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8/17/99

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

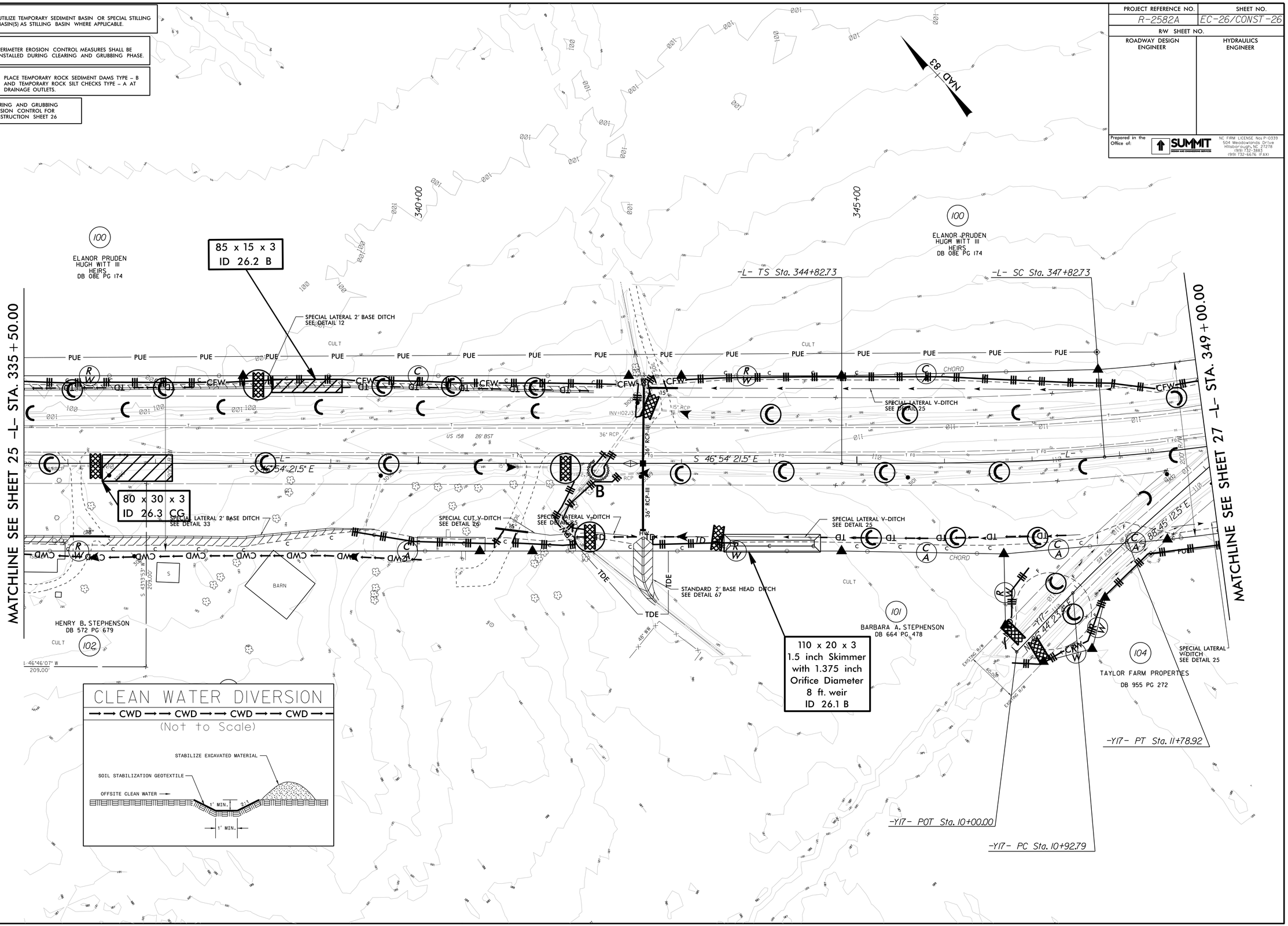
NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 26

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-26/CONST-26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



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jowarris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-27/CONST-27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
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Hillsborough, NC 27278
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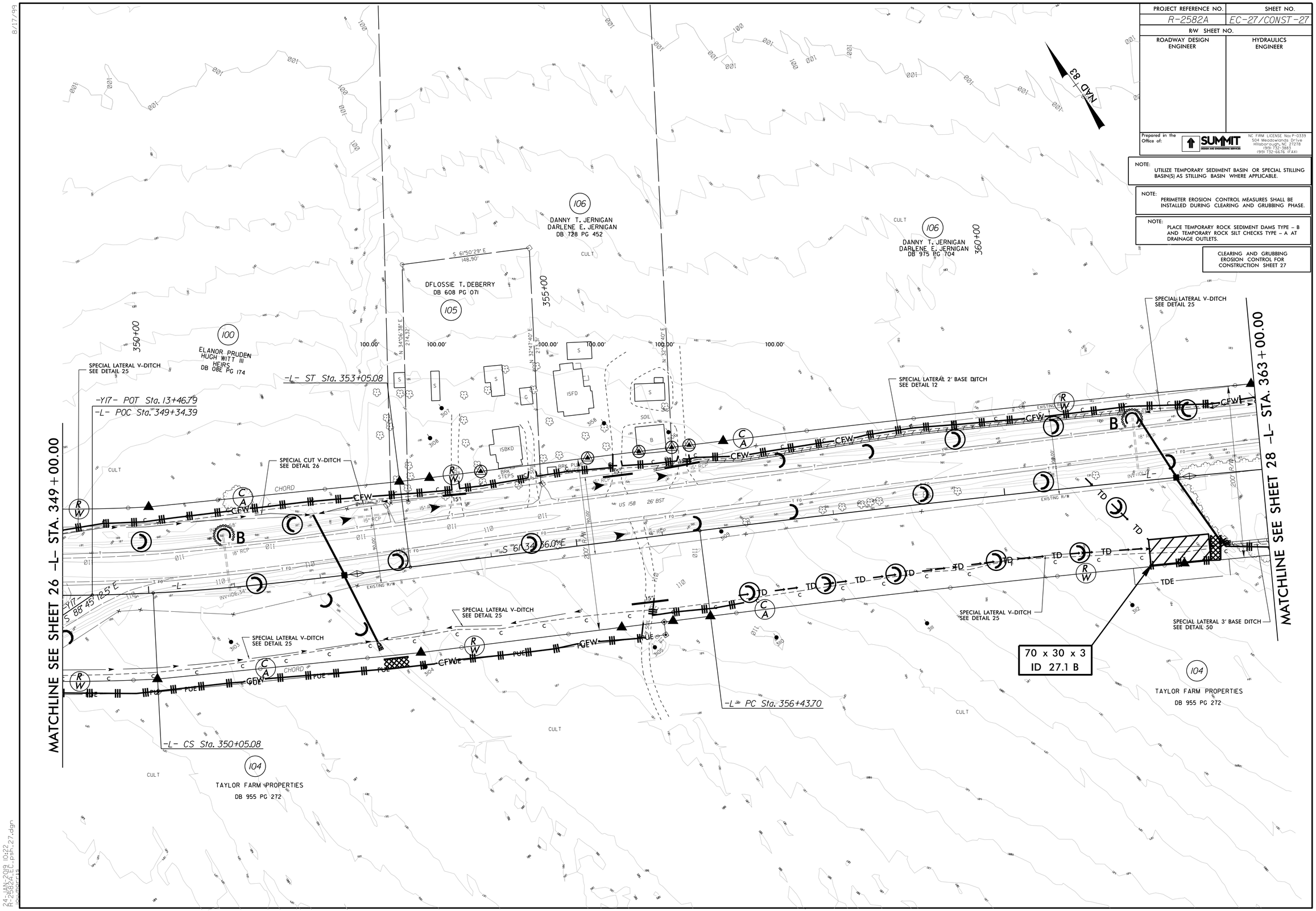
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 27



8/17/99

24-JAN-2019 10:22
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lowmorris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-28/CONST-28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
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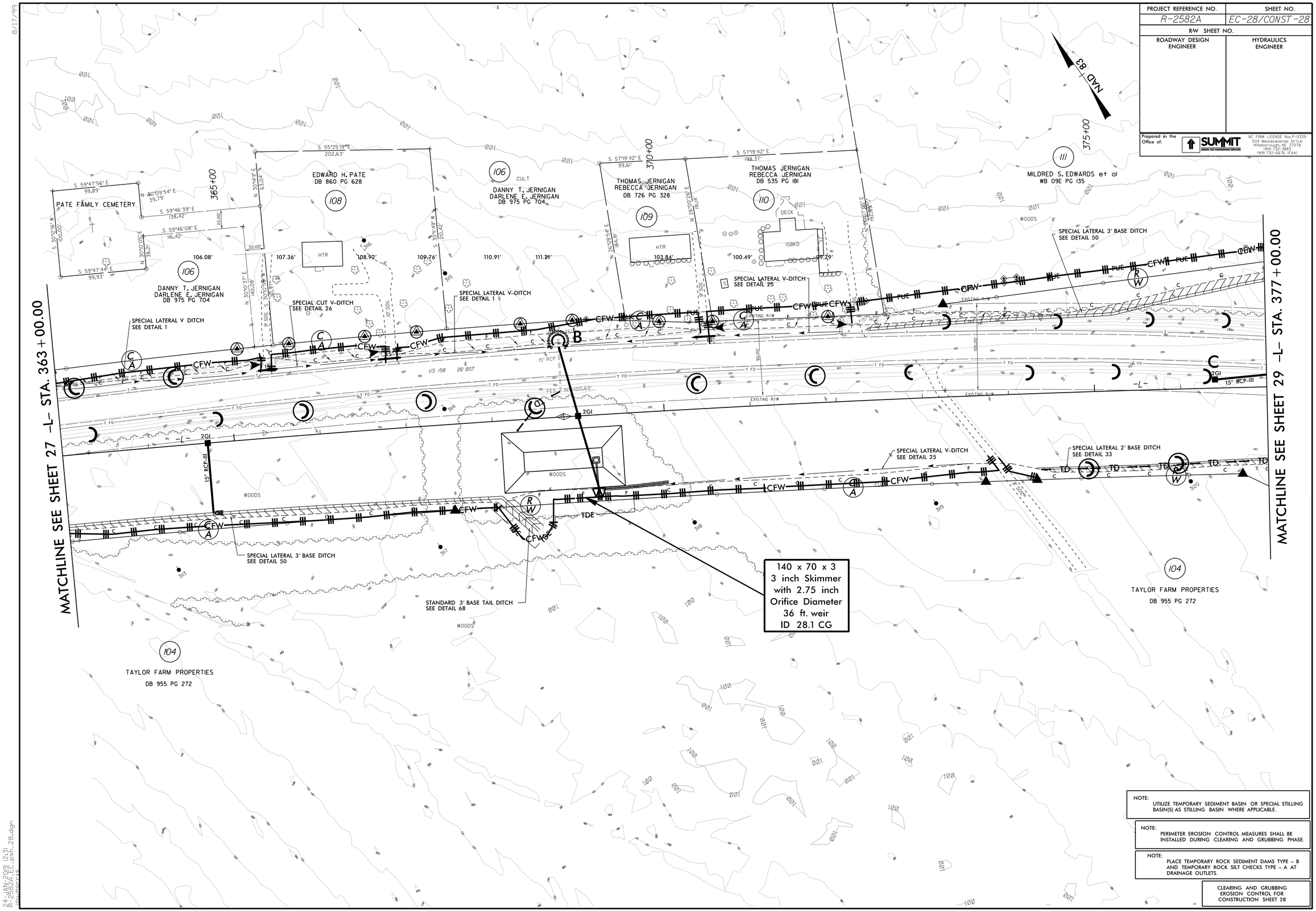

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NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 28

8/17/99

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lowmorris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-29/CONST-29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
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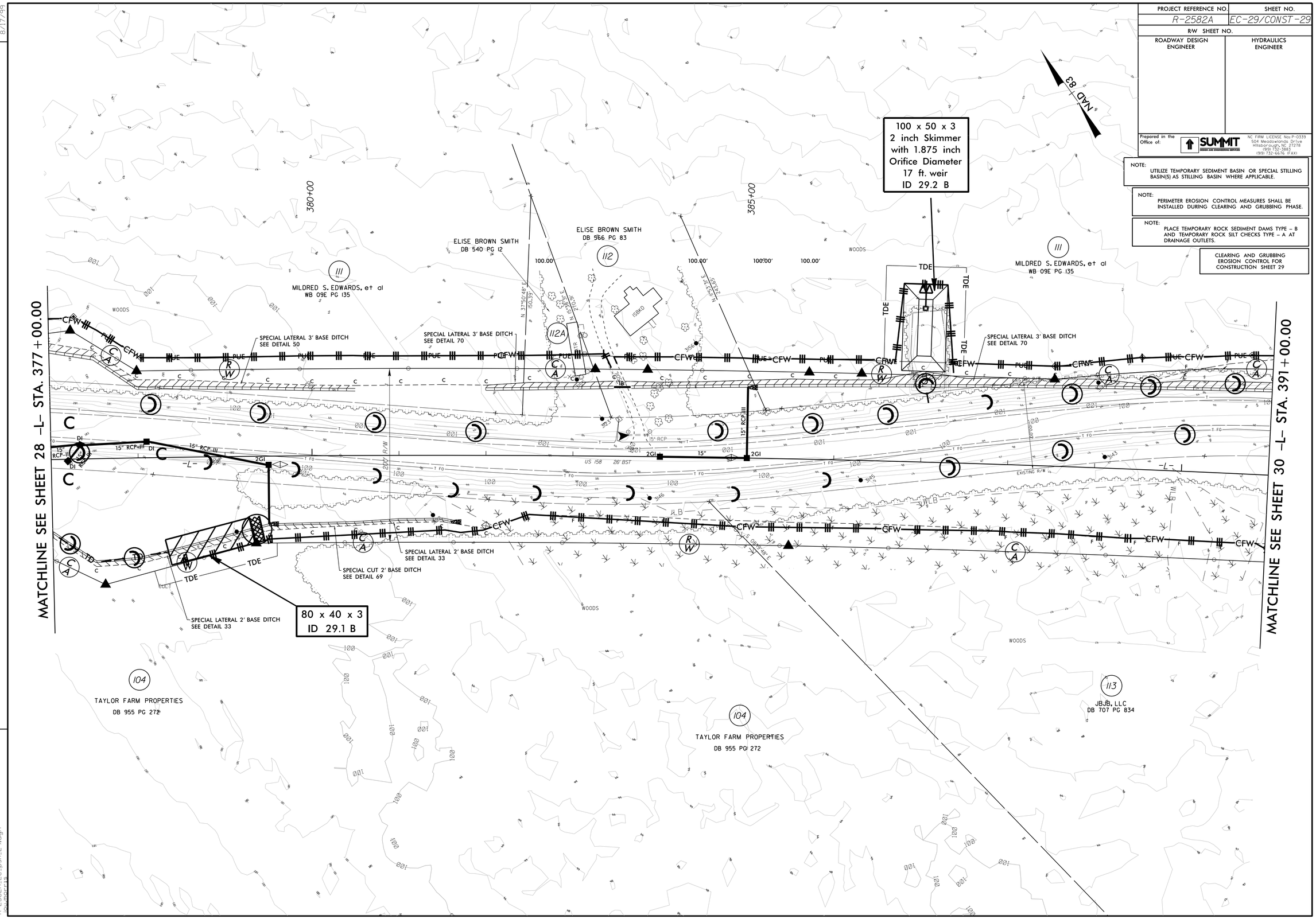
NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 29



REVISIONS

R/W REV. 6/22/18 (RVP): REVISED PROPERTY OWNER NAME ON PARCEL 112 AND ADDED PARCEL 112A.

8/17/99

24-JAN-2019 13:51
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lowmorris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-30/CONST-30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
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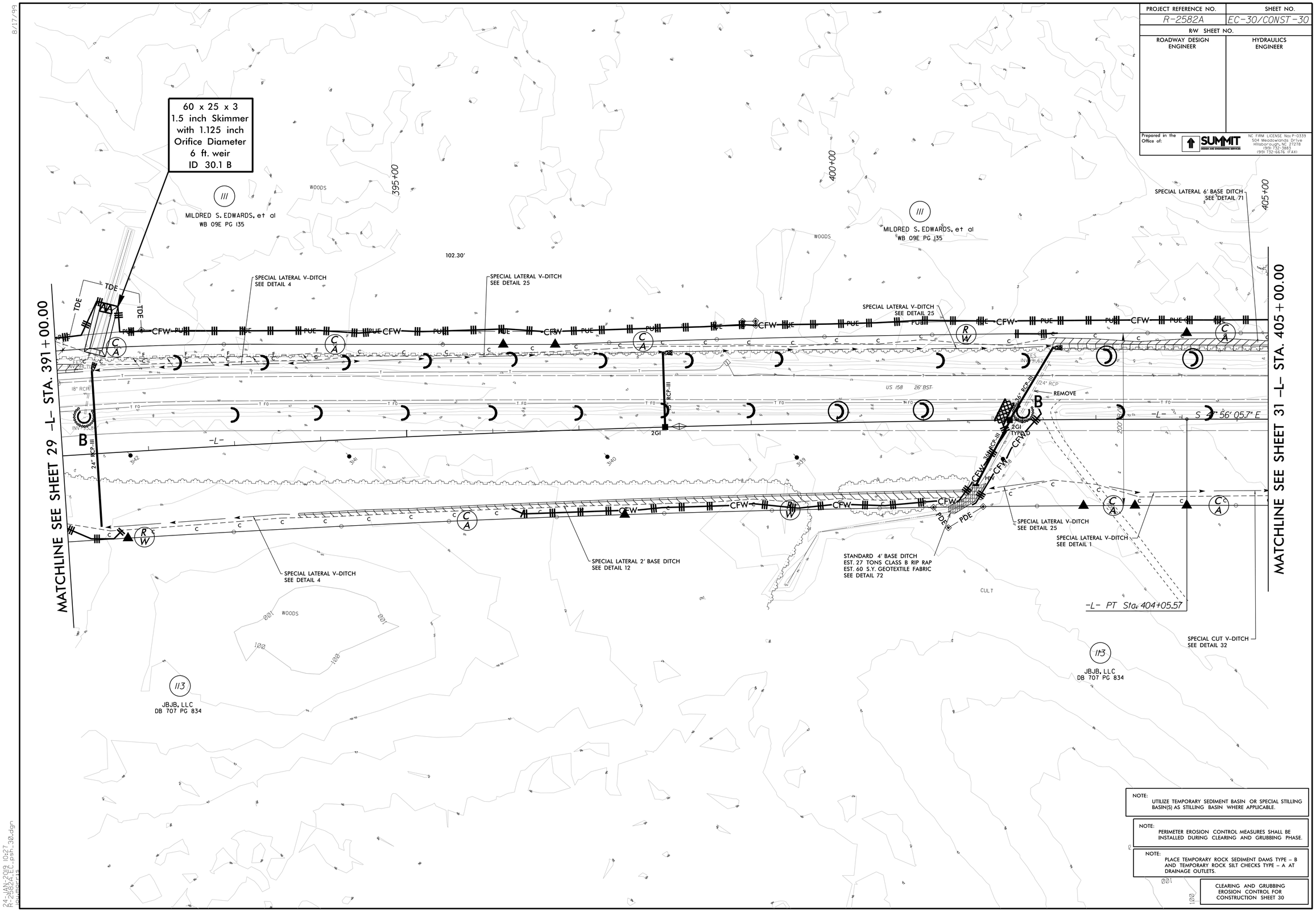

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 30

8/17/99

24-JAN-2014 10:27
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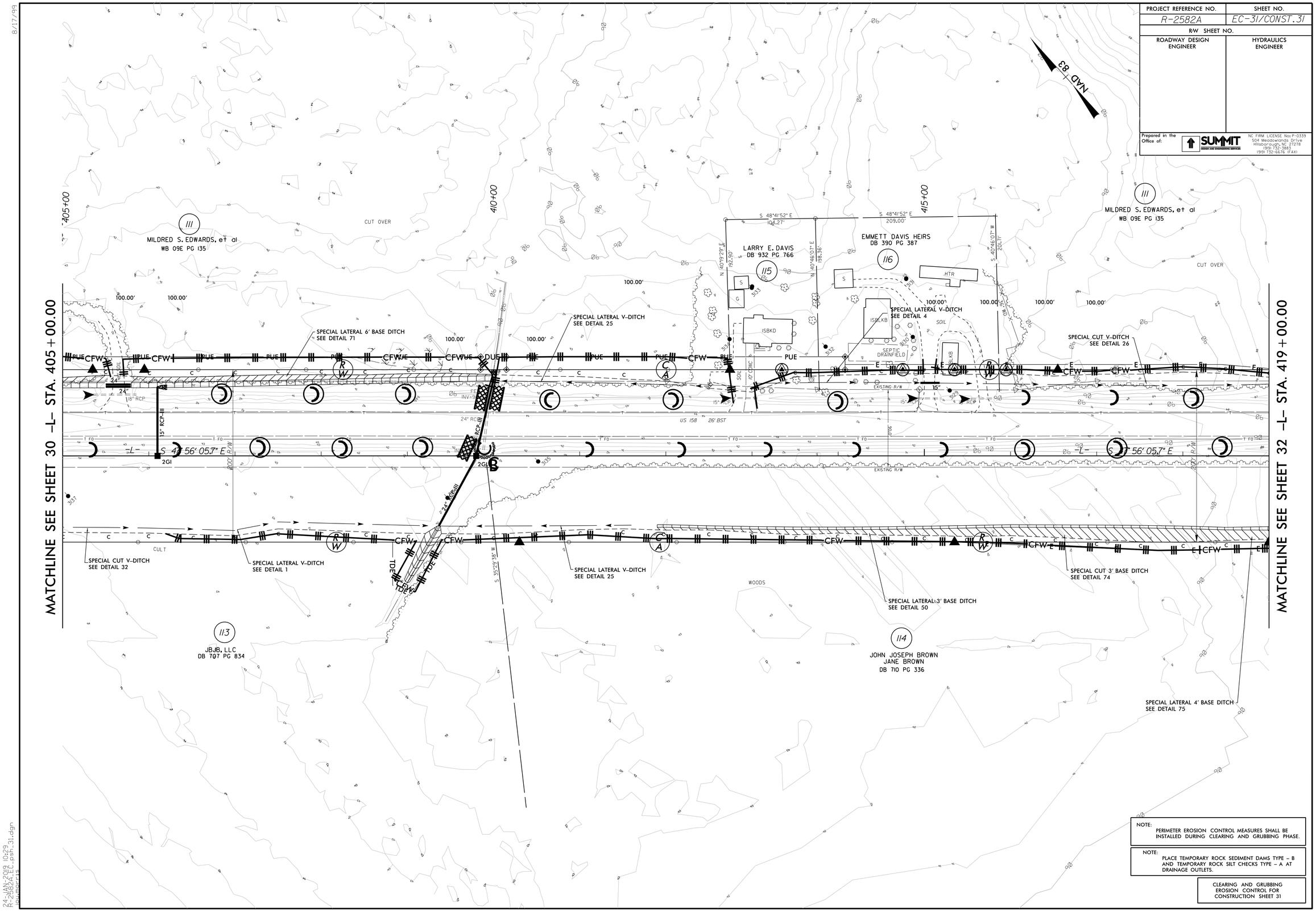
jaumorris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-31/CONST.31
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 31

