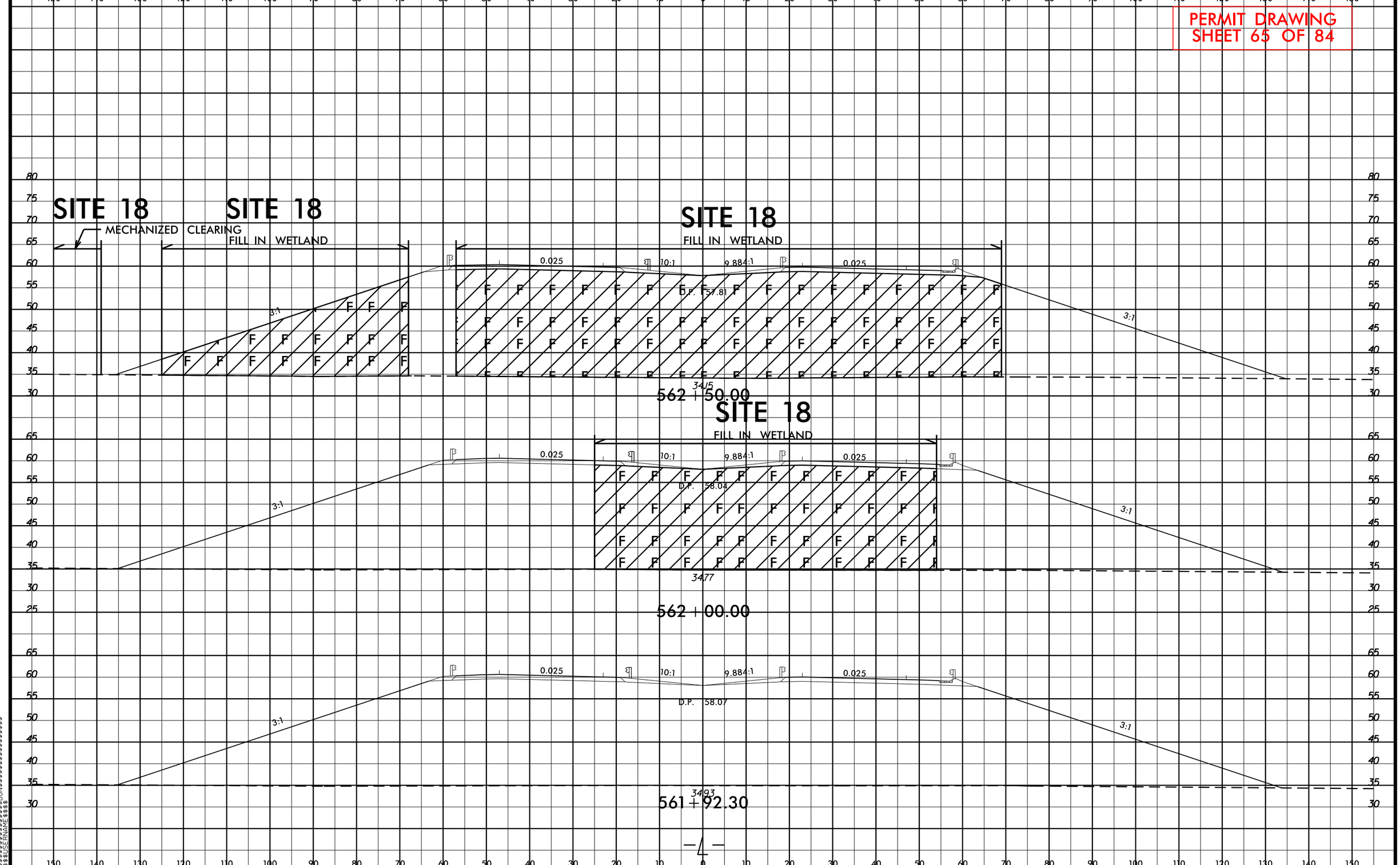
REVISIONS

8/17/99

3/24/2014
mjack
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_23_con.dgn
$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

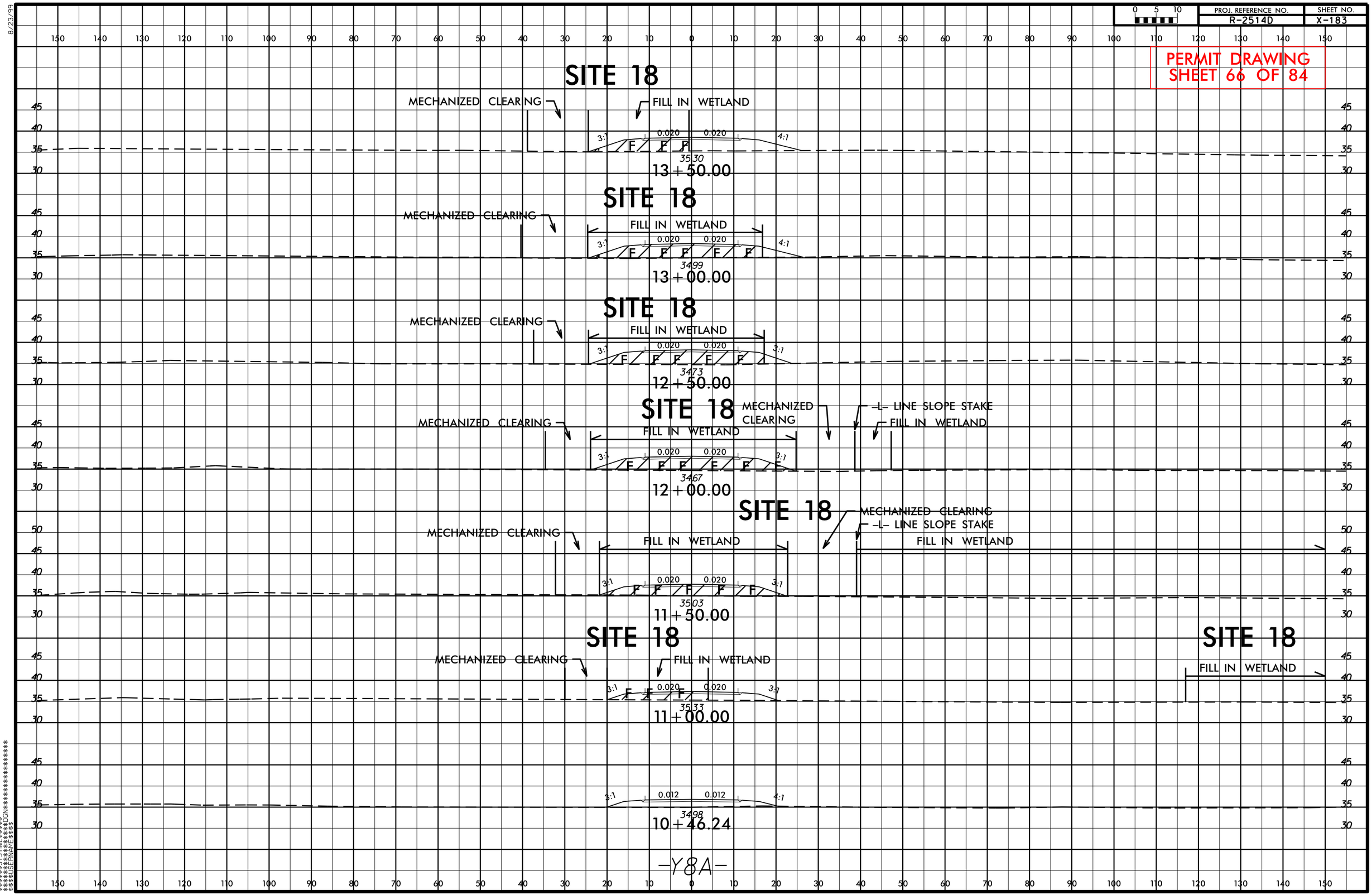
PROJ. REFERENCE NO.	SHEET NO.
R-2514D	X-115

PERMIT DRAWING
SHEET 65 OF 84



PROJ. REFERENCE NO.	SHEET NO.
R-2514D	X-183

PERMIT DRAWING
SHEET 66 OF 84



8/23/99

3/20/2014
miyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_xpl_y8a.dgn
$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	25
R/W SHEET NO.	

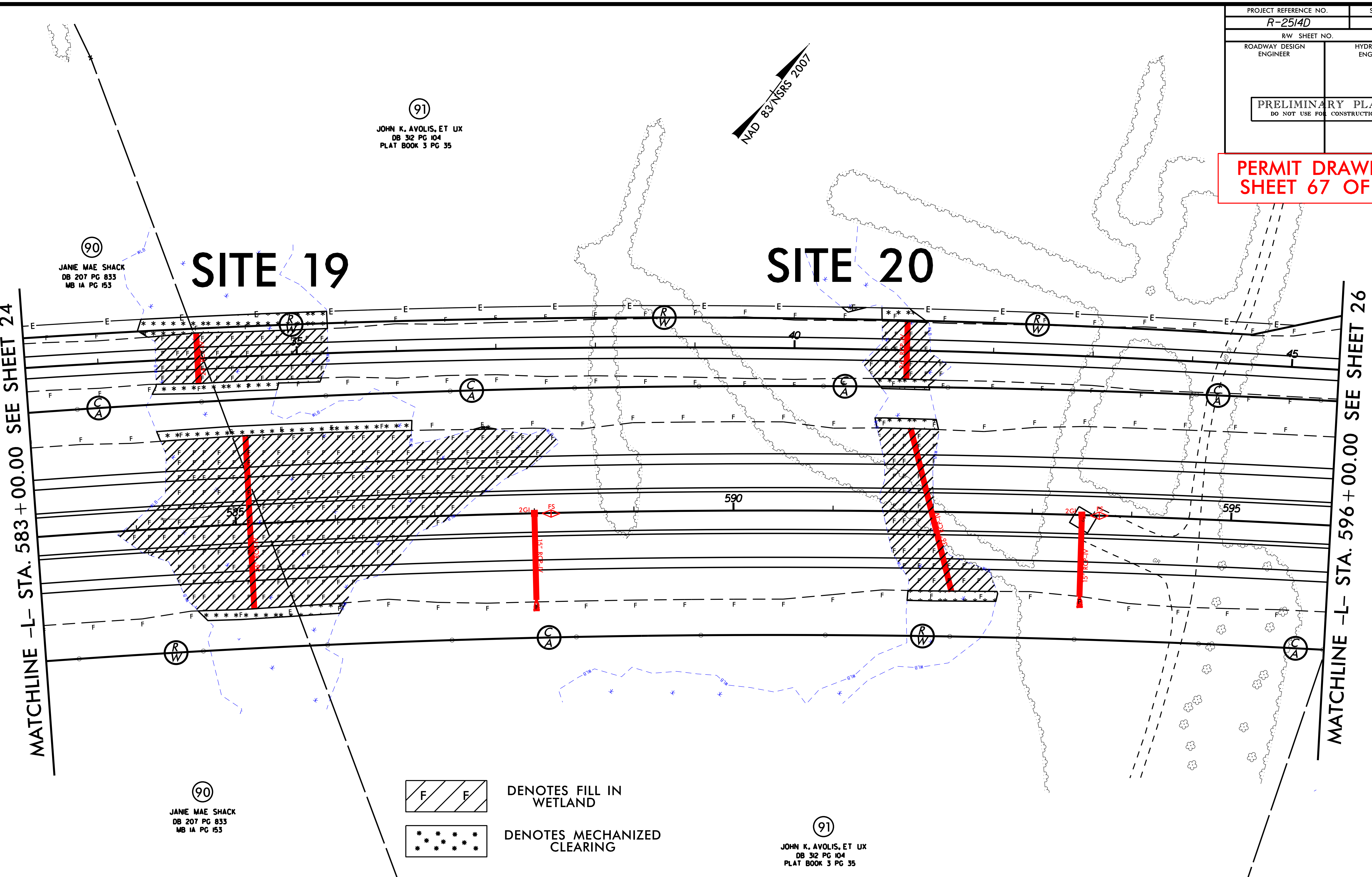
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 67 OF 84

REVISIONS

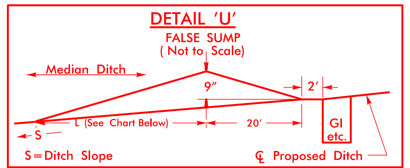
8/17/99



▨ DENOTES FILL IN WETLAND

⁘ DENOTES MECHANIZED CLEARING

GRAPHIC SCALE



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

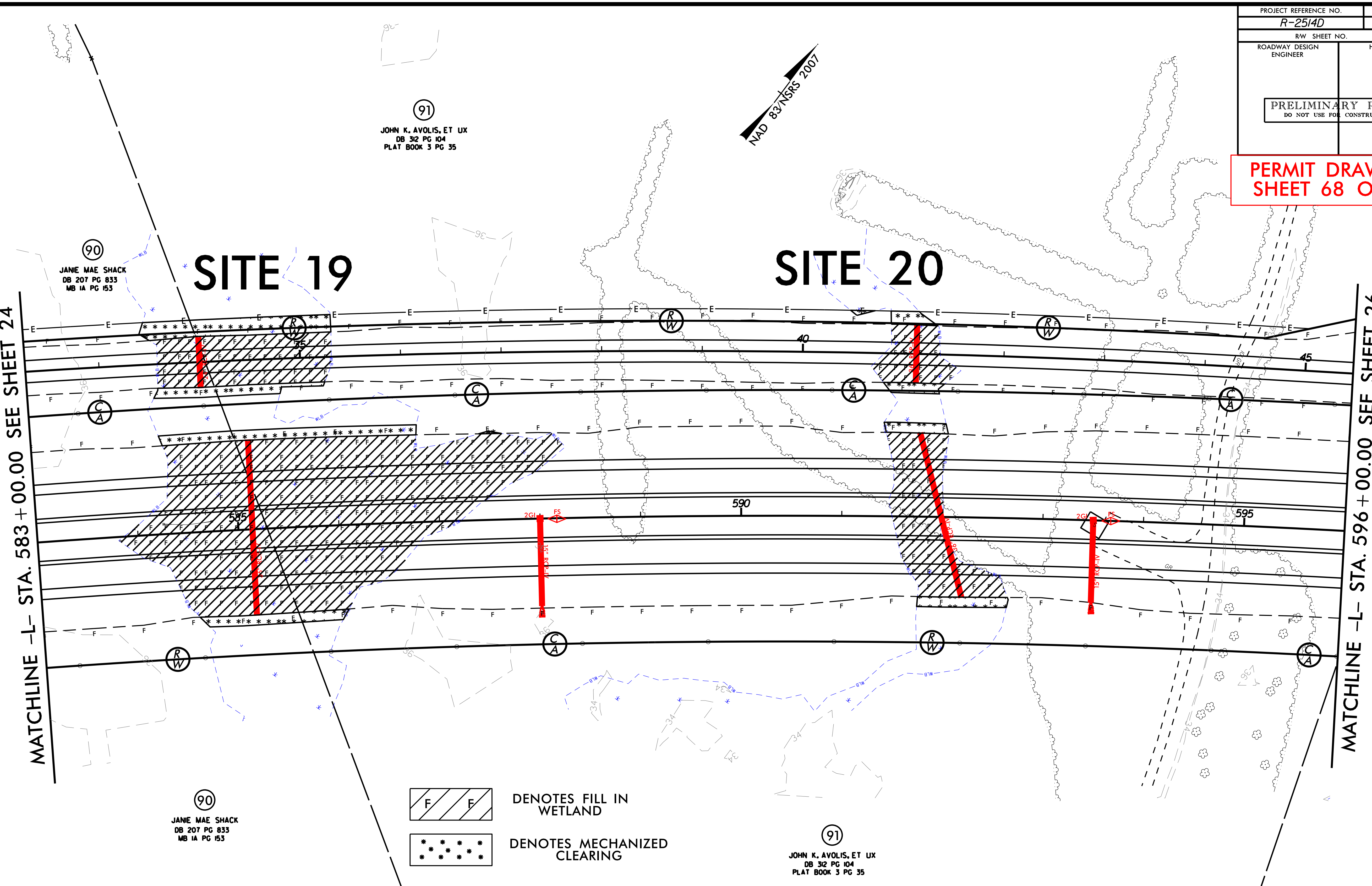
SEE SHEET 43 FOR -L- PROFILE
SEE SHEET 55 AND 56 FOR -Y8A- PROFILE

2/27/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_25.dgn
$$$$$$SYSTIME$$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

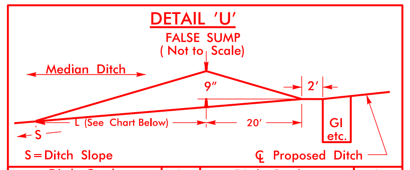
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 68 OF 84



GRAPHIC SCALE

DETAIL 'U'



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

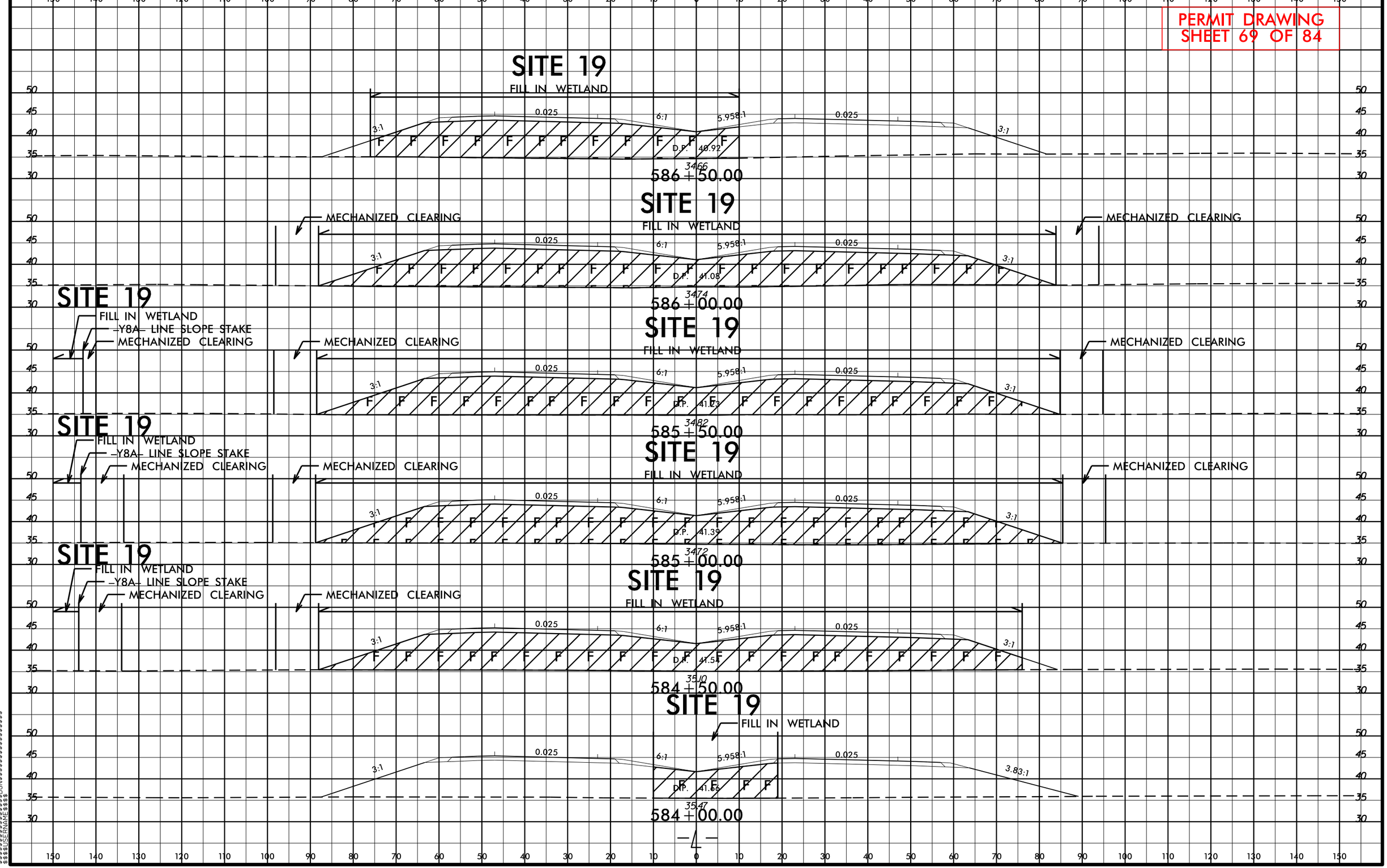
SEE SHEET 43 FOR -L- PROFILE
SEE SHEET 55 AND 56 FOR -Y8A- PROFILE

REVISIONS

8/17/99

2/27/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_25_con.dgn
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PERMIT DRAWING
SHEET 69 OF 84



8/23/99

3/19/2014
mjyork
R:\Hydraulics\PERMITS Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_xpl_L_PART_3.dgn
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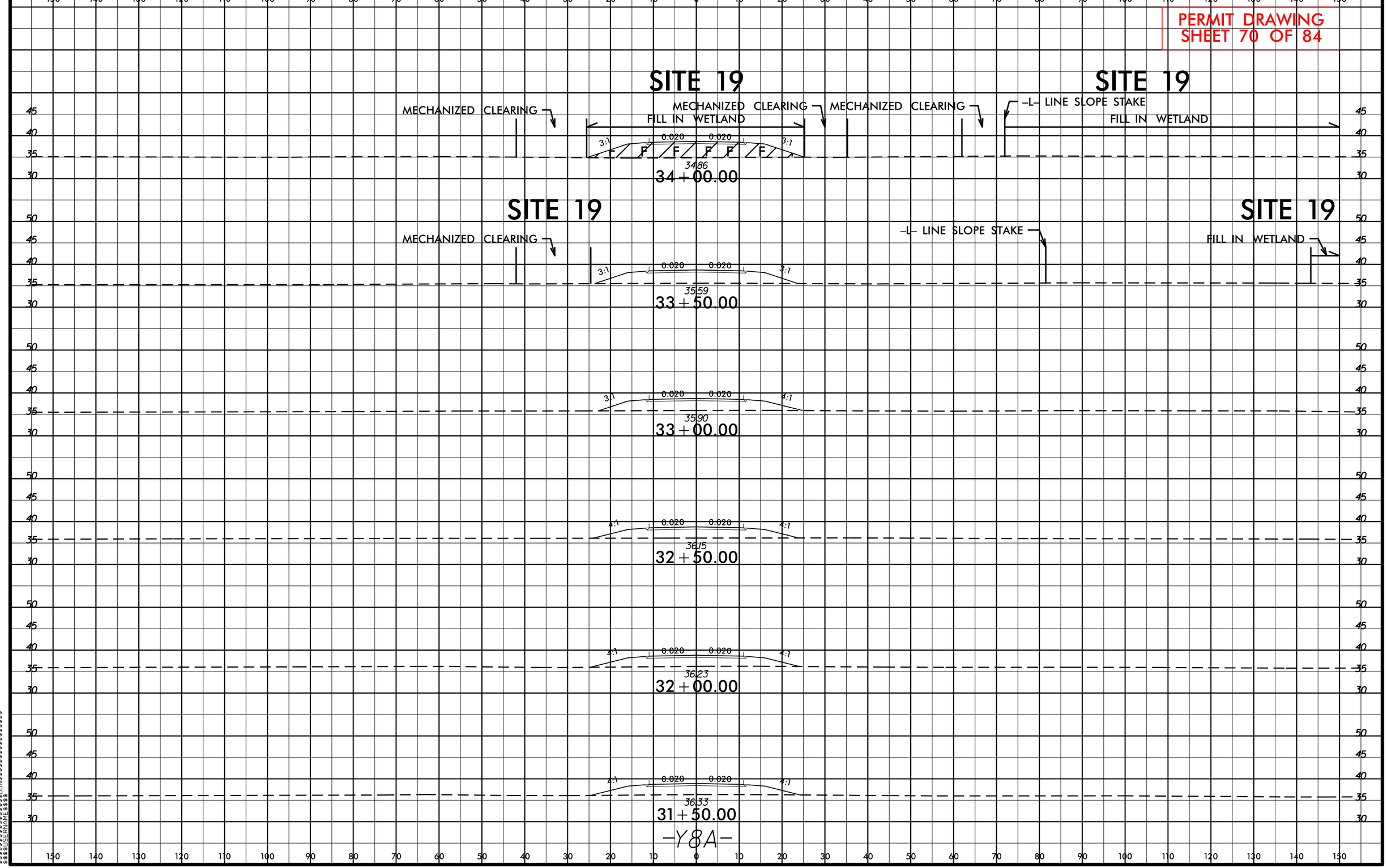
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$$USERNAME$$$$$

