11/20/2024

CONTRACT: TIP PROJECT: R-3300A

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERMIT DRAWING
SHEET 1 OF 120

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | R-3300A | 1 | |

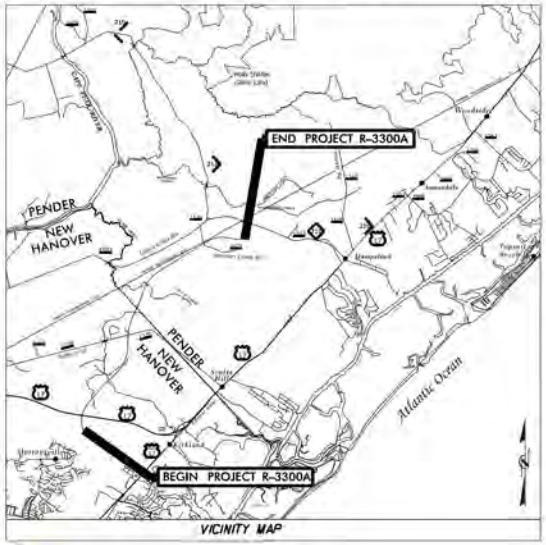
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| 40237.1.3 | N/A | PE |
| 40237.2.4 | N/A | R/W |
| 40237.2.6 | N/A | UTILITIES |
| 40237.3.2 | N/A | CONST |

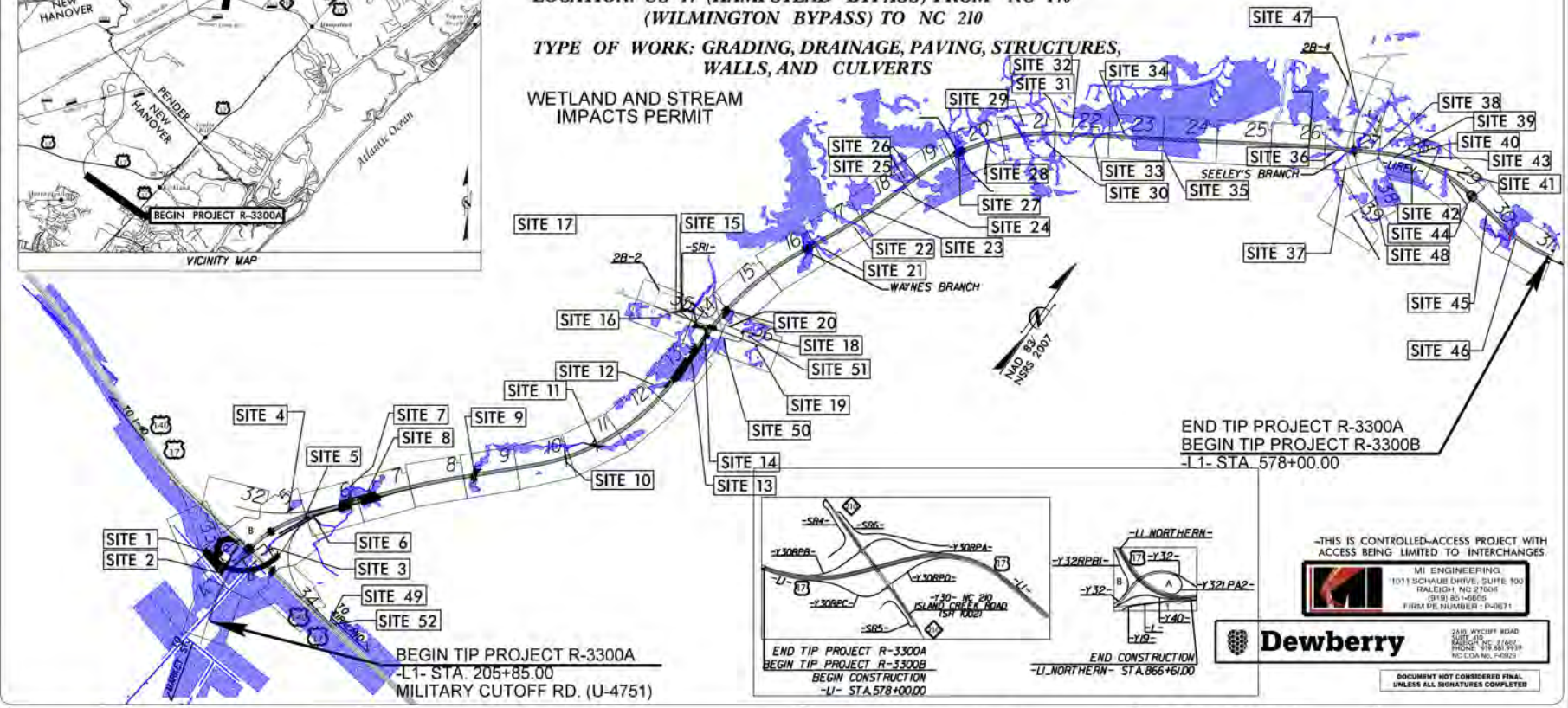
# NEW HANOVER & PENDER COUNTIES

**LOCATION:** US 17 (HAMPSTEAD BYPASS) FROM NC 140 (WILMINGTON BYPASS) TO NC 210

**TYPE OF WORK:** GRADING, DRAINAGE, PAVING, STRUCTURES, WALLS, AND CULVERTS

WETLAND AND STREAM IMPACTS PERMIT










-THIS IS CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.


MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6605
FIRM PE NUMBER: P-0871

Dewberry
2610 WYCLIFF ROAD SUITE 410 RALEIGH, NC 27607 PHONE: 919.881.9939 NC COA No. F-0829


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

## GRAPHIC SCALES

PLANS 50 0 50 100

PROFILE (HORIZONTAL) 50 0 50 100

PROFILE (VERTICAL) 10 0 10 20

## DESIGN DATA

ADT 2016 = N/A
ADT 2040 = 54,800
K = 8 %
D = 60 %
T = 6 % *
V = 70 MPH
*(TTST 2% + DUALS 4%)
FUNC CLASS = FREEWAY
REGIONAL TIER

## PROJECT LENGTH

| | | |
|---|---|---|
| LENGTH ROADWAY TIP PROJECT R-3300A | = | 6.892 MILES |
| LENGTH STRUCTURE TIP PROJECT R-3300A (NORTHBOUND LANES STATIONS USED) | = | 0.152 MILES |
| TOTAL LENGTH TIP PROJECT R-3300A | = | 7.044 MILES |


PREPARED IN THE OFFICE OF:
STANTEC CONSULTING
FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION


2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: APRIL 1, 2019

LETTING DATE: JULY 25, 2025

KATRINA N. HAZEL, P.E.
PROJECT DESIGN ENGINEER

TRACE HOWELL, P.E.
NCDOT DIVISION 7 CONTACT

HYDRAULICS ENGINEERS

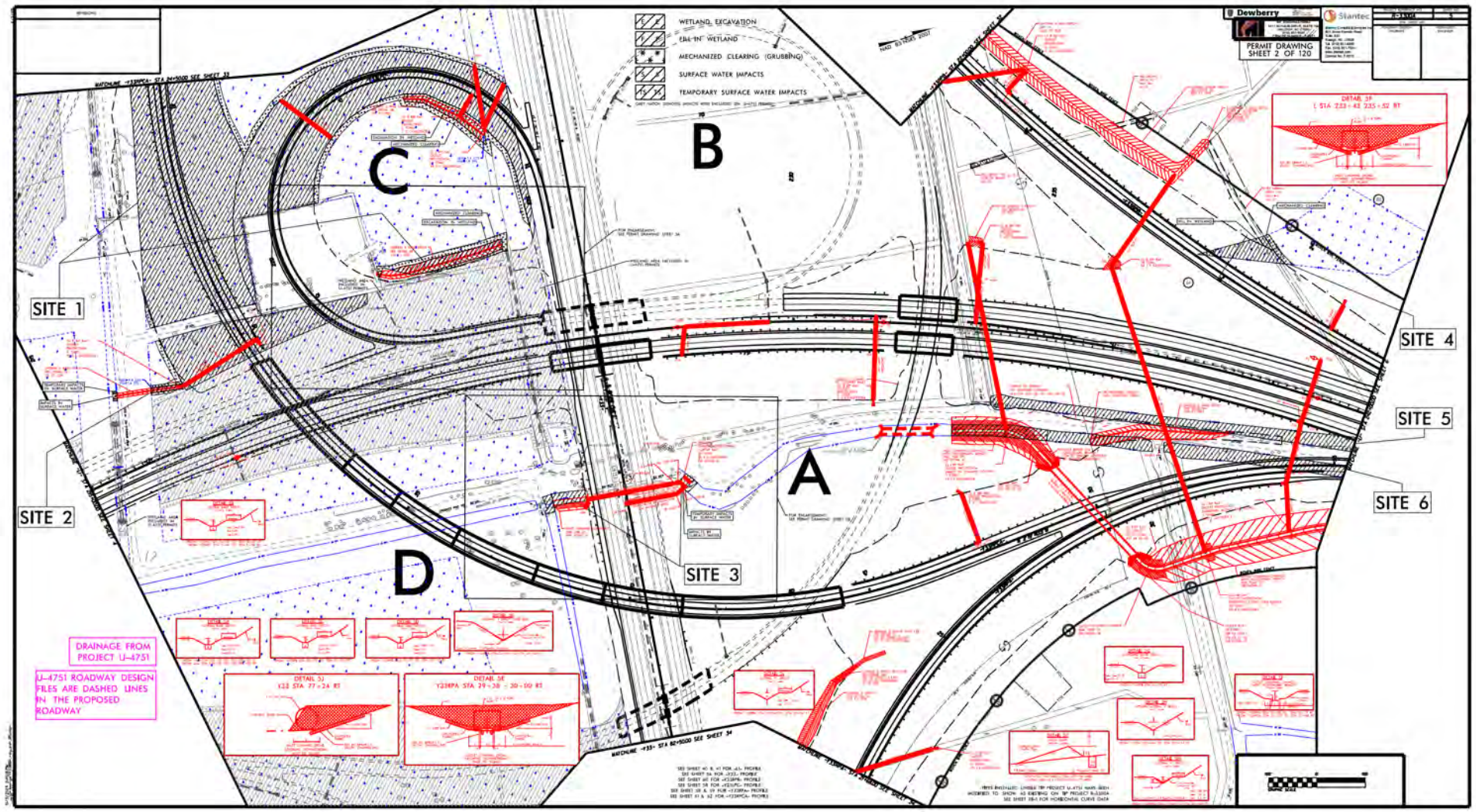
SIGNATURES: P.E. P.E.

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

10/3/2024 2:45:05 PM
n:\Drawings\R3300A_rdy_tsh.dgn
USER: cthomason

11/20/2024


WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
Dewberry
Stantec
PERMIT DRAWING
SHEET 2 OF 120
A
B
C
D
SITE 1
SITE 2
SITE 3
SITE 4
SITE 5
SITE 6
DRAINAGE FROM PROJECT U-4751
U-4751 ROADWAY DESIGN FILES ARE DASHED LINES IN THE PROPOSED ROADWAY

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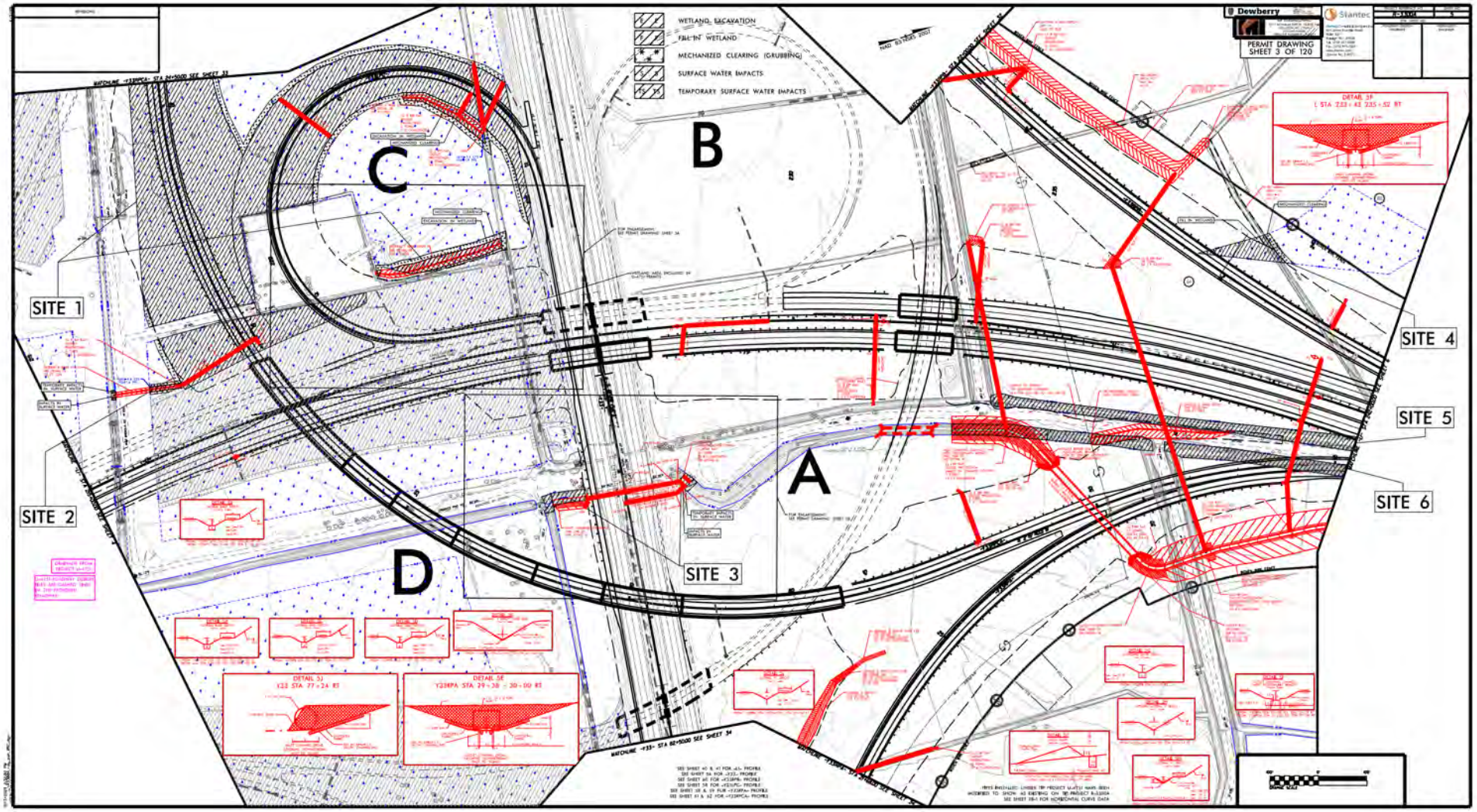
WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
Dewberry
Stantec
PERMIT DRAWING
SHEET 3 OF 120
A
B
C
D
SITE 1
SITE 2
SITE 3
SITE 4
SITE 5
SITE 6

11/20/2024

REVISIONS

FILL IN WETLAND
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
WETLAND EXCAVATION
MECHANIZED CLEARING (GRUBBING)

NAD 83/NSRS 2007

PERMIT DRAWING
SHEET 3A OF 120

50' 0' 50'

Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: F-0671

Stantec
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Fax: (919) 851-7024
www.stantec.com
License No. F-0672

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PROJECT REFERENCE NO. | SHEET NO.
R/W SHEET NO.
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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# SITE 1

MECHANIZED CLEARING

EXCAVATION IN WETLAND

LATERAL 2' BASE DITCH
SEE DETAIL 5B
210 CY DDE

WETLAND AREA INCLUDED IN U-4751 PERMITS

12" HDPE SLOPE DRAIN

VED BY OTHERS

36" RCP IV

15" RCP IV

CABLE GUIDERAIL ANCHOR UNIT

CABLE GUIDERAIL ANCHOR UNIT

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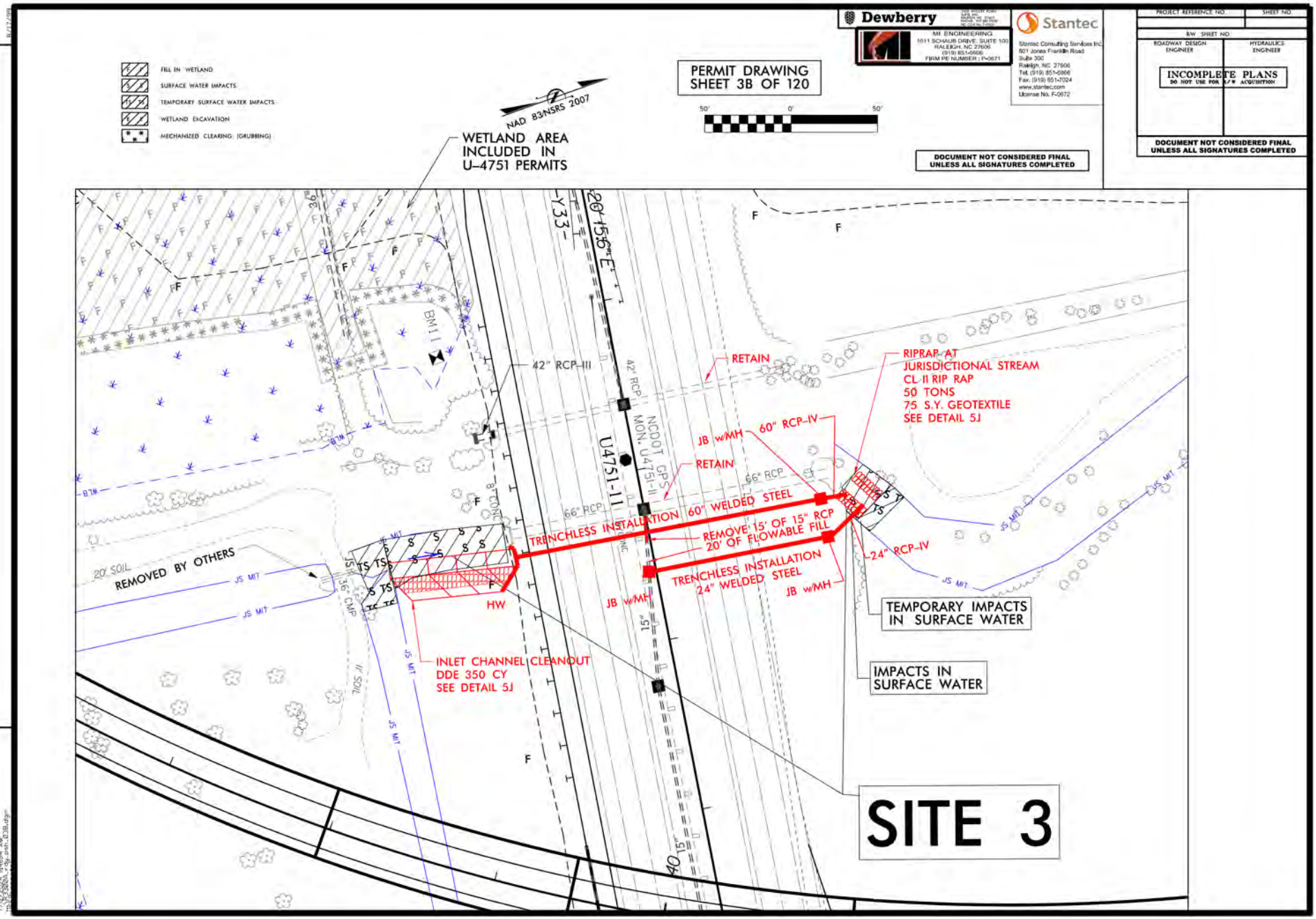
11/20/2024


Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0571
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801 Jones Franklin Road
Suite 300
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PROJECT REFERENCE NO.
SHEET NO.
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
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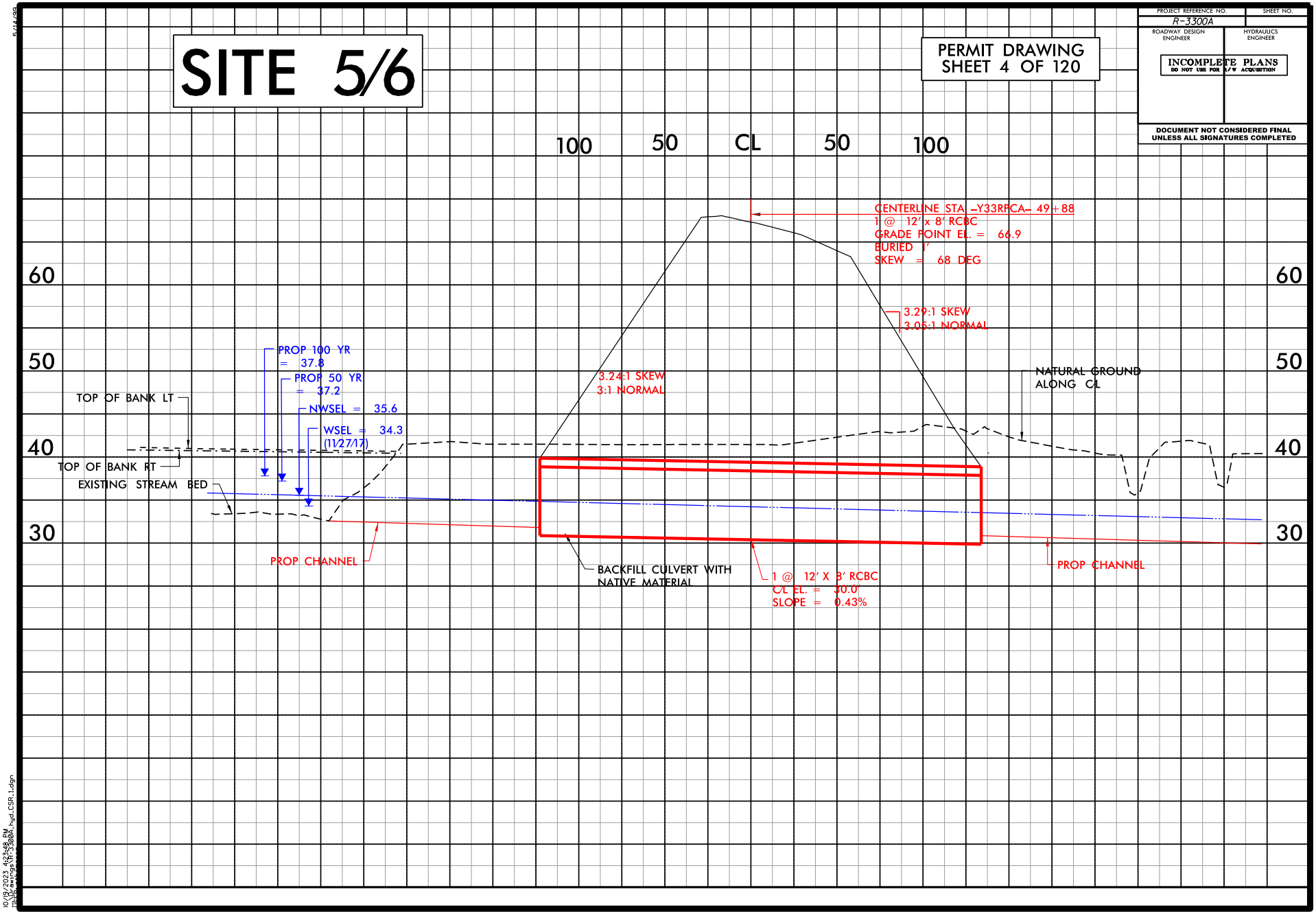
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING
SHEET 3B OF 120
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
FILL IN WETLAND
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
WETLAND EXCAVATION
MECHANIZED CLEARING (GRUBBING)
NAD 83NSRS 2007
WETLAND AREA INCLUDED IN U-4751 PERMITS
REVISIONS
BM1
42" RCP-III
RETAIN
RIPRAP AT JURISDICTIONAL STREAM
CL II RIP RAP
50 TONS
75 S.Y. GEOTEXTILE
SEE DETAIL 5J
JB w/MH
60" RCP-IV
U4751-11
NCDOT GPS MON. U-4751-II
66" RCP
TRENCHLESS INSTALLATION 60" WELDED STEEL
REMOVE 15' OF 15" RCP
20' OF FLOWABLE FILL
TRENCHLESS INSTALLATION 24" WELDED STEEL
24" RCP-IV
20' SOIL
REMOVED BY OTHERS
JS MIT
36" CMP
HW
INLET CHANNEL CLEANOUT
DDE 350 CY
SEE DETAIL 5J
TEMPORARY IMPACTS IN SURFACE WATER
IMPACTS IN SURFACE WATER
SITE 3