8/17/99

24-JAN-2014 10:29
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jaumorris

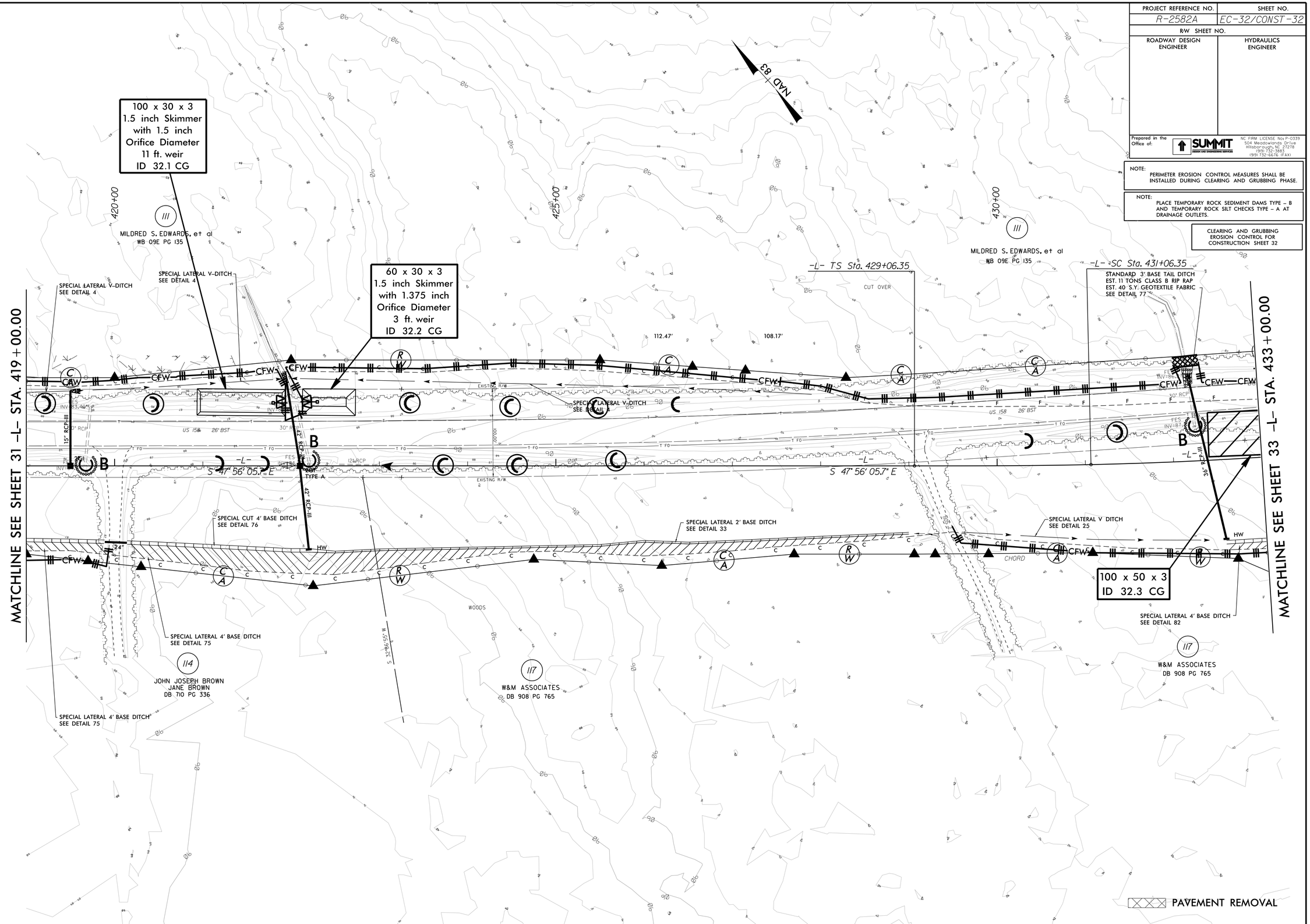
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-32/CONST-32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 32



8/17/99

24-JAN-2011 10:30
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lowdorris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-33/CONST-33
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
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NOTE:
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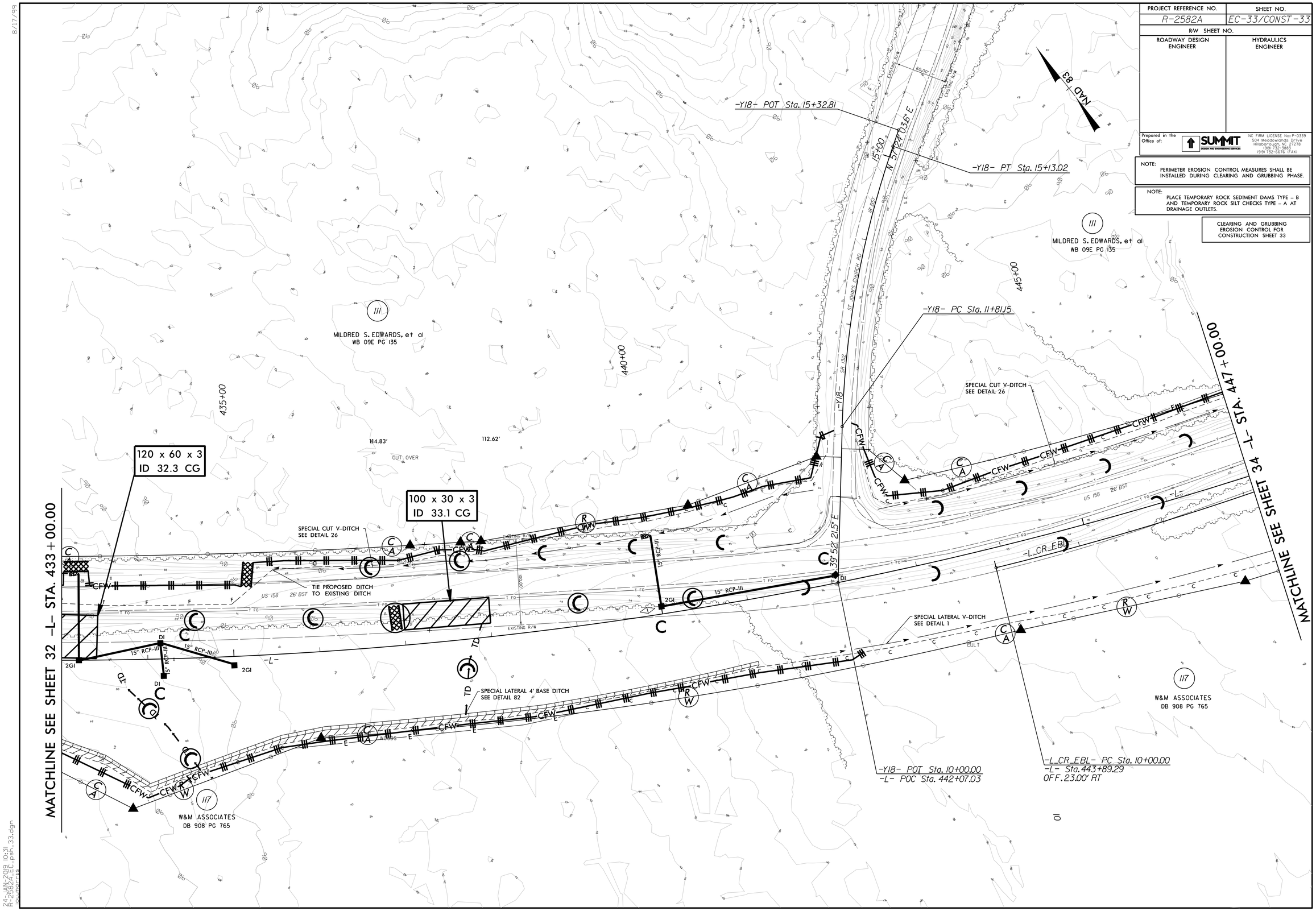
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 33



8/17/99

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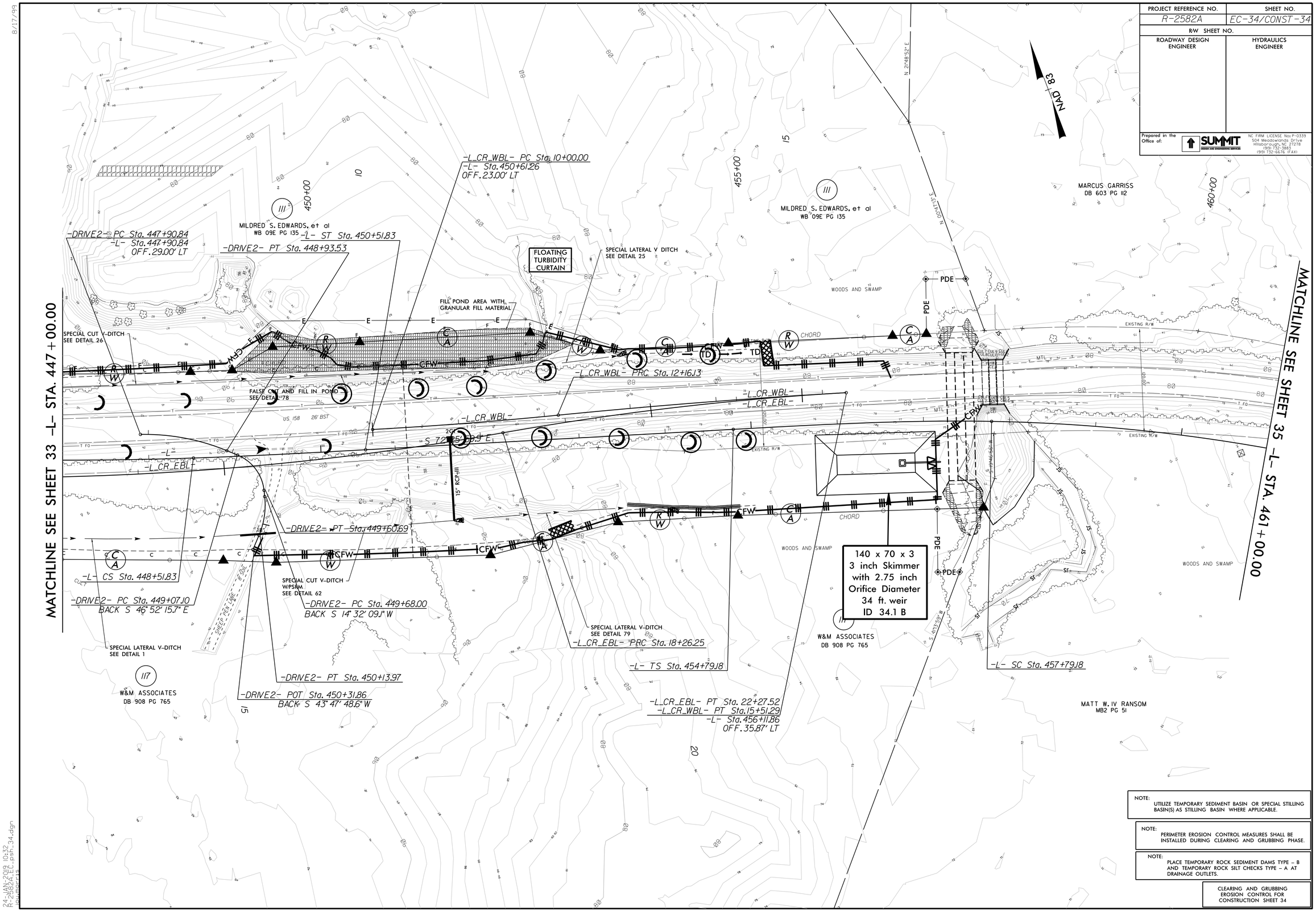
lowmorris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-34/CONST-34
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: F-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 34

8/17/99

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jowarris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-35/CONST-35
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

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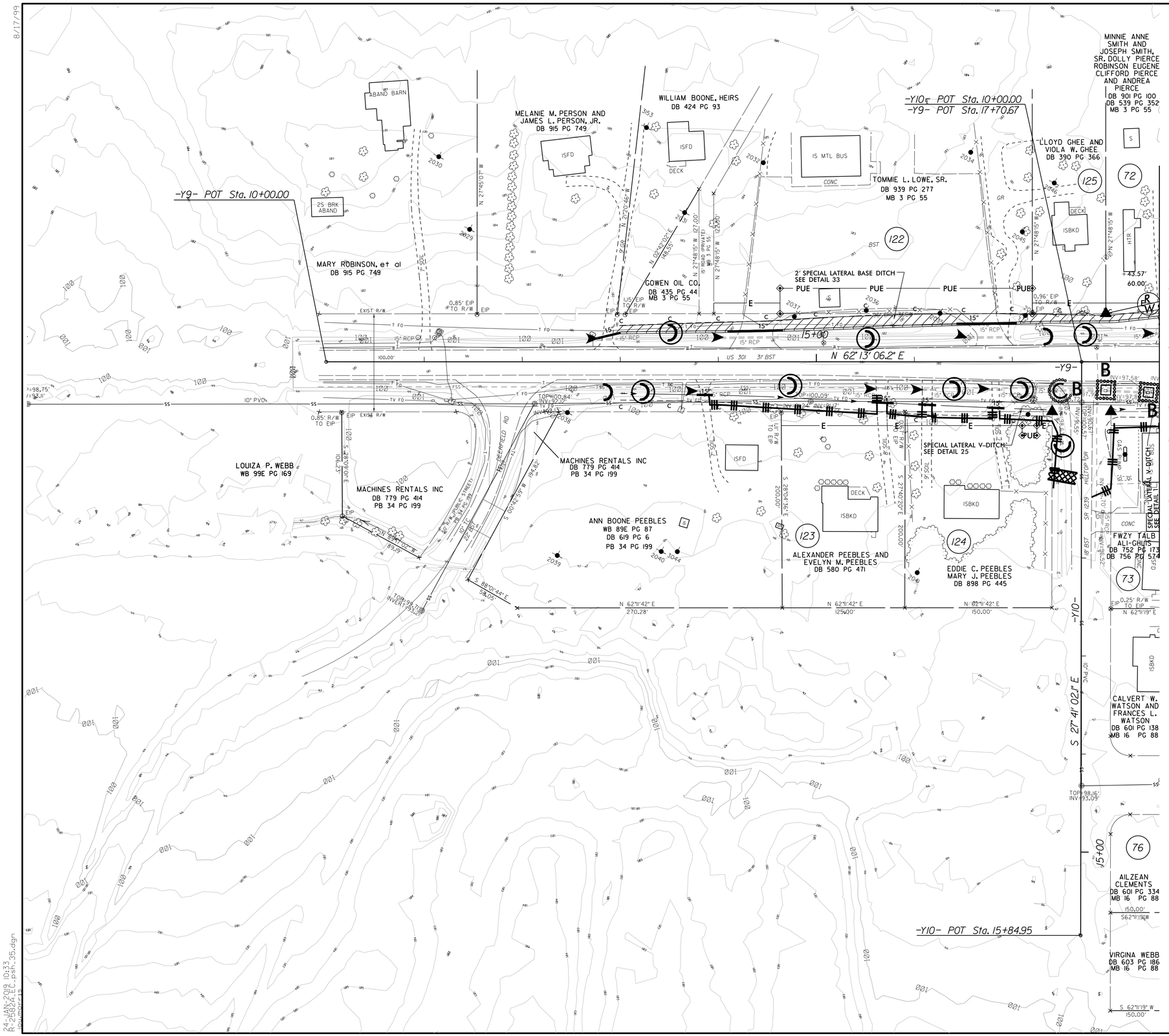
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 35



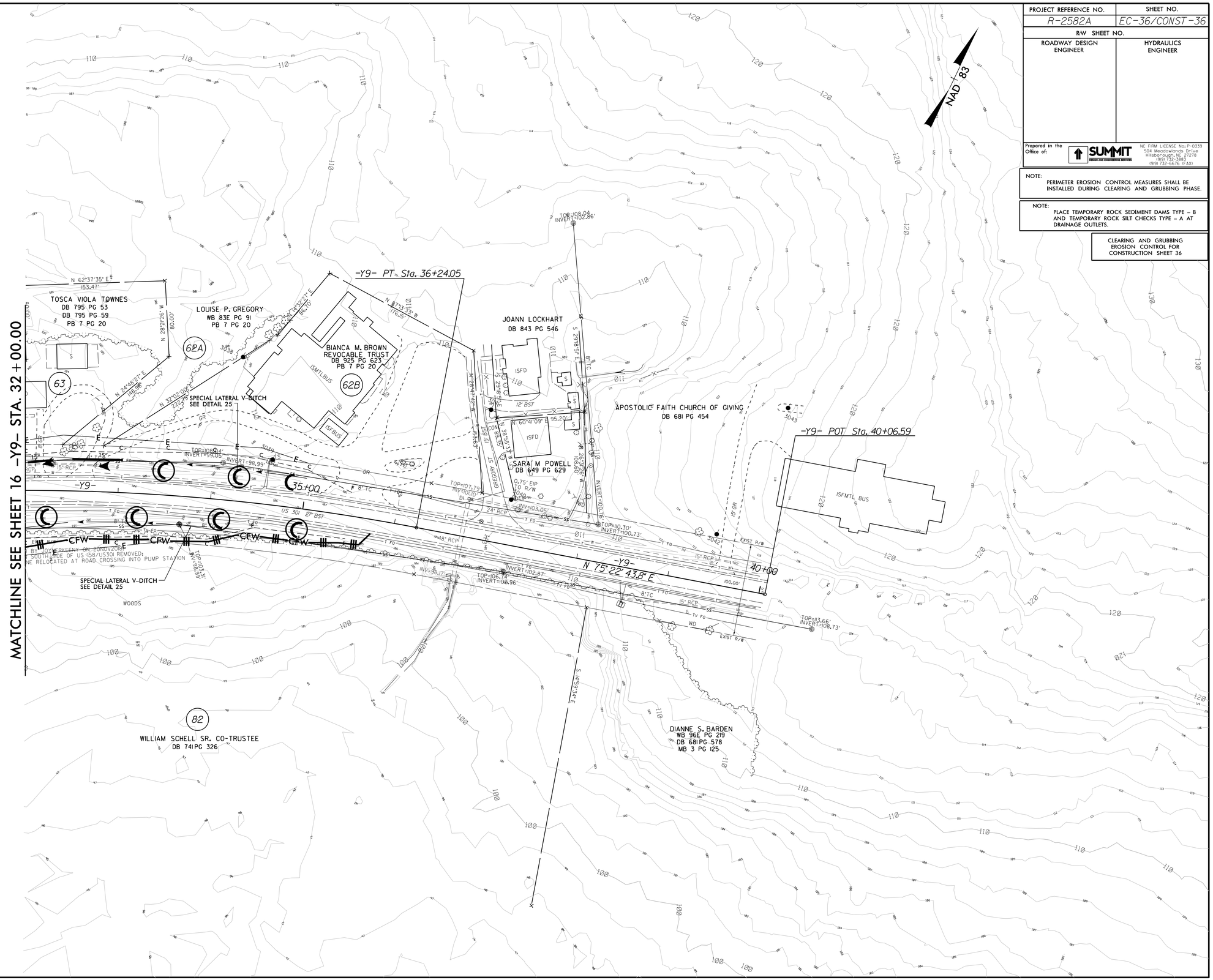
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-36/CONST-36
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE Nos P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 36



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jowilliams
8/17/99

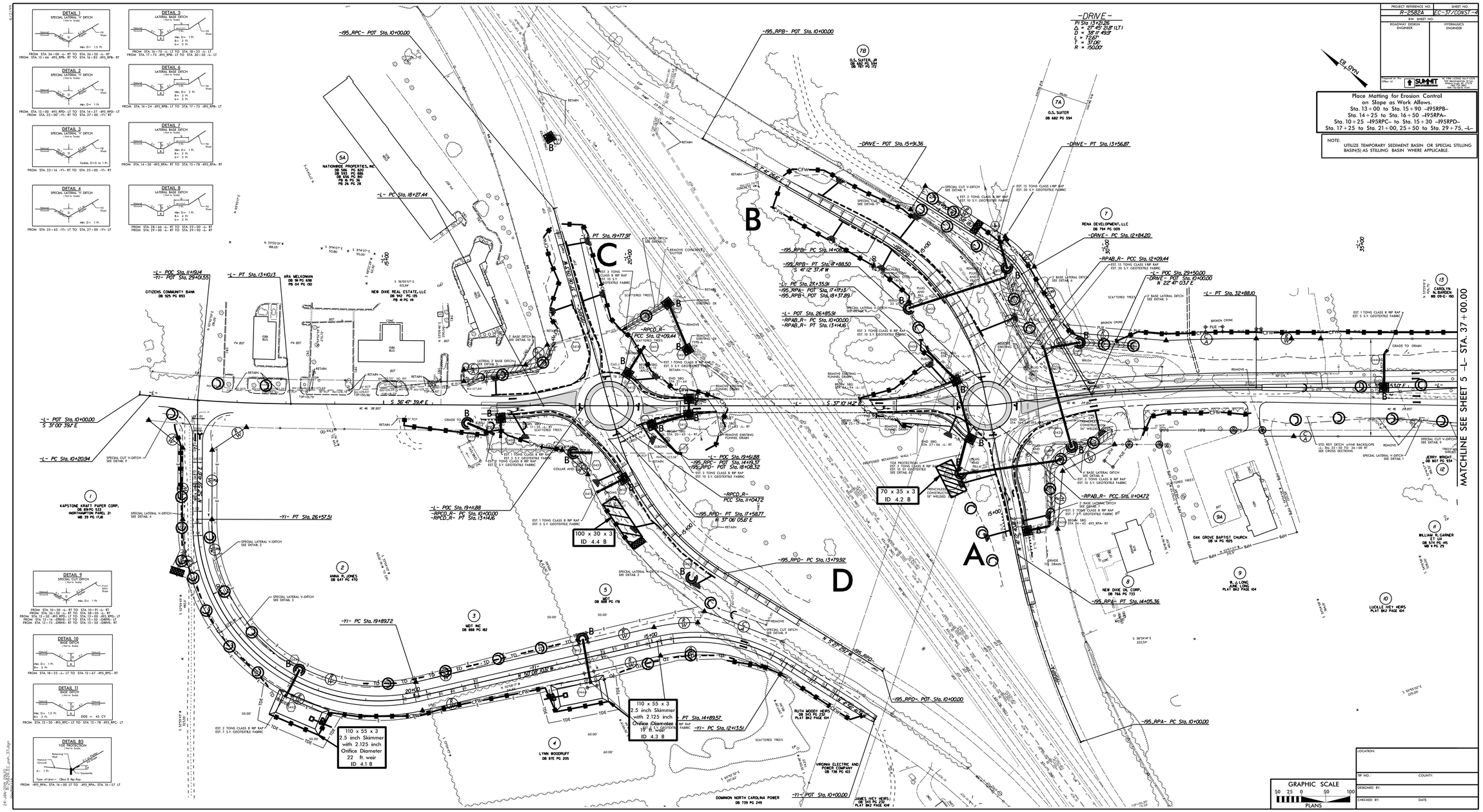
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-37/CONST-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared for: DOT
Prepared by: SUMMIT DESIGN AND ENGINEERING

N. TYRE LEVERE PE/CFEM
Project Engineer
Phone: (704) 342-2179
Fax: (704) 342-2179
Email: tyre@summitdesign.com

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 13+00 to Sta. 15+90 –I95RPB–
Sta. 14+25 to Sta. 16+50 –I95RPA–
Sta. 10+25 –I95RPC– to Sta. 15+30 –I95RPD–
Sta. 17+25 to Sta. 21+00, 25+50 to Sta. 29+75, –L–

NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.