PERMIT DRAWING
SHEET 70 OF 84



8/23/99

3/24/2014
mjyork
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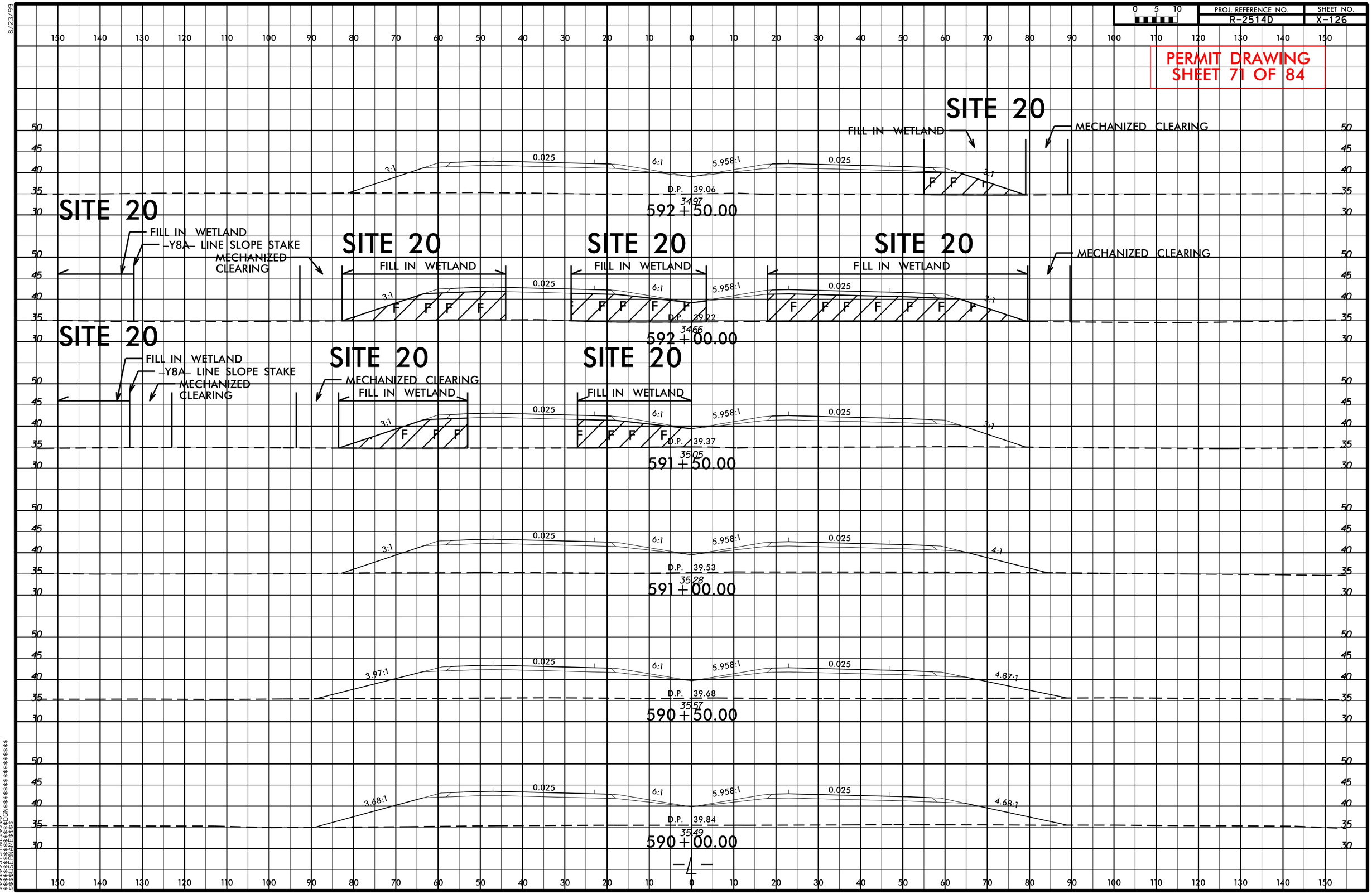
$$$$$$USERNAME$$$$

PERMIT DRAWING
SHEET 71 OF 84



8/23/99

3/19/2014
mjyork
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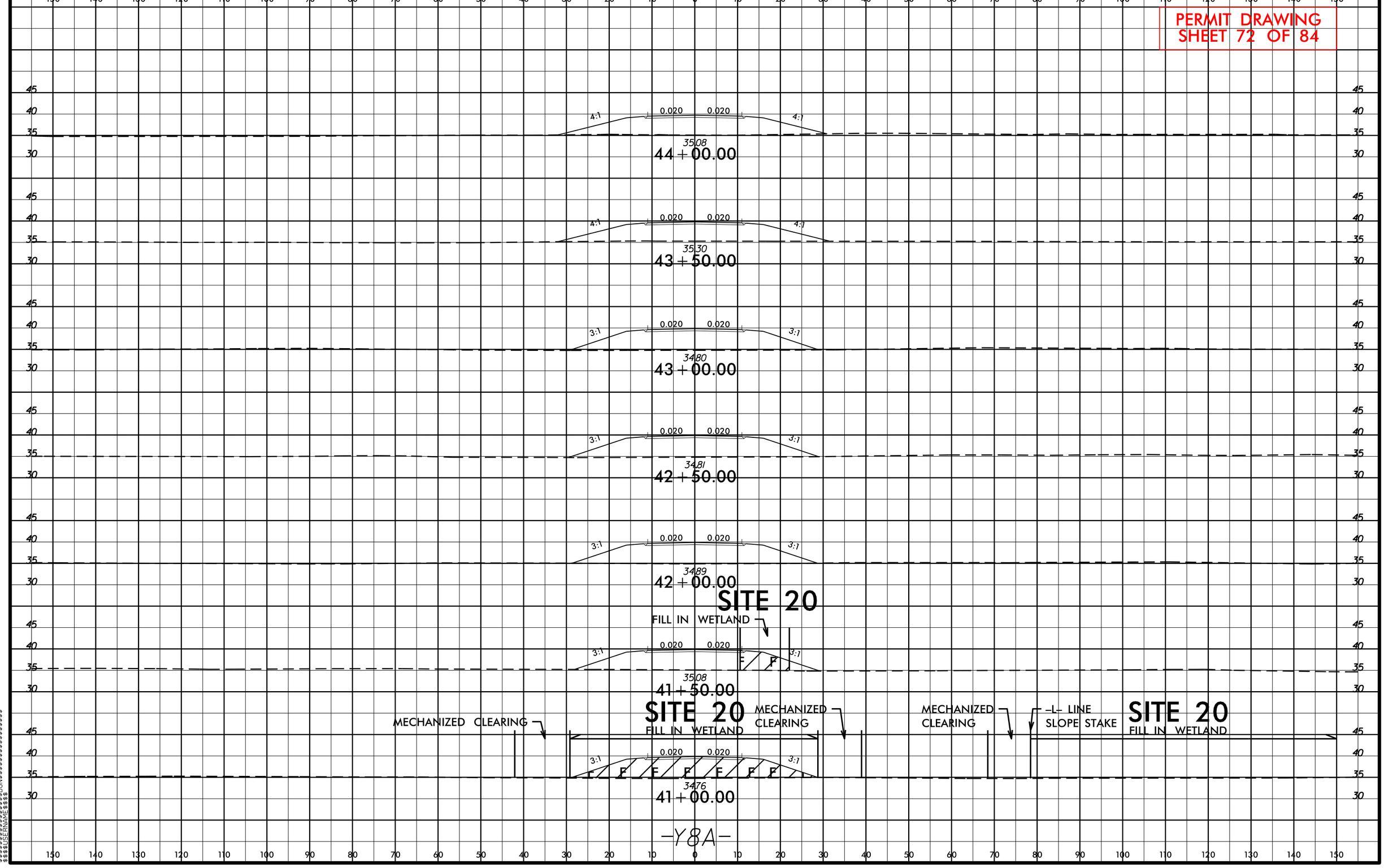
PROJ. REFERENCE NO.	SHEET NO.
R-2514D	X-192

PERMIT DRAWING
SHEET 72 OF 84



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miyork
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$$$$USERNAME$$$$

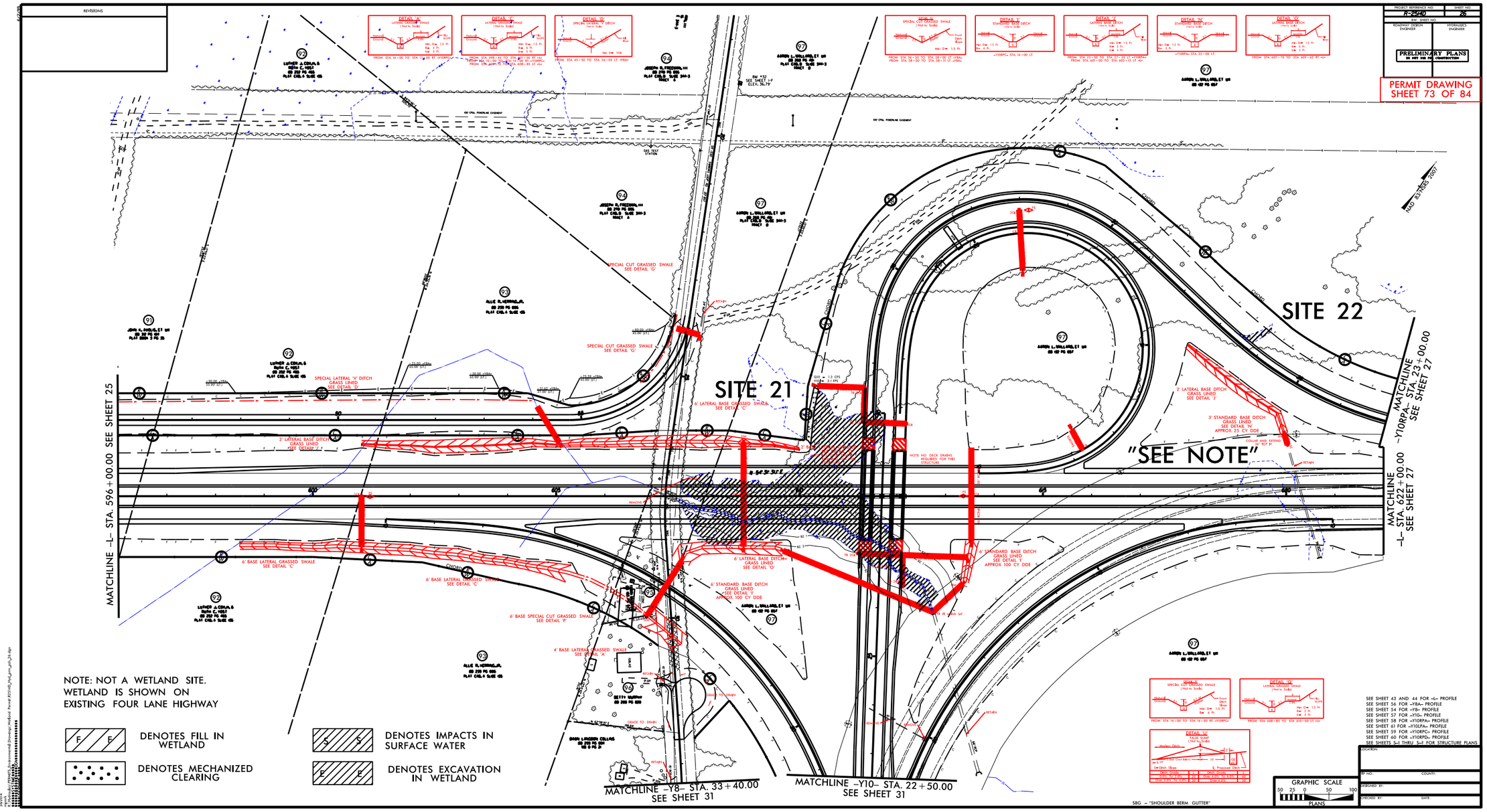
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2940	26
F.A. PROJ.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 73 OF 84



NOTE: NOT A WETLAND SITE.
WETLAND IS SHOWN ON
EXISTING FOUR LANE HIGHWAY

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

S S DENOTES IMPACTS IN SURFACE WATER

E E DENOTES EXCAVATION IN WETLAND

SEE SHEET 43 AND 44 FOR -L- PROFILE
SEE SHEET 56 FOR -Y8A- PROFILE
SEE SHEET 54 FOR -Y8- PROFILE
SEE SHEET 57 FOR -Y10- PROFILE
SEE SHEET 58 FOR -Y10RPA- PROFILE
SEE SHEET 61 FOR -Y10LPA- PROFILE
SEE SHEET 59 FOR -Y10RPC- PROFILE
SEE SHEET 60 FOR -Y10RPD- PROFILE
SEE SHEETS 5-1 THRU 5-7 FOR STRUCTURE PLANS

SBG - "SHOULDER BERM GUTTER"

GRAPHIC SCALE
50 25 0 50 100
PLANS

LOCATION:
TIP NO. | COUNTY:
DESIGNED BY:
CHECKED BY: | DATE:

3/5/2014
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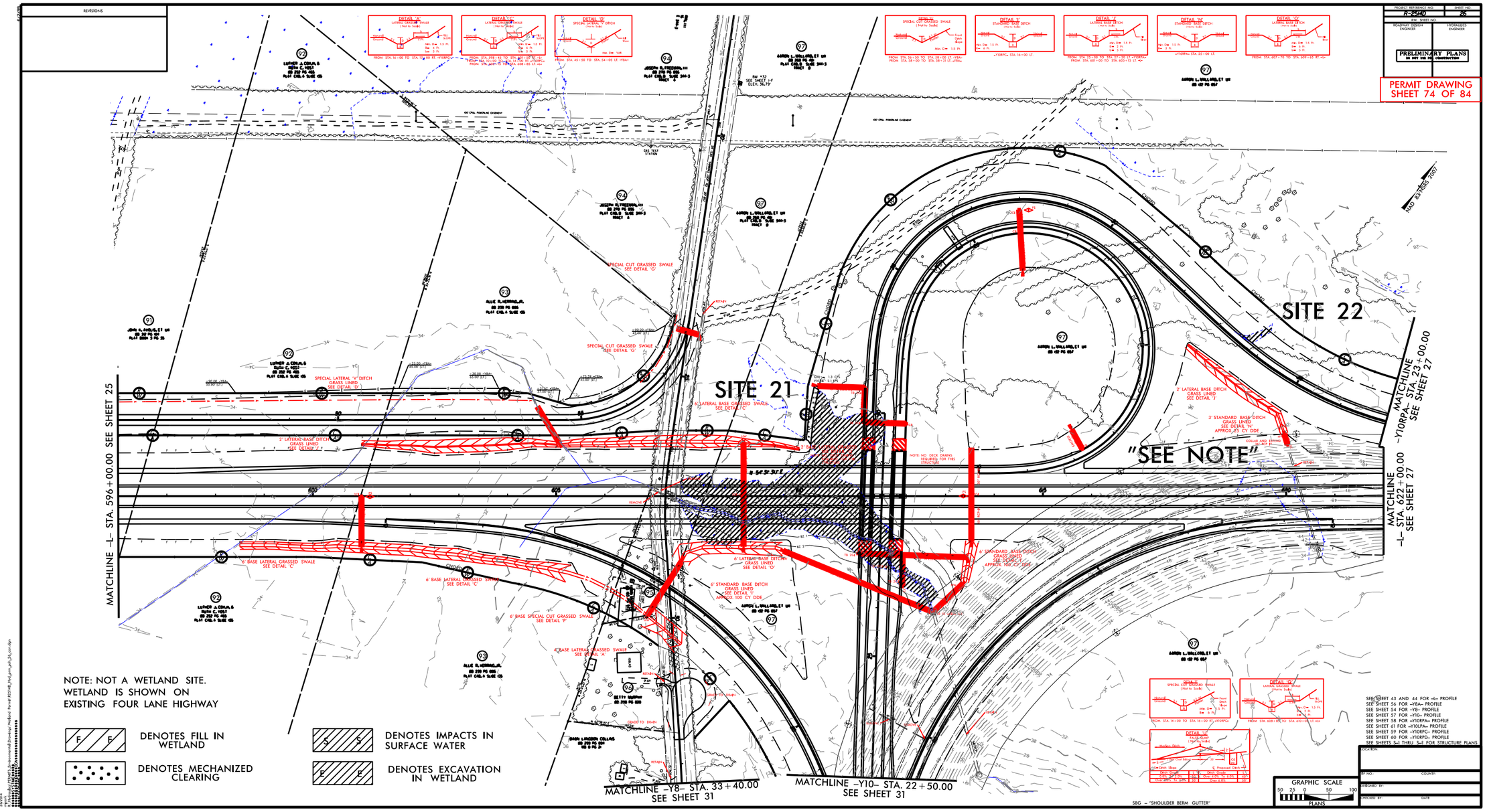
PW:workspace:jobsmith
$$USER$$

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2940	26
B-4 SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 74 OF 84



NOTE: NOT A WETLAND SITE.
WETLAND IS SHOWN ON
EXISTING FOUR LANE HIGHWAY

F F	DENOTES FILL IN WETLAND
	DENOTES MECHANIZED CLEARING
S S	DENOTES IMPACTS IN SURFACE WATER
E E	DENOTES EXCAVATION IN WETLAND

SEE SHEET 43 AND 44 FOR -L- PROFILE
SEE SHEET 56 FOR -Y8A- PROFILE
SEE SHEET 54 FOR -Y8- PROFILE
SEE SHEET 57 FOR -Y10- PROFILE
SEE SHEET 58 FOR -Y10RPA- PROFILE
SEE SHEET 61 FOR -Y10LPA- PROFILE
SEE SHEET 59 FOR -Y10RPC- PROFILE
SEE SHEET 60 FOR -Y10RPD- PROFILE
SEE SHEETS 5-1 THRU 5-7 FOR STRUCTURE PLANS

SBG - "SHOULDER BERM GUTTER"

GRAPHIC SCALE
50 25 0 50 100
PLANS

LOCATION:
TIP NO. COUNTY:
DESIGNED BY:
CHECKED BY: DATE:

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 75 OF 84

Q10 = 1.3 CFS
V10 = 2.1 FPS

SITE 21

6' LATERAL BASE GRASSED SWALE
SEE DETAIL 'C'

15" W/ELBOWS
TB 2GI
15" RCP-IV
TB 2GI
15" RCP-IV
CB

HW
48" RCP-IV

2' BASE LATERAL GRASSED SWALE
SEE DETAIL 'Q'
NOTE: NO DECK DRAINS REQUIRED FOR THIS STRUCTURE

NOTE: NO DECK DRAINS REQUIRED FOR THIS STRUCTURE

N 54° 31' 31.1" E

REMOVE
REMOVE
18" RCP
24" RCP
3GI-A
-L-
607
608
609
610
611
612
613
FS
BZ 1
BZ 2
MAG
N 35° 41' 21" W
296.90'
EXIST R/W MON
15" RCP
8' GR
36"
95
TERRI

6' LATERAL BASE DITCH
GRASS LINED
SEE DETAIL 'O'

6' STANDARD BASE DITCH
GRASS LINED
SEE DETAIL 'I'

60" RCP-IV
TB 2GI
TB 2GI
15" W/ELBOWS
15" RCP-IV
TB 2GI
15" RCP-IV
HW
36" RCP-IV
TB JB w/Slab Lid

GRAPHIC SCALE
50 25 0 50 100

DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES IMPACTS IN SURFACE WATER
DENOTES EXCAVATION IN WETLAND

REVISIONS

8/17/99

3/6/2014
mlynk
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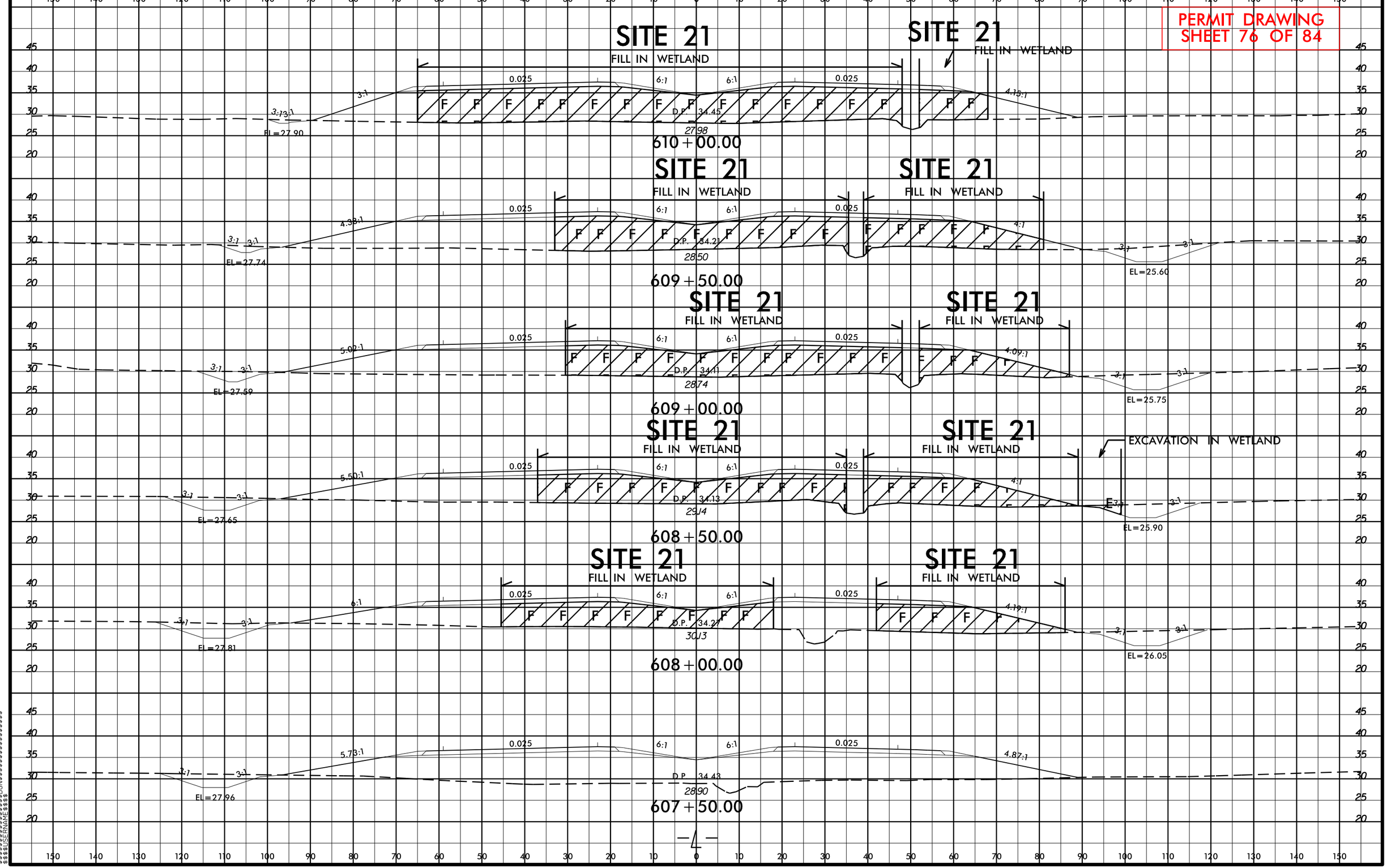
8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2514D	X-133

