09/08/99

TIP PROJECT: R-4429A

CONTRACT: C201079

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
	Reforestation	
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.01	Riser Basin	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
1633.02	Temporary Rock Silt Check Type-B	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1636.01	Rock Silt Screen	
1630.04	Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A -OR- A
1632.02	Type B	B -OR- B
1632.03	Type C	C -OR- C

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

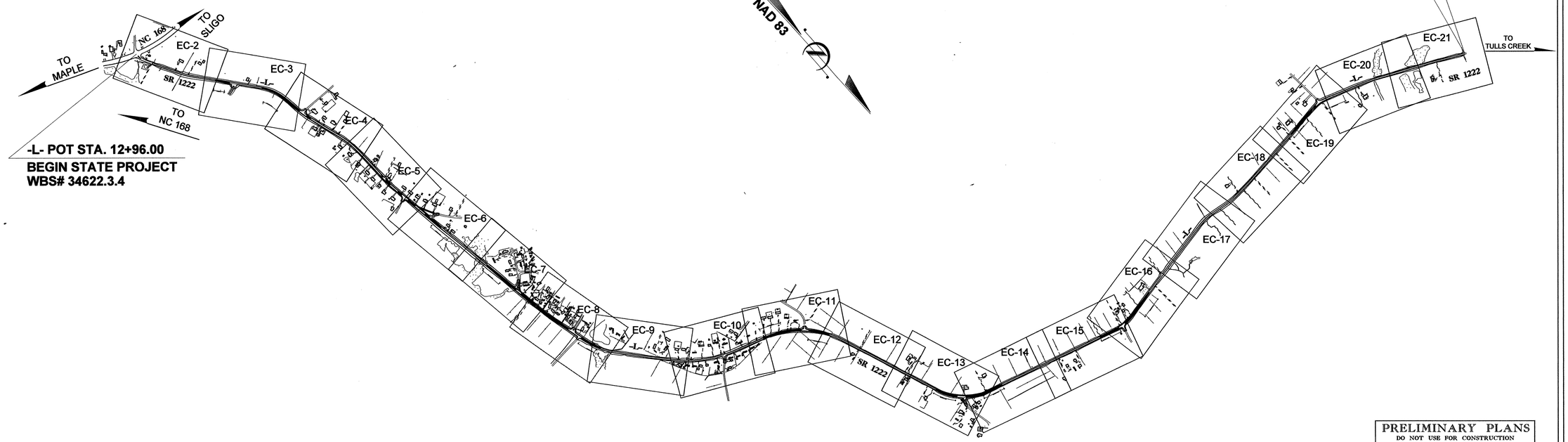
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-4429A	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34622.2.2		R/W, UTILITY
34622.3.4		CONSTR.

LOCATION: SR 1222 FROM NC 168/SR 1222 NORTH 4.7 MILES TO JUST SOUTH OF BRIDGE #4 OVER TULLS CREEK

TYPE OF WORK: WIDENING, GRADING, PAVING, DRAINAGE, UTILITIES, AND EROSION CONTROL



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

Prepared In the Office of:

PB 100 YEARS **PARSONS BRINCKERHOFF**

2002 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 20, 2002 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01	Temporary Silt Fence	1632.01	Rock Inlet Sediment Trap Type A
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1622.01	Temporary Berms and Slope Drains	1633.01	Temporary Rock Silt Check Type A
1630.01	Riser Basin	1633.02	Temporary Rock Silt Check Type B
1630.02	Silt Basin Type B	1634.01	Temporary Rock Sediment Dam Type A
1630.03	Temporary Silt Ditch	1634.02	Temporary Rock Sediment Dam Type B
1630.04	Stilling Basin	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.05	Temporary Diversion	1636.01	Rock Silt Screen

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prf
$$DATE$$

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-2/CONST-4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER TIMOTHY C. HENLEY — 3-1-07

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 23934 ENGINEER DANIEL R. BRIDGES — 3-1-07

PB PARSONS BRINCKERHOFF

NAD 83

-L- PC STA 10+00.00=
-Y1- POT STA 12+16.40
N: 997,695.20
E: 2,873,683.88

PC Sta.10+00.00

PT Sta.11+68.70

-L- POT Sta. 12+96.00
BEGIN TIP PROJECT R-4429A (CONSTR)

PT Sta.14+30.00

PC Sta.17+11.88

PT Sta.19+59.15

MATCHLINE STA. 22+00.00 SEE SHEET EC-3

SR 1241 N. CHRISTICK RD

SR 1222 TULLS CREEK ROAD

N 29° 11' 01.9" W

N 38° 21' 15.6" W

GRADE BREAK

EXISTING R/W

ISBKD

WATER

18 x 9 x 3

18 x 9 x 3
4' weir

14 x 7 x 3

14 x 7 x 3
4' weir

20 x 10 x 3

20 x 10 x 3
4' weir

GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

12+96	→ WATER FLOW →	14+50 (OUTLET DITCH)	RIGHT SIDE (GRADE - 0.87%)
12+96	→ WATER FLOW →	14+50 (CROSS LINE)	LEFT SIDE (GRADE - 0.93%)
14+50 (OUTLET DITCH)	← WATER FLOW ←	15+00 (GRADE BREAK)	RIGHT SIDE (GRADE - 1.00%)
14+50 (CROSS LINE)	← WATER FLOW ←	17+75 (GRADE BREAK)	LEFT SIDE (GRADE - 0.47%)
15+00 (GRADE BREAK)	→ WATER FLOW →	17+80 (OUTLET DITCH)	RIGHT DITCH (GRADE - 0.30%)
17+80 (OUTLET DITCH)	← WATER FLOW ←	29+50 (GRADE BREAK)	RIGHT SIDE (GRADE - 0.46%)
17+75 (GRADE BREAK)	→ WATER FLOW →	17+80 (CROSS LINE)	LEFT SIDE (GRADE - 3.5%, EXCELSIOR MATTING)
17+80 (CROSS LINE)	← WATER FLOW ←	31+00 (GRADE BREAK)	LEFT SIDE (GRADE - 0.51%)

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2/23/2007

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-3/CONST-5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER MARK CORY C. HEIN

3-1-07

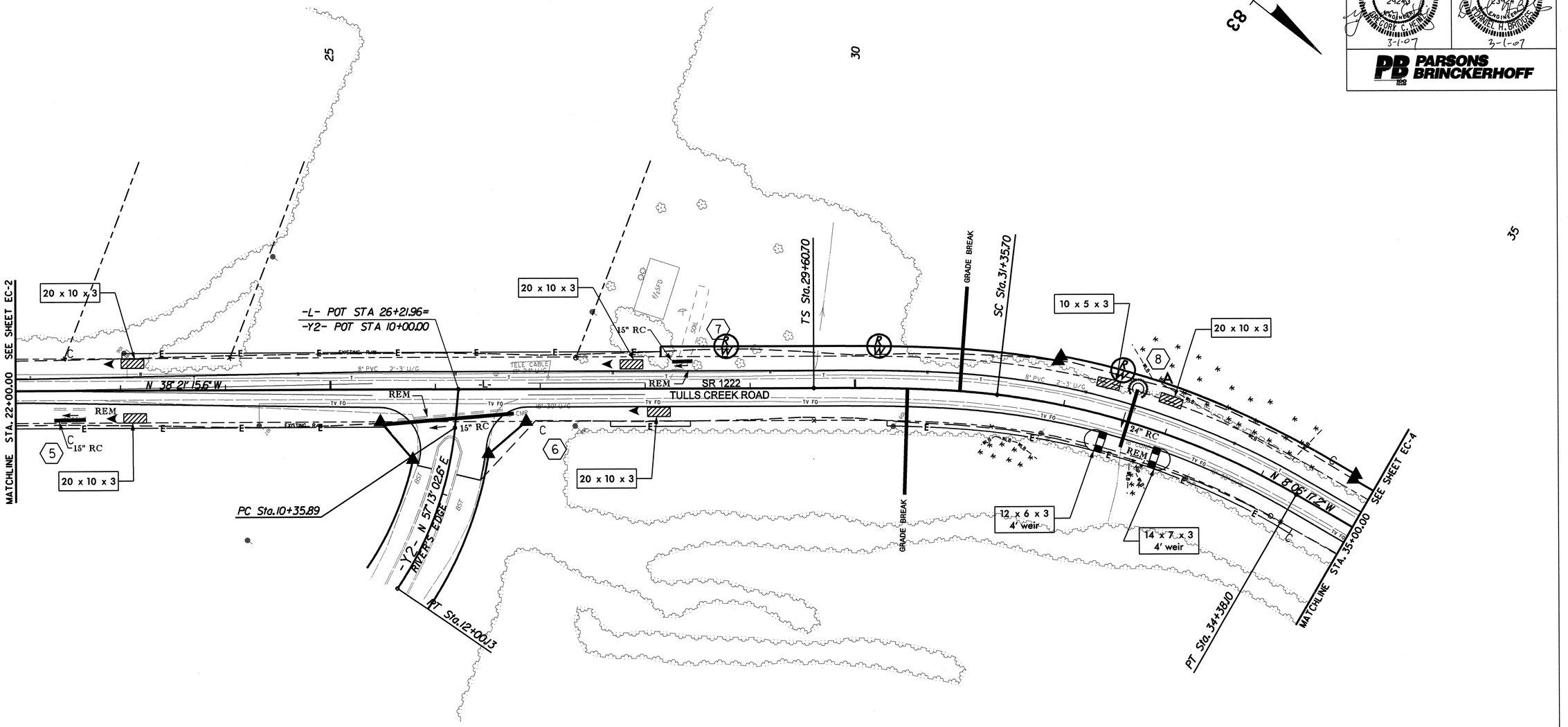
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER JENNIFER H. BRIDGERS

3-1-07

PB PARSONS BRINCKERHOFF

NAD 83



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

17+80 (OUTLET DITCH)	←	WATER FLOW	←	29+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.46%)
17+80 (CROSS LINE)	←	WATER FLOW	←	31+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.51%)
29+50 (GRADE BREAK)	→	WATER FLOW	→	32+65 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.59%)
31+00 (GRADE BREAK)	→	WATER FLOW	→	32+65 (CROSS LINE) LEFT SIDE (GRADE - 1.26%)
32+65 (OUTLET DITCH)	←	WATER FLOW	←	35+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.72%)
32+65 (CROSS LINE)	←	WATER FLOW	←	38+05 (GRADE BREAK) LEFT SIDE (GRADE - 0.53%)

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2/23/2007

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-4/CONST-6
R/W SHEET NO.	

