

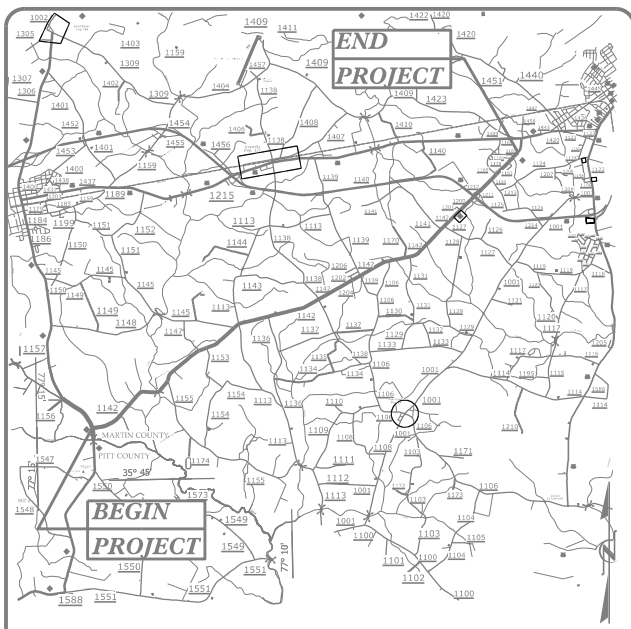
**TIP PROJECT: R-4705**

**CONTRACT:**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

PERMIT DRAWING  
SHEET 1 OF 53

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-4705	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38932.1.FD1		PE	



See Sheet I-A for Index of Sheets  
See Sheet I-B for  
See Sheet I-C for

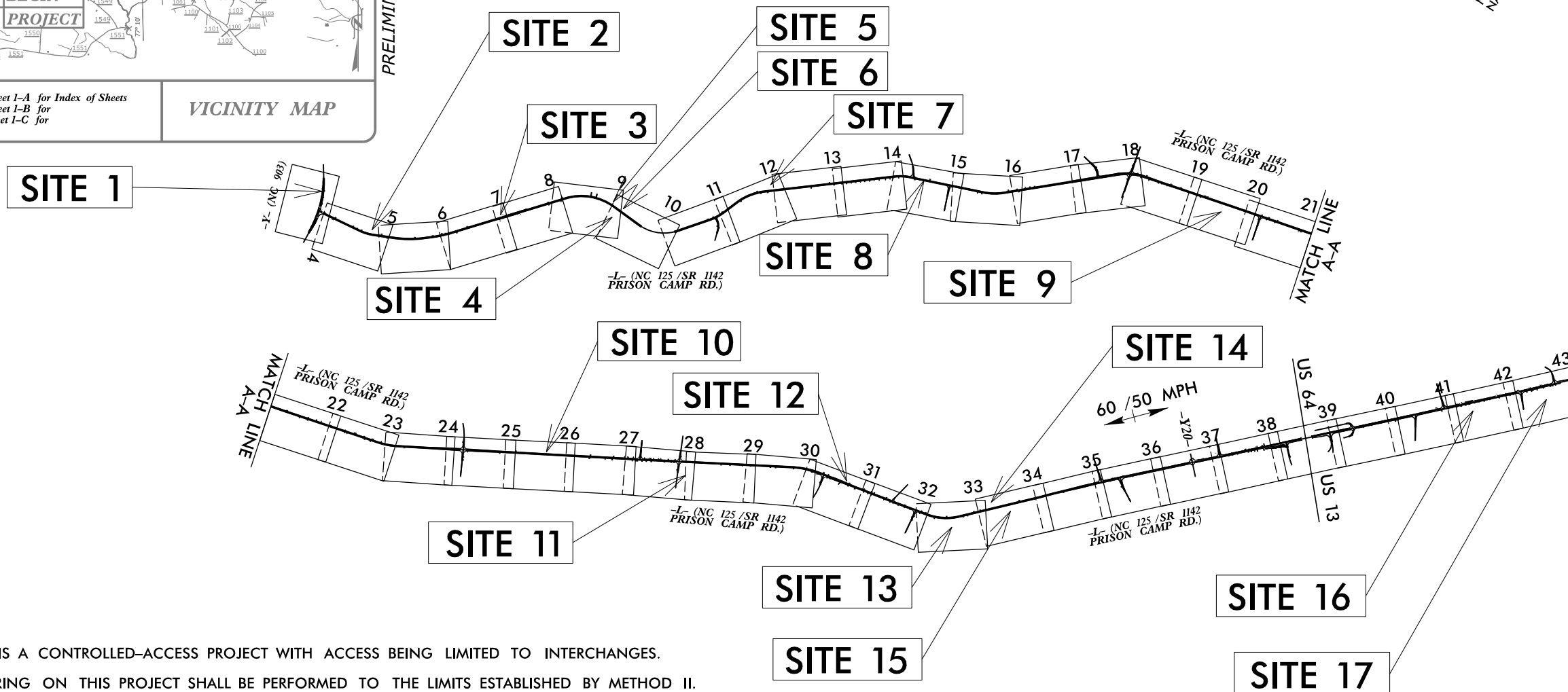
VICINITY MAP

**MARTIN COUNTY**

LOCATION: NC 125/SR 1142 (PRISON CAMP RD.)  
FROM NC 903 TO SR 1182 (EAST COLLEGE RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, WIDENING  
& CULVERT.

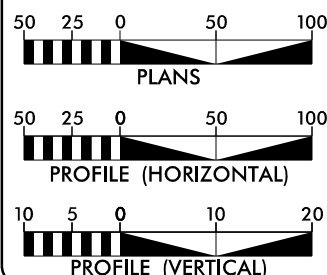
WETLAND AND SURFACE WATER IMPACTS PERMIT



THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.  
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF WILLIAMSTON.

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

**GRAPHIC SCALES**



**DESIGN DATA**

ADT 2020 = 6,360  
ADT 2040 = 8,600  
K = 60 %  
D = 10 %  
T = 4 % \*  
V = 60 /\*\*50 MPH  
\* TTST = 1% DUAL = 3%  
FUNC. CLASS = RURAL  
MINOR COLLECTOR

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT R-4705 = MILES  
LENGTH STRUCTURE TIP PROJECT R-4705 = MILES  
TOTAL LENGTH TIP PROJECT R-4705 = 9.645 MILES

Prepared in the Office of:  
**WETHERILL ENGINEERING**  
1223 Jones Franklin Rd., Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919.851.8077 Fax: 919.851.8107

Prepared for:  
**DIVISION OF HIGHWAYS  
DIVISION 1**  
113 Airport Drive, Suite 100  
Edenton, NC 27832

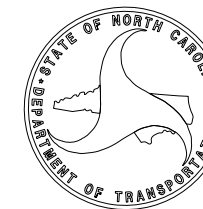
2018 STANDARD SPECIFICATIONS  
**RIGHT OF WAY DATE:**  
NOVEMBER 21, 2018  
**LETTING DATE:**  
OCTOBER 20, 2020

**EDWARD G. WETHERILL, PE**  
PROJECT ENGINEER  
**BOB A. MAY, PE**  
PROJECT DESIGN ENGINEER

**NCDOT CONTACT:** **JOHN S. ABEL, JR.**  
DIVISION PROJECT MANAGER

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER



4/3/2019  
F:\Brooks  
P:\2017\171775-01\_R-4705-Final\Hydraulics\PERMITS Environmental\Drawings\wet psh\R4705\_hyd\_psh\_01\_TSH.dgn

# DRAINAGE DETAILS

(NOT TO SCALE)



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Raleigh, N.C. 27606  
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Bus: 919 851 8077  
Fax: 919 851 8107

PROJECT REFERENCE NO. SHEET NO.

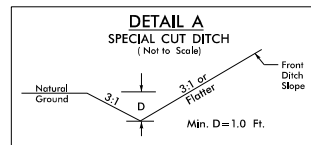
R-4705

RW SHEET NO.

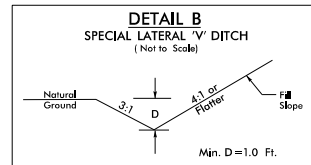
ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

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

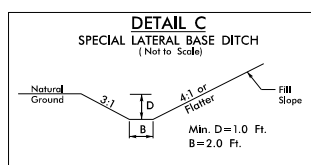
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UNLESS ALL SIGNATURES COMPLETED



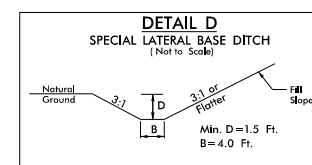
FROM STA. 12+35 TO STA. 13+50 -Y1- LT  
FROM STA. 11+00 TO STA. 15+24 -L- RT  
FROM STA. 31+82 TO STA. 32+42 -L- RT  
FROM STA. 32+20 TO STA. 32+50 -L- LT  
FROM STA. 54+80 TO STA. 58+00 -L- LT  
FROM STA. 55+50 TO STA. 56+50 -L- RT  
FROM STA. 58+00 TO STA. 62+00 -L- LT  
FROM STA. 58+50 TO STA. 62+50 -L- RT  
FROM STA. 64+08 TO STA. 67+00 -L- RT  
FROM STA. 93+35 TO STA. 97+00 -L- LT  
FROM STA. 93+50 TO STA. 99+90 -L- RT  
FROM STA. 110+50 TO STA. 114+00 -L- RT  
FROM STA. 123+25 TO STA. 124+75 -L- RT  
FROM STA. 124+80 TO STA. 126+00 -L- RT  
FROM STA. 124+70 TO STA. 127+00 -L- LT  
FROM STA. 134+50 TO STA. 136+50 -L- RT  
FROM STA. 133+50 TO STA. 137+50 -L- LT  
FROM STA. 137+50 TO STA. 138+96 -L- LT  
FROM STA. 11+00 TO STA. 13+00 -Y3- LT  
FROM STA. 11+00 TO STA. 13+00 -Y3- RT  
FROM STA. 146+00 TO STA. 148+50 -L- LT  
FROM STA. 161+00 TO STA. 165+75 -L- RT  
FROM STA. 178+50 TO STA. 179+65 -L- RT  
FROM STA. 12+50 TO STA. 13+50 -Y5- RT  
FROM STA. 12+40 TO STA. 14+85 -Y6- LT  
FROM STA. 12+40 TO STA. 12+41 -Y18- RT  
FROM STA. 10+45 TO STA. 12+50 -Y7- LT  
FROM STA. 207+50 TO STA. 212+99 -L- RT  
FROM STA. 210+50 TO STA. 212+99 -L- LT  
FROM STA. 226+50 TO STA. 227+55 -L- RT  
FROM STA. 233+00 TO STA. 235+33 -L- LT  
FROM STA. 240+00 TO STA. 241+37 -L- RT  
FROM STA. 240+50 TO STA. 241+37 -L- LT  
FROM STA. 249+00 TO STA. 257+01 -L- RT  
FROM STA. 13+00 TO STA. 14+50 -Y9- RT  
FROM STA. 265+00 TO STA. 268+50 -L- RT  
FROM STA. 10+50 TO STA. 12+00 -Y10- LT  
FROM STA. 10+39 TO STA. 12+41 -Y18- RT  
FROM STA. 10+34 TO STA. 12+38 -Y11- LT  
FROM STA. 353+25 TO STA. 354+50 -L- LT  
FROM STA. 355+00 TO STA. 356+00 -L- RT  
FROM STA. 358+50 TO STA. 359+50 -L- LT  
FROM STA. 358+50 TO STA. 359+75 -L- RT  
FROM STA. 378+00 TO STA. 380+00 -L- LT  
FROM STA. 376+50 TO STA. 384+50 -L- RT  
FROM STA. 390+50 TO STA. 393+45 -L- RT  
FROM STA. 393+45 TO STA. 397+00 -L- RT  
FROM STA. 406+25 TO STA. 409+00 -L- RT  
FROM STA. 406+25 TO STA. 406+88 -L- LT  
FROM STA. 10+50 TO STA. 11+00 -Y18- LT  
FROM STA. 10+48 TO STA. 11+50 -Y26- LT  
FROM STA. 12+71 TO STA. 15+25 -Y19- LT  
FROM STA. 469+67 TO STA. 470+25 -L- RT.



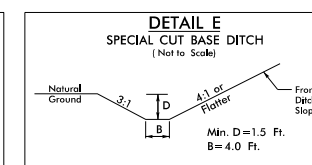
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FROM STA. 20+12 TO STA. 21+50 -Y1- RT  
FROM STA. 22+25 TO STA. 25+00 -Y1- RT  
FROM STA. 21+50 TO STA. 25+50 -L- RT  
FROM STA. 105+70 TO STA. 108+00 -L- LT  
FROM STA. 138+96 TO STA. 144+50 -L- RT  
FROM STA. 448+85 TO STA. 451+00 -L- RT



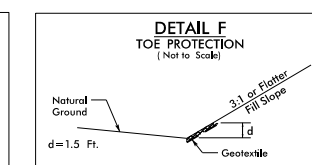
FROM STA. 12+35 TO STA. 17+00 -Y1- RT  
FROM STA. 10+50 TO STA. 19+00 -L- LT  
FROM STA. 21+65 TO STA. 31+80 -L- LT  
FROM STA. 105+70 TO STA. 108+00 -L- LT  
FROM STA. 138+96 TO STA. 144+50 -L- RT  
FROM STA. 448+85 TO STA. 451+00 -L- RT



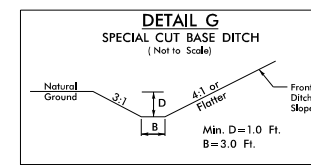
FROM STA. 15+24 TO STA. 21+48 -L- RT



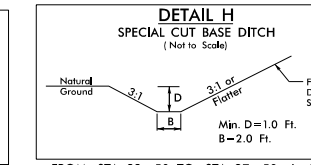
FROM STA. 62+50 TO STA. 64+02 -L- RT  
FROM STA. 165+80 TO STA. 167+65 -L- RT



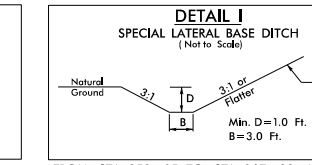
FROM STA. 73+18 TO STA. 83+00 -L- RT  
FROM STA. 78+50 TO STA. 83+50 -L- LT  
Type of Liner = Class B Rip-Rap



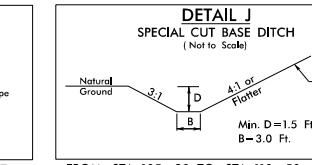
FROM STA. 62+00 TO STA. 62+50 -L- LT  
FROM STA. 62+50 TO STA. 63+85 -L- LT  
FROM STA. 64+15 TO STA. 71+00 -L- LT  
FROM STA. 113+88 TO STA. 115+00 -L- LT  
FROM STA. 179+65 TO STA. 188+05 -L- RT  
FROM STA. 179+50 TO STA. 185+40 -L- LT  
FROM STA. 13+38 TO STA. 15+25 -Y13- LT



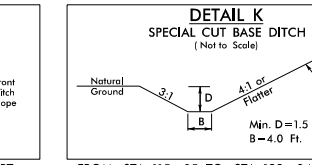
FROM STA. 32+50 TO STA. 37+50 -L- LT  
FROM STA. 32+42 TO STA. 39+20 -L- RT  
FROM STA. 40+50 TO STA. 51+80 -L- LT  
FROM STA. 40+00 TO STA. 52+30 -L- RT  
FROM STA. 100+50 TO STA. 105+70 -L- LT  
FROM STA. 115+05 TO STA. 124+35 -L- LT  
FROM STA. 138+96 TO STA. 145+50 -L- RT  
FROM STA. 153+87 TO STA. 161+00 -L- LT  
FROM STA. 160+00 TO STA. 165+75 -L- LT  
FROM STA. 165+80 TO STA. 174+65 -L- LT  
FROM STA. 167+65 TO STA. 174+65 -L- RT  
FROM STA. 188+05 TO STA. 192+10 -L- RT  
FROM STA. 186+25 TO STA. 192+50 -L- LT  
FROM STA. 197+03 TO STA. 207+00 -L- LT  
FROM STA. 194+00 TO STA. 200+20 -L- RT  
FROM STA. 212+99 TO STA. 223+25 -L- LT  
FROM STA. 212+99 TO STA. 222+00 -L- RT  
FROM STA. 223+50 TO STA. 232+50 -L- LT  
FROM STA. 227+55 TO STA. 239+50 -L- RT  
FROM STA. 235+33 TO STA. 240+00 -L- LT  
FROM STA. 241+37 TO STA. 245+30 -L- LT  
FROM STA. 247+00 TO STA. 252+90 -L- LT  
FROM STA. 253+50 TO STA. 263+00 -L- LT  
FROM STA. 267+15 TO STA. 274+40 -L- LT  
FROM STA. 276+00 TO STA. 303+80 -L- LT  
FROM STA. 276+00 TO STA. 317+00 -L- RT  
FROM STA. 10+39 TO STA. 12+41 -Y11- RT  
FROM STA. 10+40 TO STA. 12+00 -Y12- LT  
FROM STA. 313+67 TO STA. 316+50 -L- LT  
FROM STA. 316+50 TO STA. 321+10 -L- LT  
FROM STA. 332+00 TO STA. 338+00 -L- RT  
FROM STA. 324+95 TO STA. 338+50 -L- RT  
FROM STA. 338+00 TO STA. 353+23 -L- LT  
FROM STA. 339+50 TO STA. 352+69 -L- RT  
FROM STA. 367+00 TO STA. 372+00 -L- RT  
FROM STA. 393+65 TO STA. 406+00 -L- RT  
FROM STA. 406+88 TO STA. 414+50 -L- LT



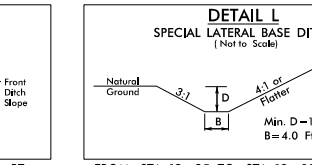
FROM STA. 359+85 TO STA. 367+00 -L- RT  
FROM STA. 359+75 TO STA. 368+40 -L- LT  
FROM STA. 390+50 TO STA. 393+59 -L- LT  
FROM STA. 476+00 TO STA. 480+00 -L- LT



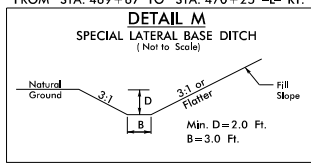
FROM STA. 105+30 TO STA. 110+50 -L- RT  
FROM STA. 146+00 TO STA. 148+00 -L- RT  
FROM STA. 148+60 TO STA. 152+80 -L- RT  
FROM STA. 241+37 TO STA. 249+00 -L- RT  
FROM STA. 262+50 TO STA. 267+15 -L- LT  
FROM STA. 303+80 TO STA. 312+50 -L- LT  
FROM STA. 12+62 TO STA. 14+50 -Y19- RT



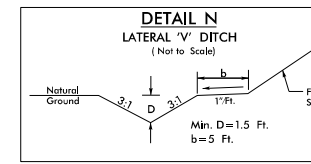
FROM STA. 115+05 TO STA. 122+94 -L- RT



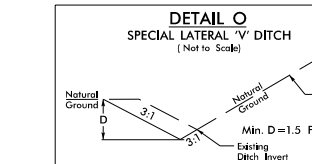
FROM STA. 12+25 TO STA. 13+00 -Y2- LT  
FROM STA. 325+00 TO STA. 332+00 -L- LT



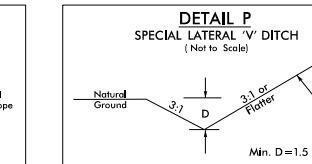
FROM STA. 421+00 TO STA. 428+50 -L- LT  
FROM STA. 486+00 TO STA. 490+66 -L- LT



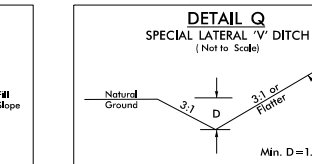
FROM STA. 452+00 TO STA. 455+88 -L- LT



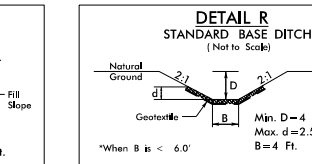
FROM STA. 452+00 TO STA. 454+44 -L- RT



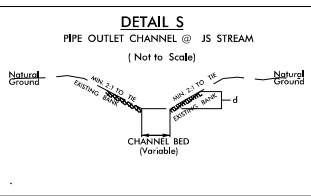
FROM STA. 485+50 TO STA. 491+15 -L- RT  
FROM STA. 492+50 TO STA. 494+50 -L- LT  
FROM STA. 498+75 TO STA. 503+40 -L- RT  
FROM STA. 504+00 TO STA. 506+00 -L- RT  
FROM STA. 507+00 TO STA. 507+50 -L- RT  
FROM STA. 509+00 TO STA. 513+00 -L- RT  
FROM STA. 510+00 TO STA. 512+50 -L- LT



FROM STA. 491+18 TO STA. 494+00 -L- RT  
FROM STA. 495+00 TO STA. 498+65 -L- RT  
FROM STA. 513+58 TO STA. 516+50 -L- RT



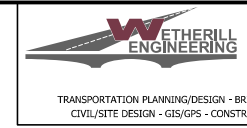
AT STA. 438+50 -L- RT.  
Type of Liner = Class I Rip-Rap



STA. 22+00 -Y1- LT; L=14'; d=3.0'  
STA. 21+47 -L- RT; L=14'; d=3.0'  
STA. 115+05 -L- RT; L=12'; d=2.0'  
STA. 148+56 -L- LT; L=14'; d=3.0'  
STA. 324+92 -L- RT; L=16'; d=2.5'  
STA. 359+80 -L- RT; L=20'; d=4.0'  
STA. 379+43 -L- RT; L=16'; d=4.0'  
STA. 393+45 -L- RT; L=20'; d=4.0'  
STA. 498+69 -L- RT; L=12'; d=4.0'  
STA. 513+45 -L- RT; L=14'; d=3.5'

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USER: FDR

PERMIT DRAWING  
SHEET 3 OF 53



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Fax: 919 851 8107

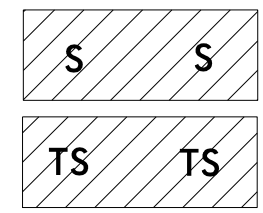
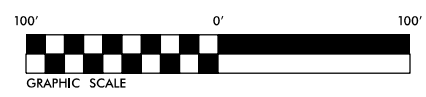
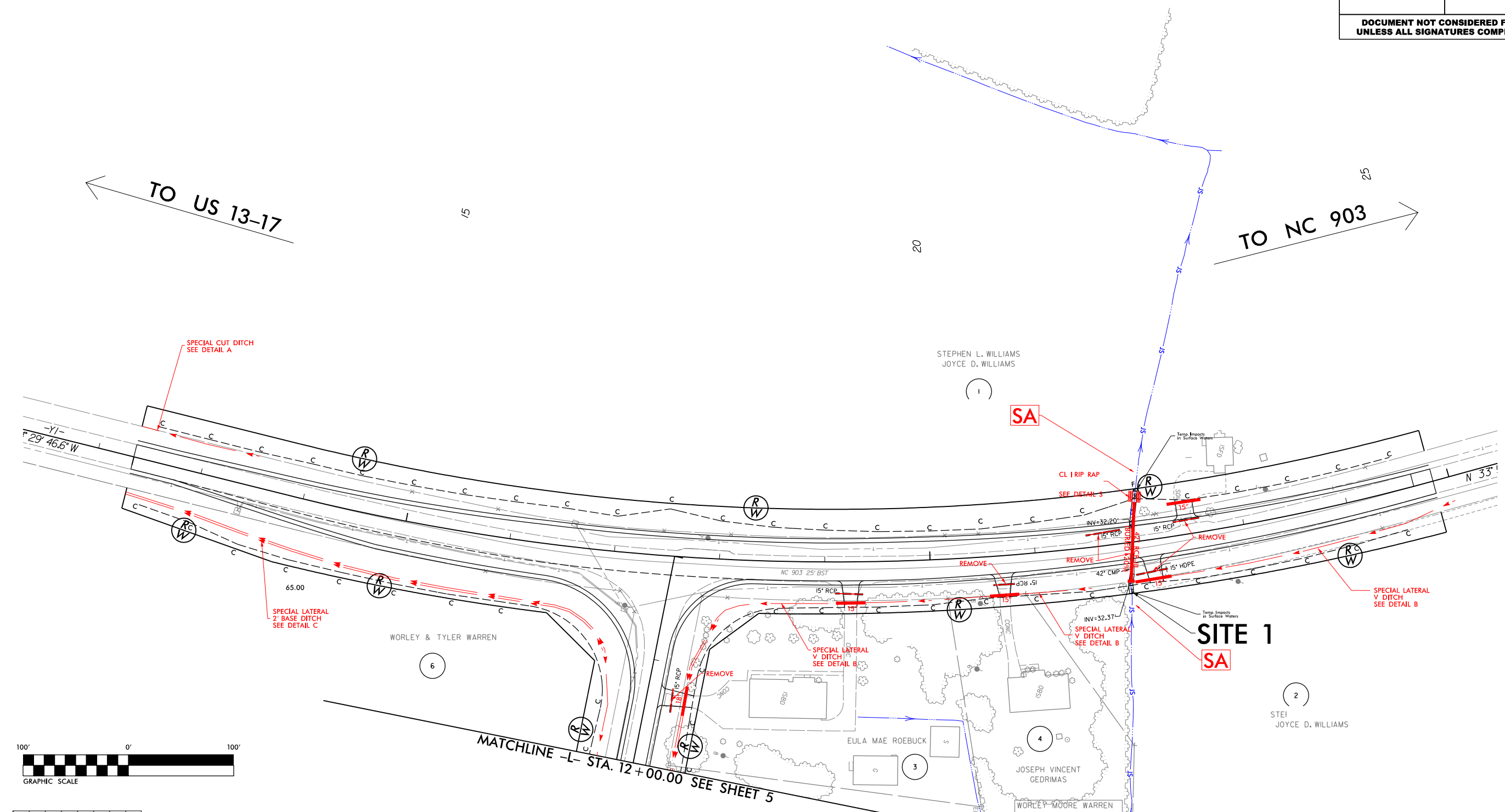
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. R-4705	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



TO US 13-17

TO NC 903



**S** DENOTES IMPACTS IN SURFACE WATER

**TS** DENOTES TEMPORARY IMPACTS IN SURFACE WATER

REVISIONS

8/17/99  
4/3/2008  
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USER: F. Brooks

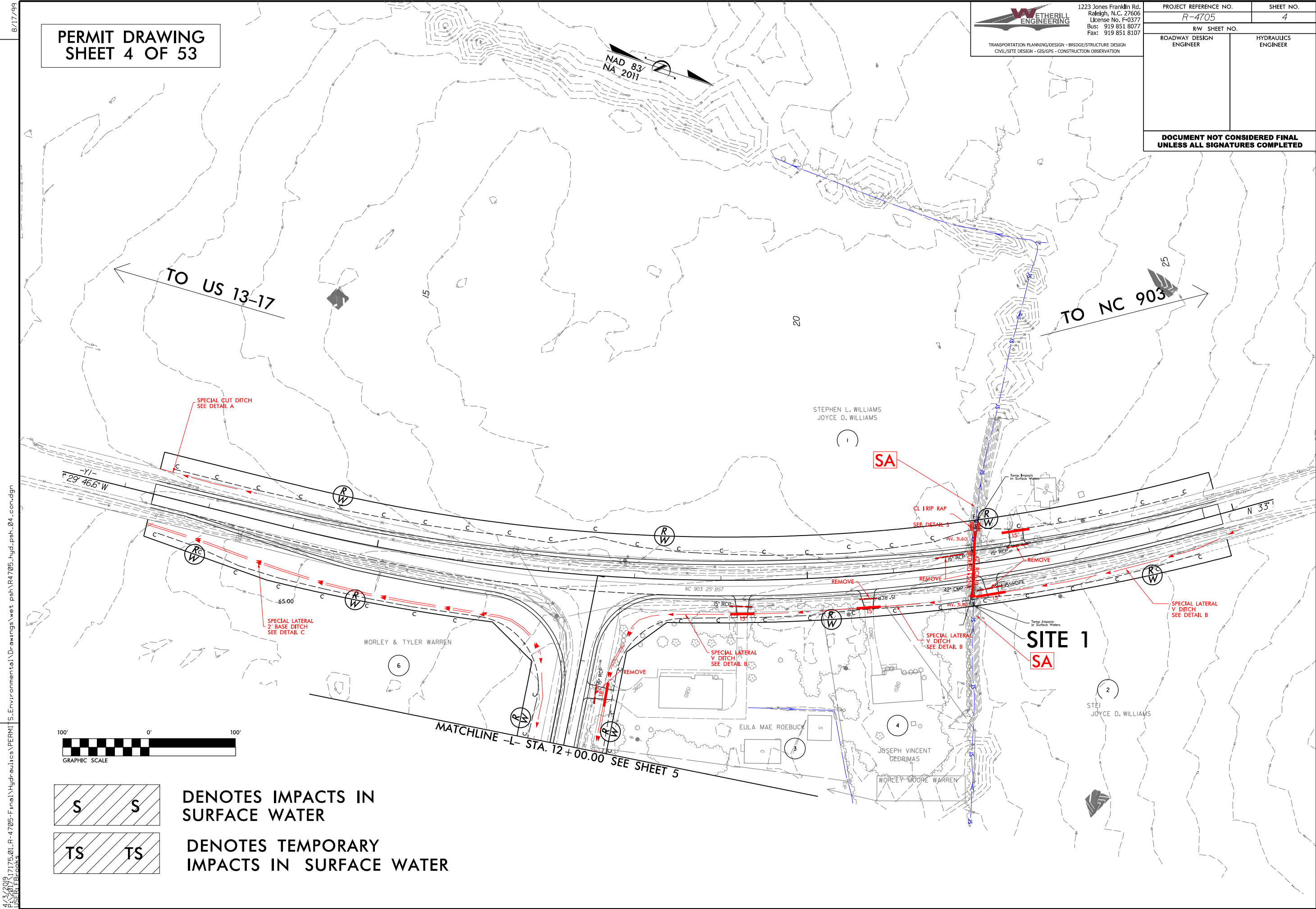
**PERMIT DRAWING  
SHEET 4 OF 53**

**WETHERILL ENGINEERING**  
 1223 Jones Franklin Rd.  
 Raleigh, N.C. 27606  
 License No. F-0377  
 Bus: 919 851 8077  
 Fax: 919 851 8107  
 TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