PERMIT DRAWING
SHEET 76 OF 84



-4-

3/19/2014
mjyork
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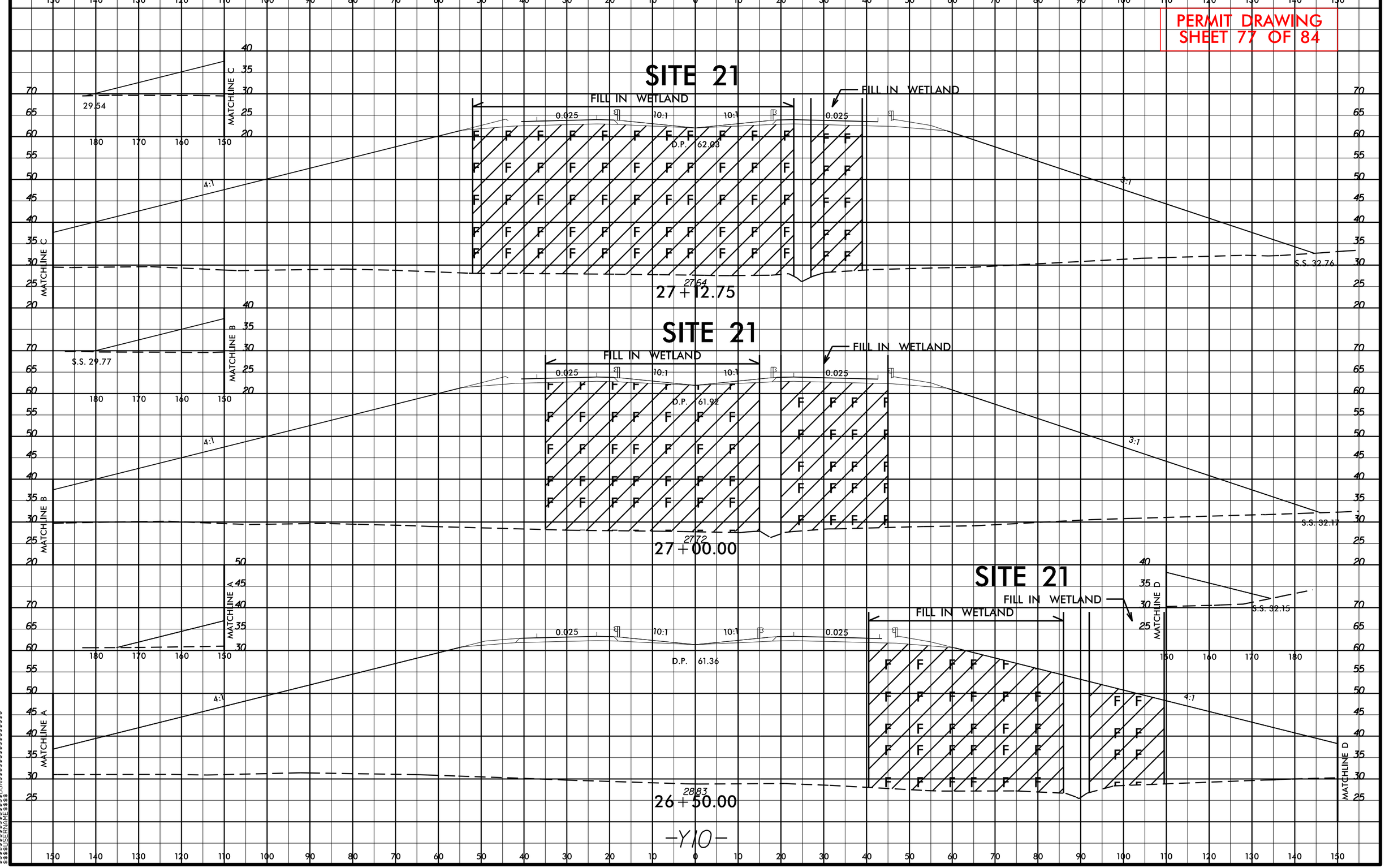
$$$$USERNAME$$$$

PERMIT DRAWING
SHEET 77 OF 84



-Y10-

8/23/99

3/24/2014
mjyork
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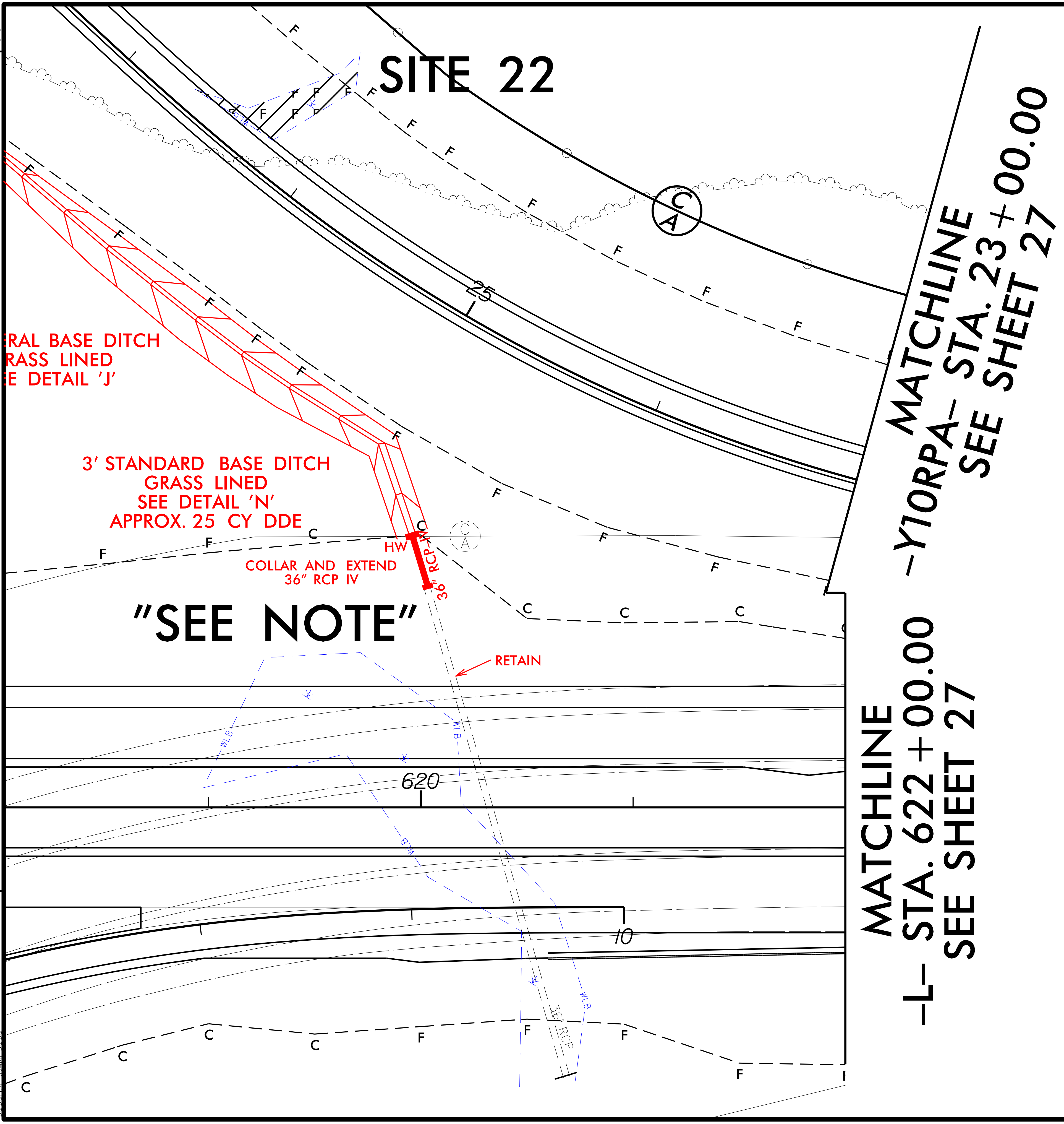
$$$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	26
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

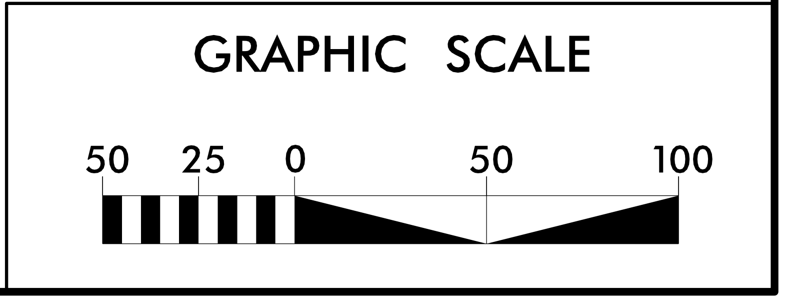
PERMIT DRAWING
SHEET 78 OF 84

SITE 22



NOTE: NOT A WETLAND SITE.
WETLAND IS SHOWN ON
EXISTING FOUR LANE HIGHWAY.

▨ DENOTES FILL IN WETLAND



REVISIONS

8/17/99

2/27/2014
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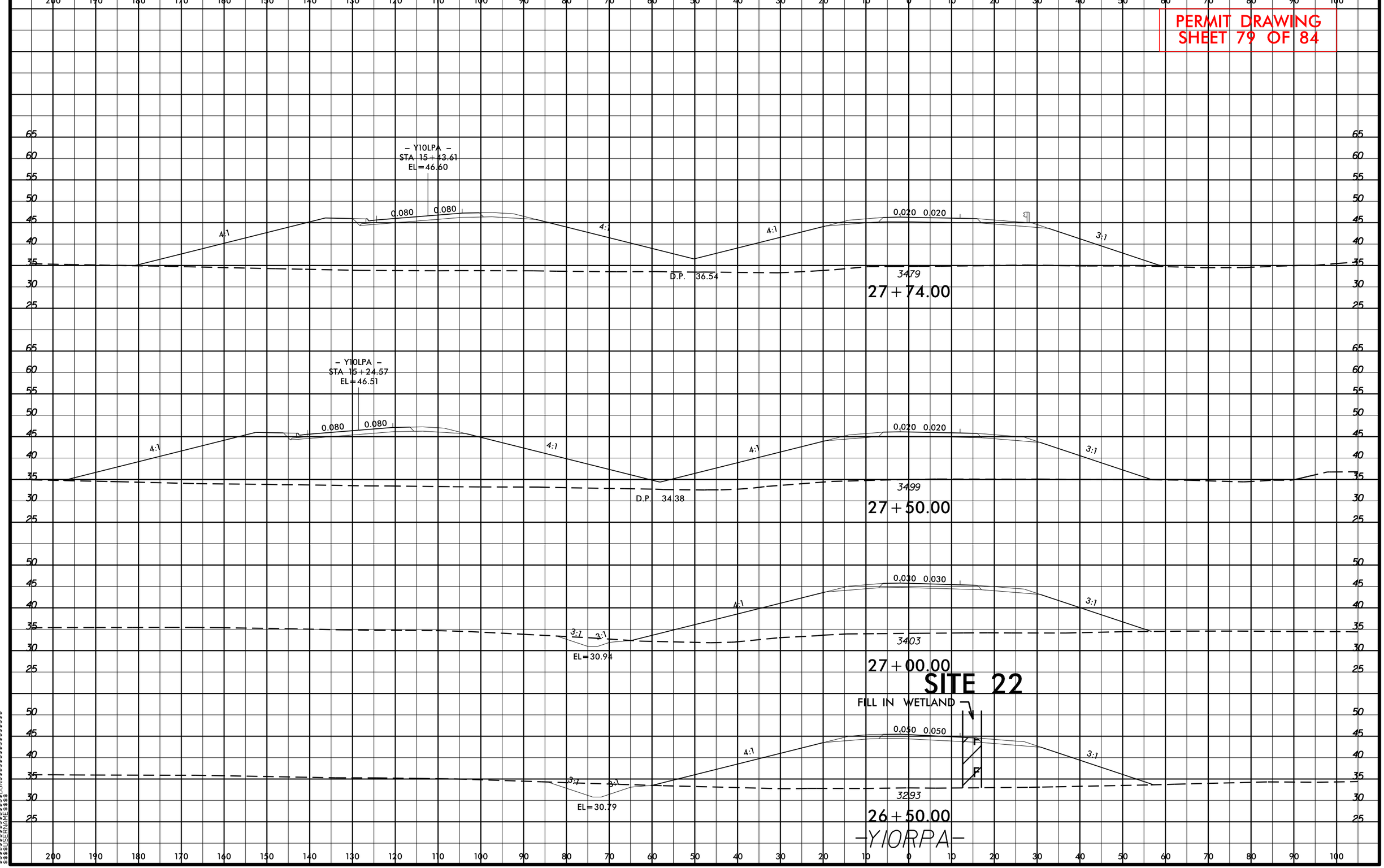
PROJ. REFERENCE NO.	SHEET NO.
R-2514D	X-213

PERMIT DRAWING
SHEET 79 OF 84



8/23/99

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mjyork
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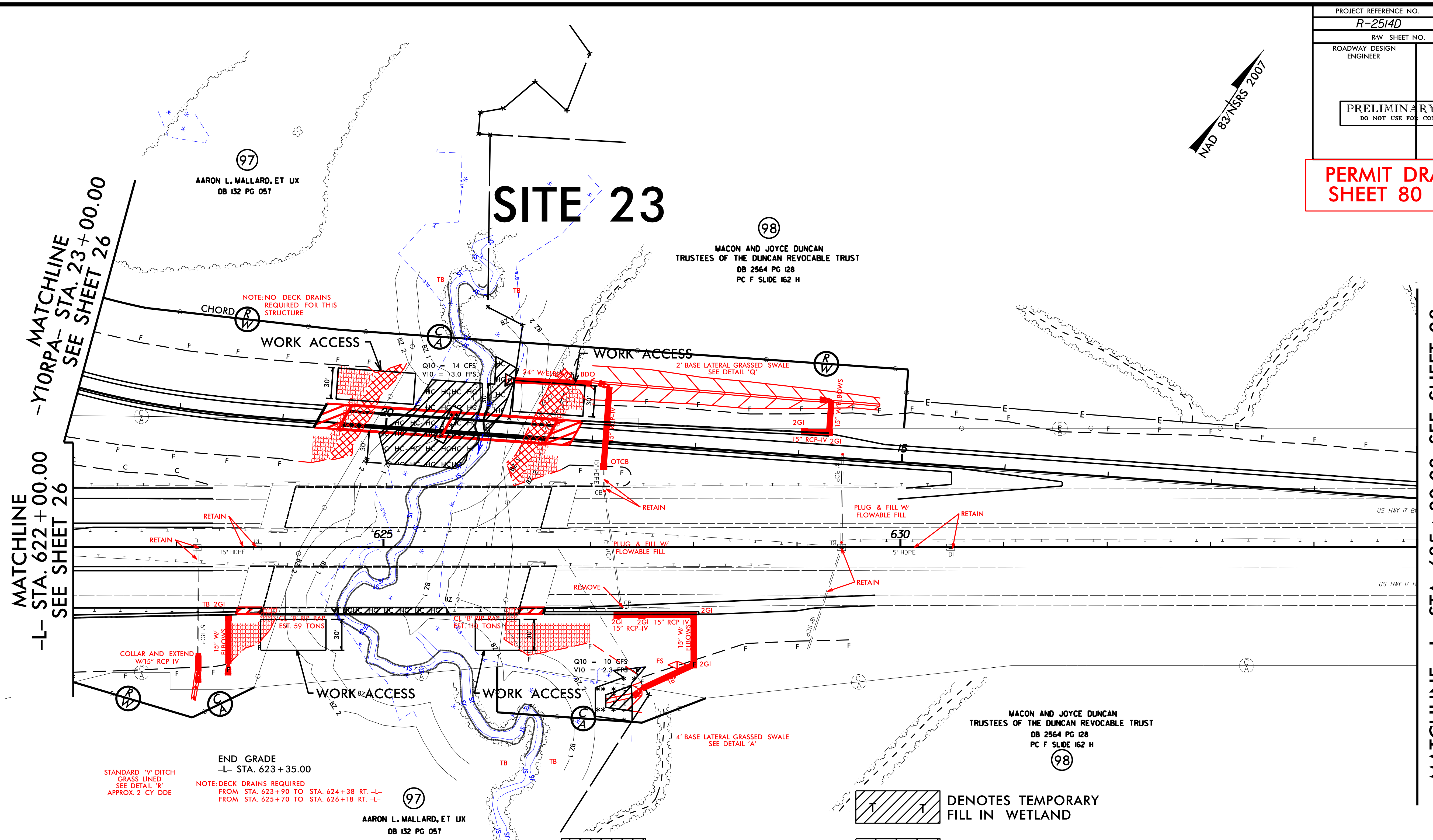
$$$$$$$$$$PROFILE$$$$$$DGN\$$$$$$$$$$$$$$$$$$$$
$$$$$$$$$$USERNAME$$$$

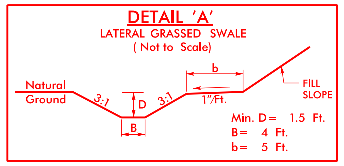
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 80 OF 84

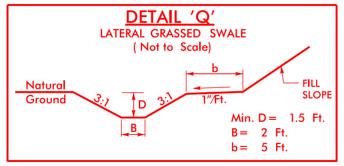
SITE 23





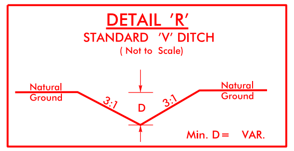
DETAIL 'A'
LATERAL GRASSED SWALE
(Not to Scale)

FROM STA. 627+15 TO STA. 627+50 RT. -L-



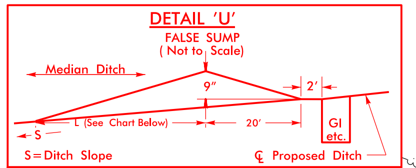
DETAIL 'Q'
LATERAL GRASSED SWALE
(Not to Scale)

FROM STA. 15+25 TO STA. 18+05 RT. -Y10RPA-



DETAIL 'R'
STANDARD 'V' DITCH
(Not to Scale)

-L- STA. 623+20 RT.



DETAIL 'U'
FALSE SUMP
(Not to Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

▨ T T	DENOTES TEMPORARY FILL IN WETLAND
▨ E E	DENOTES EXCAVATION IN WETLAND
▨ F F	DENOTES FILL IN WETLAND
* * *	DENOTES MECHANIZED CLEARING
▨ HC HC	DENOTES HAND CLEARING

GRAPHIC SCALE
100 50 0 100 200

SBG - "SHOULDER BERM GUTTER"

SEE SHEET 44 FOR -L- PROFILE
SEE SHEET 58 FOR -Y10RPA- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

8/17/99

6/5/2014
mjyork
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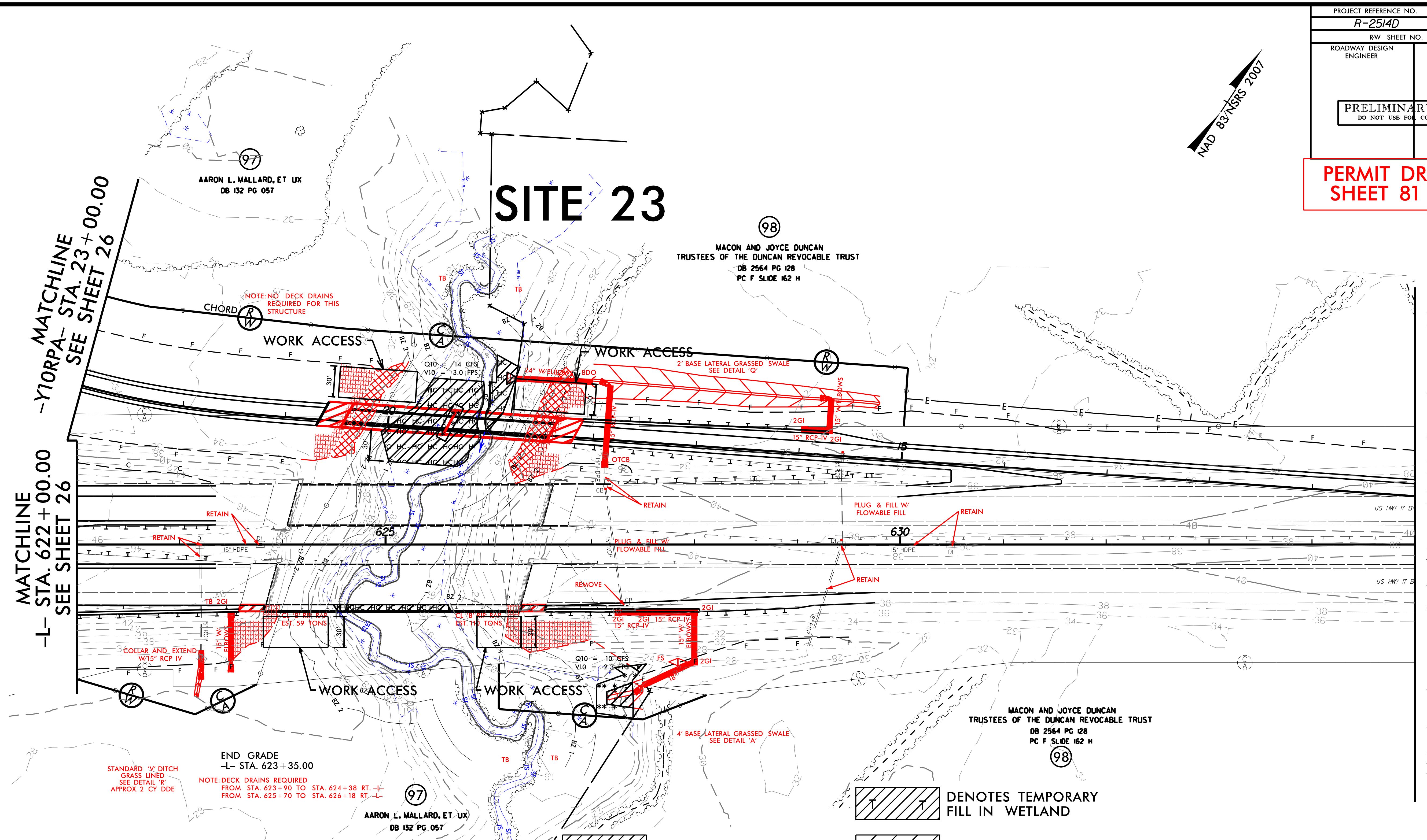
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 81 OF 84

SITE 23



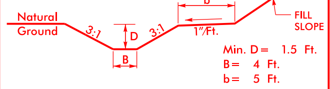
END GRADE
-L- STA. 623+35.00

STANDARD 'V' DITCH
GRASS LINED
SEE DETAIL 'R'
APPROX. 2 CY DDE

NOTE: DECK DRAINS REQUIRED
FROM STA. 623+90 TO STA. 624+38 RT. -L-
FROM STA. 625+70 TO STA. 626+18 RT. -L-

▨ T	DENOTES TEMPORARY FILL IN WETLAND
▨ E	DENOTES EXCAVATION IN WETLAND
▨ F	DENOTES FILL IN WETLAND
⁘	DENOTES MECHANIZED CLEARING
▨ HC	DENOTES HAND CLEARING

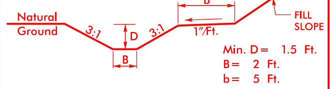
DETAIL 'A'
LATERAL GRASSED SWALE
(Not to Scale)



Min. D = 1.5 Ft.
B = 4 Ft.
b = 5 Ft.

FROM STA. 627+15 TO STA. 627+50 RT. -L-

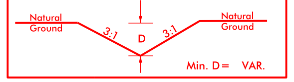
DETAIL 'Q'
LATERAL GRASSED SWALE
(Not to Scale)



Min. D = 1.5 Ft.
B = 2 Ft.
b = 5 Ft.

FROM STA. 15+25 TO STA. 18+05 RT. -Y10RPA-

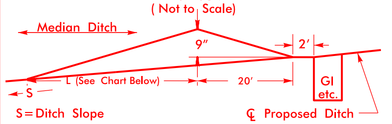
DETAIL 'R'
STANDARD 'V' DITCH
(Not to Scale)



Min. D = VAR.

-L- STA. 623+20 RT.