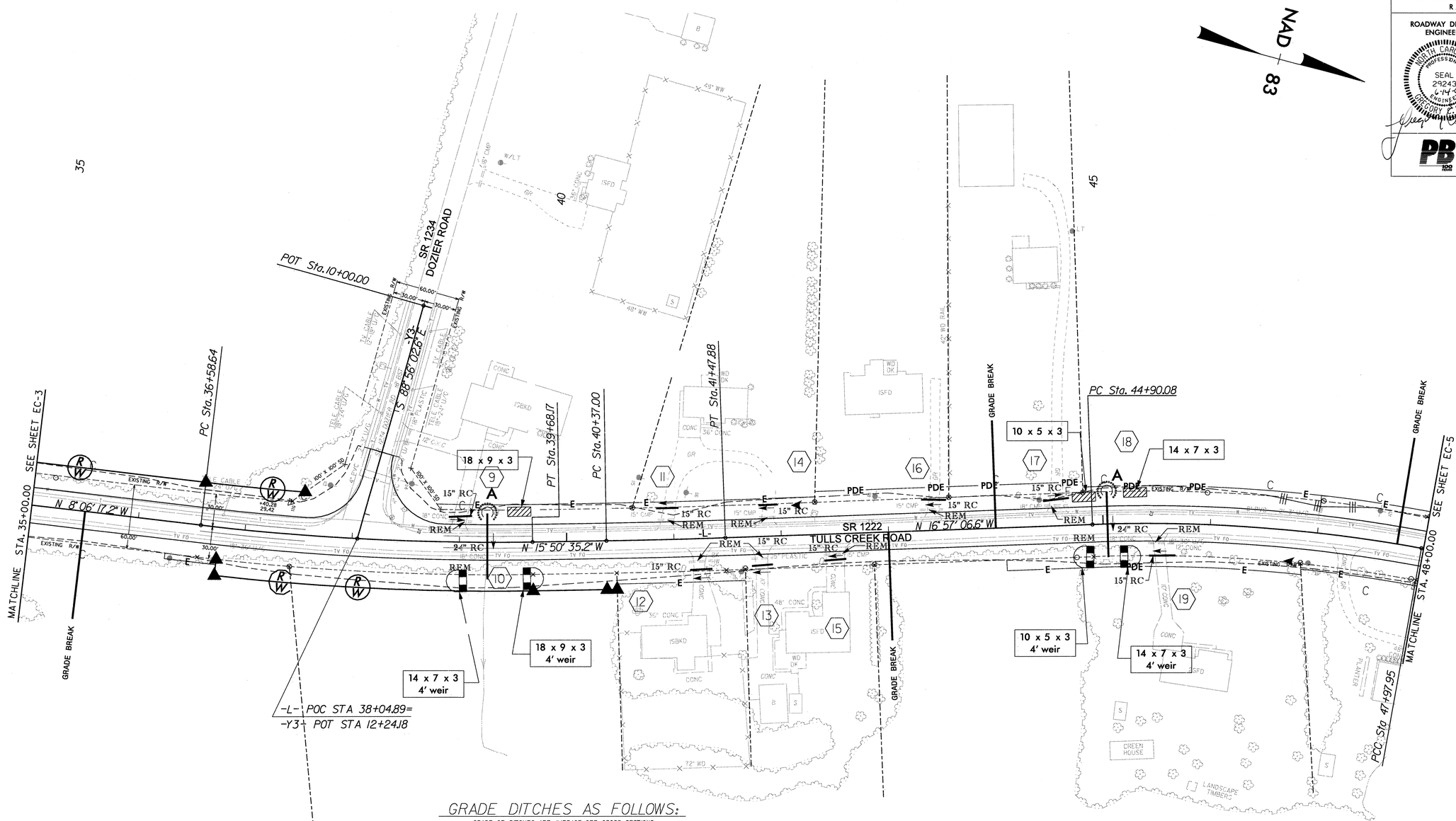
ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY C. HENRY
6-14-06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER DANIEL H. BRINCKERHOFF
6-14-06

PB PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

32+65 (OUTLET DITCH) ← WATER FLOW ← 35+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.72%)

32+65 (CROSS LINE) ← WATER FLOW ← 38+05 (GRADE BREAK) LEFT SIDE (GRADE - 0.53%)

35+50 (GRADE BREAK) → WATER FLOW → 39+25 (OUTLET DITCH) RIGHT DITCH (GRADE - 0.98%)

38+05 (GRADE BREAK) → WATER FLOW → 39+25 (CROSS LINE) LEFT SIDE (GRADE - 3.13%, EXCELSIOR MATTING)

39+25 (OUTLET DITCH) ← WATER FLOW ← 43+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.53%)

39+25 (CROSS LINE) ← WATER FLOW ← 44+00 (GRADE BREAK) LEFT SIDE (GRADE - 1.05%)

43+00 (GRADE BREAK) → WATER FLOW → 45+05 (OUTLET DITCH) RIGHT SIDE (GRADE - 3.01%, EXCELSIOR MATTING)

44+00 (GRADE BREAK) → WATER FLOW → 45+05 (CROSS LINE) LEFT SIDE (GRADE - 2.56%, EXCELSIOR MATTING)

45+05 (OUTLET DITCH) ← WATER FLOW ← 49+00 (GRADE BREAK) RIGHT SIDE (GRADE - 1.73%, EXCELSIOR MATTING)

45+05 (CROSS LINE) ← WATER FLOW ← 47+75 (GRADE BREAK) LEFT SIDE (GRADE - 1.53%, EXCELSIOR MATTING)

47+75 (GRADE BREAK) → WATER FLOW → 51+15 (CROSS LINE) LEFT SIDE (GRADE - 0.99%)

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6/13/2006

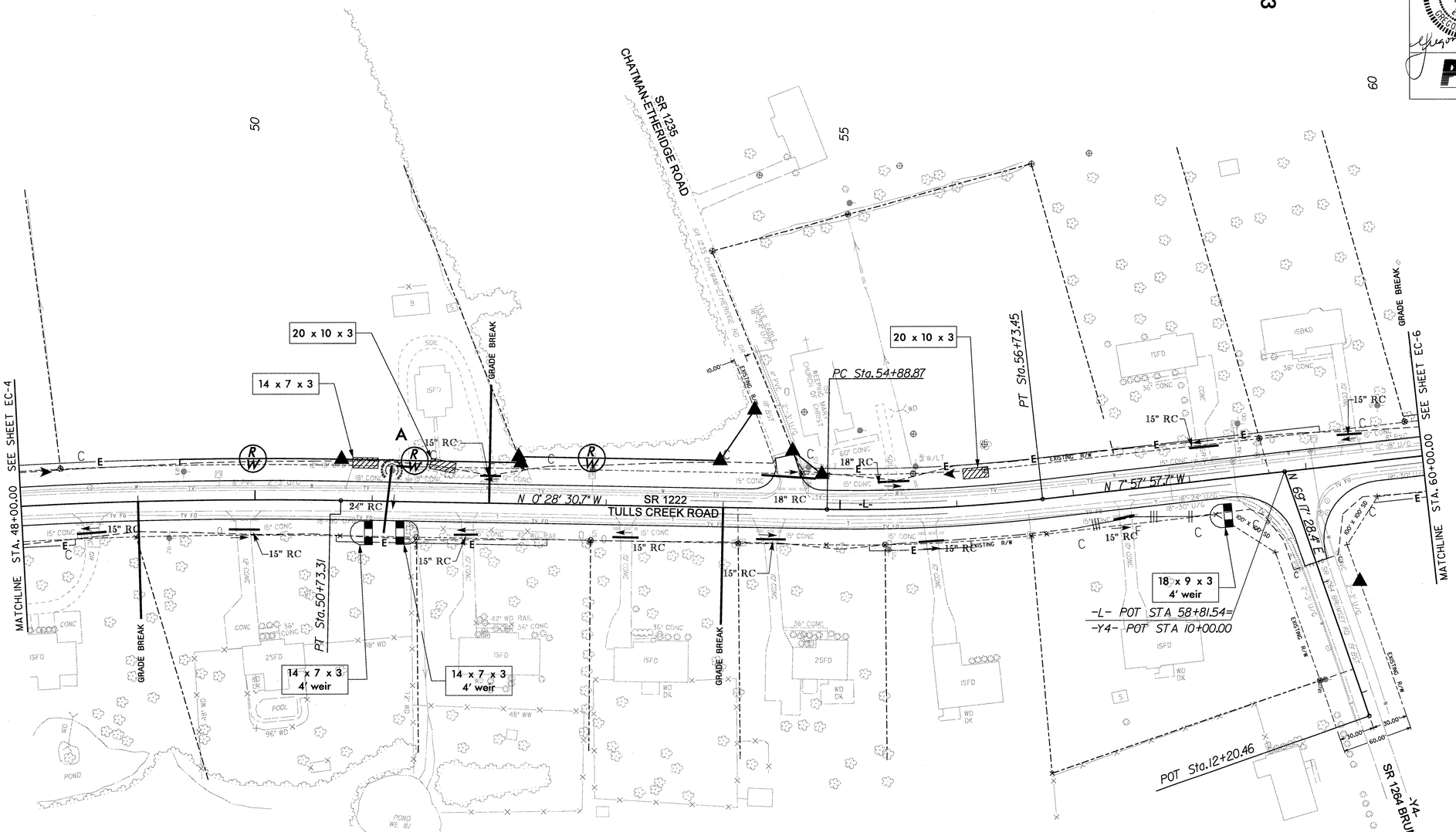
PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-5/CONST-7
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY T. WHITE — 6-14-06