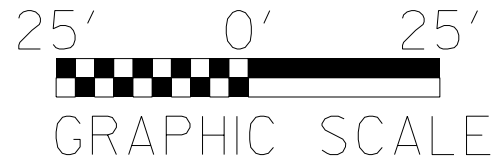
PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 4
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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

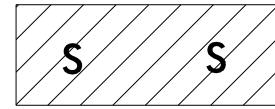
REVISIONS



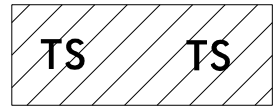
8/17/99  
 4/3/2008  
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 USER: F. Brooks



**SA**



**DENOTES IMPACTS IN SURFACE WATER**



**DENOTES TEMPORARY IMPACTS IN SURFACE WATER**

**CL | RIP RAP**

**SEE DETAIL S**

Temp. Impacts in Surface Waters

**REMOVE**

**REMOVE**

**REMOVE**

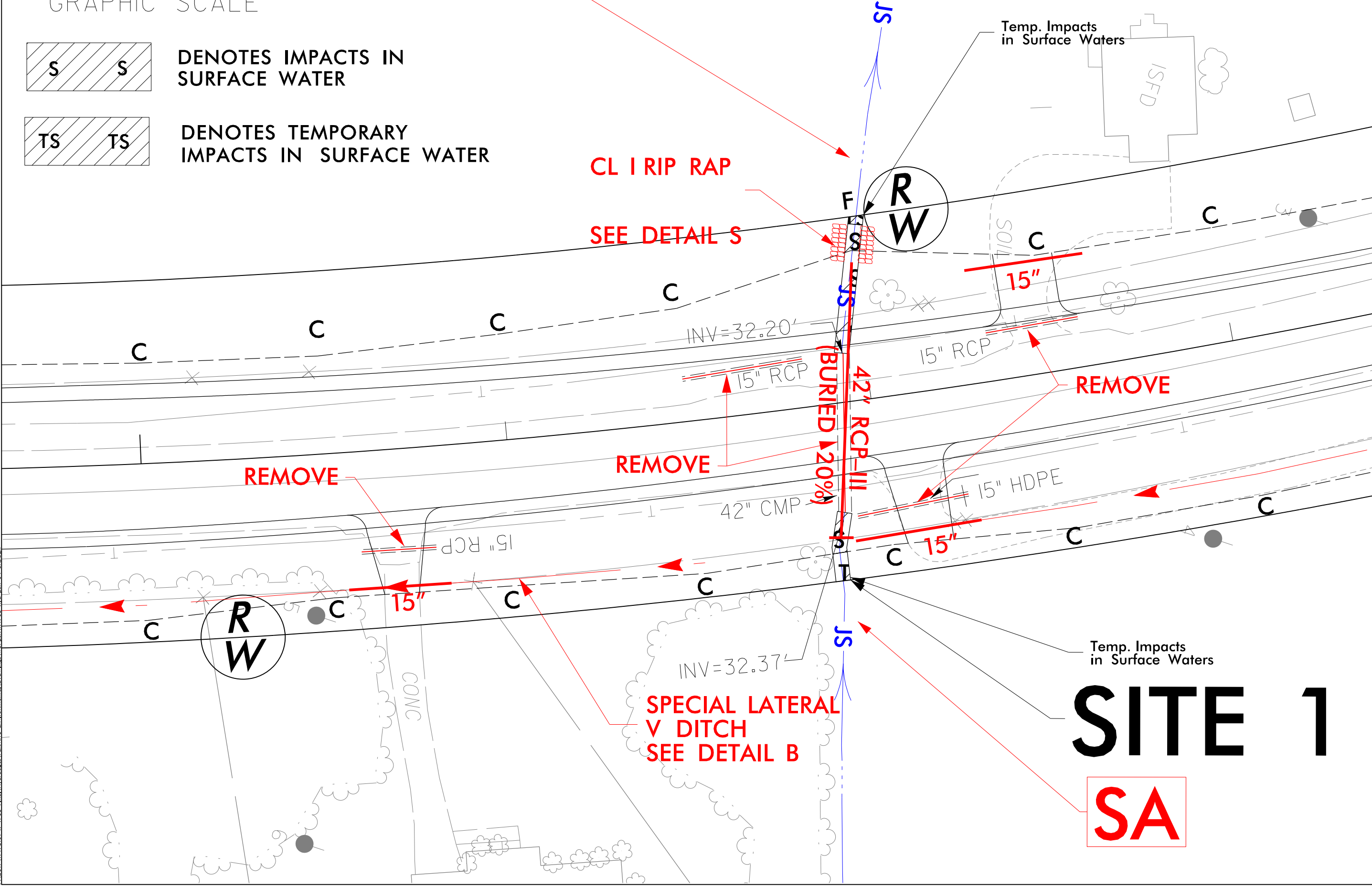
**SPECIAL LATERAL V DITCH**  
**SEE DETAIL B**

Temp. Impacts in Surface Waters

**SITE 1**

**SA**

4/2/2019  
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8/17/99

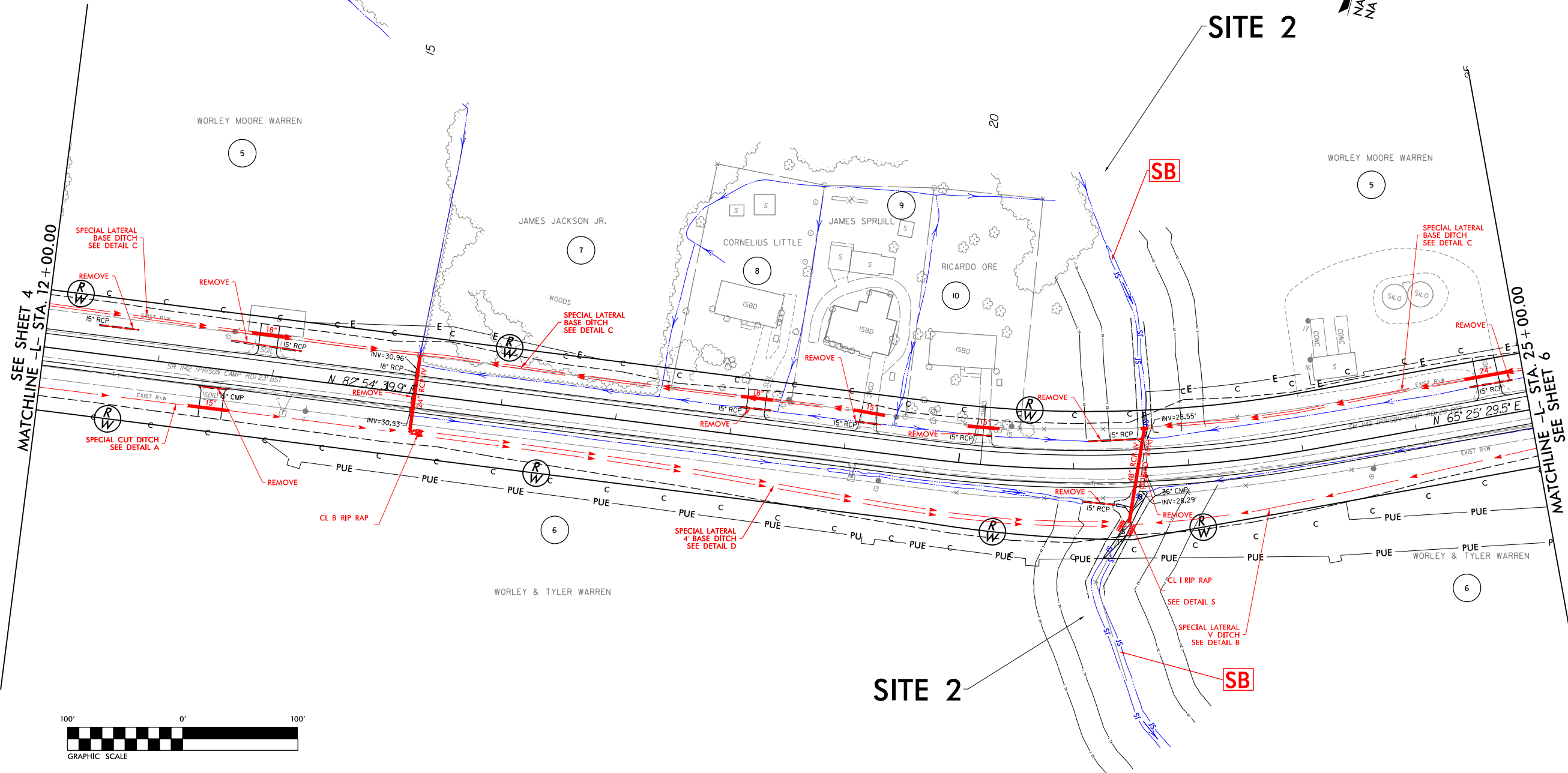
# PERMIT DRAWING SHEET 6 OF 53

**WETHERILL ENGINEERING**  
 1223 Jones Franklin Rd.  
 Raleigh, N.C. 27606  
 License No. F-0377  
 Bus: 919 851 8077  
 Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

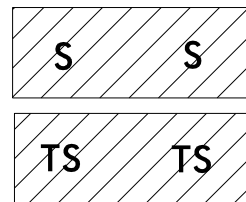
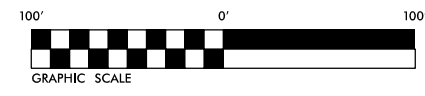
PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 5
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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



SEE SHEET 4  
MATCHLINE -L- STA. 12+00.00

MATCHLINE -L- STA. 25+00.00  
SEE SHEET 6



**S** DENOTES IMPACTS IN SURFACE WATER

**TS** DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PI Sta 21+43.38  
 $\Delta = 17^\circ 29' 10.4\"$  (LT)  
 $D = 5' 12\" 31.3\"$   
 $L = 335.71'$   
 $T = 169.17'$   
 $R = 1,100.00'$

SEE SHEET 44 FOR -L- PROFILE

REVISIONS

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8/17/99

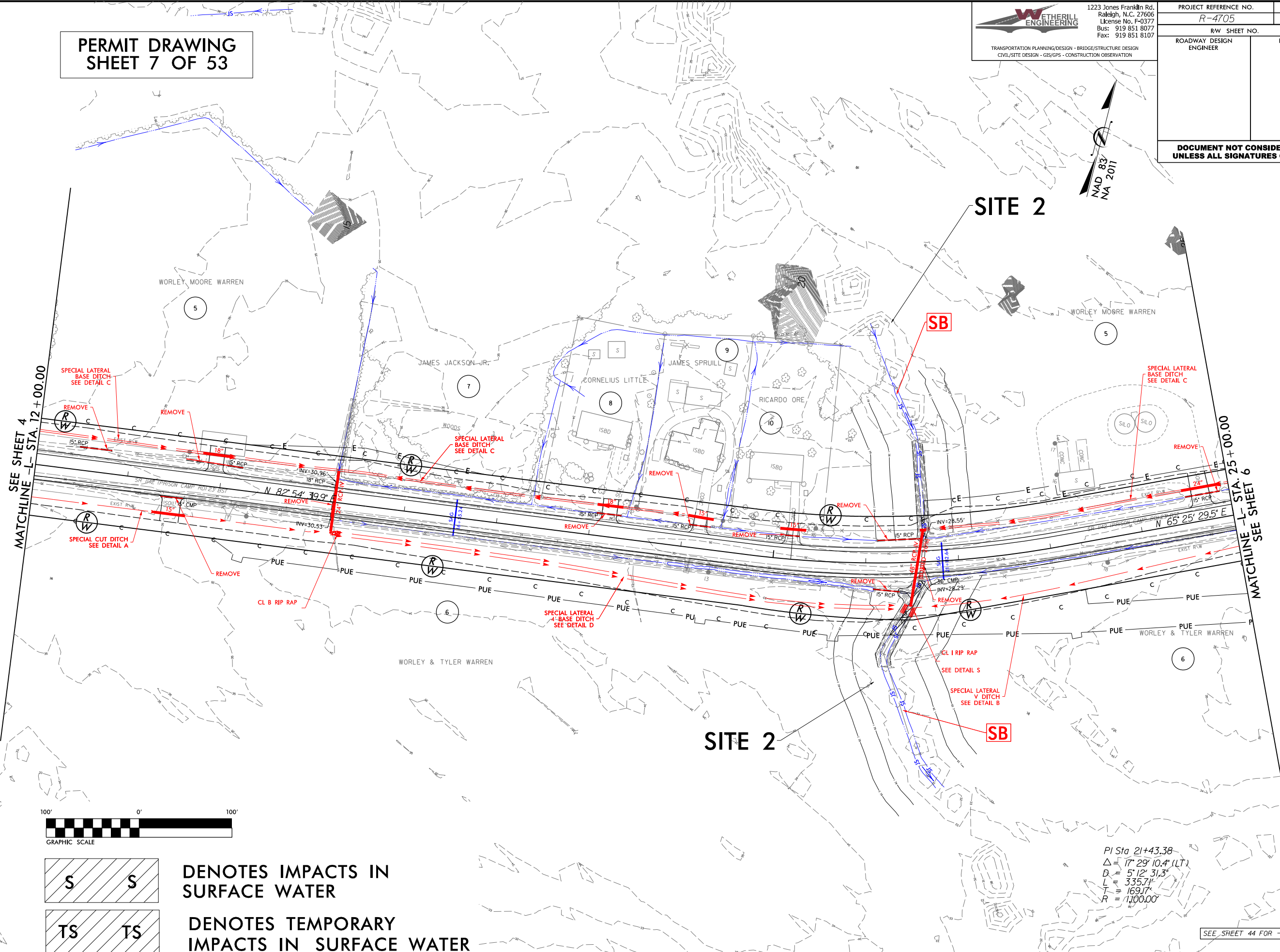
# PERMIT DRAWING SHEET 7 OF 53

**WETHERILL ENGINEERING**  
 1223 Jones Franklin Rd.  
 Raleigh, N.C. 27606  
 License No. F-0377  
 Bus: 919 851 8077  
 Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

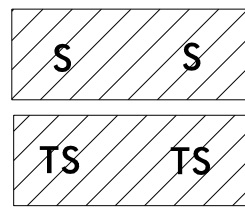
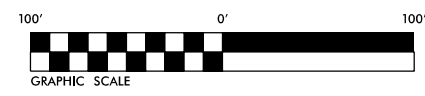
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RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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



REVISIONS

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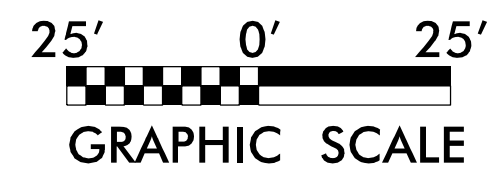
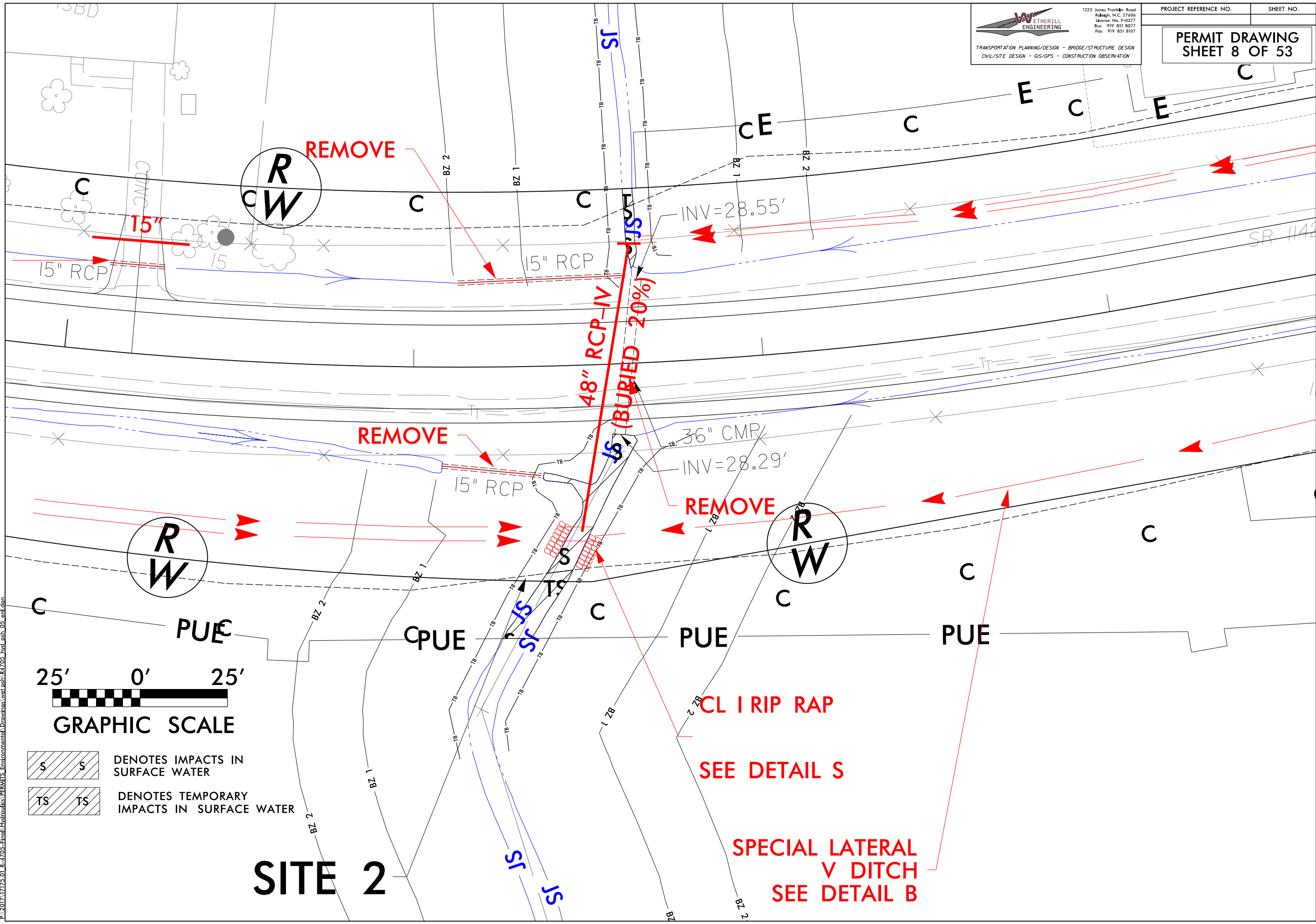




**S** DENOTES IMPACTS IN SURFACE WATER

**TS** DENOTES TEMPORARY IMPACTS IN SURFACE WATER

$PI Sta 21+43.38$   
 $\Delta = 17^{\circ} 29' 10.4'' (LT)$   
 $D = 5' 12' 31.3''$   
 $L = 335.74'$   
 $T = 169.17'$   
 $R = 1100.00'$

SEE SHEET 44 FOR -L- PROFILE



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

**SITE 2**

4/2/2019  
 FBrooks  
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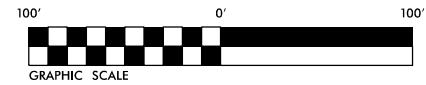
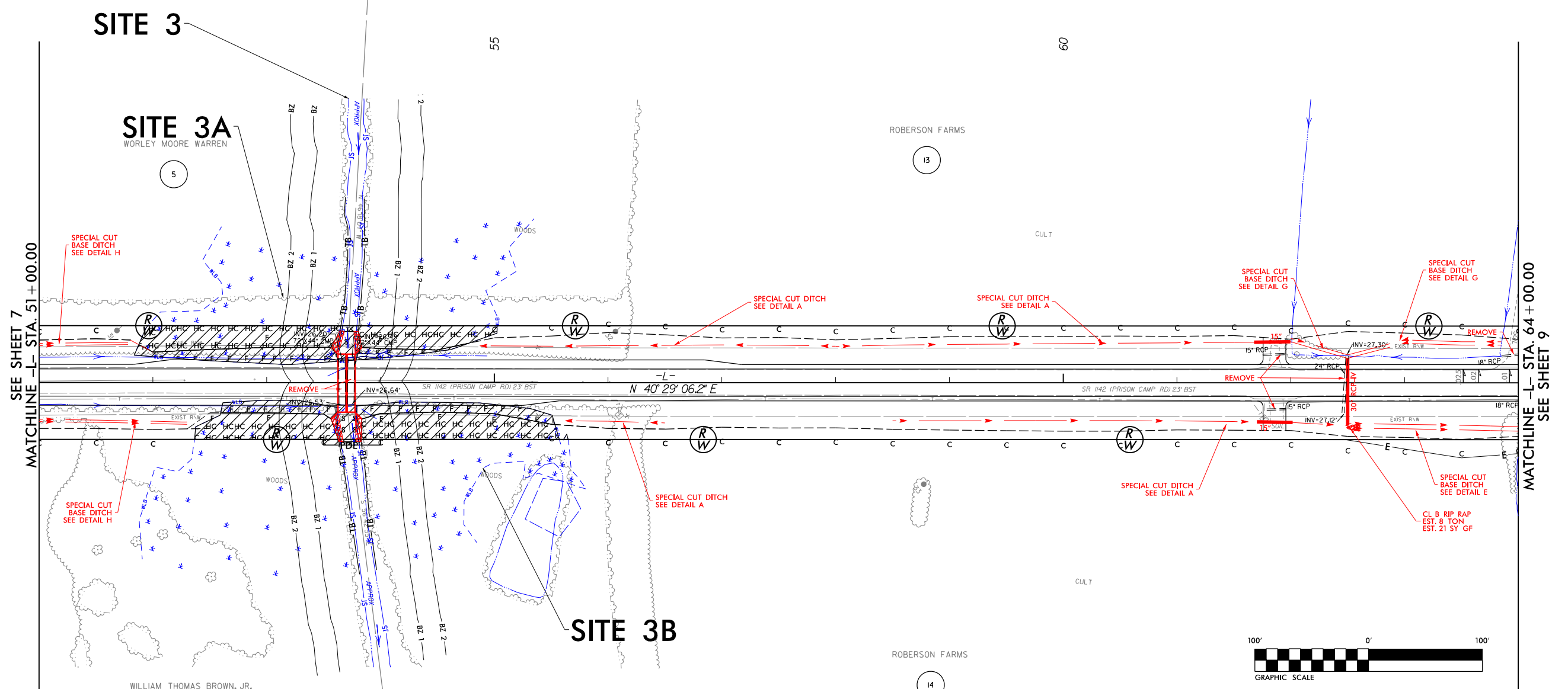


PERMIT DRAWING  
SHEET 9 OF 53

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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



- |   |   |
|---|---|
| S | S |
|---|---|

 DENOTES IMPACTS IN SURFACE WATER
- |    |    |
|----|----|
| TS | TS |
|----|----|

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- |   |   |
|---|---|
| F | F |
|---|---|

 DENOTES FILL IN WETLAND
- |   |   |
|---|---|
| * | * |
| * | * |
| * | * |

 DENOTES MECHANIZED CLEARING
- |    |    |
|----|----|
| HC | HC |
|----|----|

 DENOTES HAND CLEARING

SEE SHEET 45&46 FOR -L- PROFILE

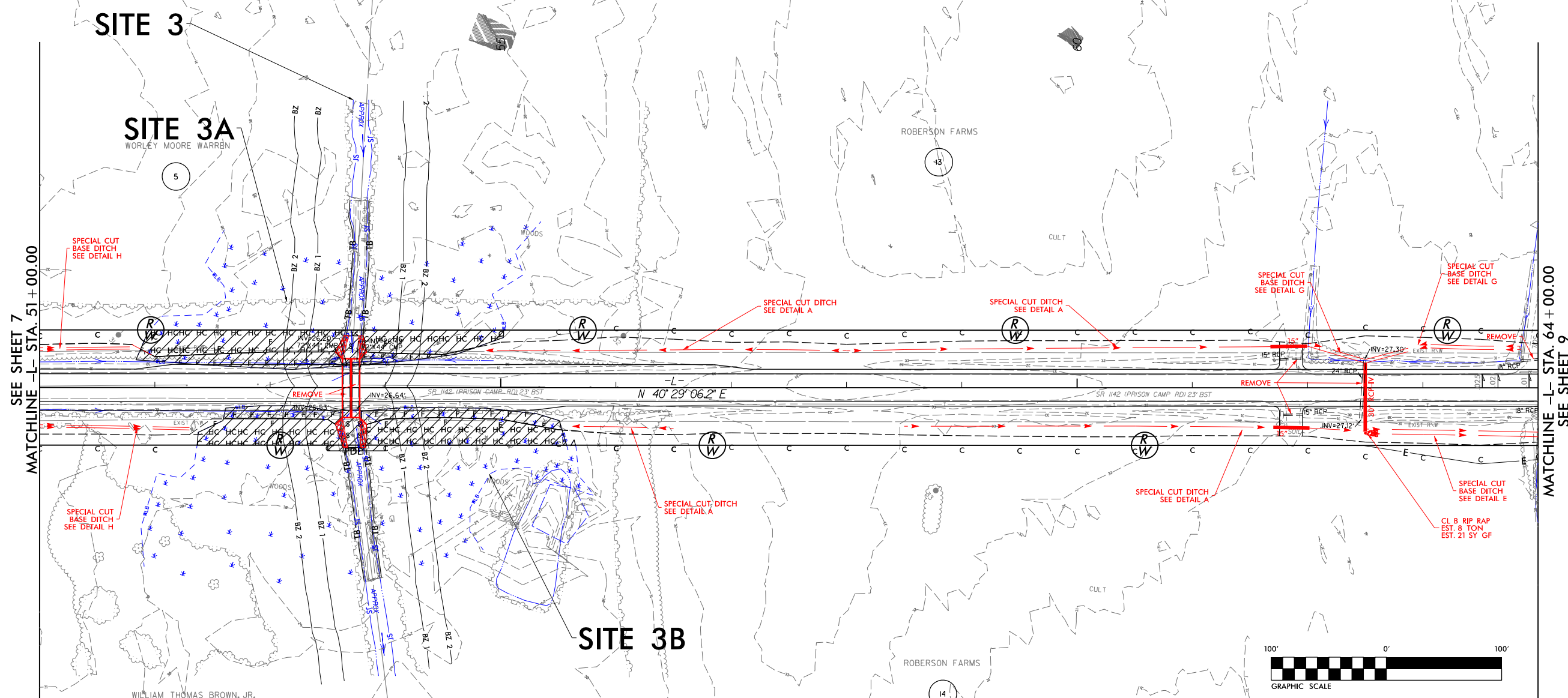
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 USER: FLOOKS

**PERMIT DRAWING  
SHEET 10 OF 53**

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 Fax: 919 851 8107

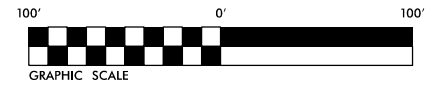
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <b>R-4705</b>	SHEET NO. <b>8</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



REVISIONS

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 USER: F. Brooks



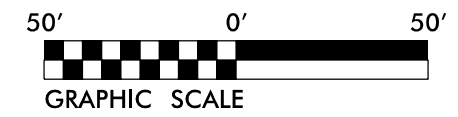
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES HAND CLEARING