DETAIL 'U'
FALSE SUMP
(Not to Scale)



S = Ditch Slope
℄ Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

GRAPHIC SCALE

SBG - "SHOULDER BERM GUTTER"

SEE SHEET 44 FOR -L- PROFILE
SEE SHEET 58 FOR -Y10RPA- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

8/17/99

6/5/2014
mjyork
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland Permit\R2514D_Hyd_prm_psh_27_con.dgn
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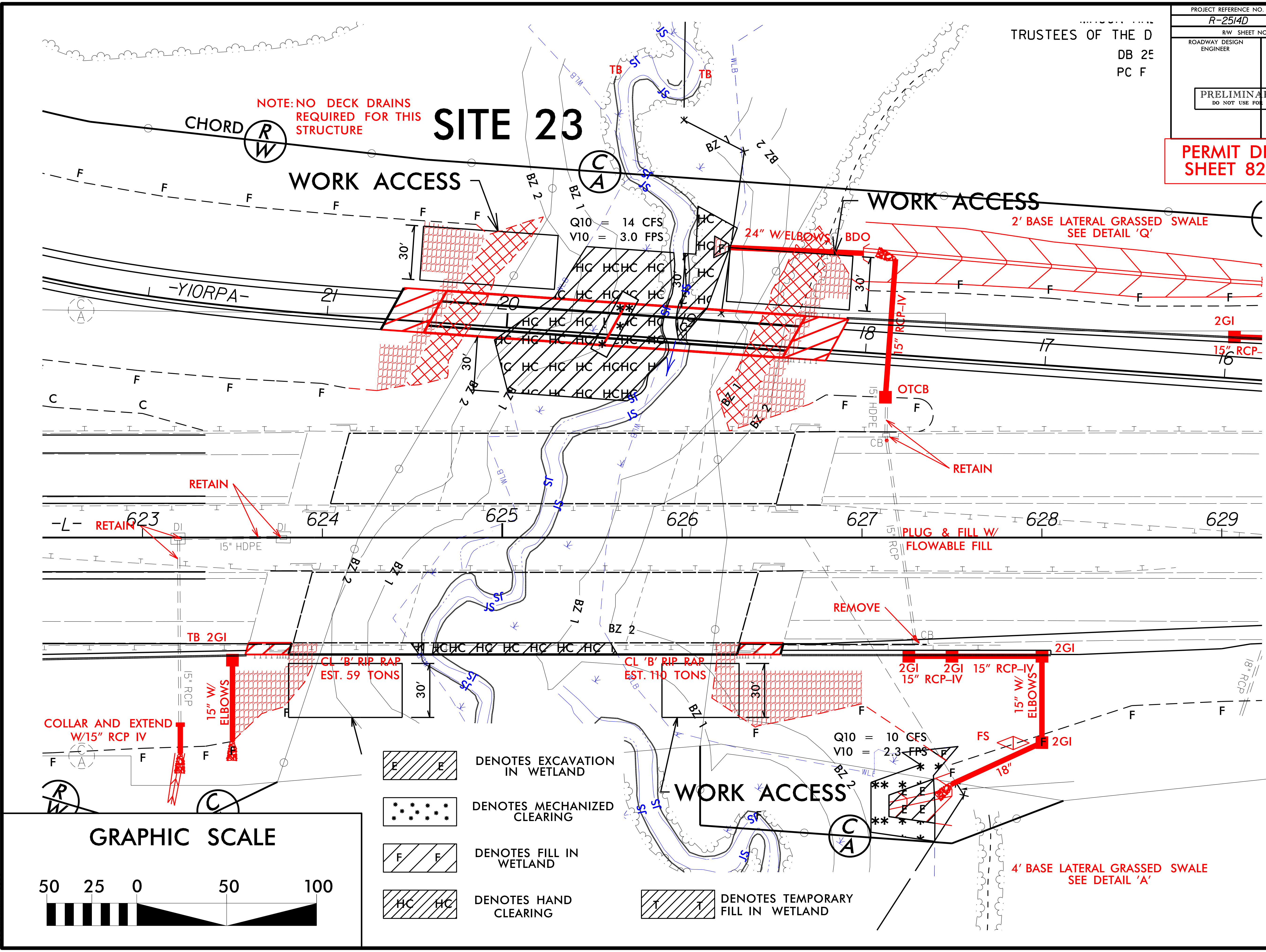
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	27
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 82 OF 84

SITE 23



8/17/99

REVISIONS

6/5/2014
mjyork
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$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$
$$$USERNAME$$$$

5/28/99

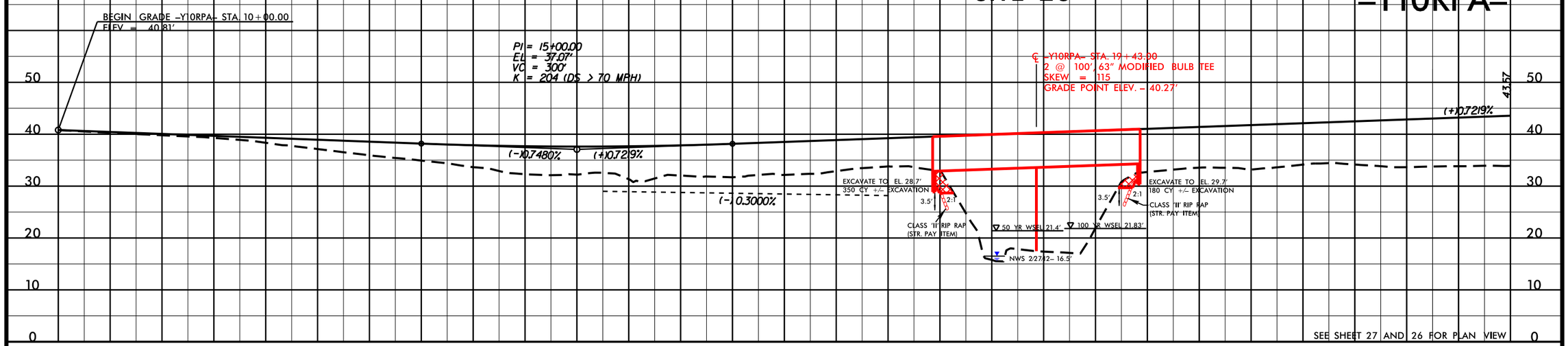
PERMIT DRAWING
SHEET 83 OF 84

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	58
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

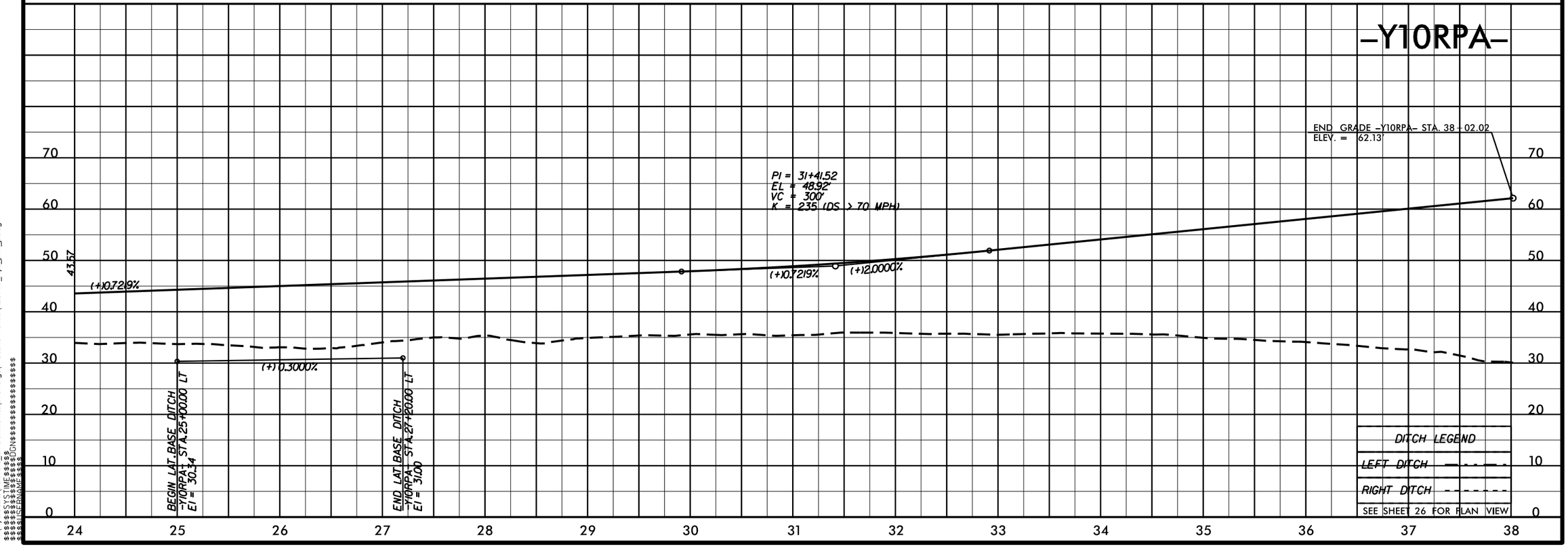
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SITE 26

-Y10RPA-



-Y10RPA-



2/27/2014
mjyork
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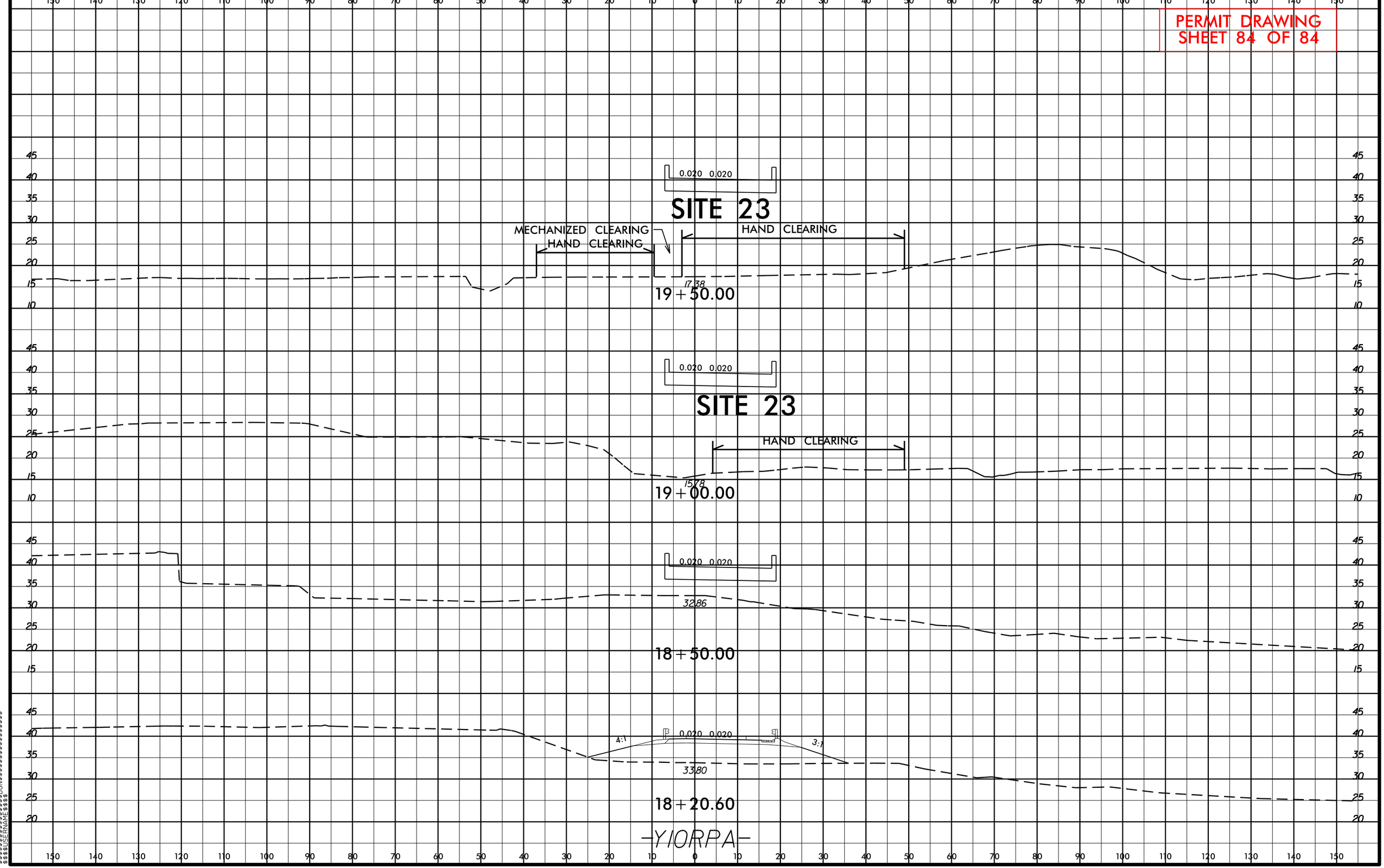
PROJ. REFERENCE NO.	SHEET NO.
R-2514D	X-209

PERMIT DRAWING
SHEET 84 OF 84



8/23/99

4/21/2014
mjyack
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$$$$$$$$$$USERNAME$$$$

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	302+50 to 303+50 -L-	48" RCP-IV						0.01	<0.01	218	31	
		Bank Stabilization								16		
2	329+50 to 331+50 -L-	36" RCP-IV	2.49			0.05						
	17+00 to 18+48.13											
	-Y3RPA-											
	17+00 to 19+00											
	-Y3RPD-											
3	372+50 to 374+50 -L-	Dual Bridges	<0.01	<0.01		0.07	0.66					
	17+51 to 22+00	2@ 8'X8' RCBC	0.08			0.02		<0.01	0.01	5	50	
	-DRV3-											
	11+50 to 12+50											
	-DRV4-											
4	389+02 to 399+75 -L-	Dual Bridges	0.76	0.06	0.06	0.12	1.19					
		48" RCP-IV										
5	432+00 to 434+00 -L-	36" RCP-IV	0.86			0.05						
6	437+00 to 446+00 -L-		1.60			0.13		0.03				
TOTALS:			5.79	0.06	0.06	0.44	1.84	0.04	0.01	239.00	81.00	0.00

Site 2 is a total take, and all of the wetland has been accounted for, including the wetland that is outside of the ROW.

There is permanent fill in wetlands at sites 3 and 4 due to the piles for the proposed bridges. Also, there is temporary fill in wetlands at sites 3 and 4 due to the piles for the work bridges. The pile areas are too small to show in the permit drawings, but they have been accounted for in the wetland summary.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

JONES COUNTY
WBS - 34442.1.1 (R-2514D)

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)
7	458+02 to 458+33 -L-		<0.01			0.01						
8	463+00 to 463+50 -L-		0.23			0.02						
9	473+00 to 475+00 -L-	54" RCP-IV	0.54			0.06		0.05	<0.01	196	20	
		Bank Stabilization								18		
10	476+50 to 480+00 -L-	36" RCP-IV	0.38			0.02						
11	490+50 to 496+00 -L-	36" RCP-IV	0.96			0.09						
12	504+00 to 506+00 -L-	36" RCP-IV	0.31			0.06						
13	520+07 to 520+23 -L-	36" RCP-IV	0.01			<0.01		0.01	<0.01	230	21	
		Bank Stabilization								12		
14	527+50 to 529+50 -L-		0.34									
TOTALS:			2.77	0.00	0.00	0.26	0.00	0.06	<0.01	456.00	41.00	0.00

Site 7 includes 0.25 Ac. permanent fill to a pond.
Site 8 includes a total take of the remaining 0.05 Ac. of wetland to the right of the roadway.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

JONES COUNTY
WBS - 34442.1.1 (R-2514D)

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)
15	530+12 to 531+75 -L-	78" RCP-IV	0.03			0.02		0.06	<0.01	292	27	
		Bank Stabilization								26		
16	535+00 to 536+67 -L-	42" RCP-IV						0.01	<0.01	282	21	
		Bank Stabilization								14		
17	548+16 to 552+75	36" RCP-IV	1.39			0.16						
18	562+00 to 563+00 -L-	18" RCP-IV	0.58			0.10						
	11+00 to 13+50 -Y8A-											
19	584+00 to 588+00 -L-	36" RCP-IV	1.35			0.20						
	33+50 to 35+00 -Y8A-											
20	591+50 to 592+50 -L-	36" RCP-IV	0.30			0.06						
	41+00 to 41+50 -Y8A-											
21	608+00 to 612+50 -L-		1.58		0.01	0.03		0.06		644		
	26+00 to 30+00 -Y10-											
TOTALS:			5.23	0.00	0.01	0.57	0.00	0.13	<0.01	1258	48	0

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

JONES COUNTY
WBS - 34442.1.1 (R-2514D)

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)
22	26+07 to 26+67		0.02									
	-Y10RPA-											
23	19+00 to 20+00	BRIDGE	<0.01			0.01	0.17					
	-Y10RPA-	Bank Stabilization										
	624+49 to 625+64	BRIDGE					0.02					
	-L-											
	627+15 to 627+40	Grassed Swale	<0.01		0.01	0.02						
	-L-											
TOTALS:			0.02	0.00	0.01	0.03	0.18	0.00	0.00	0.00	0.00	0.00

OVERALL PROJECT TOTALS:	13.82	0.07	0.07	1.29	2.02	0.23	0.02	1953.00	170.00	0.00

Structure @ Sta. 18+43 to 20+43 -Y10RPA-
- 15ft² permanent impacts
- 3000 ft² temporary impacts

Strucure @ Sta. 623+81 to 626+31 -L-
- 70ft² permanent impacts
- 3900 ft² temporary impacts

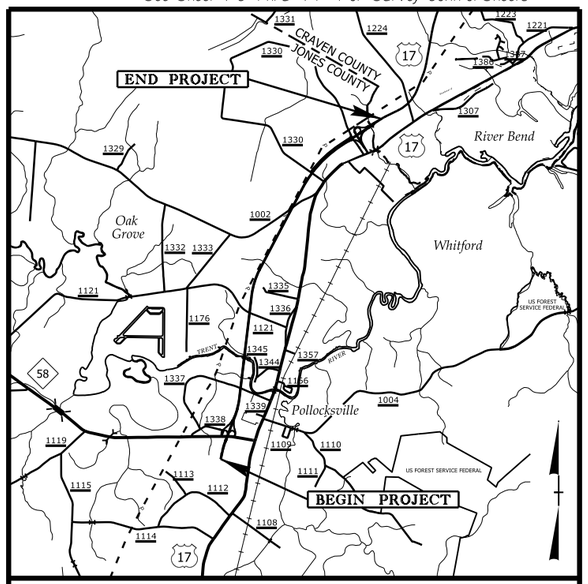
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

JONES COUNTY
WBS - 34442.1.1 (R-2514D)

09/08/99

TIP PROJECT: R-2514D

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols
See Sheet 1-C Thru 1-F For Survey Control Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JONES & CRAVEN COUNTIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2514D	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34442.1.5		PE
34442.2.S5		R/W & UTILITIES

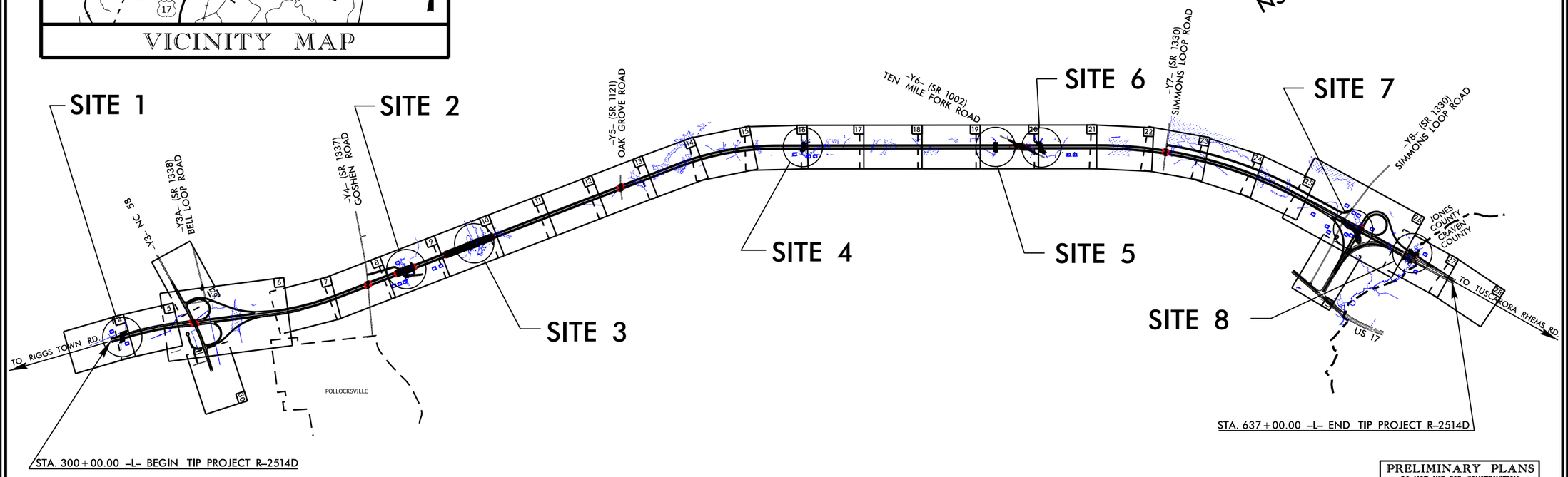
BUFFER DRAWING
SHEET 1 OF 20

LOCATION: US 17 FROM SOUTH OF NC 58 TO THE NEW BERN BYPASS

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

BUFFER IMPACTS PERMIT

NAD 83/
NSRS 2007



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

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 2015 = 10,600
ADT 2035 = 15,700
DHV = 7 %
D = 65 %
T = 7 % *
V = 70 MPH
* TTST = 4 % DUAL = 3 %
FUNC CLASS = FREEWAY
STATEWIDE TIER

PROJECT LENGTH

LENGTH OF ROADWAY, TIP PROJECT R-2514D = 5.894 Miles
LENGTH OF STRUCTURES, TIP PROJECT R-2514D = 0.489 Miles
TOTAL LENGTH OF TIP PROJECT R-2514D = 6.383 Miles

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 27, 2013

LETTING DATE:
JUNE 16, 2015

JAMES A. SPEER, P.E.
PROJECT ENGINEER

DANIEL W. GARDNER, JR., P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

4/2/2014
mjyork
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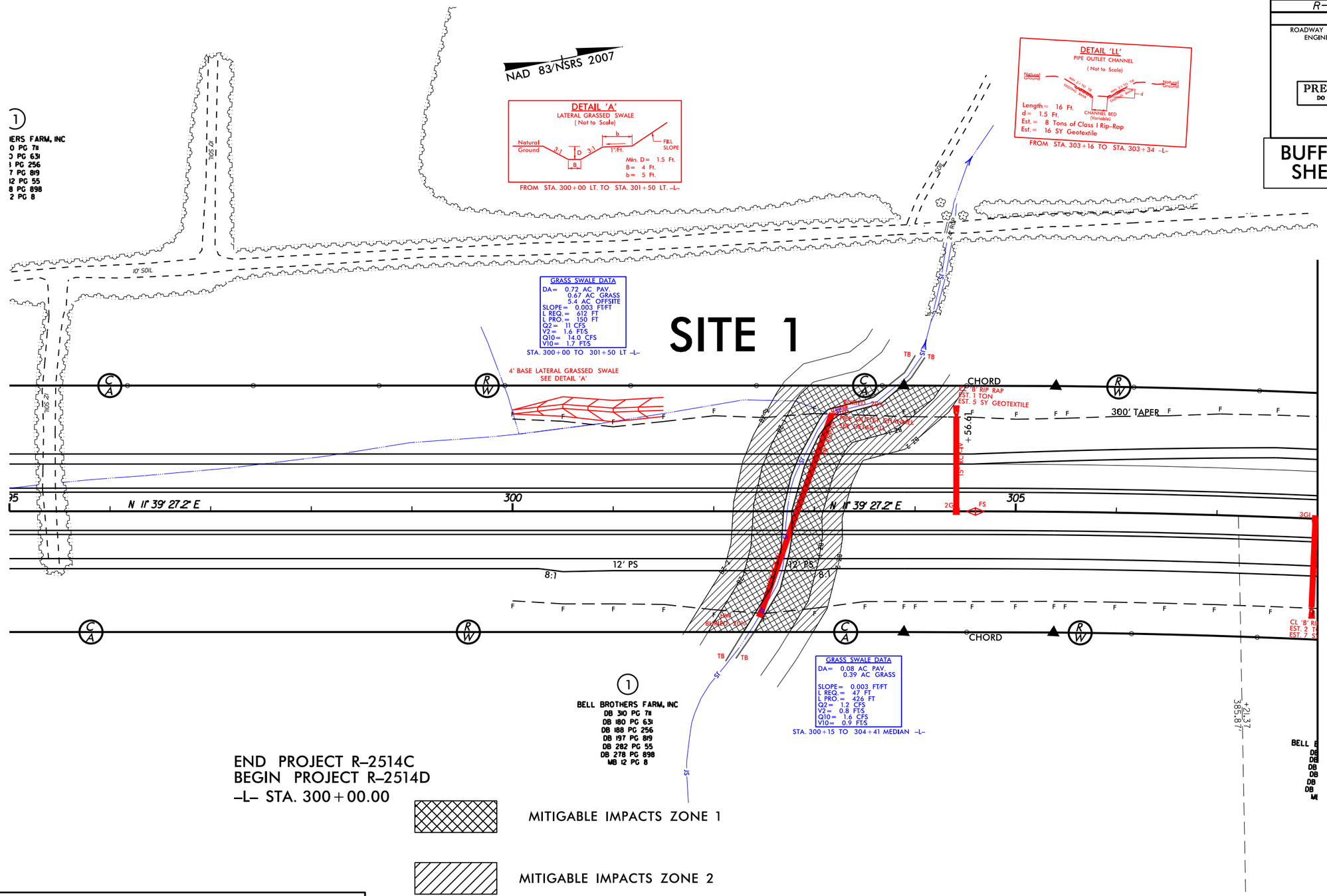
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 2 OF 20