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

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-38/CONST-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
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504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
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NOTE:
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DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; D; 4:1 or Flatter; Fill Slope
Min. D = 1.5 Ft.

FROM STA. 38+65 –L– LT TO STA. 42+40 –L– LT
FROM STA. 38+90 –L– RT TO STA. 47+30 –L– RT
FROM STA. 43+50 –L– LT TO STA. 47+00 –L– LT
FROM STA. 49+50 –L– LT TO STA. 58+00 –L– LT

DETAIL 9
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; D; 4:1 or Flatter; Front Ditch Slope
Min. D = 1 Ft.

FROM STA. 36+50 –L– RT TO STA. 38+05 –L– RT

DETAIL 12
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground; 3:1; D; B; 4:1 or Flatter; Fill Slope
Min. D = 1 Ft.
B = 2 Ft.

FROM STA. 13+00 –Y2– LT TO STA. 13+75 –Y2– LT

DETAIL 13
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground; 3:1; D; d; 3:1; Fill Slope
Min. D = 1 Ft.
Max. d = 1 Ft.
Type of Liner = PSRM

FROM STA. 12+95 –Y2– RT TO STA. 13+27 –Y2– RT

DETAIL 16
PIPE OUTLET CHANNEL
(Not to Scale)

Natural Ground; Existing Bank; D; Existing Bank; Natural Ground; d = 1.5 Ft. (to TOB); CHANNEL BED (Variable)
Length = 10 Ft.
D = 1.5 Ft.
Est. = 11 Tons of Class B Rip-Rap

STA. 38+59 –L– LT

DETAIL 14
SPECIAL CUT DITCH
(Not to Scale)

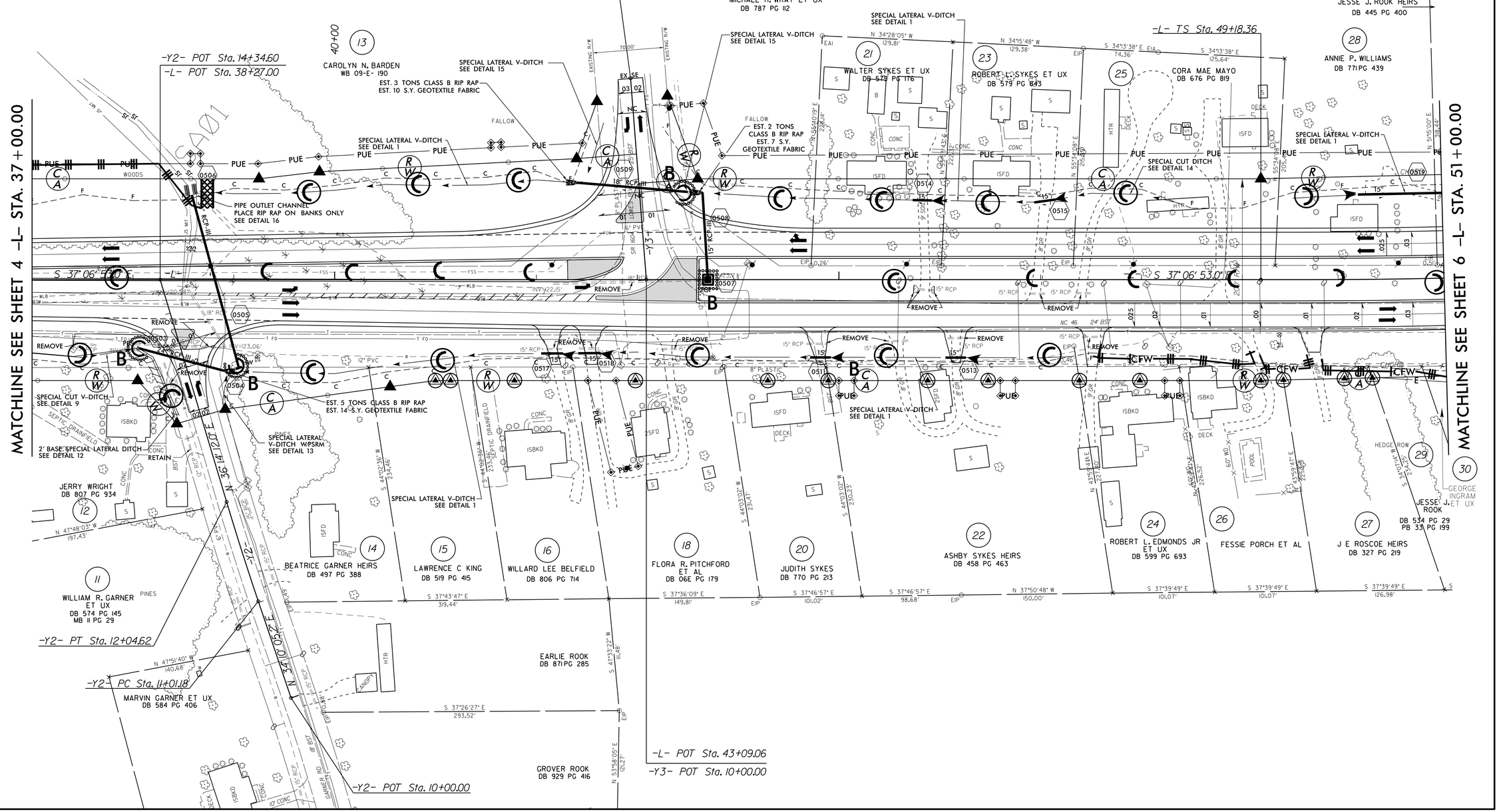
Natural Ground; 3:1 or Flatter; D; 4:1 or Flatter; Front Ditch Slope
Min. D = 1.5 Ft.

FROM STA. 47+00 –L– LT TO STA. 48+35 –L– LT

DETAIL 15
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground; 3:1; D; 3:1 or Flatter; Fill Slope
Min. D = 1 Ft.

FROM STA. 10+84 –Y3– RT TO STA. 11+00 –Y3– RT
FROM STA. 10+99 –Y3– LT TO STA. 11+60 –Y3– LT



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jowarris

8/17/99

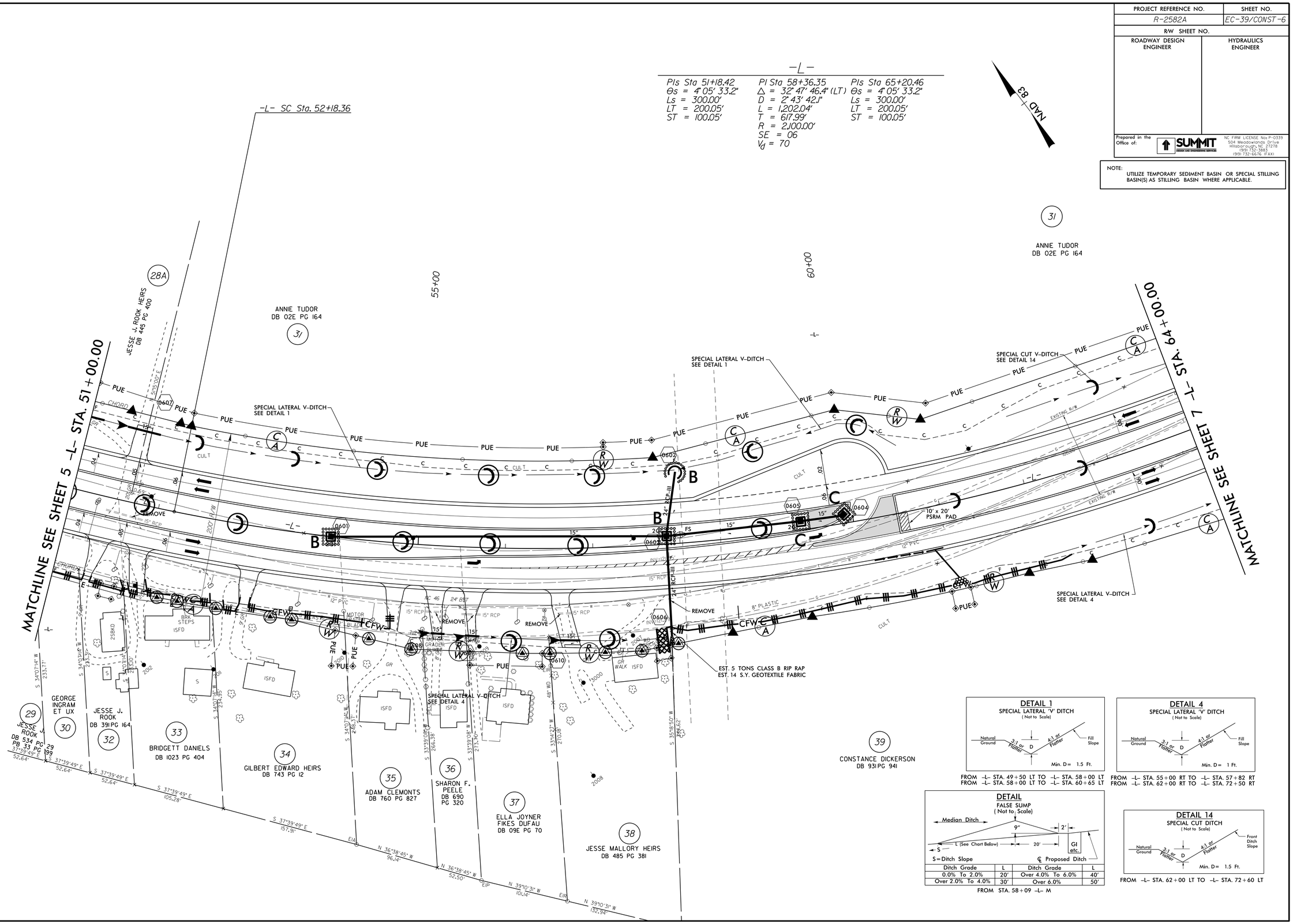
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-39/CONST-6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

-L-

PIs Sta 51+18.42	PI Sta 58+36.35	PIs Sta 65+20.46
Θs = 4° 05' 33.2"	Δ = 32° 47' 46.4" (LT)	Θs = 4° 05' 33.2"
Ls = 300.00'	D = 2° 43' 42.1"	Ls = 300.00'
LT = 200.05'	L = 1,202.04'	LT = 200.05'
ST = 100.05'	T = 617.99'	ST = 100.05'
	R = 2,100.00'	
	SE = 06	
	V_d = 70	



DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM -L- STA. 49+50 LT TO -L- STA. 58+00 LT
FROM -L- STA. 58+00 LT TO -L- STA. 60+65 LT

DETAIL 4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM -L- STA. 55+00 RT TO -L- STA. 57+82 RT
FROM -L- STA. 62+00 RT TO -L- STA. 72+50 RT

DETAIL
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'

FROM STA. 58+09 -L- M

DETAIL 14
SPECIAL CUT DITCH
(Not to Scale)

FROM -L- STA. 62+00 LT TO -L- STA. 72+60 LT

24-JAN-2013 09:21
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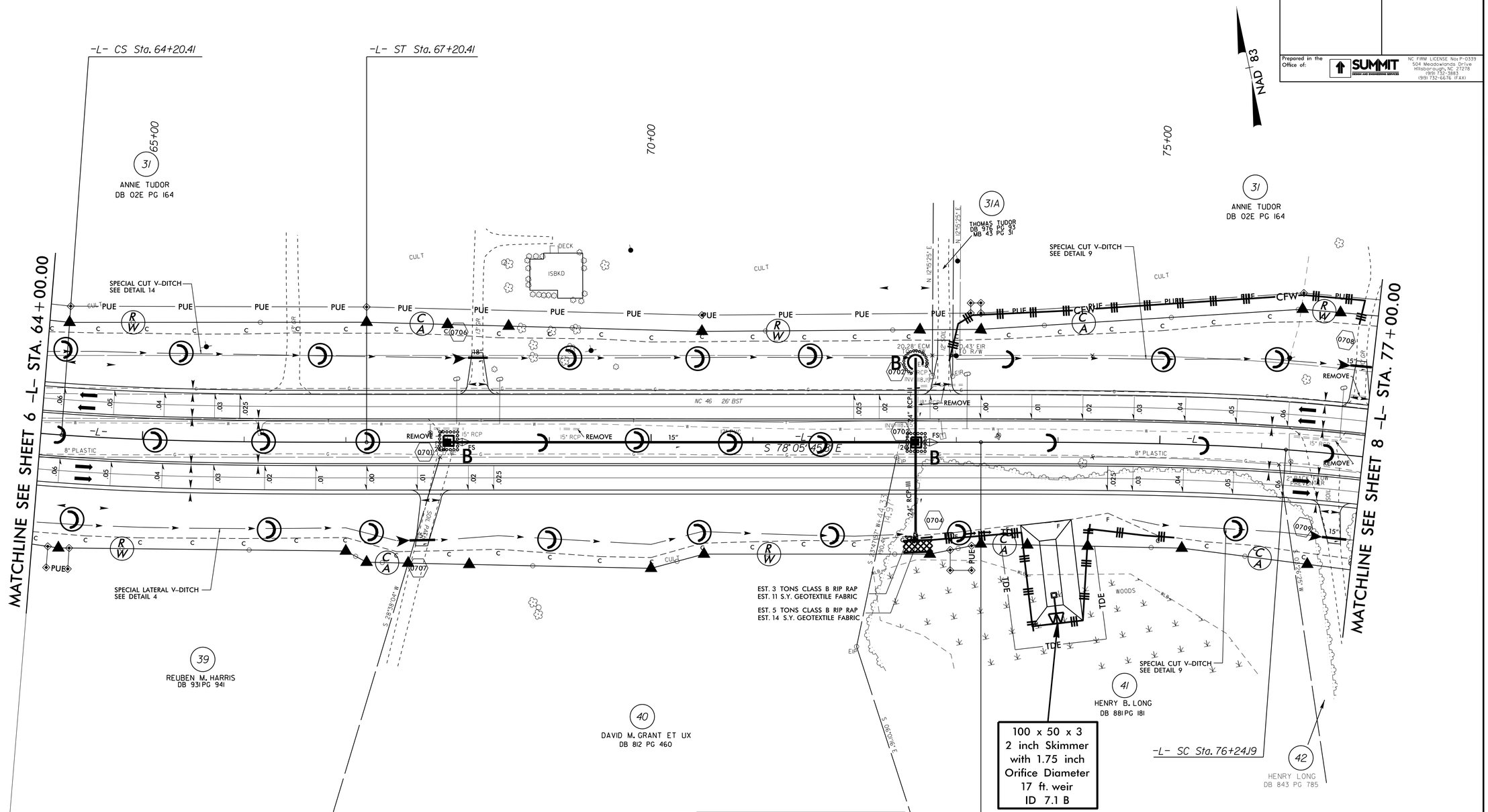
lowdorris

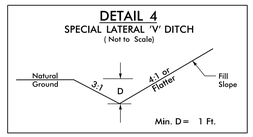
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-40/CONST-7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

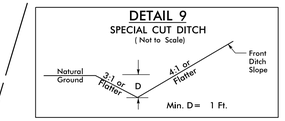


DETAIL 4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



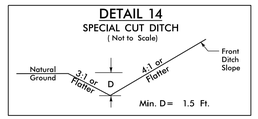
FROM -L- STA. 62+00 RT TO -L- STA. 72+50 RT

DETAIL 9
SPECIAL CUT DITCH
(Not to Scale)



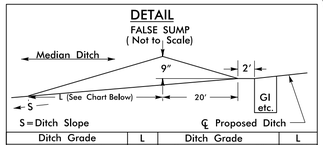
FROM -L- STA. 73+00 LT TO -L- STA. 79+50 LT
FROM -L- STA. 75+00 RT TO -L- STA. 80+50 RT

DETAIL 14
SPECIAL CUT DITCH
(Not to Scale)



FROM -L- STA. 62+00 LT TO -L- STA. 72+60 LT

DETAIL
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'

FROM -L- STA. 68+24 M
FROM -L- STA. 72+84 M

8/17/99

24-JAN-2019 09:22
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lowdorris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-41/CONST-8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES — NC FIRM LICENSE No: P-0339, 504 Meadowlands Drive, Hillsborough, NC 27278, (919) 732-3883, (919) 732-6676 (FAX)

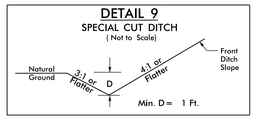
NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

Place Matting for Erosion Control on Slope as Work Allows. Sta. 86+00 to Sta. 86+50

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

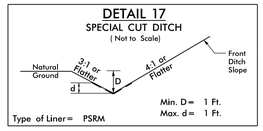
NAD 83

DETAIL 9
SPECIAL CUT DITCH
(Not to Scale)



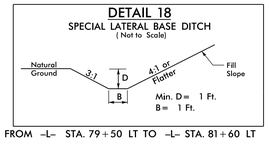
FROM –L– STA. 73+00 LT TO –L– STA. 79+50 LT
FROM –L– STA. 75+00 RT TO –L– STA. 80+50 RT
FROM –L– STA. 88+50 RT TO –L– STA. 91+00 RT
FROM –L– STA. 89+50 LT TO –L– STA. 90+50 LT

DETAIL 17
SPECIAL CUT DITCH
(Not to Scale)



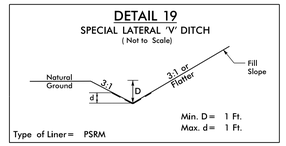
FROM –L– STA. 83+00 RT TO –L– STA. 84+00 RT

DETAIL 18
SPECIAL LATERAL BASE DITCH
(Not to Scale)



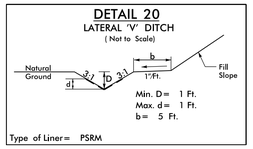
FROM –L– STA. 79+50 LT TO –L– STA. 81+60 LT

DETAIL 19
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



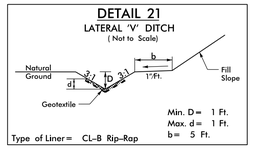
FROM –L– STA. 84+24 LT TO –L– STA. 85+60 LT

DETAIL 20
LATERAL 'V' DITCH
(Not to Scale)



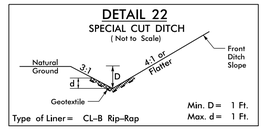
FROM –L– STA. 84+00 RT TO –L– STA. 85+50 RT

DETAIL 21
LATERAL 'V' DITCH
(Not to Scale)



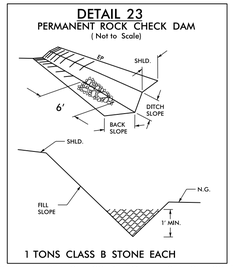
FROM –L– STA. 86+03 LT TO –L– STA. 89+50 LT

DETAIL 22
SPECIAL CUT DITCH
(Not to Scale)