SEE SHEET 45&46 FOR -L- PROFILE

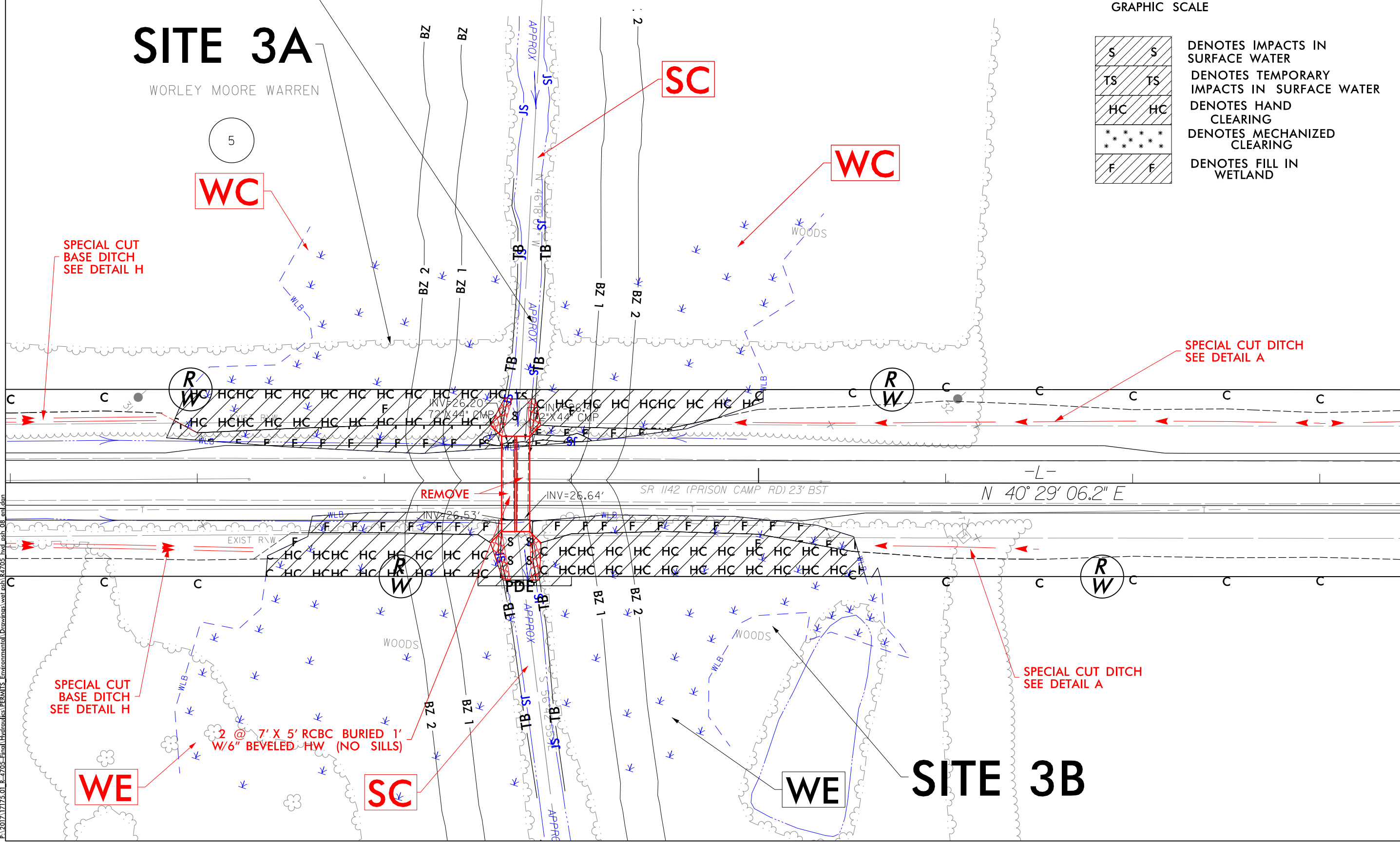
# SITE 3

## SITE 3A

WORLEY MOORE WARREN



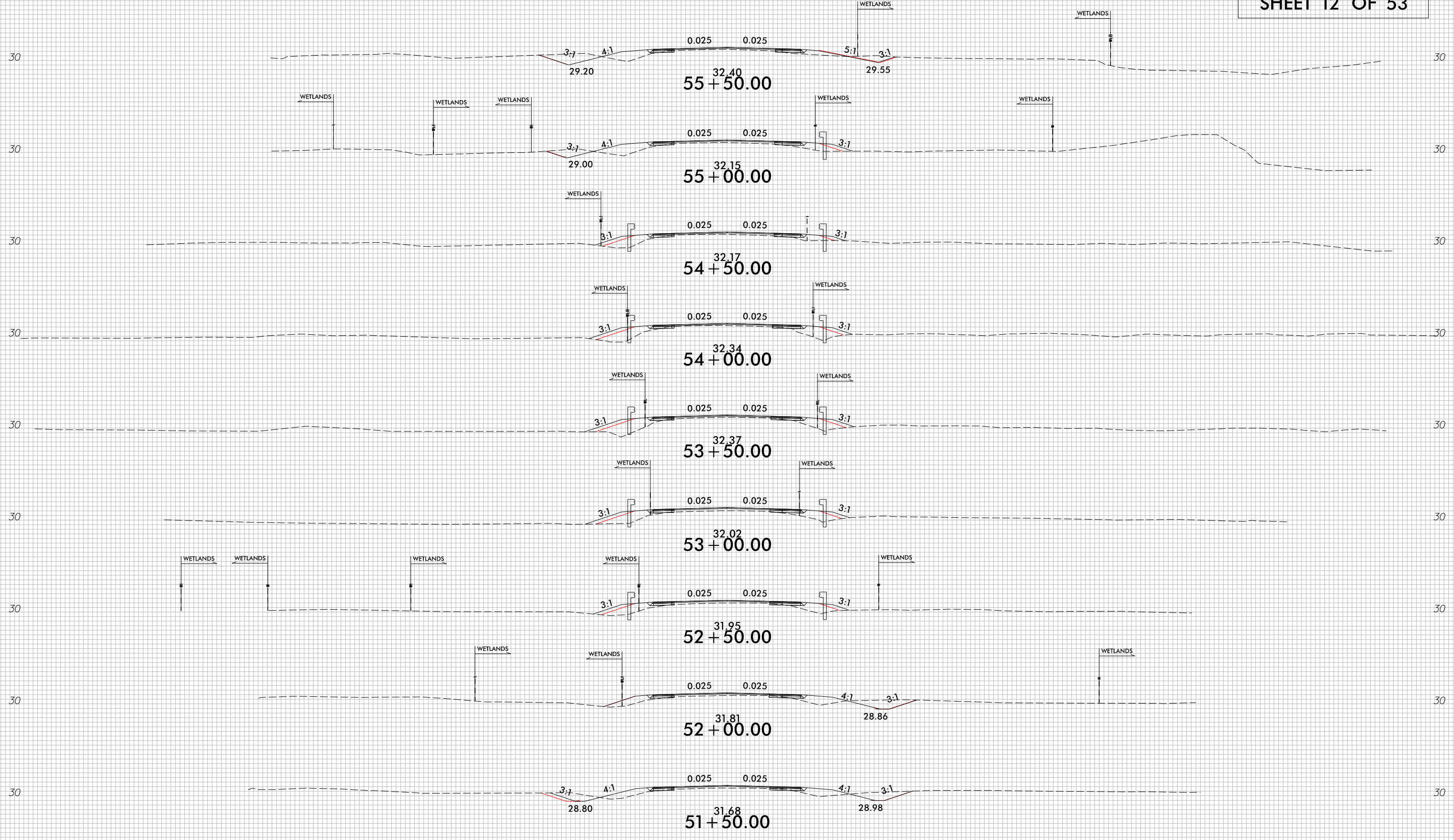
	S	DENOTES IMPACTS IN SURFACE WATER
	TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	HC	DENOTES HAND CLEARING
	** ** *	DENOTES MECHANIZED CLEARING
	F	DENOTES FILL IN WETLAND





PERMIT DRAWING  
SHEET 12 OF 53

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



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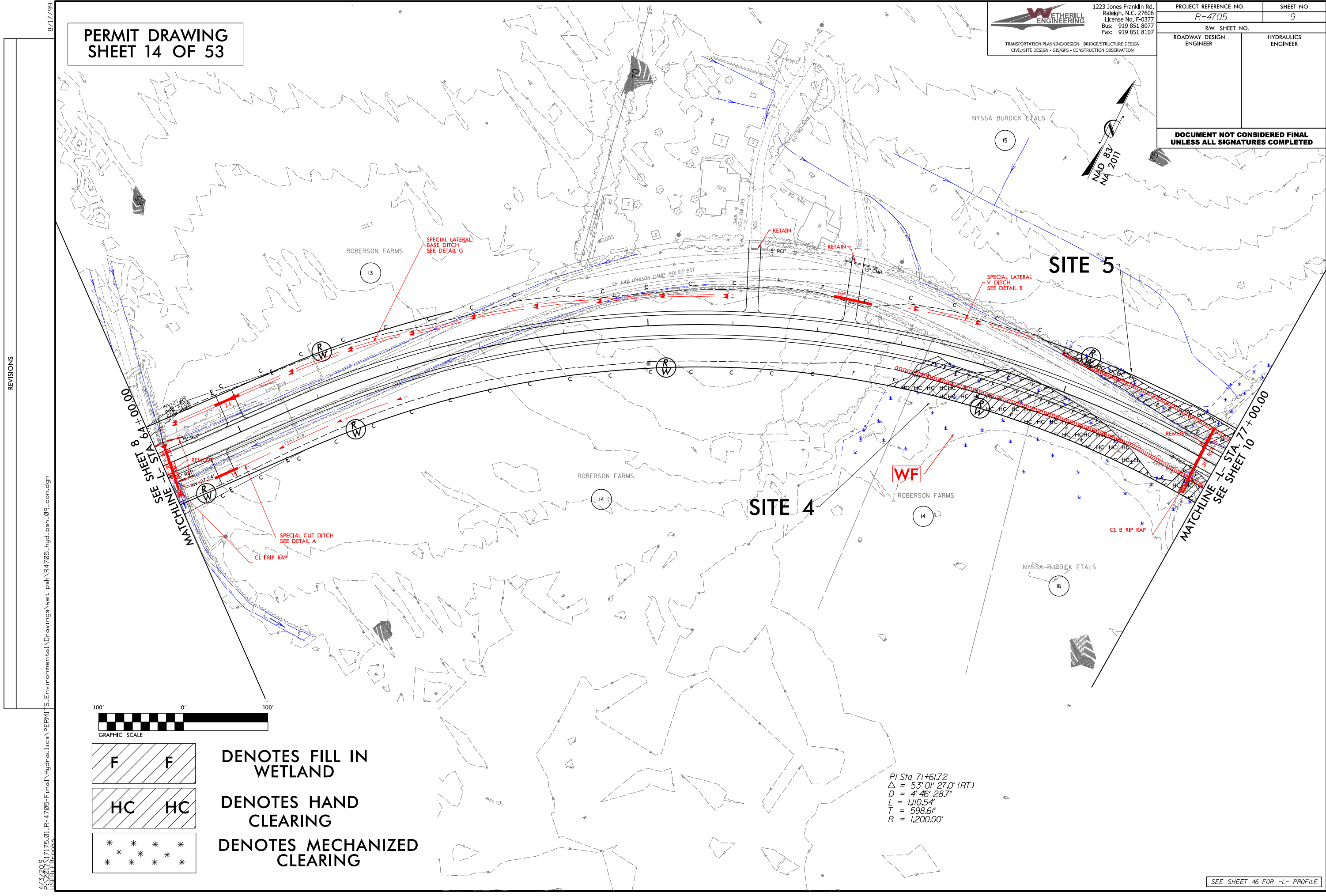


**PERMIT DRAWING  
SHEET 14 OF 53**

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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

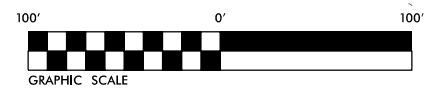
PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 9
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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



REVISIONS

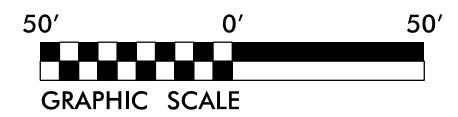
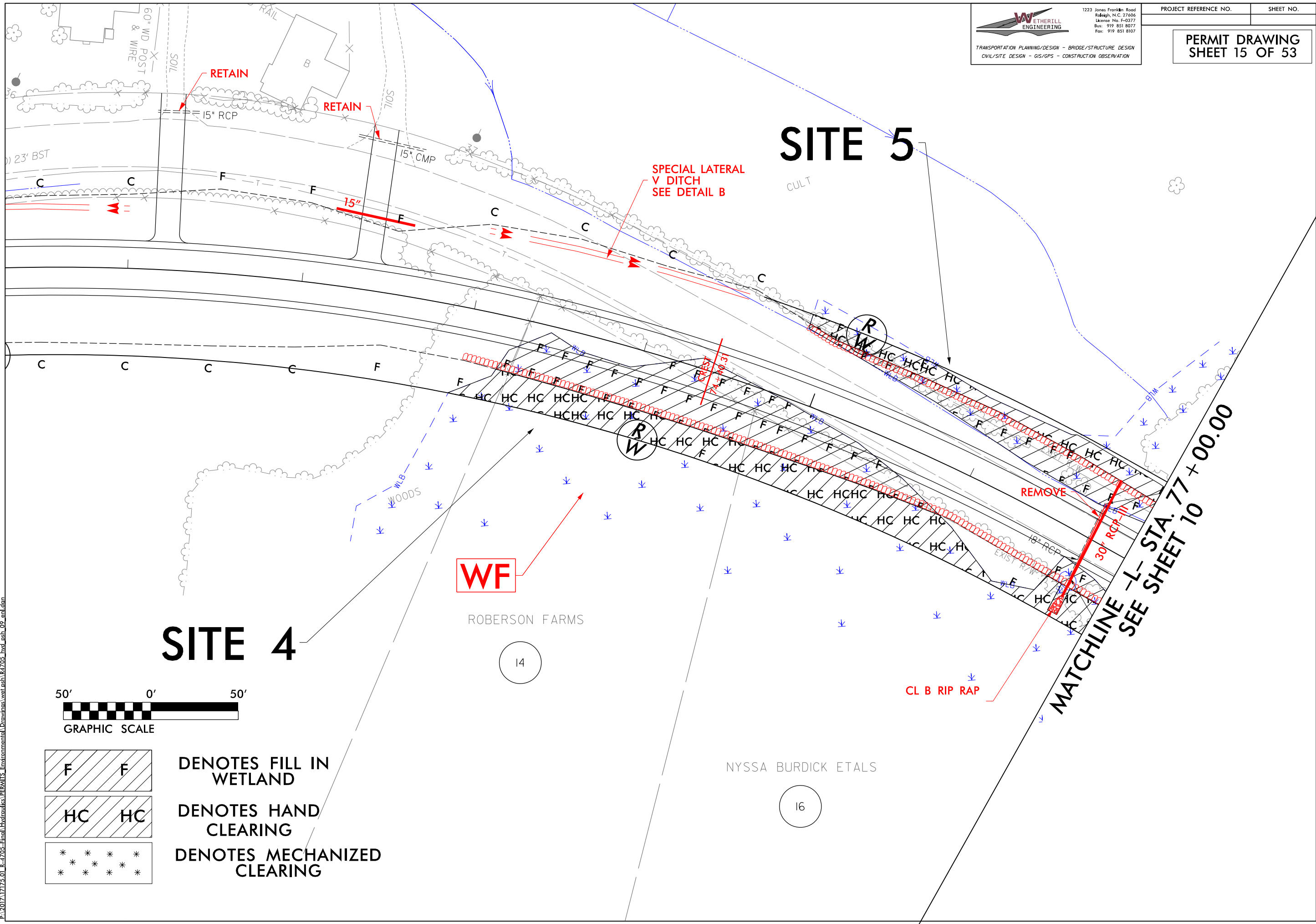
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 USER: F.BROOKS

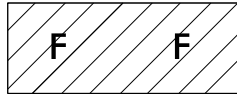

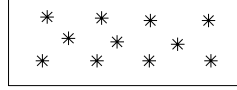


- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES MECHANIZED CLEARING

PI Sta 71+61.72  
 $\Delta = 53^{\circ} 01' 27.0''$  (RT)  
 $D = 4' 46'' 28.7''$   
 $L = 1,110.54'$   
 $T = 598.6'$   
 $R = 1,200.00'$

SEE SHEET 46 FOR -L- PROFILE



- 
 DENOTES FILL IN WETLAND
- 
 DENOTES HAND CLEARING
- 
 DENOTES MECHANIZED CLEARING

4/3/2019  
 FBrooks  
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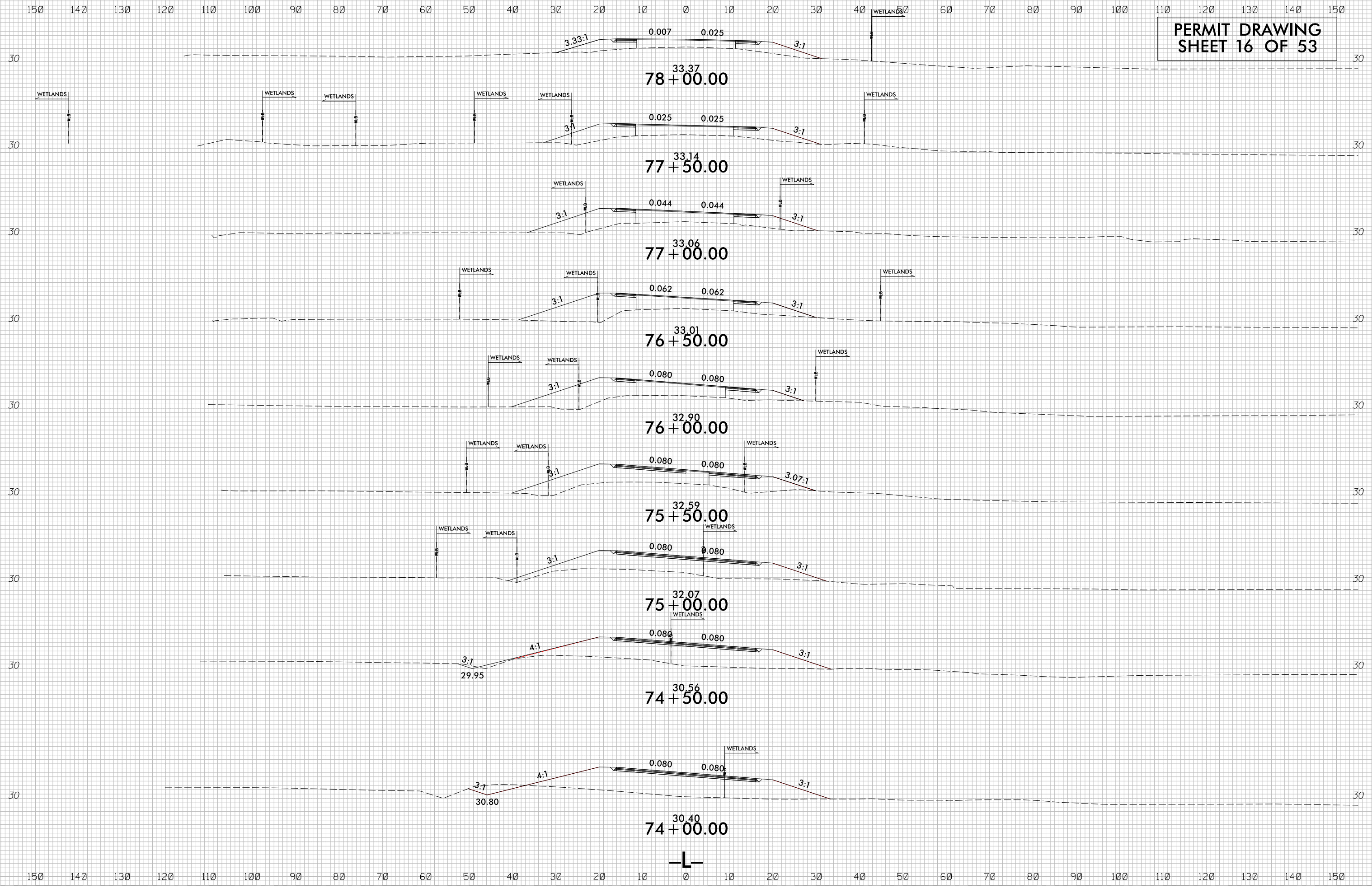
8/23/99



PROJ. REFERENCE NO.  
R-4705

SHEET NO.  
X-16

PERMIT DRAWING  
SHEET 16 OF 53



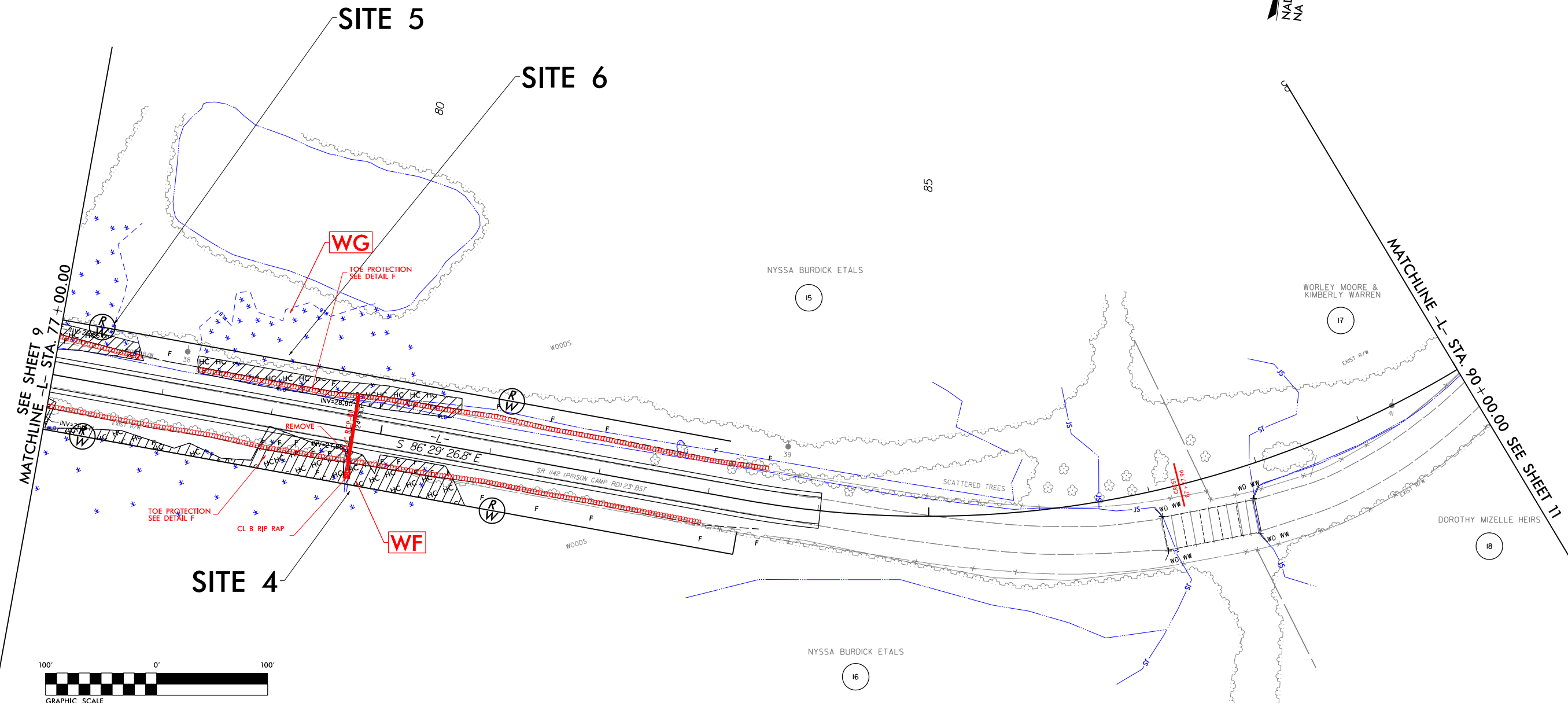
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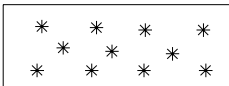
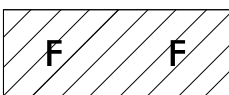


**PERMIT DRAWING  
SHEET 17 OF 53**

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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. <i>10</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



-  DENOTES HAND CLEARING
-  DENOTES MECHANIZED CLEARING
-  DENOTES FILL IN WETLAND

SEE SHEET 46&47 FOR -L- PROFILE

REVISIONS  
 8/17/99  
 4/3/2008  
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 USER: F.BROOKS

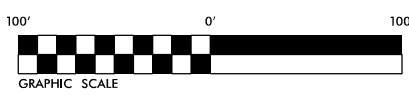
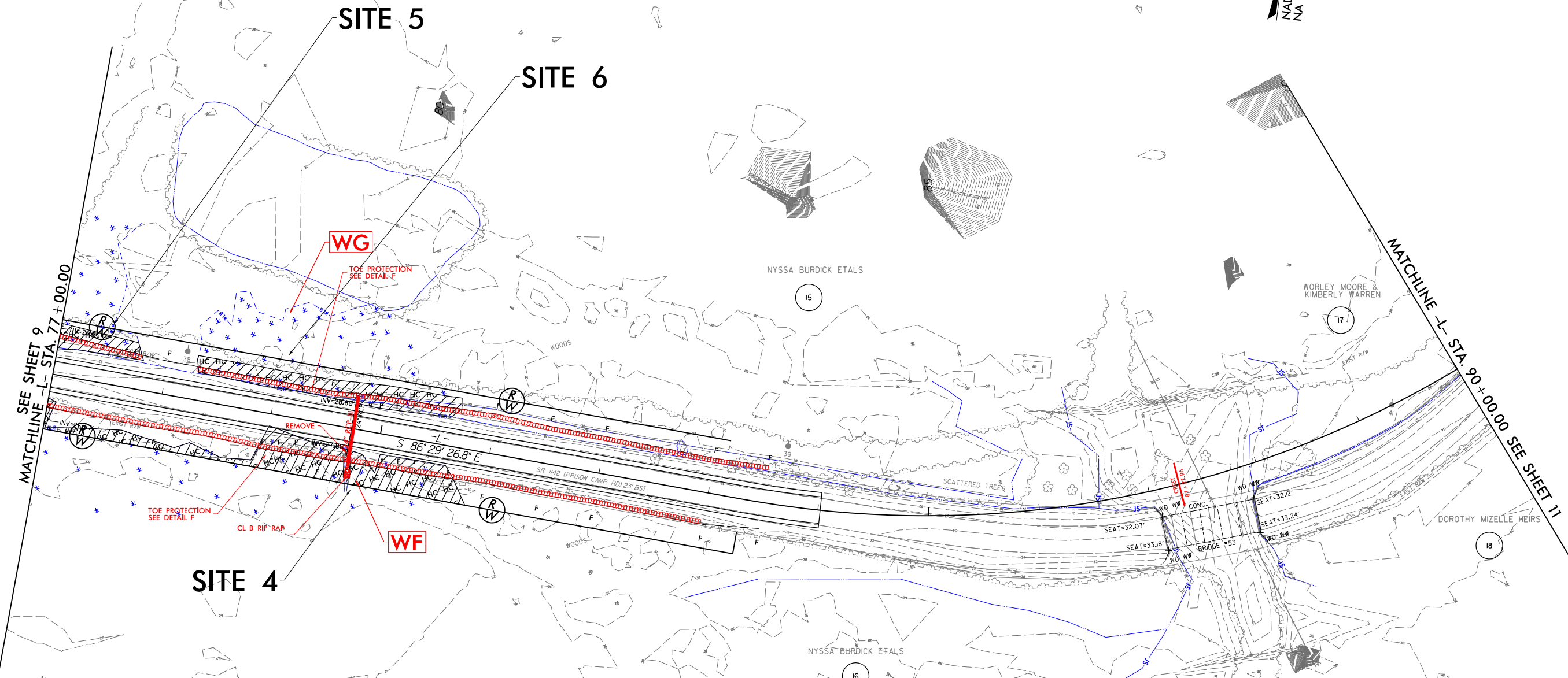
**PERMIT DRAWING  
SHEET 18 OF 53**

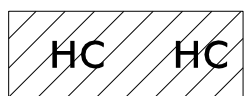
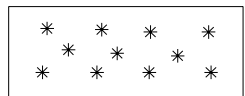
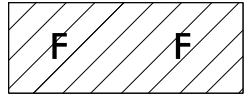


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Fax: 919 851 8107

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. <i>10</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

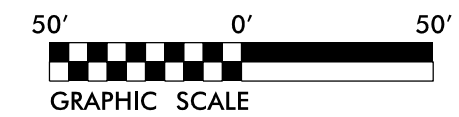


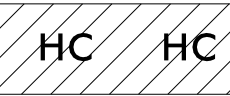
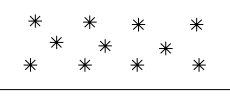

-  DENOTES HAND CLEARING
-  DENOTES MECHANIZED CLEARING
-  DENOTES FILL IN WETLAND

SEE SHEET 46&47 FOR -L- PROFILE

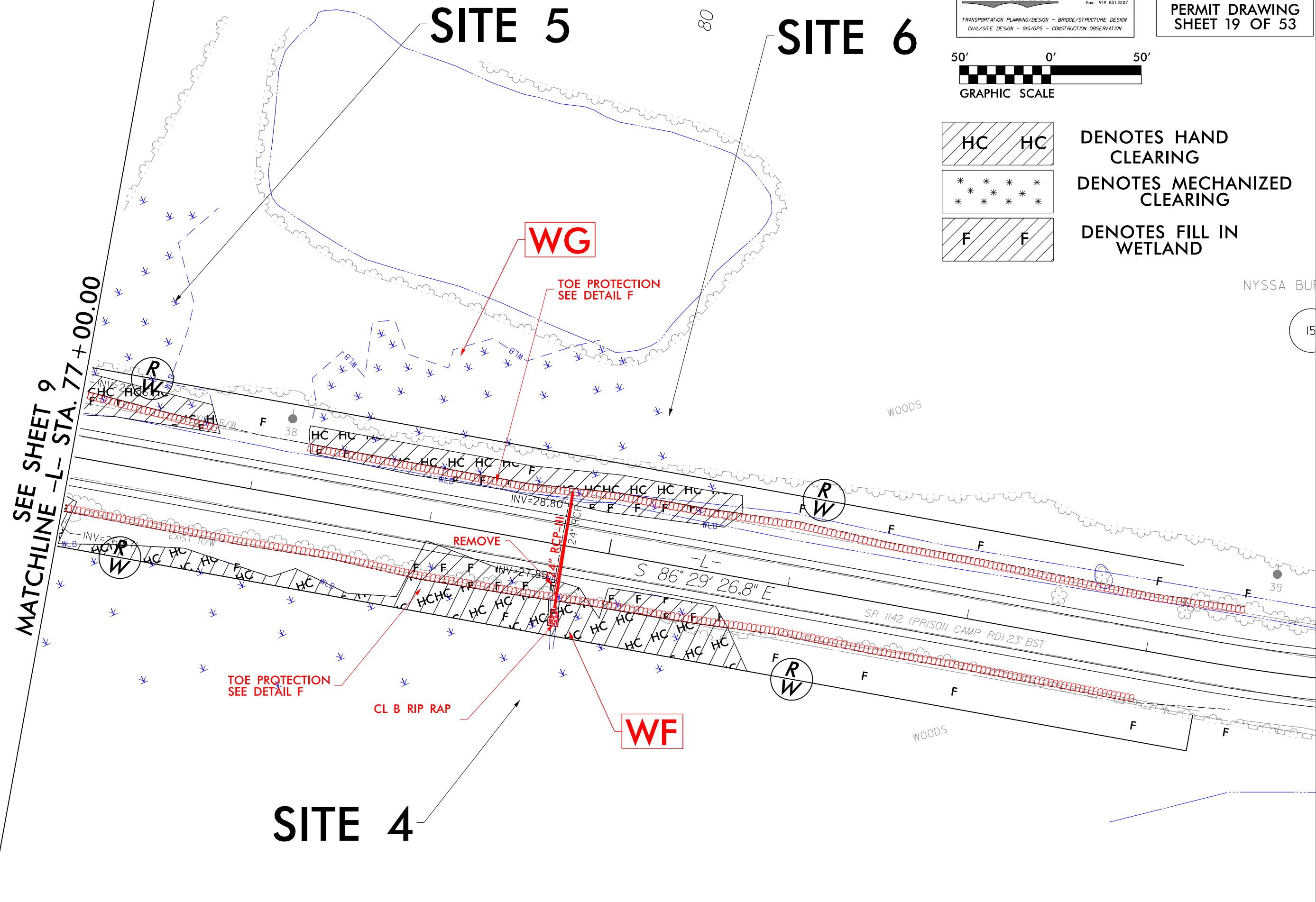
REVISIONS

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 4/3/2008  
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 USER: F:\B...