SEE SHEET 32 FOR -L- PROFILE

REVISIONS

8/17/99

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rtyork
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$$$$$$$$DGN$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	

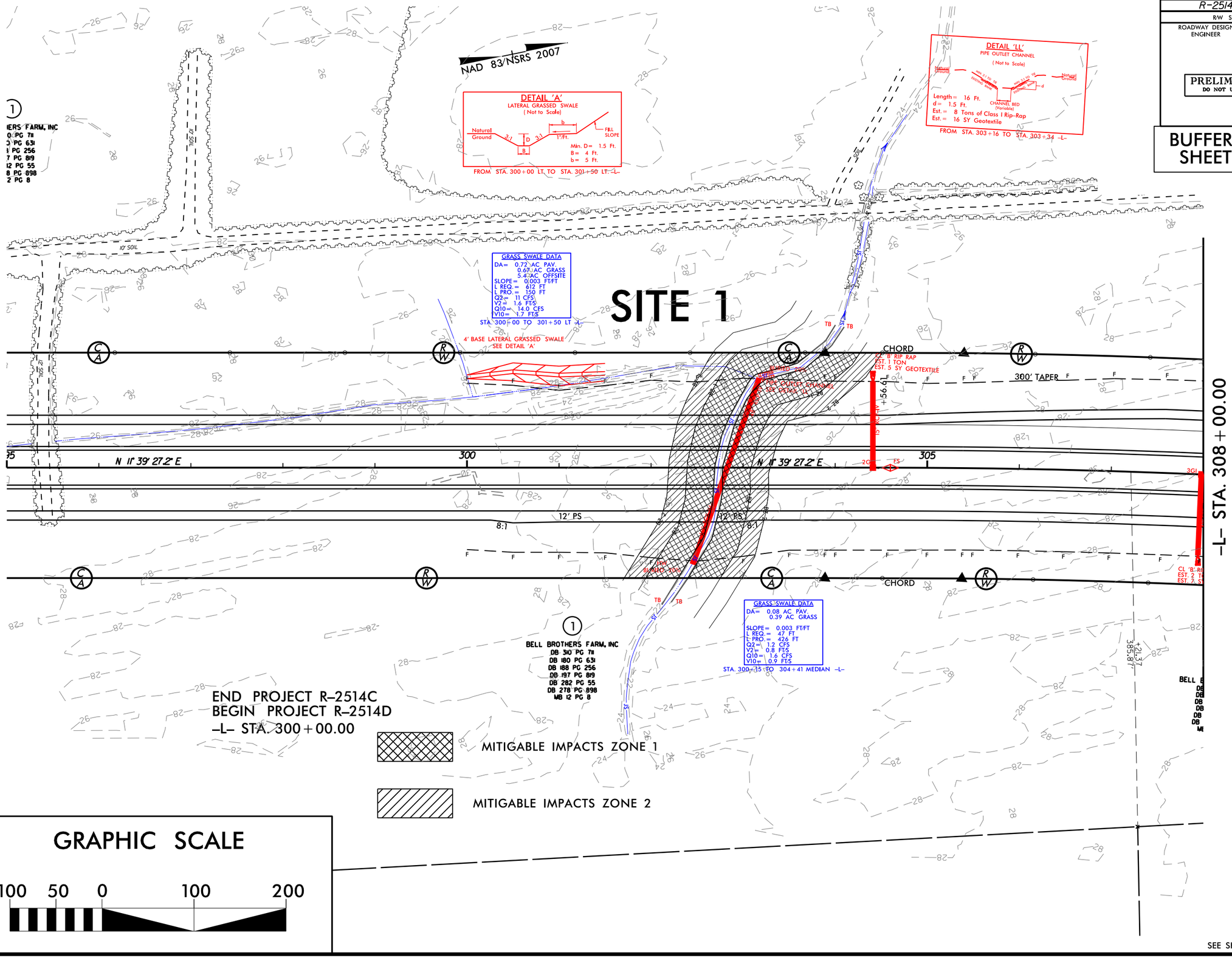
R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 3 OF 20



SEE SHEET 32 FOR -L- PROFILE

REVISIONS

8/17/99

4/21/2014
mjyork
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$$$$$$$$$$$$DGN$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	9

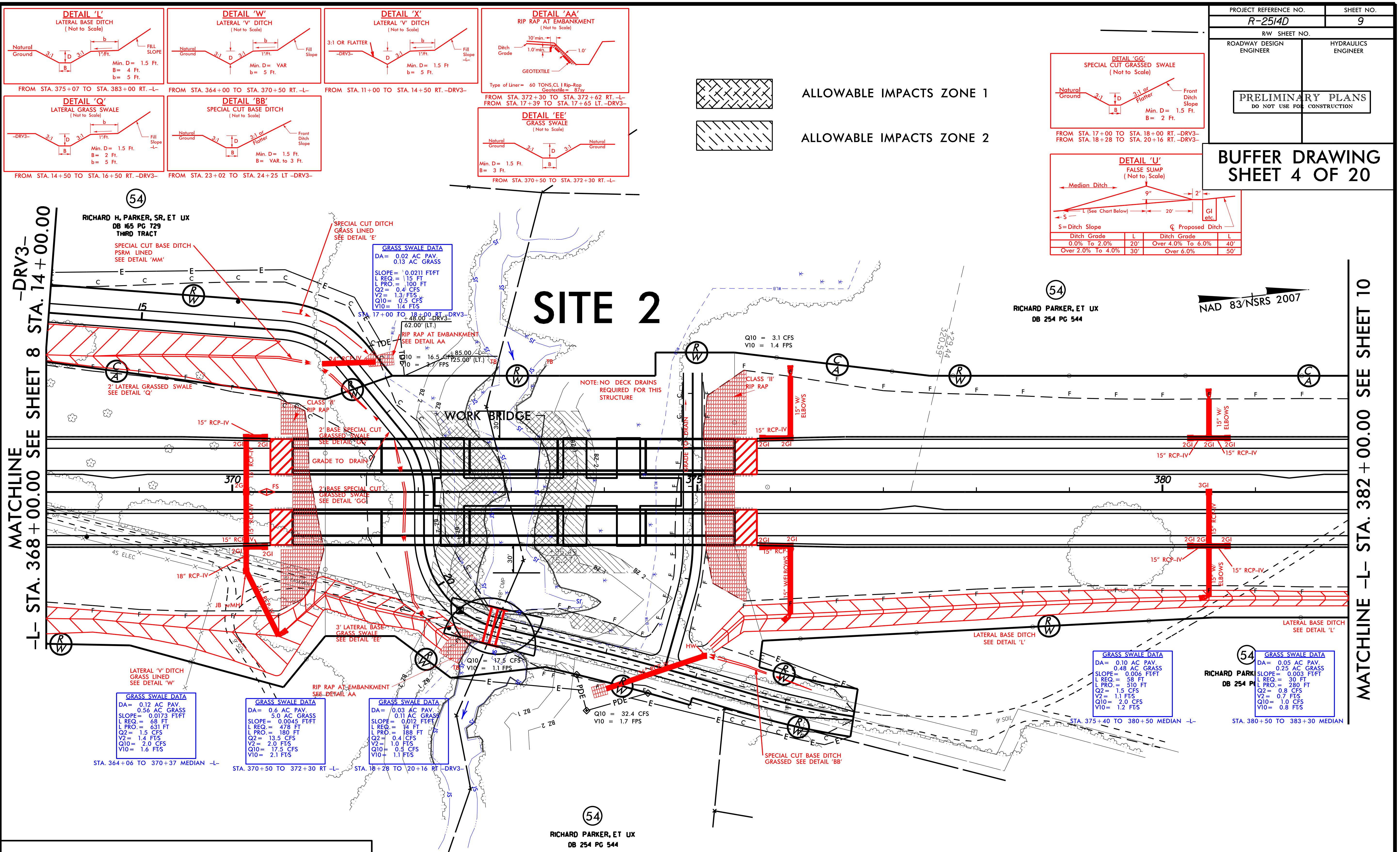
R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 4 OF 20



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

GRASS SWALE DATA
DA = 0.02 AC PAV.
0.13 AC GRASS
SLOPE = 0.0211 FT/FT
L REQ. = 15 FT
L PRO. = 100 FT
Q2 = 0.4 CFS
V2 = 1.3 FT/S
Q10 = 0.5 CFS
V10 = 1.4 FT/S
STA. 17+00 TO 18+00 RT -DRV3-

GRASS SWALE DATA
DA = 0.12 AC PAV.
0.56 AC GRASS
SLOPE = 0.0173 FT/FT
L REQ. = 68 FT
L PRO. = 631 FT
Q2 = 1.5 CFS
V2 = 1.4 FT/S
Q10 = 2.0 CFS
V10 = 1.6 FT/S
STA. 364+06 TO 370+37 MEDIAN -L-

GRASS SWALE DATA
DA = 0.6 AC PAV.
5.0 AC GRASS
SLOPE = 0.0045 FT/FT
L REQ. = 478 FT
L PRO. = 180 FT
Q2 = 13.5 CFS
V2 = 2.0 FT/S
Q10 = 17.5 CFS
V10 = 2.1 FT/S
STA. 370+50 TO 372+30 RT -L-

GRASS SWALE DATA
DA = 0.03 AC PAV.
0.11 AC GRASS
SLOPE = 0.012 FT/FT
L REQ. = 14 FT
L PRO. = 188 FT
Q2 = 0.4 CFS
V2 = 1.0 FT/S
Q10 = 0.5 CFS
V10 = 1.1 FT/S
STA. 18+28 TO 20+16 RT -DRV3-

GRASS SWALE DATA
DA = 0.10 AC PAV.
0.48 AC GRASS
SLOPE = 0.006 FT/FT
L REQ. = 58 FT
L PRO. = 510 FT
Q2 = 1.5 CFS
V2 = 1.1 FT/S
Q10 = 2.0 CFS
V10 = 1.2 FT/S
STA. 375+40 TO 380+50 MEDIAN -L-

GRASS SWALE DATA
DA = 0.05 AC PAV.
0.25 AC GRASS
SLOPE = 0.003 FT/FT
L REQ. = 30 FT
L PRO. = 280 FT
Q2 = 0.8 CFS
V2 = 0.7 FT/S
Q10 = 1.0 CFS
V10 = 0.8 FT/S
STA. 380+50 TO 383+30 MEDIAN

REVISIONS

8/17/99

GRAPHIC SCALE

SBG - "SHOULDER BERM GUTTER"

SEE SHEET 35 FOR -L- PROFILE
SEE SHEET 52 FOR -DRV3- PROFILE
SEE SHEET 52 FOR -DRV4- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

4/21/2014
mjyork
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PROJECT REFERENCE NO.	SHEET NO.
R-2514D	9

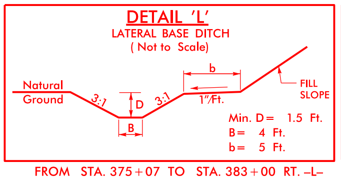
R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

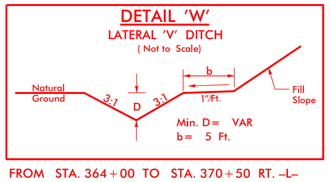
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 5 OF 20



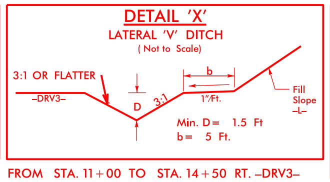
DETAIL 'L'
LATERAL BASE DITCH
(Not to Scale)

FROM STA. 375+07 TO STA. 383+00 RT. -L-



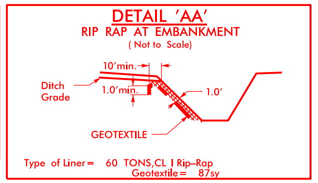
DETAIL 'W'
LATERAL 'V' DITCH
(Not to Scale)

FROM STA. 364+00 TO STA. 370+50 RT. -L-



DETAIL 'X'
LATERAL 'V' DITCH
(Not to Scale)

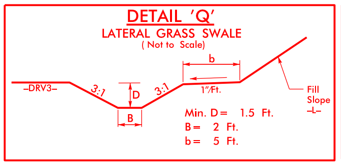
FROM STA. 11+00 TO STA. 14+50 RT. -DRV3-



DETAIL 'AA'
RIP RAP AT EMBANKMENT
(Not to Scale)

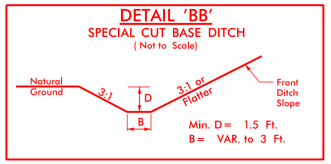
Type of Liner = 60 TONS,CL I Rip-Rap
Geotextile = 87sy

FROM STA. 372+30 TO STA. 372+62 RT. -L-
FROM STA. 17+39 TO STA. 17+65 LT. -DRV3-



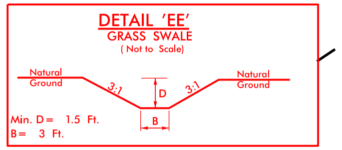
DETAIL 'Q'
LATERAL GRASS SWALE
(Not to Scale)

FROM STA. 14+50 TO STA. 16+50 RT. -DRV3-



DETAIL 'BB'
SPECIAL CUT BASE DITCH
(Not to Scale)

FROM STA. 23+02 TO STA. 24+25 LT -DRV3-

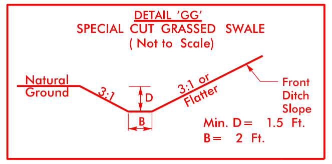


DETAIL 'EE'
GRASS SWALE
(Not to Scale)

FROM STA. 370+50 TO STA. 372+30 RT. -L-

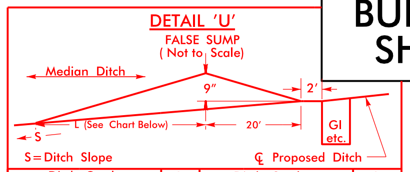
▨ ALLOWABLE IMPACTS ZONE 1

▨ ALLOWABLE IMPACTS ZONE 2



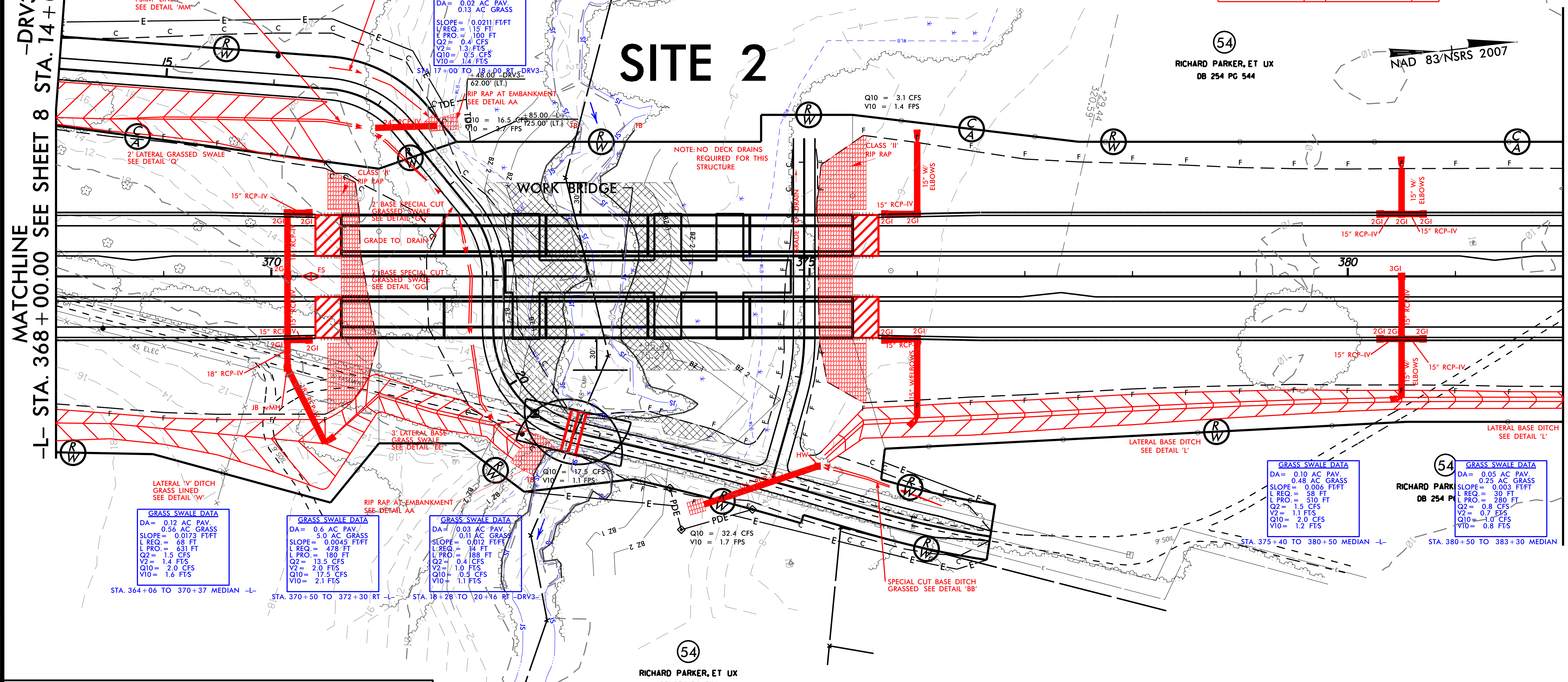
DETAIL 'GG'
SPECIAL CUT GRASSED SWALE
(Not to Scale)

FROM STA. 17+00 TO STA. 18+00 RT. -DRV3-
FROM STA. 18+28 TO STA. 20+16 RT. -DRV3-



DETAIL 'U'
FALSE SUMP
(Not to Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'



GRASS SWALE DATA
DA = 0.02 AC PAV.
0.13 AC GRASS
SLOPE = 0.0211 FT/FT
L REQ. = 15 FT
L PRO. = 100 FT
Q2 = 0.4 CFS
V2 = 1.3 FT/S
Q10 = 0.5 CFS
V10 = 1.4 FT/S
STA. 17+00 TO 18+00 RT -DRV3-

GRASS SWALE DATA
DA = 0.12 AC PAV.
0.56 AC GRASS
SLOPE = 0.0173 FT/FT
L REQ. = 68 FT
L PRO. = 631 FT
Q2 = 1.5 CFS
V2 = 1.4 FT/S
Q10 = 2.0 CFS
V10 = 1.6 FT/S
STA. 364+06 TO 370+37 MEDIAN -L-

GRASS SWALE DATA
DA = 0.6 AC PAV.
5.0 AC GRASS
SLOPE = 0.0045 FT/FT
L REQ. = 478 FT
L PRO. = 180 FT
Q2 = 13.5 CFS
V2 = 2.0 FT/S
Q10 = 17.5 CFS
V10 = 2.1 FT/S
STA. 370+50 TO 372+30 RT -L-

GRASS SWALE DATA
DA = 0.03 AC PAV.
0.11 AC GRASS
SLOPE = 0.012 FT/FT
L REQ. = 14 FT
L PRO. = 188 FT
Q2 = 0.4 CFS
V2 = 1.0 FT/S
Q10 = 0.5 CFS
V10 = 1.1 FT/S
STA. 18+28 TO 20+16 RT -DRV3-

GRASS SWALE DATA
DA = 0.10 AC PAV.
0.48 AC GRASS
SLOPE = 0.006 FT/FT
L REQ. = 58 FT
L PRO. = 510 FT
Q2 = 1.5 CFS
V2 = 1.1 FT/S
Q10 = 2.0 CFS
V10 = 1.2 FT/S
STA. 375+40 TO 380+50 MEDIAN -L-

GRASS SWALE DATA
DA = 0.05 AC PAV.
0.25 AC GRASS
SLOPE = 0.003 FT/FT
L REQ. = 30 FT
L PRO. = 280 FT
Q2 = 0.8 CFS
V2 = 0.7 FT/S
Q10 = 1.0 CFS
V10 = 0.8 FT/S
STA. 380+50 TO 383+30 MEDIAN

GRAPHIC SCALE

SBG - "SHOULDER BERM GUTTER"

SEE SHEET 35 FOR -L- PROFILE
SEE SHEET 52 FOR -DRV3- PROFILE
SEE SHEET 52 FOR -DRV4- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

8/17/99

4/21/2014
mjyork
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PROJECT REFERENCE NO.	SHEET NO.
R-2514D	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 6 OF 20

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

SITE 2

NOTE: NO DECK DRAINS REQUIRED FOR THIS STRUCTURE

WORK BRIDGE

Q10 = 3.1 CFS
V10 = 1.4 FPS

+48.00 -DRV3-
62.00' (LT.)

+85.00 -L-
25.00' (LT.)

Q10 = 16.5 CFS
V10 = 3.7 FPS

Q10 = 17.5 CFS
V10 = 1.1 FPS

Q10 = 32.4 CFS
V10 = 1.7 FPS

24" RCP-IV

5" RCP-IV

15" RCP-IV

15" W/ ELBOWS

15" W/ELBOWS

18" RCP-IV

35" RCP-IV

2GI

FS

JB w/MH

HW

2' BASE SPECIAL CUT GRASSED SWALE SEE DETAIL 'GG'

GRADE TO DRAIN

3' LATERAL BASE GRASS SWALE SEE DETAIL 'EE'

48" CMP

15' EASEMENT

-DRV3-

-DRV4-

-L-

370 371 372 373 374 375 376

16 17 18 19 20 21 22 23 24

BZ 1 BZ 2

30'

GRAPHIC SCALE

50 25 0 50 100

8/17/99

REVISIONS

4212014
mpyrek
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PROJECT REFERENCE NO.	SHEET NO.
R-2514D	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 7 OF 20

NAD 83/NSRS 2007

MATCHLINE -L- STA. 382+00.00 SEE SHEET 9

MATCHLINE -L- STA. 396+00.00 SEE SHEET 11

54
RICHARD PARKER, ET UX
DB 254 PG 544

54
RICHARD PARKER, ET UX
DB 254 PG 544

56
THOMAS B. MOORE, ET AL
DB 306 PG 520

WORK BRIDGE

WORK BRIDGE

NO FENCE

NO FENCE

CLASS "II" RIP RAP

CLASS "II" RIP RAP

15" W/ ELBOWS

15" W/ ELBOWS

2GI

2GI

385

390

395

30'

30'

30'

30'

30'

30'

BZ 1

BZ 2

TB

TB TB

TB

TB

TB

TB

TB

TB

ST

JS

F

FRENT RIVER

NOTE: STANDARD DECK DRAINS:
FROM STA. 383+35 TO STA. 388+50 RT
FROM STA. 383+35 TO STA. 388+50 LT.