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER CHARLES H. BRIDGERS — 6-14-06

PARSONS BRINCKERHOFF

NAD 83



GRADE DITCHES AS FOLLOWS:

45+05 (OUTLET DITCH) ←	WATER FLOW ←	49+00 (GRADE BREAK) RIGHT SIDE (GRADE - 1.73%, EXCELSIOR MATTING)
49+00 (GRADE BREAK) →	WATER FLOW →	51+40 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.46%)
47+75 (GRADE BREAK) →	WATER FLOW →	51+15 (CROSS LINE) LEFT SIDE (GRADE - 0.99%)
51+15 (CROSS LINE) ←	WATER FLOW ←	52+00 (GRADE BREAK) LEFT SIDE (GRADE - 2.5%, EXCELSIOR MATTING)
52+00 (GRADE BREAK) →	WATER FLOW →	55+50 (OUTLET DITCH) LEFT SIDE (GRADE - 0.4%)
55+50 (OUTLET DITCH) ←	WATER FLOW ←	60+00 (GRADE BREAK) LEFT SIDE
51+40 (OUTLET DITCH) ←	WATER FLOW ←	54+00 (GRADE BREAK) RIGHT SIDE (GRADE - 1.06%)
54+00 (GRADE BREAK) →	WATER FLOW →	58+80 SR 1264 (ROADSIDE DITCH) RIGHT SIDE (GRADE - 0.3%)
58+80 SR 1264 (ROADSIDE DITCH) →	WATER FLOW →	74+30 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.69%)

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6/13/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-6/CONST-8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY C. PENN
3-1-07

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER DANIEL H. BRIDGERS
3-1-07

PB PARSONS BRINCKERHOFF

NAD 83

MATCHLINE STA. 60+00.00 SEE SHEET EC-5

MATCHLINE STA. 73+00.00 SEE SHEET EC-7

SR 1226 BAXTER GROVE ROAD

SR 1222 TULLS CREEK ROAD

PC Sta.10+40.00

PT Sta.11+13.69

PC Sta.67+05.22

PT Sta.70+05.29

PC Sta.70+15.87

PT Sta.70+79.79

-L- POT STA 64+00.00=
-Y5- POT STA 11+62.89

20 x 10 x 3

20 x 10 x 3 4' weir

GRADE BREAK

15" RC

18" RC

36" CONC

48" WD RAIL & WW

POOL

PATIO

AZEBO

ISBKD

ISFD

HTR

BLUE-LINE STREAM

POND

WE 2.6

8" PVC 2'-3' U/G

18"-30" U/G

N 7°57'57.7" W

N 8°42'58.4" W

N 7°51'50.0" W

GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

58+80 SR 1264 (ROADSIDE DITCH) ⟶ WATER FLOW ⟶ 74+30 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.69%)

60+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 74+30 (CROSS LINE) LEFT SIDE (GRADE - 0.70%)

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2/23/2007

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-7/CONST-9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER TIMOTHY C. HEINS — 3-1-07

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 23824 ENGINEER DANIEL H. BRIDGES — 3-1-07

PB PARSONS BRINCKERHOFF

NAD 83

MATCHLINE STA. 73+00.00 SEE SHEET EC-6

MATCHLINE STA. 85+00.00 SEE SHEET EC-8

SR 1226 BAXTER GROVE ROAD

SR 1222 TULLS CREEK ROAD

SR 1226 BAXTER GROVE RD 18' BST

SR 1301 WEXWOOD DR BST

PINE CIRCLE SOIL

ASH CIRCLE BST

SANDERSON COURT GR

BLUE-LINE STREAM

BLUE-LINE STREAM

PC Sta.78+40.34

GRADE BREAK

GRADE BREAK

POT Sta. 10+00.00

POT Sta. 10+40.82

POT Sta. 11+34.92

-L- POC STA 81+40.00=
-Y6- POT STA 12+00.91

N 7° 51' 50.0" W

35° 50' 38" E

20 x 10 x 3
4' weir

14 x 7 x 3

20 x 10 x 3

2X30" RC

20 x 10 x 3
4' weir

16 x 8 x 3
4' weir

20 x 10 x 3
4' weir

18" RC

15" RC

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

58+80 SR 1264 (ROADSIDE DITCH)	→	WATER FLOW	→ 74+30 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.69%)
60+00 (GRADE BREAK)	→	WATER FLOW	→ 74+30 (CROSS LINE) LEFT SIDE (GRADE - 0.70%)
74+30 (OUTLET DITCH)	←	WATER FLOW	← 79+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.42%)
74+30 (CROSS LINE)	←	WATER FLOW	← 79+50 (GRADE BREAK) LEFT SIDE (GRADE - 0.34%)
79+00 (GRADE BREAK)	→	WATER FLOW	→ 81+45 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.7%)
79+50 (GRADE BREAK)	→	WATER FLOW	→ 80+80 (CROSS LINE) LEFT SIDE (GRADE - 1.12%)
81+45 (OUTLET DITCH)	←	WATER FLOW	← 86+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.70%)
81+45 (CROSS LINE)	←	WATER FLOW	← 87+50 (GRADE BREAK) LEFT SIDE (GRADE - 0.44%)

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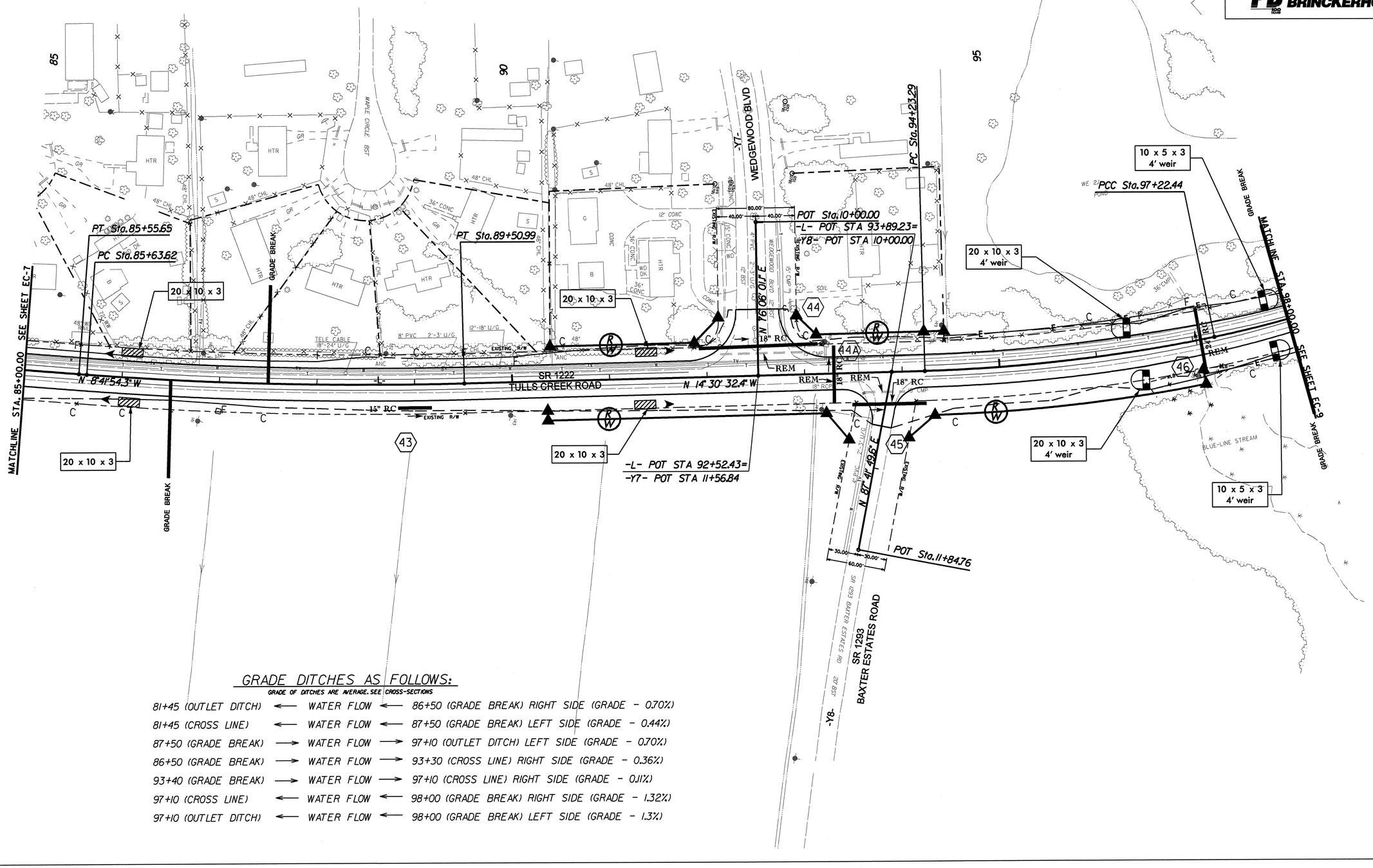
PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-8/CONST-10
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY C. HINNANT
3-1-07

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER DANIEL H. BRINCKERHOFF
3-1-07