- 
**HC HC** DENOTES HAND CLEARING
- 
 DENOTES MECHANIZED CLEARING
- 
**F F** DENOTES FILL IN WETLAND

SEE SHEET 9  
 MATCHLINE -L- STA. 77+00.00

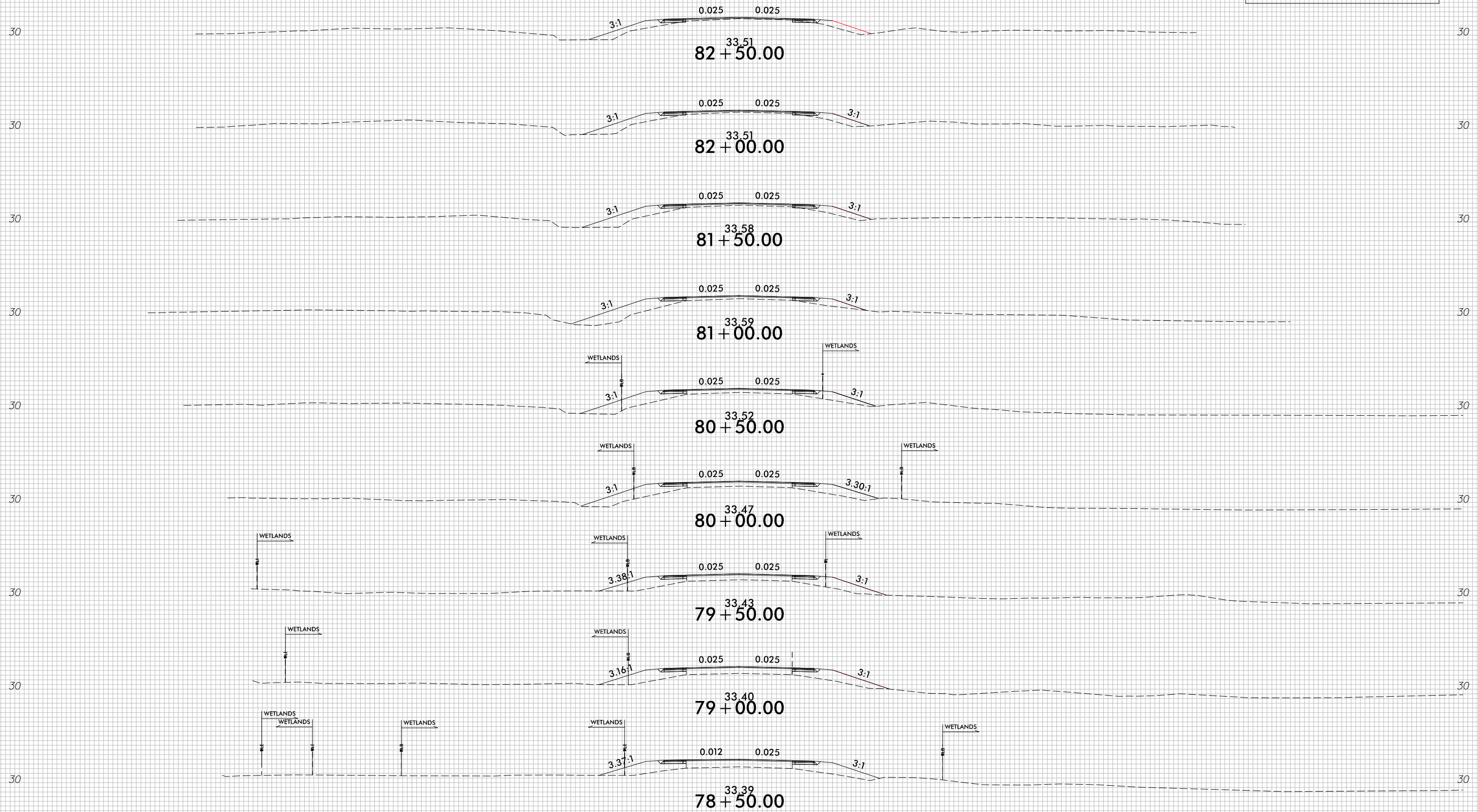


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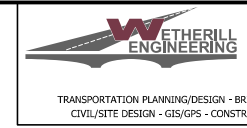
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PERMIT DRAWING  
SHEET 20 OF 53



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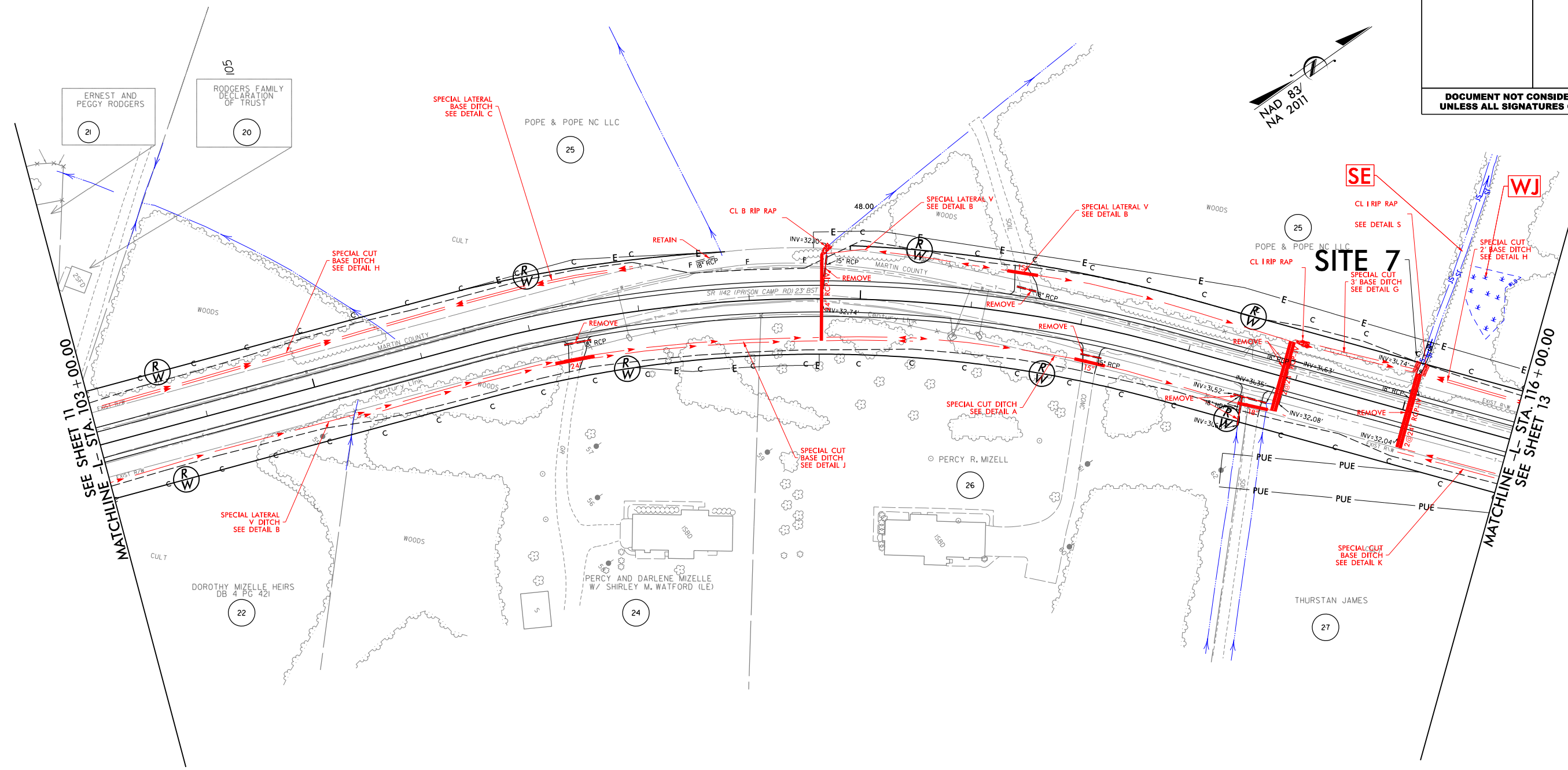
**PERMIT DRAWING  
SHEET 21 OF 53**



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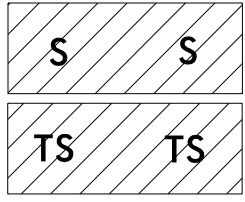
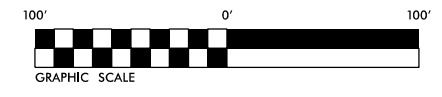
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RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		

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



REVISIONS

4/2/2018 11:17:50 L:\R-4705-Final\Hydro\Utilities\PERMIT\T.S.Environmental\Drawings\wet\_psk\R4705-hyd\_psh\_12.dgn



**S** DENOTES IMPACTS IN SURFACE WATER

**TS** DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PI Sta 109+74.78  
 $\Delta = 30^\circ 32' 11.1''$  (RT)  
 $D = 4' 46'' 28.7''$   
 $L = 639.55'$   
 $T = 327.57'$   
 $R = 1,200.00'$

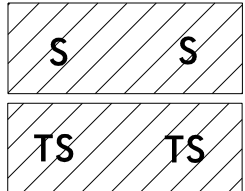
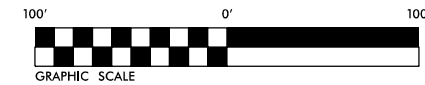
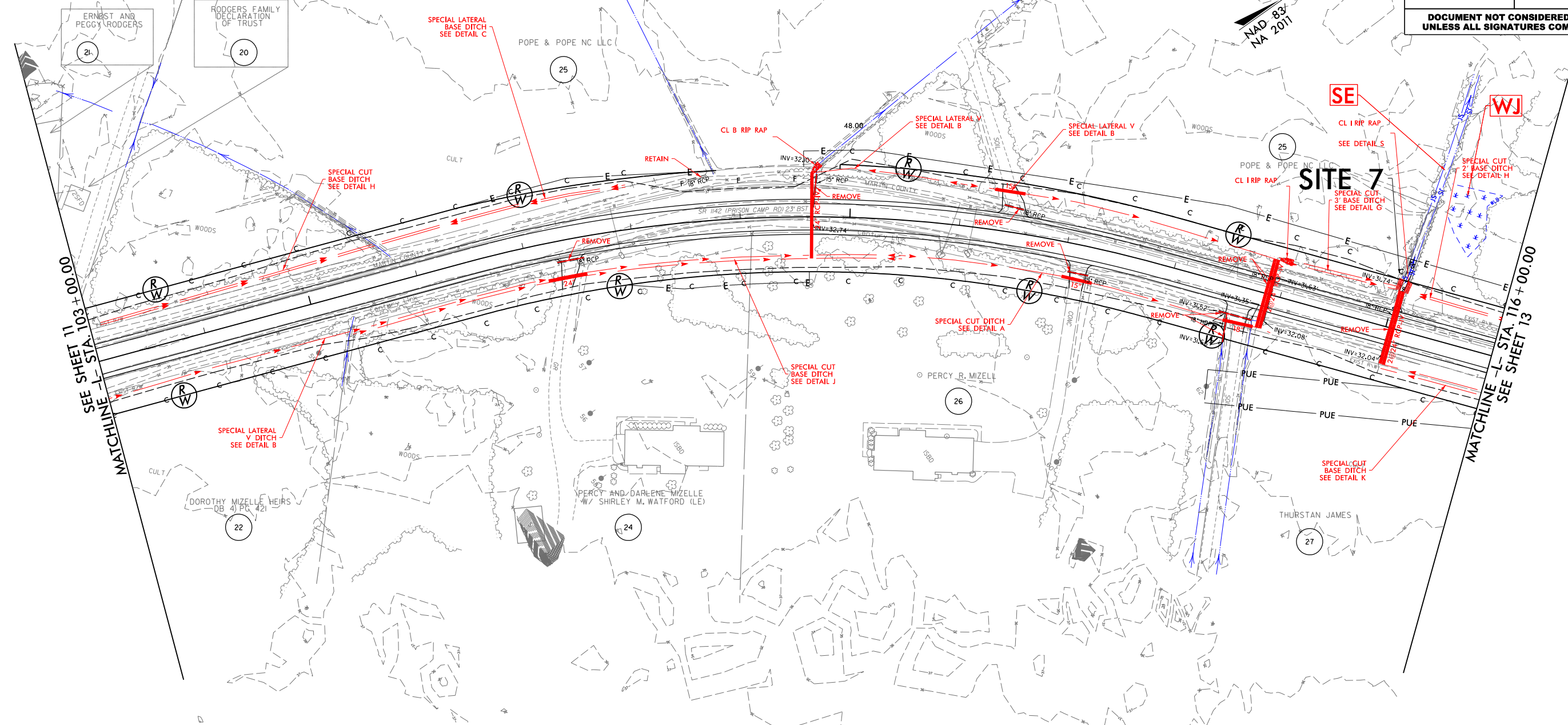
SEE SHEET 47&48 FOR -L- PROFILE

**PERMIT DRAWING  
SHEET 22 OF 53**

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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GIS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. <i>12</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

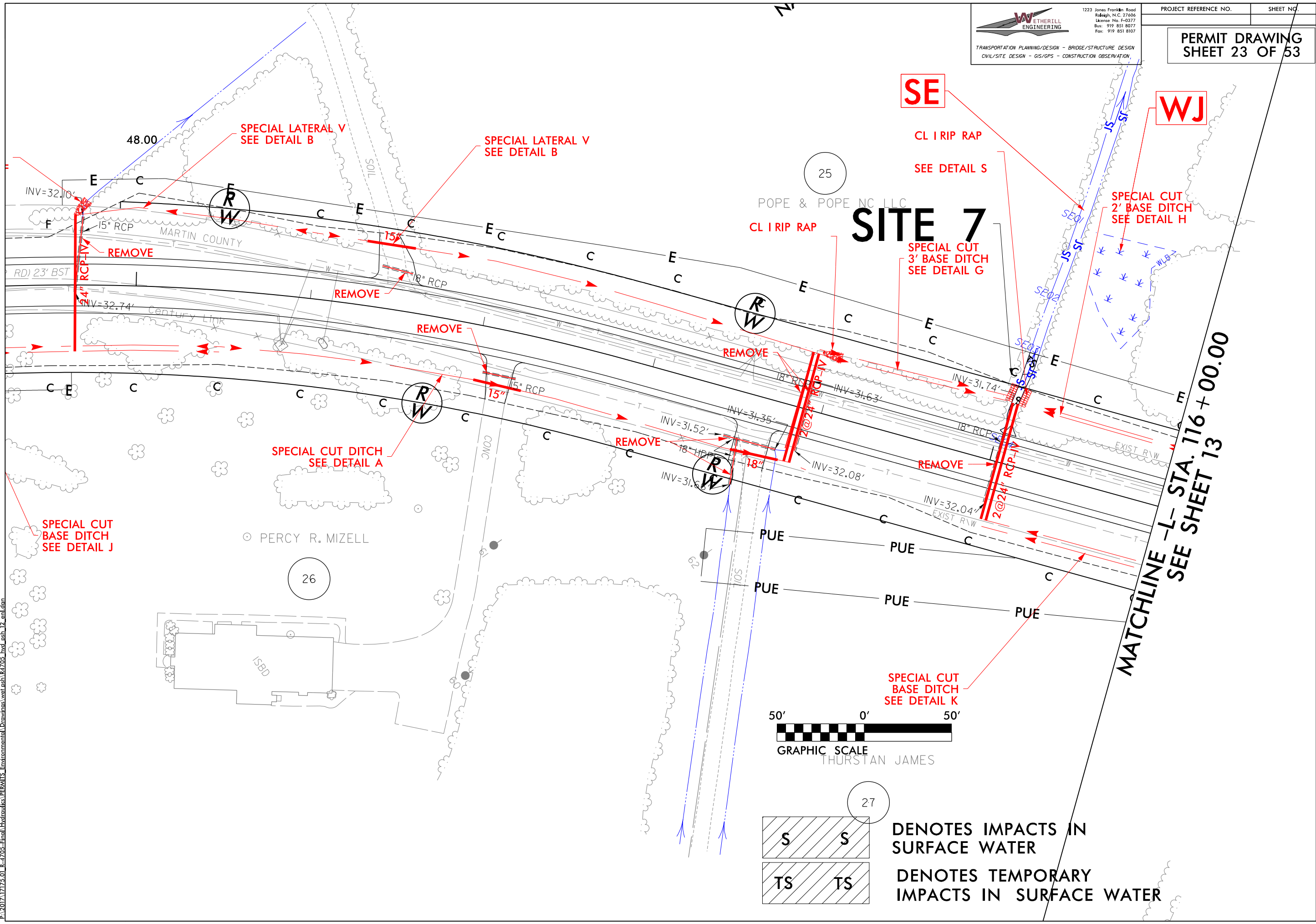


**S** DENOTES IMPACTS IN SURFACE WATER  
**TS** DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PI Sta 109+74.78  
 $\Delta = 30^{\circ} 32' 11.1''$  (RT)  
 $D = 4' 46'' 28.7''$   
 $L = 639.55'$   
 $T = 327.57'$   
 $R = 1,206.00'$

SEE SHEET 47&48 FOR -L- PROFILE

REVISIONS  
 8/17/99  
 4/3/2008  
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 USER: F. Brooks



# SITE 7

25

POPE & POPE NC LLC

WJ

SE

SPECIAL LATERAL V  
SEE DETAIL B

SPECIAL LATERAL V  
SEE DETAIL B

CL I RIP RAP

SEE DETAIL S

SPECIAL CUT  
2' BASE DITCH  
SEE DETAIL H

SPECIAL CUT  
3' BASE DITCH  
SEE DETAIL G

REMOVE

REMOVE

REMOVE

REMOVE

REMOVE

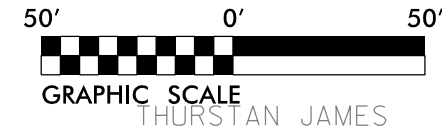
SPECIAL CUT DITCH  
SEE DETAIL A

SPECIAL CUT  
BASE DITCH  
SEE DETAIL J

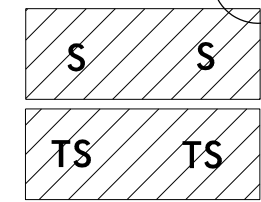
PERCY R. MIZELL

26

SPECIAL CUT  
BASE DITCH  
SEE DETAIL K



27



DENOTES IMPACTS IN  
SURFACE WATER

DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER

MATCHLINE -L- STA. 116+00.00  
SEE SHEET 13

# PERMIT DRAWING SHEET 24 OF 53

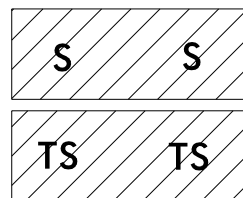
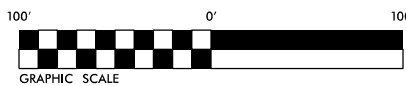
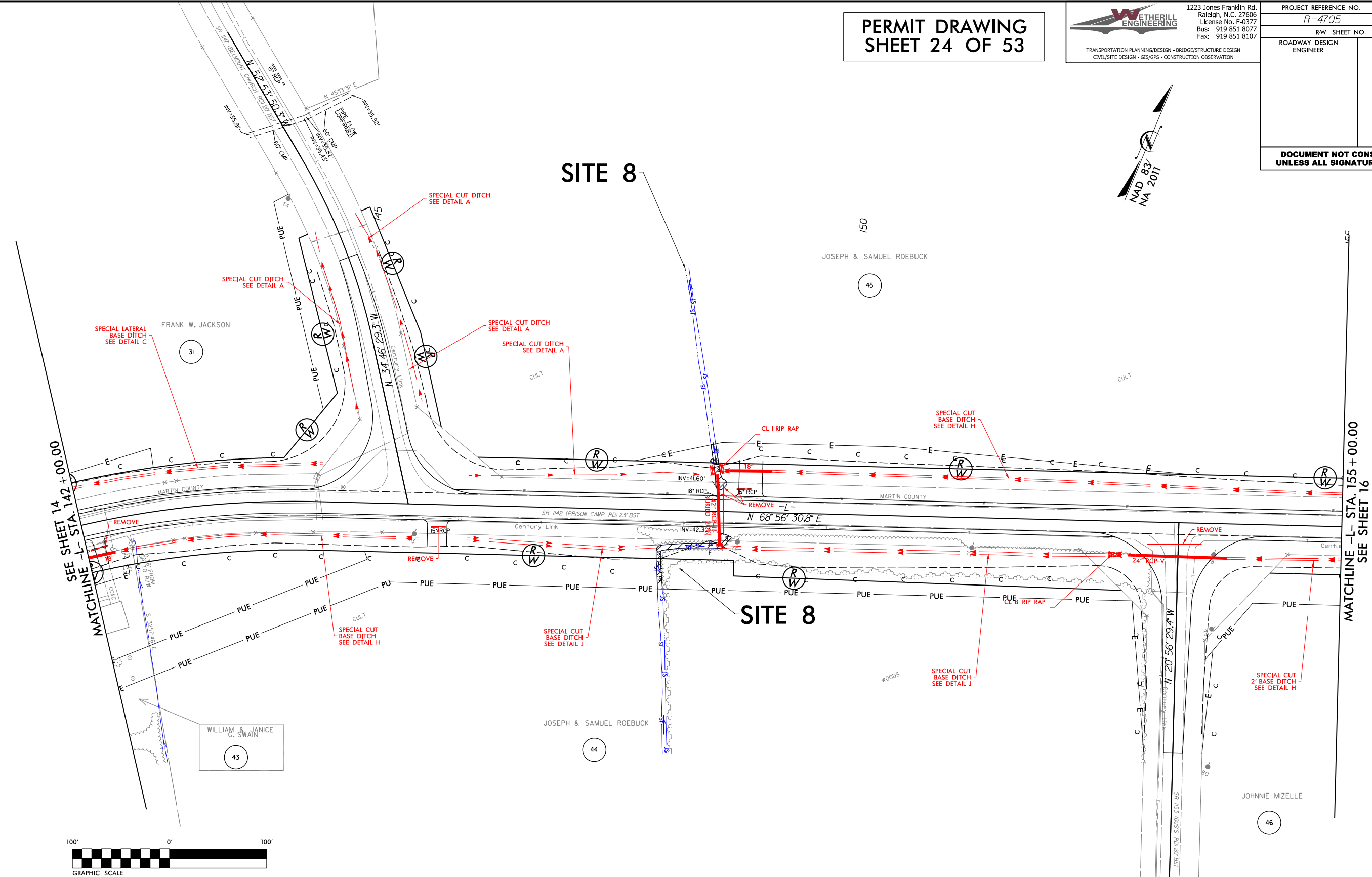
**WETHERILL  
ENGINEERING**  
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

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PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. <i>15</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



## SITE 8



**S**  
DENOTES IMPACTS IN  
SURFACE WATER

**TS**  
DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER

PI Sta 12+74.84	PI Sta 142+90.34
$\Delta = 18^{\circ} 07' 35.4''$ (LT)	$\Delta = 18^{\circ} 13' 05.1''$ (RT)
$D = 9^{\circ} 00' 00.0''$	$D = 5^{\circ} 52' 35.4''$
$L = 201.41'$	$L = 310.02'$
$T = 101.55'$	$T = 156.33'$
$R = 636.62'$	$R = 975.00'$

SEE SHEET 49 FOR -L- PROFILE  
SEE SHEET 65 FOR -Y3- PROFILE  
SEE SHEET 65 FOR -Y4- PROFILE

REVISIONS

8/17/99

4/3/2018 11:17:50.1 - R-4705-Final\Hydraulics\PERMITS\_Environmental\Drawings\wet\_psh\R4705\_hyd\_psh\_15.dgn  
 USER: F.Bricks



# PERMIT DRAWING SHEET 25 OF 53

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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

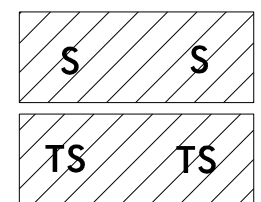
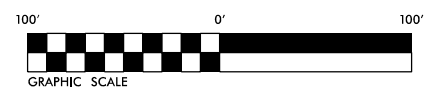
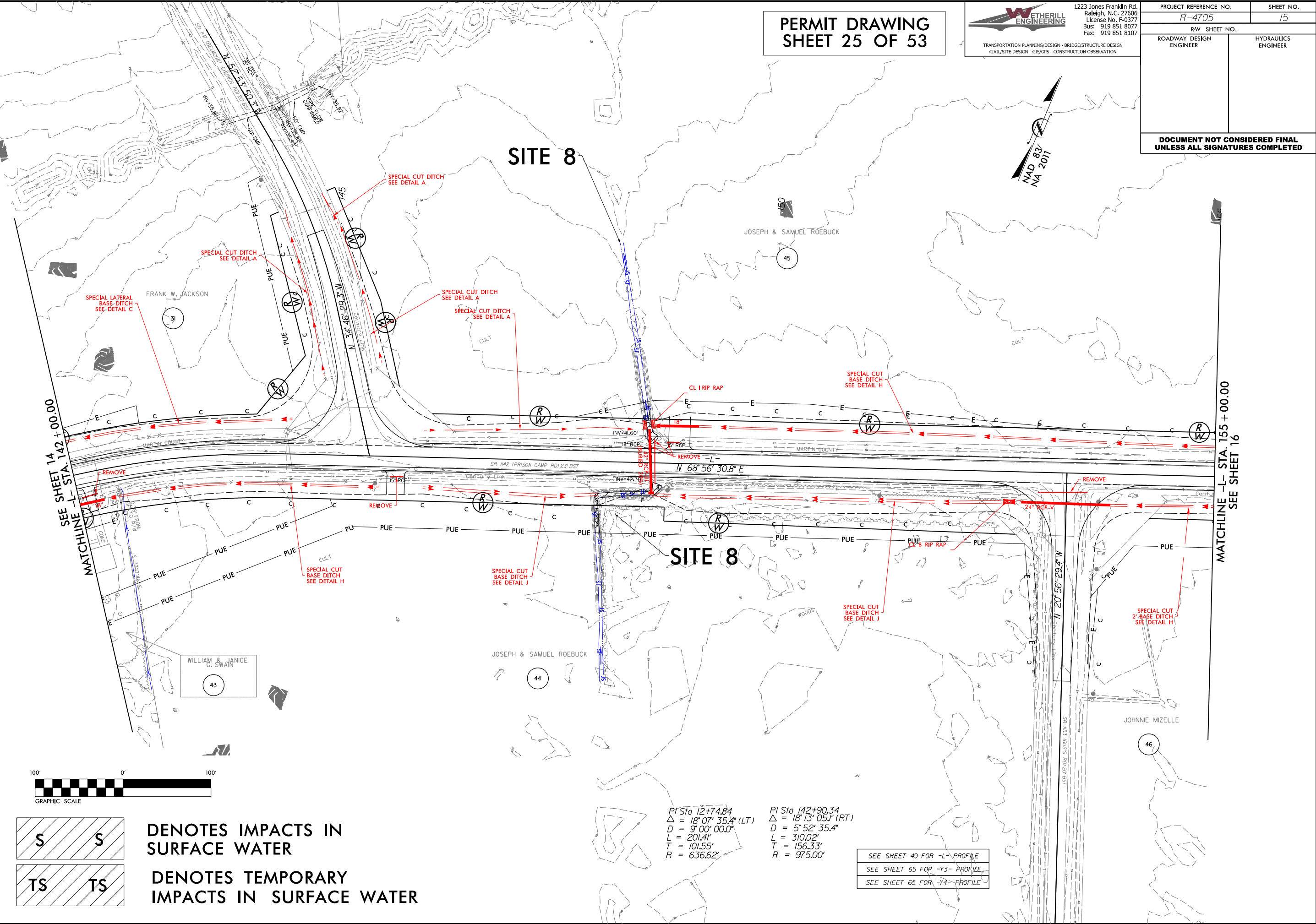
PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. <i>15</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

8/17/99

REVISIONS

F:\3\2010\17175.01\_R-4705-Final\Hydraulics\PERMITS\_Environmental\Drawings\wet\_psh\R4705\_hyd\_psh\_15\_con.dgn  
 USER: FBOOKS



**S** DENOTES IMPACTS IN SURFACE WATER

**TS** DENOTES TEMPORARY IMPACTS IN SURFACE WATER

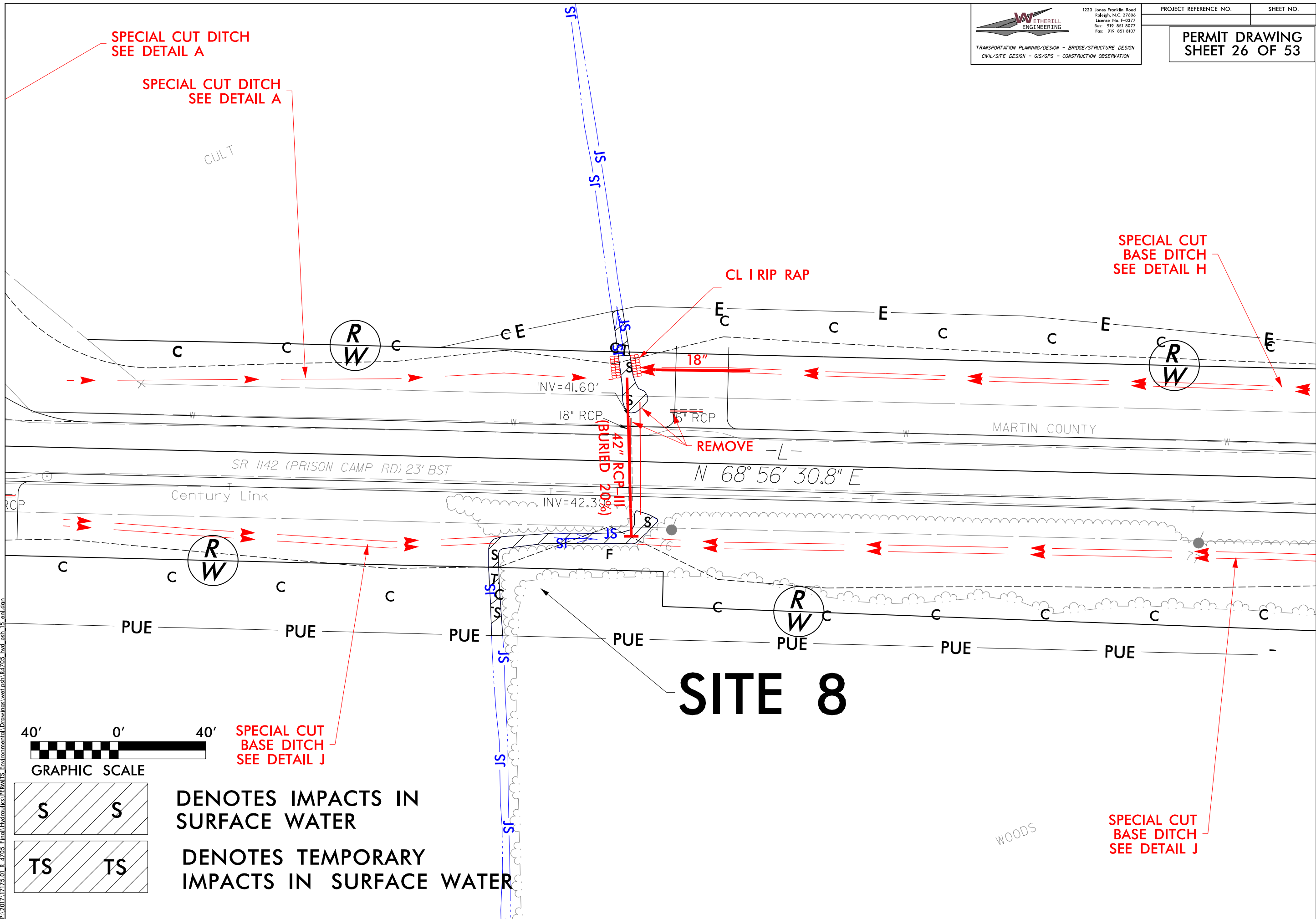
PI Sta 12+74.84  
 $\Delta = 18^{\circ} 07' 35.4''$  (LT)  
 $D = 9^{\circ} 00' 00.0''$   
 $L = 201.41'$   
 $T = 101.55'$   
 $R = 636.62'$