54
RICHARD PARKER, ET UX
DB 254 PG 544

JOHN H. DAVIS, JR.
DB 184 PG 566
MC "A" SLIDE 104-A

56
THOMAS B. MOORE, ET AL
DB 306 PG 520

SITE 3

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

GRAPHIC SCALE

100 50 0 100 200

SBG – "SHOULDER BERM GUTTER"

SEE SHEET 35 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

8/17/99

4/21/2014
mjyost
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$$$$$$$$$$DGNSIZE$$$$
$$$$$$$$$$DGNNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 8 OF 20

NAD 83/NSRS 2007

MATCHLINE -L- STA. 382+00.00 SEE SHEET 9

MATCHLINE -L- STA. 396+00.00 SEE SHEET 11

54 RICHARD PARKER, ET UX
DB 254 PG 544

54 RICHARD PARKER, ET UX
DB 254 PG 544

56 THOMAS B. MOORE, ET AL
DB 306 PG 520

WORK BRIDGE

WORK BRIDGE

NO FENCE

NO FENCE

CLASS "II" RIP RAP

CLASS "II" RIP RAP

15" W/ ELBOWS

15" W/ ELBOWS

2GI

2GI

385

390

395

30'

30'

30'

30'

30'

30'

TB

BZ 1

BZ 2

BZ

FRENCH RIVER

NOTE: STANDARD DECK DRAINS:
FROM STA. 383+35 TO STA. 388+50 RT
FROM STA. 383+35 TO STA. 388+50 LT.

54 RICHARD PARKER, ET UX
DB 254 PG 544

JOHN H. DAVIS, JR.
DB 184 PG 566
MC "A" SLIDE 104-A

56 THOMAS B. MOORE, ET AL
DB 306 PG 520

SITE 3

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

GRAPHIC SCALE

100 50 0 100 200

SBG - "SHOULDER BERM GUTTER"

SEE SHEET 35 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

8/17/99

4/21/2014
mjost
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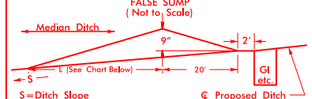
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 9 OF 20

NAD 83/NSRS 2007

DETAIL 'U'
FALSE SUMP
(Not to Scale)



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

DETAIL 'NN'
PIPE OUTLET CHANNEL
(Not to Scale)

Length= 18 Ft.
d= 2.0 Ft.
Est.= 12 Tons of Class I Rip-Rap
FROM STA. 473+64 TO STA. 473+88 -L-

(71)
(HISTORIC PROPERTY)
FOSCUE FAMILY LIMITED PARTNERSHIP,
A NORTH CAROLINA LIMITED PARTNERSHIP
DB 274 PG 895
PLAT CABINET A SLIDE 96A

(71)
(HISTORIC PROPERTY)
FOSCUE FAMILY LIMITED PARTNERSHIP,
A NORTH CAROLINA LIMITED PARTNERSHIP
DB 274 PG 895
PLAT CABINET A SLIDE 96A

SITE 4

-L- STA. 466+00.00

-L- STA. 479+00.00

+76.08
1,396.60

100' CP&L POWERLINE EASEMENT

CHORD
GAS TEST STATION
470
475
2GI
FS
3GI
15" RCP-IV
15" RCP-IV
CL 'B' RIP RAP
EST. 1 TONS
EST. 5 SY GEOTEXTILE
CL 'B' RIP RAP
EST. 1 TONS
EST. 5 SY GEOTEXTILE
BURIED 15" RCP-IV
PIPE OUTLET CHANNEL
SEE DETAIL 'NN'
TOE PROTECTION
SEE DETAIL 'B'
5' BERM
35.0' TOP EL.
3:1 SIDE SLOPES
APPROX. 7 CY FILL
Q10 = 3.5 CFS
V10 = 1.1 FPS
Q10 = 3.8 CFS
V10 = 1.3 FPS

PERTY)
GE RESTORATION
OFIT CORPORATION
: 96

GRASS SWALE DATA
DA= 0.29 AC PAV.
0.61 AC GRASS
SLOPE= 0.003 FT/FT
L REQ.= 90 FT
L PRO.= 720 FT
Q2= 2.7 CFS
V2= 1.0 FT/S
Q10= 3.5 CFS
V10= 1.1 FT/S
STA. 465+50 TO 472+70 MEDIAN -L-

GRASS SWALE DATA
DA= 0.06 AC PAV.
0.31 AC GRASS
SLOPE= 0.003 FT/FT
L REQ.= 37 FT
L PRO.= 330 FT
Q2= 1.0 CFS
V2= 0.8 FT/S
Q10= 1.2 CFS
V10= 0.8 FT/S
STA. 472+70 TO 476+00 MEDIAN -L-

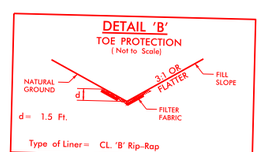
GRASS SWALE DATA
DA= 0.14 AC PAV.
0.66 AC GRASS
SLOPE= 0.003 FT/FT
L REQ.= 80 FT
L PRO.= 736 FT
Q2= 2.1 CFS
V2= 0.9 FT/S
Q10= 2.7 CFS
V10= 1.0 FT/S
STA. 476+00 TO 483+36 MEDIAN -L-

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

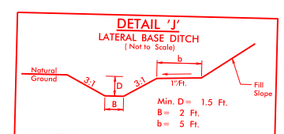
GRAPHIC SCALE
100 50 0 100 200

DETAIL 'B'
TOE PROTECTION
(Not to Scale)



d= 1.5 Ft.
Type of Liner= CL. 'B' Rip-Rap
FROM STA. 476+00 TO STA. 479+00 LT. -L-

DETAIL 'J'
LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.
FROM STA. 483+00 TO STA. 483+85 LT. -L-
FROM STA. 483+85 TO STA. 485+00 LT. -L-

SEE SHEET 38 FOR -L- PROFILE

8/17/99
REVISIONS
4/2/2014
mjwork
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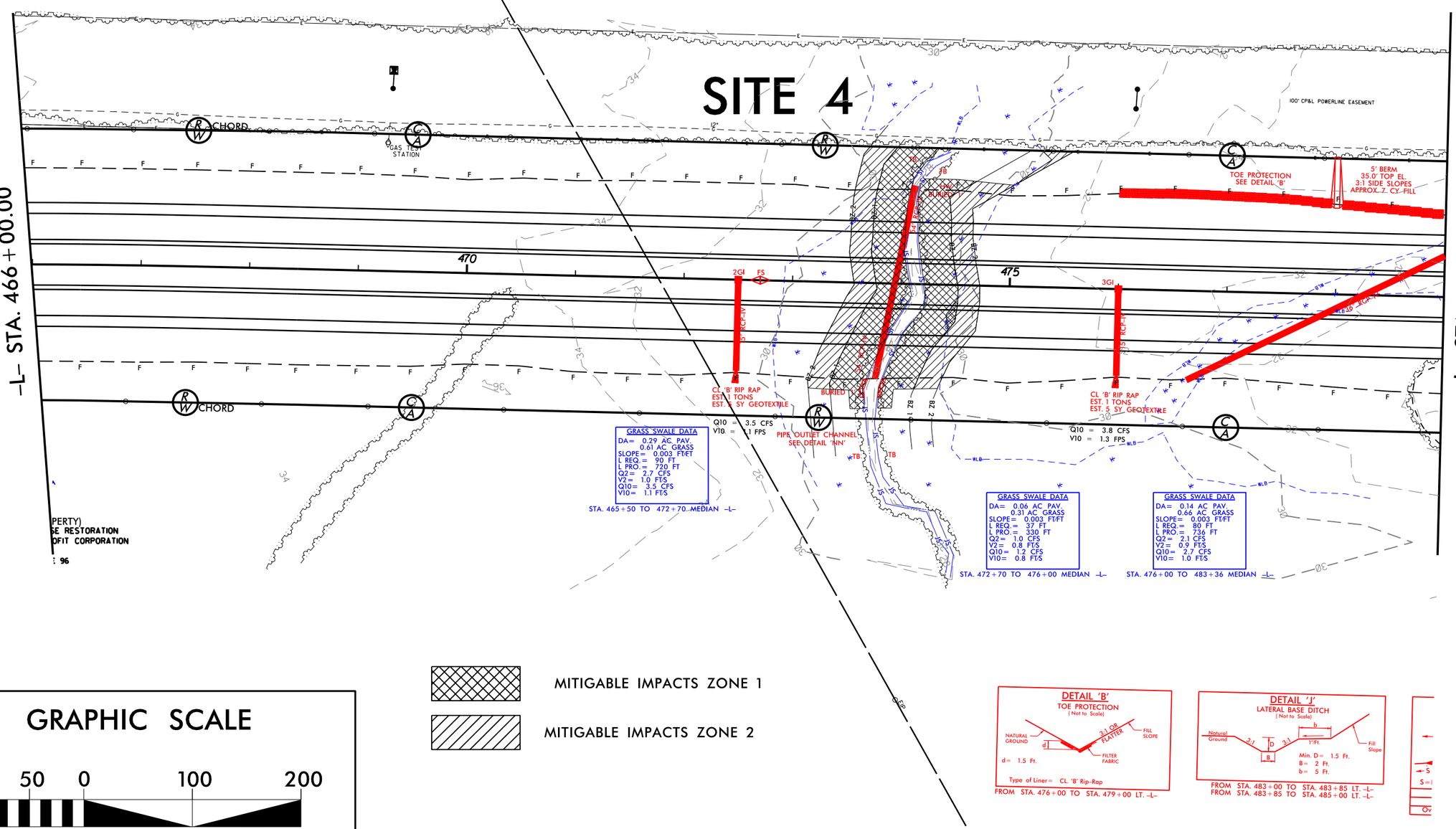
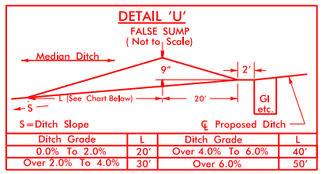
$$$$DGNSIZE$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

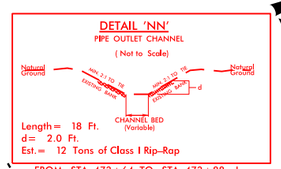
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 10 OF 20





Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'



FROM STA. 473+64 TO STA. 473+88 -L-

FROM STA. 476+00 TO STA. 479+00 LT. -L-

FROM STA. 483+00 TO STA. 483+85 LT. -L-
FROM STA. 483+85 TO STA. 485+00 LT. -L-

SEE SHEET 38 FOR -L- PROFILE

REVISIONS

8/17/99

4/21/2014
mycot
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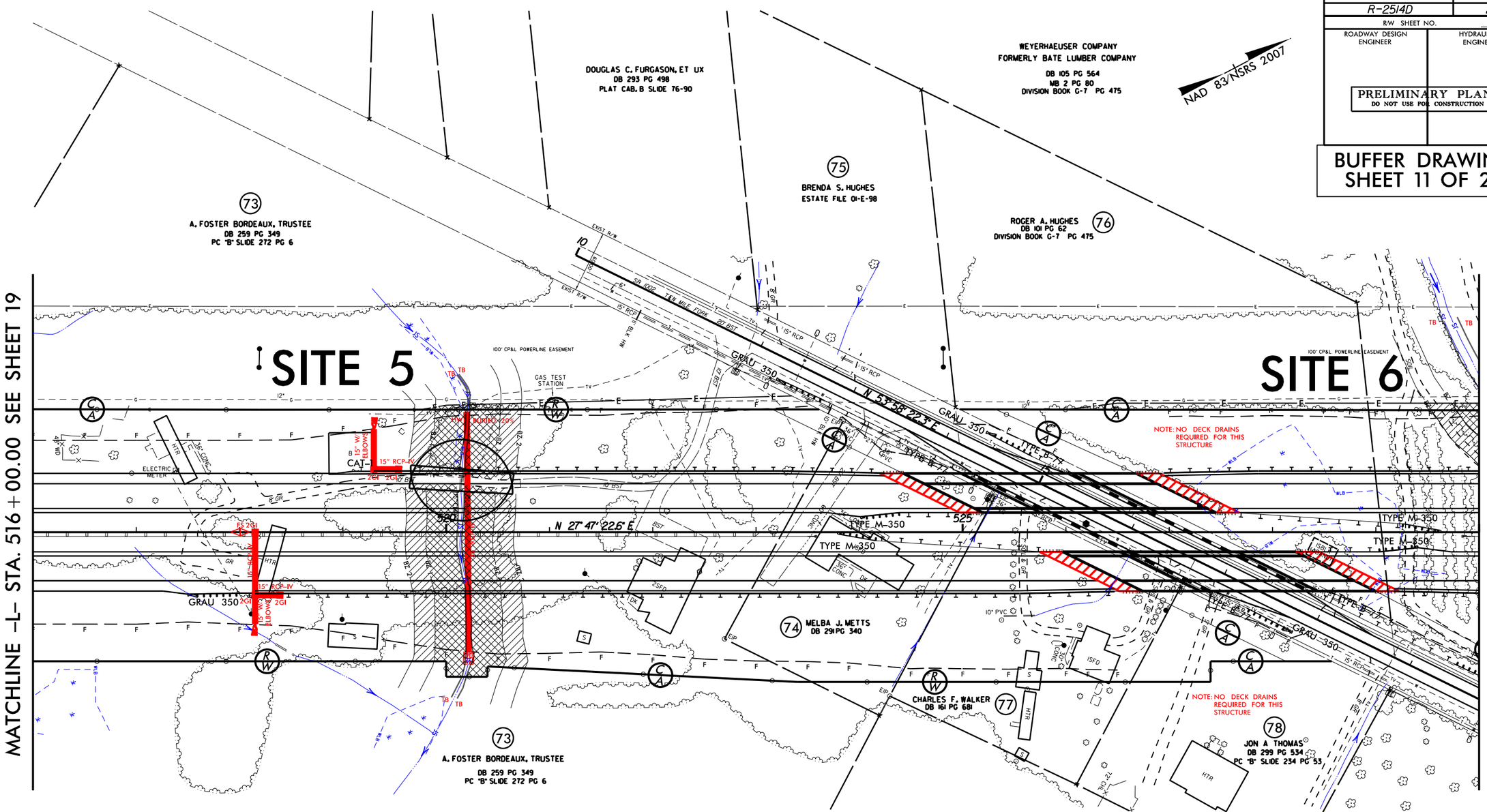
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 11 OF 20



GRAPHIC SCALE

100 50 0 100 200

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

DETAIL 'OO'
PIPE OUTLET CHANNEL
(Not to Scale)

Natural Ground — Min. 2:1 TO 3:1 EXISTING SLOPE — CHANNEL BED (Variable) — d — Natural Ground

Length = 12 Ft.
d = 1.0 Ft.
Est. = 4 Tons of Class I Rip-Rap

FROM STA. 520+16 TO STA. 520+27 -L-

DETAIL 'U'
FALSE SUMP
(Not to Scale)

Median Ditch — 9" — 2" — S — L (See Chart Below) — 20' — GI etc. — ℄ Proposed Ditch

S = Ditch Slope

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

SBG – "SHOULDER BERM GUTTER"
SFCB – "SINGLE FACED CONCRETE BARRIER"

SEE SHEET 40 FOR -L- PROFILE
SEE SHEET 53 FOR -Y6- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

8/17/99

4/2/2014
rtbyrk
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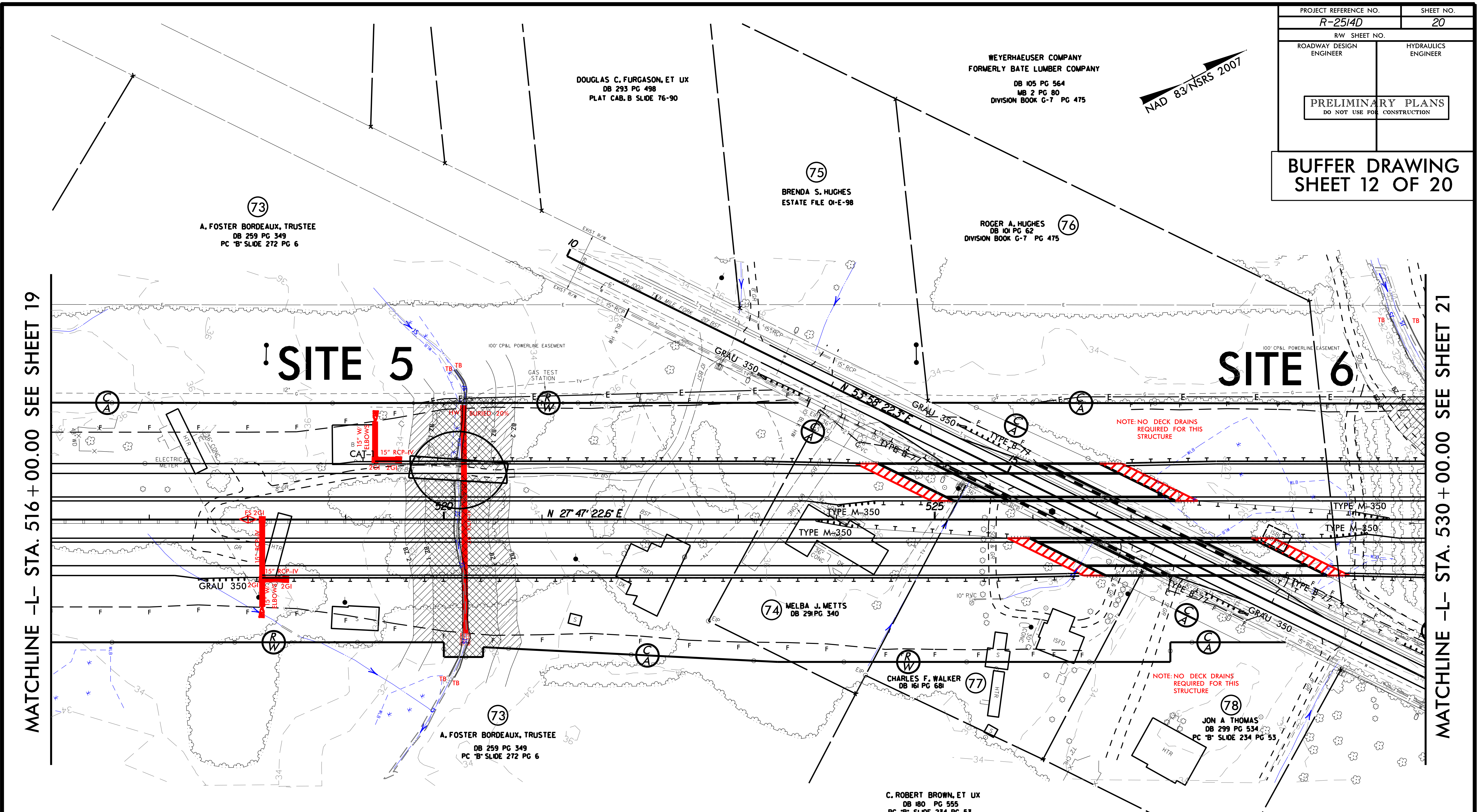
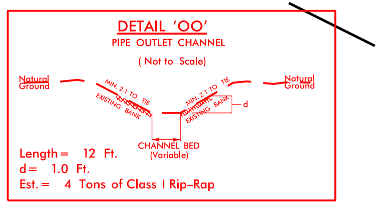
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 12 OF 20





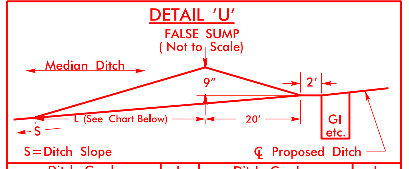
DETAIL 'OO'

PIPE OUTLET CHANNEL

(Not to Scale)

Length = 12 Ft.
d = 1.0 Ft.
Est. = 4 Tons of Class I Rip–Rap

FROM STA. 520+16 TO STA. 520+27 –L–



DETAIL 'U'

FALSE SUMP
(Not to Scale)

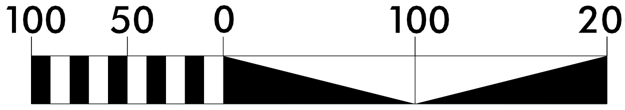
Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

C. ROBERT BROWN, ET UX
DB 186 PG 906
PC "B" SLIDE 234 PG 53

SBG – "SHOULDER BERM GUTTER"
SFCB – "SINGLE FACED CONCRETE BARRIER"

SEE SHEET 40 FOR –L– PROFILE
SEE SHEET 53 FOR –Y6– PROFILE
SEE SHEETS S–1 THRU S–? FOR STRUCTURE PLANS

GRAPHIC SCALE



▩ MITIGABLE IMPACTS ZONE 1

▨ MITIGABLE IMPACTS ZONE 2

4/21/2014
mjyork
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PROJECT REFERENCE NO.	SHEET NO.
R-2514D	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 13 OF 20

8/17/99

REVISIONS

NAD 83/NSRS 2007

ER COMPANY
LUMBER COMPANY
5 PG 564
PG 80
K G-7 PG 475

ES (76)
PG 475

DETAIL 'QQ'
PIPE OUTLET CHANNEL
(Not to Scale)

Natural Ground — MIN 3:1 TO 7:1 EXISTING BANK — MIN 2:1 TO 3:1 EXISTING BANK — d — Natural Ground
CHANNEL BED (Variable)

Length= 26 Ft.
d= 3.0 Ft.
Est.= 25 Tons of Class I Rip-Rap

FROM STA. 531+54 TO STA. 531+85 -L-

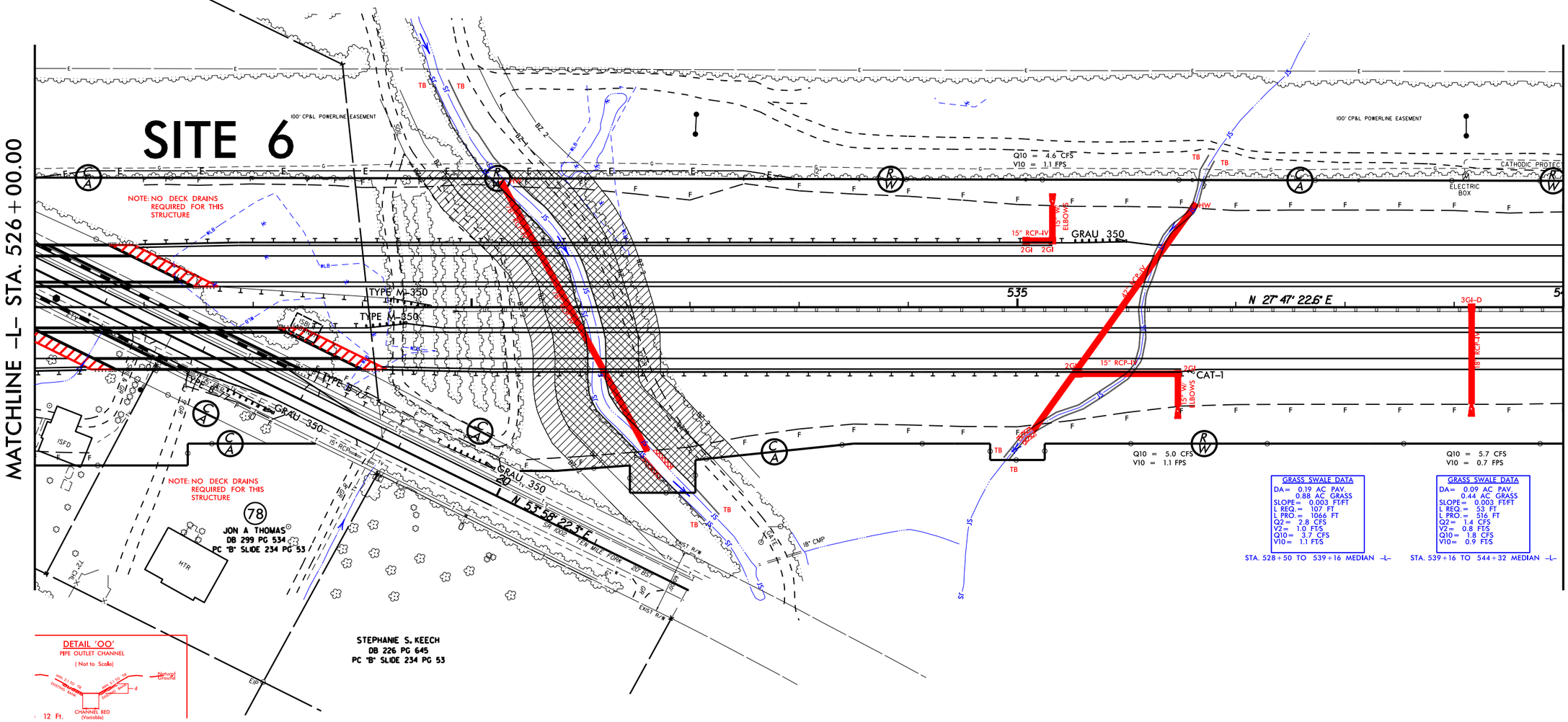
DETAIL 'RR'
PIPE OUTLET CHANNEL
(Not to Scale)