PB PARSONS BRINCKERHOFF

NAD 83



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

81+45 (OUTLET DITCH)	←	WATER FLOW	←	86+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.70%)
81+45 (CROSS LINE)	←	WATER FLOW	←	87+50 (GRADE BREAK) LEFT SIDE (GRADE - 0.44%)
87+50 (GRADE BREAK)	→	WATER FLOW	→	97+10 (OUTLET DITCH) LEFT SIDE (GRADE - 0.70%)
86+50 (GRADE BREAK)	→	WATER FLOW	→	93+30 (CROSS LINE) RIGHT SIDE (GRADE - 0.36%)
93+40 (GRADE BREAK)	→	WATER FLOW	→	97+10 (CROSS LINE) RIGHT SIDE (GRADE - 0.11%)
97+10 (CROSS LINE)	←	WATER FLOW	←	98+00 (GRADE BREAK) RIGHT SIDE (GRADE - 1.32%)
97+10 (OUTLET DITCH)	←	WATER FLOW	←	98+00 (GRADE BREAK) LEFT SIDE (GRADE - 1.3%)

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2/23/2007

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-9/CONST-11
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29243 GREGORY D. KEMP

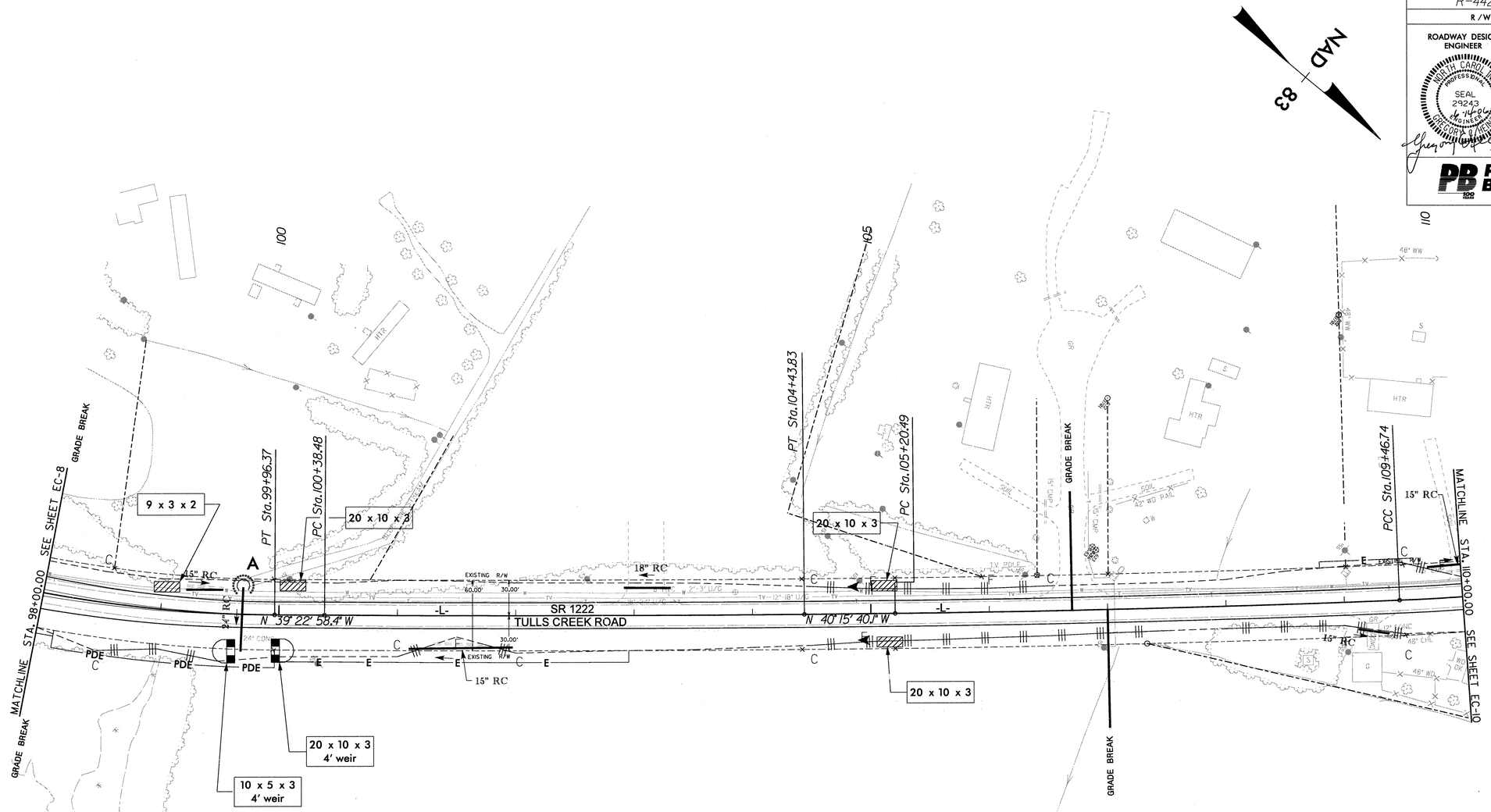
6-14-06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23924 DANIEL H. BRINCKERHOFF

6-14-06

PB PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

97+10 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 98+00 (GRADE BREAK) RIGHT SIDE (GRADE - 3.33%, EXCELSIOR MATTING)

97+10 (CROSS LINE) ⟵ WATER FLOW ⟵ 98+00 (GRADE BREAK) LEFT SIDE (GRADE - 1.3%)

98+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 99+70 (OUTLET DITCH) RIGHT SIDE (GRADE - 1.32%)

98+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 99+70 (CROSS LINE) LEFT SIDE (GRADE - 1.75%, EXCELSIOR MATTING)

99+70 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 107+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.54%)

99+70 (CROSS LINE) ⟵ WATER FLOW ⟵ 106+70 (GRADE BREAK) LEFT SIDE (GRADE - 0.41%)

107+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 111+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.53%)

106+70 (GRADE BREAK) ⟶ WATER FLOW ⟶ 111+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.78%)

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6/13/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-10/CONST-12
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER — JOSEPH C. HOLLOWAY — 6-30-06

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 21982 ENGINEER — DANIEL R. BRINKLEY — 6-30-06

PARSONS BRINCKERHOFF

NAD 83

SEE SHEET EC-9

MATCHLINE STA. 110+00.00

18 x 9 x 3

10 x 5 x 3

16 x 8 x 3 4' weir

20 x 10 x 3 4' weir

PT Sta.113+53.56

PC Sta.113+84.43

PT Sta.118+99.96

-L- POC STA 117+10.00=
-Y9- POT STA 10+00.00

GRADE BREAK

N 55° 19' 48.0" W

N 70° 47' 45.1" W

-L- SR 1222 TULLS CREEK ROAD

-Y9- SR 1238 CREEKMORE ROAD

POT Sta. 11+90.96

MATCHLINE STA. 123+00.00 SEE SHEET EC-11

GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

107+00 (GRADE BREAK)	WATER FLOW →	111+00 (OUTLET DITCH) RIGHT DITCH (GRADE - 0.53%)
106+70 (GRADE BREAK)	WATER FLOW →	111+00 (OUTLET DITCH) LEFT DITCH (GRADE - 0.78%)
111+00 (OUTLET DITCH)	WATER FLOW ←	113+20 (GRADE BREAK) RIGHT DITCH (GRADE - 2.40%, EXCELSIOR MATTING)
111+00 (OUTLET DITCH)	WATER FLOW ←	115+00 (GRADE BREAK) LEFT DITCH (GRADE - 1.12%)
113+20 (GRADE BREAK)	WATER FLOW →	117+50 SR 1238 (ROADSIDE DITCH) RIGHT SIDE (GRADE - 1.27%)
115+00 (GRADE BREAK)	WATER FLOW →	117+60 (CROSS LINE) LEFT SIDE (GRADE - 0.3%)
117+50 SR 1238 (ROADSIDE DITCH)	WATER FLOW ←	123+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.73%)
117+60 (CROSS LINE)	WATER FLOW ←	129+60 (GRADE BREAK) LEFT SIDE (GRADE - 0.55%)
123+00 (GRADE BREAK)	WATER FLOW →	129+60 (OUTLET DITCH) RIGHT DITCH (GRADE - 0.51%)

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6/29/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-11/CONST-13
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY C. HEATH