PI Sta 142+90.34  
 $\Delta = 18^{\circ} 13' 05.1''$  (RT)  
 $D = 5^{\circ} 52' 35.4''$   
 $L = 310.02'$   
 $T = 156.33'$   
 $R = 975.00'$

SEE SHEET 49 FOR -L- PROFILE  
 SEE SHEET 65 FOR -Y3- PROFILE  
 SEE SHEET 65 FOR -Y4- PROFILE

SEE SHEET 14  
MATCHLINE -L- STA. 142 + 00.00

MATCHLINE -L- STA. 155 + 00.00  
SEE SHEET 16



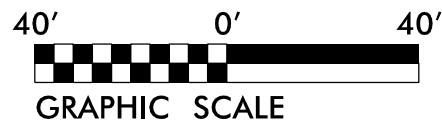
SPECIAL CUT DITCH  
SEE DETAIL A

SPECIAL CUT DITCH  
SEE DETAIL A

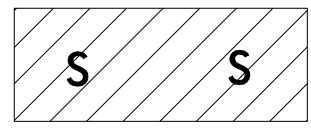
CL I RIP RAP

SPECIAL CUT  
BASE DITCH  
SEE DETAIL H

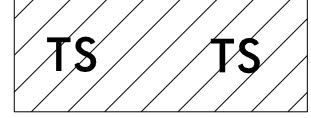
# SITE 8



SPECIAL CUT  
BASE DITCH  
SEE DETAIL J



DENOTES IMPACTS IN  
SURFACE WATER



DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER

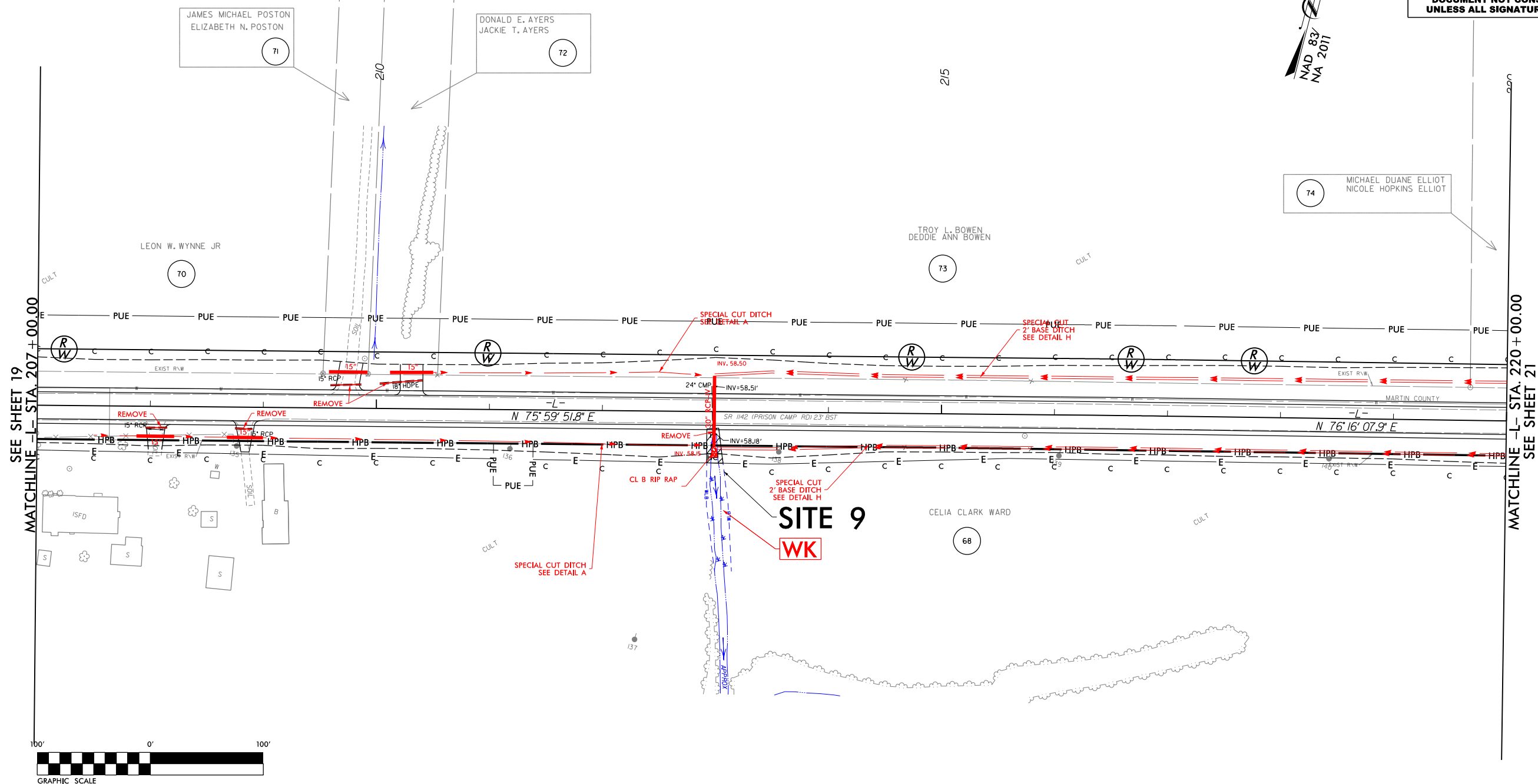
SPECIAL CUT  
BASE DITCH  
SEE DETAIL J

4/2/2019  
 FBrooks  
 P:\2017\17175\_01\_R-4705-Final\Hydraulics\PERMITS\_Environmental\Drawings\wat\_psh\_1&4705\_hyd\_psh\_15\_enl.dwg

PERMIT DRAWING  
SHEET 27 OF 53

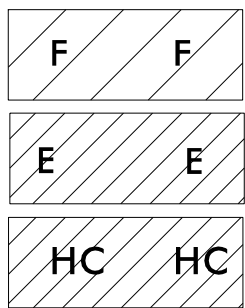
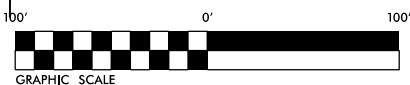
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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



SEE SHEET 19  
MATCHLINE -L- STA. 207+00.00

MATCHLINE -L- STA. 220+00.00  
SEE SHEET 21



**F F** DENOTES FILL IN WETLAND  
**E E** DENOTES EXCAVATION IN WETLAND  
**HC HC** DENOTES HAND CLEARING

PI Sta 216+59.28  
 $\Delta = 0' 16' 16.1''$  (RT)  
 $D = 0' 14' 56.8''$   
 $L = 108.84'$   
 $T = 54.42'$   
 $R = 23,000.00'$

SEE SHEET 51&52 FOR -L- PROFILE

REVISIONS

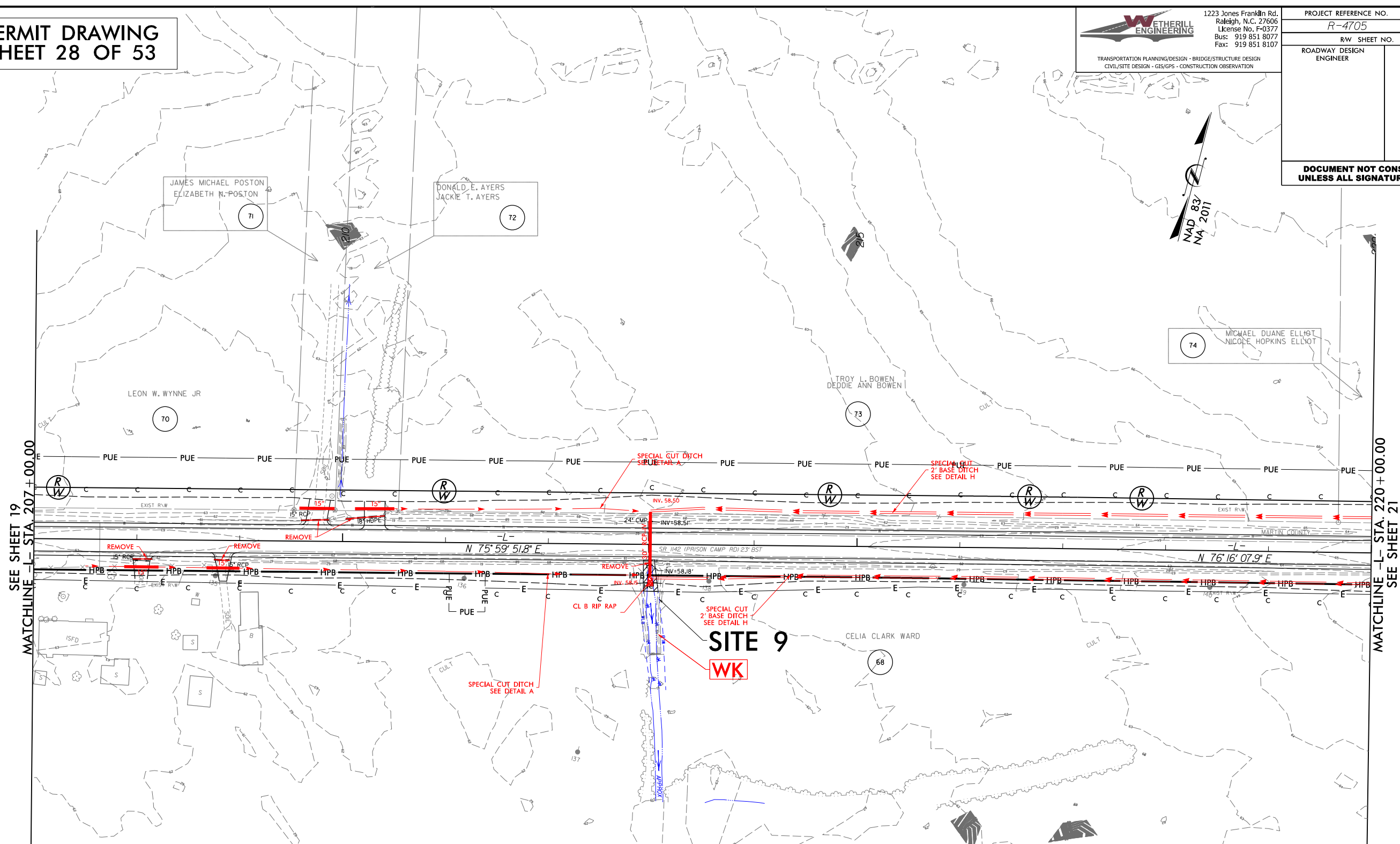
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USER: F. Brooks

**PERMIT DRAWING  
SHEET 28 OF 53**

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 Fax: 919 851 8107  
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 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

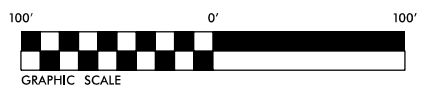
PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 20
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	




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



REVISIONS

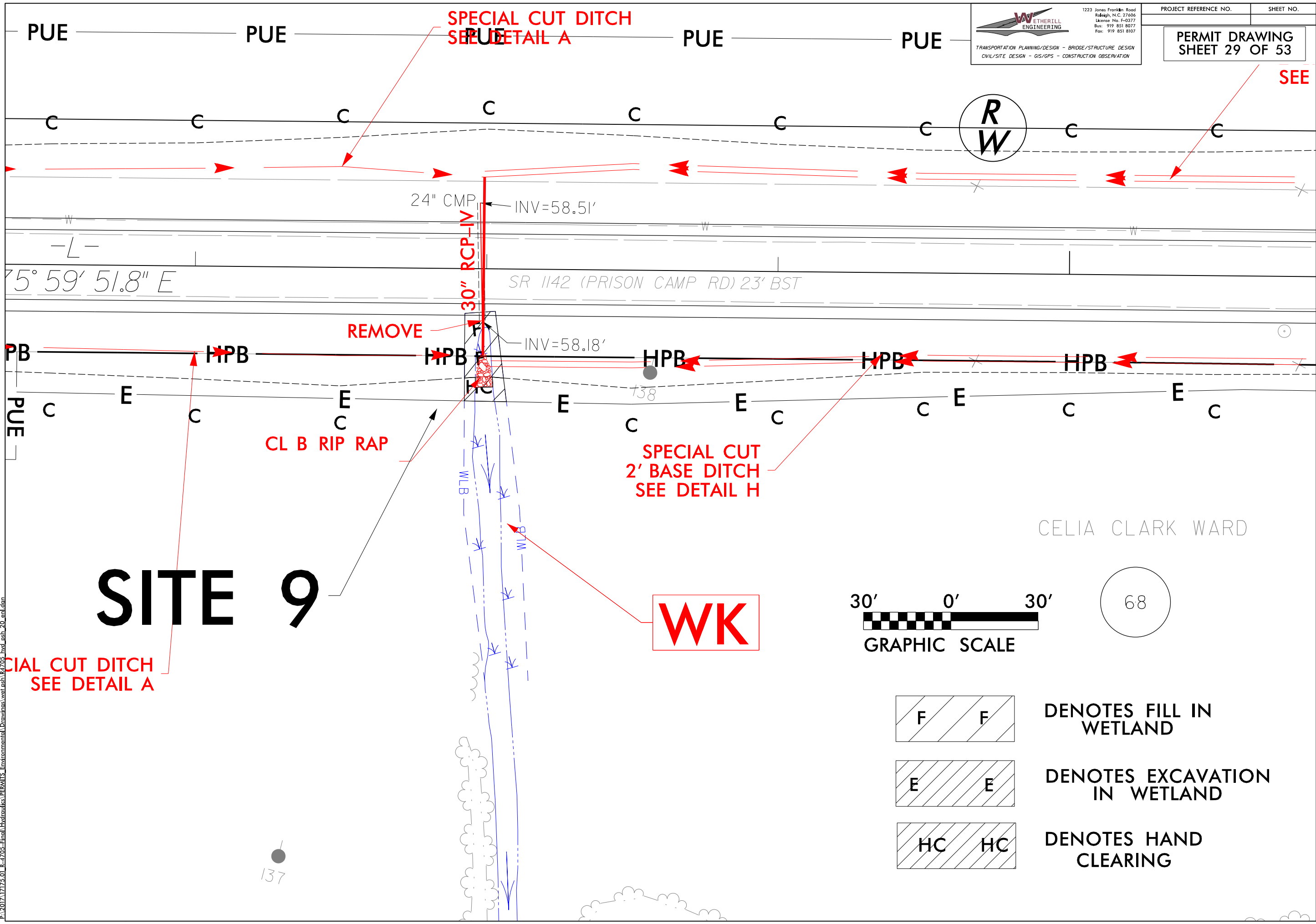
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 USER: FLOOKS



-  DENOTES FILL IN WETLAND
-  DENOTES EXCAVATION IN WETLAND
-  DENOTES HAND CLEARING

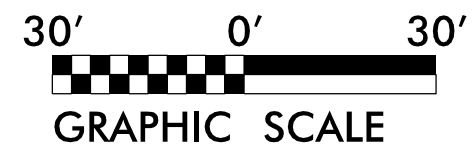
PI Sta 216+59.28  
 $\Delta = 0' 16' 16.1''$  (RT)  
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 $L = 108.84'$   
 $T = 54.42'$   
 $R = 23,000.00'$

SEE SHEET 51&52 FOR -L- PROFILE

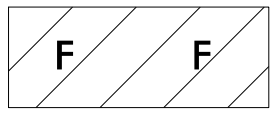


# SITE 9

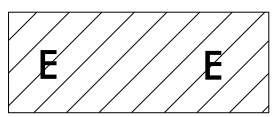
**WK**



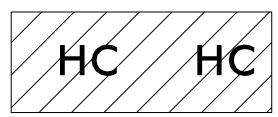
68



DENOTES FILL IN WETLAND



DENOTES EXCAVATION IN WETLAND



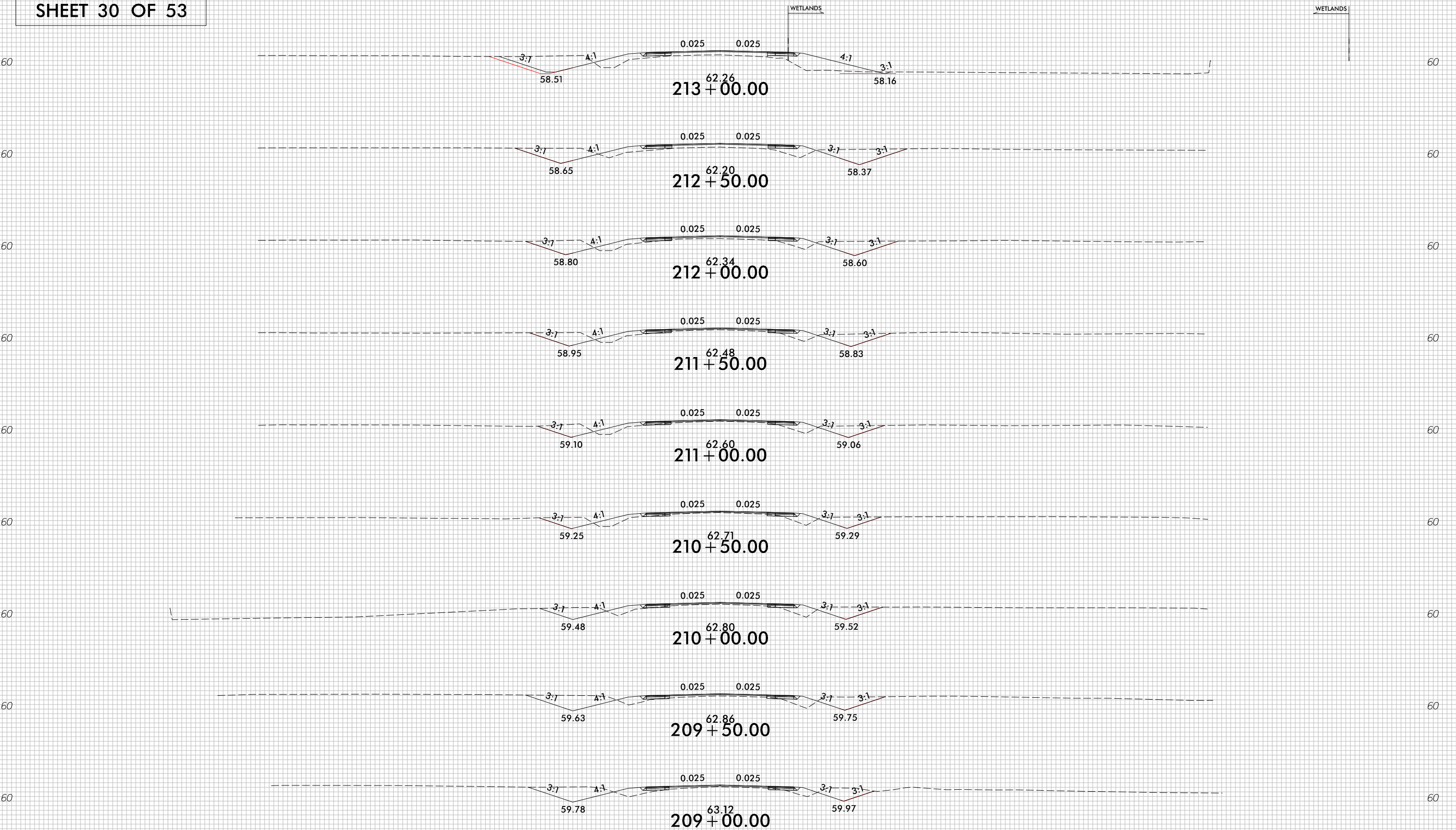
DENOTES HAND CLEARING

4/3/2019  
 FBrooks  
 P:\2017\17175\_01\_R-4705-Final-Hydrolics-PERMIT-Environmental-Drawings\wet.psh.1&4705\_hyd\_psh\_20\_enl.dgn



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

PERMIT DRAWING  
SHEET 30 OF 53



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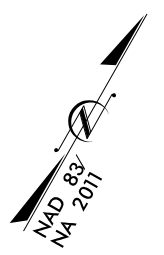
8/17/99

# PERMIT DRAWING SHEET 31 OF 53

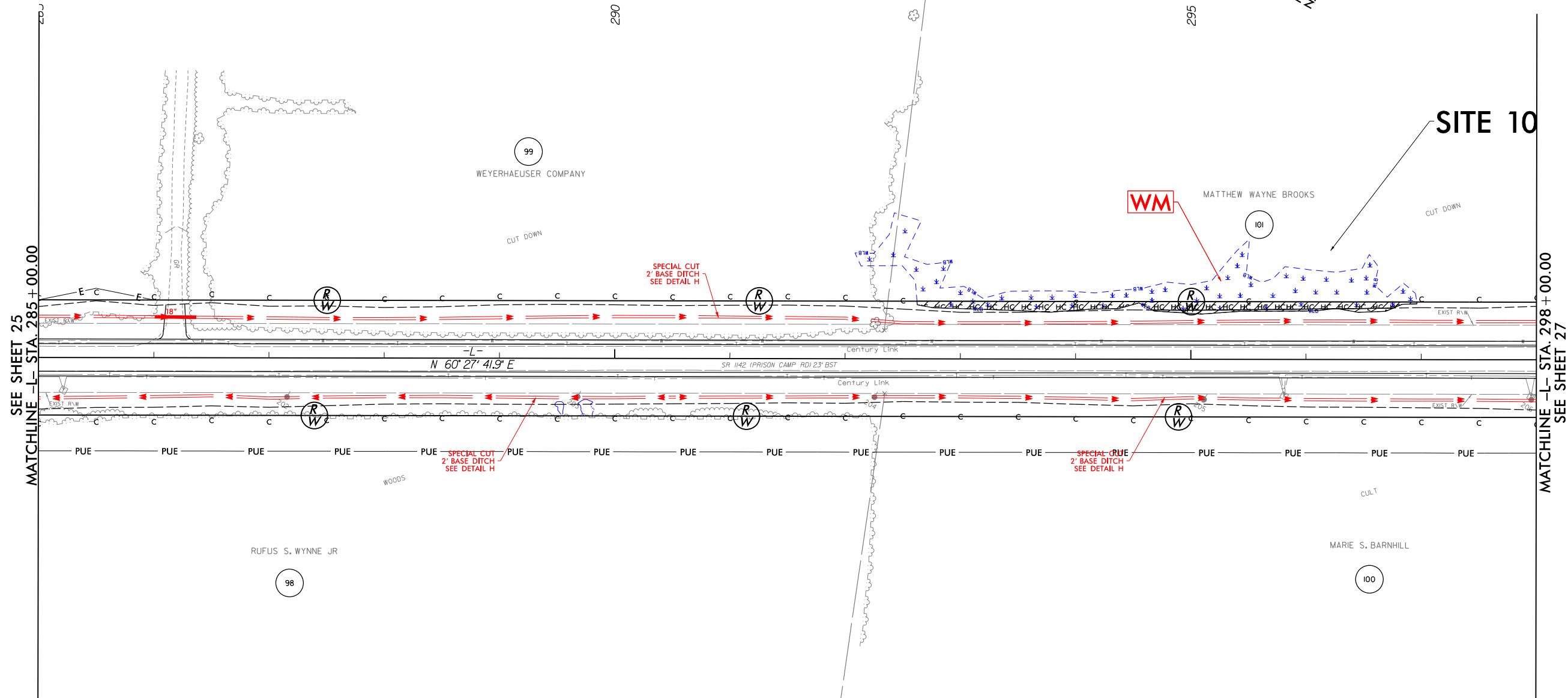
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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 26
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

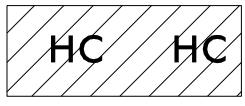
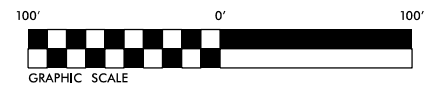


REVISIONS

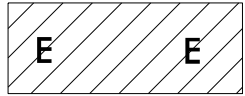


SEE SHEET 25  
MATCHLINE -L- STA. 285+00.00

MATCHLINE -L- STA. 298+00.00  
SEE SHEET 27



DENOTES HAND  
CLEARING



DENOTES EXCAVATION  
IN WETLAND

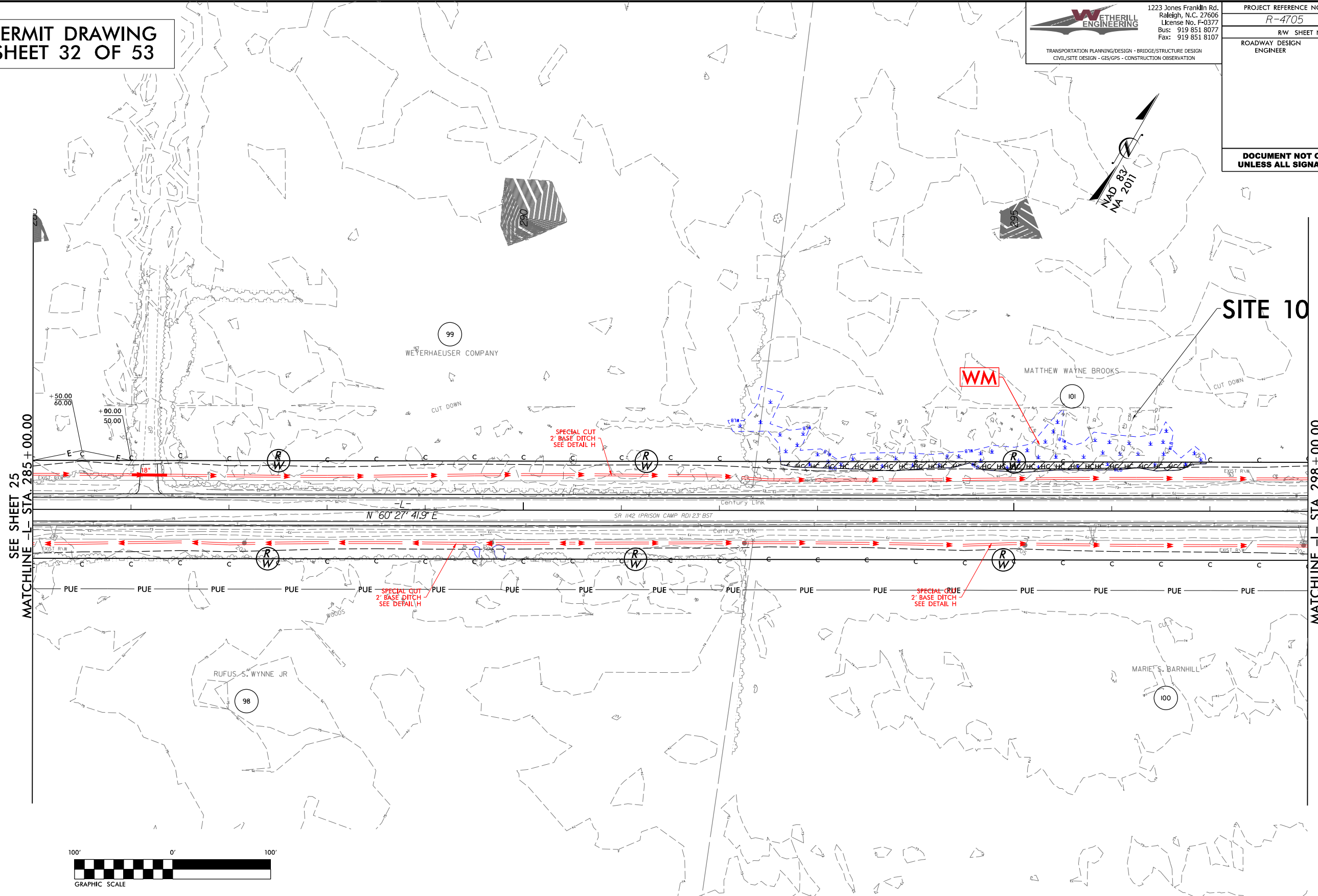
SEE SHEET 54&55 FOR -L- PROFILE

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 USER: F Brooks

**PERMIT DRAWING  
SHEET 32 OF 53**

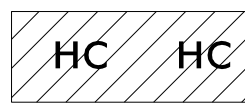
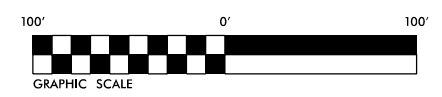
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Fax: 919 851 8107  
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GIS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 26
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