Natural Ground — MIN 3:1 TO 7:1 EXISTING BANK — MIN 2:1 TO 3:1 EXISTING BANK — d — Natural Ground
CHANNEL BED (Variable)

Length= 14 Ft.
d= 2.0 Ft.
Est.= 9 Tons of Class I Rip-Rap

FROM STA. 534+99 TO STA. 535+18 -L-

(79)
WEYERHAEUSER COMPANY
FORMERLY BATE LUMBER COMPANY
DB 105 PG 564
MB 2 PG 80
DIVISION BOOK G-7 PG 475



DETAIL 'OO'
PIPE OUTLET CHANNEL
(Not to Scale)

Natural Ground — MIN 3:1 TO 7:1 EXISTING BANK — MIN 2:1 TO 3:1 EXISTING BANK — d — Natural Ground
CHANNEL BED (Variable)

12 Ft.

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

GRAPHIC SCALE

100 50 0 100 200

SBG – "SHOULDER BERM GUTTER"
SFCB – "SINGLE FACED CONCRETE BARRIER"

SEE SHEET 40 FOR -L- PROFILE
SEE SHEET 53 FOR -Y6- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

4212014
mtovk
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PROJECT REFERENCE NO.	SHEET NO.
R-2514D	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 14 OF 20

8/17/99

REVISIONS

NAD 83/NSRS 2007

ER COMPANY
LUMBER COMPANY
5 PG 564
PG 80
K G-7 PG 475

ES (76)
PG 475

DETAIL 'QQ'
PIPE OUTLET CHANNEL
(Not to Scale)

Natural Ground — MIN 3:1 TO 1B EXISTING BANK — MIN 2:1 TO 1B EXISTING BANK — d — Natural Ground
CHANNEL BED (Variable)

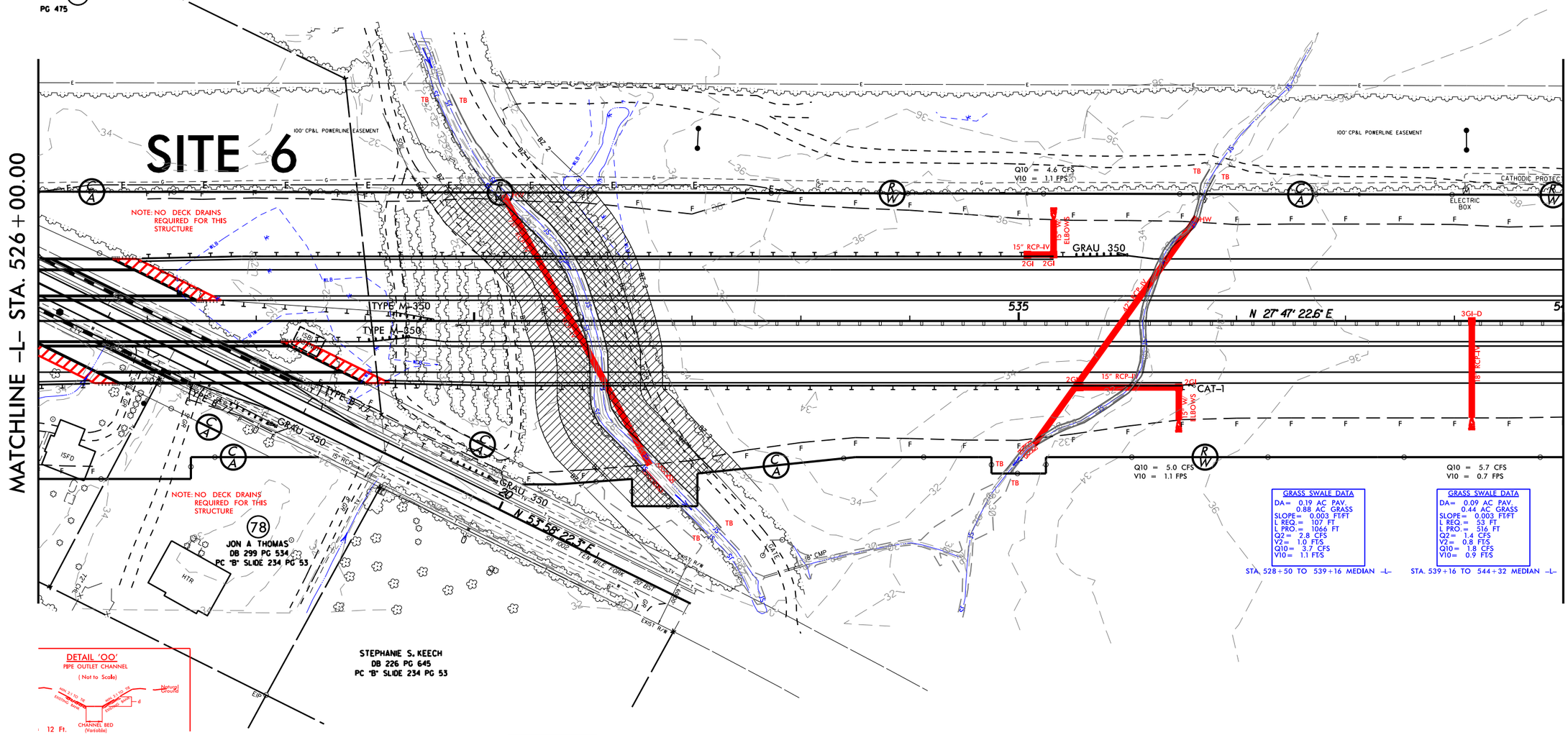
Length= 26 Ft.
d= 3.0 Ft.
Est.= 25 Tons of Class I Rip-Rap
FROM STA. 531+54 TO STA. 531+85 -L-

DETAIL 'RR'
PIPE OUTLET CHANNEL
(Not to Scale)

Natural Ground — MIN 3:1 TO 1B EXISTING BANK — MIN 2:1 TO 1B EXISTING BANK — d — Natural Ground
CHANNEL BED (Variable)

Length= 14 Ft.
d= 2.0 Ft.
Est.= 9 Tons of Class I Rip-Rap
FROM STA. 534+99 TO STA. 535+18 -L-

(79)
WEYERHAEUSER COMPANY
FORMERLY BATE LUMBER COMPANY
DB 105 PG 564
MB 2 PG 80
DIVISION BOOK G-7 PG 475



GRASS SWALE DATA
DA= 0.19 AC PAV.
0.88 AC GRASS
SLOPE= 0.003 FT/FT
L REQ.= 107 FT
L PRO.= 1066 FT
Q2= 2.8 CFS
V2= 1.0 FT/S
Q10= 3.7 CFS
V10= 1.1 FT/S
STA. 528+50 TO 539+16 MEDIAN -L-

GRASS SWALE DATA
DA= 0.09 AC PAV.
0.44 AC GRASS
SLOPE= 0.003 FT/FT
L REQ.= 53 FT
L PRO.= 516 FT
Q2= 1.4 CFS
V2= 0.8 FT/S
Q10= 1.8 CFS
V10= 0.9 FT/S
STA. 539+16 TO 544+32 MEDIAN -L-

DETAIL 'OO'
PIPE OUTLET CHANNEL
(Not to Scale)

Natural Ground — MIN 3:1 TO 1B EXISTING BANK — MIN 2:1 TO 1B EXISTING BANK — d
CHANNEL BED (Variable)

12 Ft.

GRAPHIC SCALE

100 50 0 100 200

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

SBG – "SHOULDER BERM GUTTER"
SFCB – "SINGLE FACED CONCRETE BARRIER"

SEE SHEET 40 FOR -L- PROFILE
SEE SHEET 53 FOR -Y6- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

4/21/2014
mtyock
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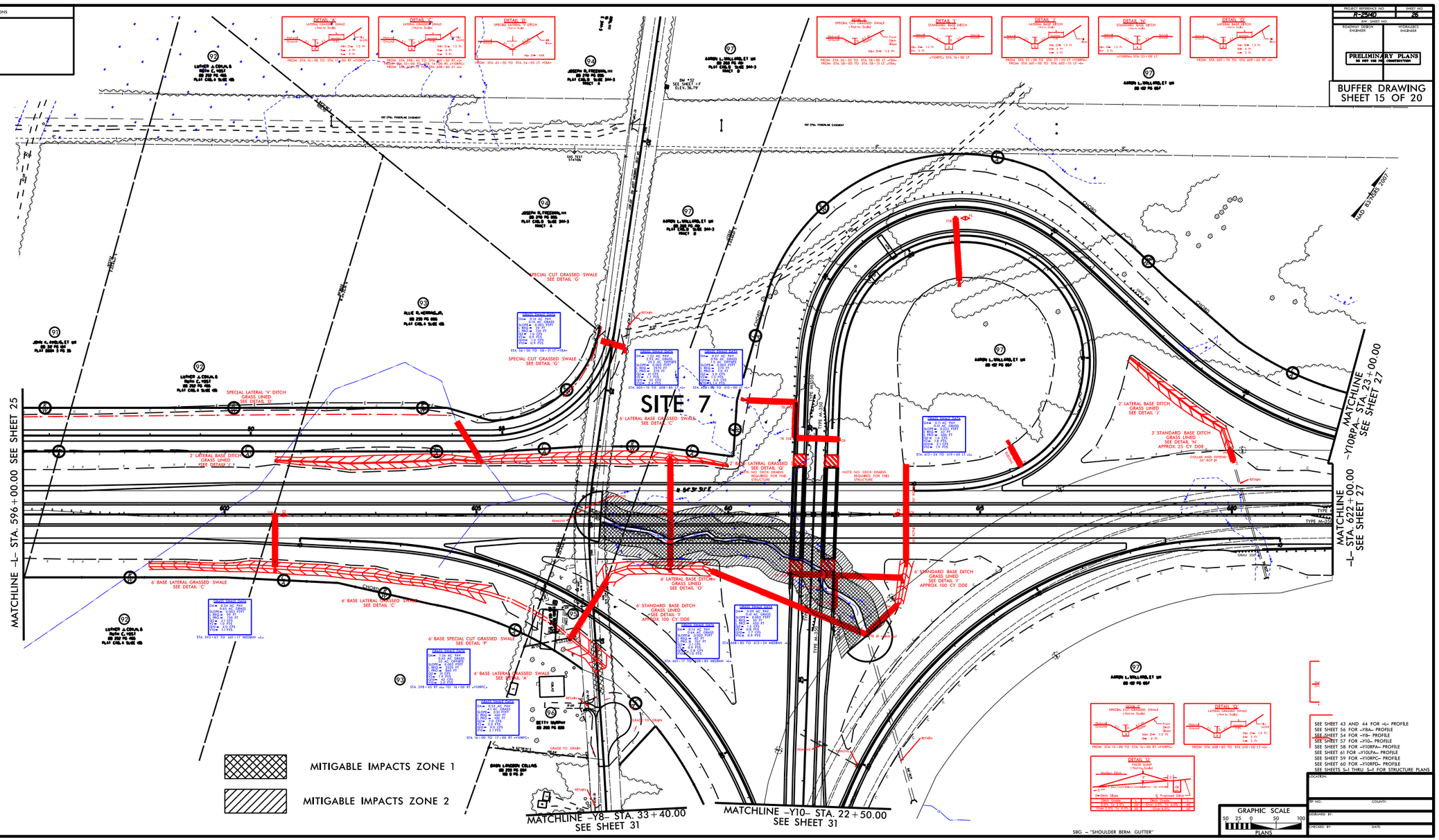
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2940	25
B-W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 15 OF 20



SEE SHEET 43 AND 44 FOR –L– PROFILE
SEE SHEET 56 FOR –Y8A– PROFILE
SEE SHEET 54 FOR –Y8– PROFILE
SEE SHEET 57 FOR –Y10– PROFILE
SEE SHEET 58 FOR –Y10RPA– PROFILE
SEE SHEET 61 FOR –Y10LPA– PROFILE
SEE SHEET 59 FOR –Y10RPC– PROFILE
SEE SHEET 60 FOR –Y10RPD– PROFILE
SEE SHEETS 5-1 THRU 5-4 FOR STRUCTURE PLANS

LOCATION:
TIP NO. COUNTY:
DESIGNED BY:
CHECKED BY: DATE:

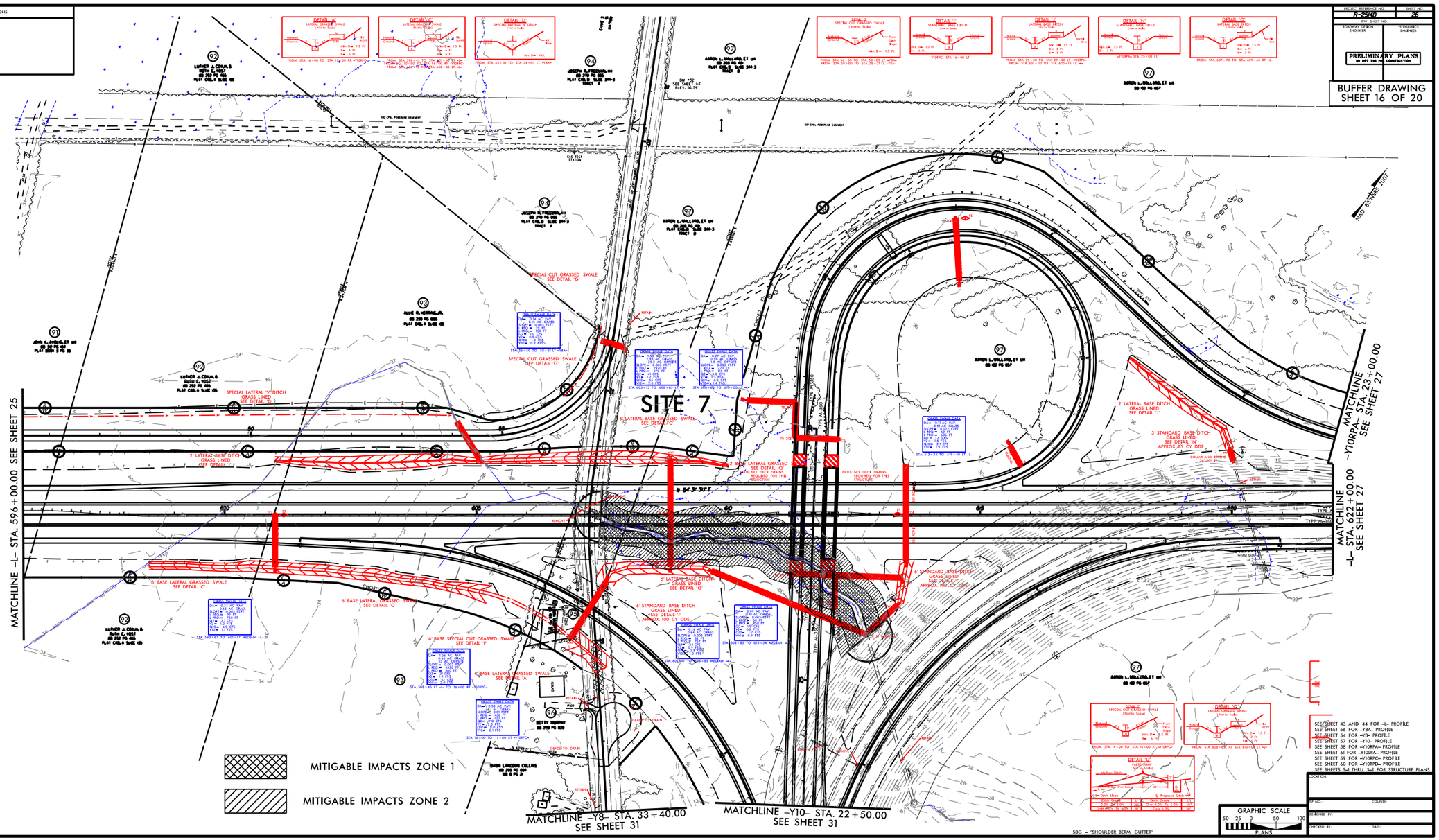
4/21/2014
R-2940_Site7.dgn
Environmental Services, Inc.
Environmental Services, Inc. R2940TS_Environmental Drawings\Buffer Permit\R2940_Site7_Buffer_path_26.dgn

REVISIONS

PROJECT REFERENCED NO:	SHEET NO:
R-2940	26
STATE SHEET NO:	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 16 OF 20



LOCATION:
TIP NO. COUNTY:
DESIGNED BY:
CHECKED BY: DATE:

4/21/2014
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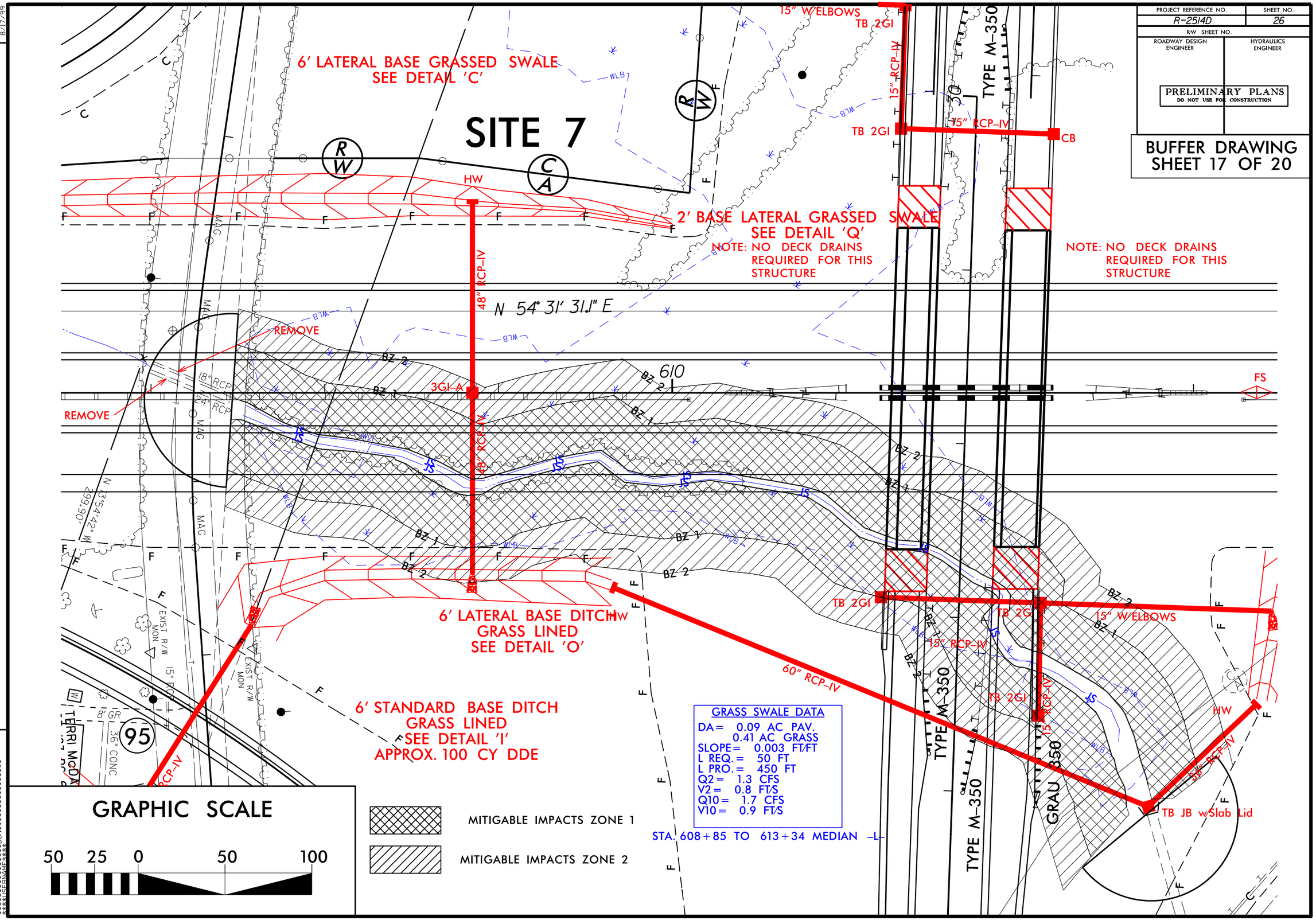
Environmental Services, Inc.
Project Reference No. R2940TS_Environmental Drawings\Buffer Permit\R2940_Permit_Buffer_path_26_conn.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 17 OF 20



REVISIONS

8/17/99

4/2/2014
mlynk
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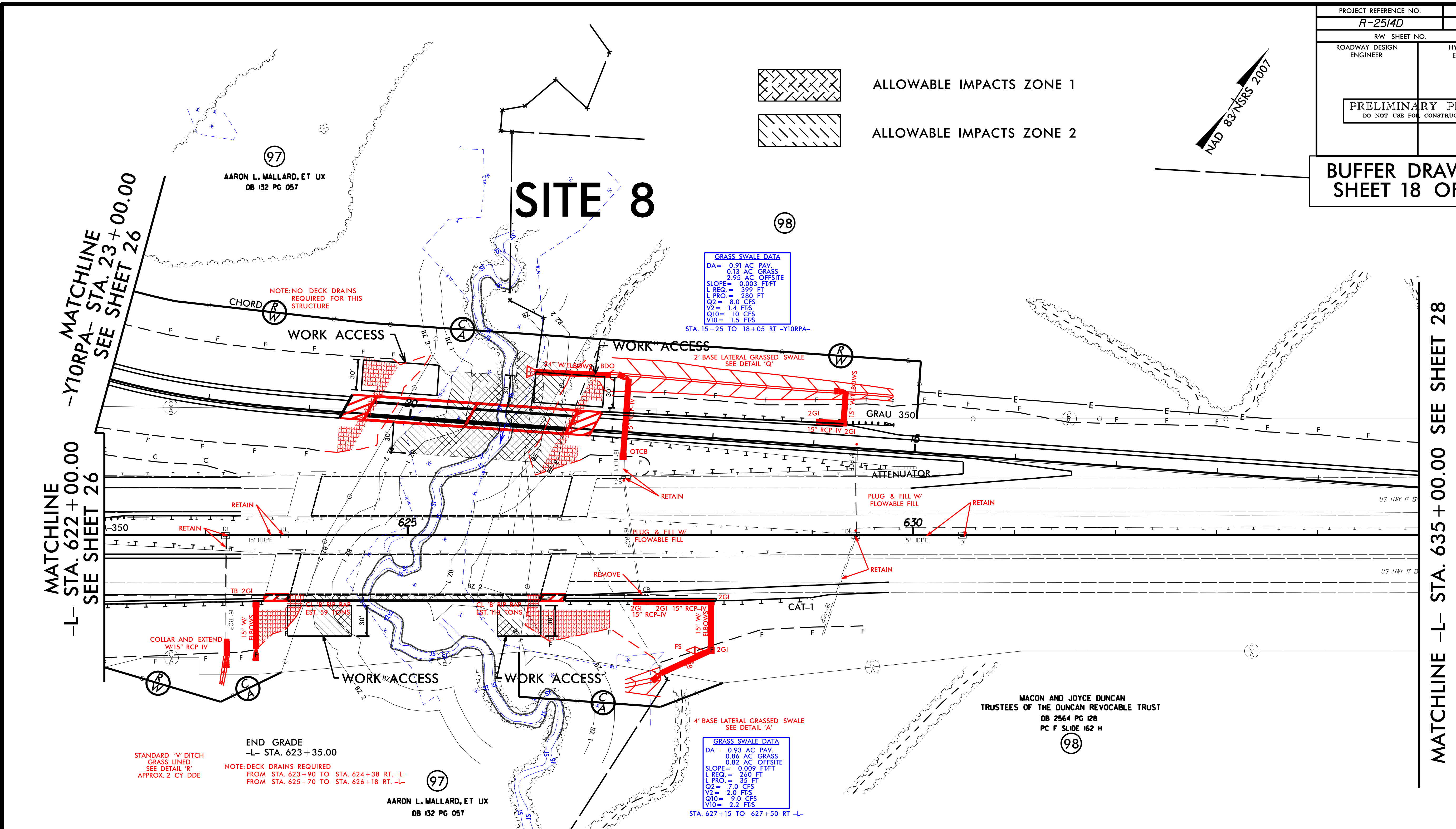
PROJECT REFERENCE NO.	SHEET NO.
R-2514D	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 18 OF 20

▨	ALLOWABLE IMPACTS ZONE 1
▧	ALLOWABLE IMPACTS ZONE 2



GRASS SWALE DATA	
DA =	0.91 AC PAV. 0.13 AC GRASS 2.95 AC OFFSITE
SLOPE =	0.003 FT/FT
L REQ. =	399 FT
L PRO. =	280 FT
Q2 =	8.0 CFS
V2 =	1.4 FT/S
Q10 =	10 CFS
V10 =	1.5 FT/S

STA. 15+25 TO 18+05 RT -Y10RPA-

GRASS SWALE DATA	
DA =	0.93 AC PAV. 0.86 AC GRASS 0.82 AC OFFSITE
SLOPE =	0.009 FT/FT
L REQ. =	260 FT
L PRO. =	35 FT
Q2 =	7.0 CFS
V2 =	2.0 FT/S
Q10 =	9.0 CFS
V10 =	2.2 FT/S

STA. 627+15 TO 627+50 RT -L-

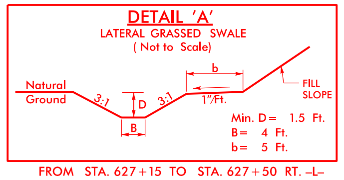
STANDARD 'V' DITCH
GRASS LINED
SEE DETAIL 'R'
APPROX. 2 CY DDE

END GRADE
-L- STA. 623+35.00

NOTE: DECK DRAINS REQUIRED
FROM STA. 623+90 TO STA. 624+38 RT. -L-
FROM STA. 625+70 TO STA. 626+18 RT. -L-

97
AARON L. MALLARD, ET UX
DB 132 PG 057

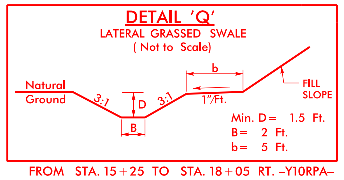
DETAIL 'A'
LATERAL GRASSED SWALE
(Not to Scale)



Min. D = 1.5 Ft.
B = 4 Ft.
b = 5 Ft.