11/20/2024

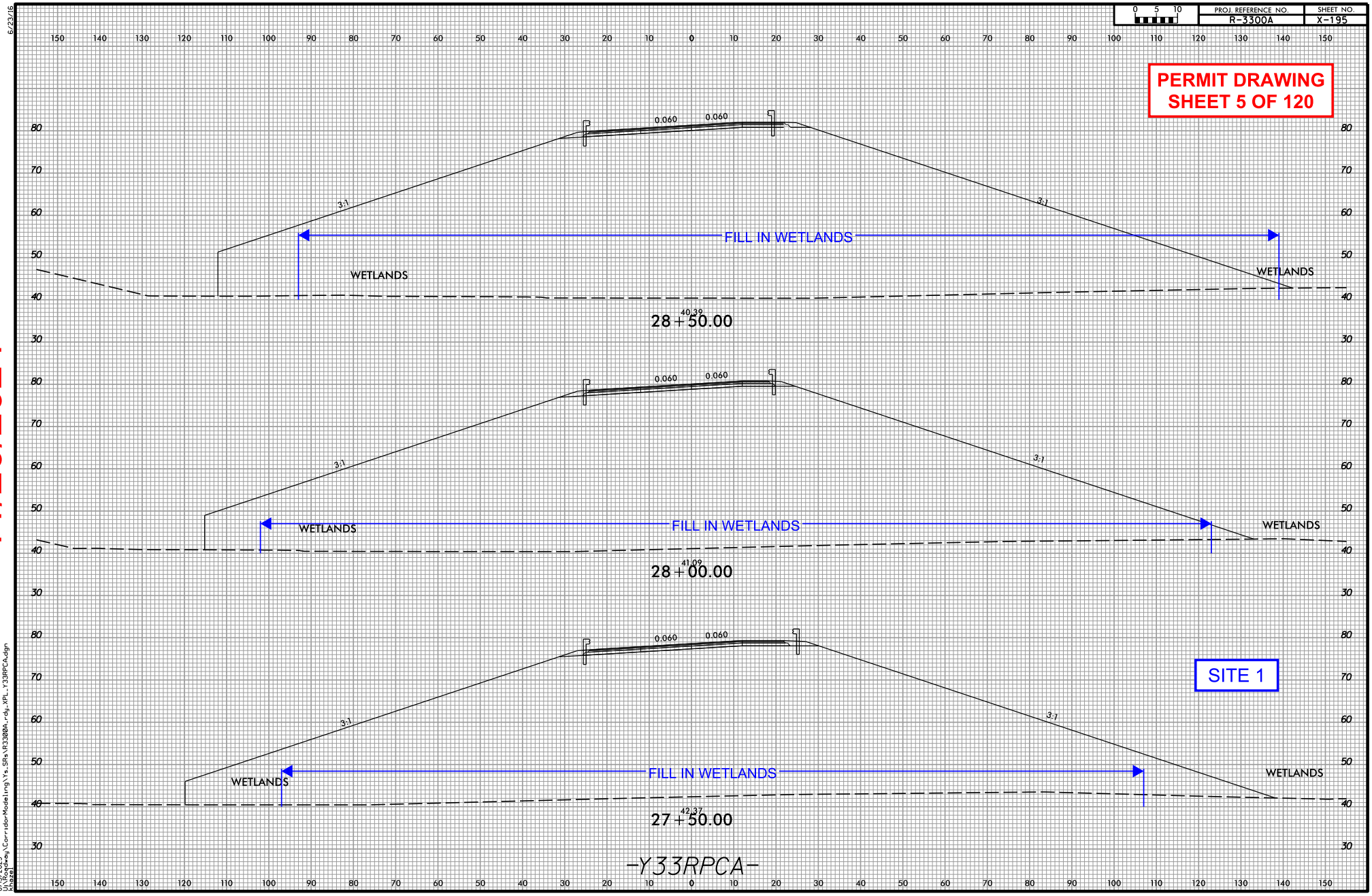


SITE 5/6
PERMIT DRAWING
SHEET 4 OF 120
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
100
50
CL
50
100
60
50
40
30
CENTERLINE STA -Y33RPCA- 49+88
1 @ 12' x 8' RCBC
GRADE POINT EL. = 66.9
BURIED 1'
SKEW = 68 DEG
3.29:1 SKEW
3.05:1 NORMAL
3.24:1 SKEW
3:1 NORMAL
NATURAL GROUND ALONG CL
PROP 100 YR = 37.8
PROP 50 YR = 37.2
NWSEL = 35.6
WSEL = 34.3 (11/27/17)
TOP OF BANK LT
TOP OF BANK RT
EXISTING STREAM BED
PROP CHANNEL
BACKFILL CULVERT WITH NATIVE MATERIAL
1 @ 12' X 8' RCBC
CL EL. = 30.0'
SLOPE = 0.43%
PROP CHANNEL

11/20/2024



PERMIT DRAWING
SHEET 5 OF 120

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11/20/2024

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SHEET 6 OF 120

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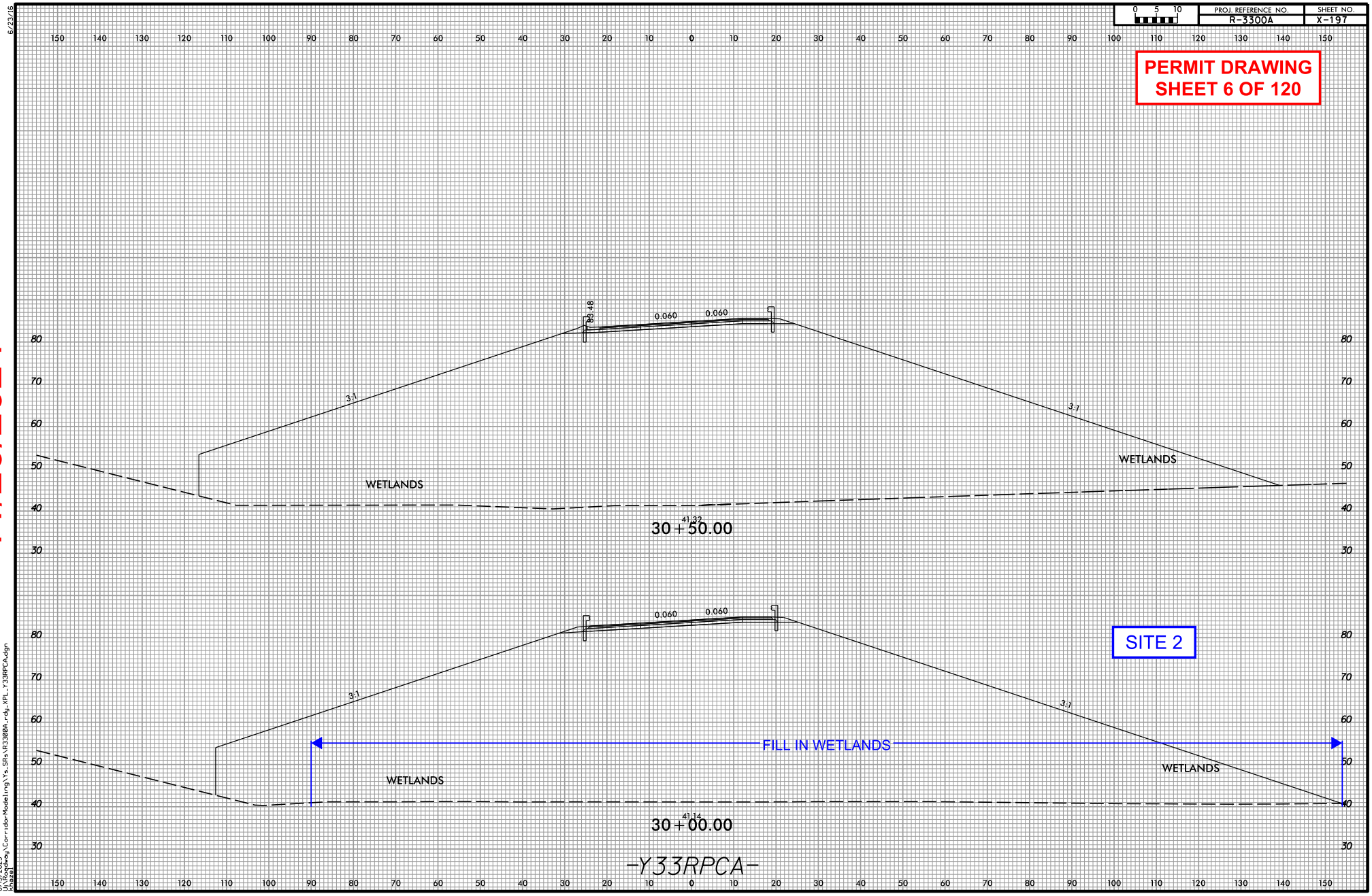
| | R-3300A | X-197 |




6/23/16
8/15/2023
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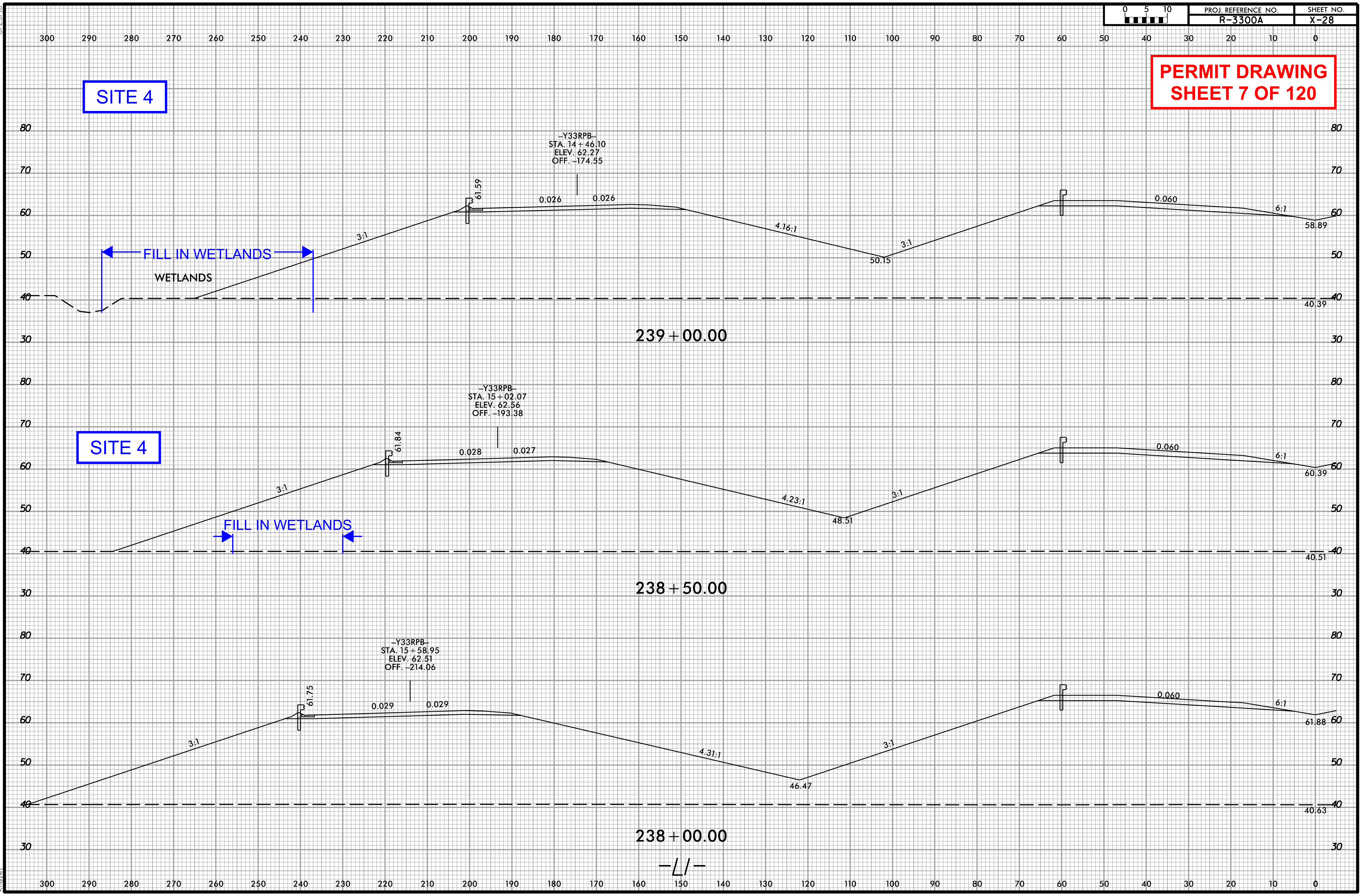
| R-3300A | X-28 |




11/20/2024

6/23/16

8/15/2023
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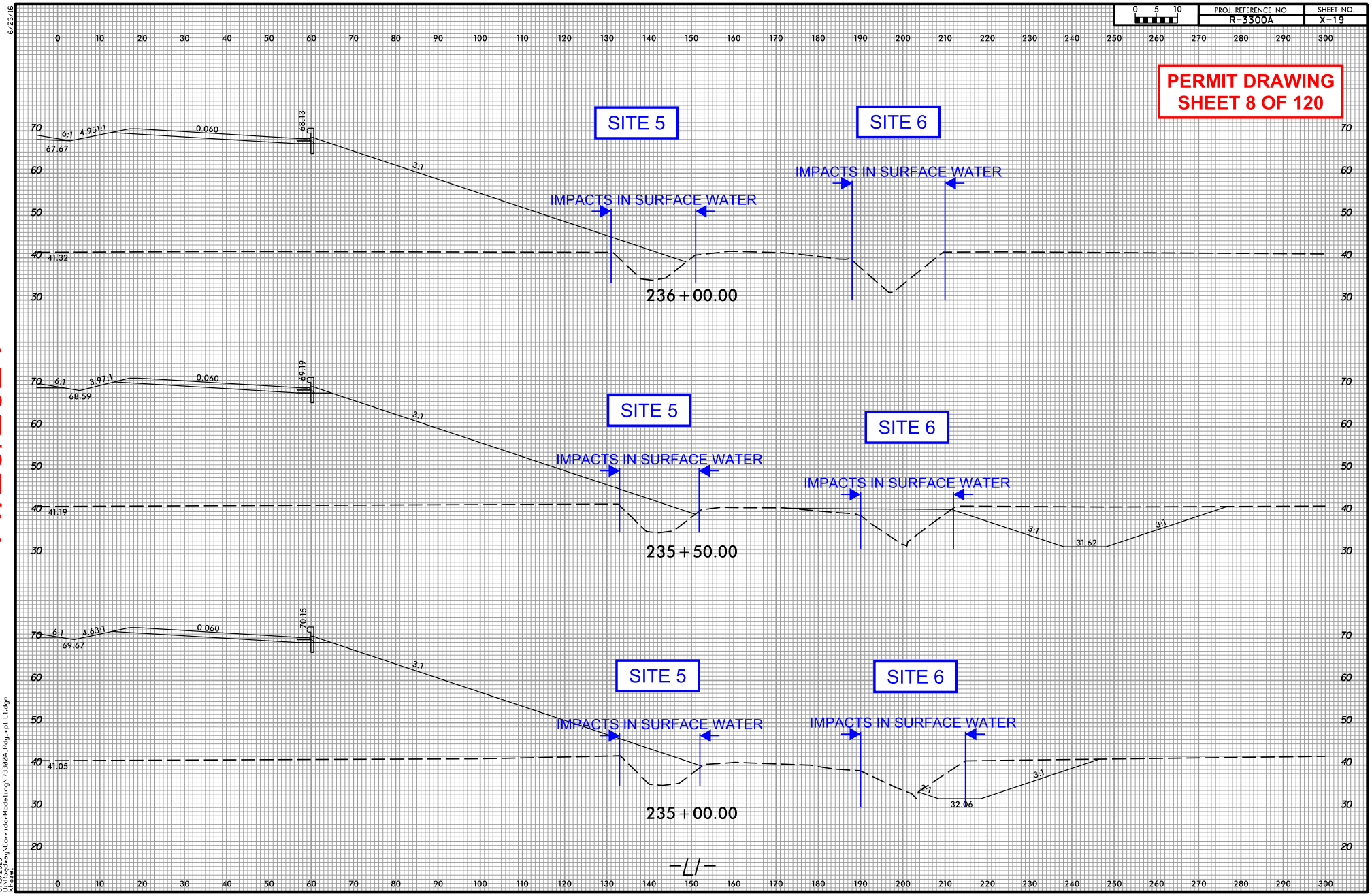
khazel

**PERMIT DRAWING**
**SHEET 8 OF 120**

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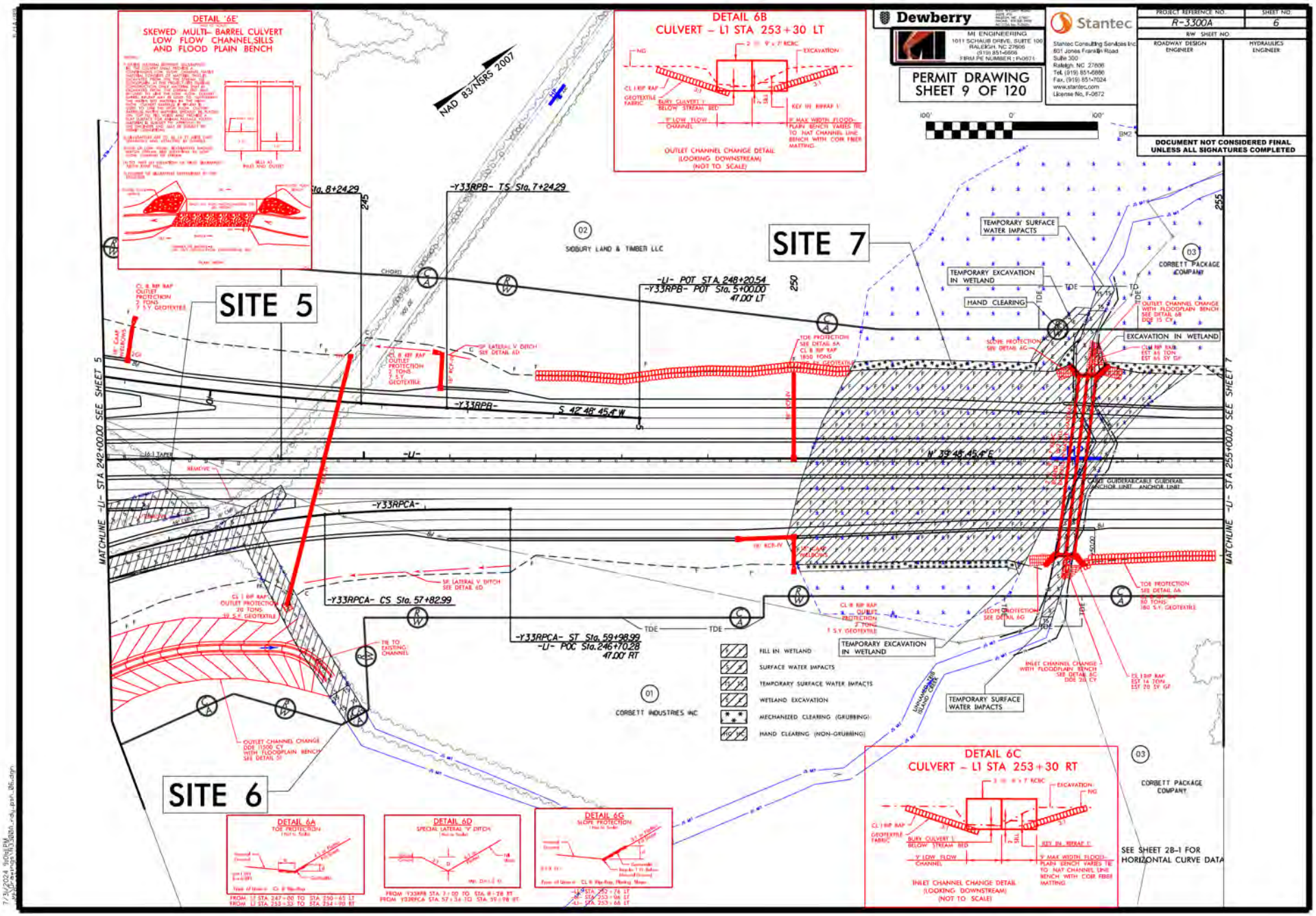


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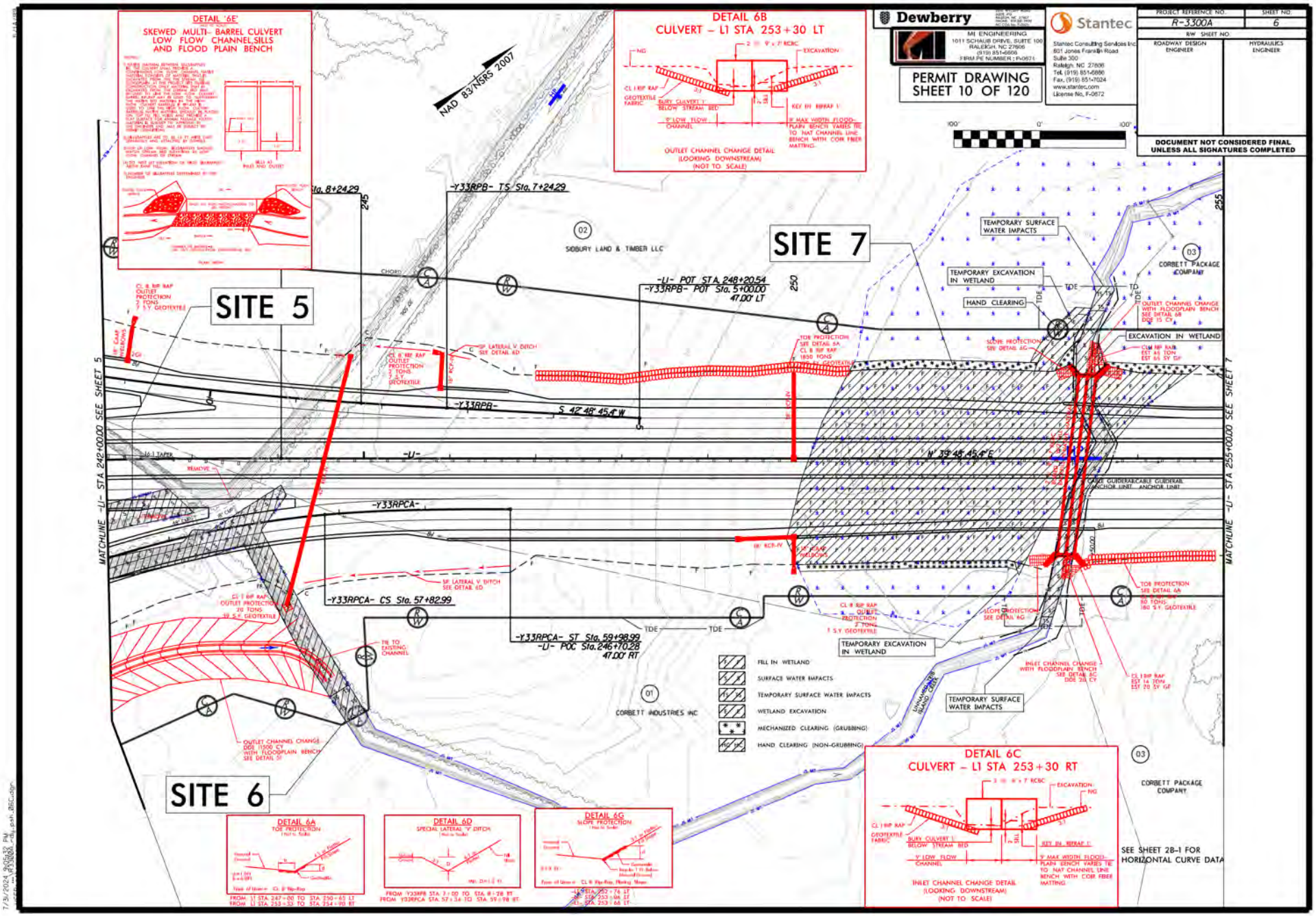
DETAIL '6E'
SKEWED MULTI- BARREL CULVERT
LOW FLOW CHANNEL SILLS
AND FLOOD PLAIN BENCH
DETAIL 6B
CULVERT – L1 STA 253+30 LT
OUTLET CHANNEL CHANGE DETAIL
(LOOKING DOWNSTREAM)
(NOT TO SCALE)
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6686
Fax. (919) 851-7024
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PERMIT DRAWING
SHEET 10 OF 120
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
6
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED
NAD 83/NSRS 2007
SITE 5
SITE 6
SITE 7
-Y33RPB- TS Sta. 7+24.29
-L- POT STA 248+20.54
-Y33RPB- POT Sta. 5+00.00
47.00' LT
-Y33RPB-
S 42° 48' 45.4" W
N 39° 48' 45.4" E
-L-
-Y33RPCA-
-Y33RPCA- CS Sta. 57+82.99
-Y33RPCA- ST Sta. 59+98.99
-L- POC Sta. 246+70.28
47.00' RT
MATCHLINE -L- STA 242+00.00 SEE SHEET 5
MATCHLINE -L- STA 255+00.00 SEE SHEET 7
SIDBURY LAND & TIMBER LLC
CORBETT INDUSTRIES INC
CORBETT PACKAGE COMPANY
TEMPORARY SURFACE WATER IMPACTS
TEMPORARY EXCAVATION IN WETLAND
HAND CLEARING
EXCAVATION IN WETLAND
TEMPORARY SURFACE WATER IMPACTS
TEMPORARY EXCAVATION IN WETLAND
TEMPORARY SURFACE WATER IMPACTS
FILL IN WETLAND
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
WETLAND EXCAVATION
MECHANIZED CLEARING (GRUBBING)
HAND CLEARING (NON-GRUBBING)
DETAIL 6A
TOE PROTECTION
DETAIL 6D
SPECIAL LATERAL 'V' DITCH
DETAIL 6G
SLOPE PROTECTION
DETAIL 6C
CULVERT – L1 STA 253+30 RT
INLET CHANNEL CHANGE DETAIL
(LOOKING DOWNSTREAM)
(NOT TO SCALE)
SEE SHEET 2B-1 FOR
HORIZONTAL CURVE DATA