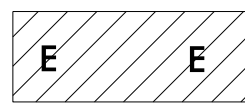


SEE SHEET 25  
MATCHLINE -L- STA. 285 + 00.00

MATCHLINE -L- STA. 298 + 00.00  
SEE SHEET 27



**DENOTES HAND  
CLEARING**



**DENOTES EXCAVATION  
IN WETLAND**

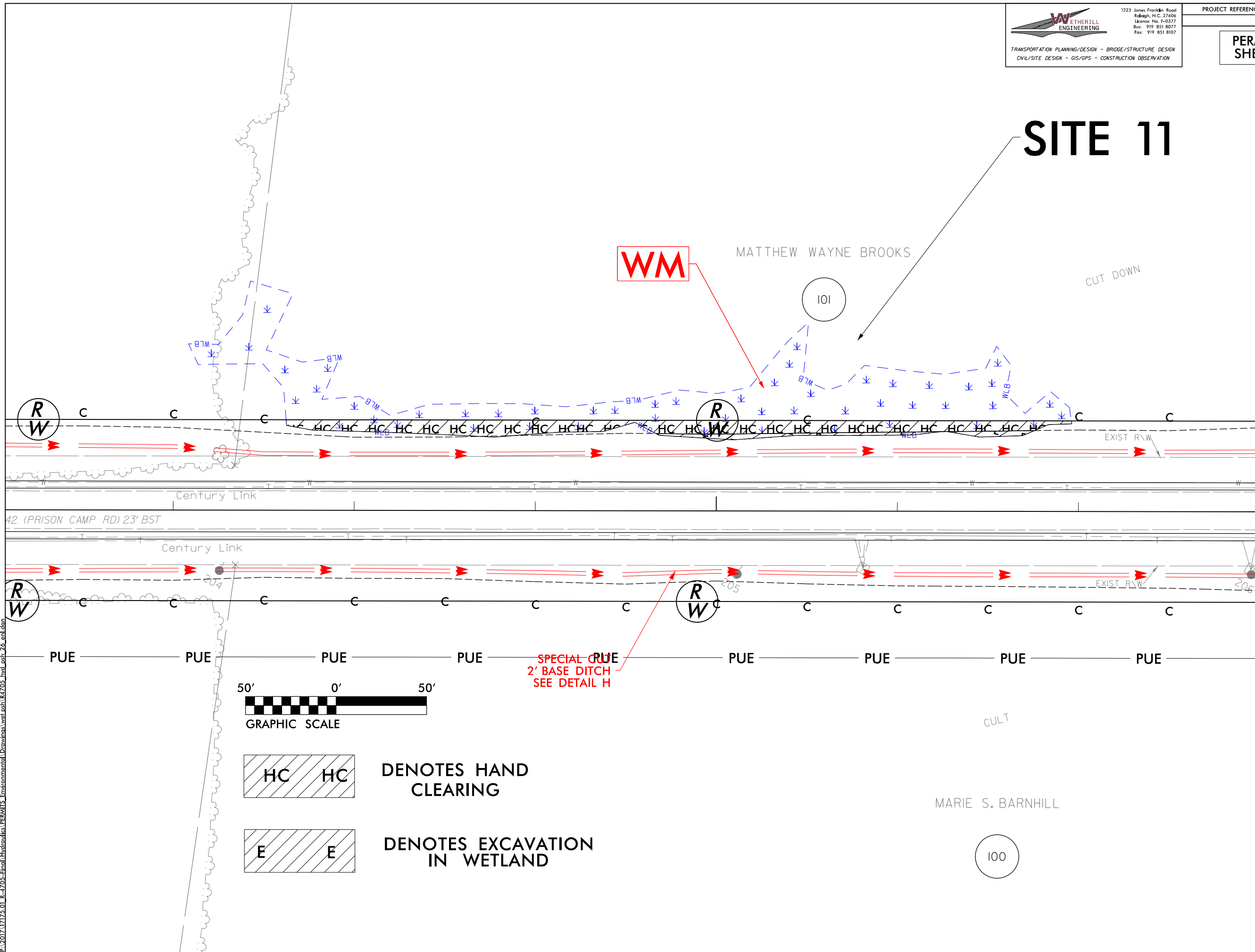
SEE SHEET 54&55 FOR -L- PROFILE

REVISIONS

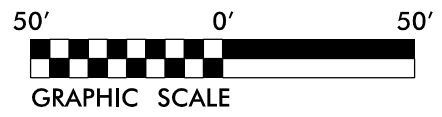
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4/3/2008  
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USER: F Brooks



# SITE 11



MATCHLINE -L- STA. 298+00.00  
 SEE SHEET 27




**HC HC** DENOTES HAND CLEARING

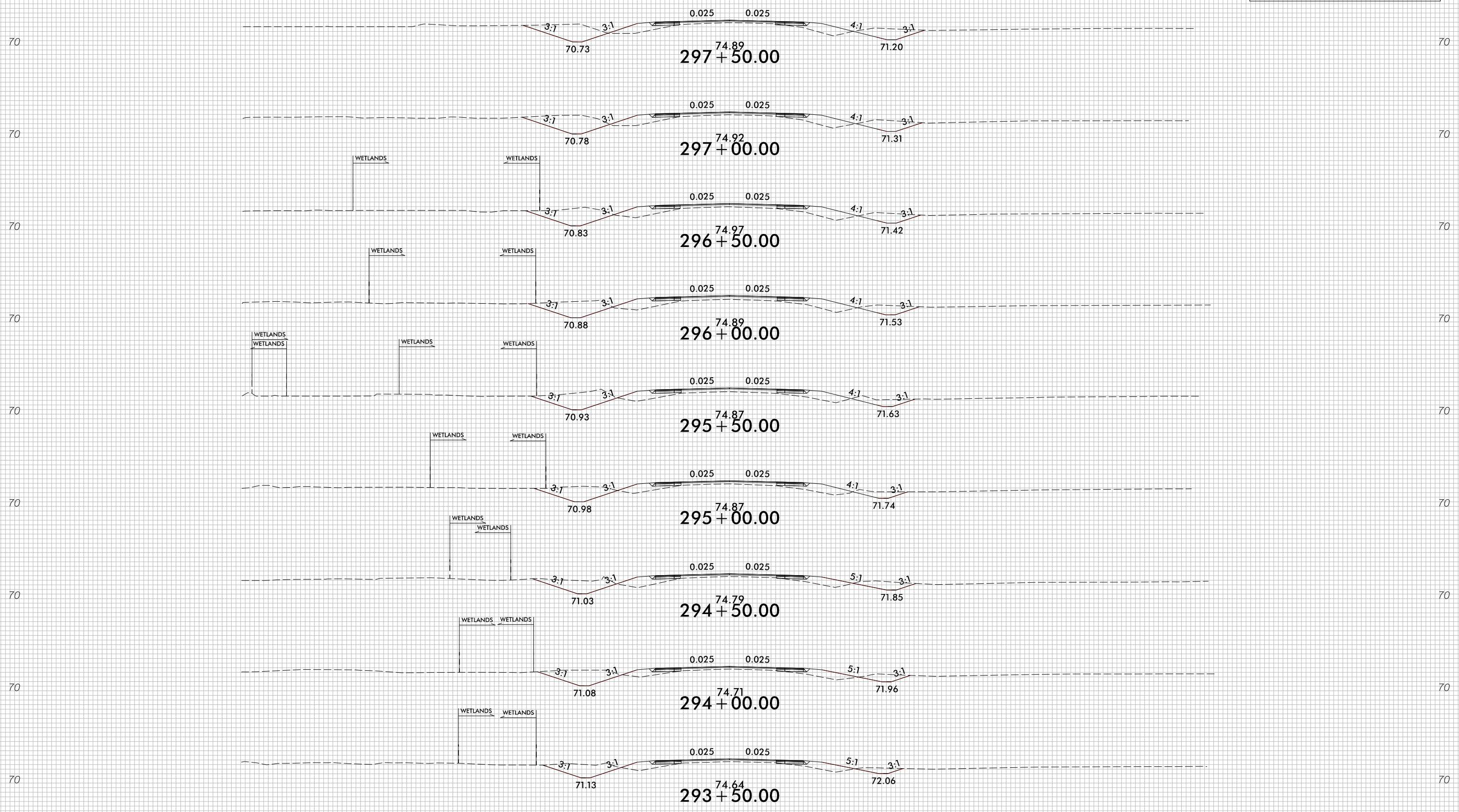

**E E** DENOTES EXCAVATION IN WETLAND

**SPECIAL CURVE**  
**2' BASE DITCH**  
**SEE DETAIL H**

4/3/2019  
 FBrooks  
 P:\2017\17175\_01\_R-4705-Final-Hydrolics-PERMIT-Environmental-Drawings\wet.psh.18.4705\_hyd\_psh\_24\_enl.dgn

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PERMIT DRAWING  
SHEET 34 OF 53



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

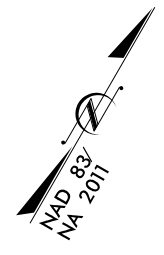
8/17/99

# PERMIT DRAWING SHEET 35 OF 53

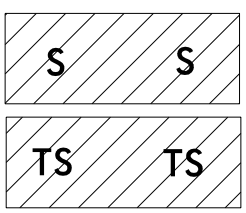
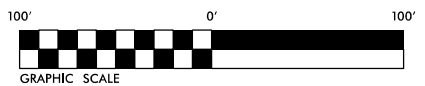
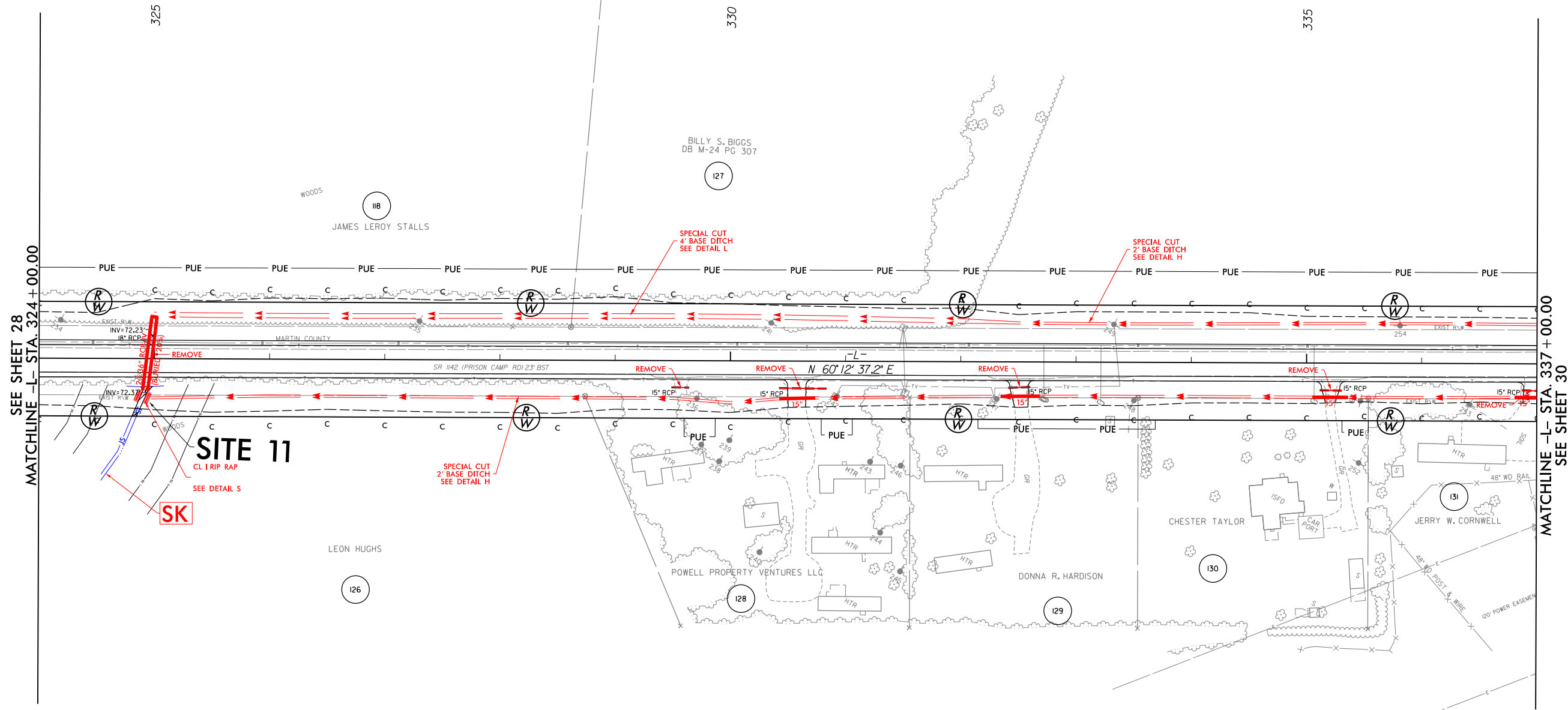
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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 29
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



REVISIONS



**S** DENOTES IMPACTS IN SURFACE WATER

**TS** DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SEE SHEET 56 FOR -L- PROFILE

4/3/2008 11:17:50 AM L:\R-4705-F\mol\Hydro-outlets\PERMIT\S.Environmental\Drawings\wet\_psk\R4705-hyd\_psh\_29.dgn  
 USER: F. Brooks

**PERMIT DRAWING  
SHEET 36 OF 53**

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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 29
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

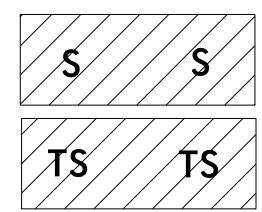
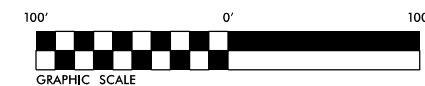
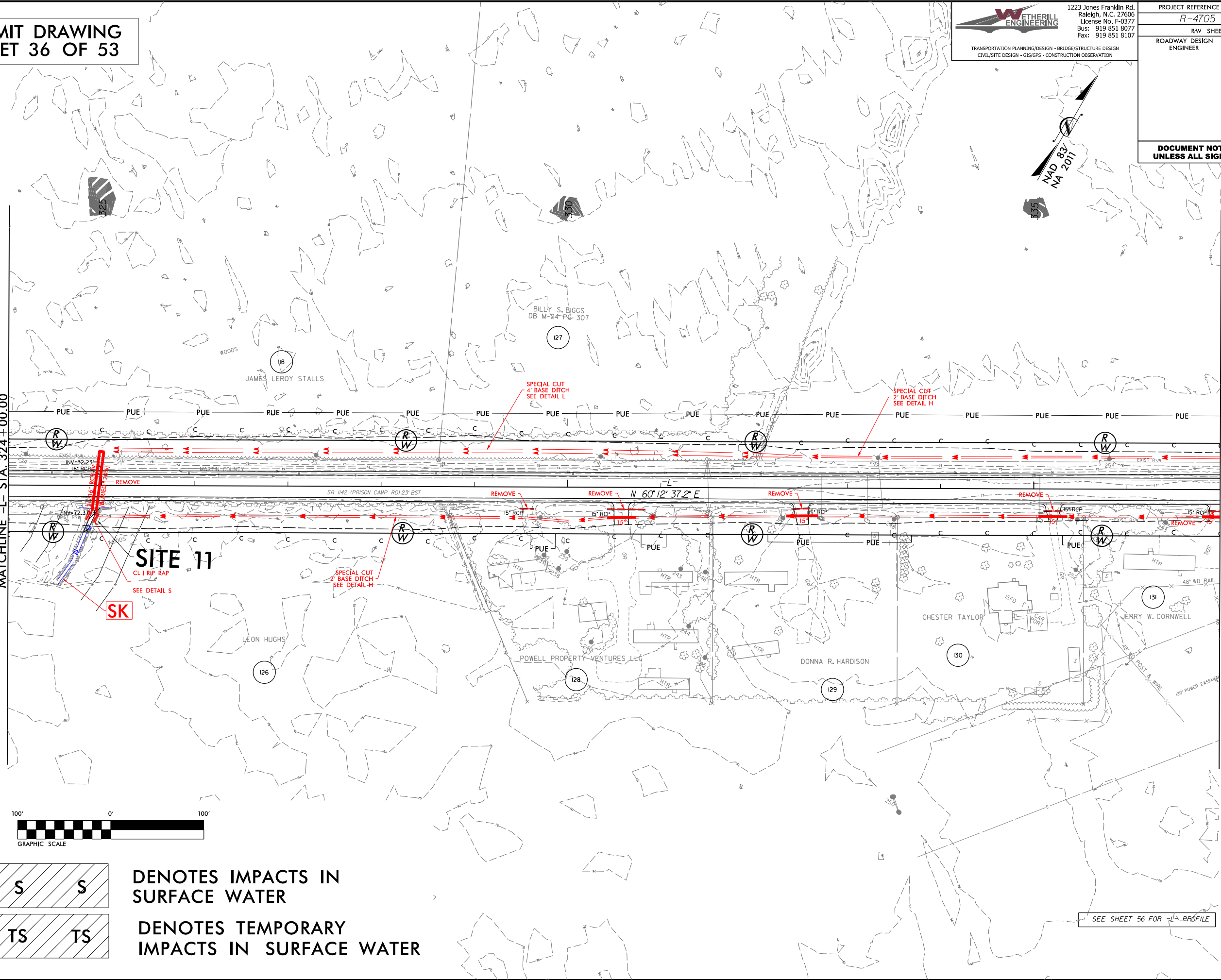
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



REVISIONS

SEE SHEET 28  
MATCHLINE -L- STA. 324 + 00.00

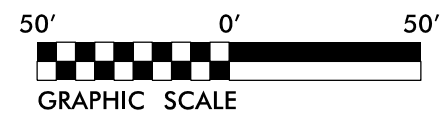
MATCHLINE -L- STA. 337 + 00.00  
SEE SHEET 30

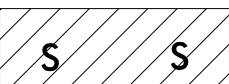



**S** DENOTES IMPACTS IN SURFACE WATER  
**TS** DENOTES TEMPORARY IMPACTS IN SURFACE WATER

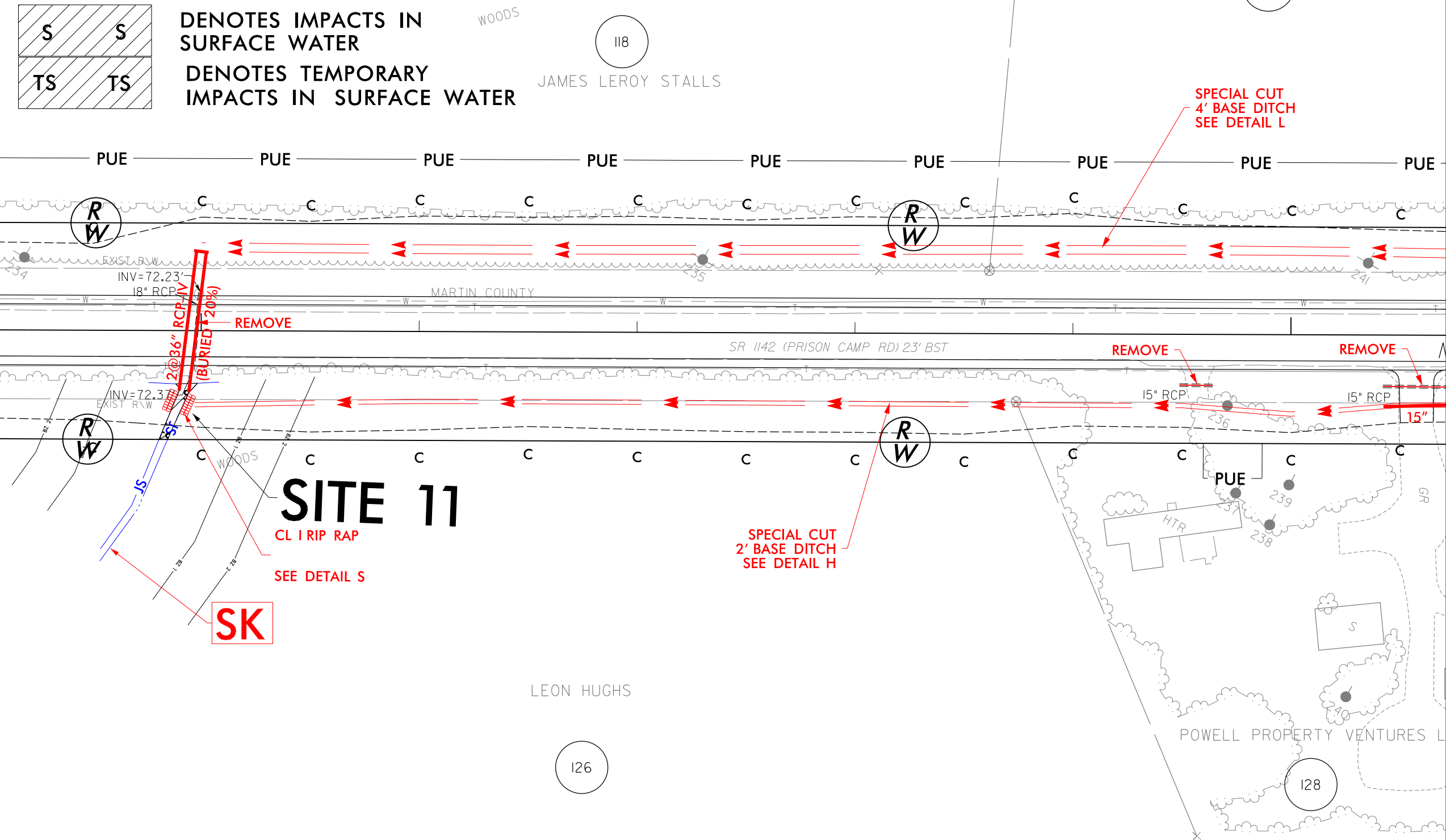
SEE SHEET 56 FOR PROFILE

8/17/99  
4/3/2008  
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USER: F.Brooks



 DENOTES IMPACTS IN SURFACE WATER  
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SEE SHEET 28  
MATCHLINE -L- STA. 324+00.00



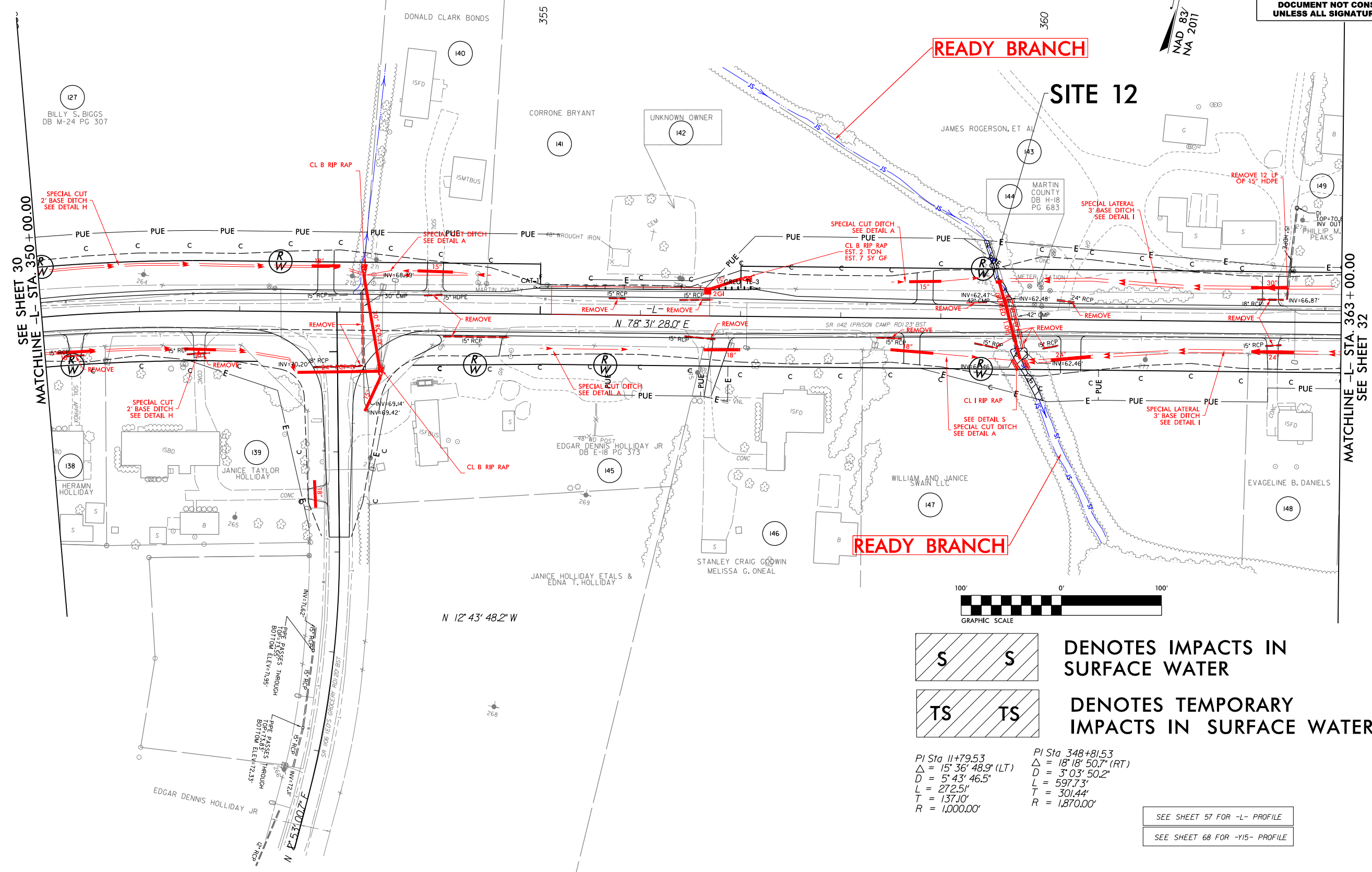
**PERMIT DRAWING  
SHEET 38 OF 53**

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Fax: 919 851 8107

TRANSPORTATION DESIGN/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

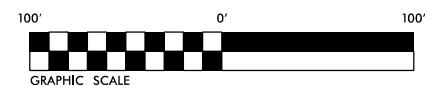
PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. <i>31</i>
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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



SEE SHEET 30  
MATCHLINE -L- STA. 350 + 00.00

MATCHLINE -L- STA. 363 + 00.00  
SEE SHEET 32



**DENOTES IMPACTS IN  
SURFACE WATER**



**DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER**

PI Sta 11+79.53  
Δ = 15° 36' 48.9" (LT)  
D = 5' 43' 46.5"  
L = 272.5'  
T = 137.10'  
R = 1,000.00'

PI Sta 348+81.53  
Δ = 18° 18' 50.7" (RT)  
D = 3' 03' 50.2"  
L = 597.73'  
T = 301.44'  
R = 1,870.00'

SEE SHEET 57 FOR -L- PROFILE

SEE SHEET 68 FOR -Y15- PROFILE

REVISIONS

8/17/99

4/3/2008 17175.01.R-4705-F.mol\Hydr-oultcs\PERMIT\S.Environmental\0-enwings\wet\_psk\4705-hyd\_psh\_31.dgn  
USER: E.BLOCKS

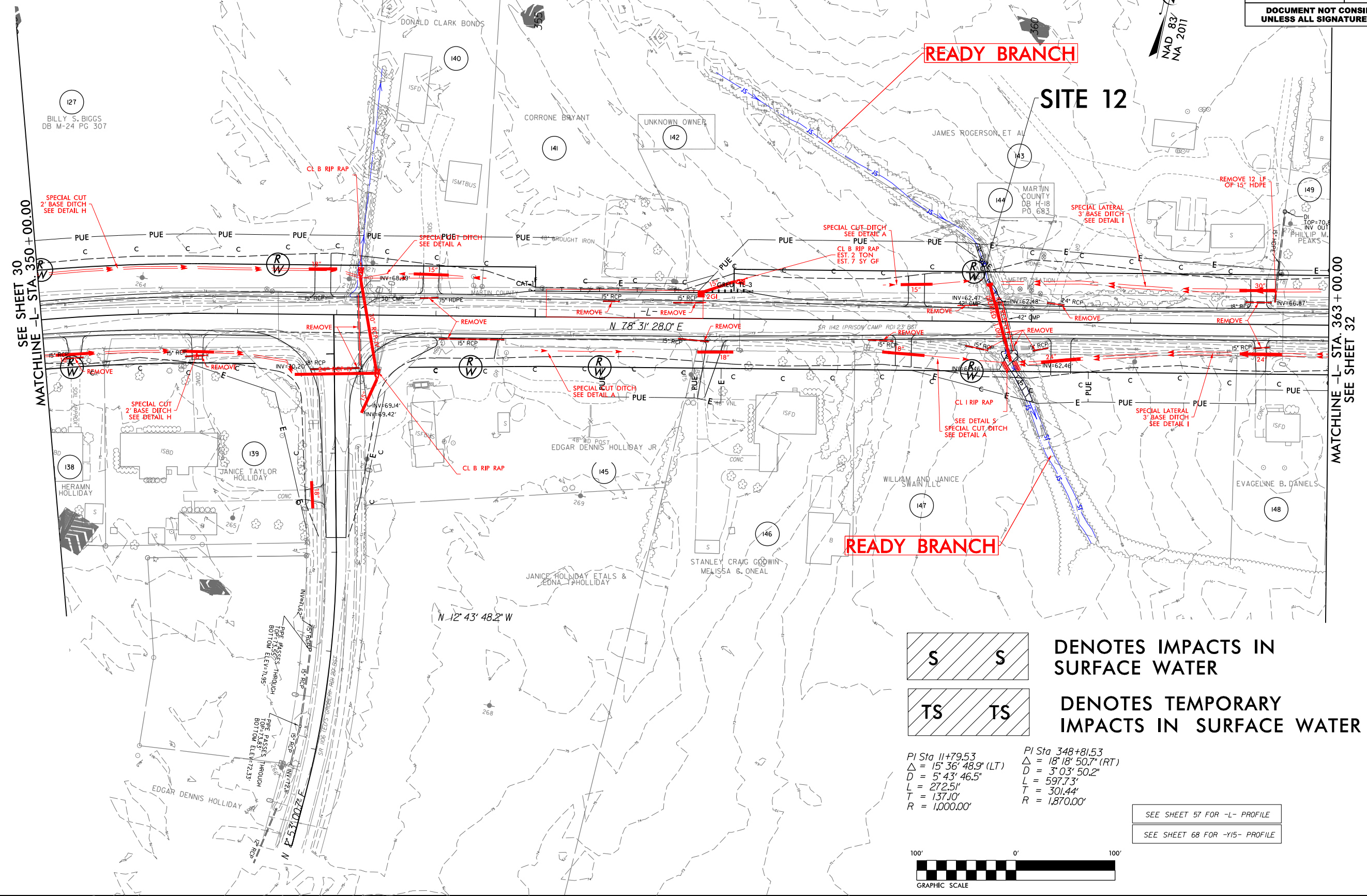
**PERMIT DRAWING  
SHEET 39 OF 53**

**WETHERILL ENGINEERING**  
 1223 Jones Franklin Rd.  
 Raleigh, N.C. 27606  
 License No. F-0377  
 Bus: 919 851 8077  
 Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GIS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <b>R-4705</b>	SHEET NO. <b>31</b>
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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