FROM STA. 627+15 TO STA. 627+50 RT. -L-

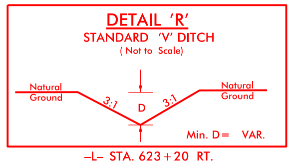
DETAIL 'Q'
LATERAL GRASSED SWALE
(Not to Scale)



Min. D = 1.5 Ft.
B = 2 Ft.
b = 5 Ft.

FROM STA. 15+25 TO STA. 18+05 RT. -Y10RPA-

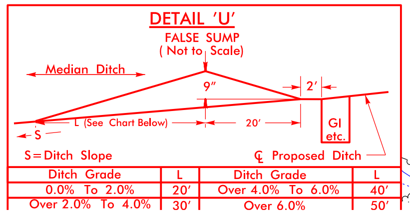
DETAIL 'R'
STANDARD 'V' DITCH
(Not to Scale)



Min. D = VAR.

-L- STA. 623+20 RT.

DETAIL 'U'
FALSE SUMP
(Not to Scale)



S = Ditch Slope
℄ Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

GRAPHIC SCALE

SBG - "SHOULDER BERM GUTTER"

SEE SHEET 44 FOR -L- PROFILE
SEE SHEET 58 FOR -Y10RPA- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

8/17/99

6/5/2014
mjyork
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PROJECT REFERENCE NO.	SHEET NO.
R-2514D	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING SHEET 19 OF 20

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

NAD 83/NSRS 2007

SITE 8

MATCHLINE –Y10RPA– STA. 23+00.00 SEE SHEET 26

MATCHLINE –L– STA. 622+00.00 SEE SHEET 26

MATCHLINE –L– STA. 635+00.00 SEE SHEET 28

AARON L. MALLARD, ET UX
DB 132 PG 057

MACON AND JOYCE DUNCAN
TRUSTEES OF THE DUNCAN REVOCABLE TRUST
DB 2564 PG 128
PC F SLIDE 162 H

NOTE: NO DECK DRAINS REQUIRED FOR THIS STRUCTURE

GRASS SWALE DATA
DA= 0.91 AC PAV.
0.13 AC GRASS
2.95 AC OFFSITE
SLOPE= 0.003\FT/FT
L REQ.= 399 FT
L PRO.= 280 FT
Q2= 8.0 CFS
V2= 1.4 FT/S
Q10= 10 CFS
V10= 1.5 FT/S
STA. 15+25 TO 18+05 RT –Y10RPA–

2' BASE LATERAL GRASSED SWALE SEE DETAIL 'Q'

4' BASE LATERAL GRASSED SWALE SEE DETAIL 'A'

GRASS SWALE DATA
DA= 0.93 AC PAV.
0.86 AC GRASS
0.82 AC OFFSITE
SLOPE= 0.009 FT/FT
L REQ.= 260 FT
L PRO.= 35 FT
Q2= 7.0 CFS
V2= 2.0 FT/S
Q10= 9.0 CFS
V10= 2.2 FT/S
STA. 627+15 TO 627+50 RT –L–

WORK ACCESS

ATTENUATOR

CAT-1

RETAIN

PLUG & FILL W/ FLOWABLE FILL

REMOVE

COLLAR AND EXTEND W/15" RCP IV

15" HDPE

15" RCP-IV

15" WI ELBOWS

2GI

OTCB

BDO

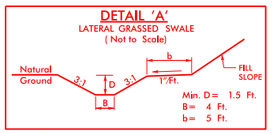
US HWY 17 B

END GRADE
–L– STA. 623+35.00

STANDARD 'V' DITCH GRASS LINED SEE DETAIL 'R' APPROX. 2 CY DDE

NOTE: DECK DRAINS REQUIRED
FROM STA. 623+90 TO STA. 624+38 RT. –L–
FROM STA. 625+70 TO STA. 626+18 RT. –L–

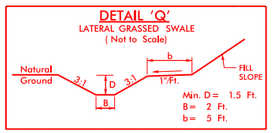
DETAIL 'A'
LATERAL GRASSED SWALE
(Not to Scale)



Min. D= 1.5 Ft.
B= 4 Ft.
b= 5 Ft.

FROM STA. 627+15 TO STA. 627+50 RT. –L–

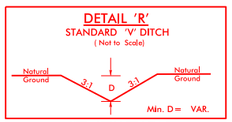
DETAIL 'Q'
LATERAL GRASSED SWALE
(Not to Scale)



Min. D= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA. 15+25 TO STA. 18+05 RT. –Y10RPA–

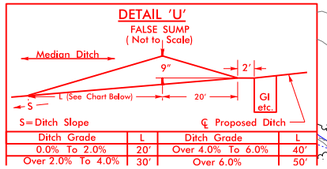
DETAIL 'R'
STANDARD 'V' DITCH
(Not to Scale)



Min. D= VAR.

–L– STA. 623+20 RT.

DETAIL 'U'
FALSE SUMP
(Not to Scale)



S= Ditch Slope
℄ Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

GRAPHIC SCALE

100 50 0 100 200

SBG – "SHOULDER BERM GUTTER"

SEE SHEET 44 FOR –L– PROFILE
SEE SHEET 58 FOR –Y10RPA– PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REVISIONS

8/17/99

6/5/2014
mtyrck
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PROJECT REFERENCE NO.	SHEET NO.
R-2514D	27

RW SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

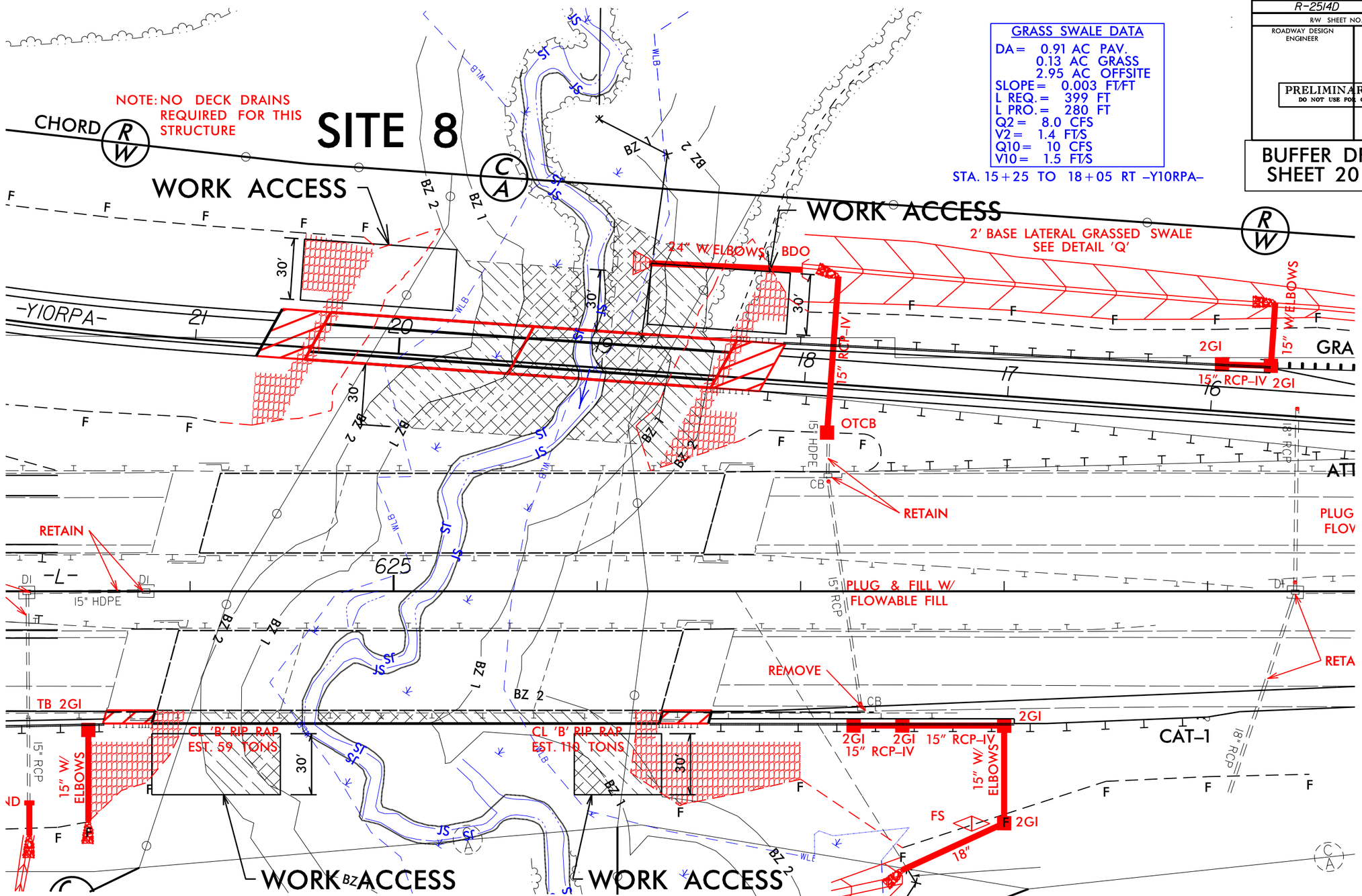
BUFFER DRAWING
SHEET 20 OF 20

SITE 8

NOTE: NO DECK DRAINS REQUIRED FOR THIS STRUCTURE

GRASS SWALE DATA
DA = 0.91 AC PAV.
0.13 AC GRASS
2.95 AC OFFSITE
SLOPE = 0.003 FT/FT
L REQ. = 399 FT
L PRO. = 280 FT
Q2 = 8.0 CFS
V2 = 1.4 FT/S
Q10 = 10 CFS
V10 = 1.5 FT/S

STA. 15+25 TO 18+05 RT -Y10RPA-



▩ ALLOWABLE IMPACTS ZONE 1

▨ ALLOWABLE IMPACTS ZONE 2

REVISIONS

8/17/99

6/5/2014
mjyork
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BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1	48" RCP-IV	301+70 TO 303+89 -L-	X						18124	11612	29736		
2	DUAL BRIDGES	371+98 TO 374+73 -L-		X		11778	6975	18753					
	2@8'X8' RCBC	18+28 TO 22+07 -DRV3-	X			2143	2083	4226					
		10+65 TO 10+78 -DRV4-			X		26	26					
3	DUAL BRIDGES	388+28 TO 395+18 -L-		X		31209	12501	43710					
4	54"RCP-IV	473+16 TO 474+13 -L-	X						14017	9383	23400		
5	36" RCP-IV	519+60 TO 520+66 -L-	X						15142	9677	24819		
6	78" RCP-IV	529+50 TO 532+45 -L-	X						20266	12665	32931		
7	60" RCP-IV	507+43 TO 513+23 -L-	X						38167	25504	63671		
8	BRIDGE	18+45 TO 20+27 -Y10RPA-		X		7707	6694	14401					
TOTAL:						52837	28279	81116	105716	68841	174557		

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

JONES COUNTY
PROJECT: 34442.1.1 (R-2514D)

5/29/2014
SHEET 1 OF 1

Rev. May 2006

WETLANDS IN BUFFER IMPACTS SUMMARY

SITE NO.	STATION (FROM/TO)		WETLANDS IN BUFFERS ZONE 1 (ft^2)	WETLANDS IN BUFFERS ZONE 2 (ft^2)
2	371+98 -L-	TO 374+73 -L-	11630	5096
	18+28 -DRV3-	TO 22+07 -DRV3-	928	379
3	388+28 -L-	TO 395+18 -L-	24130	9567
4	473+16 -L-	TO 474+13 -L-	12324	6294
5	519+60 -L-	TO 520+66 -L-	433	0
6	529+50 -L-	TO 532+44 -L-	0	1432
7	507+43 -L-	TO 513+23 -L-	28108	11272
8	18+45 -Y10RPA-	TO 20+27 -Y10RPA-	4781	2277
TOTAL:			82334	36317

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

JONES COUNTY
PROJECT: 34442.1.1 (R-2514D)

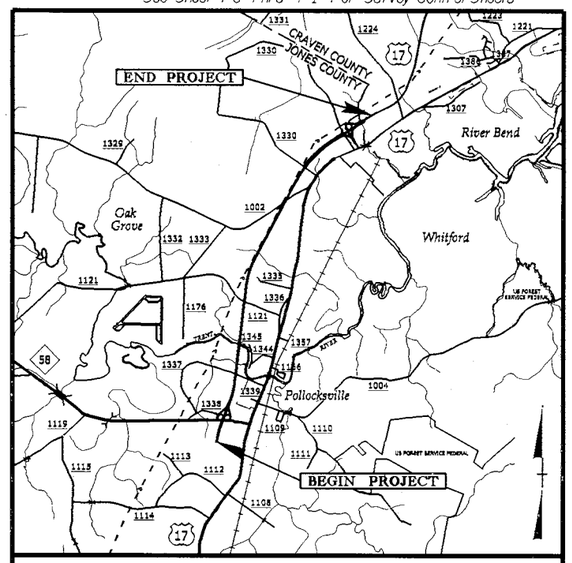
5/29/2014
SHEET 1 OF 1

Rev. Jan 2009

TIP PROJECT: R-2514D

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols
See Sheet 1-C Thru 1-I For Survey Control Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JONES & CRAVEN COUNTIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO. / TOTAL SHEETS
N.C.	R-2514D	UE-01

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34442.1.5		PE
34442.2.S5		R/W & UTILITIES

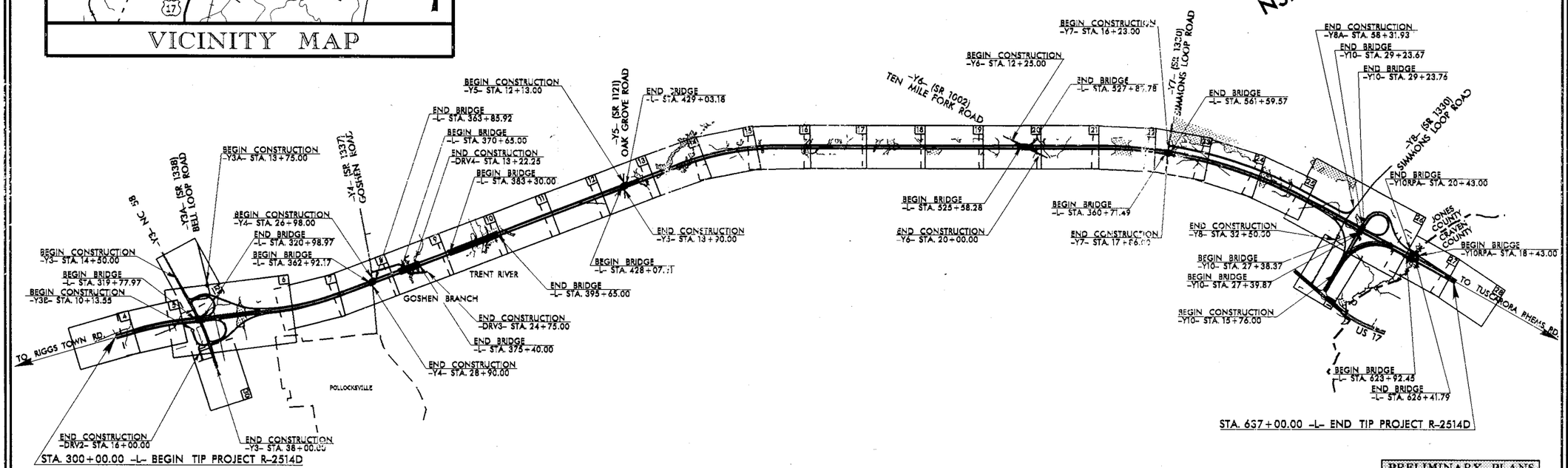
Utility Permit Drawing
Sheet 1 of 3

LOCATION: US 17 FROM SOUTH OF NC 58 TO THE NEW BERN BYPASS

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

NEU PERMIT PLANS
(May 14, 2014)

NAD 83/
NSRS 2007



THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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 2015 = 10,600
ADT 2035 = 15,700
DHV = 7 %
D = 65 %
T = 7 % *
V = 70 MPH
* TTST=4 % DUAL =3 %
FUNC CLASS = FREEWAY
STATEWIDE TIER

PROJECT LENGTH

LENGTH OF ROADWAY, TIP PROJECT R-2514D = 5.894 Miles
LENGTH OF STRUCTURES, TIP PROJECT R-2514D = 0.489 Miles
TOTAL LENGTH OF TIP PROJECT R-2514D = 6.383 Miles

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 27, 2013

LETTING DATE:
JUNE 16, 2015

JAMES A. SPEER, P.E.
PROJECT ENGINEER

DANIEL W. GARDNER, JR., P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

14-MAY-2014 17:20
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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2514D	UE-02
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NEU PERMIT PLANS
Revised (Jan. 23, 2015)

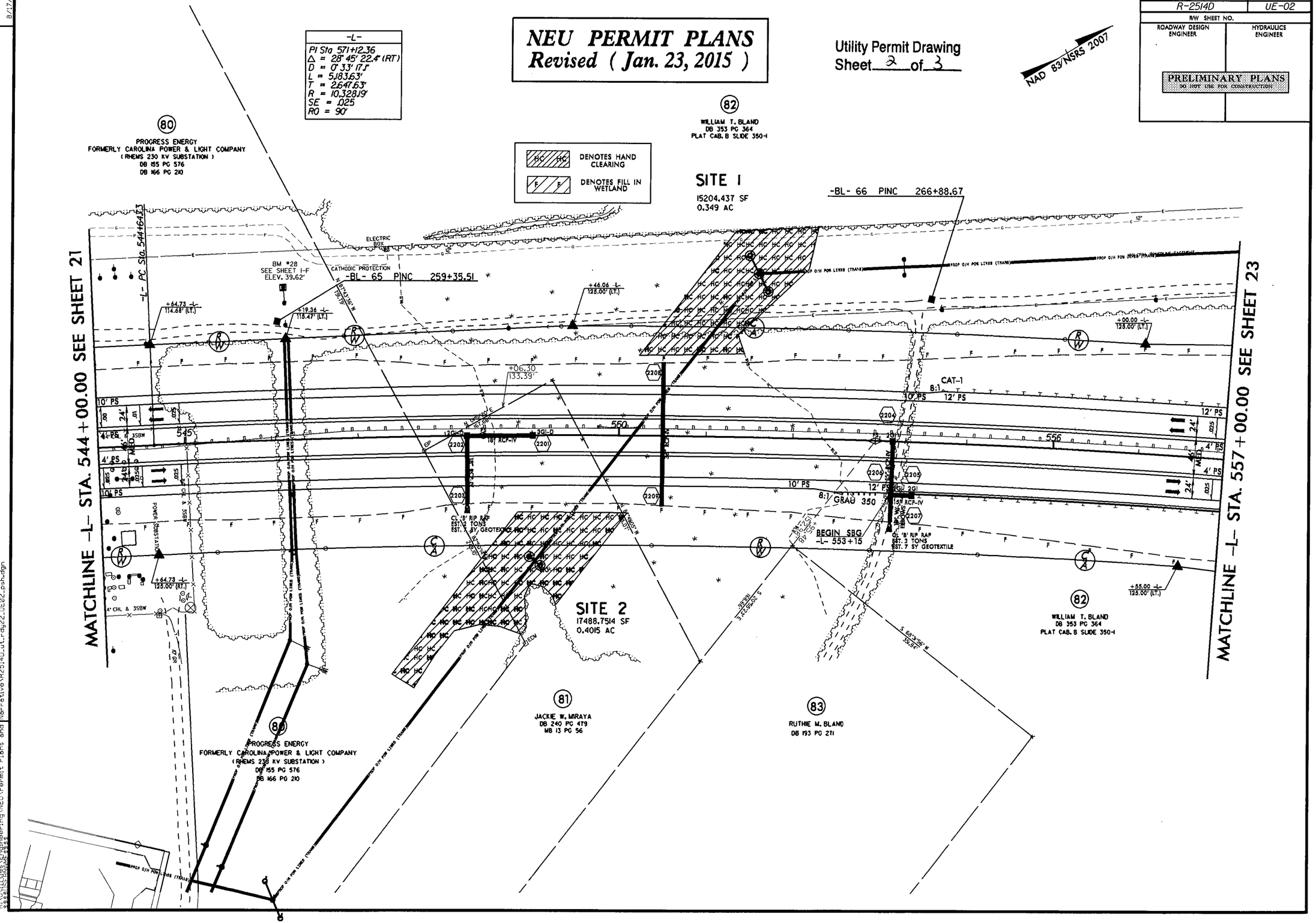
Utility Permit Drawing
Sheet 2 of 3

NAD 83/NSRS 2007

-L-
PI Sta 571+12.36
Δ = 28° 45' 22.4" (RT)
D = 0° 33' 17.1"
L = 5,183.63'
T = 2,647.63'
R = 10,328.19'
SE = .025
RO = 90°

HC DENOTES HAND CLEARING

F DENOTES FILL IN WETLAND



REVISIONS

8/17/99

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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	-L-550+23 TO 552+23	Aerial Power line (Transmission)					0.35					
2	-L-547+35 TO 550+11	Aerial Power line (Transmission)					0.40					
1	-L-551+57 LT	Power Pole (Transmission)	< 0.01									
2	-L-549+03 RT	Power Pole (Transmission)	< 0.01									
TOTALS:			< 0.01	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00

Note :

Utility Permit Drawing
Sheet 3 of 3
Revised 1/23/15

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
JONES & CRAVEN COUNTIESYY
TIP PROJECT (R-2514D)

ATN Revised 3/31/05

Rev. 01/23/2015