HYDRAULICS ENGINEER

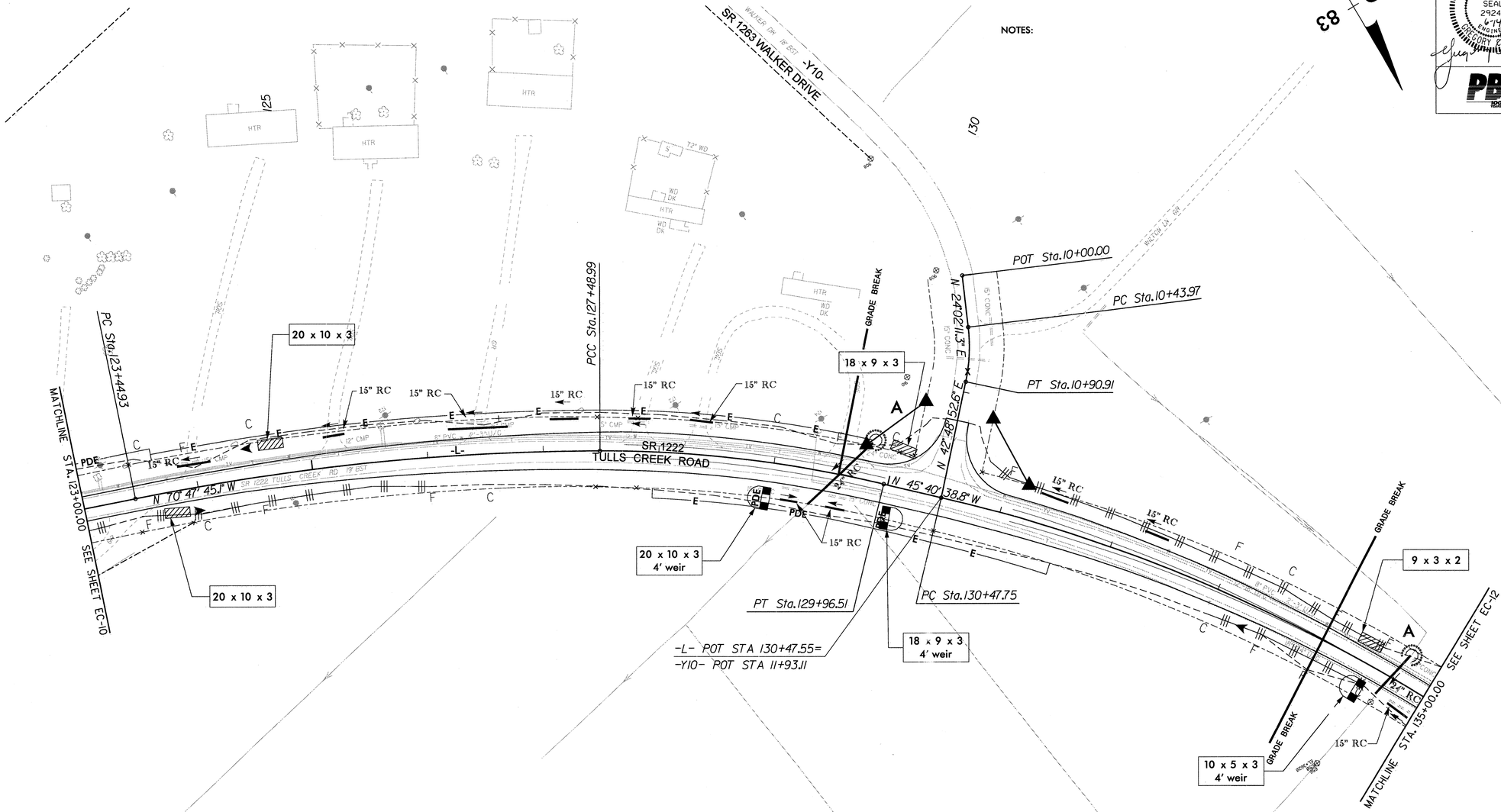
NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER KENNETH H. BRISSON

6-14-06

PB PARSONS BRINCKERHOFF

NAD 83

NOTES:



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

123+00 (GRADE BREAK) →	WATER FLOW →	129+60 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.51%)
117+60 (CROSS LINE) ←	WATER FLOW ←	129+60 (GRADE BREAK) LEFT SIDE (GRADE - 0.55%)
129+60 (OUTLET DITCH) ←	WATER FLOW ←	134+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.73%)
129+60 (CROSS LINE) ←	WATER FLOW ←	134+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.80%)
134+00 (GRADE BREAK) →	WATER FLOW →	134+65 (OUTLET DITCH) RIGHT SIDE (GRADE - 3.6%, EXCELSIOR MATTING)
134+00 (GRADE BREAK) →	WATER FLOW →	134+65 (CROSS LINE) LEFT SIDE (GRADE - 5.6%, EXCELSIOR MATTING)
134+65 (OUTLET DITCH) ←	WATER FLOW ←	147+60 GRADE BREAK) RIGHT SIDE (GRADE - 0.68%
134+65 (CROSS LINE) ←	WATER FLOW ←	147+60 (GRADE BREAK) LEFT SIDE (GRADE - 0.64%)

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6/13/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-12/CONST-14
R/W SHEET NO.	

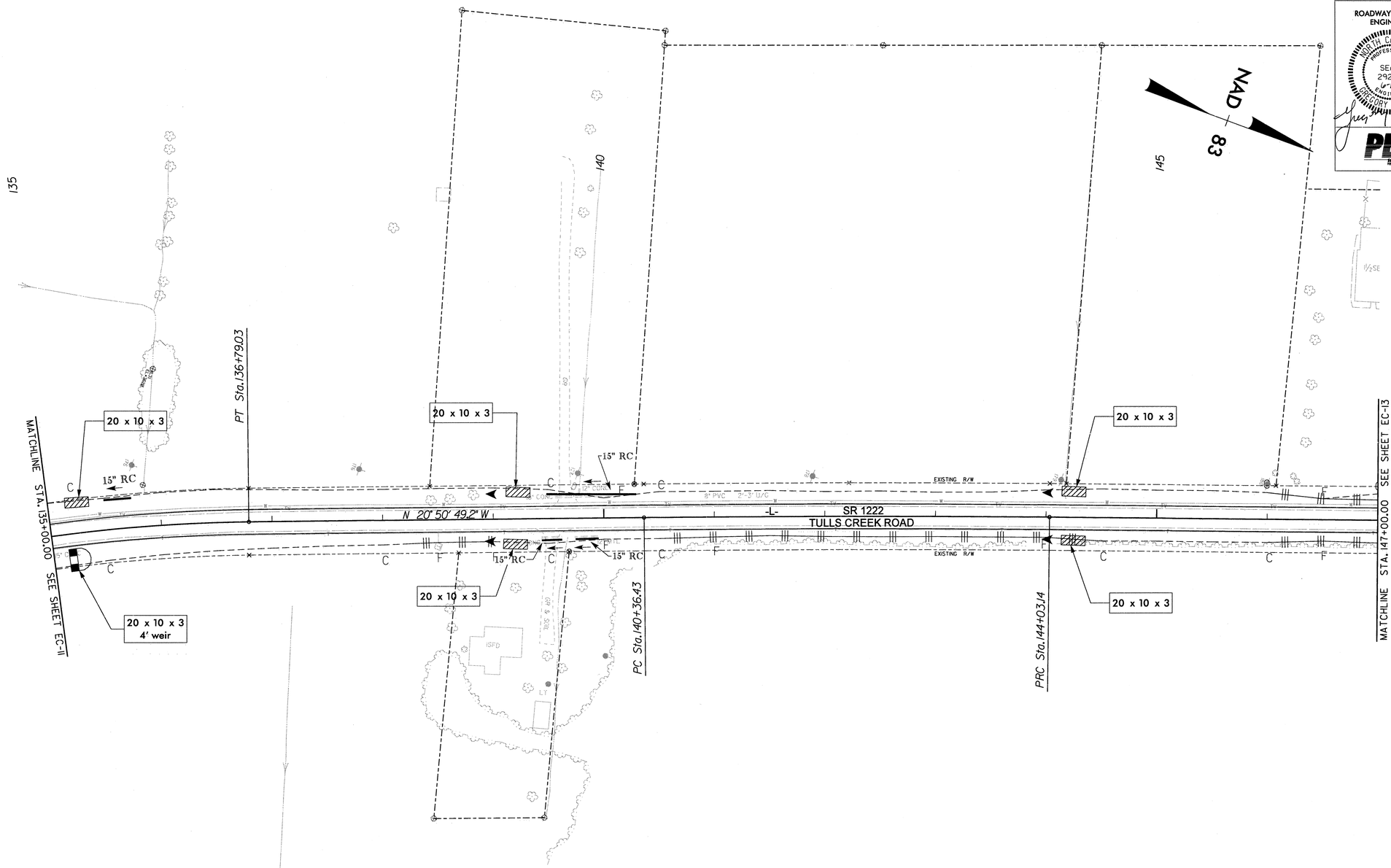
ROADWAY DESIGN ENGINEER

NGR TA CAROL INAI PROFESSIONAL SEAL 29243 6-14-06 ENGINEER GREGORY A. REAL

HYDRAULICS ENGINEER

NGR TA CAROL INAI PROFESSIONAL SEAL 23924 RICHARD R. GARRIGUS 6-14-06

PB PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

134+65 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 147+60 (GRADE BREAK) RIGHT SIDE (GRADE - 0.68%)

134+65 (CROSS LINE) ⟵ WATER FLOW ⟵ 147+60 (GRADE BREAK) LEFT SIDE (GRADE - 0.64%)

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6/13/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-13/CONST-15
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY C. THOMAS

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER DONIEL T. BRIDGES

6-14-06

PB PARSONS BRINCKERHOFF

GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

134+65 (OUTLET DITCH) ← WATER FLOW ← 147+60 (GRADE BREAK) RIGHT SIDE (GRADE - 0.68%)

134+65 (CROSS LINE) ← WATER FLOW ← 147+60 (GRADE BREAK) LEFT SIDE (GRADE - 0.64%)

147+60 (GRADE BREAK) → WATER FLOW → 147+85 (OUTLET DITCH) LEFT SIDE (GRADE - 5.2%, EXCELSIOR MATTING)

147+60 (GRADE BREAK) → WATER FLOW → 147+85 (CROSS LINE) RIGHT SIDE (GRADE - 5.04%, EXCELSIOR MATTING)

147+85 (OUTLET DITCH) ← WATER FLOW ← 152+25 (GRADE BREAK) LEFT SIDE (GRADE - 0.50%)