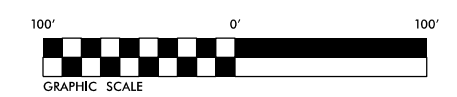
**DENOTES IMPACTS IN  
SURFACE WATER**



**DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER**

PI Sta 11+79.53      PI Sta 348+81.53  
 $\Delta = 15^\circ 36' 48.9" (LT)$        $\Delta = 18^\circ 18' 50.7" (RT)$   
 $D = 5^\circ 43' 46.5"$        $D = 3^\circ 03' 50.2"$   
 $L = 272.5'$        $L = 597.73'$   
 $T = 137.10'$        $T = 301.44'$   
 $R = 1,000.00'$        $R = 1,870.00'$

SEE SHEET 57 FOR -L- PROFILE  
 SEE SHEET 68 FOR -Y15- PROFILE



REVISIONS

8/17/99  
 4/3/2008  
 P:\2008\17175\01.R-4705-F\m\Hydr-out\res\PERMIT\Environmental\0-Drawings\wet\_psk\R4705-hyd\_psh\_31\_con.dgn  
 USER: EBR

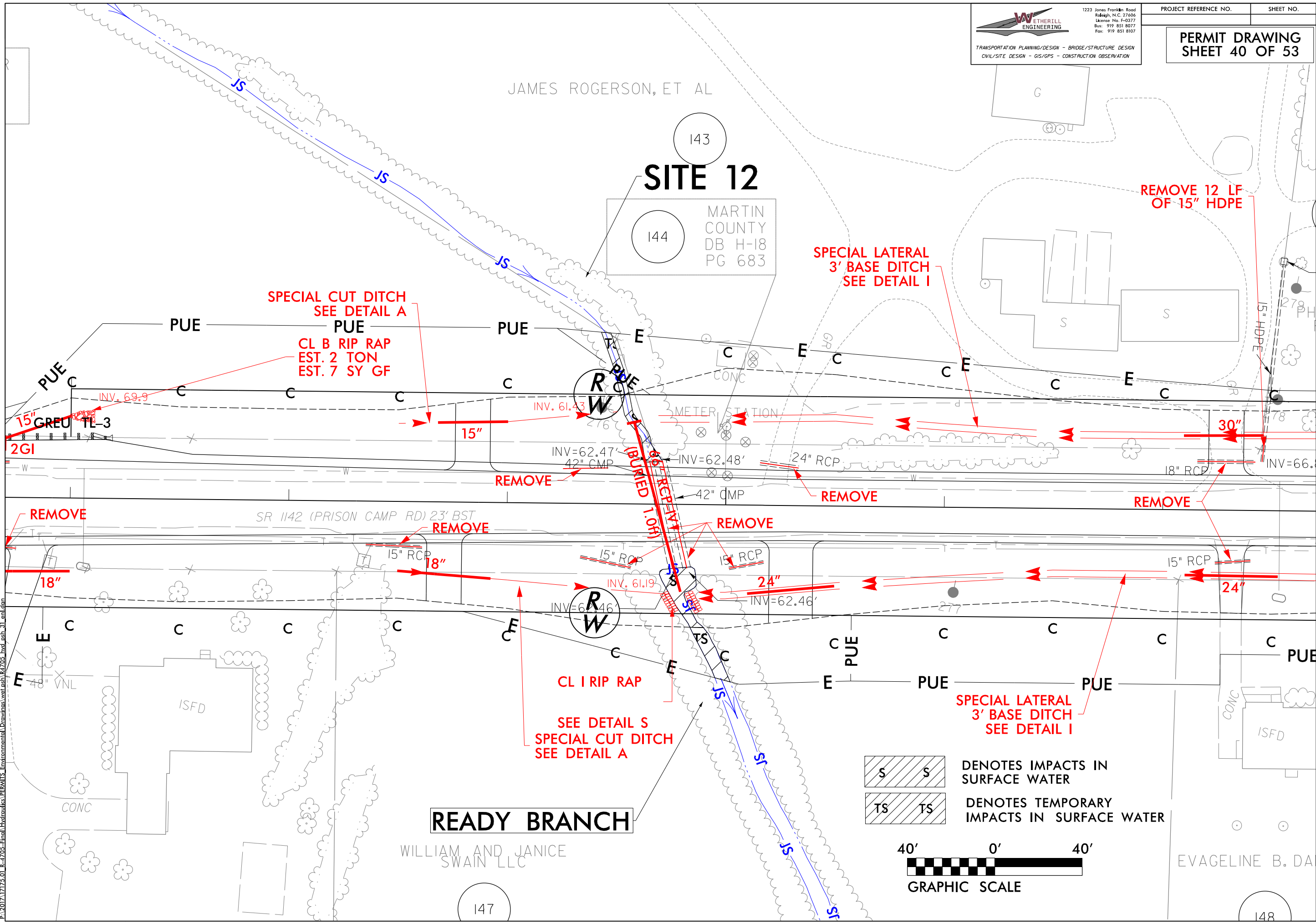
SEE SHEET 30  
 MATCHLINE -L- STA 350 + 00.00

MATCHLINE -L- STA 363 + 00.00  
 SEE SHEET 32

JAMES ROGERSON, ET AL

**SITE 12**

143  
 144  
 MARTIN COUNTY  
 DB H-18  
 PG 683



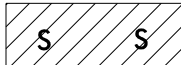

**SPECIAL CUT DITCH**  
 SEE DETAIL A  
**CL B RIP RAP**  
 EST. 2 TON  
 EST. 7 SY GF

**SPECIAL LATERAL**  
**3' BASE DITCH**  
 SEE DETAIL I

**REMOVE 12 LF**  
**OF 15\"/>**

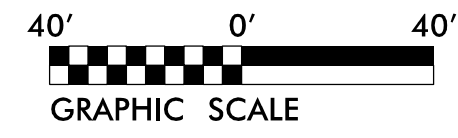
**CL I RIP RAP**  
 SEE DETAIL S  
**SPECIAL CUT DITCH**  
 SEE DETAIL A

**SPECIAL LATERAL**  
**3' BASE DITCH**  
 SEE DETAIL I

 DENOTES IMPACTS IN SURFACE WATER  
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

**READY BRANCH**

WILLIAM AND JANICE SWAIN LLC



EVAGELINE B. DA

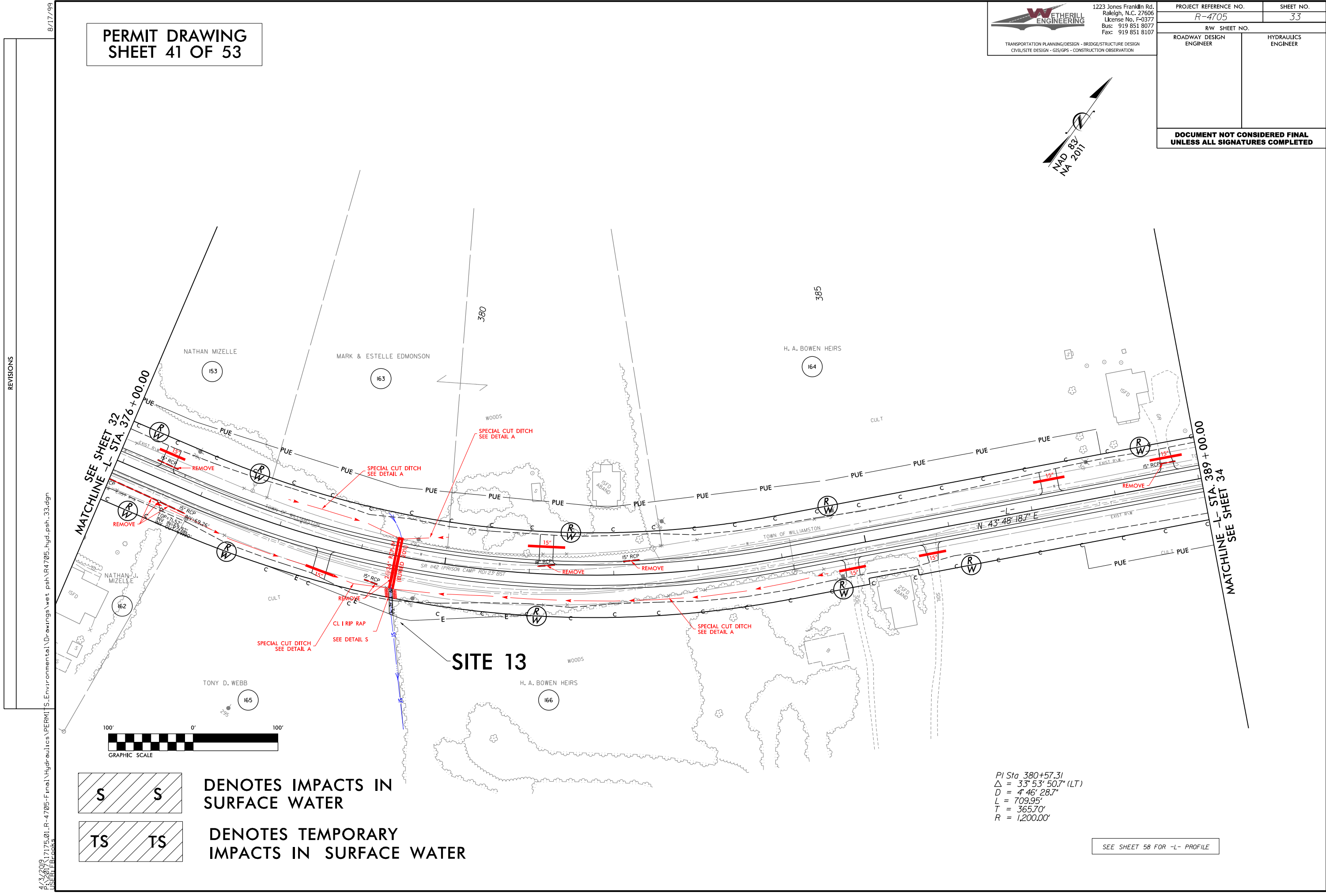
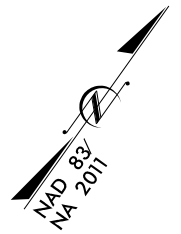
4/3/2019  
 FBrooks  
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**PERMIT DRAWING  
SHEET 41 OF 53**

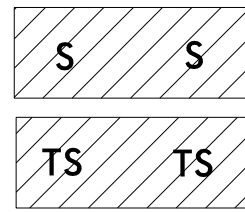
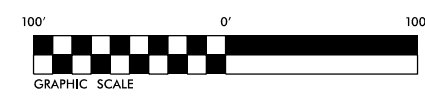
**WETHERILL  
ENGINEERING**  
1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107  
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. <i>33</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



MATCHLINE -L- STA. 376+00.00  
SEE SHEET 32

MATCHLINE -L- STA. 389+00.00  
SEE SHEET 34



**S S**  
DENOTES IMPACTS IN  
SURFACE WATER

**TS TS**  
DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER

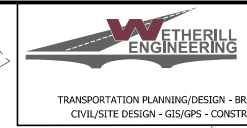
PI Sta 380+57.31  
Δ = 33° 53' 50.7" (LT)  
D = 4' 46' 28.7"  
L = 709.95'  
T = 365.70'  
R = 1,200.00'

SEE SHEET 58 FOR -L- PROFILE

REVISIONS

8/17/99  
4/3/2008  
P:\3\08\17175\01.R-4705-Final\Hydro\utes\PERMIT\S.Environmental\Drawings\wet\_psk\R4705-hyd\_psh\_33.dgn  
USER: F.Brooks

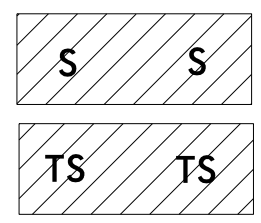
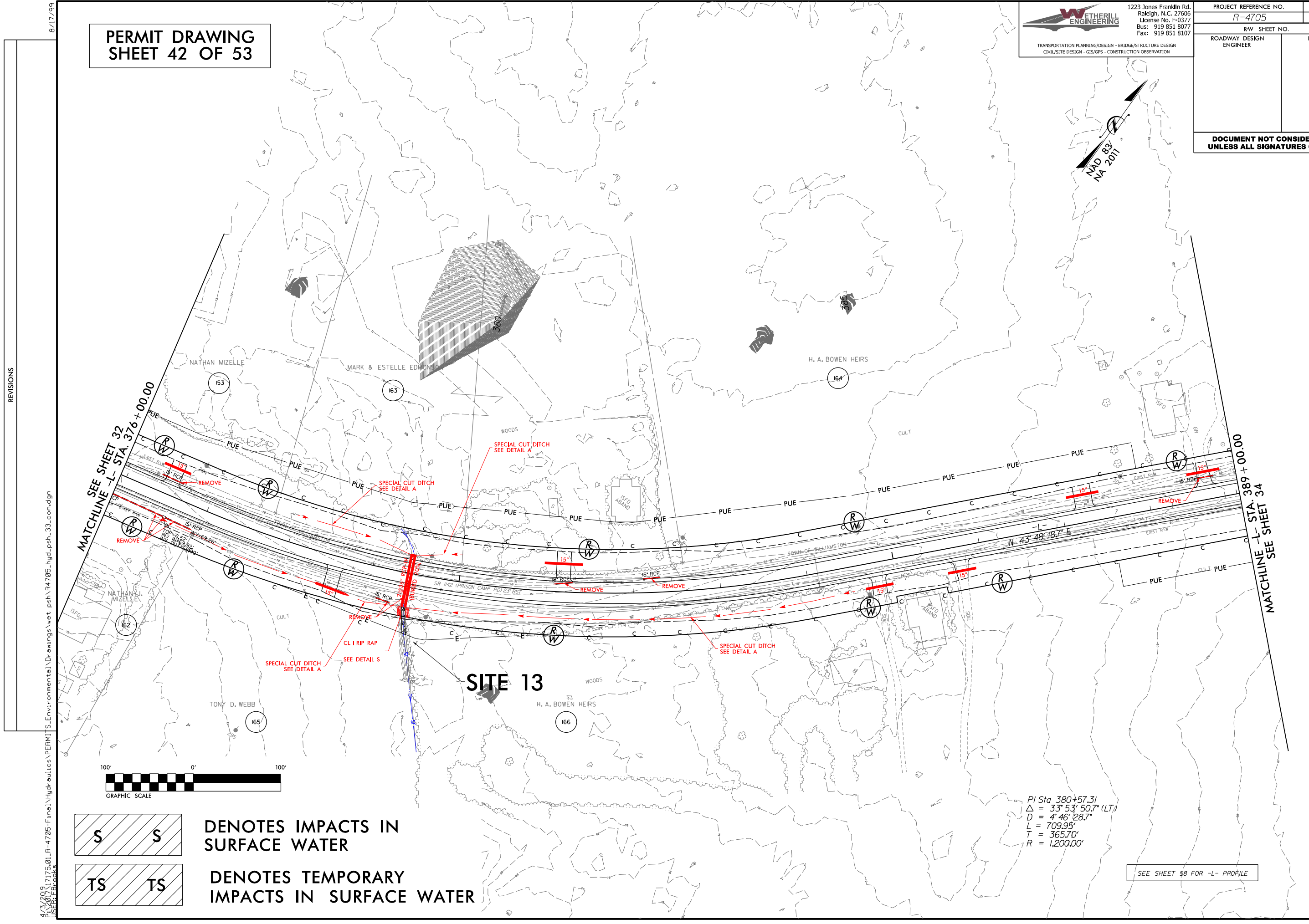
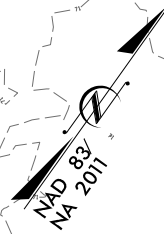
**PERMIT DRAWING  
SHEET 42 OF 53**



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Raleigh, N.C. 27606  
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Fax: 919 851 8107

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. <i>33</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



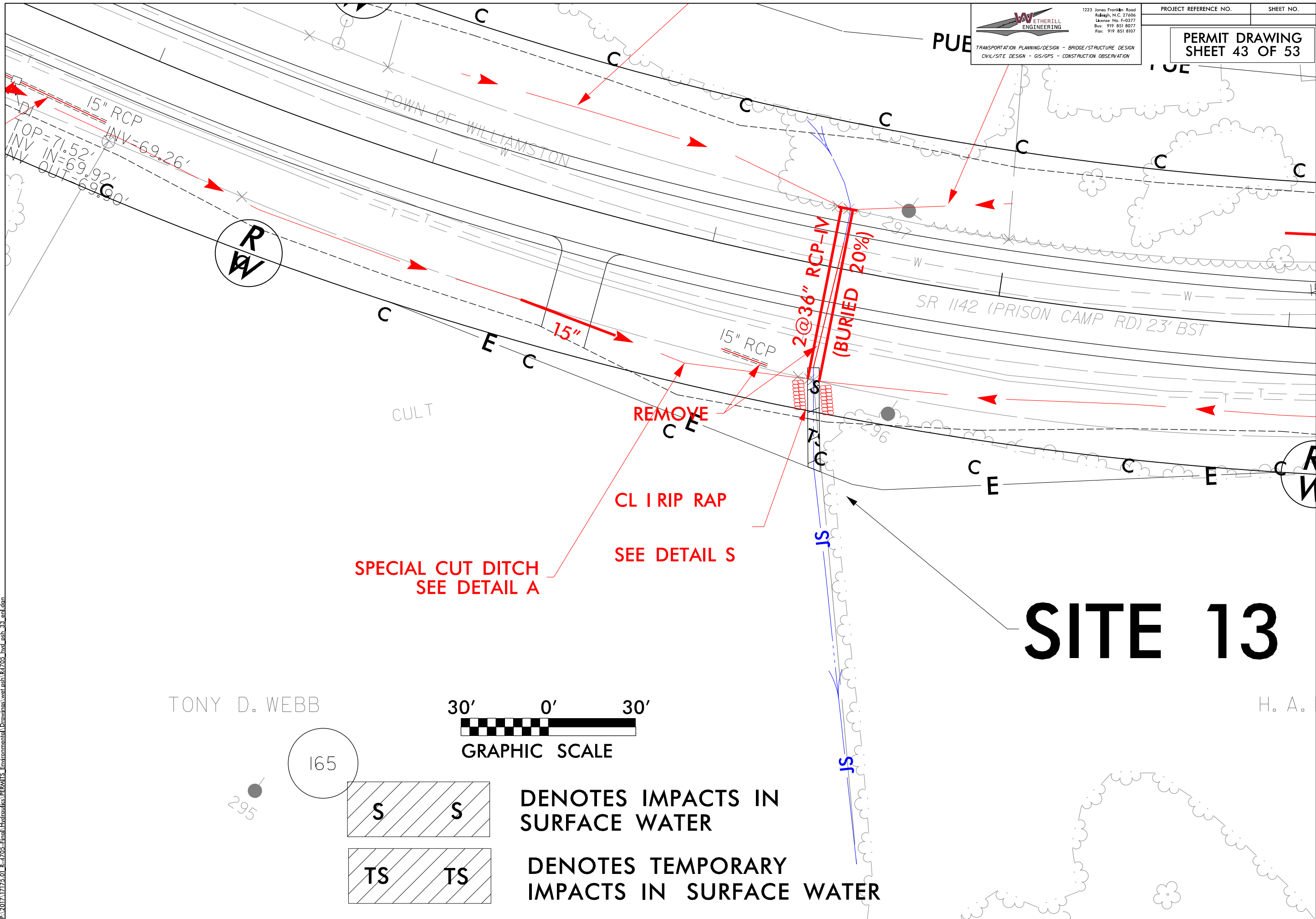
**S** DENOTES IMPACTS IN SURFACE WATER

**TS** DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PI Sta 380+57.31  
 $\Delta = 33^\circ 53' 50.7''$  (LT)  
 $D = 4' 46'' 28.7''$   
 $L = 709.95'$   
 $T = 365.70'$   
 $R = 1,200.00'$

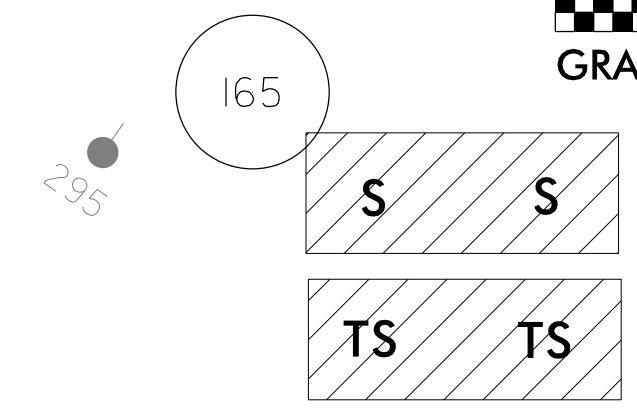
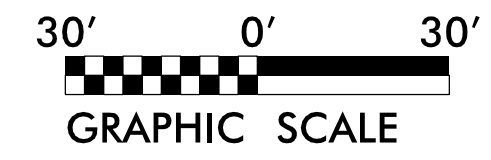
SEE SHEET 58 FOR -L- PROFILE

REVISIONS  
 8/17/99  
 4/3/2008  
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 USER: F:\brooks



# SITE 13

TONY D. WEBB

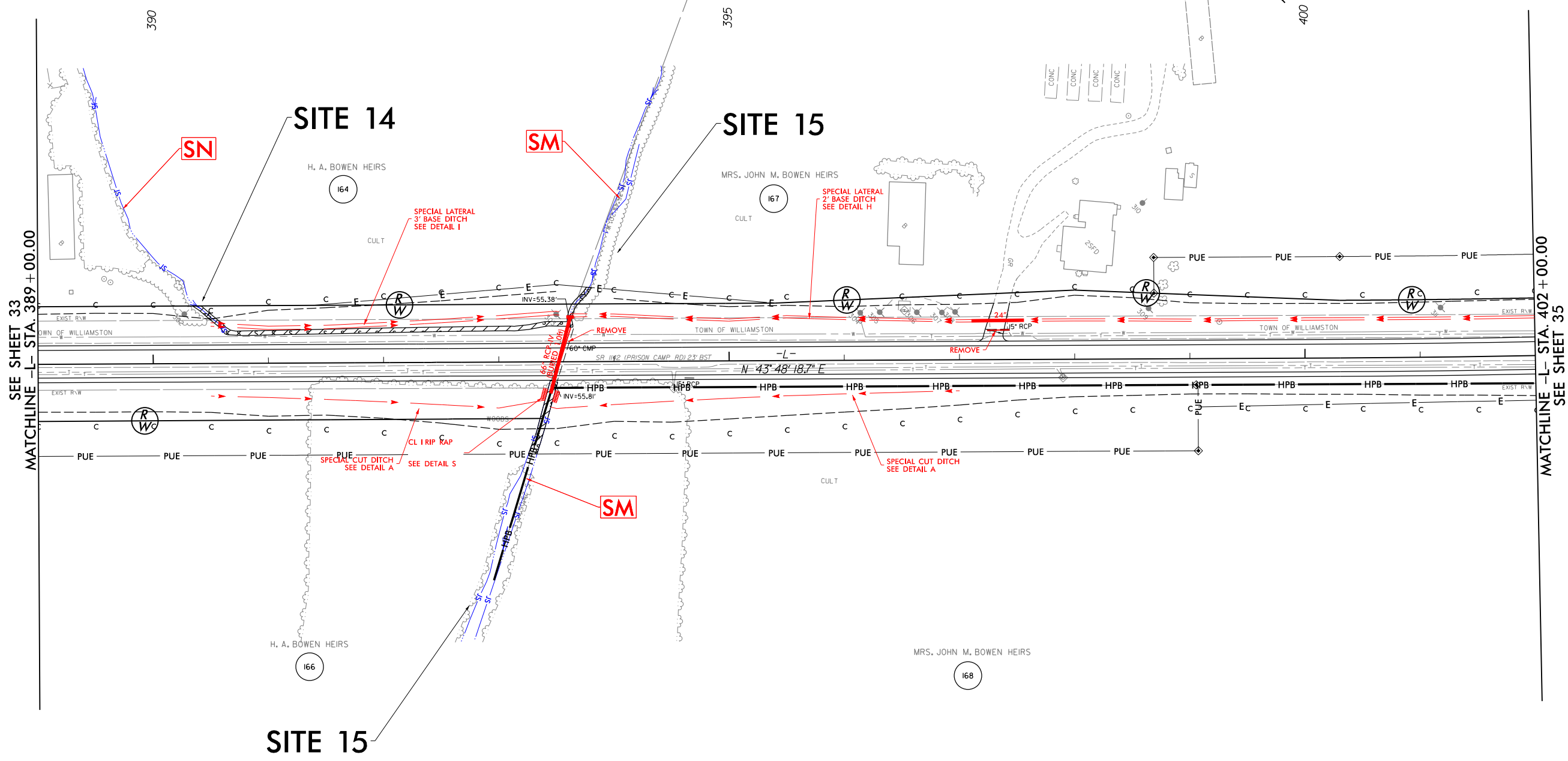
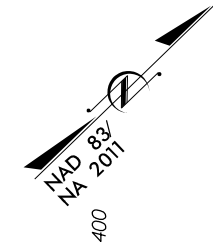


4/3/2019  
 F:\Brooks  
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PERMIT DRAWING  
SHEET 44 OF 53

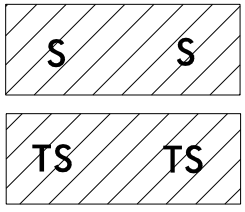
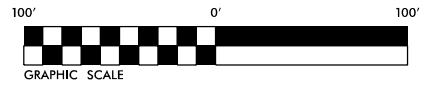
**WETHERILL ENGINEERING**  
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License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107  
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 34
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



SEE SHEET 33  
MATCHLINE -L- STA. 389+00.00

MATCHLINE -L- STA. 402+00.00  
SEE SHEET 35



— HPB — HISTORIC PROPERTY BOUNDRY

PI Sta 401+82.12  
Δ = 1° 30' 40.4" (LT)  
D = 0° 29' 53.6"  
L = 303.32'  
T = 151.67'  
R = 11,500.00'

SEE SHEET 57&58 FOR -L- PROFILE

REVISIONS

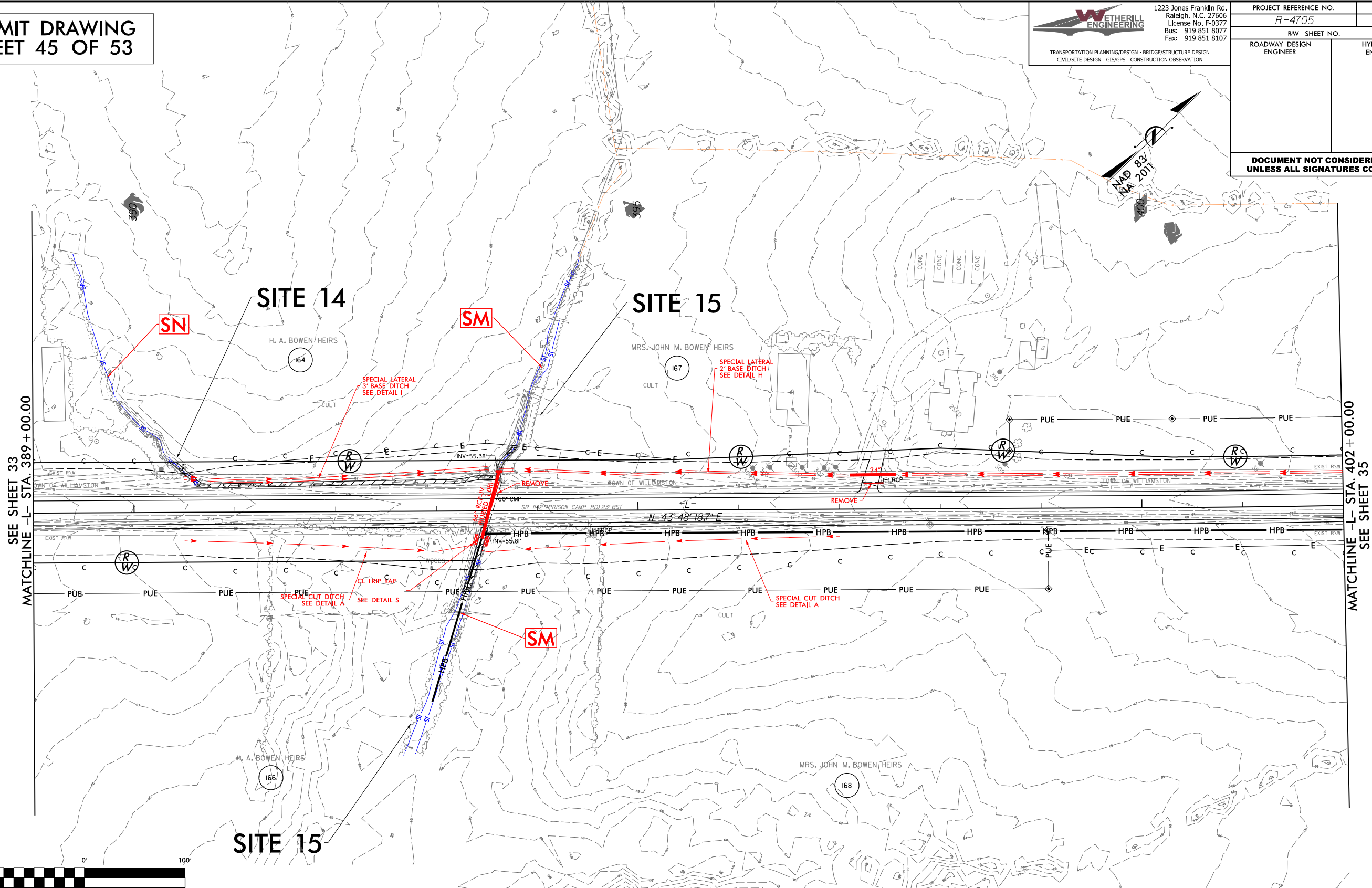
8/17/99  
4/3/2008  
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USER: F. Brooks