FROM –L– STA. 87+33 RT TO –L– STA. 88+50 RT

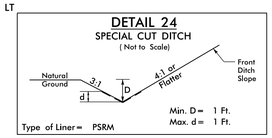
DETAIL 23
PERMANENT ROCK CHECK DAM
(Not to Scale)



1 TONS CLASS B STONE EACH

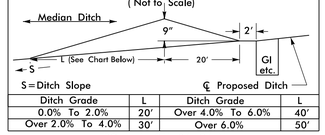
FROM –L– STA. 85+00 RT TO –L– STA. 85+08 RT

DETAIL 24
SPECIAL CUT DITCH
(Not to Scale)



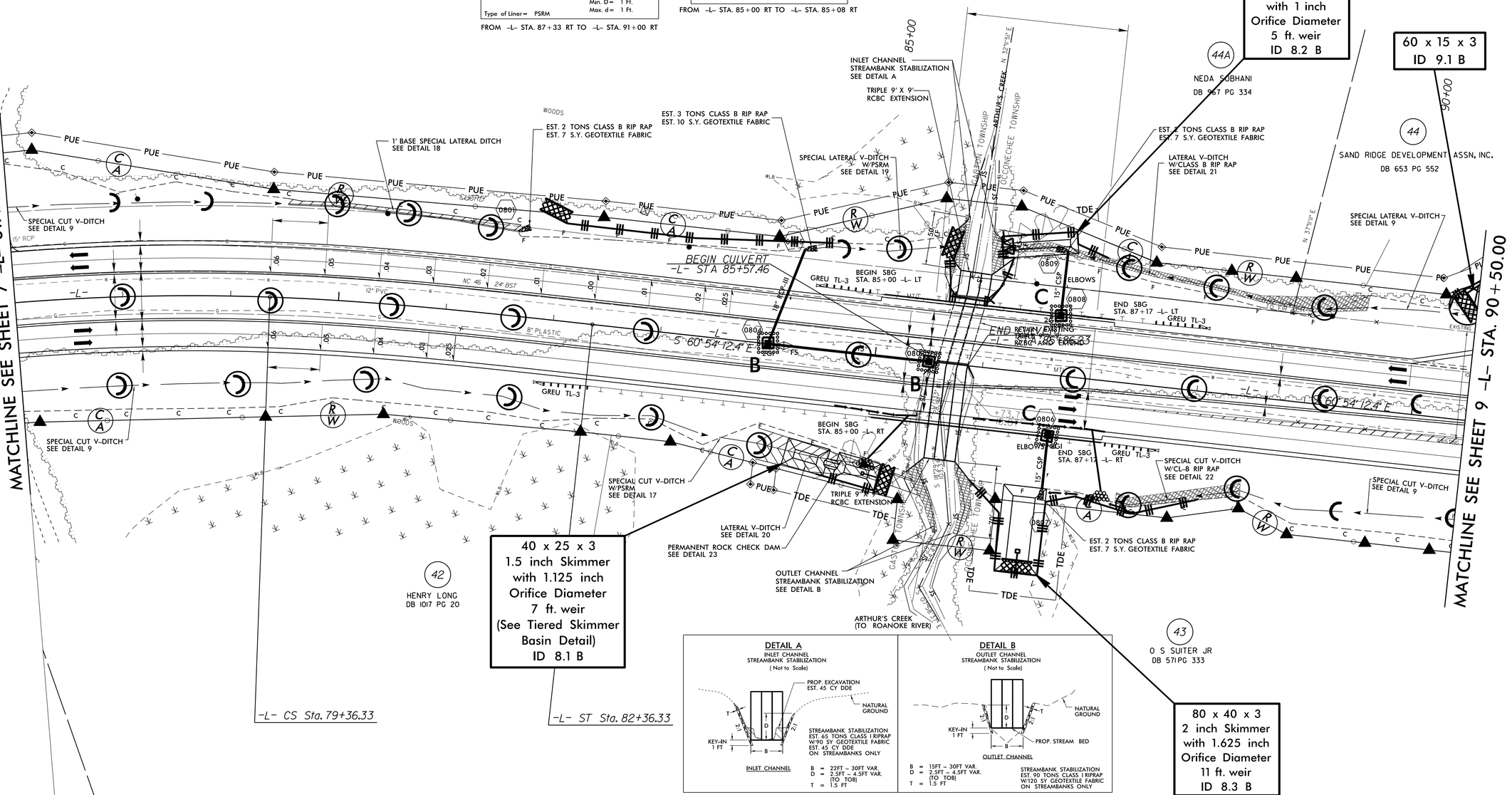
FROM –L– STA. 87+33 RT TO –L– STA. 91+00 RT

DETAIL
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'

FROM –L– STA. 84+24 M



DETAIL A
INLET CHANNEL STREAMBANK STABILIZATION
(Not to Scale)

INLET CHANNEL

B = 22FT – 30FT VAR.
D = 2.5FT – 4.5FT VAR. (TO TOB)
T = 1.5 FT

STREAMBANK STABILIZATION
EST. 65 TONS CLASS I RIPRAP
W/90 SY GEOTEXTILE FABRIC
EST. 45 CY DDE
ON STREAMBANKS ONLY

DETAIL B
OUTLET CHANNEL STREAMBANK STABILIZATION
(Not to Scale)

OUTLET CHANNEL

B = 15FT – 30FT VAR.
D = 2.5FT – 4.5FT VAR. (TO TOB)
T = 1.5 FT

STREAMBANK STABILIZATION
EST. 90 TONS CLASS I RIPRAP
W/120 SY GEOTEXTILE FABRIC
ON STREAMBANKS ONLY

REVISIONS

8/17/99

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lowmorris

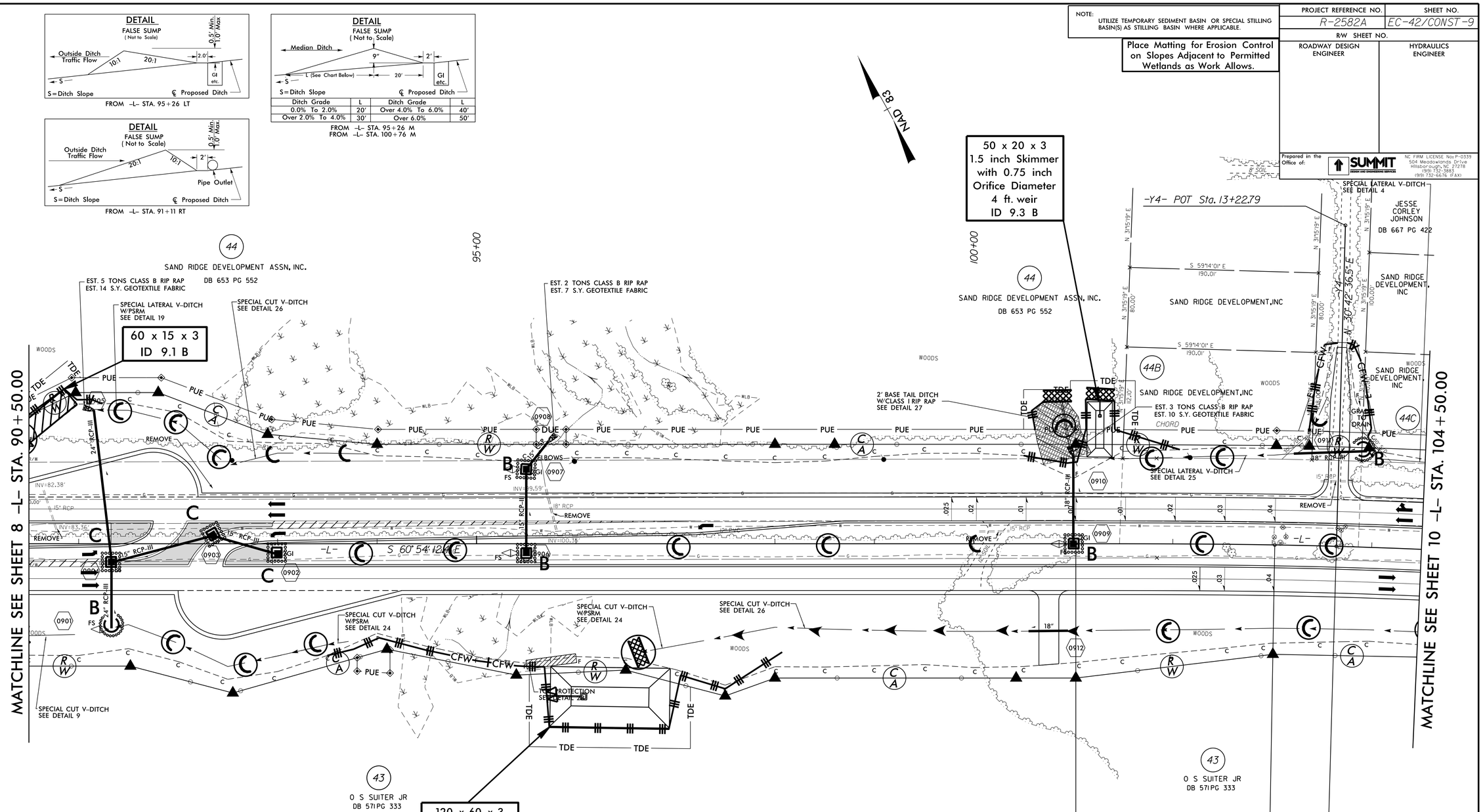
8/17/99

NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-42/CONST-9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

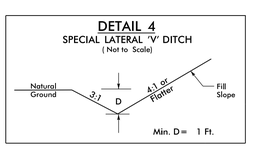


FROM -L- STA. 95+26 LT

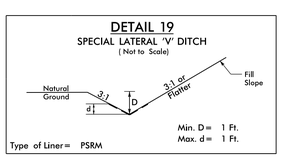
Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

FROM -L- STA. 95+26 M
FROM -L- STA. 100+76 M

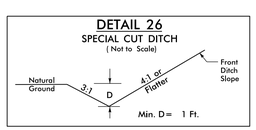
FROM -L- STA. 91+11 RT



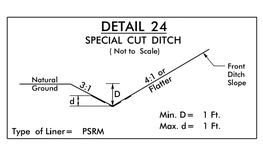
FROM -Y4- STA. 11+50 RT TO -L- STA. 106+50 LT



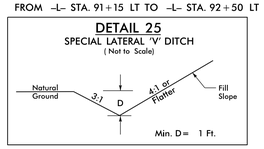
FROM -L- STA. 91+15 LT TO -L- STA. 92+50 LT



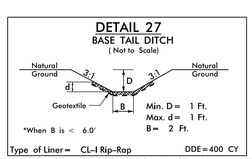
FROM -L- STA. 92+50 LT TO -L- STA. 94+00 LT
FROM -L- STA. 98+00 RT TO -L- STA. 114+00 RT



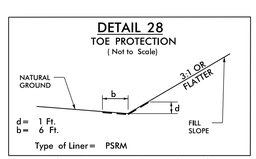
FROM -L- STA. 91+33 RT TO -L- STA. 94+00 RT
FROM -L- STA. 96+00 RT TO -L- STA. 98+00 RT



FROM -L- STA. 101+00 LT TO -Y4- STA. 11+50 LT
FROM -Y4- STA. 11+50 RT TO -L- STA. 106+50 LT



FROM -L- STA. 100+88 LT TO -L- STA. 101+00 LT



FROM -L- STA. 95+50 RT TO -L- STA. 96+00 RT

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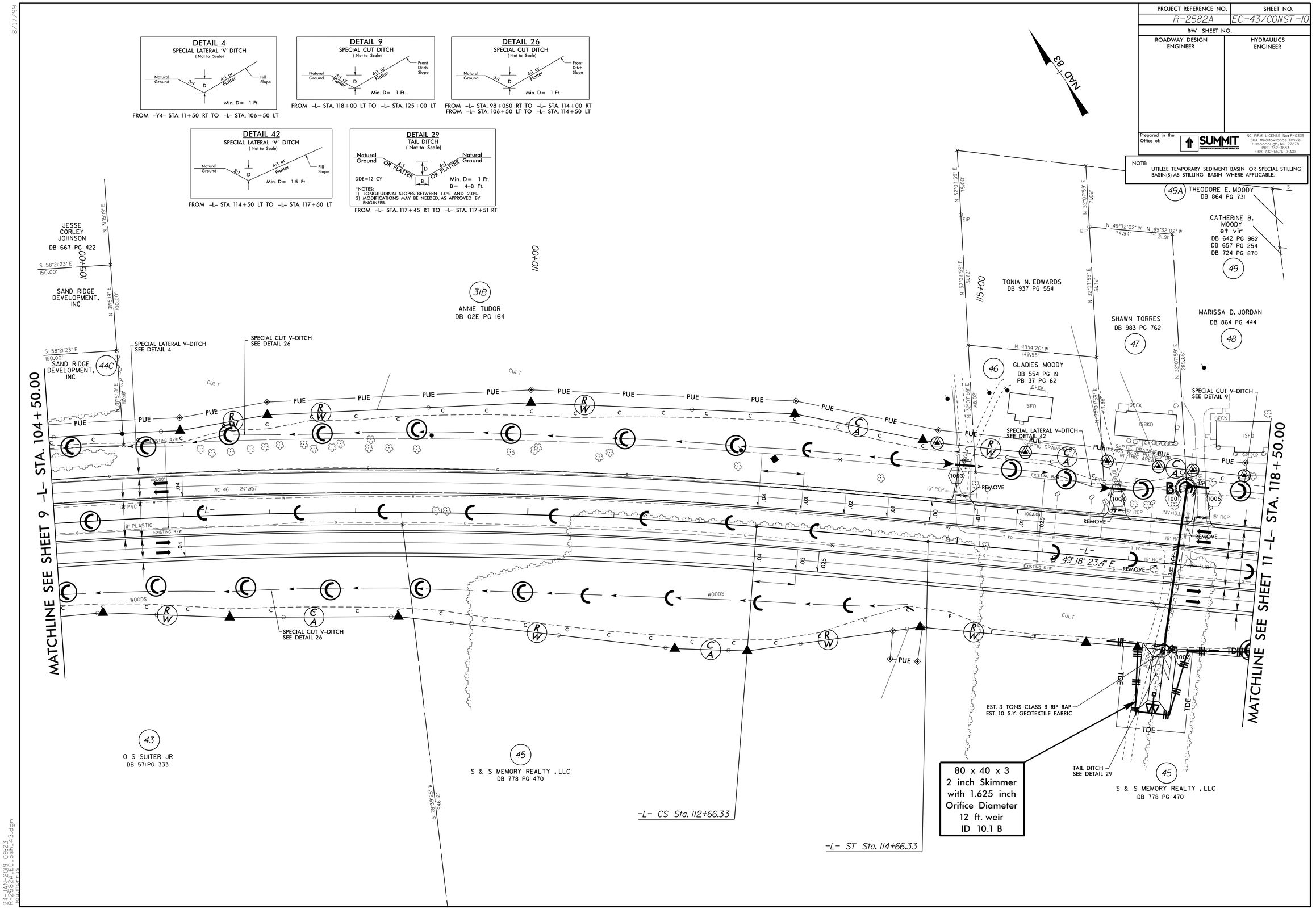
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-43/CONST-10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.



8/17/99

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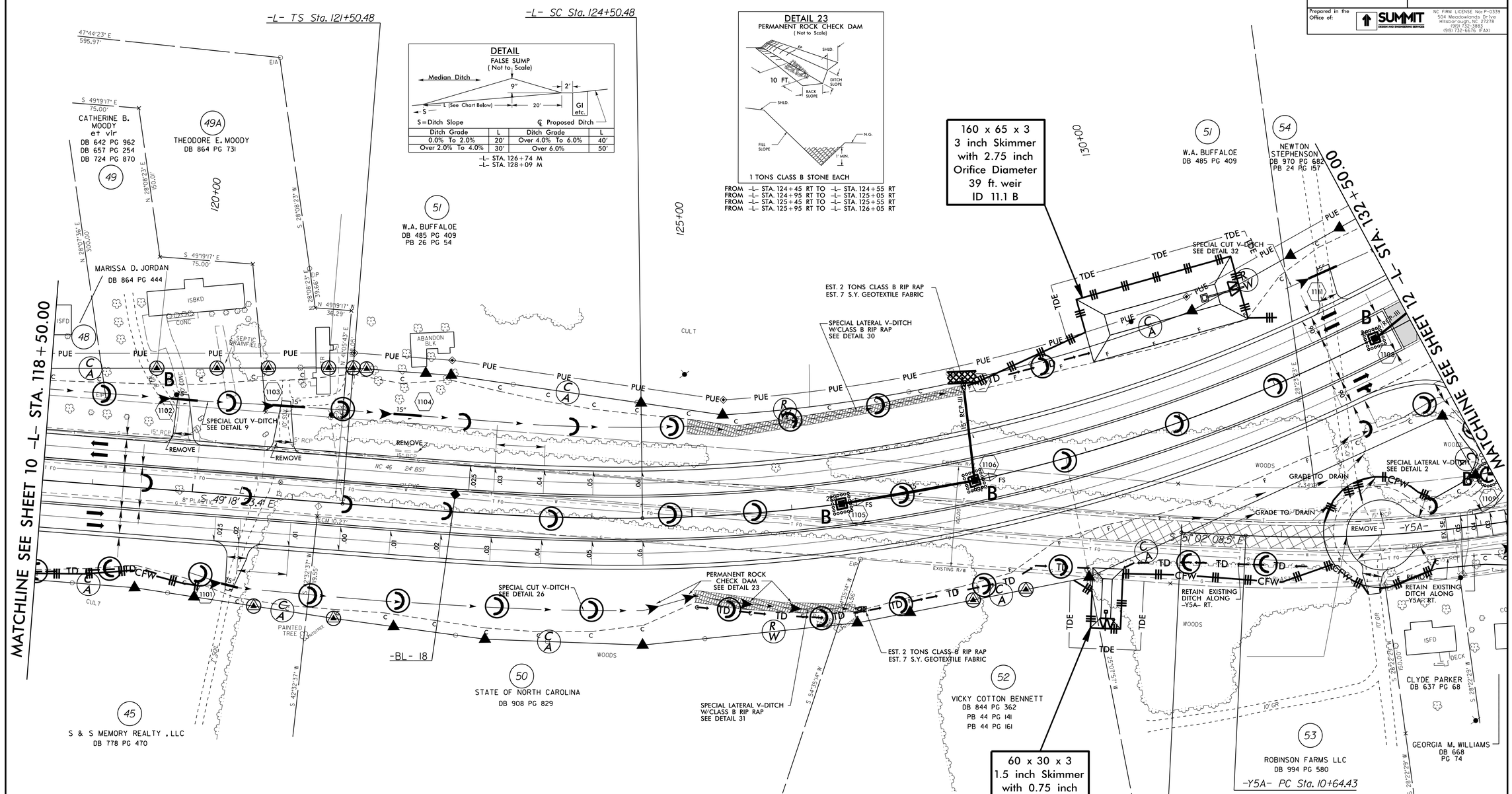
lowmorris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-44/CONST-11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



DETAIL
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'

-L- STA. 126+74 M
-L- STA. 128+09 M

DETAIL 23
PERMANENT ROCK CHECK DAM
(Not to Scale)

1 TONS CLASS B STONE EACH

FROM -L- STA. 124+45 RT TO -L- STA. 124+55 RT
FROM -L- STA. 124+95 RT TO -L- STA. 125+05 RT
FROM -L- STA. 125+45 RT TO -L- STA. 125+55 RT
FROM -L- STA. 125+95 RT TO -L- STA. 126+05 RT

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Min. D = 1 Ft.

FROM -Y5- STA. 13+00 LT TO -Y5A- STA. 12+88 LT

DETAIL 9
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 1 Ft.

FROM -L- STA. 118+00 LT TO -L- STA. 125+00 LT

DETAIL 26
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 1 Ft.

FROM -L- STA. 120+00 RT TO -L- STA. 125+00 RT

DETAIL 30
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Type of Liner = CL-B Rip-Rap
Min. D = 1.5 Ft.
Max. d = 1.5 Ft.

FROM -L- STA. 125+00 LT TO -L- STA. 127+90 LT

DETAIL 31
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Type of Liner = CL-B Rip-Rap
Min. D = 1 Ft.
Max. d = 1 Ft.