11/20/2024

| PROJECT REFERENCE NO. | SHEET NO. |
| --- | --- |
| R-3300A | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

INCOMPLETE PLANS
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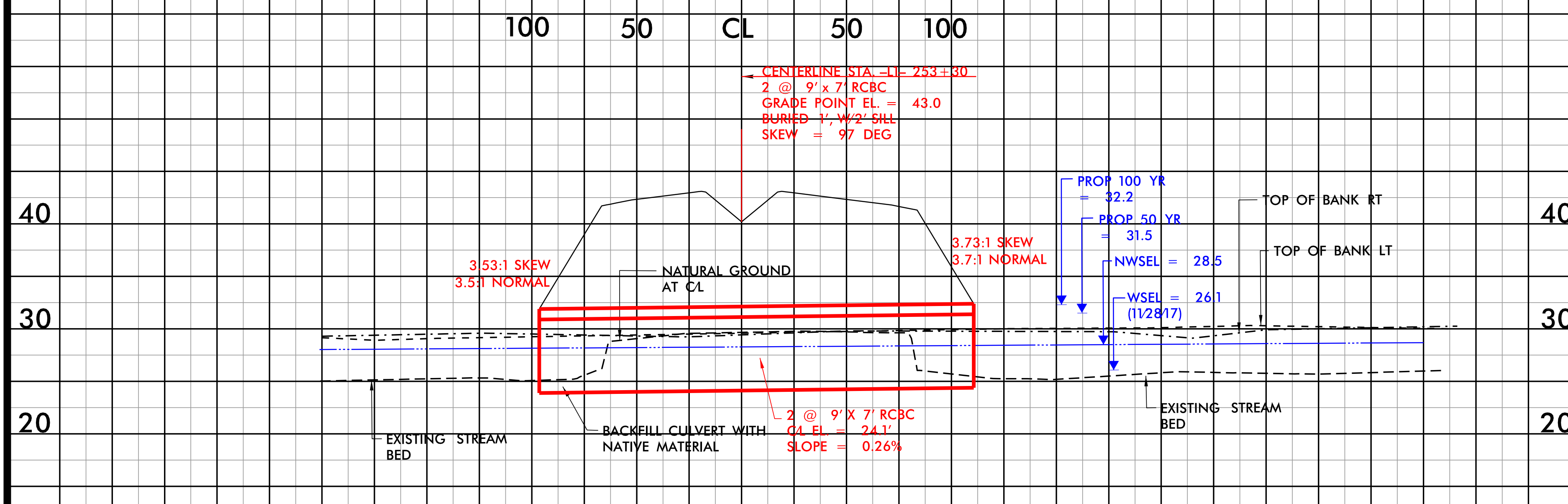
PERMIT DRAWING
SHEET 11 OF 120

# SITE 7

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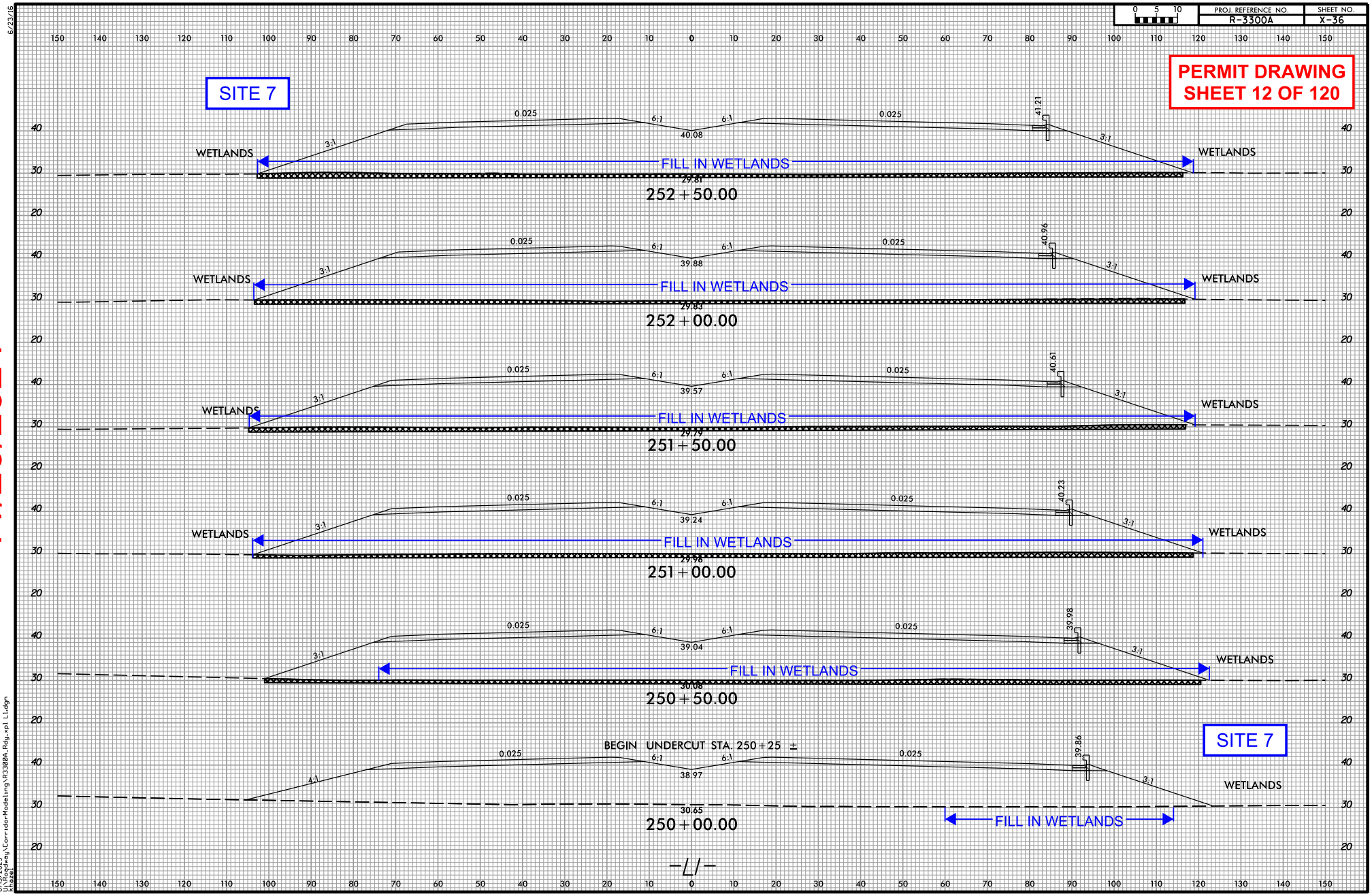


11/20/2024

6/23/16

8/15/2023
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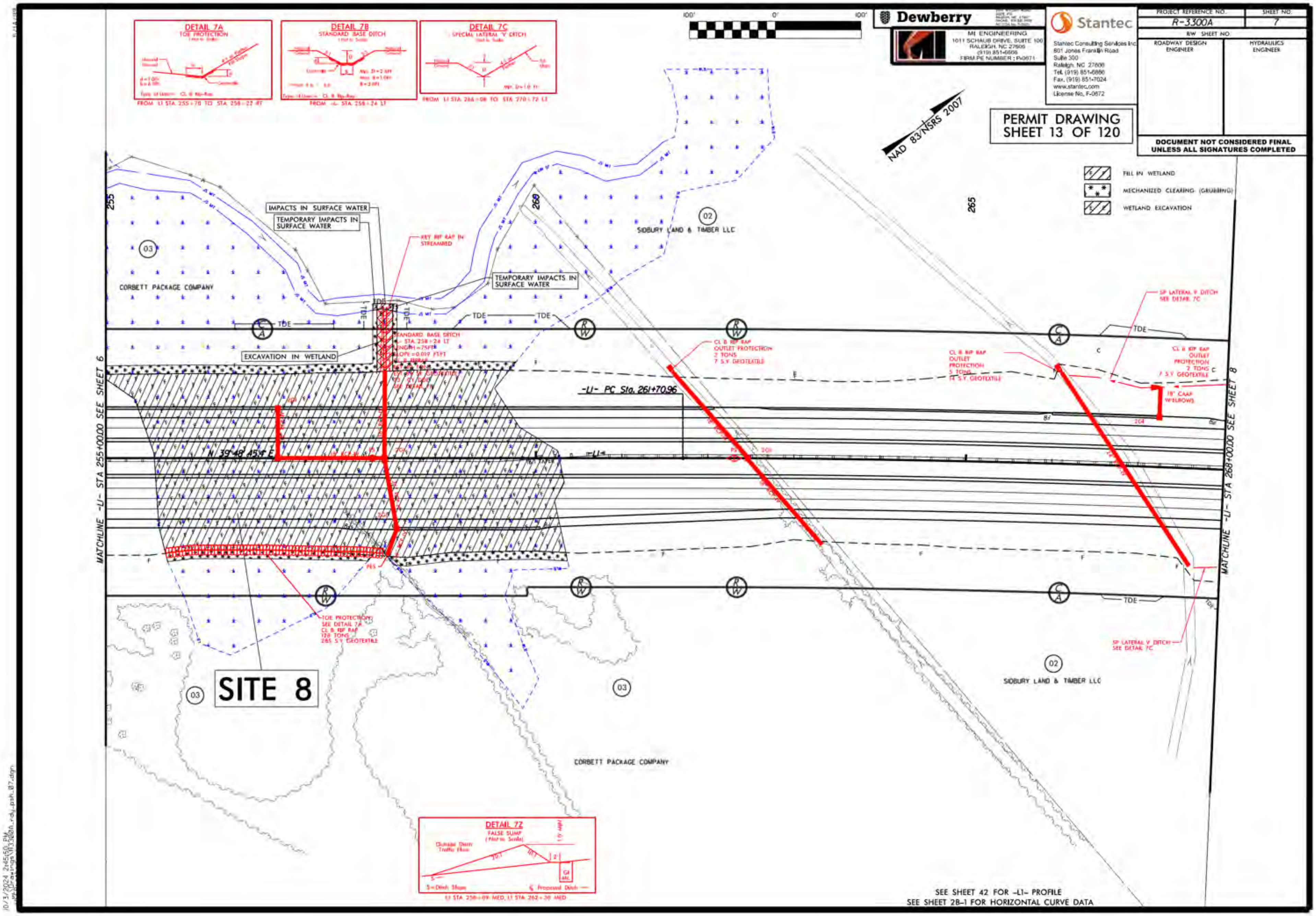
khazel


PROJECT REFERENCE NO.
R-3300A
SHEET NO.
7
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
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MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6866
FIRM PE NUMBER : P-0671
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Stantec Consulting Services Inc.
801 Jones Franklin Road
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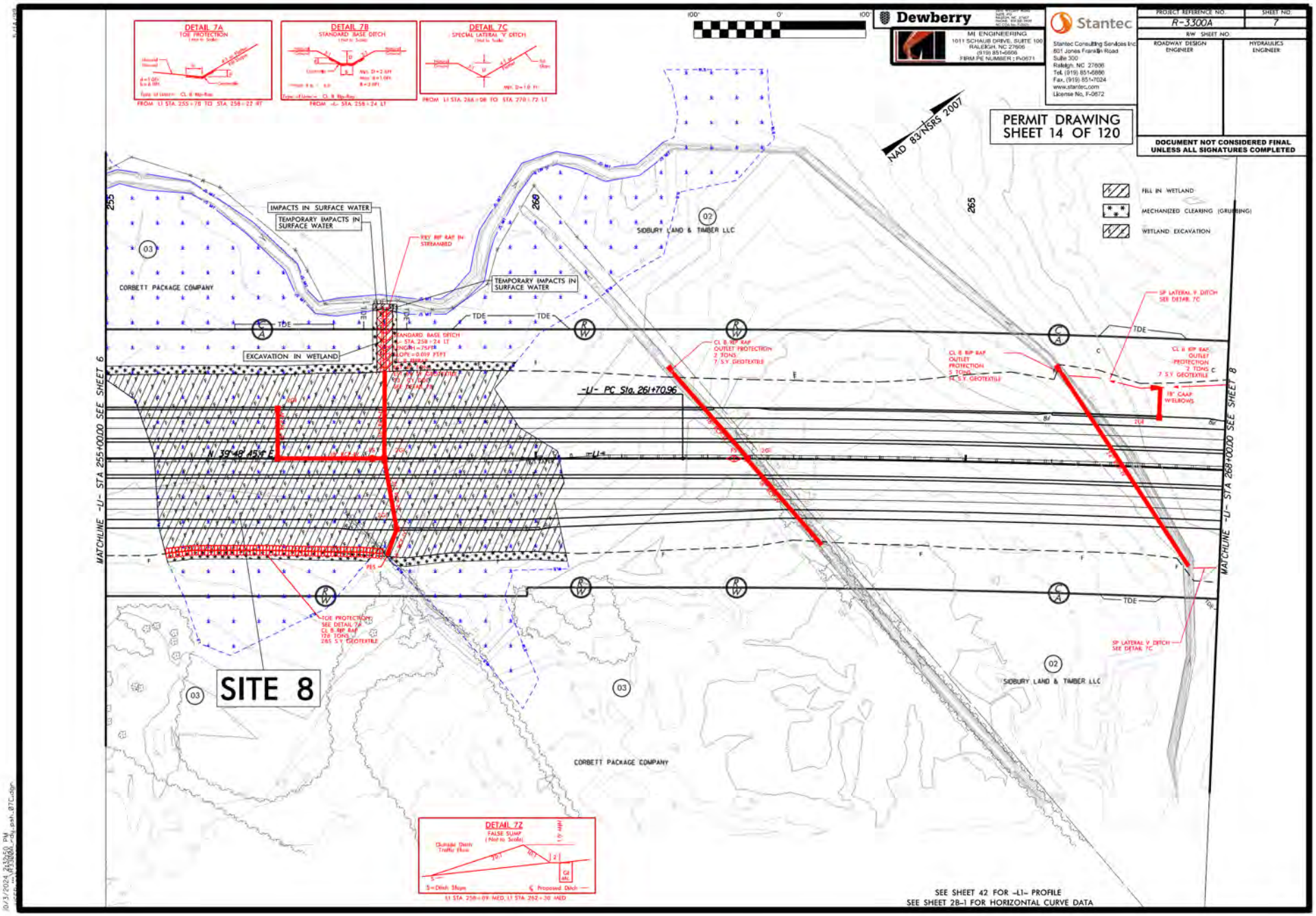
PERMIT DRAWING
SHEET 13 OF 120
NAD 83/NSRS 2007
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
WETLAND EXCAVATION
DETAIL 7A
TOE PROTECTION
FROM L1 STA. 255+78 TO STA. 258+22 RT
DETAIL 7B
STANDARD BASE DITCH
FROM -L- STA. 258+24 LT
DETAIL 7C
SPECIAL LATERAL V DITCH
FROM L1 STA. 266+08 TO STA. 270+72 LT
IMPACTS IN SURFACE WATER
TEMPORARY IMPACTS IN SURFACE WATER
EXCAVATION IN WETLAND
KEY RIP RAP IN STREAMBED
CORBETT PACKAGE COMPANY
SIDBURY LAND & TIMBER LLC
-L1- PC Sta. 261+70.96
CL B RIP RAP OUTLET PROTECTION 2 TONS 7 S.Y. GEOTEXTILE
18" CAAP W/ELBOWS
SP LATERAL V DITCH SEE DETAIL 7C
TOE PROTECTION SEE DETAIL 7A CL B RIP RAP 128 TONS 285 S.Y. GEOTEXTILE
SITE 8
MATCHLINE -L1- STA 255+00.00 SEE SHEET 6
MATCHLINE -L1- STA 268+00.00 SEE SHEET 8
DETAIL 7Z
FALSE SUMP
L1 STA. 258+09 MED, L1 STA. 262+30 MED
SEE SHEET 42 FOR -L1- PROFILE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA

11/20/2024


DETAIL 7A
TOE PROTECTION
DETAIL 7B
STANDARD BASE DITCH
DETAIL 7C
SPECIAL LATERAL 'V' DITCH
DETAIL 7Z
FALSE SUMP
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
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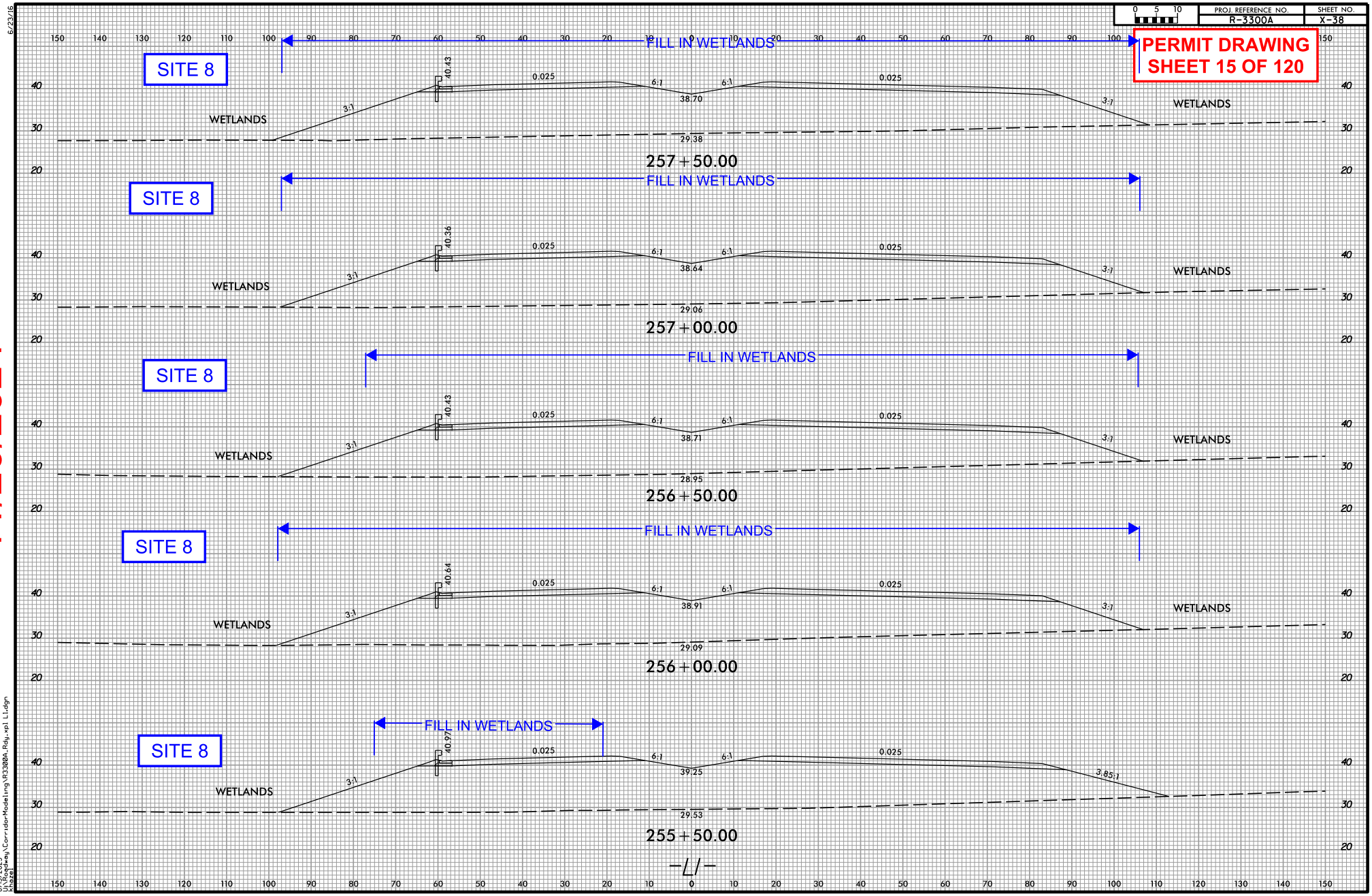
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NAD 83/NSRS 2007
PERMIT DRAWING
SHEET 14 OF 120
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
WETLAND EXCAVATION
IMPACTS IN SURFACE WATER
TEMPORARY IMPACTS IN SURFACE WATER
KEY RIP RAP IN STREAMBED
TEMPORARY IMPACTS IN SURFACE WATER
EXCAVATION IN WETLAND
CORBETT PACKAGE COMPANY
SIDBURY LAND & TIMBER LLC
-L1- PC Sta. 261+70.96
N 39°48'45"E
CL B RIP RAP OUTLET PROTECTION 2 TONS 7 S.Y. GEOTEXTILE
SP LATERAL V DITCH SEE DETAIL 7C
18" CAAP W/ELBOWS
TOE PROTECTION SEE DETAIL 7A
SITE 8
MATCHLINE -L1- STA 255+00.00 SEE SHEET 6
MATCHLINE -L1- STA 269+00.00 SEE SHEET 8
SEE SHEET 42 FOR -L1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

11/20/2024




11/20/2024

6/23/16

8/15/2023
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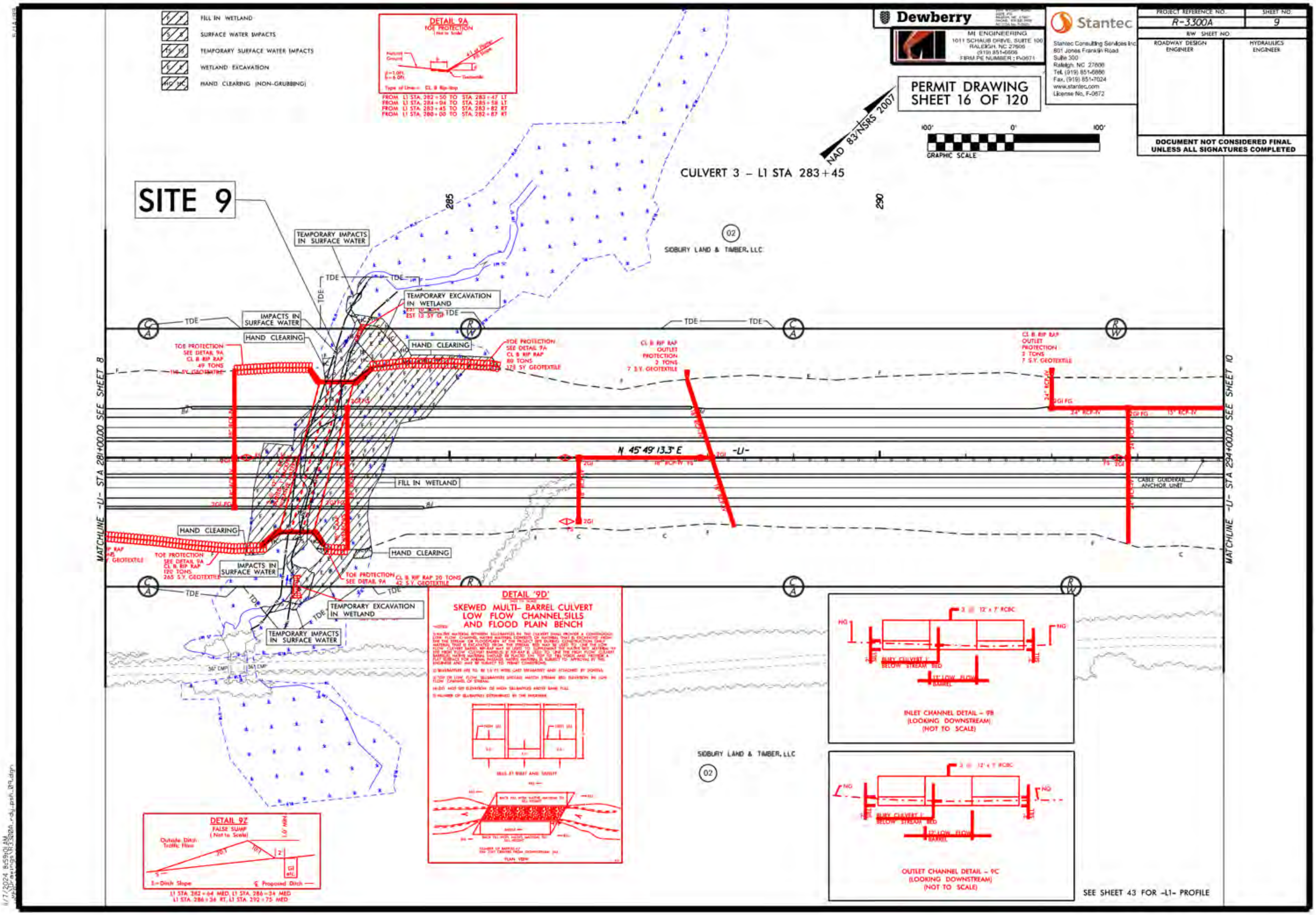
USER