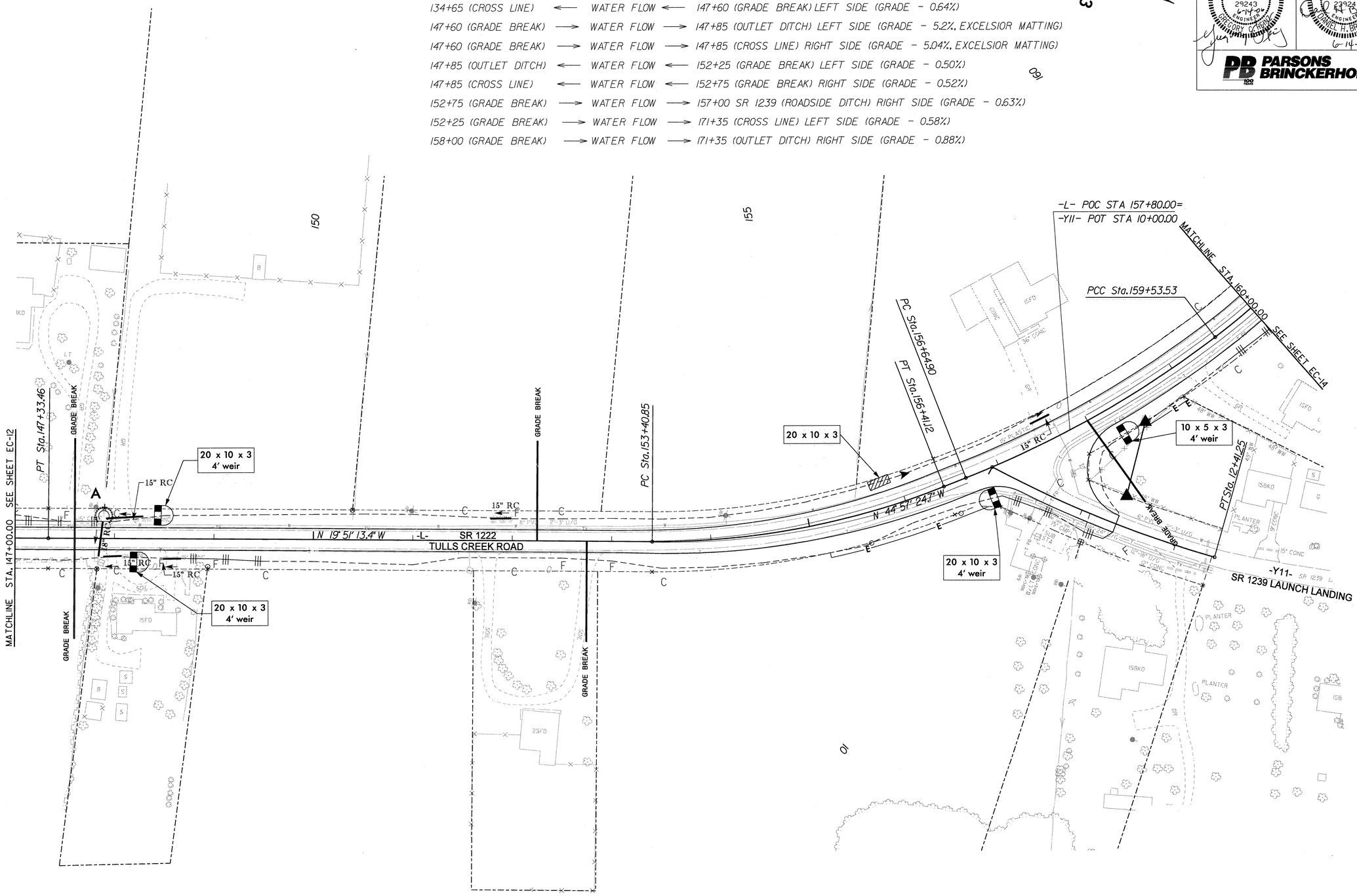
147+85 (CROSS LINE) ← WATER FLOW ← 152+75 (GRADE BREAK) RIGHT SIDE (GRADE - 0.52%)

152+75 (GRADE BREAK) → WATER FLOW → 157+00 SR 1239 (ROADSIDE DITCH) RIGHT SIDE (GRADE - 0.63%)

152+25 (GRADE BREAK) → WATER FLOW → 171+35 (CROSS LINE) LEFT SIDE (GRADE - 0.58%)

158+00 (GRADE BREAK) → WATER FLOW → 171+35 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.88%)

NAD 83



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6/13/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-14/CONST-16
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY C. ALLEN

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER DANIEL T. SMOAK

6-14-06

PB PARSONS BRINCKERHOFF

NAD 83

160

165

170

7R MATTING)

MATTING)

PT Sta.161+30.10

CONC

48" CONC

20 x 10 x 3

18" RC

SEE SHEET EC-13

MATCHLINE STA. 160+00.00

PLANTER

8" PVC

12" SR 1222 TULLS CREEK RD 18" DST

PLASTIC

15" RC

FIBER OPTIC 24"-36" U/G

TELE CABLE 18"-24" U/G

48" WD RAIL

20 x 10 x 3

20 x 10 x 3

A

C

18" RC

DI

E

F

N 73° 27' 32.9" W

-L-

SR 1222

TULLS CREEK ROAD

24" PLASTIC

8" PVC

LARGE TRANSFORMER

PDE

42" RC

42" RC

20 x 10 x 3

4' weir

Entrance to Launch Landing Subdivision

SEE SHEET EC-15

MATCHLINE STA. 172+00.00

GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

152+75 (GRADE BREAK) ⟶ WATER FLOW ⟶ 171+35 (CROSS LINE) LEFT SIDE (GRADE - 0.58%)

158+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 171+35 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.88%)

171+35 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 174+50 (GRADE BREAK) RIGHT SIDE (GRADE - 1.00%)

171+35 (CROSS LINE) ⟵ WATER FLOW ⟵ 175+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.41%)

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6/13/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-15/CONST-17
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

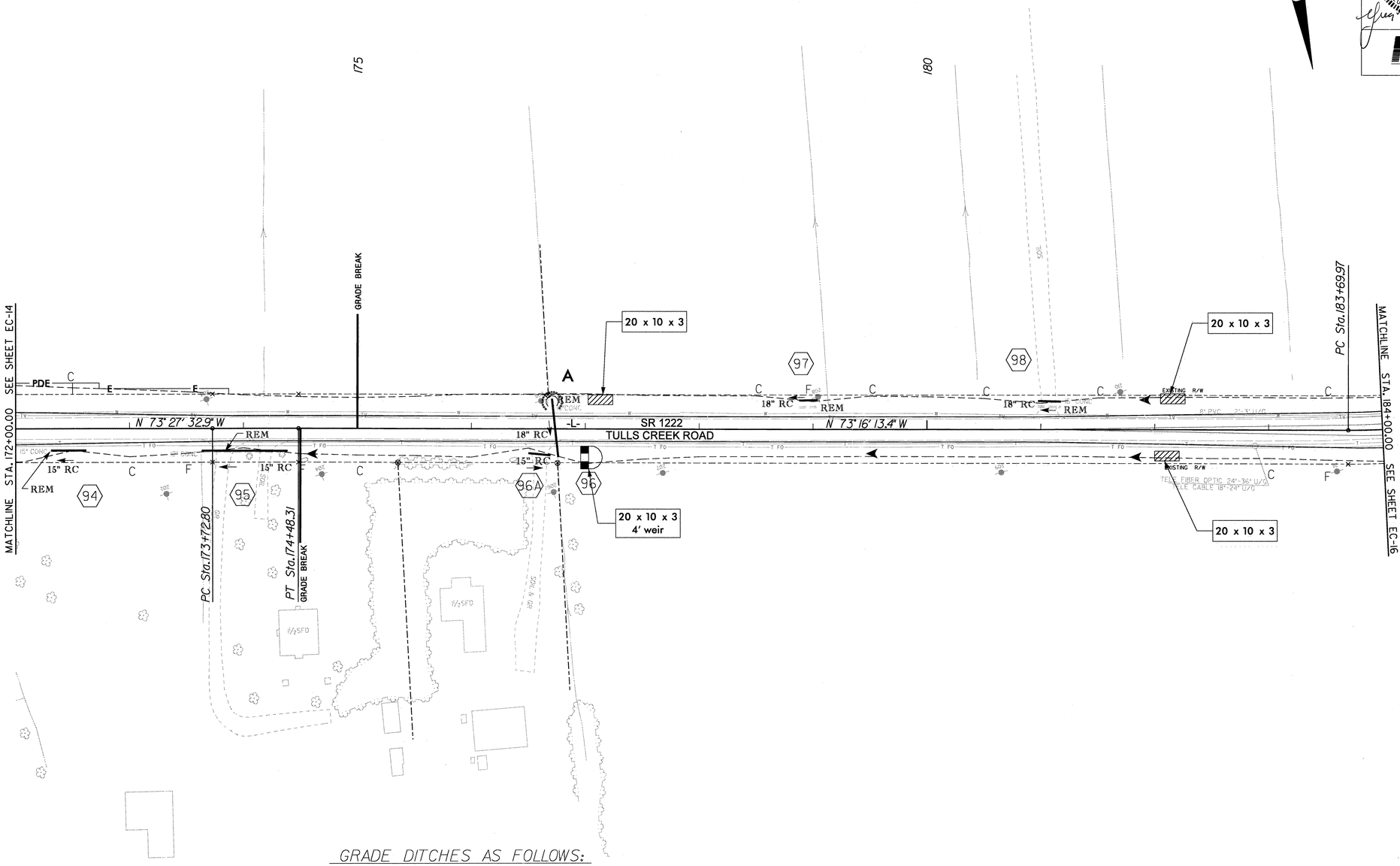
NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY A. HERR
6-14-06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23921 ENGINEER DONALD H. BRIDGES
6-14-06