FROM -L- STA. 125+00 RT TO -L- STA. 126+50 RT

8/17/99

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lowdorris

8/17/99

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

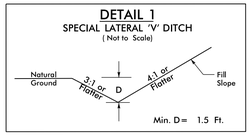
Place Matting for Erosion Control on Slope as Work Allows. Sta. 135+90 to Sta. 146+00

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-45/CONST-12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

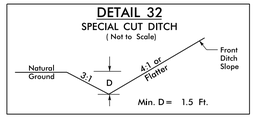
Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE Nos P-0339
504 Meadowlands Dr've
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



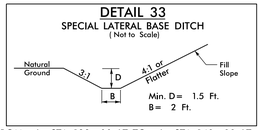
FROM –L– STA. 136+00 LT TO –L– STA. 139+00 LT

DETAIL 32
SPECIAL CUT DITCH
(Not to Scale)



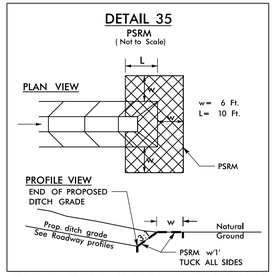
FROM –L– STA. 131+50 LT TO –L– STA. 136+00 LT

DETAIL 33
SPECIAL LATERAL BASE DITCH
(Not to Scale)



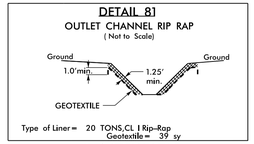
FROM –L– STA. 139+00 LT TO –L– STA. 140+00 LT

DETAIL 35
PSRM
(Not to Scale)



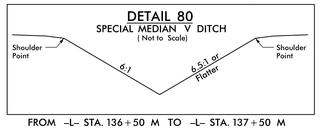
FROM –L– STA. 140+00 LT TO –L– STA. 140+16 LT

DETAIL 81
OUTLET CHANNEL RIP RAP
(Not to Scale)



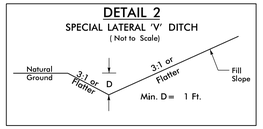
–L– STA. 142+18 LT

DETAIL 80
SPECIAL MEDIAN V DITCH
(Not to Scale)



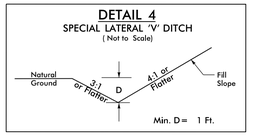
FROM –L– STA. 136+50 M TO –L– STA. 137+50 M

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



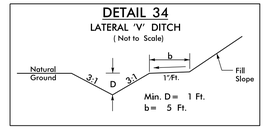
FROM –L– STA. 131+50 RT TO –Y5– STA. 12+15 LT
FROM –Y5A– STA. 12+86 LT TO –Y5A– STA. 13+13 LT

DETAIL 4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

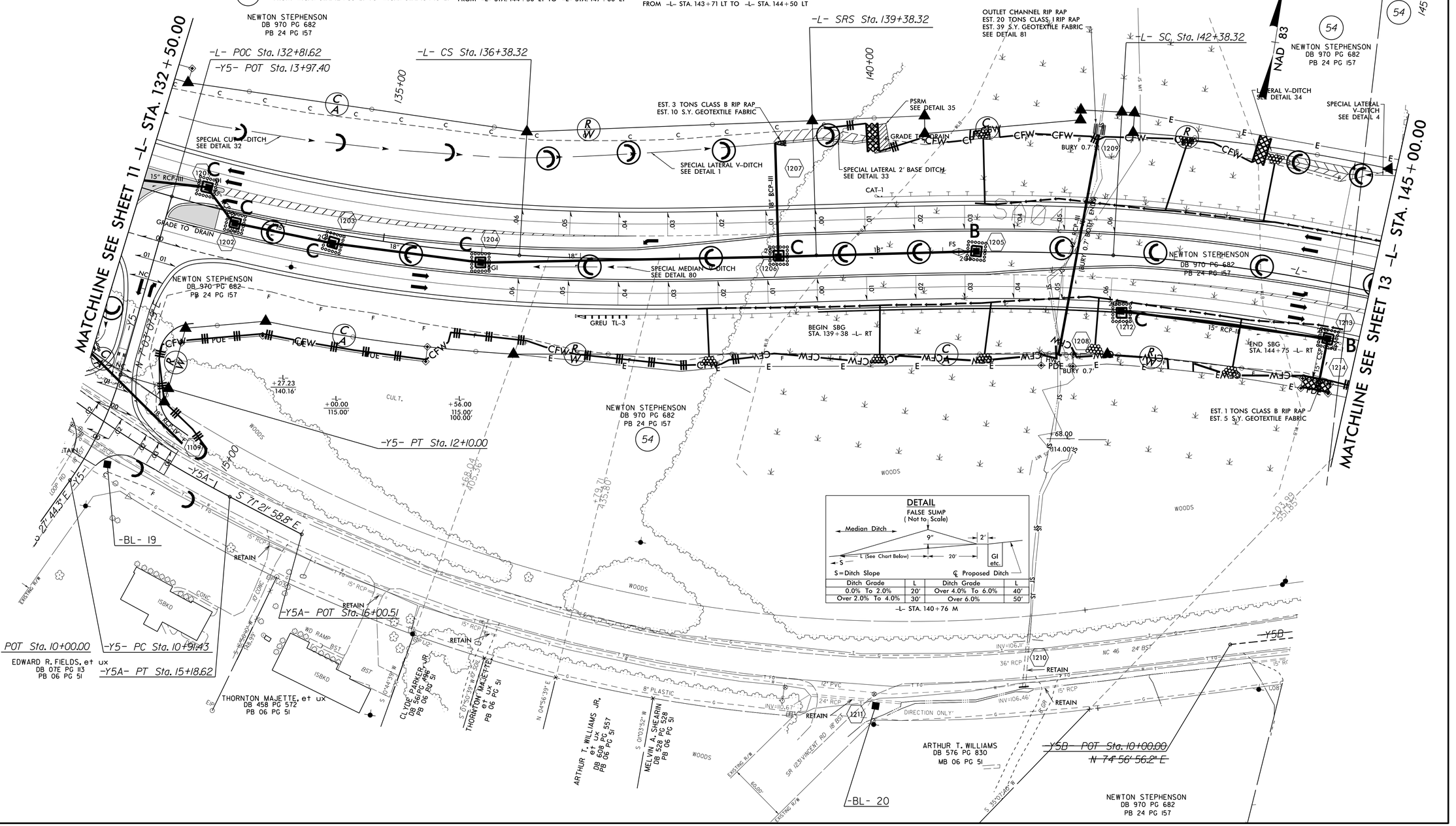


FROM –L– STA. 144+50 LT TO –L– STA. 147+00 LT

DETAIL 34
LATERAL 'V' DITCH
(Not to Scale)



FROM –L– STA. 143+71 LT TO –L– STA. 144+50 LT



DETAIL
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'

–L– STA. 140+76 M

24-JAN-2014 09:23
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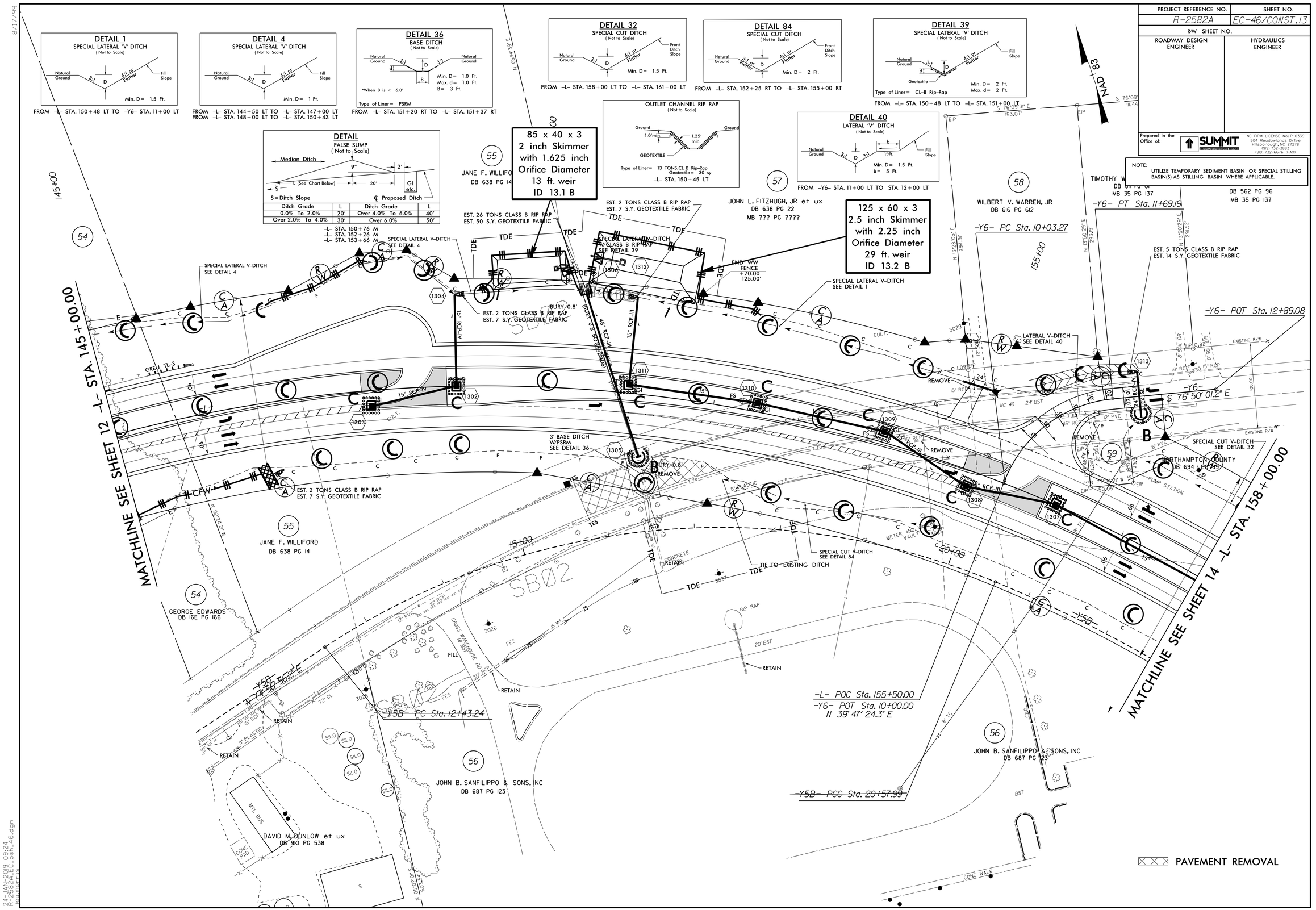
jaumorris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-46/CONST.13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.



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PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-47/CONST-14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

SEE STANDARD DRAWINGS 1604.01 FOR RAILROAD EROSION CONTROL MEASURES.

62 Place Matting for Erosion Control on Slope as Work Allows. Sta. 165+25 to Sta. 169+75

DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM –L– STA. 161+00 LT TO –L– STA. 162+00 LT

DETAIL 22
SPECIAL CUT DITCH
(Not to Scale)

FROM –L– STA. 162+00 RT TO –L– STA. 163+50 RT

DETAIL
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'

–L– STA. 158+76 M
–L– STA. 160+76 M
–L– STA. 164+26 M
–L– STA. 167+26 M
–L– STA. 168+76 M
–L– STA. 171+45 M

DETAIL 20
LATERAL 'V' DITCH
(Not to Scale)

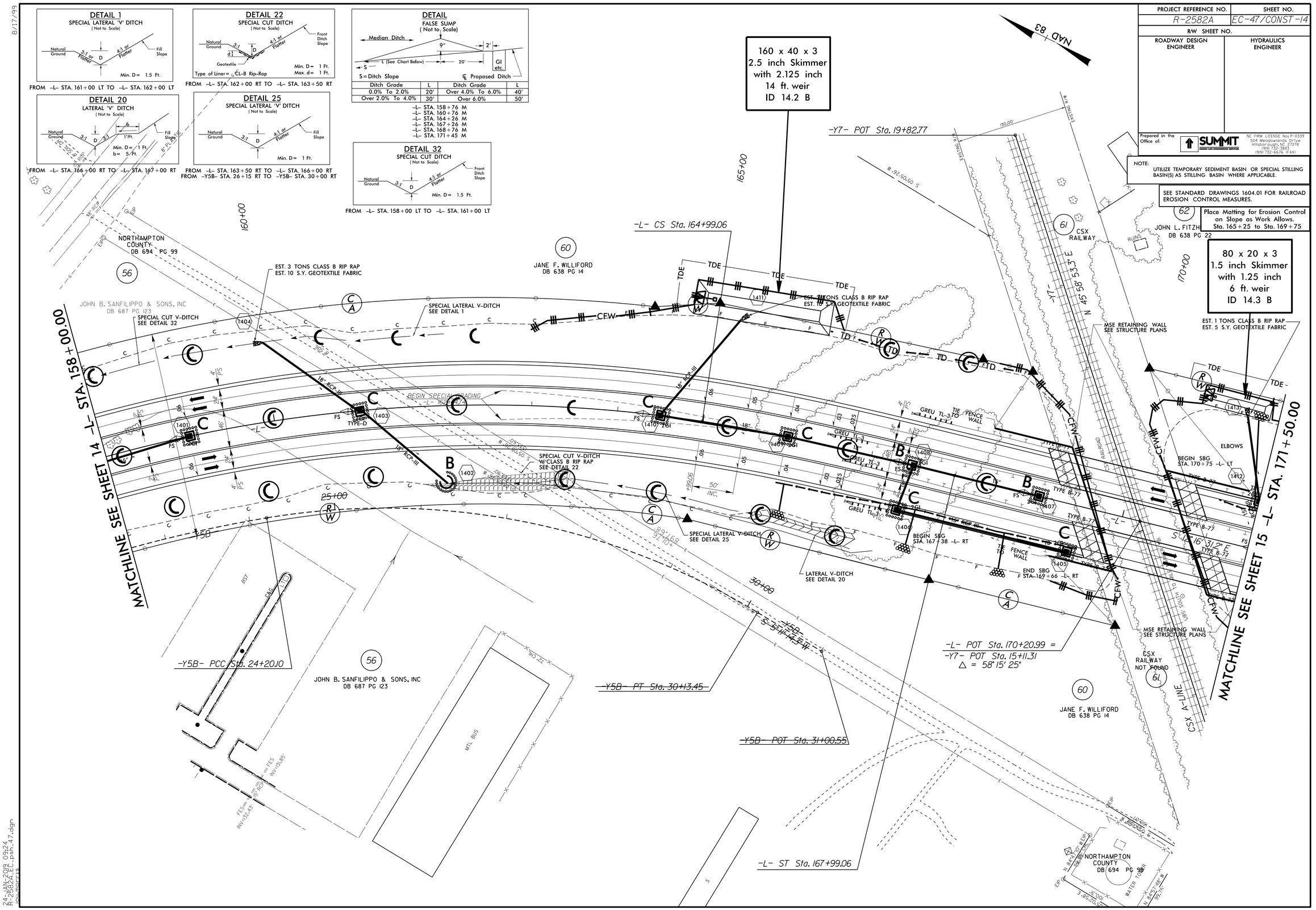
FROM –L– STA. 166+00 RT TO –L– STA. 167+00 RT

DETAIL 25
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM –L– STA. 163+50 RT TO –L– STA. 166+00 RT
FROM –Y5B– STA. 26+15 RT TO –Y5B– STA. 30+00 RT

DETAIL 32
SPECIAL CUT DITCH
(Not to Scale)

FROM –L– STA. 158+00 LT TO –L– STA. 161+00 LT



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jaumorris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-48/CONST-15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

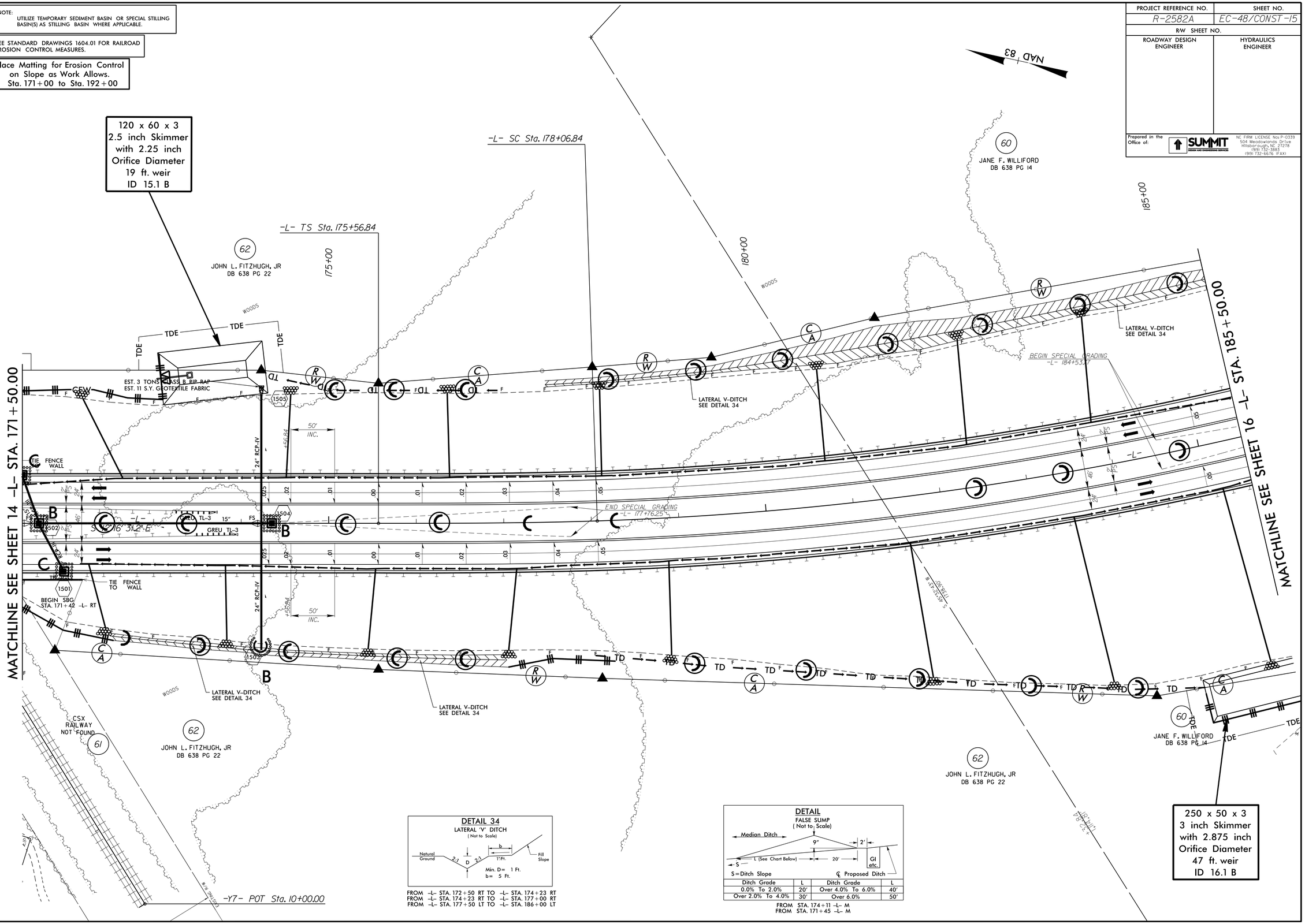
NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

SEE STANDARD DRAWINGS 1604.01 FOR RAILROAD EROSION CONTROL MEASURES.

Place Matting for Erosion Control on Slope as Work Allows. Sta. 171+00 to Sta. 192+00

8/17/99

REVISIONS



DETAIL 34
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground — 2:1 — D — 2:1 — b — 1:1 Ft. — Fill Slope
Min. D= 1 Ft.
b= 5 Ft.

FROM -L- STA. 172+50 RT TO -L- STA. 174+23 RT
FROM -L- STA. 174+23 RT TO -L- STA. 177+00 RT
FROM -L- STA. 177+50 LT TO -L- STA. 186+00 LT

DETAIL
FALSE SUMP
(Not to Scale)

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

FROM STA. 174+11 -L- M
FROM STA. 171+45 -L- M

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PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-49/CONST-16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SUMMIT DESIGN AND ENGINEERING SERVICES
2839 PAPER MILL VILLAGE DRIVE
BIRMINGHAM, AL 35244
(205) 733-0286 FAX: (205) 733-0287

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASINS AS STILLING BASIN WHERE APPLICABLE.

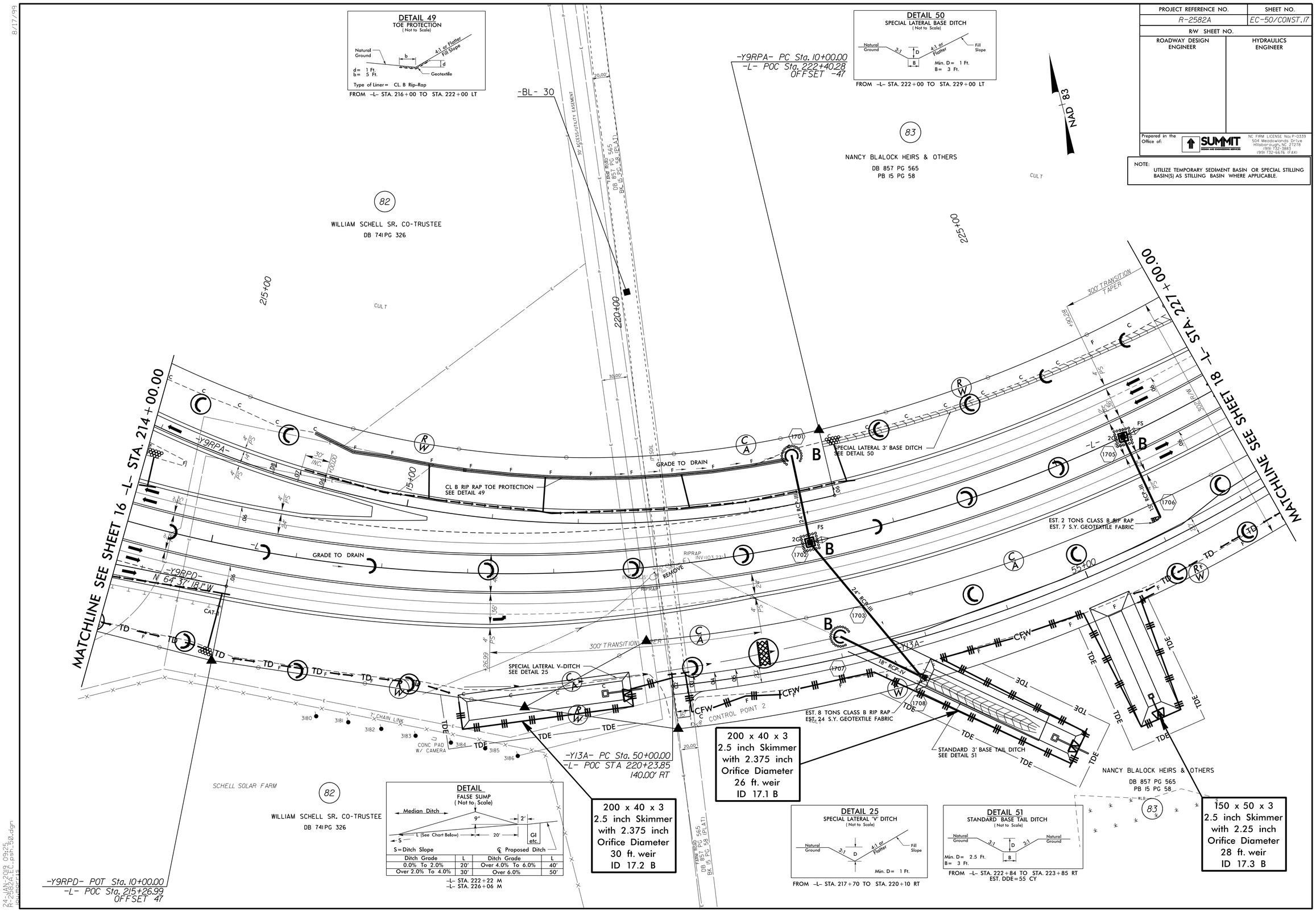
Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 193+00 to Sta. 201+00 -L-
Sta. 14+00 to Sta. 23+00 -Y9RPD-

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-50/CONST.17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.