11/20/2024



PROJECT REFERENCE NO.
R-3300A
SHEET NO.
9
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
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Dewberry
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1011 SCHAUB DRIVE, SUITE 100
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FIRM PE NUMBER : P-0671
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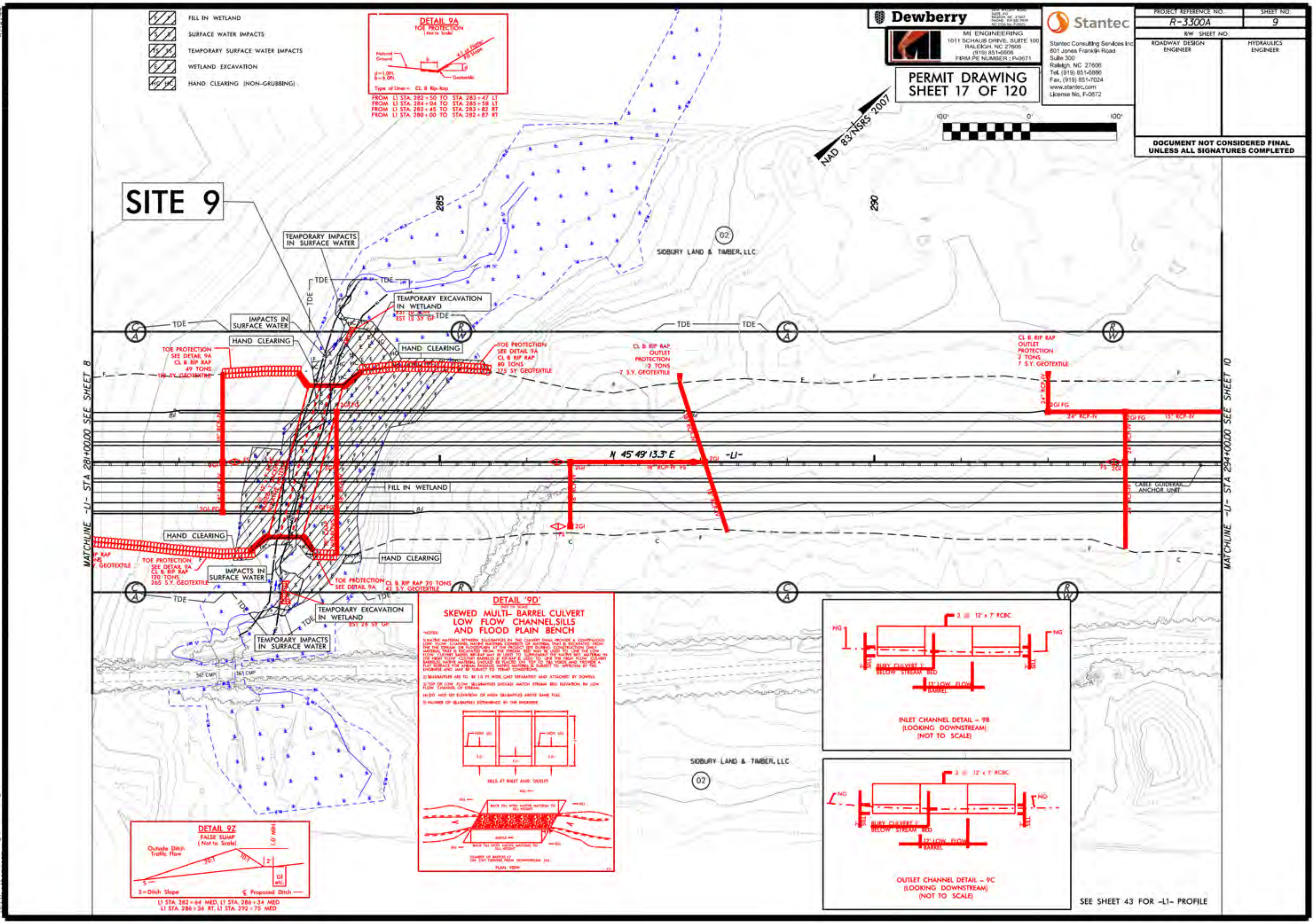
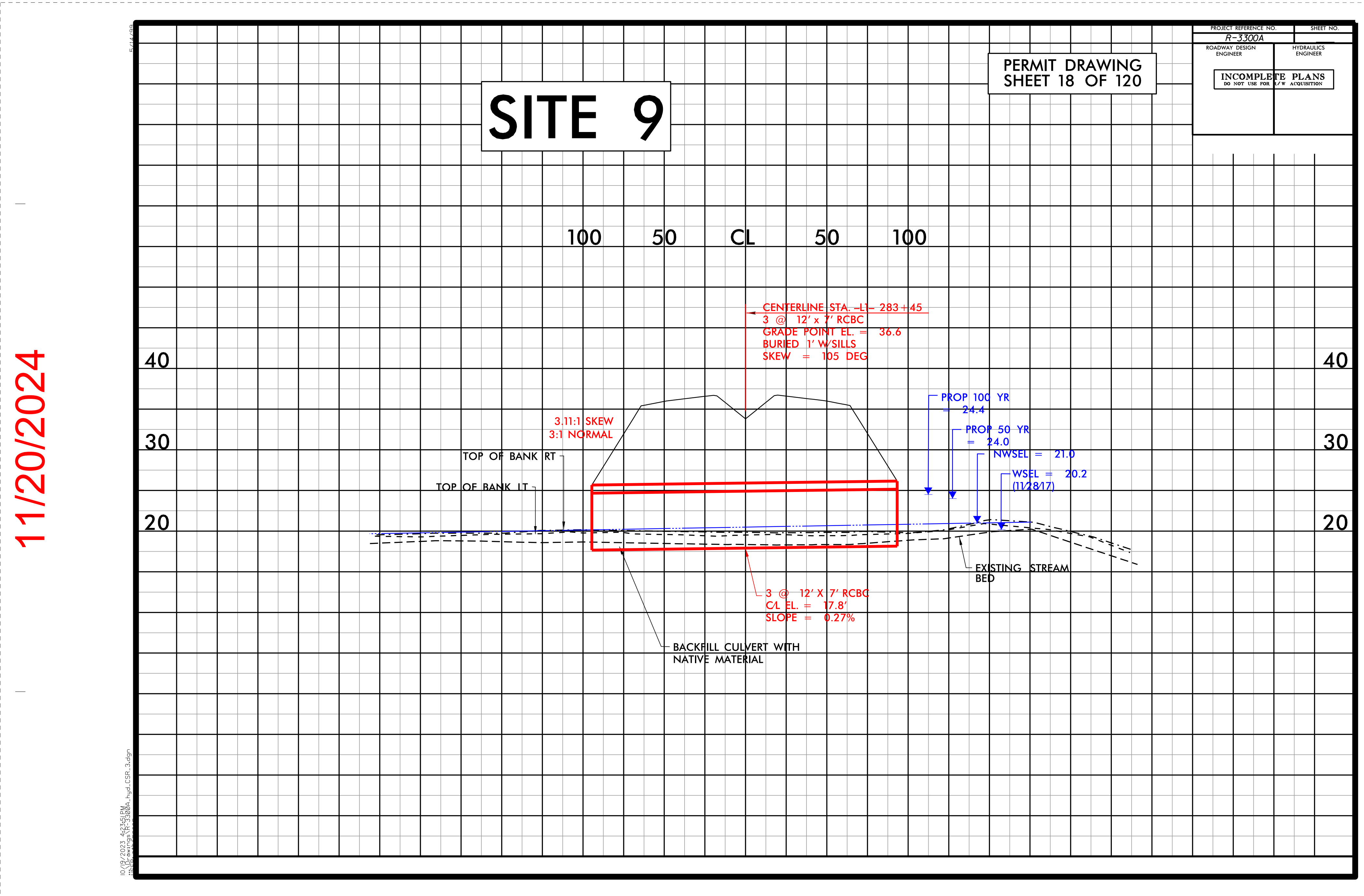
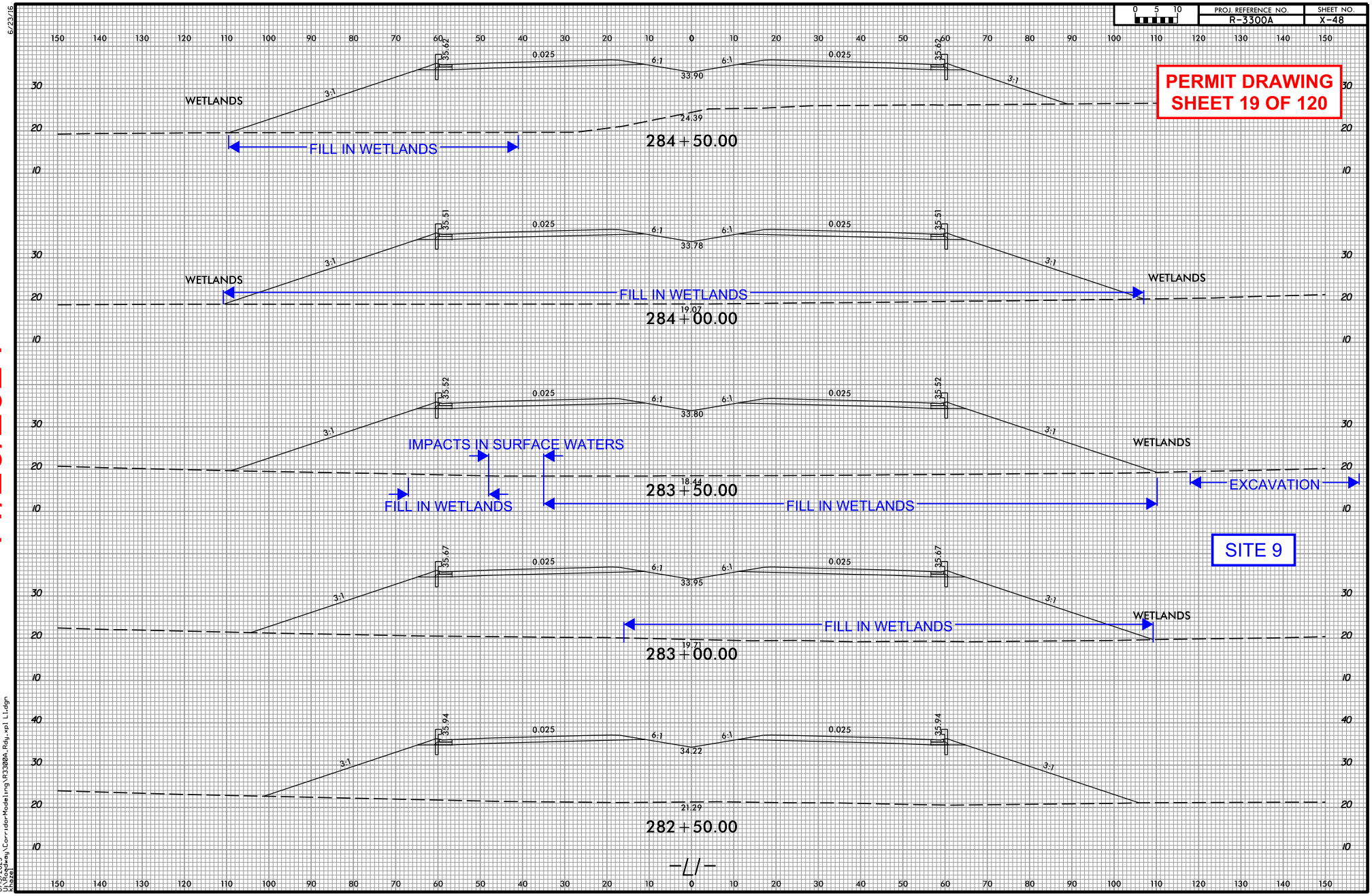
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PERMIT DRAWING
SHEET 16 OF 120
NAD 83/NSRS 2007
100'
0'
100'
GRAPHIC SCALE
CULVERT 3 – L1 STA 283+45
SITE 9
FILL IN WETLAND
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
WETLAND EXCAVATION
HAND CLEARING (NON-GRUBBING)
DETAIL 9A
TOE PROTECTION
FROM L1 STA. 282+50 TO STA. 283+47 LT
FROM L1 STA. 284+04 TO STA. 285+58 LT
FROM L1 STA. 283+45 TO STA. 283+82 RT
FROM L1 STA. 280+00 TO STA. 282+87 RT
SIDBURY LAND & TIMBER, LLC
02
TEMPORARY IMPACTS IN SURFACE WATER
TEMPORARY EXCAVATION IN WETLAND
IMPACTS IN SURFACE WATER
HAND CLEARING
FILL IN WETLAND
TOE PROTECTION SEE DETAIL 9A CL B RIP RAP 49 TONS
TOE PROTECTION SEE DETAIL 9A CL B RIP RAP 80 TONS 375 SY GEOTEXTILE
TOE PROTECTION SEE DETAIL 9A CL B RIP RAP 120 TONS 265 S.Y. GEOTEXTILE
TOE PROTECTION SEE DETAIL 9A CL B RIP RAP 20 TONS 42 S.Y. GEOTEXTILE
CL B RIP RAP OUTLET PROTECTION 3 TONS 7 S.Y. GEOTEXTILE
N 45°49'13.3" E
-L1-
MATCHLINE -L1- STA 281+00.00 SEE SHEET 8
MATCHLINE -L1- STA 294+00.00 SEE SHEET 10
CABLE GUIDERAIL ANCHOR UNIT
DETAIL '9D'
SKEWED MULTI- BARREL CULVERT LOW FLOW CHANNEL,SILLS AND FLOOD PLAIN BENCH
INLET CHANNEL DETAIL – 9B (LOOKING DOWNSTREAM) (NOT TO SCALE)
OUTLET CHANNEL DETAIL – 9C (LOOKING DOWNSTREAM) (NOT TO SCALE)
3 @ 12' x 7' RCBC
BURY CULVERT 1' BELOW STREAM BED
12' LOW FLOW BARREL
DETAIL 9Z
FALSE SUMP (Not to Scale)
L1 STA. 282+64 MED, L1 STA. 286+34 MED
L1 STA. 286+36 RT, L1 STA. 292+75 MED
SEE SHEET 43 FOR -L1- PROFILE

11/20/2024



FILL IN WETLAND
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
WETLAND EXCAVATION
HAND CLEARING (NON-GRUBBING)
DETAIL 9A
TOE PROTECTION
FROM L1 STA. 282+50 TO STA. 283+47 LT
FROM L1 STA. 284+04 TO STA. 285+58 LT
FROM L1 STA. 283+45 TO STA. 283+82 RT
FROM L1 STA. 280+00 TO STA. 282+87 RT
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6666
FIRM PE NUMBER : P-0671
PERMIT DRAWING
SHEET 17 OF 120
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
9
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
NAD 83/NSRS 2007
SITE 9
285
290
SIDBURY LAND & TIMBER, LLC
TEMPORARY IMPACTS IN SURFACE WATER
TEMPORARY EXCAVATION IN WETLAND
IMPACTS IN SURFACE WATER
HAND CLEARING
FILL IN WETLAND
TOE PROTECTION SEE DETAIL 9A CL B RIP RAP 49 TONS
TOE PROTECTION SEE DETAIL 9A CL B RIP RAP 80 TONS 375 SY GEOTEXTILE
TOE PROTECTION SEE DETAIL 9A CL B RIP RAP 120 TONS 265 S.Y. GEOTEXTILE
CL B RIP RAP OUTLET PROTECTION 2 TONS 7 S.Y. GEOTEXTILE
N 45°49'13.3" E
-L1-
CABLE GUIDERAIL ANCHOR UNIT
MATCHLINE -L1- STA 281+00.00 SEE SHEET 8
MATCHLINE -L1- STA 294+00.00 SEE SHEET 10
DETAIL '9D'
SKEWED MULTI- BARREL CULVERT LOW FLOW CHANNEL,SILLS AND FLOOD PLAIN BENCH
SILLS AT INLET AND OUTLET
PLAN VIEW
DETAIL 9Z
FALSE SUMP
(Not to Scale)
Outside Ditch Traffic Flow
L1 STA. 282+64 MED, L1 STA. 286+34 MED
L1 STA. 286+36 RT, L1 STA. 292+75 MED
2 @ 12' x 7' RCBC
BURY CULVERT 1' BELOW STREAM BED
12' LOW FLOW BARREL
INLET CHANNEL DETAIL - 9B
(LOOKING DOWNSTREAM)
(NOT TO SCALE)
OUTLET CHANNEL DETAIL - 9C
(LOOKING DOWNSTREAM)
(NOT TO SCALE)
SEE SHEET 43 FOR -L1- PROFILE


11/20/2024
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PERMIT DRAWING
SHEET 18 OF 120
SITE 9
100
50
CL
50
100
40
30
20
40
30
20
CENTERLINE STA. -L1- 283+45
3 @ 12' x 7' RCBC
GRADE POINT EL. = 36.6
BURIED 1' W/SILLS
SKEW = 105 DEG
3.11:1 SKEW
3:1 NORMAL
TOP OF BANK RT
TOP OF BANK LT
PROP 100 YR
= 24.4
PROP 50 YR
= 24.0
NWSEL = 21.0
WSEL = 20.2
(11/28/17)
EXISTING STREAM BED
3 @ 12' X 7' RCBC
C/L EL. = 17.8'
SLOPE = 0.27%
BACKFILL CULVERT WITH
NATIVE MATERIAL
10/19/2023 4:23:51PM
...\Drawings\R-3300A_hyd_CSR_3.dgn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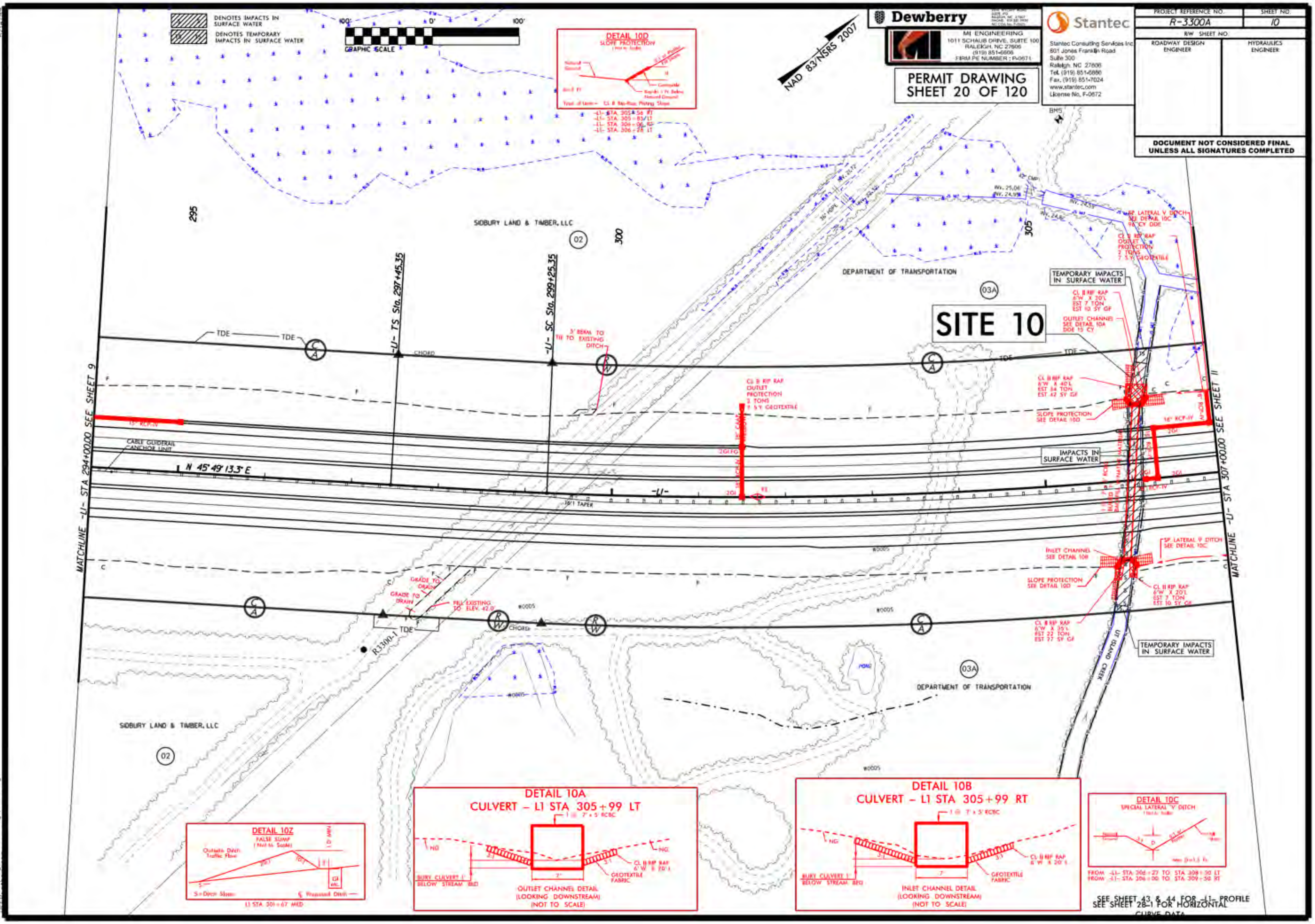
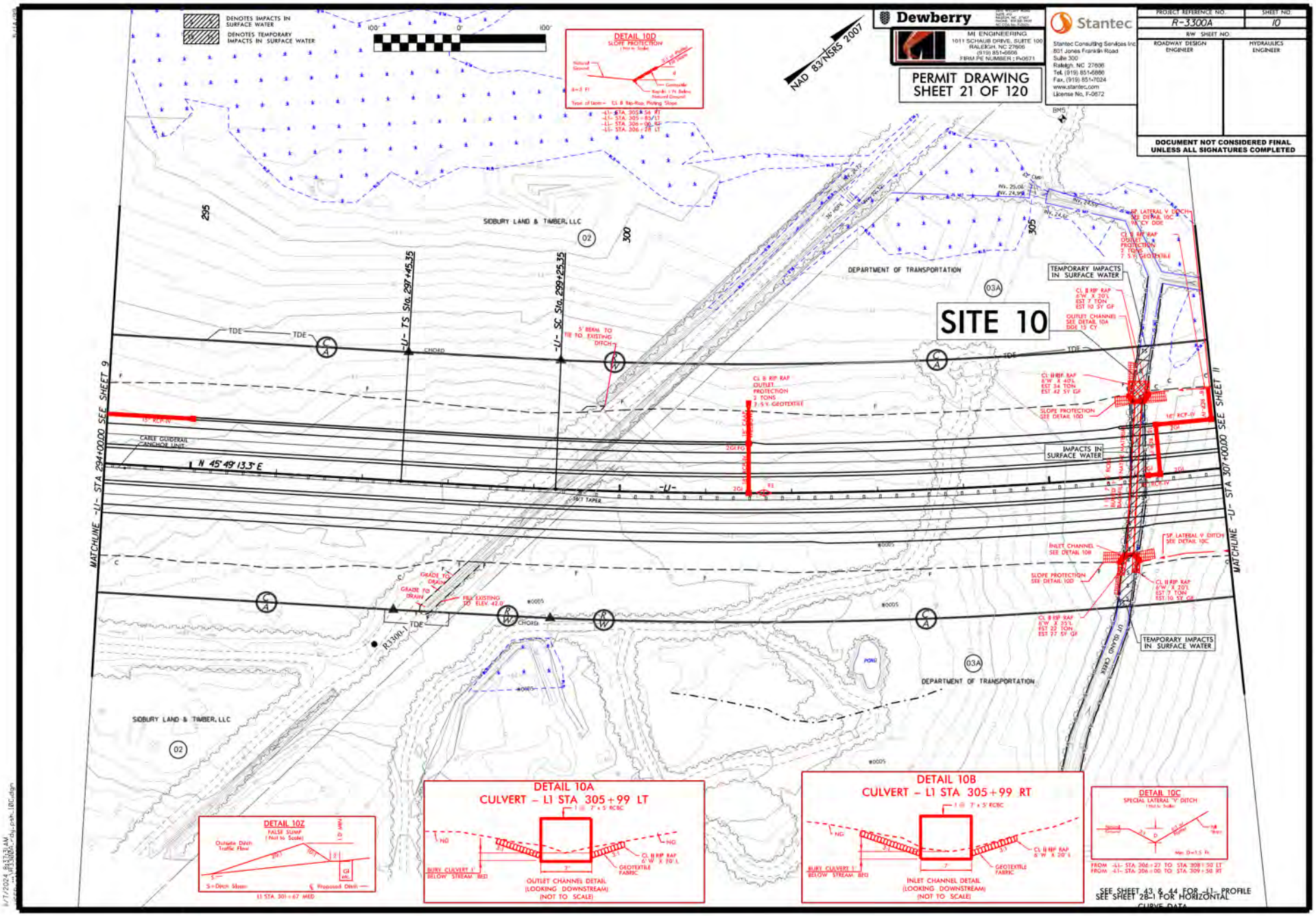
PROJ. REFERENCE NO.
R-3300A
SHEET NO.
X-48
PERMIT DRAWING
SHEET 19 OF 120
WETLANDS
3:1
35.62
0.025
6:1
33.90
24.39
FILL IN WETLANDS
284+50.00
35.51
33.78
19.07
284+00.00
35.52
33.80
IMPACTS IN SURFACE WATERS
18.44
283+50.00
EXCAVATION
SITE 9
35.67
33.95
19.71
283+00.00
35.94
34.22
21.29
282+50.00
-L1-
11/20/2024
6/23/16
8/15/2023
U:\Raleigh\CorridorModeling\R3300A_Rdy_xpl_L1.dgn
User:


DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
GRAPHIC SCALE
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6866
FIRM PE NUMBER : P-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PERMIT DRAWING
SHEET 20 OF 120
PROJECT REFERENCE NO. R-3300A
SHEET NO. 10
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
NAD 83/NSRS 2007
DETAIL 10D
SLOPE PROTECTION
SITE 10
SIDBURY LAND & TIMBER, LLC
DEPARTMENT OF TRANSPORTATION
-L- TS Sta. 297+45.35
-L- SC Sta. 299+25.35
N 45°49'13.3" E
MATCHLINE -L- STA 294+00.00 SEE SHEET 9
MATCHLINE -L- STA 307+00.00 SEE SHEET 11
TEMPORARY IMPACTS IN SURFACE WATER
IMPACTS IN SURFACE WATER
UT ISLAND CREEK
DETAIL 10A
CULVERT - L1 STA 305+99 LT
OUTLET CHANNEL DETAIL
(LOOKING DOWNSTREAM)
(NOT TO SCALE)
DETAIL 10B
CULVERT - L1 STA 305+99 RT
INLET CHANNEL DETAIL
(LOOKING DOWNSTREAM)
(NOT TO SCALE)
DETAIL 10C
SPECIAL LATERAL 'V' DITCH
DETAIL 10Z
FALSE SUMP
SEE SHEET 43 & 44 FOR -L- PROFILE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA

11/20/2024


DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
Stantec Consulting Services Inc.
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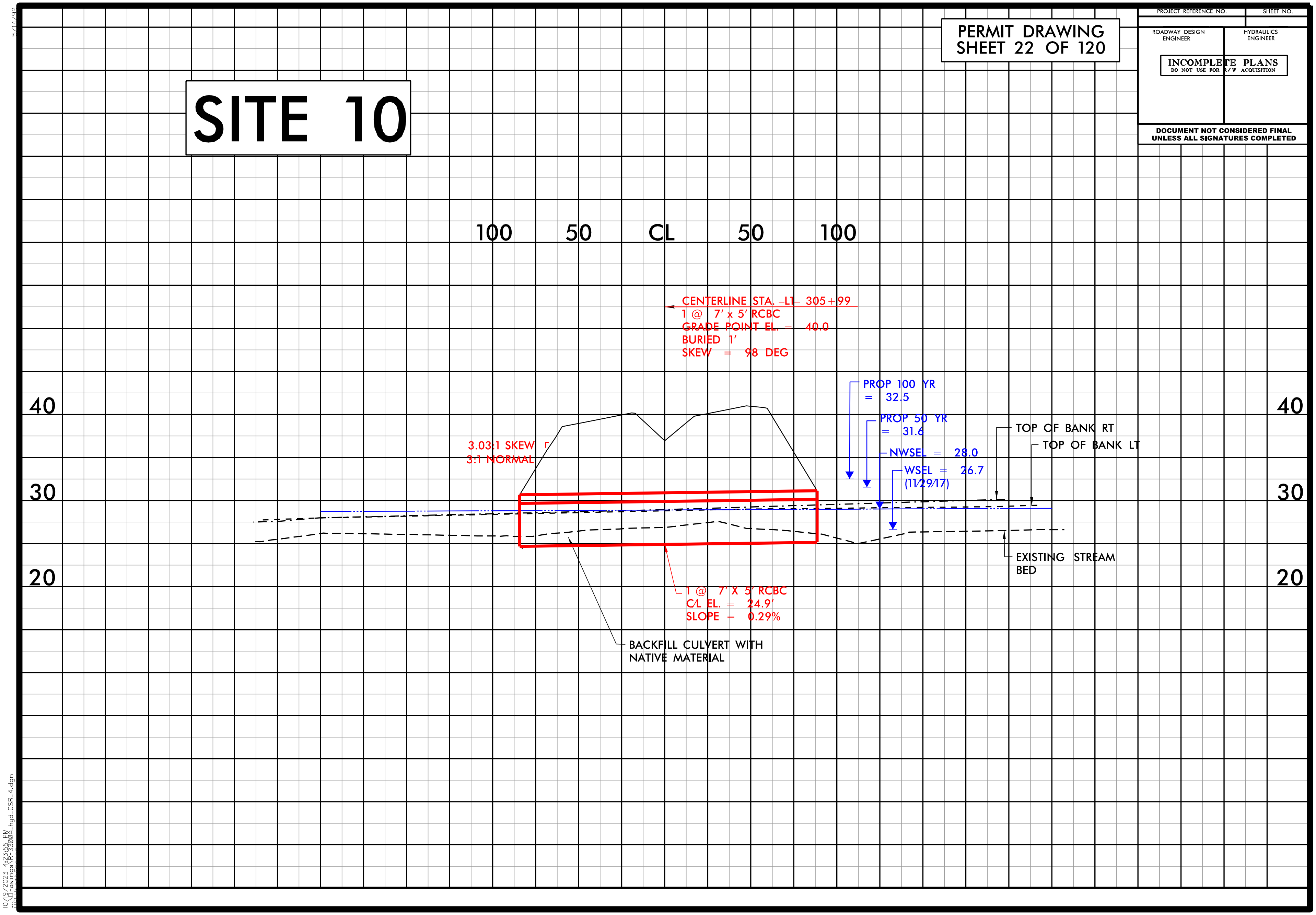
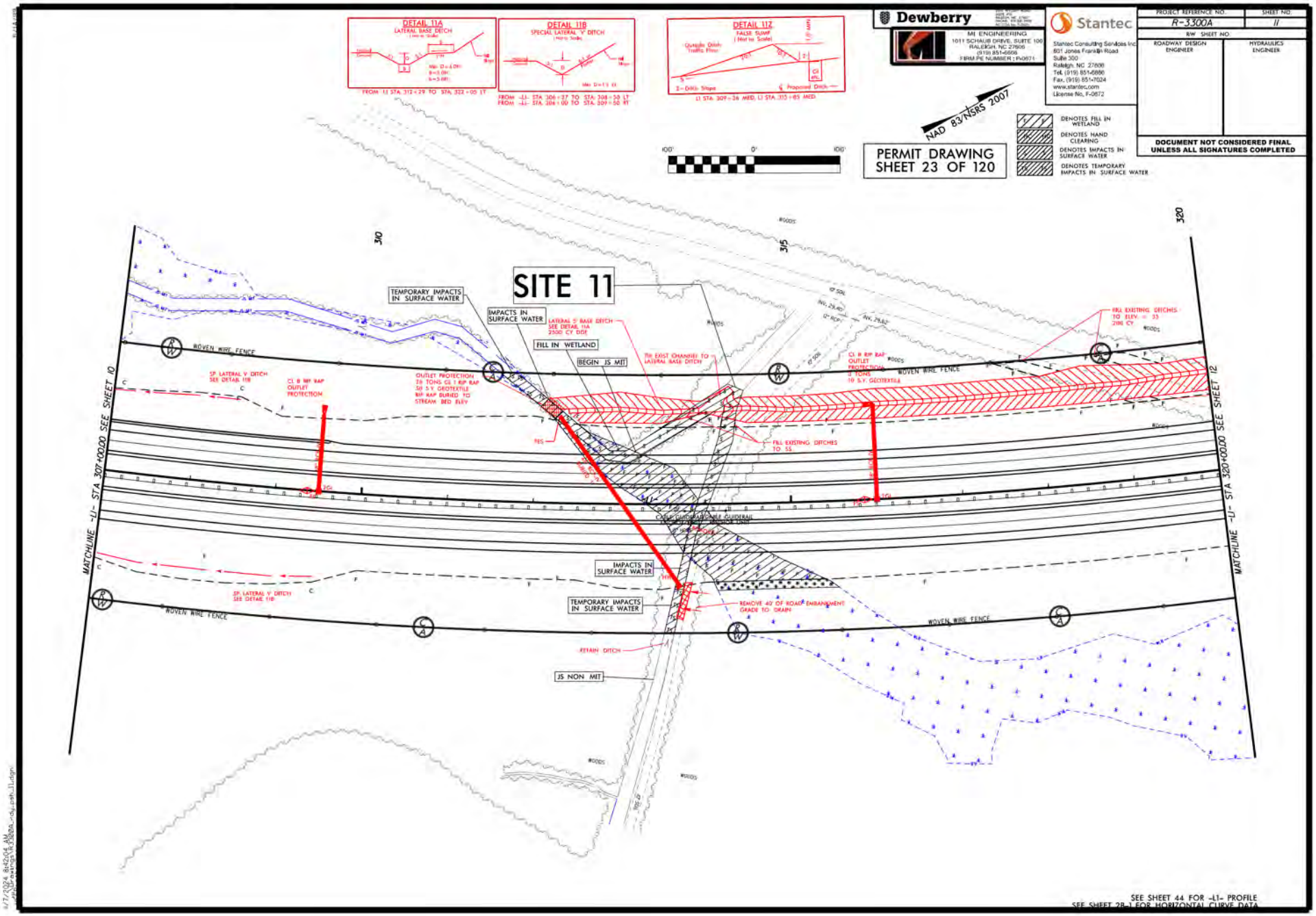
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
10
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
NAD 83/NSRS 2007
PERMIT DRAWING
SHEET 21 OF 120
SITE 10
DETAIL 10D
SLOPE PROTECTION
-L1- STA. 305+54 RT
-L1- STA. 305+85 LT
-L1- STA. 306+00 RT
-L1- STA. 306+28 LT
SIDBURY LAND & TIMBER, LLC
DEPARTMENT OF TRANSPORTATION
TEMPORARY IMPACTS IN SURFACE WATER
IMPACTS IN SURFACE WATER
MATCHLINE -L1- STA 294+00.00 SEE SHEET 9
MATCHLINE -L1- STA 307+00.00 SEE SHEET 11
-L1- TS Sta. 297+45.35
-L1- SC Sta. 299+25.35
N 45°49'13.3" E
R=3300.1'
CABLE GUIDERAIL ANCHOR UNIT
15" RCP-IV
5' BERM TO TIE TO EXISTING DITCH
CL B RIP RAP OUTLET PROTECTION 7 TONS 7.5 Y. GEOTEXTILE
SLOPE PROTECTION SEE DETAIL 10D
INLET CHANNEL SEE DETAIL 10B
SP. LATERAL V DITCH SEE DETAIL 10C
OUTLET CHANNEL SEE DETAIL 10A
CL II RIP RAP 6'W X 40'L EST 34 TON EST 42 SY GF
CL II RIP RAP 6'W X 35'L EST 22 TON EST 27 SY GF
CL II RIP RAP 6'W X 20'L EST 7 TON EST 10 SY GF
GRADE TO DRAIN
FILL EXISTING TO ELEV. 42.0
POND
SIDBURY LAND & TIMBER, LLC
DEPARTMENT OF TRANSPORTATION
DETAIL 10A
CULVERT – L1 STA 305+99 LT
1 @ 7' x 5' RCBC
OUTLET CHANNEL DETAIL (LOOKING DOWNSTREAM) (NOT TO SCALE)
DETAIL 10B
CULVERT – L1 STA 305+99 RT
1 @ 7' x 5' RCBC
INLET CHANNEL DETAIL (LOOKING DOWNSTREAM) (NOT TO SCALE)
DETAIL 10C
SPECIAL LATERAL 'V' DITCH
DETAIL 10Z
FALSE SUMP
L1 STA. 301+67 MED
FROM -L1- STA. 306+27 TO STA. 308+50 LT
FROM -L1- STA. 306+00 TO STA. 309+50 RT
SEE SHEET 43 & 44 FOR -L1- PROFILE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA

11/20/2024

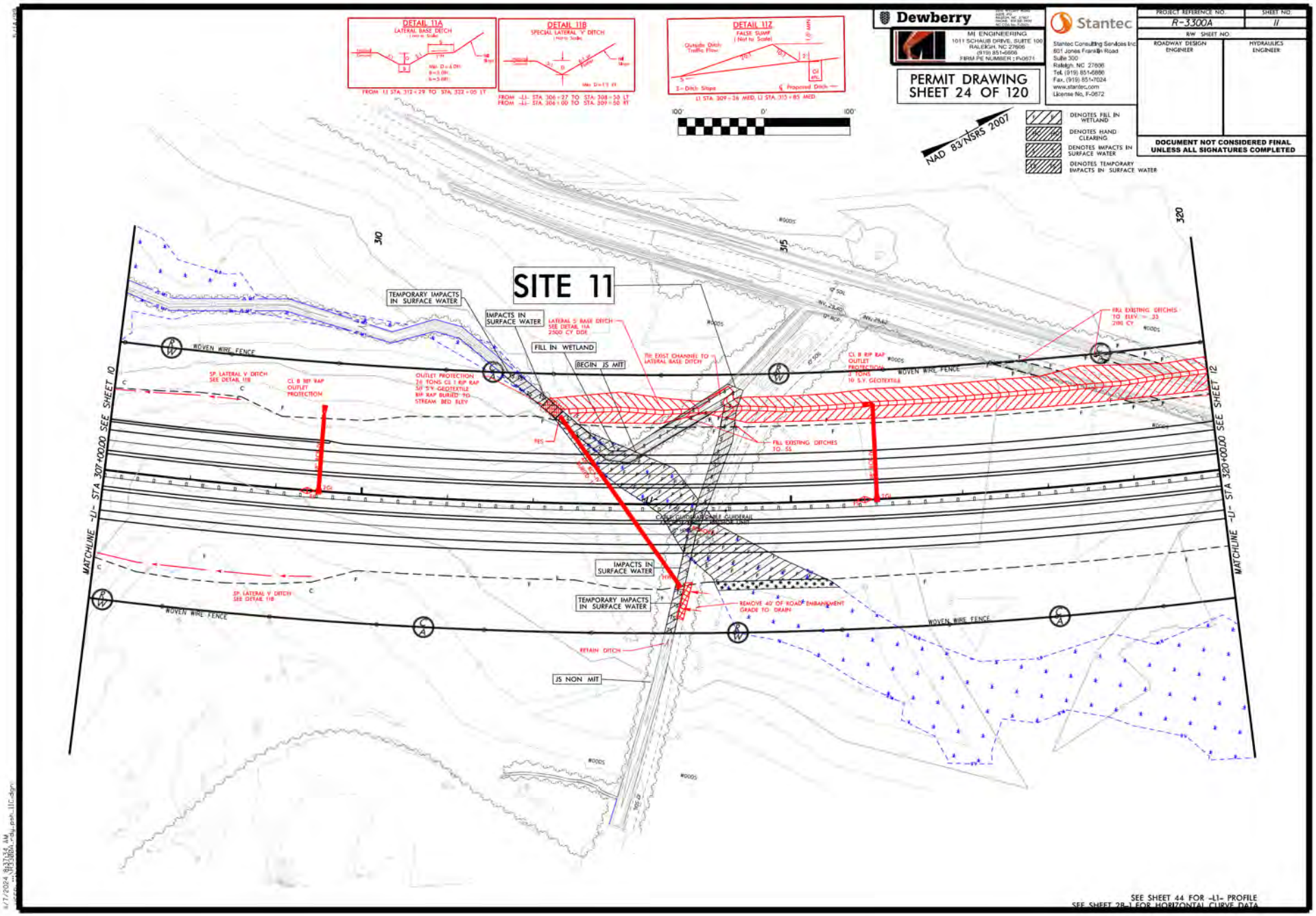
11/20/2024

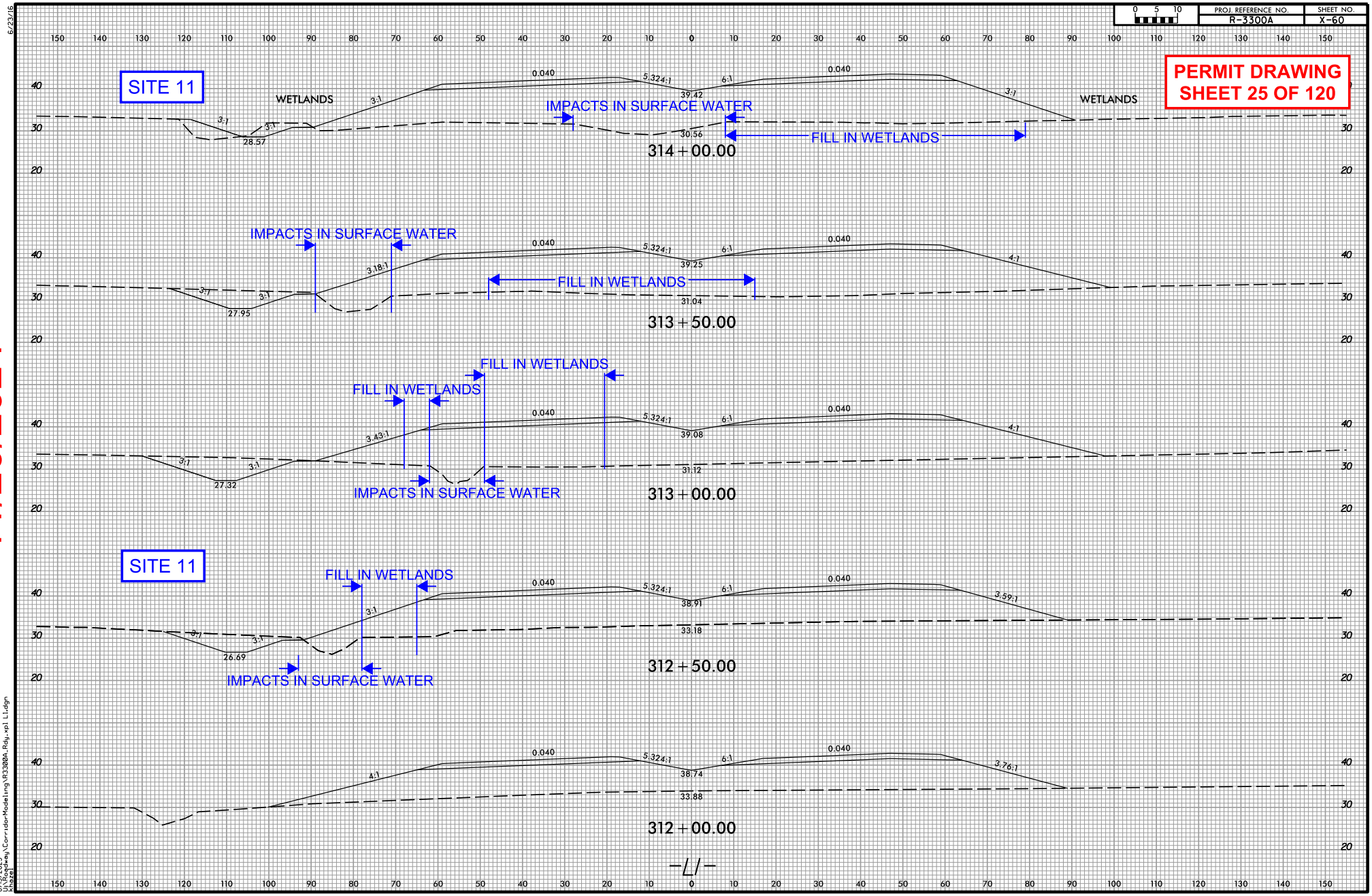

PROJECT REFERENCE NO.
SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING
SHEET 22 OF 120
SITE 10
100
50
CL
50
100
40
30
20
40
30
20
CENTERLINE STA. -L1- 305+99
1 @ 7' x 5' RCBC
GRADE POINT EL. = 40.0
BURIED 1'
SKEW = 98 DEG
PROP 100 YR
= 32.5
PROP 50 YR
= 31.6
NWSEL = 28.0
WSEL = 26.7
(11/29/17)
TOP OF BANK RT
TOP OF BANK LT
3.03:1 SKEW
3:1 NORMAL
EXISTING STREAM BED
1 @ 7' X 5' RCBC
CL EL. = 24.9'
SLOPE = 0.29%
BACKFILL CULVERT WITH
NATIVE MATERIAL

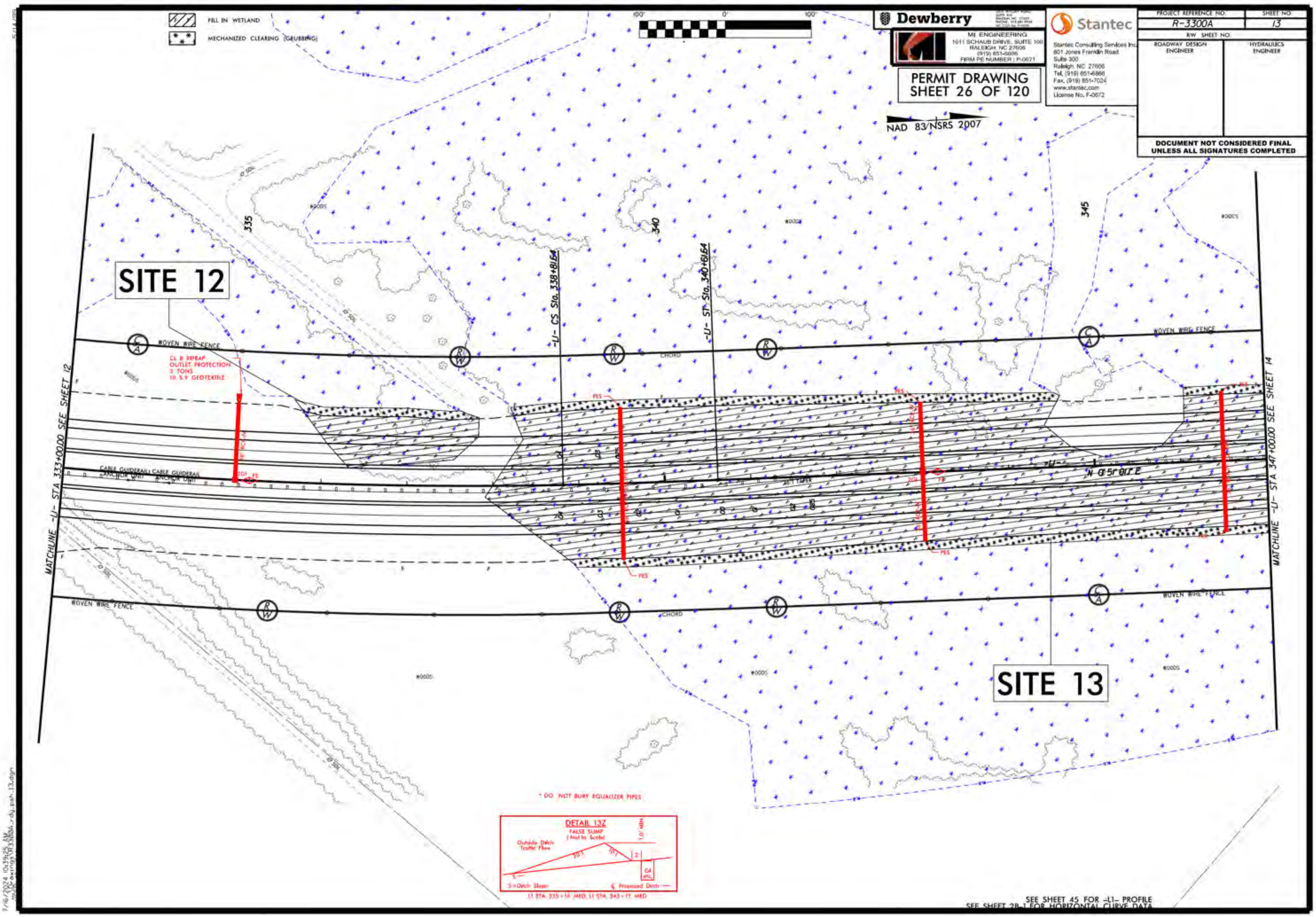

DETAIL 11A
LATERAL BASE DITCH
DETAIL 11B
SPECIAL LATERAL 'V' DITCH
DETAIL 11Z
FALSE SUMP
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
11
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
NAD 83/NSRS 2007
PERMIT DRAWING
SHEET 23 OF 120
DENOTES FILL IN WETLAND
DENOTES HAND CLEARING
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
SITE 11
TEMPORARY IMPACTS IN SURFACE WATER
IMPACTS IN SURFACE WATER
LATERAL 'S' BASE DITCH
SEE DETAIL 11A
2500 CY DIG
FILL IN WETLAND
BEGIN JS MIT
TIE EXIST CHANNEL TO LATERAL BASE DITCH
WOVEN WIRE FENCE
SP LATERAL V DITCH
SEE DETAIL 11B
CL B RIP RAP
OUTLET PROTECTION
OUTLET PROTECTION
28 TONS CL 1 RIP RAP
50 S.Y. GEOTEXTILE
RIP RAP BURIED TO
STREAM BED ELEV
FILL EXISTING DITCHES TO ELEV. = 55
2186 CY
CL B RIP RAP
OUTLET
PROTECTION
8 TONS
10 S.Y. GEOTEXTILE
FILL EXISTING DITCHES TO 55
CABLE GUIDERAIL/DOUBLE GUIDERAIL
TRANSITION/SINGLE END
SEE STD 862.01
IMPACTS IN SURFACE WATER
TEMPORARY IMPACTS IN SURFACE WATER
REMOVE 40' OF ROAD EMBANKMENT
GRADE TO DRAIN
RETAIN DITCH
JS NON MIT
MATCHLINE -L1- STA 307+00.00 SEE SHEET 10
MATCHLINE -L1- STA 320+00.00 SEE SHEET 12
SEE SHEET 44 FOR -L1- PROFILE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA

11/20/2024

11/20/2024


DETAIL 11A
LATERAL BASE DITCH
FROM -L1- STA. 312+29 TO STA. 322+05 LT
DETAIL 11B
SPECIAL LATERAL 'V' DITCH
FROM -L1- STA. 306+27 TO STA. 308+50 LT
FROM -L1- STA. 306+00 TO STA. 309+50 RT
DETAIL 11Z
FALSE SUMP
Outside Ditch Traffic Flow
Proposed Ditch
L1 STA. 309+26 MED, L1 STA. 315+85 MED
100' 0' 100'
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
11
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING
SHEET 24 OF 120
NAD 83/NSRS 2007
DENOTES FILL IN WETLAND
DENOTES HAND CLEARING
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
SITE 11
TEMPORARY IMPACTS IN SURFACE WATER
IMPACTS IN SURFACE WATER
LATERAL 'S' BASE DITCH SEE DETAIL 11A 2500 CY DDE
FILL IN WETLAND
BEGIN JS MIT
TIE EXIST CHANNEL TO LATERAL BASE DITCH
FILL EXISTING DITCHES TO ELEV. = 33 2181 CY
WOVEN WIRE FENCE
SP LATERAL V DITCH SEE DETAIL 11B
CL B RIP RAP OUTLET PROTECTION
OUTLET PROTECTION 24 TONS CL 1 RIP RAP 58 S.Y. GEOTEXTILE RIP RAP BURIED TO STREAM BED ELEV
CL B RIP RAP OUTLET PROTECTION 4 TONS 10 S.Y. GEOTEXTILE
FILL EXISTING DITCHES TO 55
CABLE GUIDERAIL/DOUBLE GUIDERAIL TRANSITION - ENDZONE TYPE
REMOVE 40' OF ROAD EMBANKMENT GRADE TO DRAIN
RETAIN DITCH
JS NON MIT
MATCHLINE -L1- STA 307+00.00 SEE SHEET 10
MATCHLINE -L1- STA 320+00.00 SEE SHEET 12
SEE SHEET 44 FOR -L1- PROFILE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA


PROJ. REFERENCE NO.
R-3300A
SHEET NO.
X-60
PERMIT DRAWING
SHEET 25 OF 120
SITE 11
WETLANDS
IMPACTS IN SURFACE WATER
FILL IN WETLANDS
314+00.00
313+50.00
313+00.00
SITE 11
312+50.00
312+00.00
11/20/2024


FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
PERMIT DRAWING
SHEET 26 OF 120
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
13
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED
NAD 83/NSRS 2007
SITE 12
SITE 13
CL B RIPRAP
OUTLET PROTECTION
3 TONS
111 S.Y. GEOTEXTILE
-L1- CS Sta. 338+81.64
-L1- ST Sta. 340+61.64
MATCHLINE -L1- STA 333+00.00 SEE SHEET 12
MATCHLINE -L1- STA 347+00.00 SEE SHEET 14
WOVEN WIRE FENCE
CABLE GUIDERAIL ANCHOR UNIT
335
340
345
* DO NOT BURY EQUALIZER PIPES
DETAIL 13Z
FALSE SUMP
(Not to Scale)
Outside Ditch
Traffic Flow
Proposed Ditch
L1 STA. 335+16 MED, L1 STA. 343+17 MED
SEE SHEET 45 FOR -L1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

11/20/2024

11/20/2024

| PROJECT REFERENCE NO. | SHEET NO. |
| --- | --- |
| R-3300A | 13 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Dewberry

MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671

Stantec

Stantec Consulting Services Inc.
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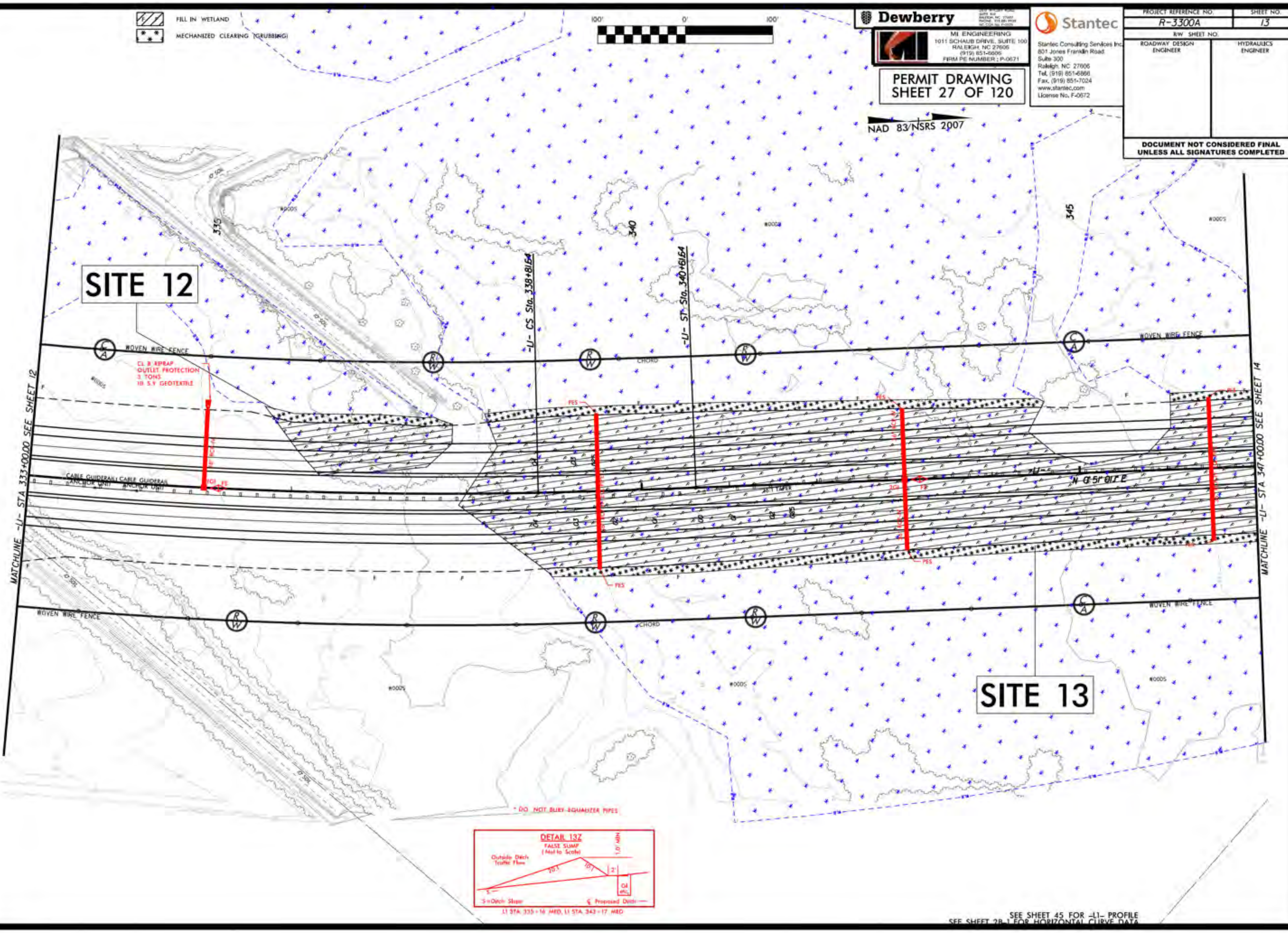
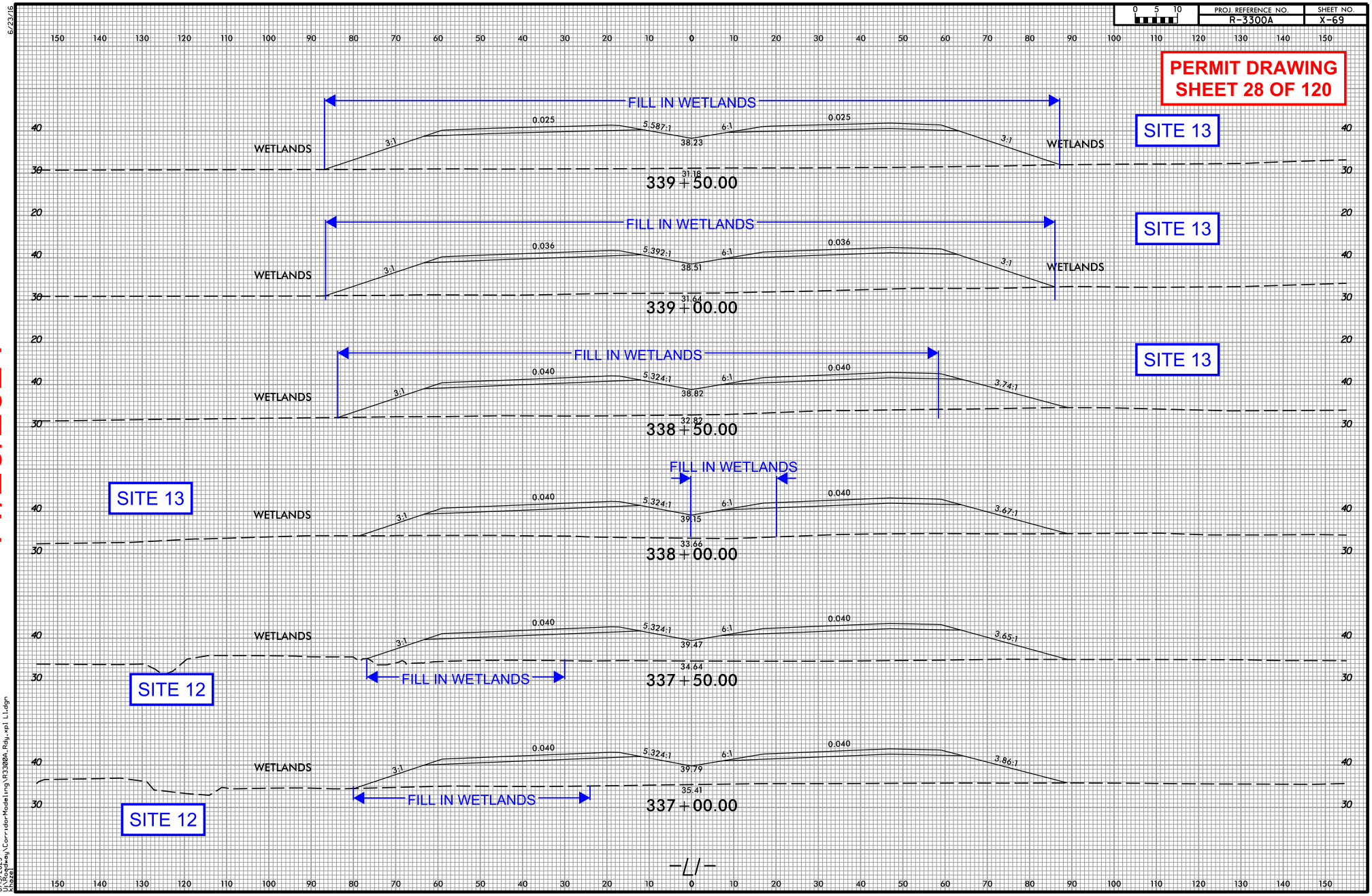
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PERMIT DRAWING
SHEET 27 OF 120




SEE SHEET 45 FOR -L1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

7/16/2024 10:43:02 AM

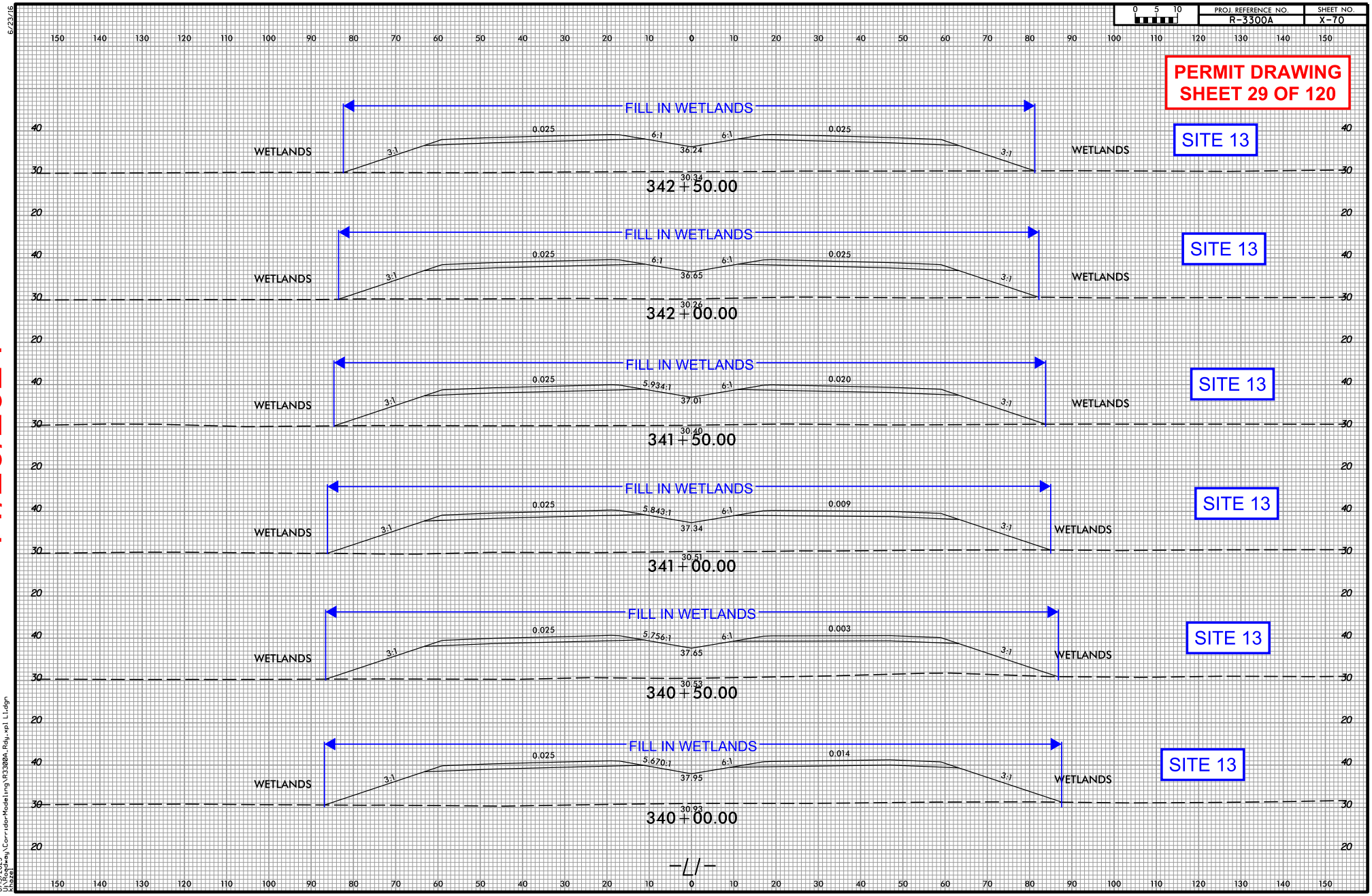



11/20/2024

6/23/16

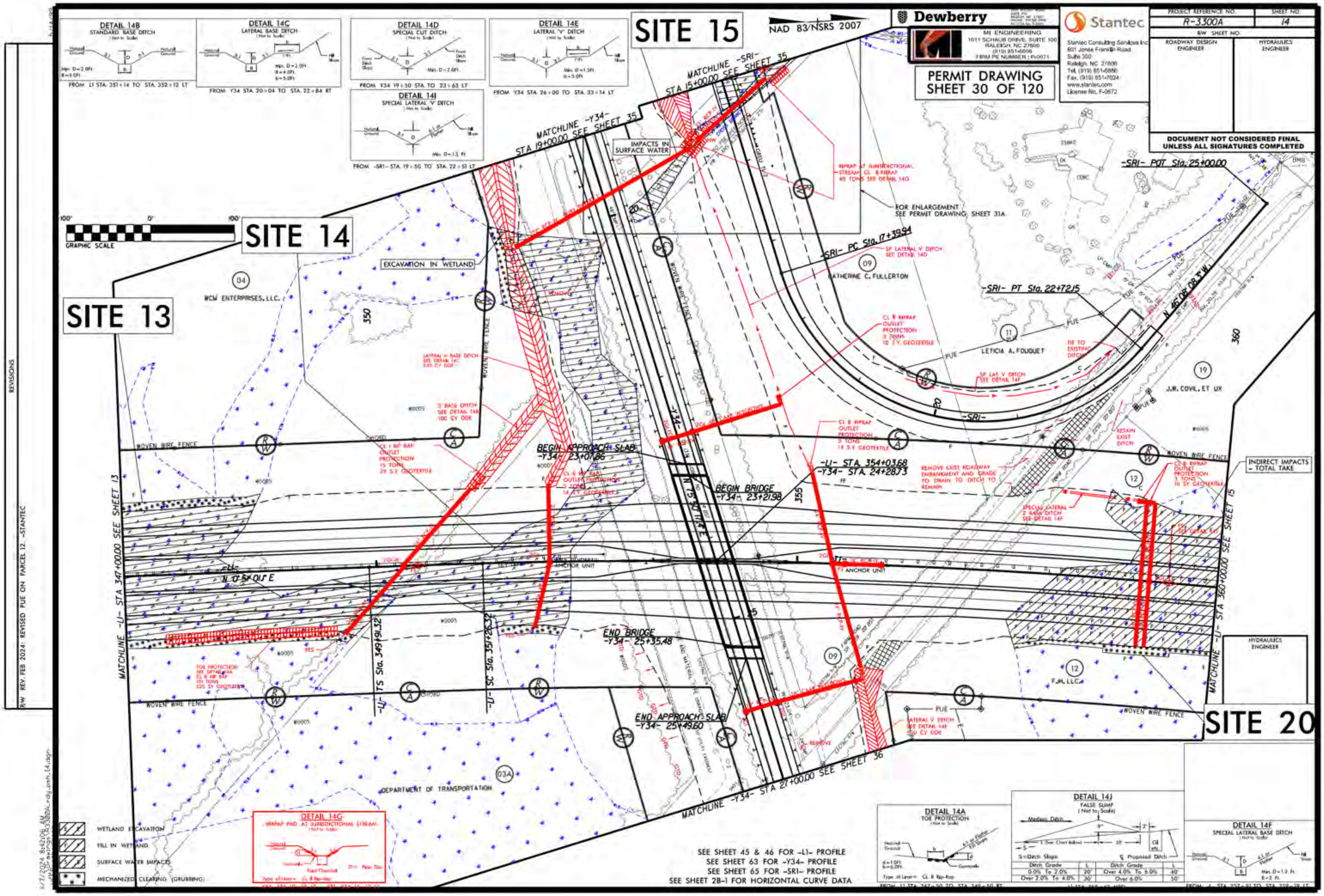
8/15/2023
U:\Roadway\CorridorModeling\R3300A_Rdy_xpl_L1.dgn
User:

**PERMIT DRAWING SHEET 29 OF 120**

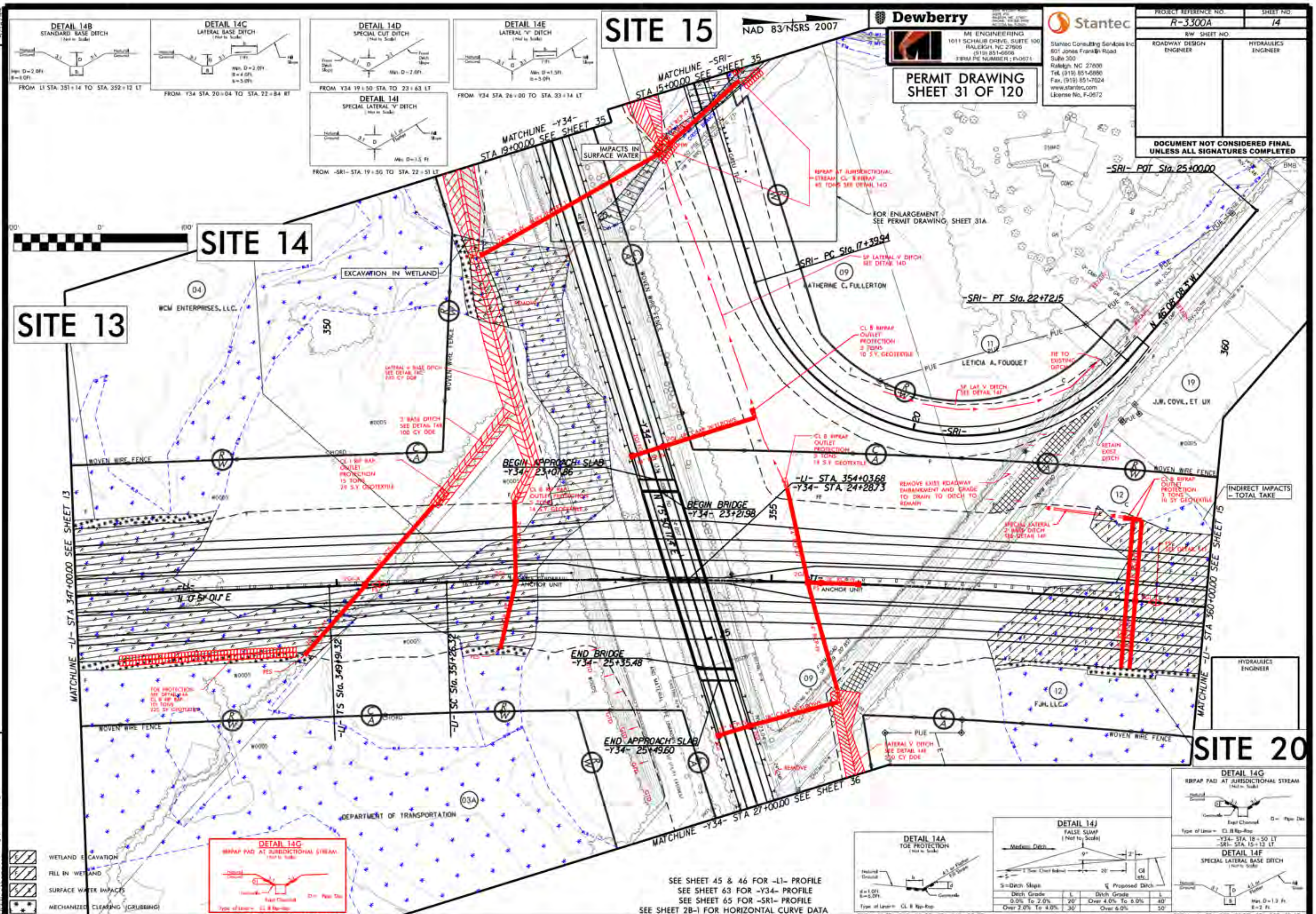



11/20/2024

6/23/16
8/15/2023
U:\Raleigh\CorridorModeling\R3300A_Rdy_wpl L1.dgn
User:

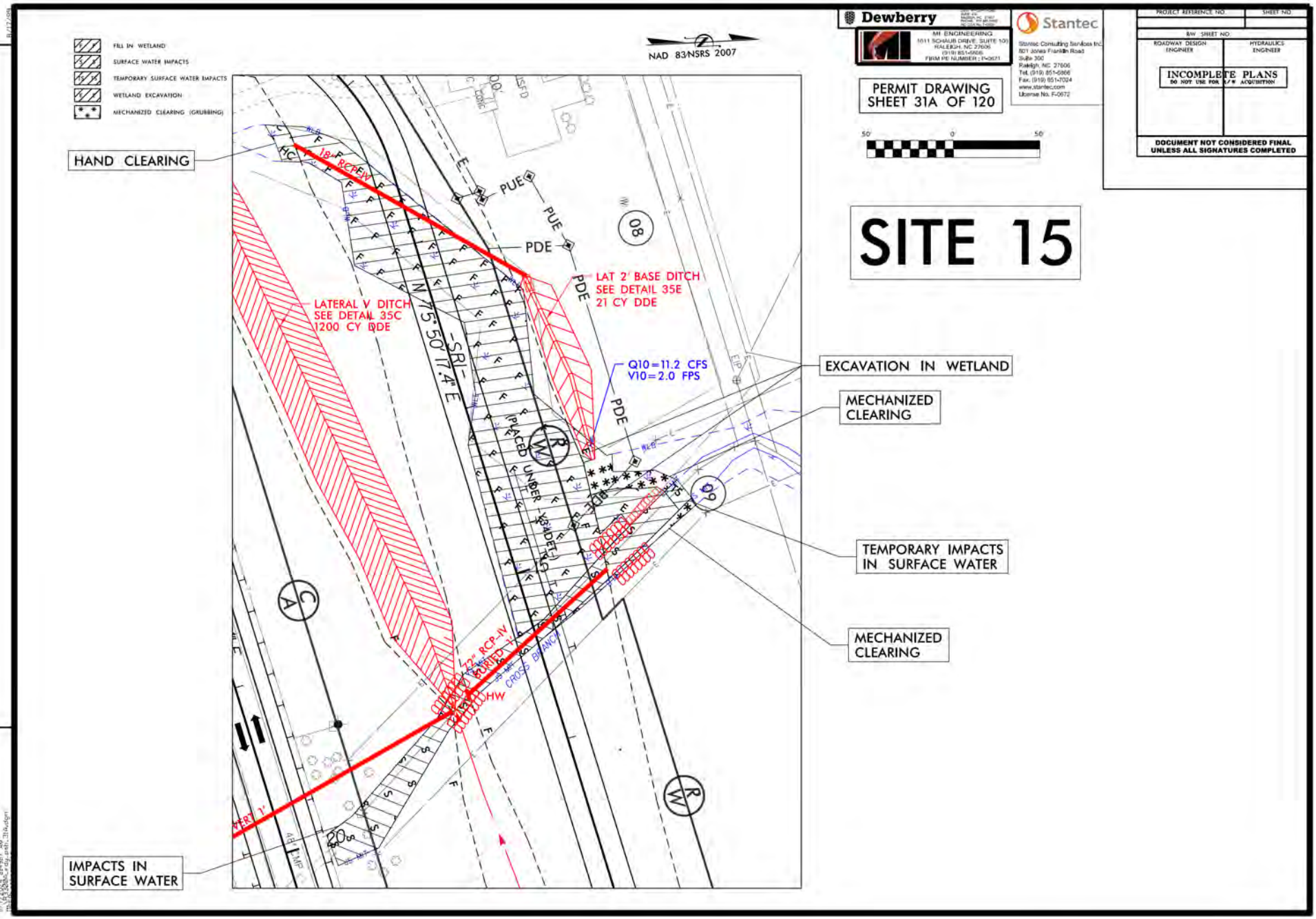

SITE 15
SITE 14
SITE 13
SITE 20
NAD 83/NSRS 2007
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
PERMIT DRAWING
SHEET 30 OF 120
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
14
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
DETAIL 14B
STANDARD BASE DITCH
FROM L1 STA. 351+14 TO STA. 352+12 LT
DETAIL 14C
LATERAL BASE DITCH
FROM Y34 STA. 20+04 TO STA. 22+84 RT
DETAIL 14D
SPECIAL CUT DITCH
FROM Y34 19+50 STA. TO 23+63 LT
DETAIL 14I
SPECIAL LATERAL 'V' DITCH
FROM -SR1- STA. 19+50 TO STA. 22+51 LT
DETAIL 14E
LATERAL 'V' DITCH
FROM Y34 STA. 26+00 TO STA. 33+14 LT
MATCHLINE -SR1- STA 15+00.00 SEE SHEET 35
MATCHLINE -Y34- STA 19+00.00 SEE SHEET 35
IMPACTS IN SURFACE WATER
EXCAVATION IN WETLAND
GRAPHIC SCALE
WCM ENTERPRISES, LLC.
KATHERINE C. FULLERTON
LETICIA A. FOUQUET
J.W. COVIL, ET UX
F.JH, LLC.
DEPARTMENT OF TRANSPORTATION
FOR ENLARGEMENT SEE PERMIT DRAWING, SHEET 31A
-SR1- POT Sta. 25+00.00
-SR1- PC Sta. 17+39.94
-SR1- PT Sta. 22+72.15
BEGIN APPROACH SLAB -Y34- 23+01.86
BEGIN BRIDGE -Y34- 23+21.98
END BRIDGE -Y34- 25+35.48
END APPROACH SLAB -Y34- 25+49.60
-L1- STA. 354+03.68
-Y34- STA. 24+28.73
-L1- TS Sta. 349+91.32
-L1- SC Sta. 351+26.32
INDIRECT IMPACTS - TOTAL TAKE
MATCHLINE -L1- STA 347+00.00 SEE SHEET 13
MATCHLINE -L1- STA 360+00.00 SEE SHEET 15
MATCHLINE -Y34- STA 27+00.00 SEE SHEET 36
WOVEN WIRE FENCE
REMOVE EXIST. ROADWAY EMBANKMENT AND GRADE TO DRAIN TO DITCH TO REMAIN
DETAIL 14G
RIPRAP PAD AT JURISDICTIONAL STREAM
WETLAND EXCAVATION
FILL IN WETLAND
SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
SEE SHEET 45 & 46 FOR -L1- PROFILE
SEE SHEET 63 FOR -Y34- PROFILE
SEE SHEET 65 FOR -SR1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA
DETAIL 14A
TOE PROTECTION
DETAIL 14J
FALSE SUMP
DETAIL 14F
SPECIAL LATERAL BASE DITCH
REVISIONS
R/W REV. FEB 2024: REVISED PUE ON PARCEL 12 -STANTEC

11/20/2024

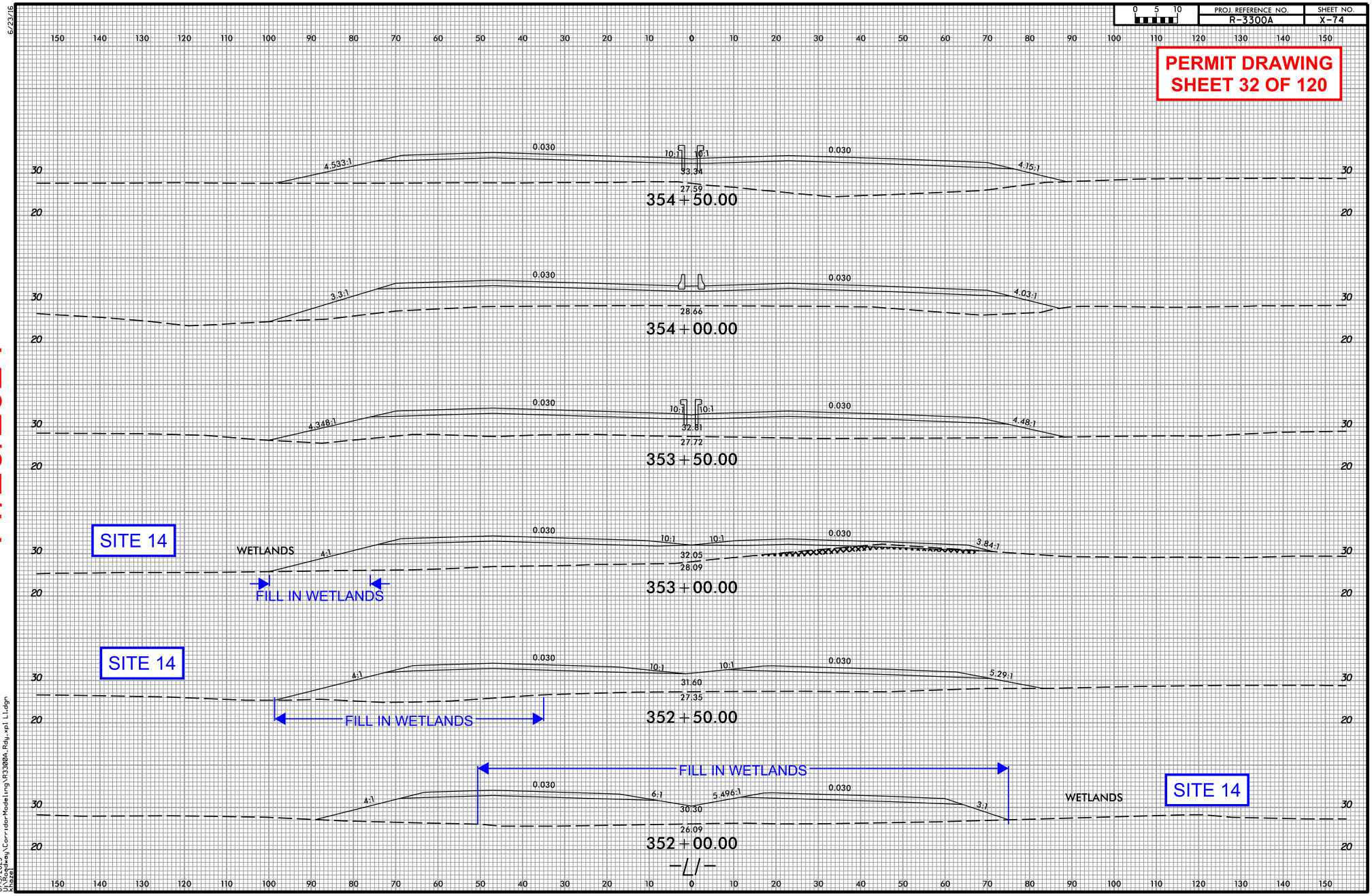

SITE 15
SITE 14
SITE 13
SITE 20
NAD 83/NSRS 2007
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
14
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING
SHEET 31 OF 120
DETAIL 14B
STANDARD BASE DITCH
FROM -L- STA. 351+14 TO STA. 352+12 LT
DETAIL 14C
LATERAL BASE DITCH
FROM -Y34- STA. 20+04 TO STA. 22+84 RT
DETAIL 14D
SPECIAL CUT DITCH
FROM -Y34- 19+50 STA. TO 23+63 LT
DETAIL 14I
SPECIAL LATERAL 'V' DITCH
FROM -SR1- STA. 19+50 TO STA. 22+51 LT
DETAIL 14E
LATERAL 'V' DITCH
FROM -Y34- STA. 26+00 TO STA. 33+14 LT
MATCHLINE -SR1- STA 15+00.00 SEE SHEET 35
MATCHLINE -Y34- STA 19+00.00 SEE SHEET 35
IMPACTS IN SURFACE WATER
FOR ENLARGEMENT SEE PERMIT DRAWING, SHEET 31A
-SR1- POT Sta. 25+00.00
-SR1- PC Sta. 17+39.94
-SR1- PT Sta. 22+72.15
EXCAVATION IN WETLAND
WCM ENTERPRISES, LLC.
CATHERINE C. FULLERTON
LETICIA A. FOUQUET
J.W. COVIL, ET UX
F.J.H. LLC.
DEPARTMENT OF TRANSPORTATION
BEGIN APPROACH SLAB -Y34- 23+01.86
BEGIN BRIDGE -Y34- 23+21.98
END BRIDGE -Y34- 25+35.48
END APPROACH SLAB -Y34- 25+49.60
-L- STA. 354+03.68
-Y34- STA. 24+28.73
-L- TS Sta. 349+91.32
-L- SC Sta. 351+26.32
N 75°50'11.4" E
N 46°08'08.3" W
INDIRECT IMPACTS - TOTAL TAKE
MATCHLINE -L- STA 347+00.00 SEE SHEET 13
MATCHLINE -L- STA 360+00.00 SEE SHEET 15
MATCHLINE -Y34- STA 27+00.00 SEE SHEET 36
WOVEN WIRE FENCE
WETLAND EXCAVATION
FILL IN WETLAND
SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
DETAIL 14G
RIPRAP PAD AT JURISDICTIONAL STREAM
DETAIL 14A
TOE PROTECTION
DETAIL 14J
FALSE SUMP
DETAIL 14F
SPECIAL LATERAL BASE DITCH
SEE SHEET 45 & 46 FOR -L1- PROFILE
SEE SHEET 63 FOR -Y34- PROFILE
SEE SHEET 65 FOR -SR1- PROFILE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA
REVISIONS
RW REV. FEB 2024: REVISED PUE ON PARCEL 12 -STANTEC

11/20/2024

11/20/2024



FILL IN WETLAND
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
WETLAND EXCAVATION
MECHANIZED CLEARING (GRUBBING)
NAD 83/NSRS 2007
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6866
FIRM PE NUMBER : F-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
SHEET NO.
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING
SHEET 31A OF 120
50' 0' 50'
SITE 15
HAND CLEARING
18" RCP-IV
PUE
PDE
LAT 2' BASE DITCH
SEE DETAIL 35E
21 CY DDE
LATERAL V DITCH
SEE DETAIL 35C
1200 CY DDE
N 75° 50' 17.4" E
-SRI-
Q10=11.2 CFS
V10=2.0 FPS
EXCAVATION IN WETLAND
MECHANIZED CLEARING
PLACED UNDER
TEMPORARY IMPACTS IN SURFACE WATER
MECHANIZED CLEARING
72" RCP-IV
BURIED
CROSS BRANCH
HW
VERT 1'
IMPACTS IN SURFACE WATER
REVISIONS

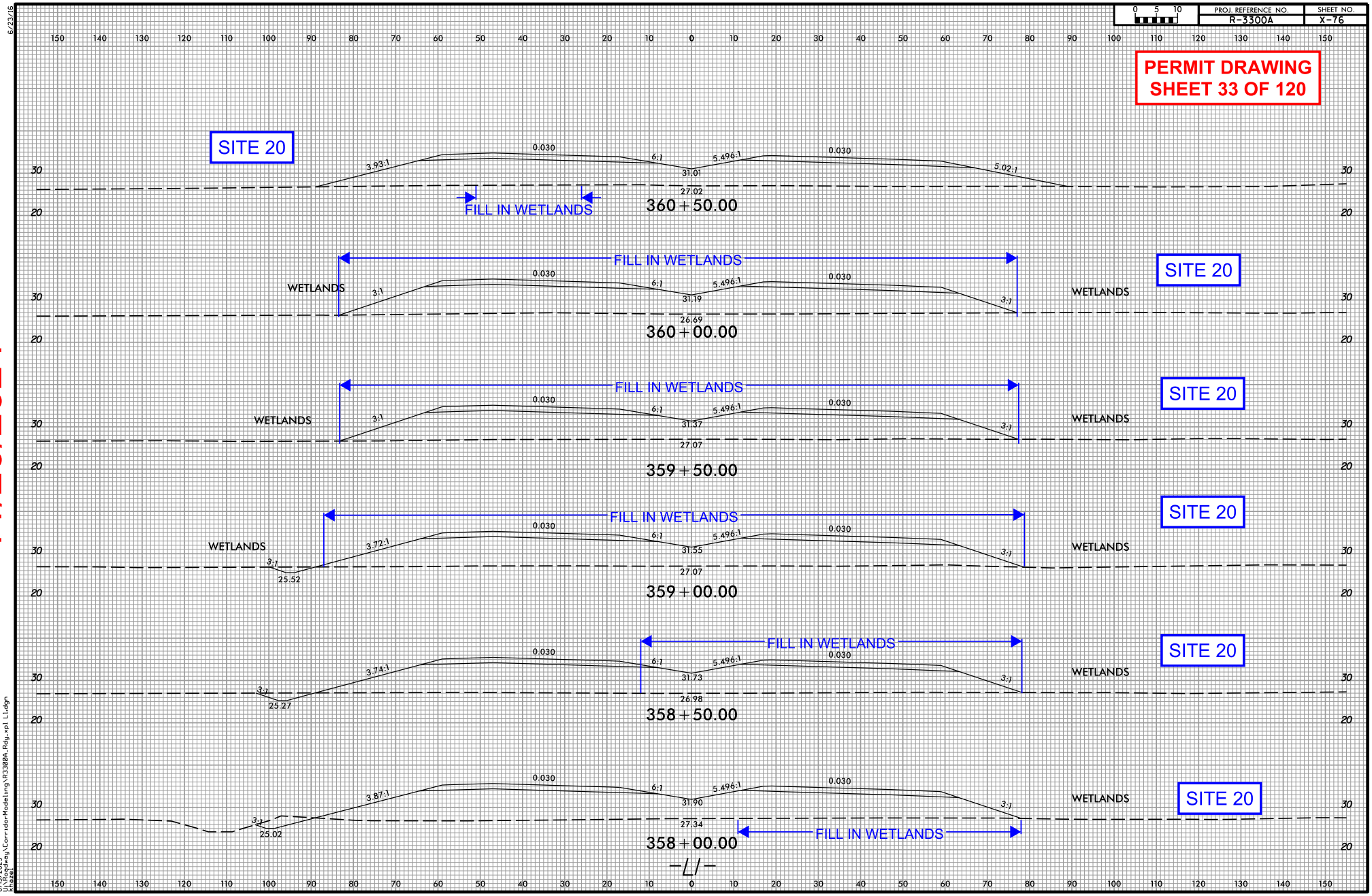



11/20/2024

6/23/16

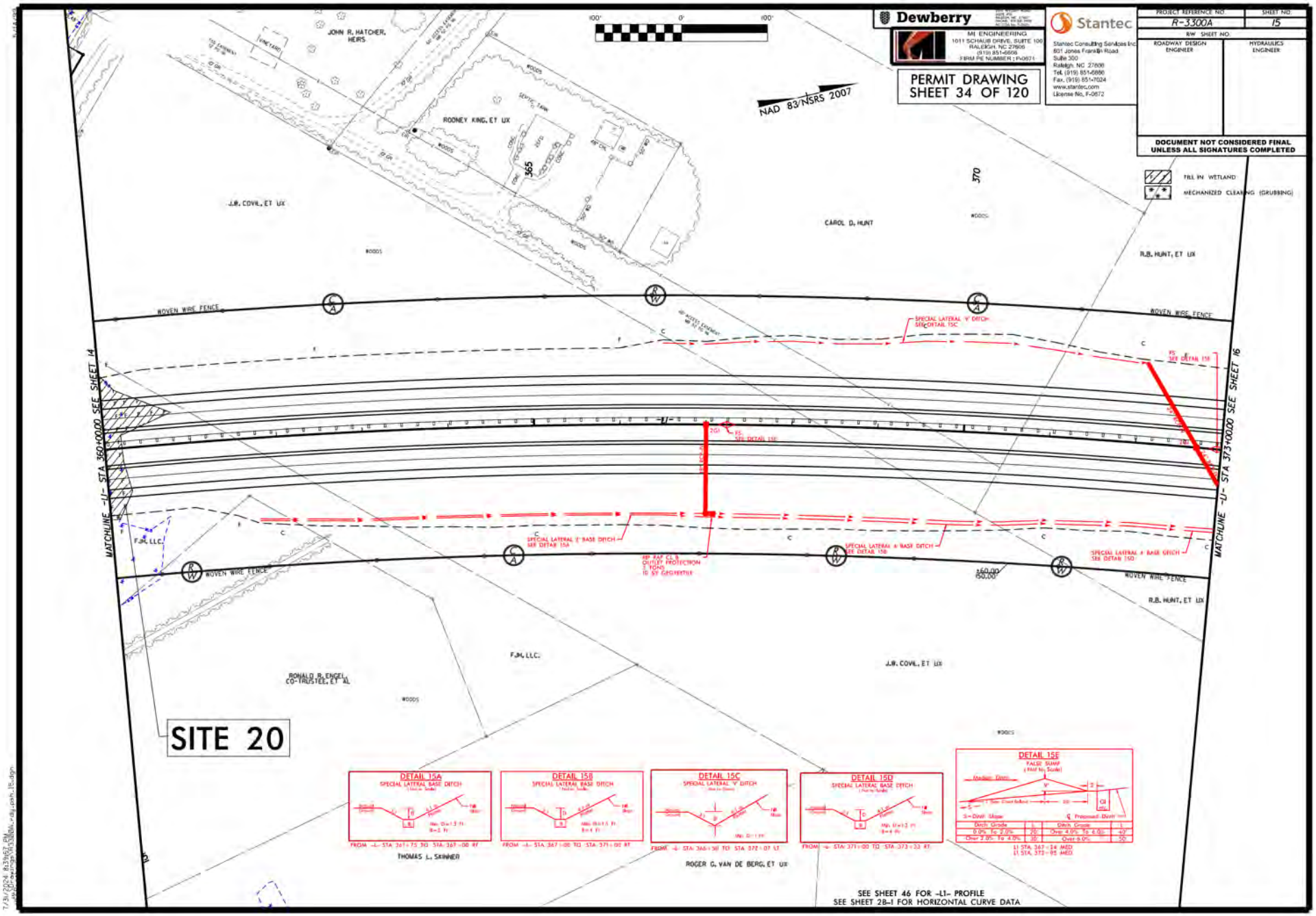
8/15/2023
U:\Roadway\CorridorModeling\R3300A_Rdy_xpl L1.dgn
khazel

**PERMIT DRAWING SHEET 33 OF 120**




11/20/2024

6/23/16
8/15/2023
U:\Roadway\CorridorModeling\R3300A_Rdy_xpl L1.dgn
User:

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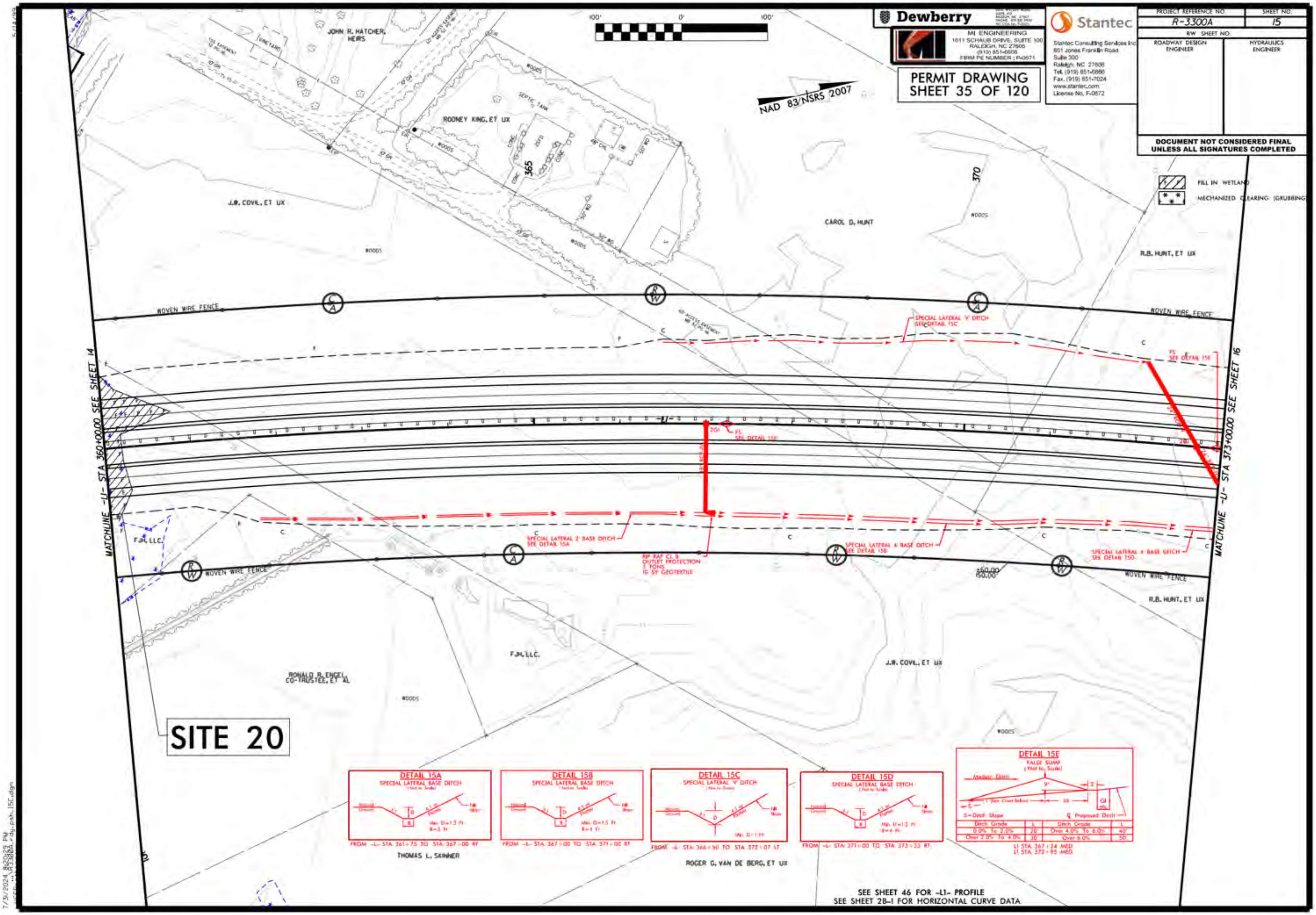
11/20/2024