PARSONS BRINCKERHOFF

NAD 83



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

171+35 (OUTLET DITCH)	←	WATER FLOW ←	174+50 (GRADE BREAK) RIGHT SIDE (GRADE - 1.00%)
171+35 (CROSS LINE)	←	WATER FLOW ←	175+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.41%)
174+50 (GRADE BREAK)	→	WATER FLOW →	176+80 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.50%)
175+00 (GRADE BREAK)	→	WATER FLOW →	176+80 (CROSS LINE) LEFT SIDE (GRADE - 4.00%, EXCELSIOR MATTING)
176+80 (OUTLET DITCH)	←	WATER FLOW ←	185+00 (SR 1267) RIGHT SIDE (GRADE - 0.79%)
176+80 (CROSS LINE)	←	WATER FLOW ←	186+50 (GRADE BREAK) LEFT SIDE (GRADE - 0.43%)

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-16/CONST-18
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY K. NEW

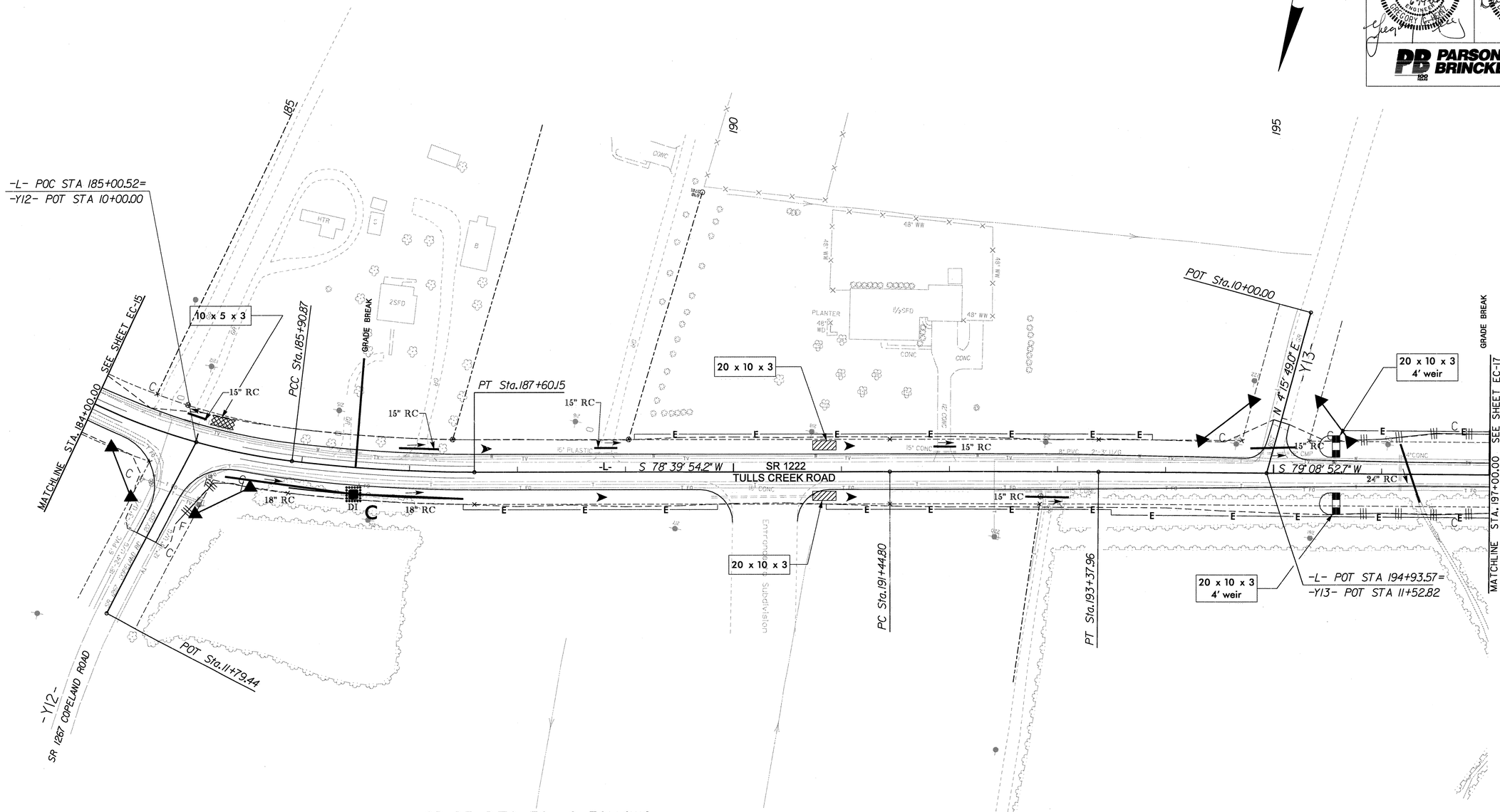
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER JAMES H. BRIDGERS

6-14-06

PB PARSONS BRINCKERHOFF

NAD - 83



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

176+80 (OUTLET DITCH)	← WATER FLOW ←	185+00 (SR 1267)	RIGHT SIDE (GRADE - 0.79%)
176+80 (CROSS LINE)	← WATER FLOW ←	186+50 (GRADE BREAK)	LEFT SIDE (GRADE - 0.43%)
185+00 (SR 1267)	→ WATER FLOW →	196+15 (OUTLET DITCH)	RIGHT SIDE (GRADE - 0.81%)
186+50 (GRADE BREAK)	→ WATER FLOW →	196+15 (CROSS LINE)	LEFT SIDE (GRADE - 0.76%)
196+15 (OUTLET DITCH)	← WATER FLOW ←	197+50 (GRADE BREAK)	RIGHT SIDE (GRADE - 0.35%)
196+15 (CROSS LINE)	← WATER FLOW ←	197+00 (GRADE BREAK)	LEFT SIDE (GRADE - 0.37%)

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6/13/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-17/CONST-19
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY C. PERRY

6-30-06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER DANIEL H. BRIDGES

6-30-06

PB PARSONS BRINCKERHOFF

NAD - 83

200

205

GRADE BREAK

SEE SHEET EC-16

MATCHLINE STA. 197+00.00

20 x 10 x 3
4' weir

20 x 10 x 3

PC Sta.204+06.70

14 x 7 x 3
4' weir

20 x 10 x 3
4' weir

24" CONC

24" RC

S 79° 08' 52.7" W

-L-

SR 1222
TULLS CREEK ROAD

SR 1222 TULLS CREEK RD. (SR 1222)

EXISTING R/W

PDE

15" RC

18" RC

24" RC

TELE FIBER OPTIC

TELE CABLE (BURIED)

20 x 10 x 3
4' weir

20 x 10 x 3

GRADE BREAK

14 x 7 x 3
4' weir

PCC Sta.205+64.22

20 x 10 x 3
4' weir

PT Sta.207+46.23

N 82° 39' 09.2" W

SEE SHEET EC-18

MATCHLINE STA.209+00.00

24" RC

GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

196+15 (OUTLET DITCH) ←	WATER FLOW ←	197+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.35%)
196+15 (CROSS LINE) ←	WATER FLOW ←	197+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.37%)
197+50 (GRADE BREAK) →	WATER FLOW →	197+65 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.42%)
197+00 (GRADE BREAK) →	WATER FLOW →	197+65 (CROSS LINE) LEFT SIDE (GRADE - 0.42%)
197+65 (OUTLET DITCH) ←	WATER FLOW ←	203+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.61%)
197+65 (CROSS LINE) ←	WATER FLOW ←	203+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.53%)
203+50 (GRADE BREAK) →	WATER FLOW →	206+15 (OUTLET PIPE) RIGHT SIDE (GRADE - 1.07%)
203+00 (GRADE BREAK) →	WATER FLOW →	206+15 (CROSS PIPE) RIGHT SIDE (GRADE - 0.88%)
206+15 (OUTLET DITCH) ←	WATER FLOW ←	219+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.33%)
206+15 (CROSS LINE) ←	WATER FLOW ←	217+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.34%)

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6/29/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-18/CONST-20
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY C. KAEMPF
6-14-06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23824 ENGINEER JAMES H. BRIDGERS
6-14-06

PB PARSONS BRINCKERHOFF

NAD 83

2/0

215

220

SEE SHEET EC-17

N 82° 39' 09.2" W

PC Sta.209+89.82

STA. 209+00.00

MATCHLINE

PT Sta.212+04.37

PC Sta.212+76.05

20 x 10 x 3

TV FO 18"-30" U/G
TV CABLE 12"-18" U/G

EXISTING R/W

15" RC

24" RC

18" MTL

S 87° 09' 23.0" W

-L- SR 1222 TULLS CREEK ROAD

PT Sta.216+36.24

GRADE BREAK

20 x 10 x 3

S 83° 33' 16.2" W

PC Sta.217+71.25

8" PVC 2'-3" U/G

STA. 222+00.00

MATCHLINE

SEE SHEET EC-19

GRADE BREAK

GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

206+15 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 219+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.33%)

206+15 (CROSS LINE) ⟵ WATER FLOW ⟵ 217+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.34%)

219+50 (GRADE BREAK) ⟶ WATER FLOW ⟶ 223+50 (CROSS LINE) RIGHT SIDE (GRADE - 0.30%)

217+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 223+50 (OUTLET DITCH) LEFT SIDE (GRADE - 0.37%)