8/17/99

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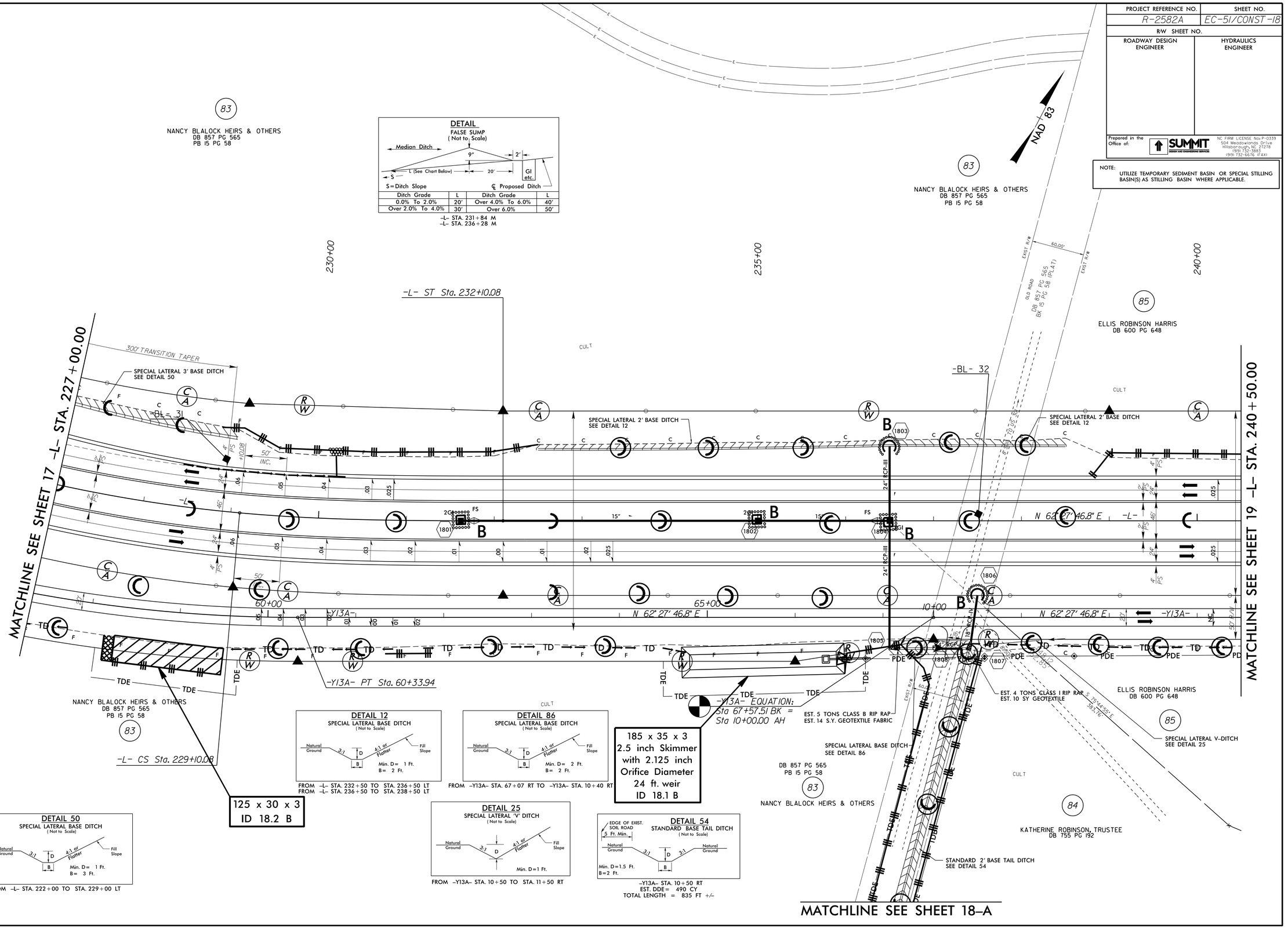
lowdorris

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-51/CONST-18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.



DETAIL
FALSE SUMP
(Not to Scale)

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

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'

-L- STA. 231+84 M
-L- STA. 236+28 M

DETAIL 12
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground; 3:1; D; 4:1 or Flatter; Fill Slope; B

Min. D = 1 Ft.
B = 2 Ft.

FROM -L- STA. 232+50 TO STA. 236+50 LT
FROM -L- STA. 236+50 TO STA. 238+50 LT

DETAIL 86
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground; 3:1; D; 4:1 or Flatter; Fill Slope; B

Min. D = 2 Ft.
B = 2 Ft.

FROM -Y13A- STA. 67+07 RT TO -Y13A- STA. 10+40 RT

DETAIL 50
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground; 3:1; D; 4:1 or Flatter; Fill Slope; B

Min. D = 1 Ft.
B = 3 Ft.

FROM -L- STA. 222+00 TO STA. 229+00 LT

DETAIL 25
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground; 3:1; D; 4:1 or Flatter; Fill Slope

Min. D = 1 Ft.

FROM -Y13A- STA. 10+50 TO STA. 11+50 RT

DETAIL 54
STANDARD BASE TAIL DITCH
(Not to Scale)

EDGE OF EXIST. SOIL ROAD; 5 Ft. Min.; Natural Ground; 3:1; D; 3:1; Natural Ground; B

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

-Y13A- STA. 10+50 RT
EST. DDE = 490 CY
TOTAL LENGTH = 835 FT +/-

24-JAN-2018 09:26
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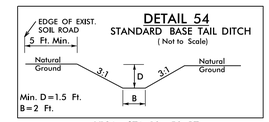
jowarris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-51A/CONST-18A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

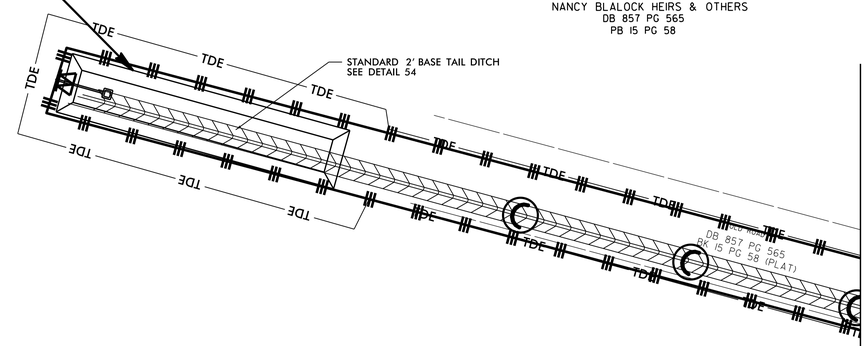
NAD 83



DETAIL 54
STANDARD BASE TAIL DITCH
(Not to Scale)

-Y13A- STA. 10+50 RT
EST. DDE= 490 CY
TOTAL LENGTH = 835 FT +/-

210 x 40 x 3
2.5 inch Skimmer
with 2.375 inch
Orifice Diameter
32 ft. weir
ID 18A.1 B



CULT

83

NANCY BLALOCK HEIRS & OTHERS
DB 857 PG 565
PB 15 PG 58

CULT

84

KATHERINE ROBINSON, TRUSTEE
DB 755 PG 192

MATCHLINE SHEET 18

REVISIONS

8/17/99

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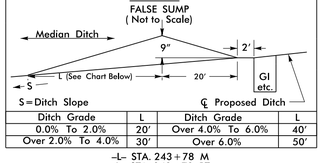
jowilliams

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

Place Matting for Erosion Control on Slope as Work Allows. Sta. 245+50 to Sta. 253+50

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

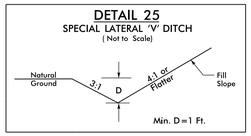
DETAIL
FALSE SUMP
(Not to Scale)



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'

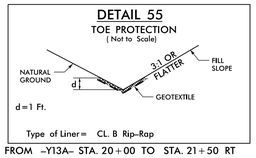
–L– STA. 243+78 M
–L– STA. 243+78 RT
–L– STA. 248+28 M
–L– STA. 248+28 RT
–L– STA. 251+78 M
–L– STA. 251+78 RT

DETAIL 25
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



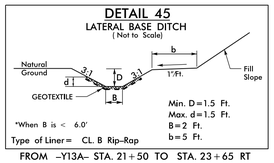
FROM –Y13A– STA. 15+00 TO STA. 16+50 RT

DETAIL 55
TOE PROTECTION
(Not to Scale)



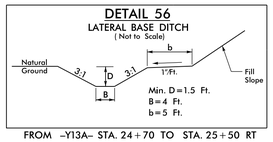
FROM –Y13A– STA. 20+00 TO STA. 21+50 RT

DETAIL 45
LATERAL BASE DITCH
(Not to Scale)



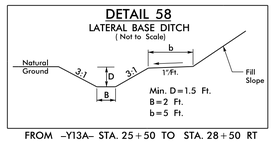
FROM –Y13A– STA. 21+50 TO STA. 23+65 RT

DETAIL 56
LATERAL BASE DITCH
(Not to Scale)



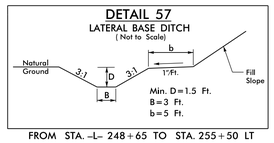
FROM –Y13A– STA. 24+70 TO STA. 25+50 RT

DETAIL 58
LATERAL BASE DITCH
(Not to Scale)



FROM –Y13A– STA. 25+50 TO STA. 28+50 RT

DETAIL 57
LATERAL BASE DITCH
(Not to Scale)

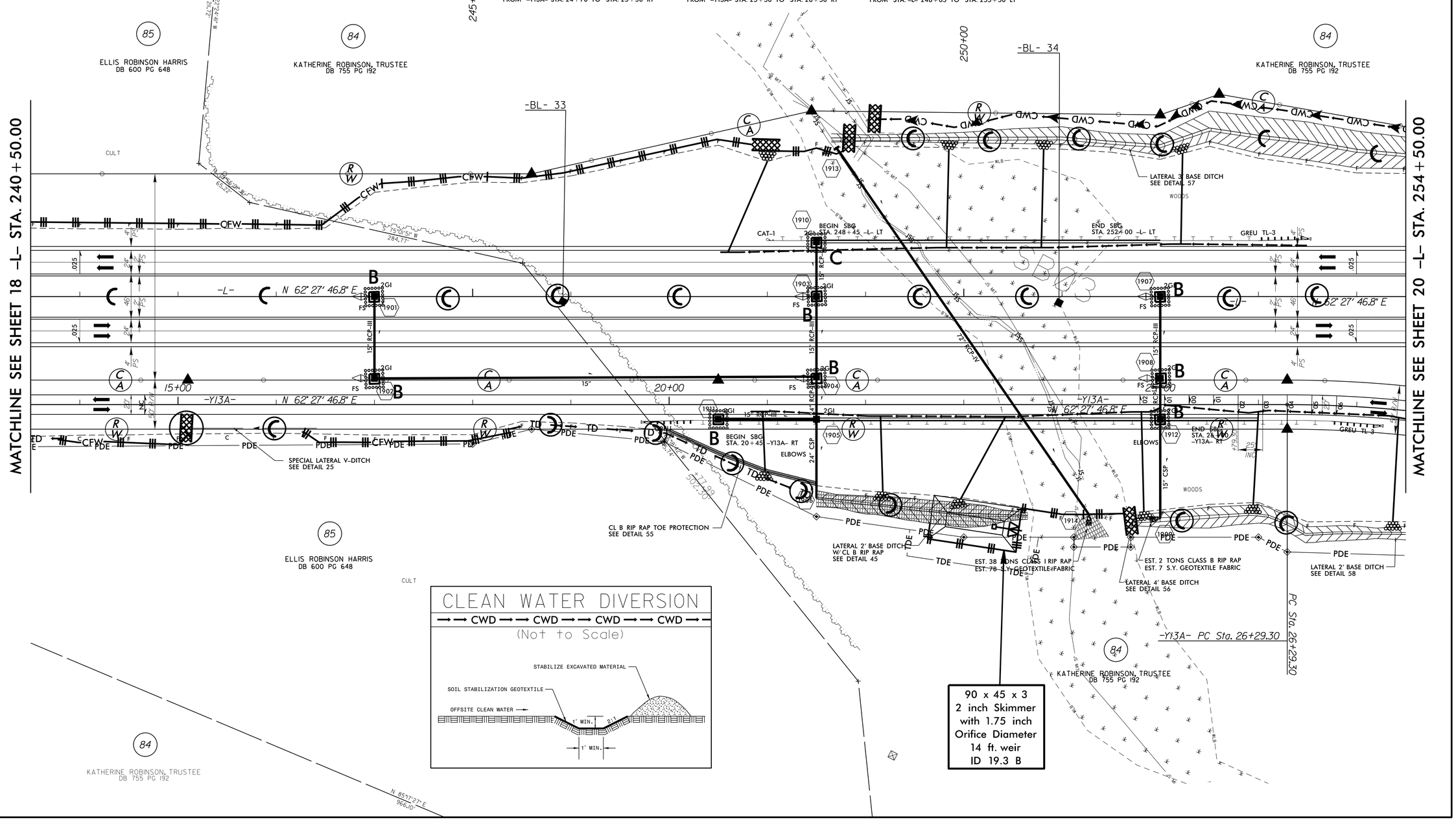


FROM STA. –L– 248+65 TO STA. 255+50 LT

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-52/CONST-19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NAD 83



CLEAN WATER DIVERSION
CWD → CWD → CWD → CWD
(Not to Scale)

REVISIONS

8/17/99

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jowyatt15

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-53/CONST.20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 28+90 to Sta. 32+25 –Y13A–

DETAIL
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'

–L– STA. 258+28 M

DETAIL 25
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM –L– STA. 257+00 TO STA. 261+50 RT
FROM –Y13A– STA. 34+50 TO STA. 36+93 RT
FROM –Y13A– STA. 35+00 TO STA. 37+90 LT
FROM –Y13A– STA. 36+93 TO STA. 39+50 RT

DETAIL 57
LATERAL BASE DITCH
(Not to Scale)

FROM STA. –L– 248+65 TO STA. 255+50 LT

DETAIL 59
STANDARD BASE HEAD DITCH
(Not to Scale)

FROM –Y13A– STA. 37+87 +/– TO STA. 38+38 +/– LT
EST. DDE= 18 CY

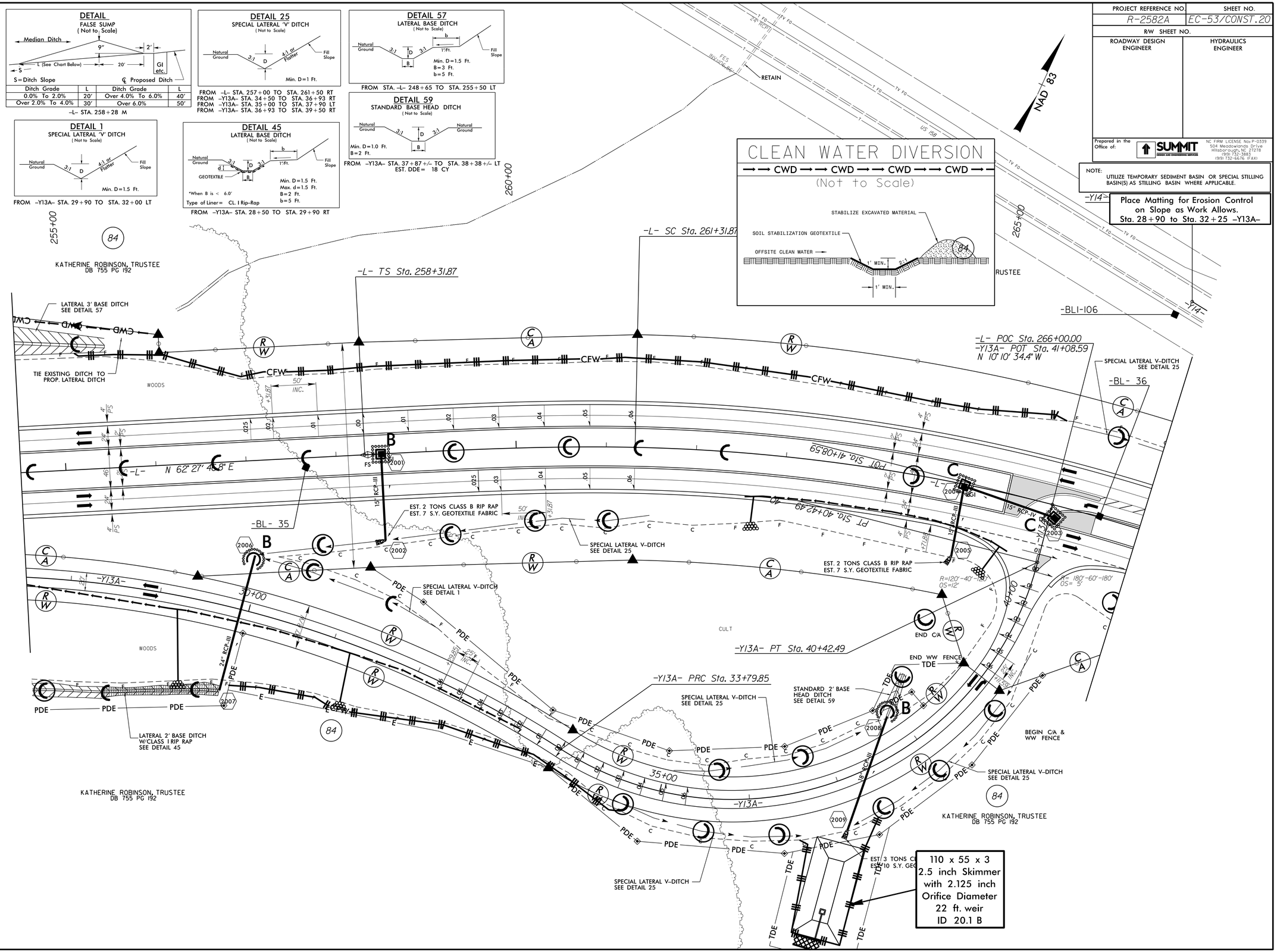
DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM –Y13A– STA. 29+90 TO STA. 32+00 LT

DETAIL 45
LATERAL BASE DITCH
(Not to Scale)

FROM –Y13A– STA. 28+50 TO STA. 29+90 RT

CLEAN WATER DIVERSION
(Not to Scale)



REVISIONS

8/17/99

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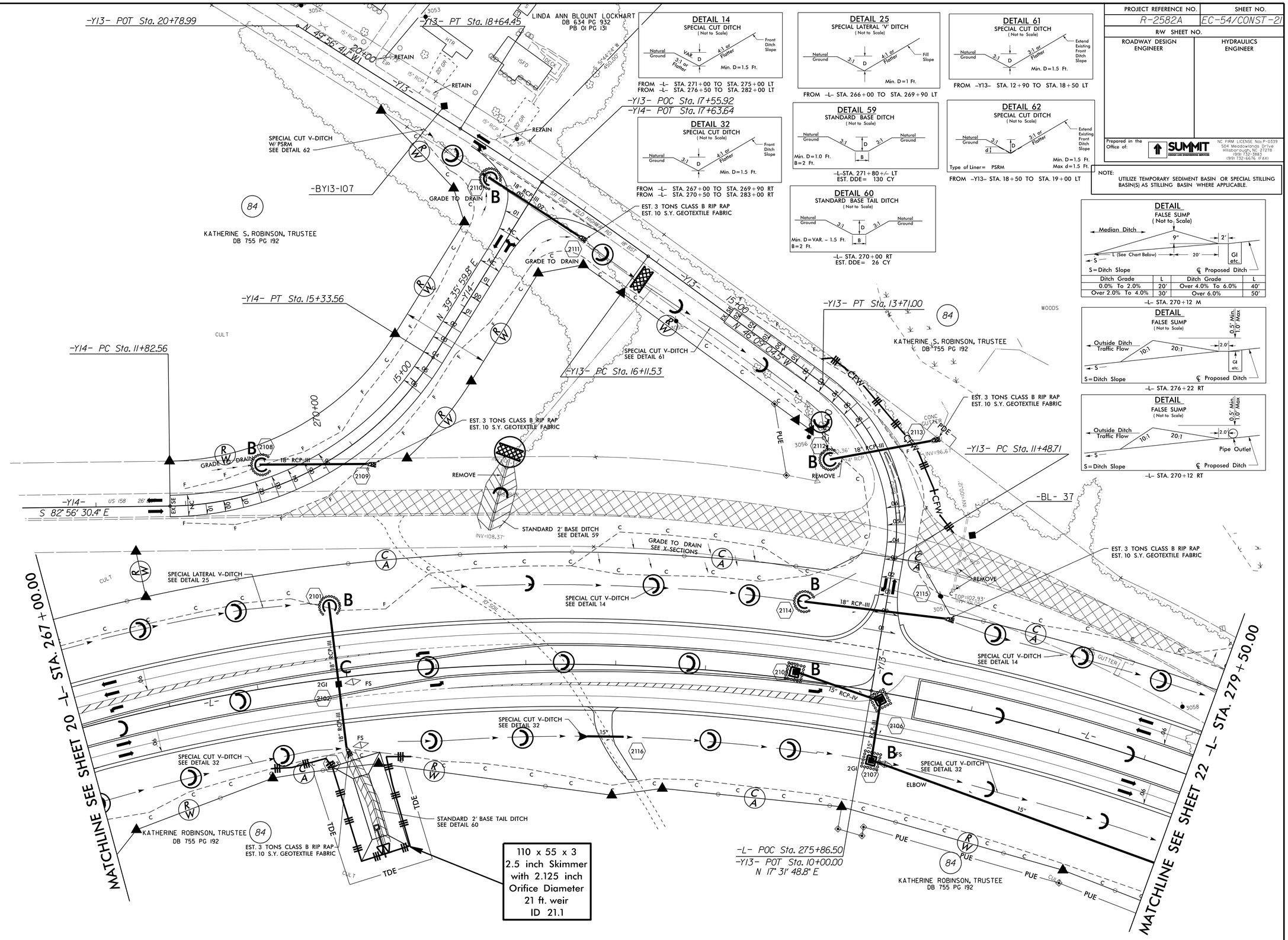
lowdorrus

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-54/CONST-21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.