**PERMIT DRAWING  
SHEET 45 OF 53**

**WETHERILL  
ENGINEERING**  
1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107  
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

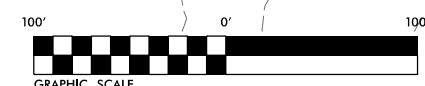
PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. <i>34</i>
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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



SEE SHEET 33  
MATCHLINE -L- STA. 389+00.00

MATCHLINE -L- STA. 402+00.00  
SEE SHEET 35



- HPB — HISTORIC PROPERTY BOUNDRY
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

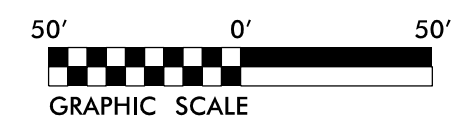
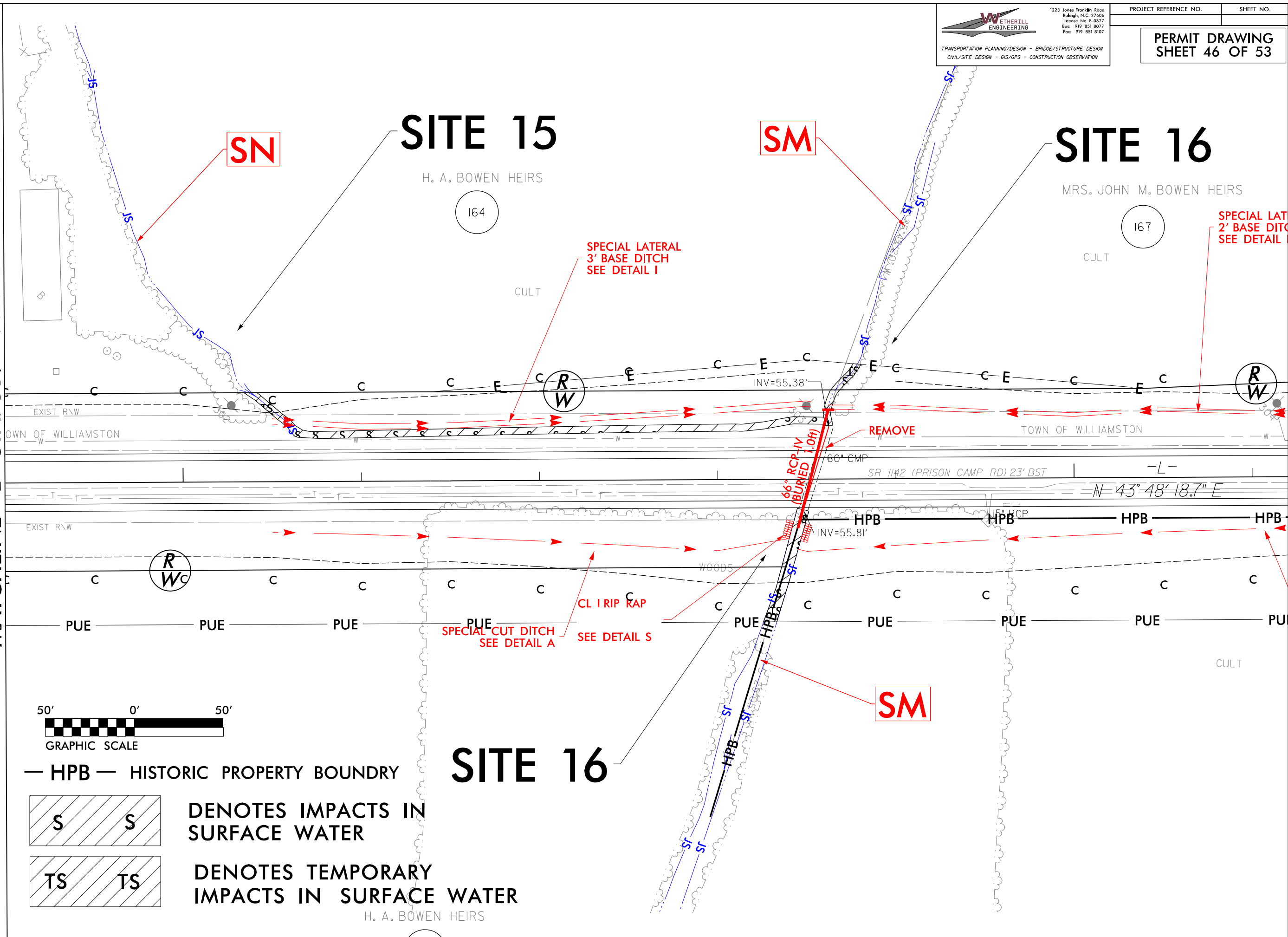
PI Sta. 401+82.12  
 $\Delta = 1^{\circ} 30' 40.4''$  (LT)  
 $D = 0^{\circ} 29' 53.6''$   
 $L = 303.32'$   
 $T = 151.67'$   
 $R = 11,500.00'$


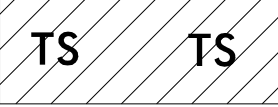
SEE SHEET 57&58 FOR -L- PROFILE

REVISIONS

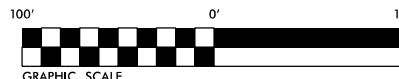
8/17/99  
4/3/2008  
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USER: FBOOKS

SEE SHEET 33  
 MATCHLINE -L- STA. 389 + 00.00



- HPB — HISTORIC PROPERTY BOUNDRY
- 
 DENOTES IMPACTS IN SURFACE WATER
- 
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

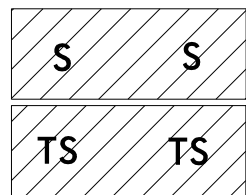
PERMIT DRAWING  
SHEET 47 OF 53



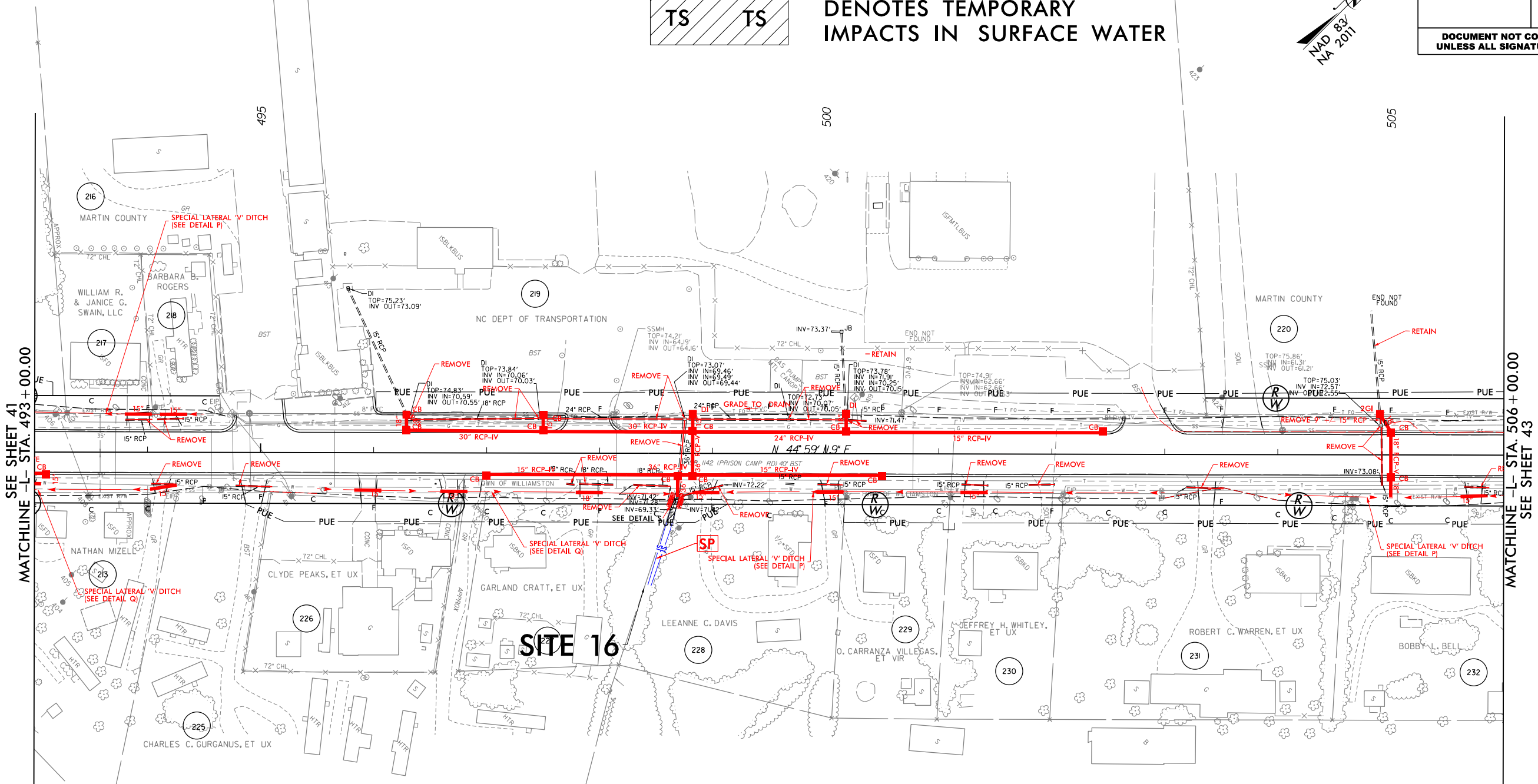
**WETHERILL ENGINEERING**  
1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107  
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 42
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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



**S** DENOTES IMPACTS IN SURFACE WATER  
**TS** DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SEE SHEET 41  
MATCHLINE -L- STA. 493 + 00.00

MATCHLINE -L- STA. 506 + 00.00  
SEE SHEET 43

**SITE 16**

SEE SHEET 62863 FOR -L- PROFILE

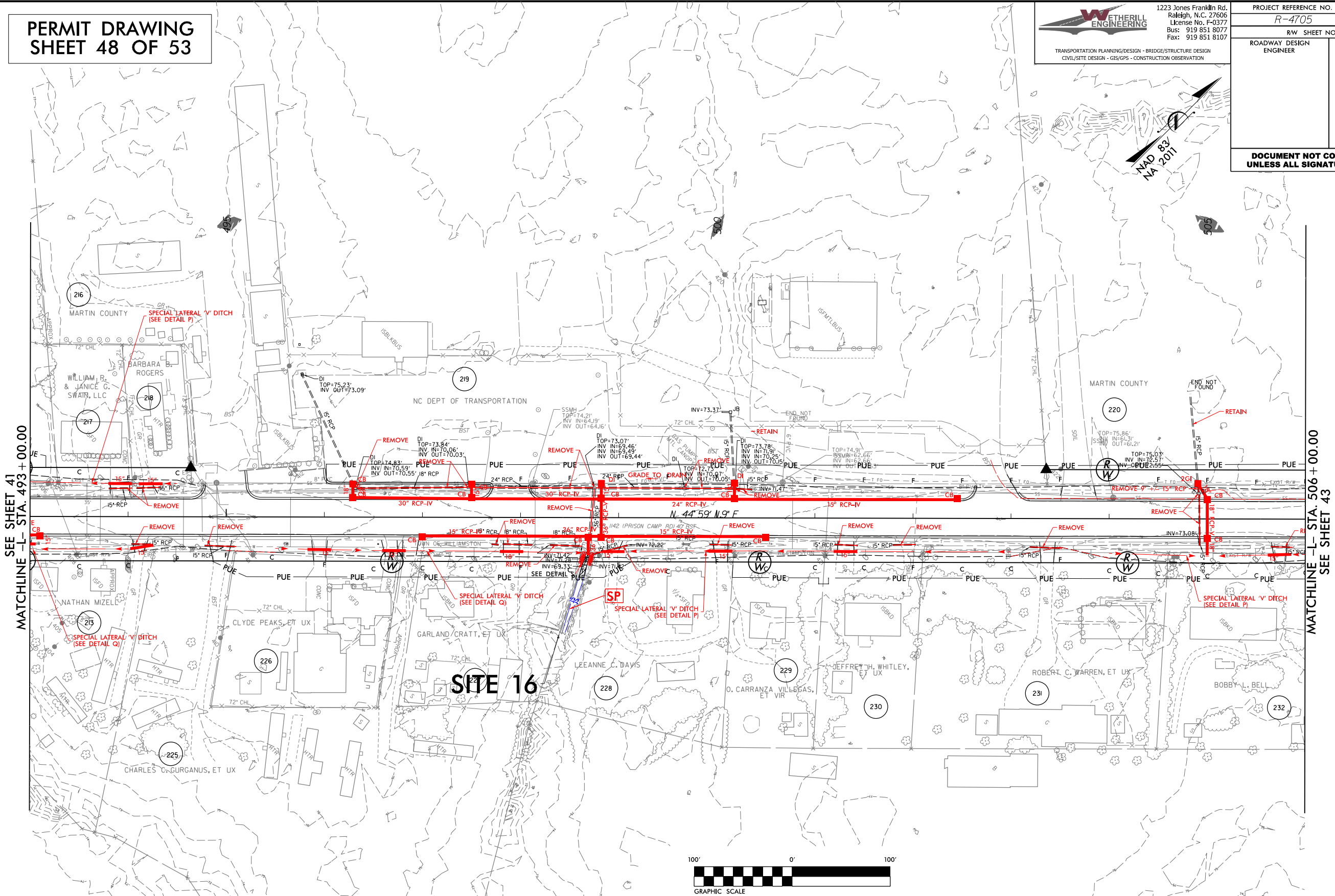
8/17/99  
REVISIONS  
4/3/2008  
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USER: F.Bricks

PERMIT DRAWING  
SHEET 48 OF 53

**WETHERILL ENGINEERING**  
1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GIS - CONSTRUCTION OBSERVATION

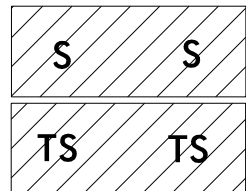
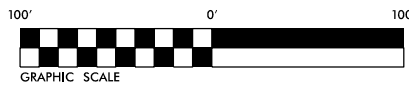
PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 42
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



SEE SHEET 41  
MATCHLINE -L- STA. 493 + 00.00

MATCHLINE -L- STA. 506 + 00.00  
SEE SHEET 43

**SITE 16**

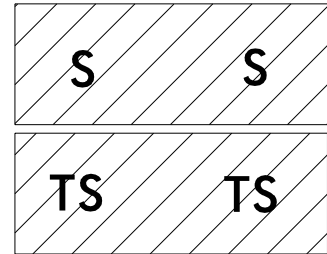
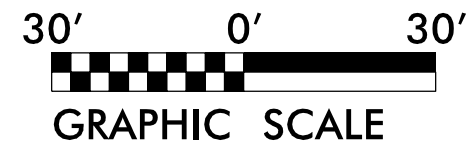


**S** DENOTES IMPACTS IN SURFACE WATER  
**TS** DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SEE SHEET 62863 FOR -L- PROFILE

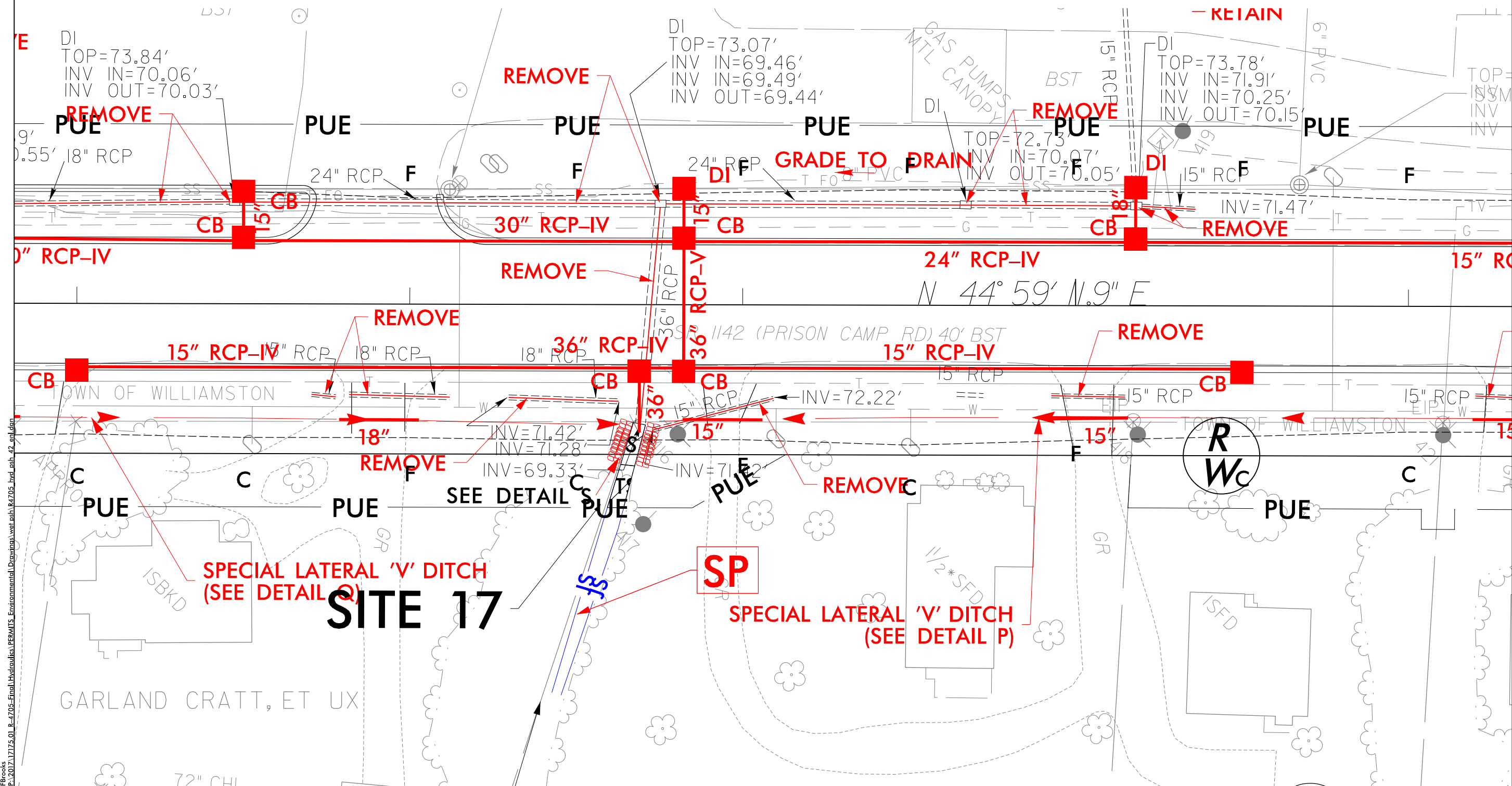
REVISIONS  
 8/17/99  
 4/3/2008  
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 USER: Flook





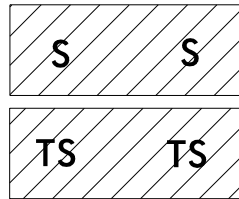
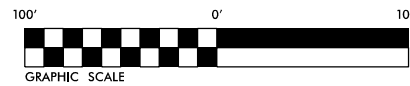
**DENOTES IMPACTS IN  
 SURFACE WATER**

**DENOTES TEMPORARY  
 IMPACTS IN SURFACE WATER**



4/2/2019  
 FBrooks  
 P:\2017\17175\_01\_R-4705-Final-Hydrolics-PERMIT-Environmental-Drawings\wpl.psh.84705\_hyd\_psh\_42\_en.dgn

8/17/99



DENOTES IMPACTS IN SURFACE WATER  
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

# PERMIT DRAWING SHEET 50 OF 53

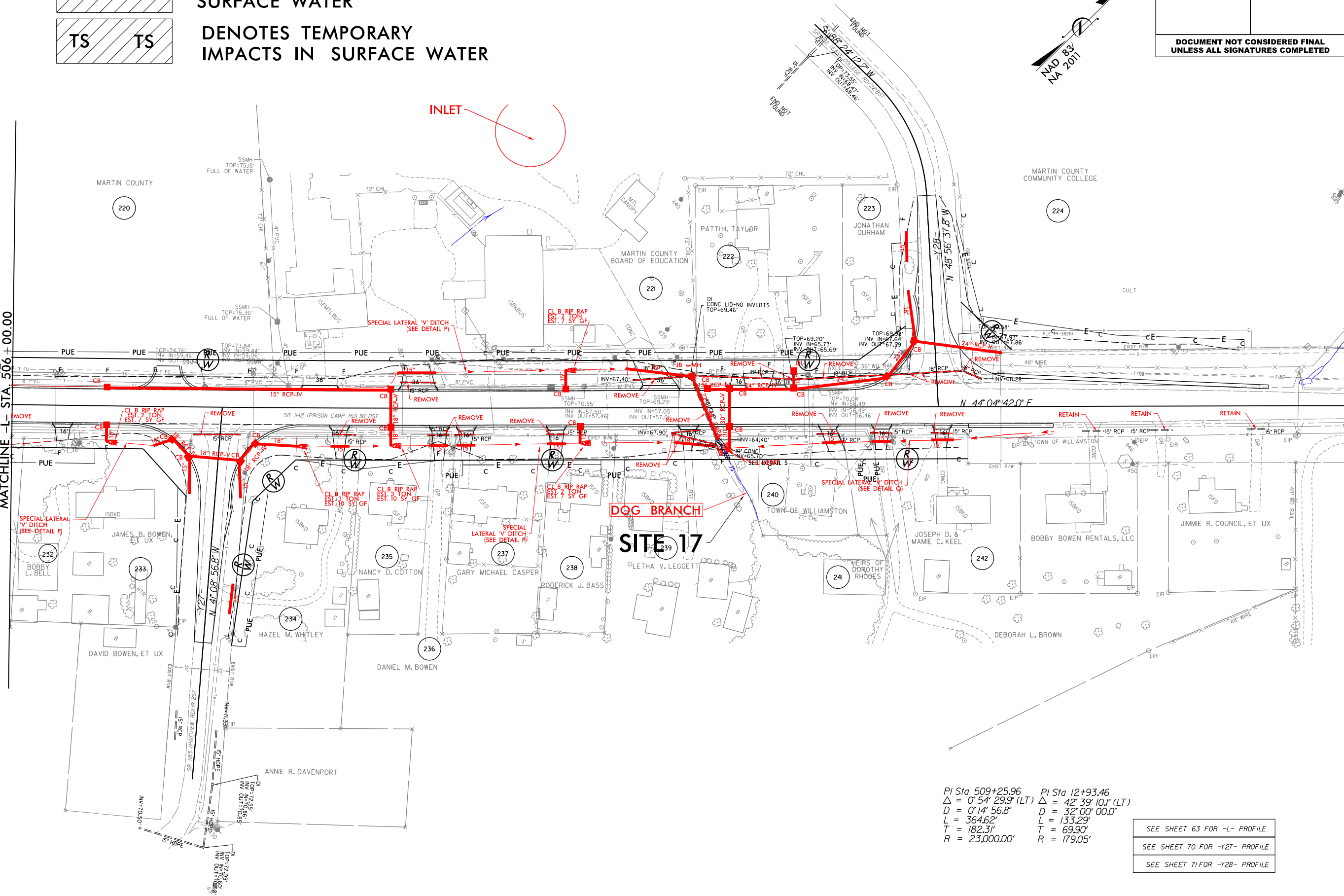
**WETHERILL ENGINEERING**  
1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107  
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <i>R-4705</i>	SHEET NO. 43
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



REVISIONS

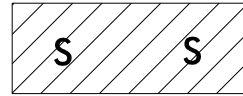
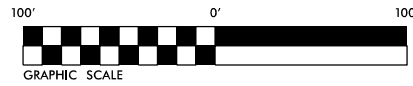
SEE SHEET 42  
MATCHLINE -L- STA 506+00.00



PI Sta 509+25.96    PI Sta 12+93.46  
 $\Delta = 0^\circ 54' 29.9''$  (LT)     $\Delta = 42^\circ 39' 10.1''$  (LT)  
 $D = 0^\circ 14' 56.8''$      $D = 32^\circ 00' 00.0''$   
 $L = 364.62'$      $L = 133.29'$   
 $T = 182.31'$      $T = 69.90'$   
 $R = 23,000.00'$      $R = 179.05'$

SEE SHEET 63 FOR -L- PROFILE  
SEE SHEET 70 FOR -Y27- PROFILE  
SEE SHEET 71 FOR -Y28- PROFILE

4:3:00 17175.01 - R-4705-Final\Hydraulics\PERMITS.Environmental\Drawings\wet\_psh\4705-hyd\_psh\_43.dgn  
USER: fbrooks



DENOTES IMPACTS IN SURFACE WATER



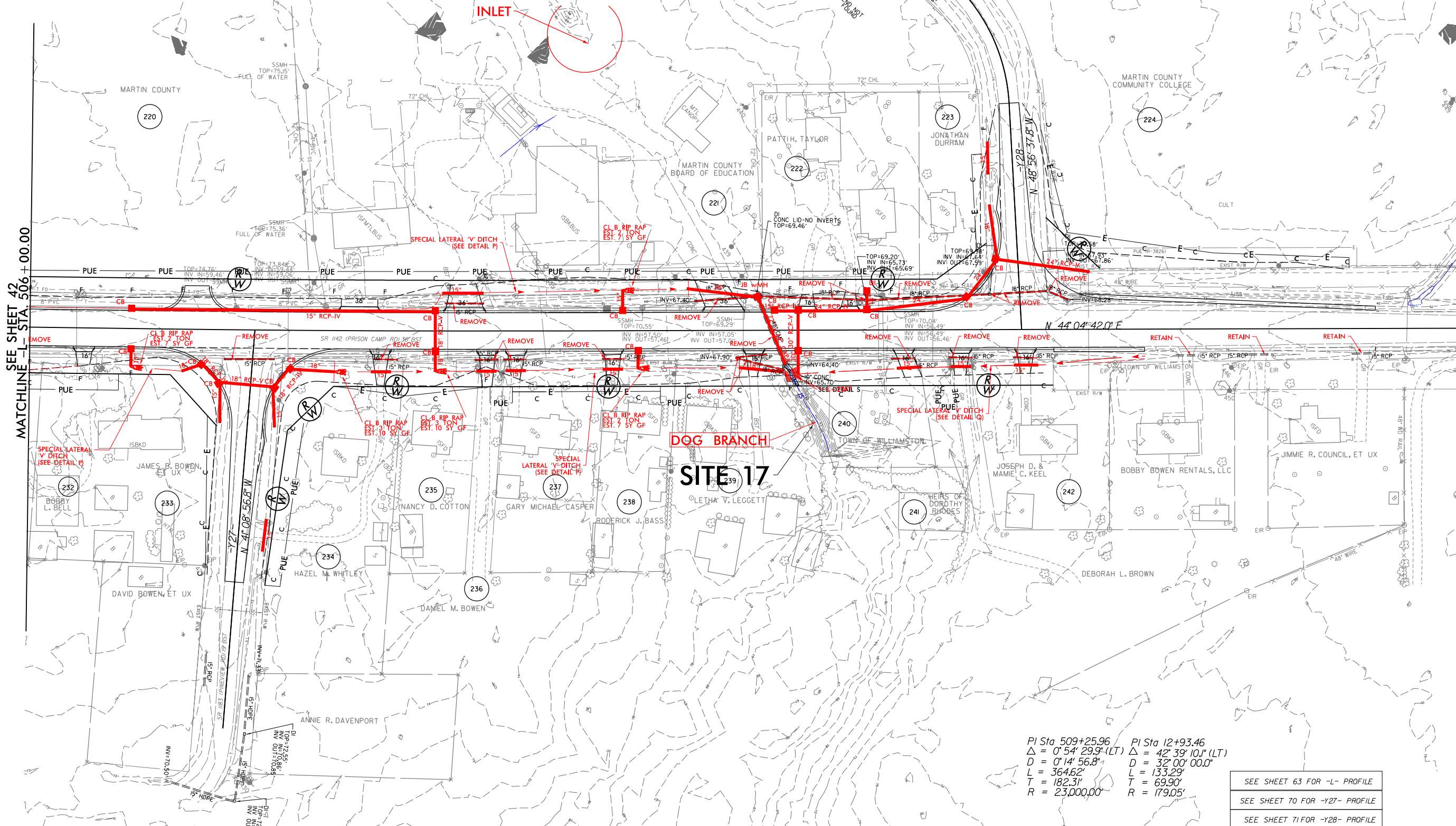
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

# PERMIT DRAWING SHEET 51 OF 53

**WETHERILL ENGINEERING**  
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TRANSPORTATION DESIGN/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <b>R-4705</b>	SHEET NO. <b>43</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



SEE SHEET 42  
MATCHLINE -L- STA 506+00.00

PI Sta 509+25.96    PI Sta 12+93.46  
 $\Delta = 0^\circ 54' 29.9''$  (LT)     $\Delta = 42^\circ 39' 10.1''$  (LT)  
 $D = 0' 14' 56.8''$      $D = 32' 00' 00.0''$   
 $L = 364.62'$      $L = 133.29'$   
 $T = 182.31'$      $T = 69.90'$   
 $R = 23,000.00'$      $R = 179.05'$

- SEE SHEET 63 FOR -L- PROFILE
- SEE SHEET 70 FOR -Y27- PROFILE
- SEE SHEET 71 FOR -Y28- PROFILE

REVISIONS

8/17/99  
 4/3/2009  
 US:R:Brooks  
 43705-Final\Hydraulics\PERMITS.Environmental\Drawings\wet\_psh\_R4705-hyd\_psh\_43\_con.dgn