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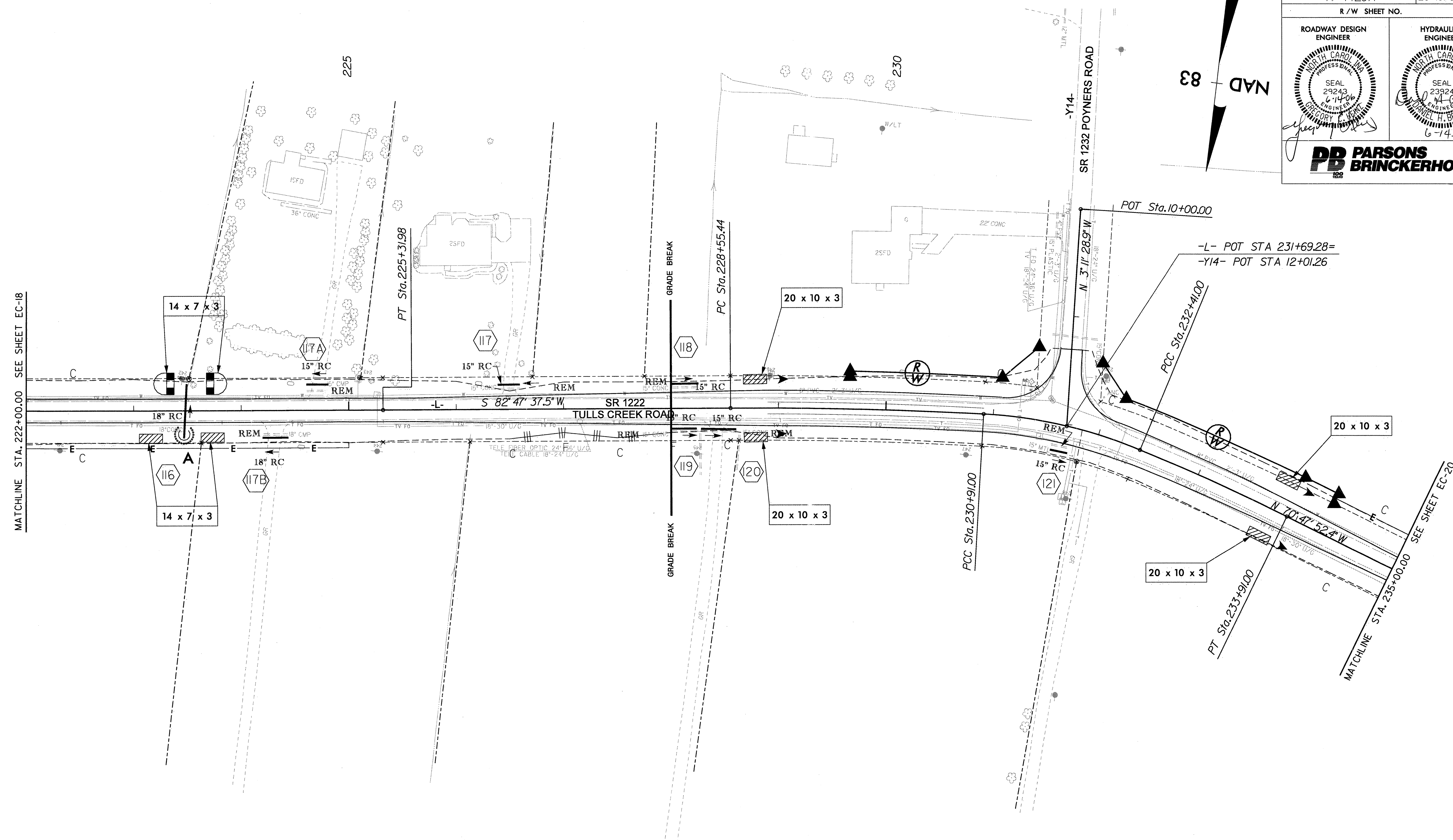
6/13/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-19/CONST-21
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — SEAL 29243, GREGORY C. HEAT, 6-14-06

HYDRAULICS ENGINEER — SEAL 23924, DANIEL H. BRIDGES, 6-14-06

PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

219+50 (GRADE BREAK) ⟶ WATER FLOW ⟶ 223+50 (CROSS LINE) RIGHT SIDE (GRADE - 0.30%)

217+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 223+50 (OUTLET DITCH) LEFT SIDE (GRADE - 0.37%)

223+50 (CROSS LINE) ⟵ WATER FLOW ⟵ 228+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.33%)

223+50 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 228+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.34%)

228+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 247+00 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.35%)

228+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 247+00 (CROSS LINE) LEFT SIDE (GRADE - 0.30%)

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6/13/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-20/CONST-22
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY C. HEINLE

3-1-07

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER TIMOTHY H. BRADSHER

3-1-07

PB PARSONS BRINCKERHOFF

NAD 83

235

240

245

MATCHLINE STA. 235+00.00 SEE SHEET EC-19

PC Sta. 236+90.73

N 70° 47' 52.4" W

N 68° 36' 55.8" W

N 63° 42' 09.3" W

-L- SR 1222 TULLS CREEK ROAD

BLUE-LINE STREAM

20 x 10 x 3

20 x 10 x 3 4' weir

15" RC

15" CONC

TV FO

8" PVC 2'-3" U/G

18"-30" U/G

WLD

CONC

1SBKD

WD DK

2SFD

PT Sta. 239+71.43

PC Sta. 239+94.24

PT Sta. 241+90.75

MATCHLINE STA. 246+00.00 SEE SHEET EC-21

GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

228+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 247+00 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.35%)

228+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 247+00 (CROSS LINE) LEFT SIDE (GRADE - 0.30%)

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2/23/2007

PROJECT REFERENCE NO.	SHEET NO.
R-4429A	EC-21/CONST-23
R/W SHEET NO.	---

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY C. HENTON

3-1-07

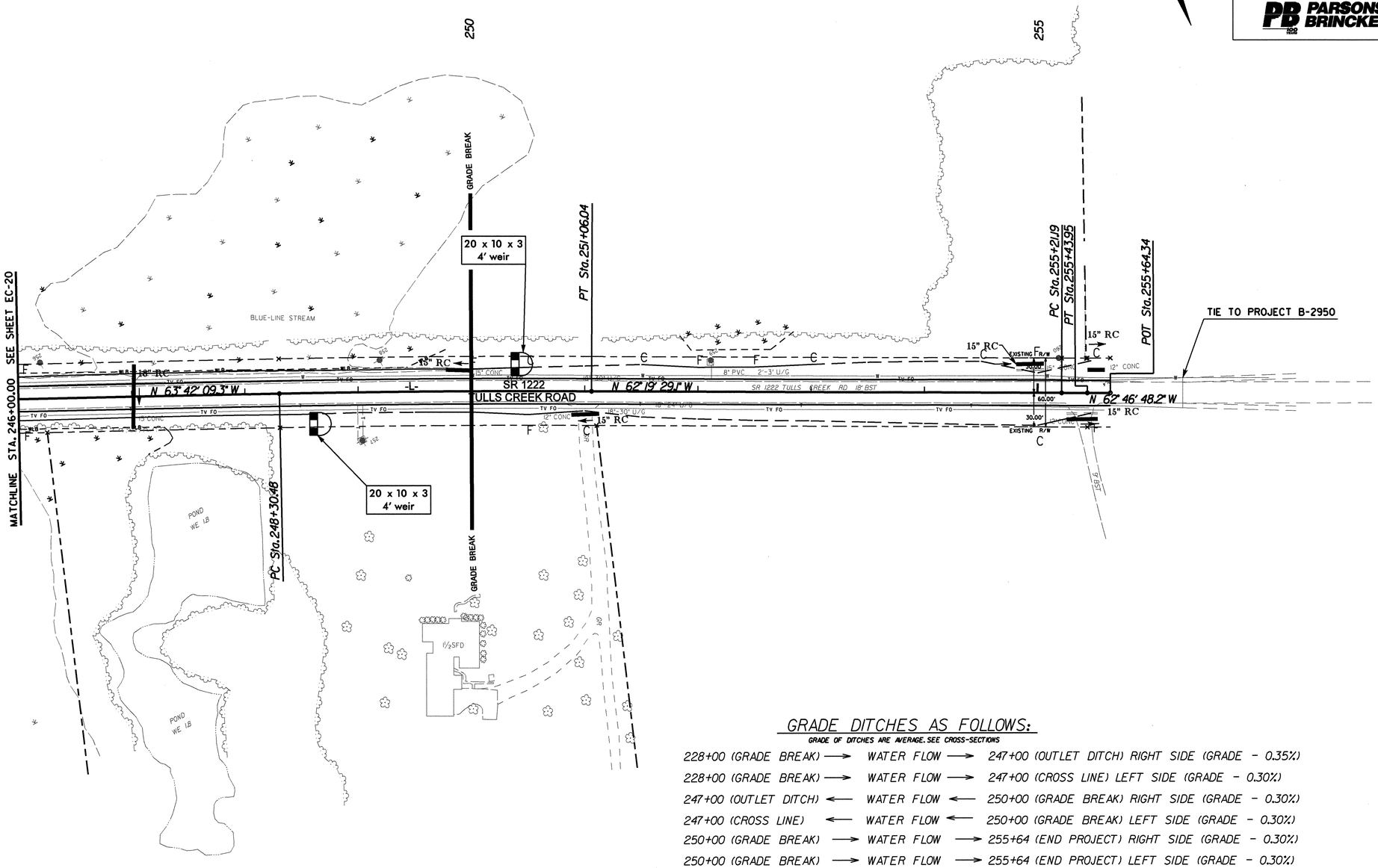
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER DANIEL H. BRINCKERHOFF

3-1-07

PB PARSONS BRINCKERHOFF

NAD 83



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

228+00 (GRADE BREAK) → WATER FLOW → 247+00 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.35%)

228+00 (GRADE BREAK) → WATER FLOW → 247+00 (CROSS LINE) LEFT SIDE (GRADE - 0.30%)

247+00 (OUTLET DITCH) ← WATER FLOW ← 250+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.30%)

247+00 (CROSS LINE) ← WATER FLOW ← 250+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.30%)

250+00 (GRADE BREAK) → WATER FLOW → 255+64 (END PROJECT) RIGHT SIDE (GRADE - 0.30%)

250+00 (GRADE BREAK) → WATER FLOW → 255+64 (END PROJECT) LEFT SIDE (GRADE - 0.30%)

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