DETAIL 14
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; VAR; D; 4:1 or Flatter; Front Ditch Slope
Min. D=1.5 Ft.

FROM -L- STA. 271+00 TO STA. 275+00 LT
FROM -L- STA. 276+50 TO STA. 282+00 LT

DETAIL 25
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground; 3:1; D; 4:1 or Flatter; Fill Slope
Min. D=1 Ft.

FROM -L- STA. 266+00 TO STA. 269+90 LT

DETAIL 61
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground; 3:1; D; 3:1 or Flatter; Extend Existing Front Ditch Slope
Min. D=1.5 Ft.

FROM -Y13- STA. 12+90 TO STA. 18+50 LT

DETAIL 32
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground; 3:1; D; 4:1 or Flatter; Front Ditch Slope
Min. D=1.5 Ft.

FROM -L- STA. 267+00 TO STA. 269+90 RT
FROM -L- STA. 270+50 TO STA. 283+00 RT

DETAIL 59
STANDARD BASE DITCH
(Not to Scale)

Natural Ground; 3:1; D; 3:1; Natural Ground; B
Min. D=1.0 Ft.
B=2 Ft.

-L-STA. 271+80+/- LT
EST. DDE= 130 CY

DETAIL 62
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground; 3:1; D; d; 3:1 or Flatter; Extend Existing Front Ditch Slope
Min. D=1.5 Ft.
Max d=1.5 Ft.
Type of Liner= PSRM

FROM -Y13- STA. 18+50 TO STA. 19+00 LT

DETAIL 60
STANDARD BASE TAIL DITCH
(Not to Scale)

Natural Ground; 3:1; D; 3:1; Natural Ground; B
Min. D=VAR. - 1.5 Ft.
B=2 Ft.

-L- STA. 270+00 RT
EST. DDE= 26 CY

DETAIL
FALSE SUMP
(Not to Scale)

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

-L- STA. 270+12 M

DETAIL
FALSE SUMP
(Not to Scale)

0.5' Min. 1.0' Max.; Outside Ditch Traffic Flow; 10:1; 20:1; 2.0'; GI etc.; S; ℄ Proposed Ditch
S=Ditch Slope

-L- STA. 276+22 RT

DETAIL
FALSE SUMP
(Not to Scale)

0.5' Min. 1.0' Max.; Outside Ditch Traffic Flow; 10:1; 20:1; 2.0'; Pipe Outlet; S; ℄ Proposed Ditch
S=Ditch Slope

-L- STA. 270+12 RT

8/17/99

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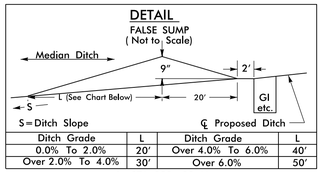
jaumccrie

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-55/CONST-22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

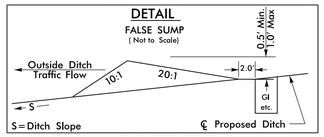
DETAIL
FALSE SUMP
(Not to Scale)



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'

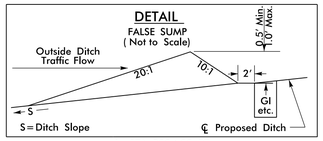
–L– STA. 283+22 M
–L– STA. 289+78 M

DETAIL
FALSE SUMP
(Not to Scale)



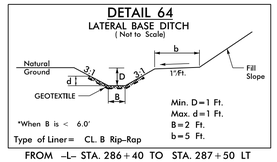
–L– STA. 283+22 RT

DETAIL
FALSE SUMP
(Not to Scale)



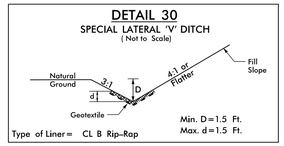
–L– STA. 289+88 RT

DETAIL 64
LATERAL BASE DITCH
(Not to Scale)



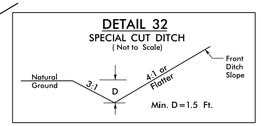
FROM –L– STA. 286+40 TO STA. 287+50 LT

DETAIL 30
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

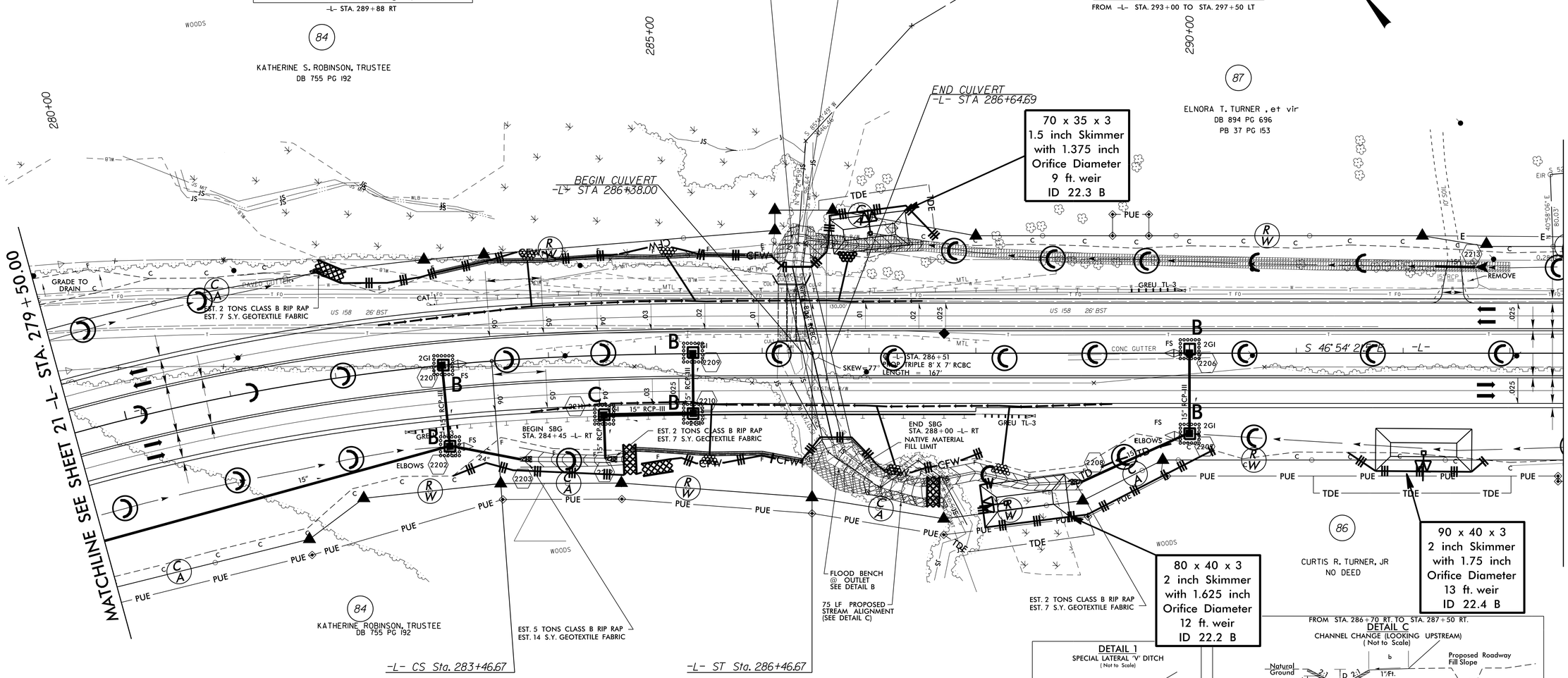


FROM –L– STA. 287+50 TO STA. 293+00 LT

DETAIL 32
SPECIAL CUT DITCH
(Not to Scale)



FROM –L– STA. 293+00 TO STA. 297+50 LT

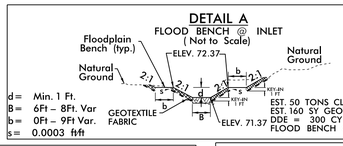


NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

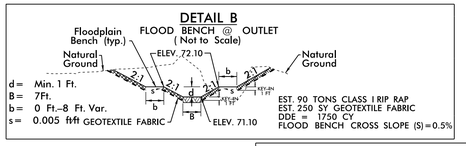
Place Matting for Erosion Control on Slope as Work Allows.
Sta. 283+00 to Sta. 288+75

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

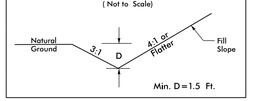
DETAIL A
FLOOD BENCH @ INLET
(Not to Scale)



DETAIL B
FLOOD BENCH @ OUTLET
(Not to Scale)



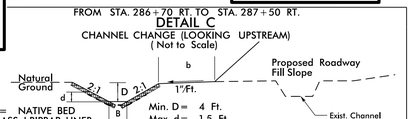
DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM –L– STA. 291+00 TO STA. 294+00 RT

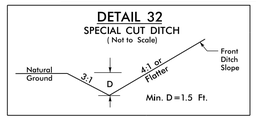
DETAIL C
CHANNEL CHANGE (LOOKING UPSTREAM)
(Not to Scale)

FROM STA. 286+70 RT. TO STA. 287+50 RT.



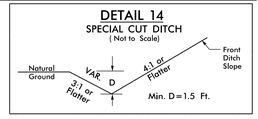
NOTE: REALIGNMENT OF DOWNSTREAM CHANNEL RESULTS IN 40 LF REDUCTION OF OVERALL STREAM REACH LENGTH (REDUCED FROM 175 LF TO 135 LF MEASURED FROM PROPOSED CULVERT OUTLET). SEE PLANS FOR DESIGN INFO AND QUANTITIES.

DETAIL 32
SPECIAL CUT DITCH
(Not to Scale)



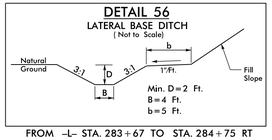
FROM –L– STA. 267+00 TO STA. 283+00 RT
FROM –L– STA. 290+00 TO STA. 291+00 RT

DETAIL 14
SPECIAL CUT DITCH
(Not to Scale)



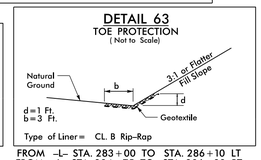
FROM –L– STA. 276+50 TO STA. 282+00 LT

DETAIL 56
LATERAL BASE DITCH
(Not to Scale)



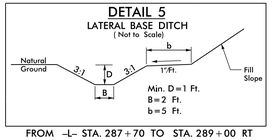
FROM –L– STA. 283+67 TO STA. 284+75 RT

DETAIL 63
TOE PROTECTION
(Not to Scale)



FROM –L– STA. 283+00 TO STA. 286+10 LT
FROM –L– STA. 284+75 TO STA. 286+38 RT

DETAIL 5
LATERAL BASE DITCH
(Not to Scale)

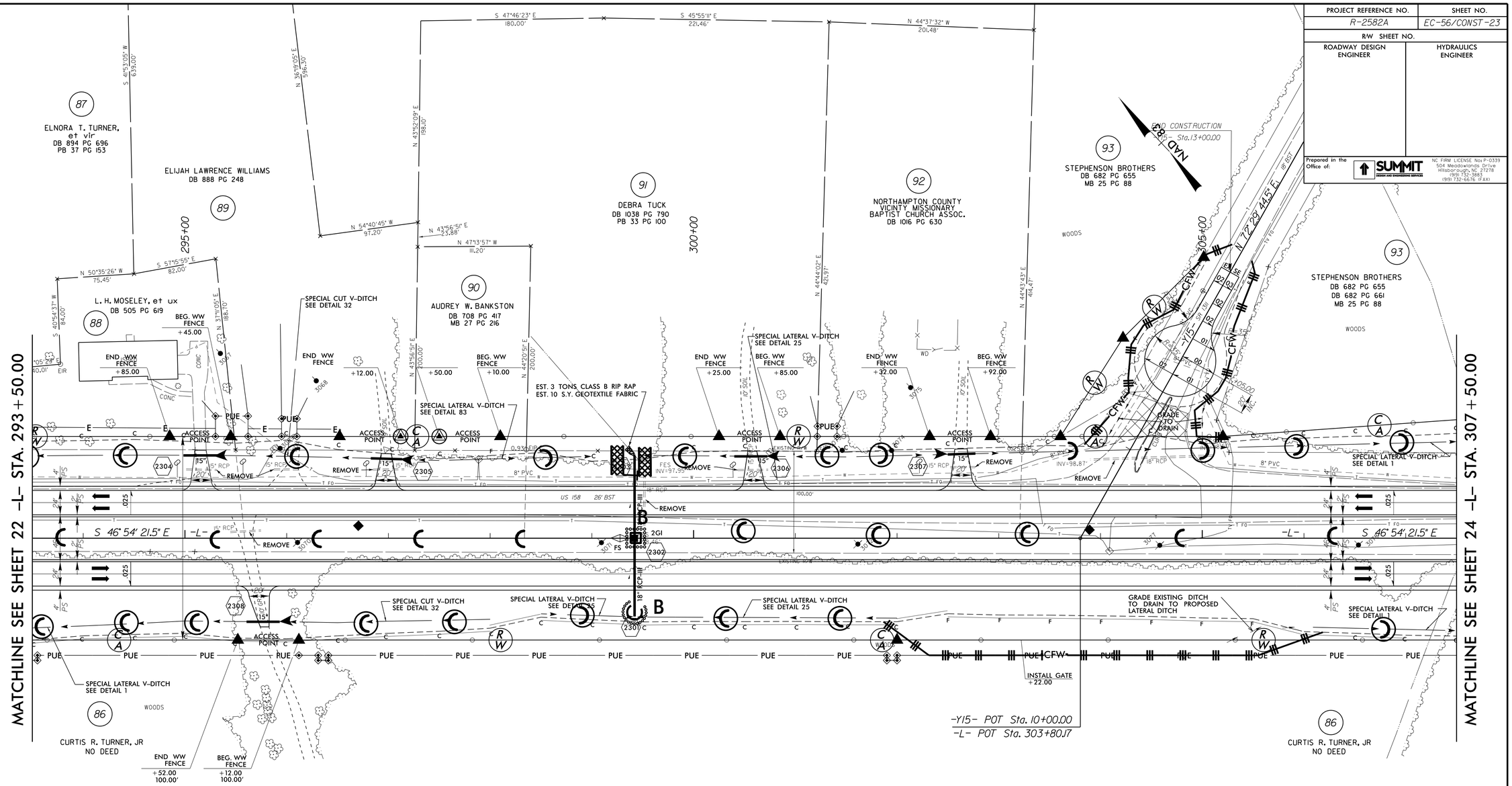


FROM –L– STA. 287+70 TO STA. 289+00 RT

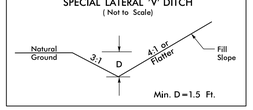
8/17/99
24-MAY-2019 14:30
R-2582A_EC_psh_55.dgn
lowmorris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-56/CONST-23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

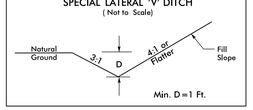


DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM -L- STA. 291+00 TO STA. 294+00 RT
FROM -L- STA. 301+50 TO STA. 307+70 LT
FROM -L- STA. 305+70 TO STA. 307+74 RT

DETAIL 25
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

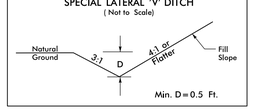


FROM -L- STA. 299+42 TO STA. 301+50 LT
FROM -L- STA. 298+50 TO STA. 299+42 RT
FROM -L- STA. 299+42 TO STA. 302+00 RT

DETAIL 32
SPECIAL CUT DITCH
(Not to Scale)

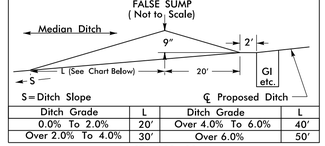
FROM -L- STA. 293+00 TO STA. 297+50 LT
FROM -L- STA. 294+00 TO STA. 298+00 RT

DETAIL 83
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM -L- STA. 297+50 TO STA. 299+42 LT

DETAIL
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'

-L- STA. 299+20 M

8/17/99

24-JAN-2019 09:28
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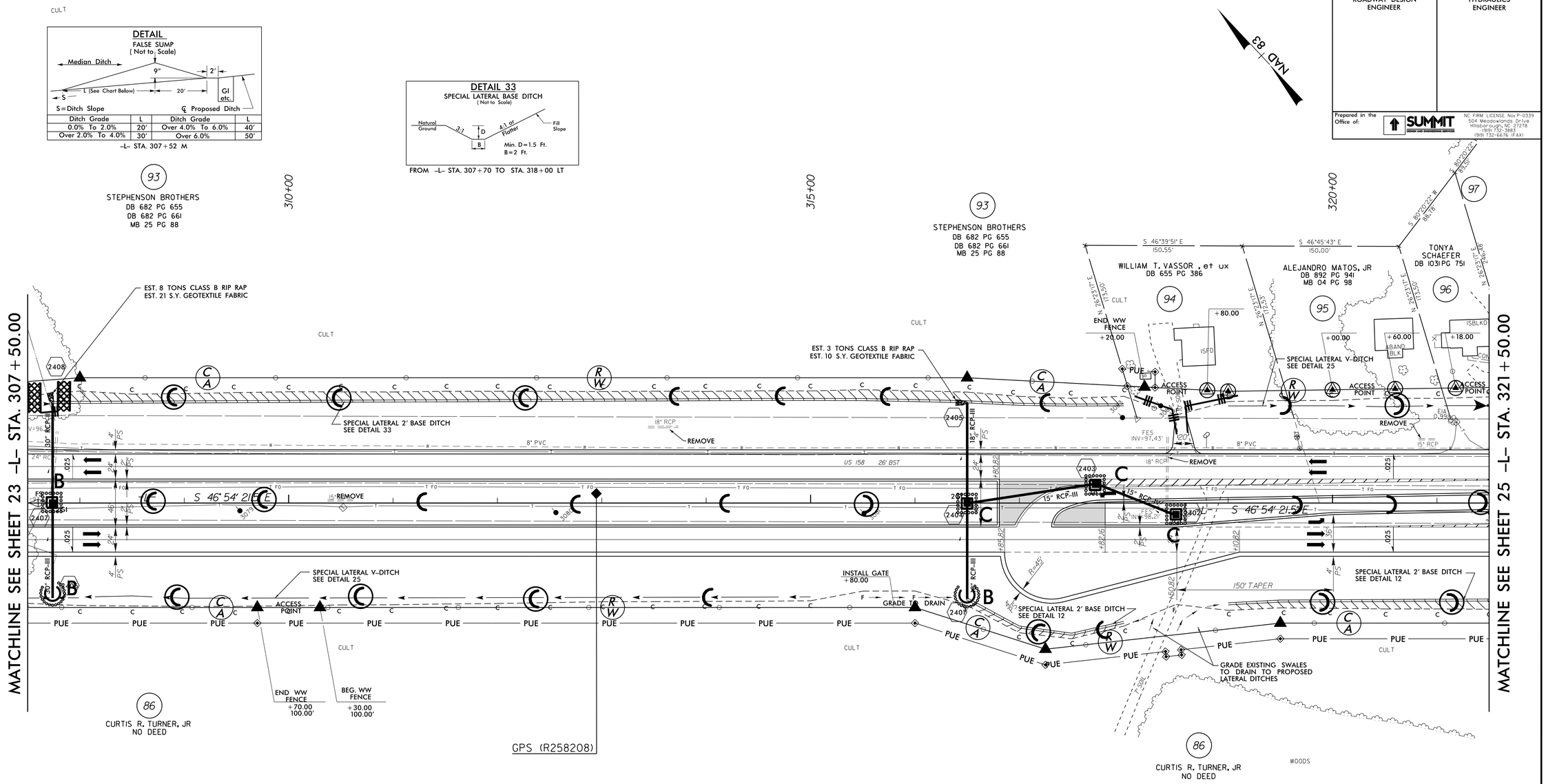
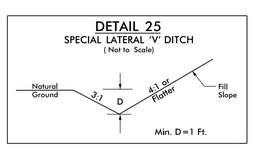
lowderrs

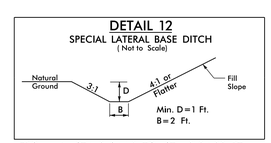
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-57/CONST-24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

8/17/99







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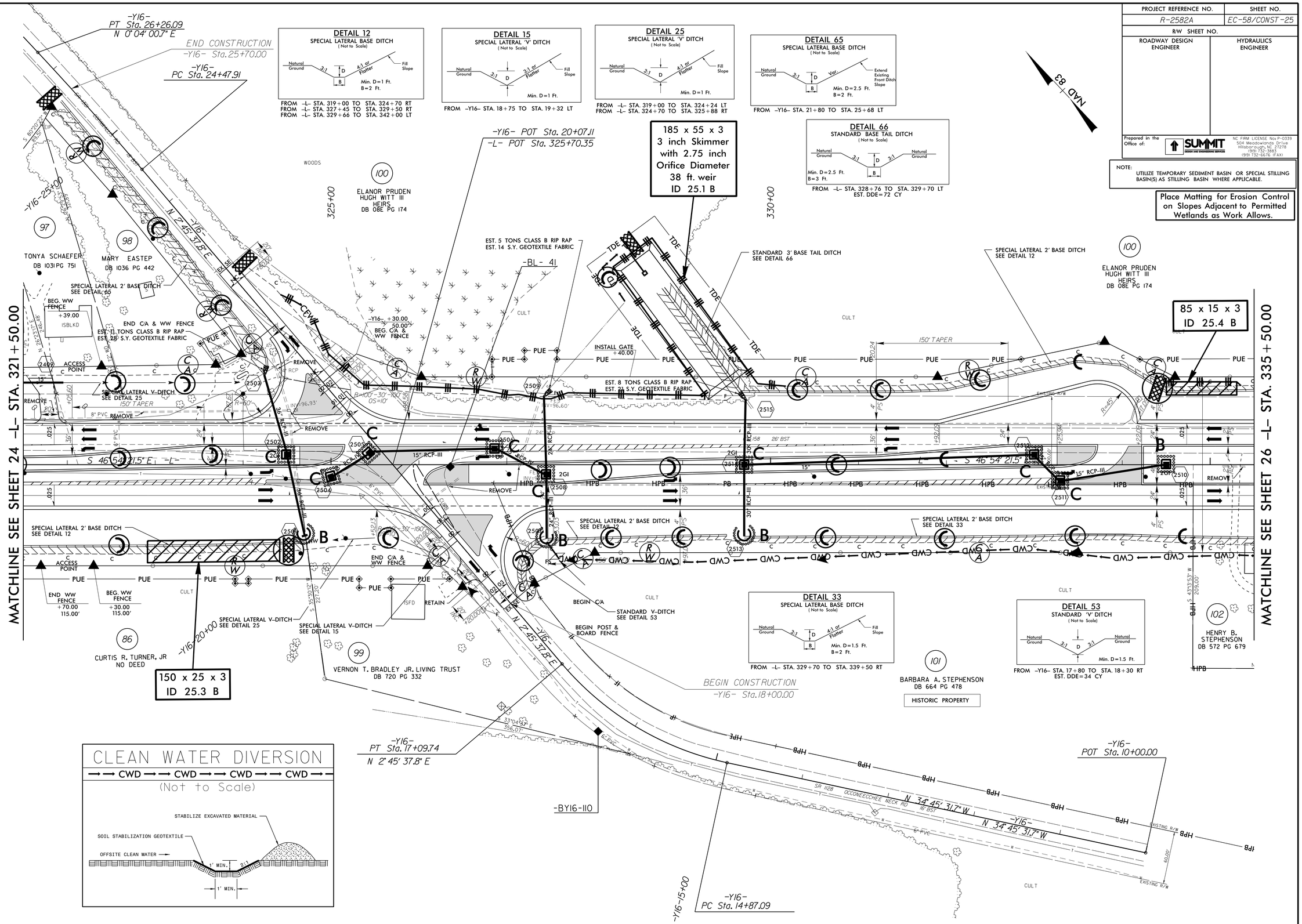
R-2582A_EC_psh_57.dgn
jquarles

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-58/CONST-25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.



REVISIONS

8/17/99

24-JAN-2008 09:23
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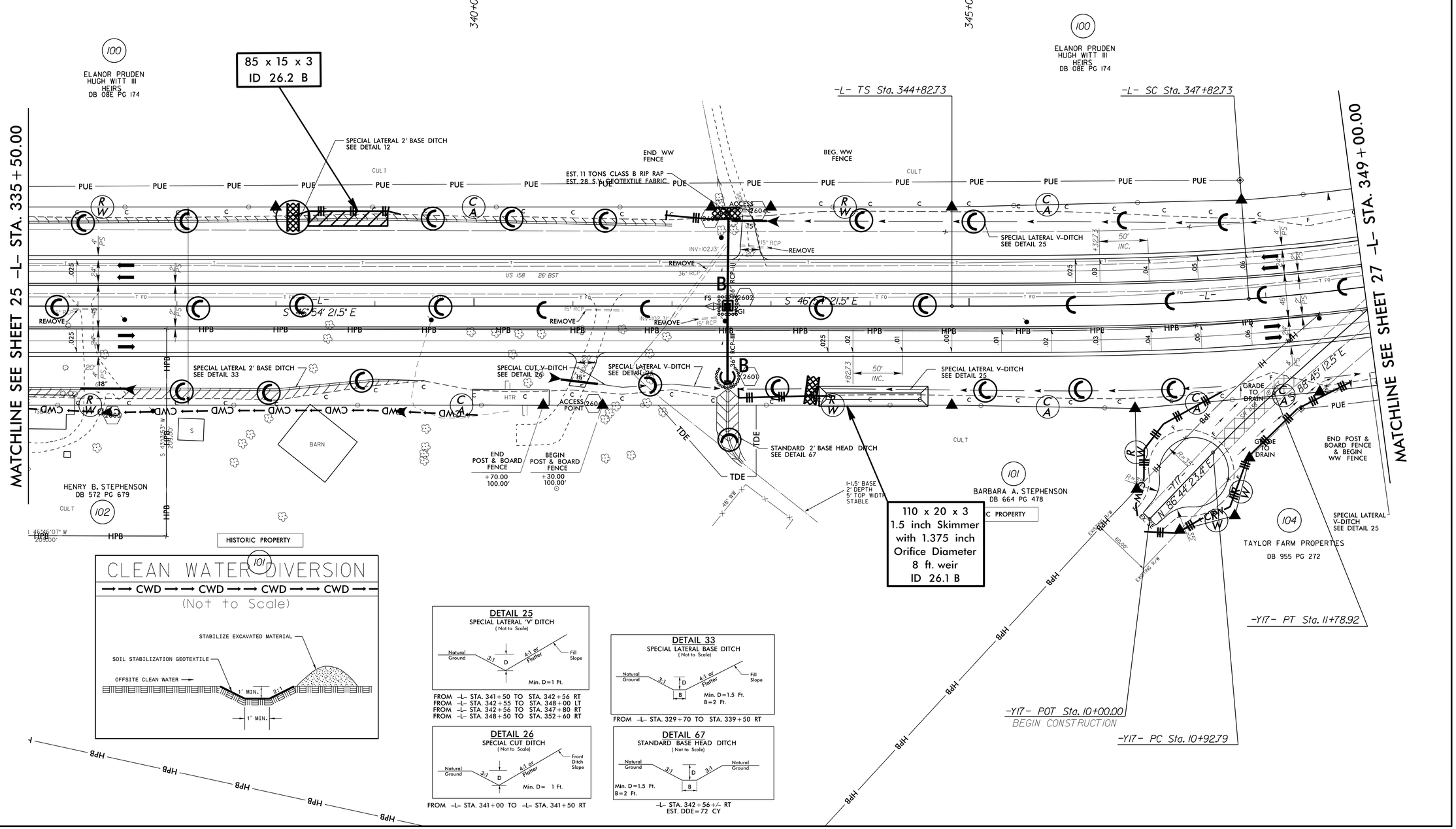
jowyatt1s

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-59/CONST-26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.



8/17/99

24-JAN-2018 09:23
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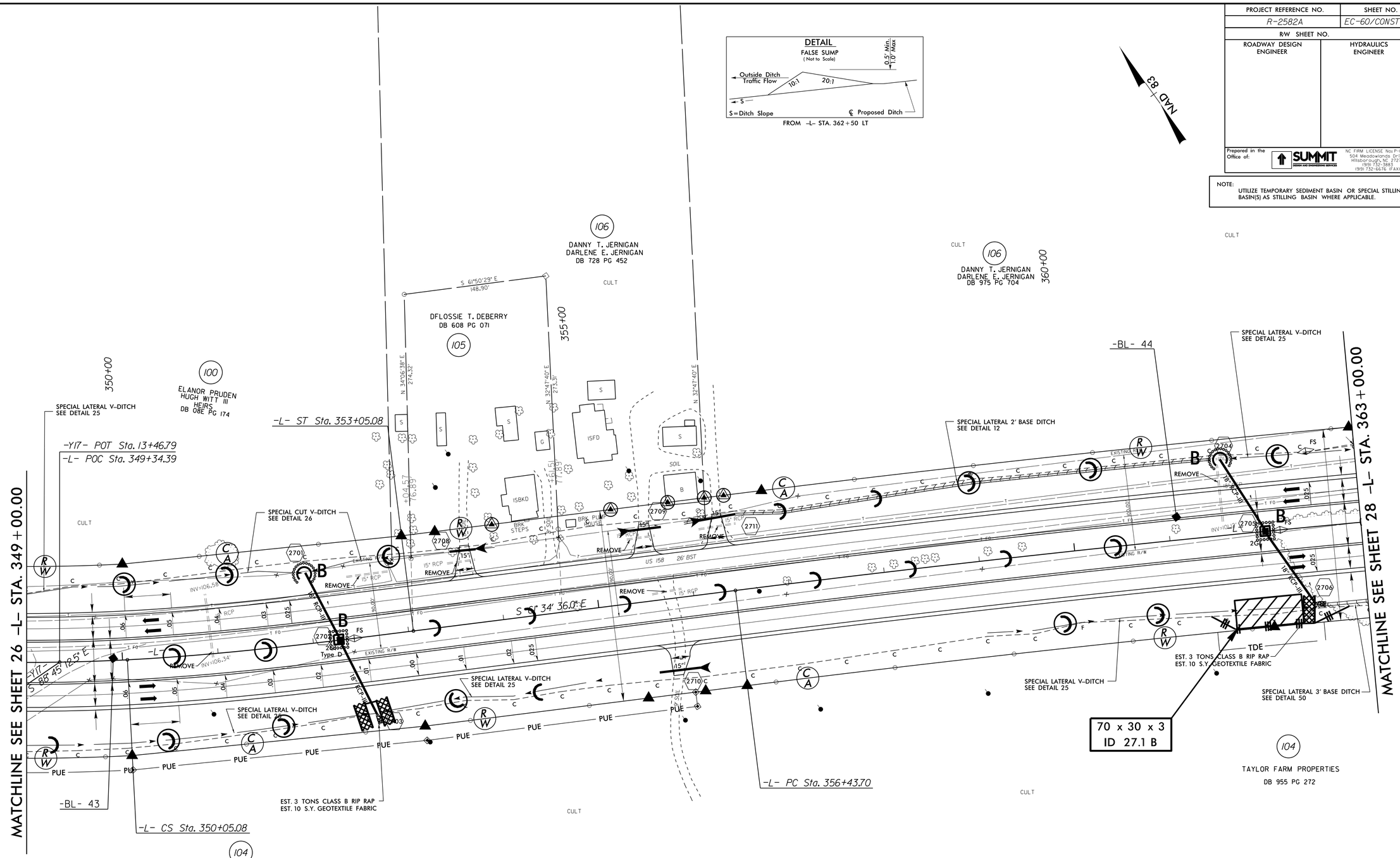
jaumorris

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-60/CONST-27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.



8/17/99

24-JAN-2014 09:23
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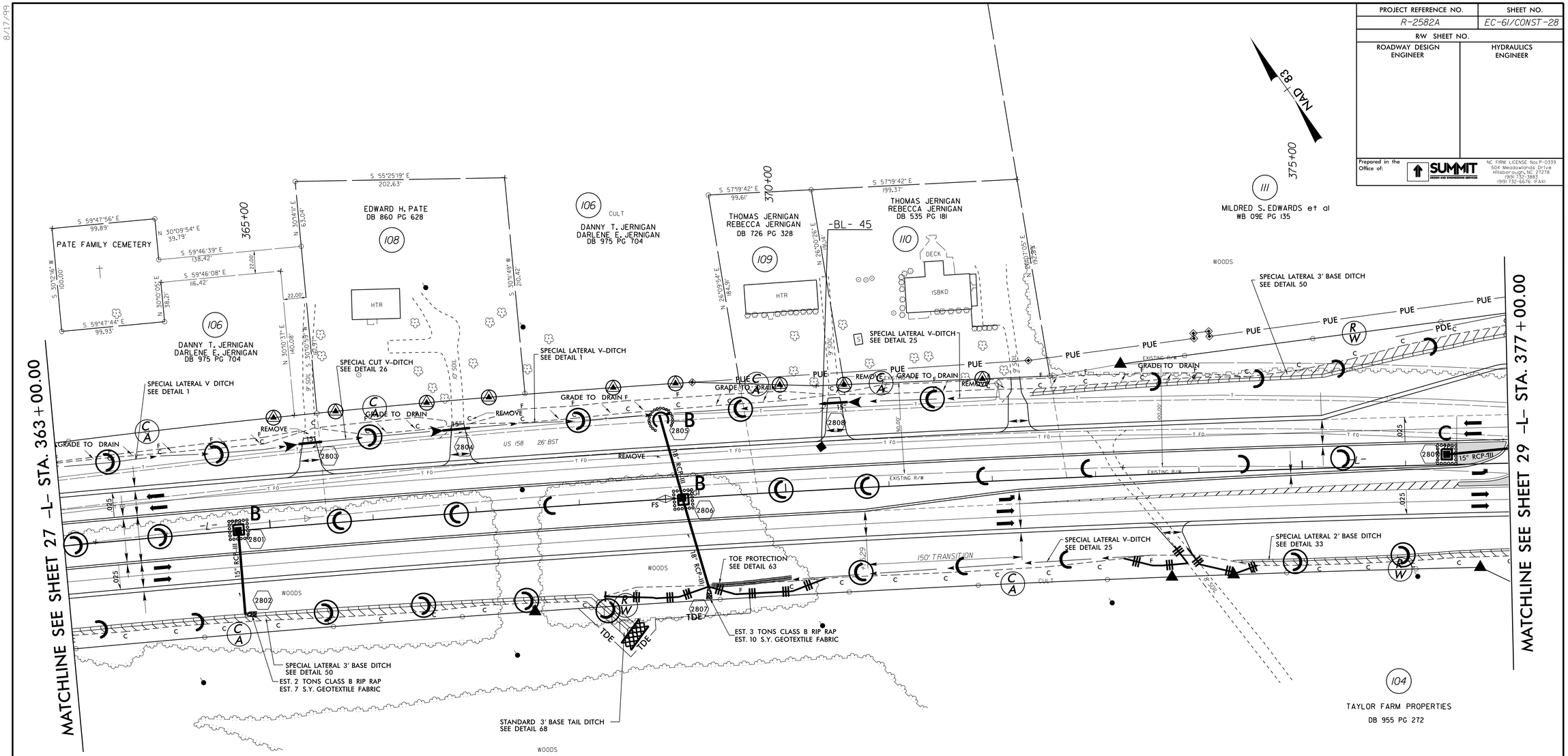
jaumorris

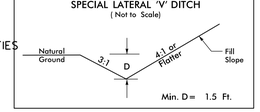
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-61/CONST-28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



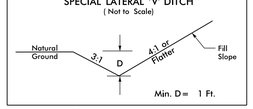
104
TAYLOR FARM PROPERTIES
DB 955 PG 272

DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



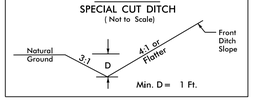
FROM -L- STA. 362+50 LT TO -L- STA. 364+00 LT
FROM -L- STA. 367+50 LT TO -L- STA. 368+83 LT

DETAIL 25
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



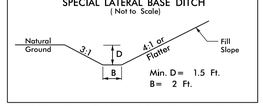
FROM -L- STA. 368+83 LT TO -L- STA. 372+10 LT
FROM -L- STA. 370+00 RT TO -L- STA. 373+50 RT

DETAIL 26
SPECIAL CUT DITCH
(Not to Scale)



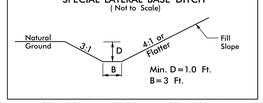
FROM -L- STA. 364+00 LT TO -L- STA. 367+50 LT

DETAIL 33
SPECIAL LATERAL BASE DITCH
(Not to Scale)



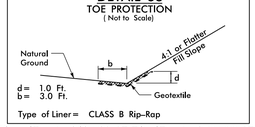
FROM -L- STA. 374+30 RT TO -L- STA. 380+00 RT

DETAIL 50
SPECIAL LATERAL BASE DITCH
(Not to Scale)



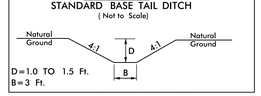
FROM -L- STA. 362+00 RT TO -L- STA. 368+00+/- RT
FROM -L- STA. 372+40 LT TO -L- STA. 382+00 LT

DETAIL 63
TOE PROTECTION
(Not to Scale)



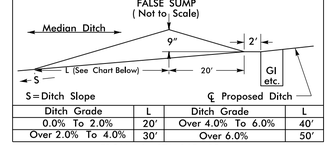
FROM STA. -L- 369+20 RT TO STA. -L- 370+00 RT

DETAIL 68
STANDARD BASE TAIL DITCH
(Not to Scale)



-L- STA. 368+00+/- RT
EST. DDE= 30 CY

DETAIL
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'

FROM -L- STA. 365+85 M

24-JAN-2019 09:23
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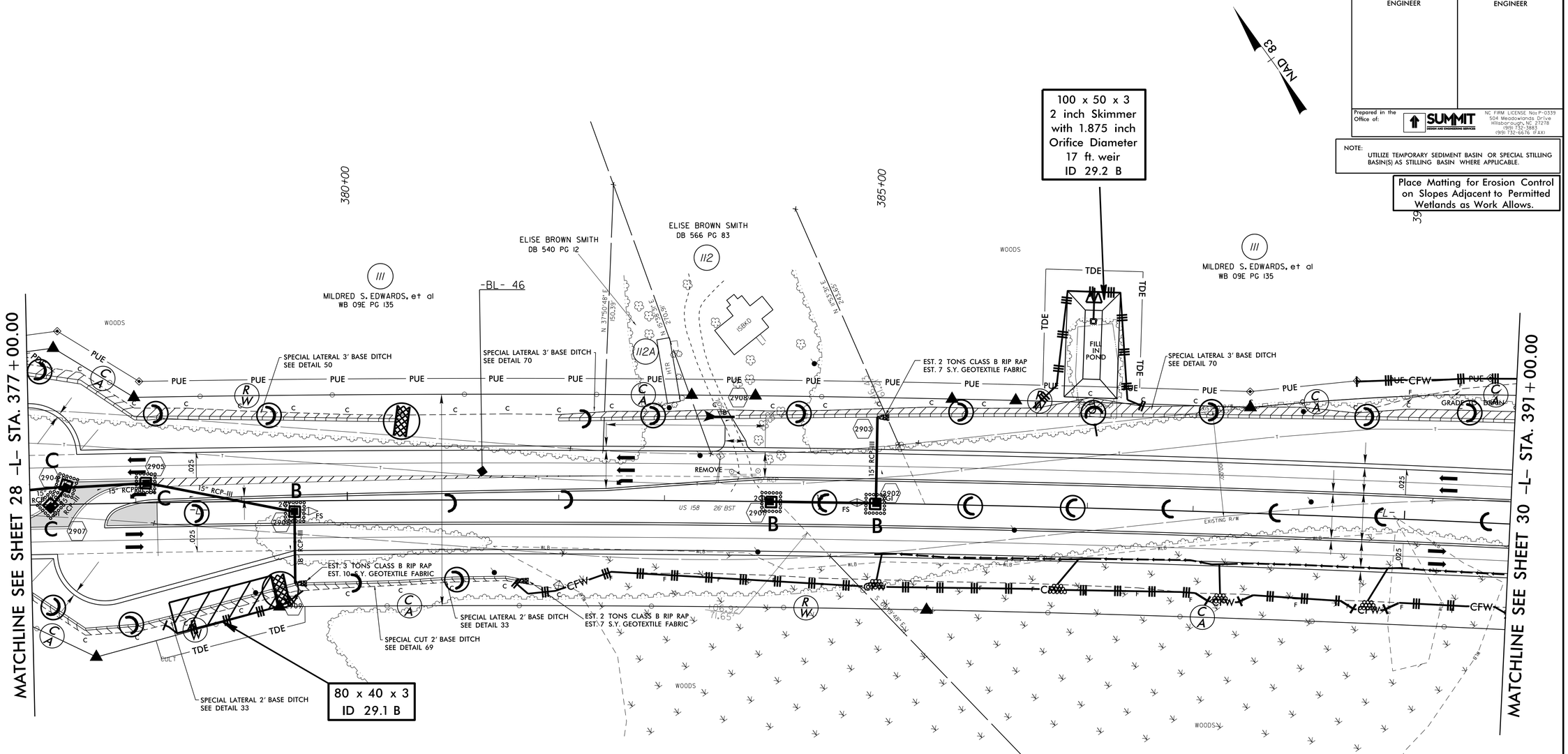
lowmorris

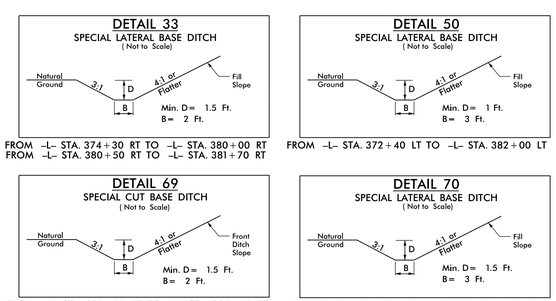
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	EC-62/CONST-29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.



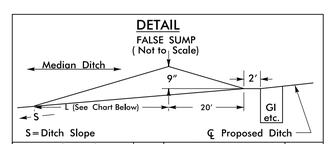


FROM -L- STA. 374+30 RT TO -L- STA. 380+00 RT
FROM -L- STA. 380+50 RT TO -L- STA. 381+70 RT

FROM -L- STA. 372+40 LT TO -L- STA. 382+00 LT

FROM -L- STA. 380+00 RT TO -L- STA. 380+50 RT

FROM -L- STA. 382+00 LT TO -L- STA. 391+30 LT



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'

-L- STA. 379+60 M
-L- STA. 384+83 M

REVISIONS

R/W REV. 6/22/18 (RVP): REVISED PROPERTY OWNER NAME ON PARCEL 112 AND ADDED PARCEL 112A.

8/17/99

24-JAN-2019 13:52
R:\Roadway\Proj\2582a_psh_62.dgn
jowarris