PROJECT REFERENCE NO.
R-3300A
SHEET NO.
15
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
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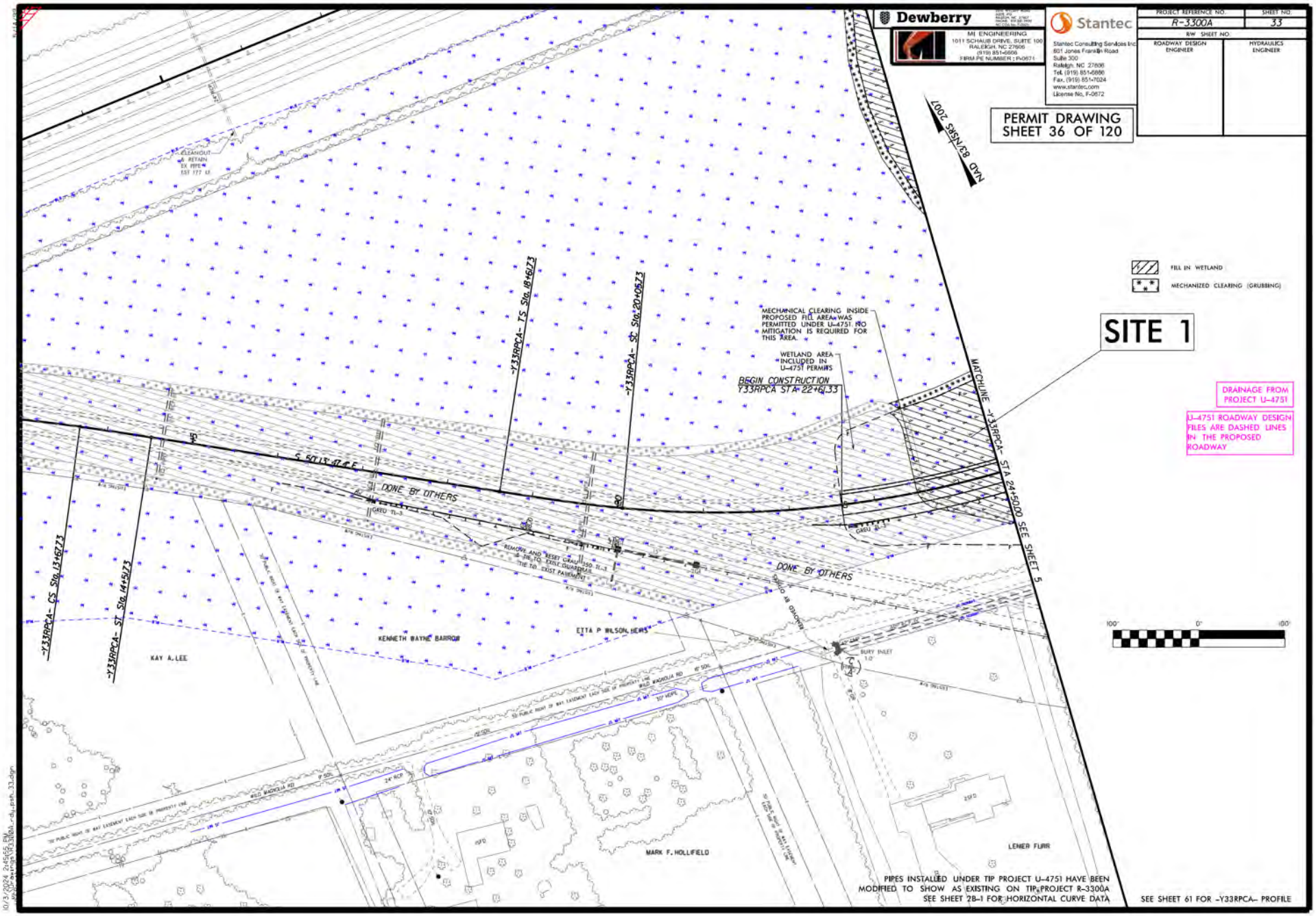
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PERMIT DRAWING
SHEET 35 OF 120
NAD 83/NSRS 2007
100'
0'
100'
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
JOHN R. HATCHER, HEIRS
ROONEY KING, ET UX
J.R. COVIL, ET UX
CAROL D. HUNT
R.B. HUNT, ET UX
F.H. LLC
F.H. LLC.
RONALD R. ENGEL CO-TRUSTEE, ET AL
J.R. COVIL, ET UX
THOMAS L. SKINNER
ROGER G. VAN DE BERG, ET UX
WOVEN WIRE FENCE
WOODS
365
370
SPECIAL LATERAL 'V' DITCH SEE DETAIL 15C
SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 15A
SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 15B
SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 15D
RIP RAP CL B OUTLET PROTECTION
MATCHLINE -L1- STA 360+00.00 SEE SHEET 14
MATCHLINE -L1- STA 373+00.00 SEE SHEET 16
SITE 20
DETAIL 15A
SPECIAL LATERAL BASE DITCH
FROM -L- STA. 361+75 TO STA. 367+00 RT
DETAIL 15B
SPECIAL LATERAL BASE DITCH
FROM -L- STA. 367+00 TO STA. 371+00 RT
DETAIL 15C
SPECIAL LATERAL 'V' DITCH
FROM -L- STA. 366+50 TO STA. 372+07 LT
DETAIL 15D
SPECIAL LATERAL BASE DITCH
FROM -L- STA. 371+00 TO STA. 373+33 RT
DETAIL 15E
FALSE SUMP
SEE SHEET 46 FOR -L1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA


Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
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801 Jones Franklin Road
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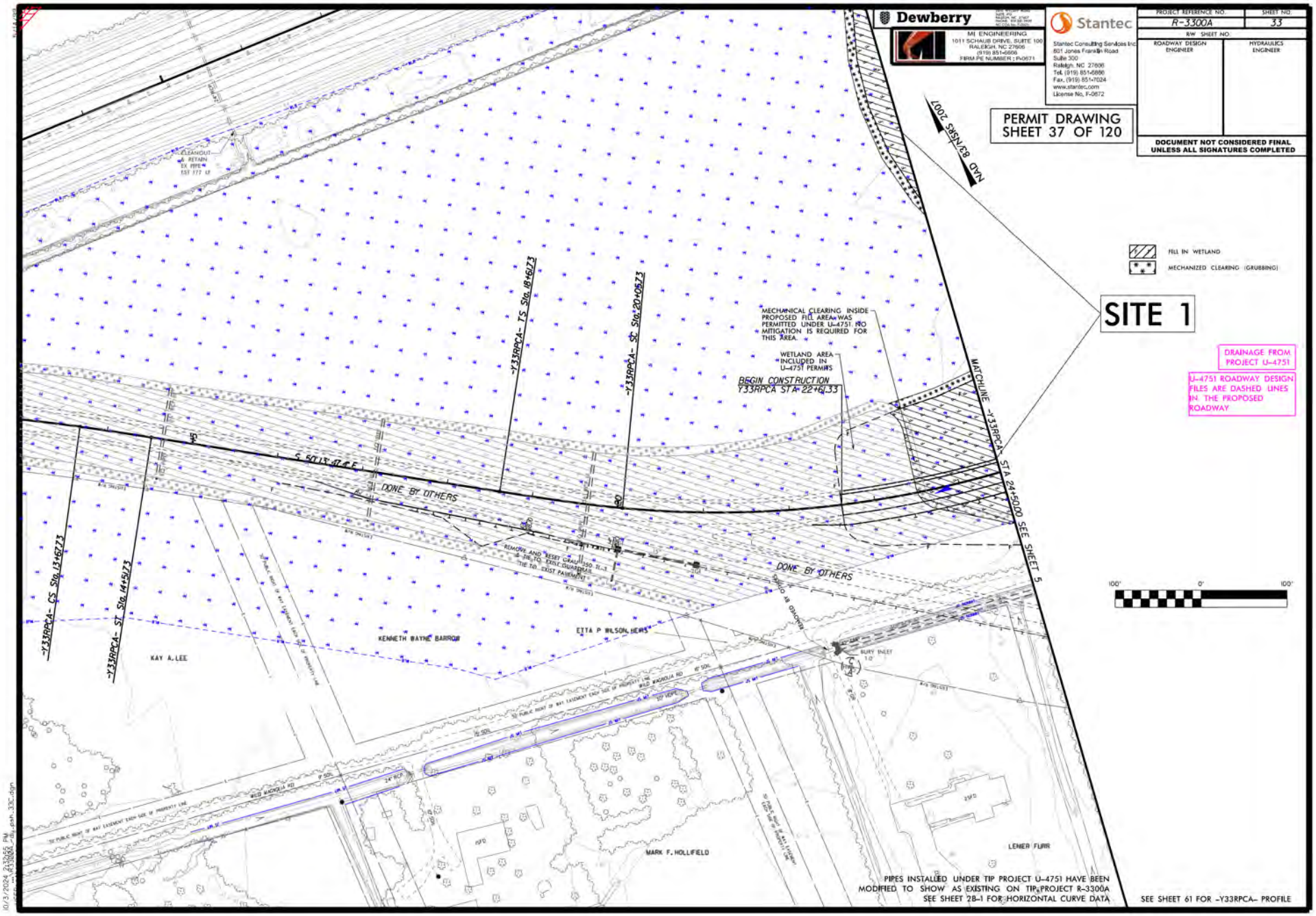
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
33
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING
SHEET 36 OF 120
NAD 83/NSRS 2007
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
SITE 1
MECHANICAL CLEARING INSIDE PROPOSED FILL AREA WAS PERMITTED UNDER U-4751. NO MITIGATION IS REQUIRED FOR THIS AREA.
WETLAND AREA INCLUDED IN U-4751 PERMITS
BEGIN CONSTRUCTION Y33RPCA STA 22+61.33
-Y33RPCA- TS Sta 18+61.73
-Y33RPCA- SC Sta 20+05.73
-Y33RPCA- CS Sta 13+67.73
-Y33RPCA- ST Sta 14+45.73
MATCHLINE -Y33RPCA- STA 24+50.00 SEE SHEET 5
DRAINAGE FROM PROJECT U-4751
U-4751 ROADWAY DESIGN FILES ARE DASHED LINES IN THE PROPOSED ROADWAY
DONE BY OTHERS
REMOVE AND RESET GUARDRAIL & TIE TO EXIST GUARDRAIL TIE TO EXIST PAVEMENT
KENNETH WAYNE BARROW
ETTA P WILSON, HEIRS
KAY A. LEE
MARK F. HOLLIFIELD
LEMER FURR
BURY INLET 1.0'
24" RCP
100' 0' 100'
PIPES INSTALLED UNDER TIP PROJECT U-4751 HAVE BEEN MODIFIED TO SHOW AS EXISTING ON TIP PROJECT R-3300A
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA
SEE SHEET 61 FOR -Y33RPCA- PROFILE

11/20/2024


Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
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801 Jones Franklin Road
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Raleigh, NC 27606
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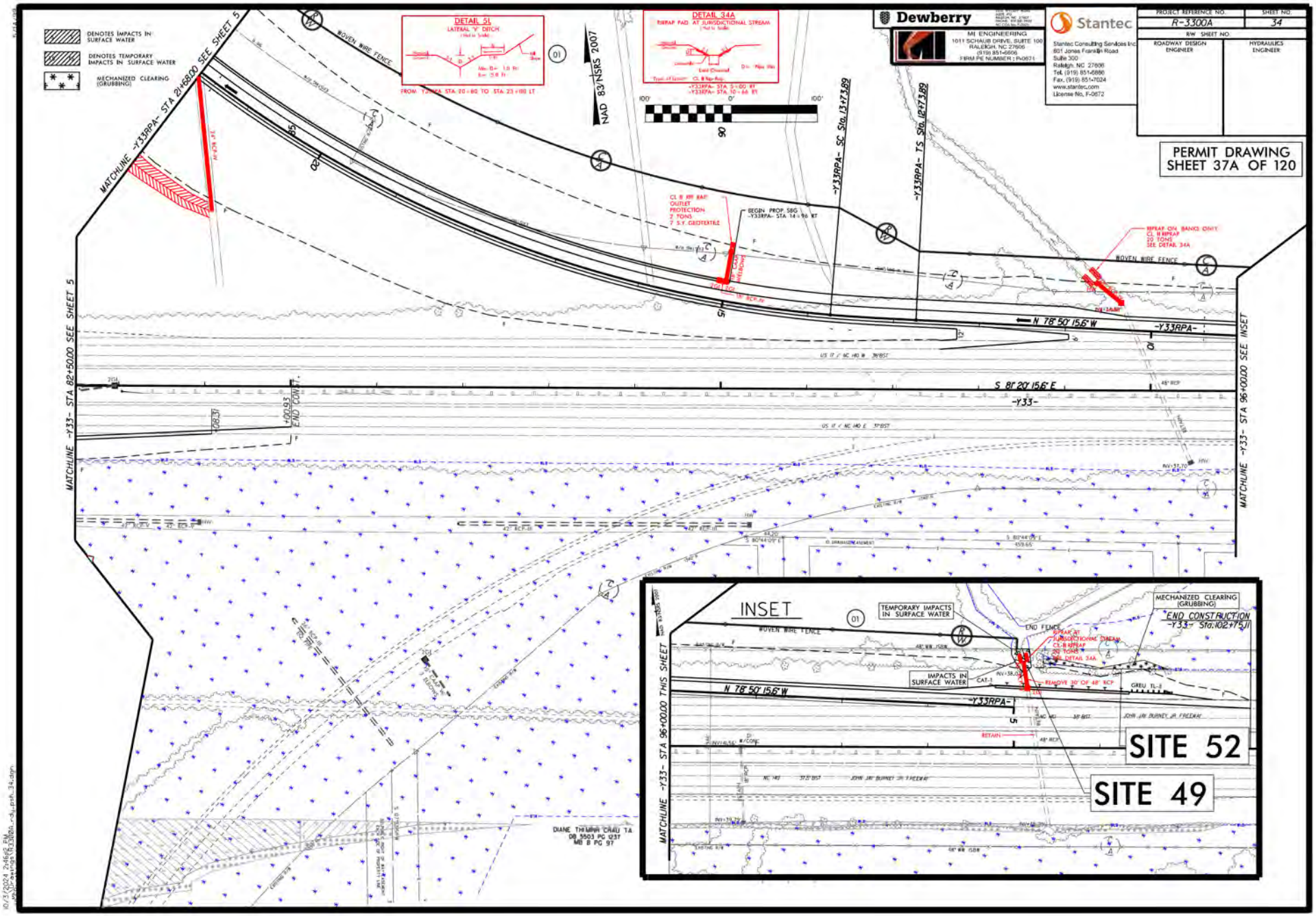
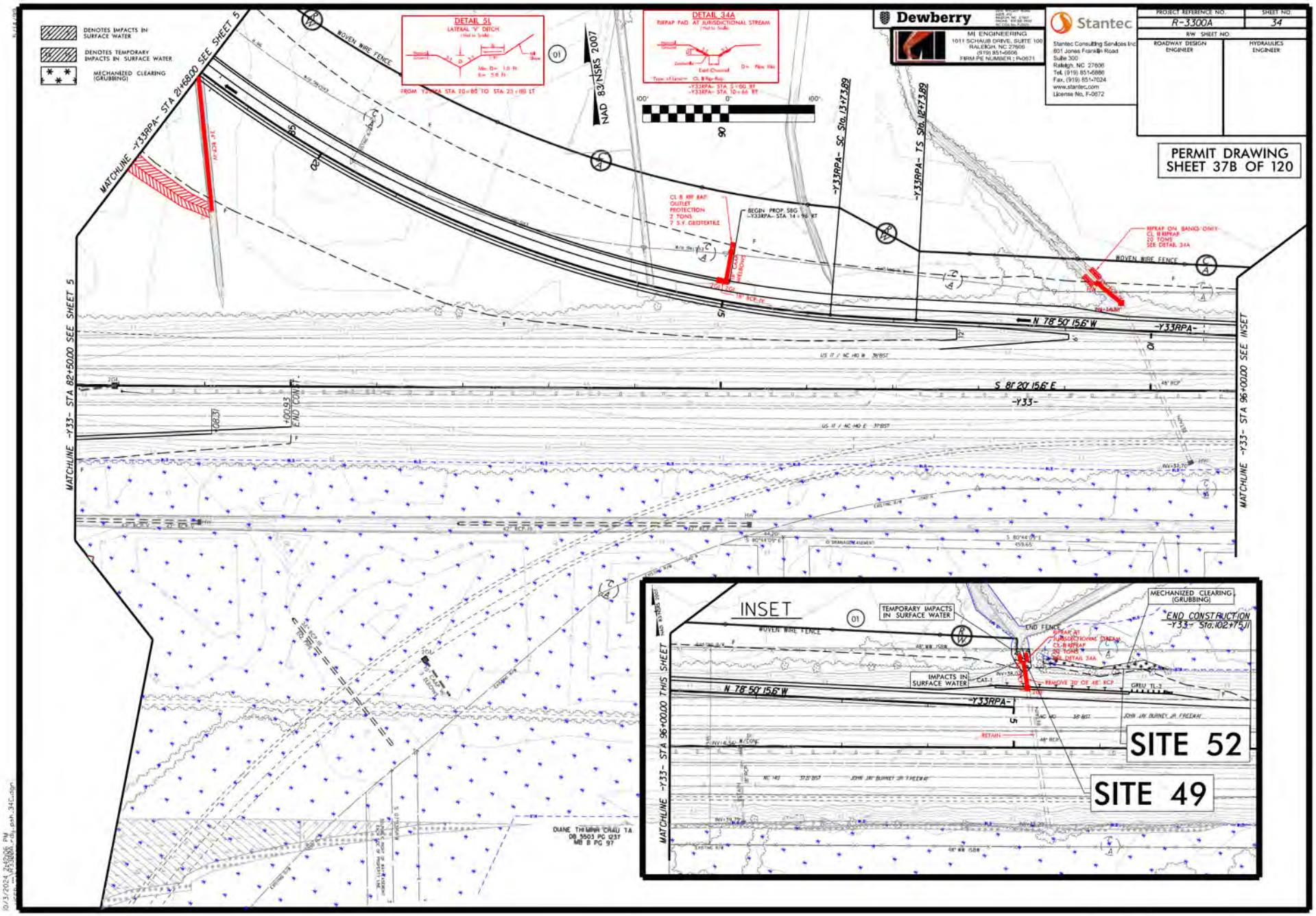
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
33
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING
SHEET 37 OF 120
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
NAD 83/NSRS 2007
FILL IN WETLAND
MECHANICAL CLEARING (GRUBBING)
SITE 1
DRAINAGE FROM PROJECT U-4751
U-4751 ROADWAY DESIGN FILES ARE DASHED LINES IN THE PROPOSED ROADWAY
MECHANICAL CLEARING INSIDE PROPOSED FILL AREA WAS PERMITTED UNDER U-4751. NO MITIGATION IS REQUIRED FOR THIS AREA.
WETLAND AREA INCLUDED IN U-4751 PERMITS
BEGIN CONSTRUCTION Y33RPCA STA 22+61.33
-Y33RPCA- TS Sta 18+61.73
-Y33RPCA- SC Sta 20+05.73
-Y33RPCA- CS Sta 13+61.73
-Y33RPCA- ST Sta 14+45.73
MATCHLINE -Y33RPCA- STA 24+50.00 SEE SHEET 5
DONE BY OTHERS
REMOVE AND RESET GUARDRAIL 250 LF
TIE TO EXIST GUARDRAIL
TIE TO EXIST PAVEMENT
KENNETH WAYNE BARROW
KAY A. LEE
ETTA P WILSON, HEIRS
MARK F. HOLLIFIELD
LEMER FURR
BURY INLET 1.0
24" RCP
WILD MAGNOLIA RD
100' 0' 100'
PIPES INSTALLED UNDER TIP PROJECT U-4751 HAVE BEEN MODIFIED TO SHOW AS EXISTING ON TIP PROJECT R-3300A
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA
SEE SHEET 61 FOR -Y33RPCA- PROFILE

11/20/2024

11/20/2024


DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
MECHANIZED CLEARING (GRUBBING)
DETAIL 5L
DETAIL 34A
NAD 83/NSRS 2007
Dewberry
Stantec
PROJECT REFERENCE NO. R-3300A
SHEET NO. 34
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING SHEET 37A OF 120
MATCHLINE -Y33RPA- STA 21+68.00 SEE SHEET 5
MATCHLINE -Y33- STA 82+50.00 SEE SHEET 5
MATCHLINE -Y33- STA 96+00.00 SEE INSET
WOVEN WIRE FENCE
N 78° 50' 15.6" W
S 81° 20' 15.6" E
-Y33RPA-
-Y33-
INSET
TEMPORARY IMPACTS IN SURFACE WATER
IMPACTS IN SURFACE WATER
MECHANIZED CLEARING (GRUBBING)
END CONSTRUCTION -Y33- Sta:102+75.11
MATCHLINE -Y33- STA 96+00.00 THIS SHEET
SITE 52
SITE 49
DIANE THUMPH CRAIG TA
DB 5503 PG 1237
MB B PG 97

11/20/2024


DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
MECHANIZED CLEARING (GRUBBING)
DETAIL 5L
LATERAL "V" DITCH
DETAIL 34A
RIPRAP PAD AT JURISDICTIONAL STREAM
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
Stantec Consulting Services Inc.
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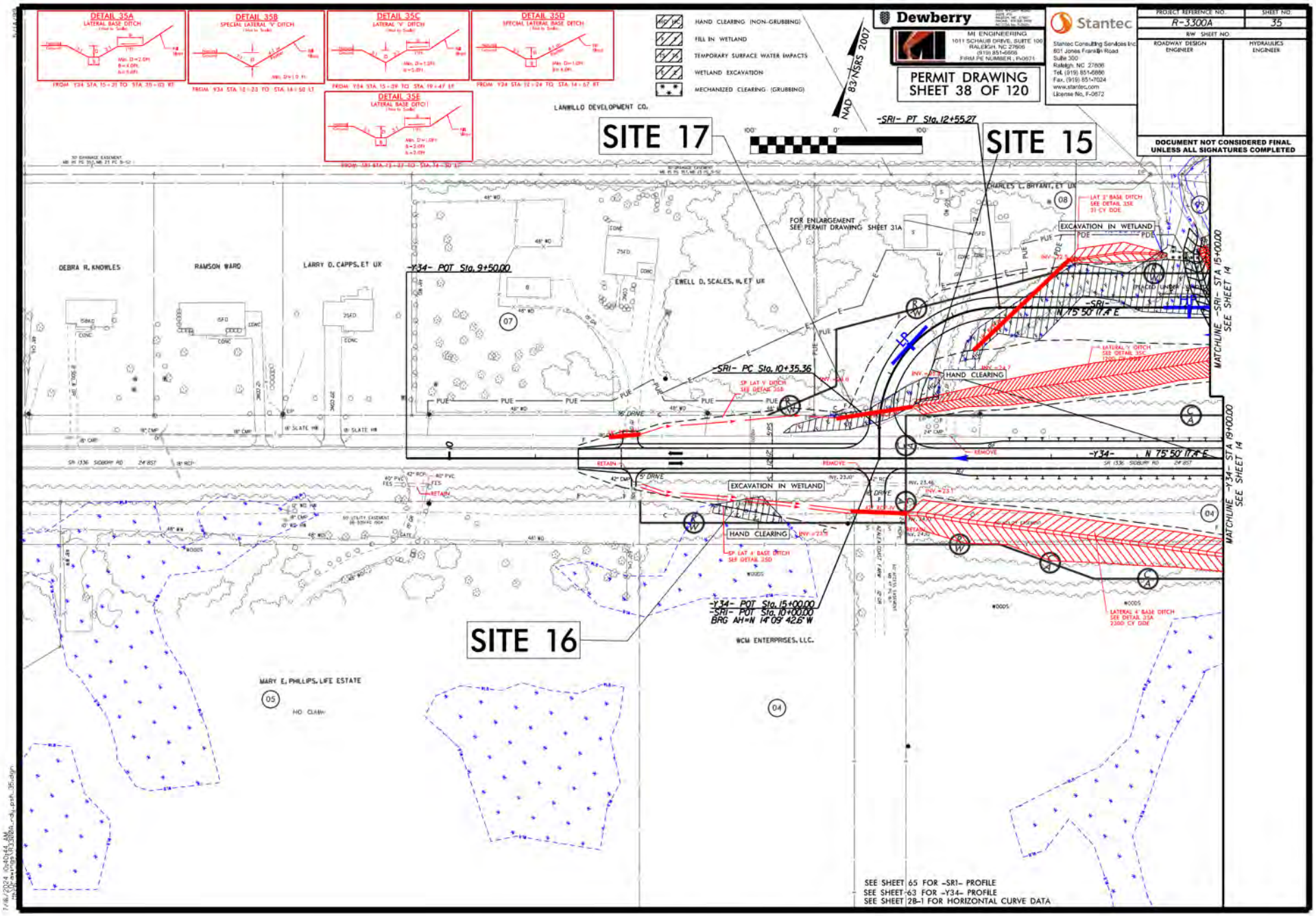
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
34
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING
SHEET 37B OF 120
NAD 83/NSRS 2007
WOVEN WIRE FENCE
MATCHLINE -Y33RPA- STA 2+58.00 SEE SHEET 5
MATCHLINE -Y33- STA 82+50.00 SEE SHEET 5
MATCHLINE -Y33- STA 96+00.00 SEE INSET
-Y33RPA- SC Sta. 13+73.89
-Y33RPA- TS Sta. 12+73.89
N 78° 50' 15.6" W
S 81° 20' 15.6" E
-Y33-
-Y33RPA-
BEGIN PROP. SBG -Y33RPA- STA. 14+96 RT
CL B RIP RAP OUTLET PROTECTION 2 TONS 7 S.Y. GEOTEXTILE
RIPRAP ON BANKS ONLY CL B RIPRAP 20 TONS SEE DETAIL 34A
END CONST. -Y33- Sta. 102+75.11
INSET
TEMPORARY IMPACTS IN SURFACE WATER
MECHANIZED CLEARING (GRUBBING)
IMPACTS IN SURFACE WATER
REMOVE 30' OF 48" RCP
RETAIN
SITE 52
SITE 49
DIANE THOMAS CRAIG TA
DB 5503 PG 1237
MB B PG 97


DETAIL 35A
LATERAL BASE DITCH
DETAIL 35B
SPECIAL LATERAL 'V' DITCH
DETAIL 35C
LATERAL 'V' DITCH
DETAIL 35D
SPECIAL LATERAL BASE DITCH
DETAIL 35E
LATERAL BASE DITCH
HAND CLEARING (NON-GRUBBING)
FILL IN WETLAND
TEMPORARY SURFACE WATER IMPACTS
WETLAND EXCAVATION
MECHANIZED CLEARING (GRUBBING)
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671
Stantec
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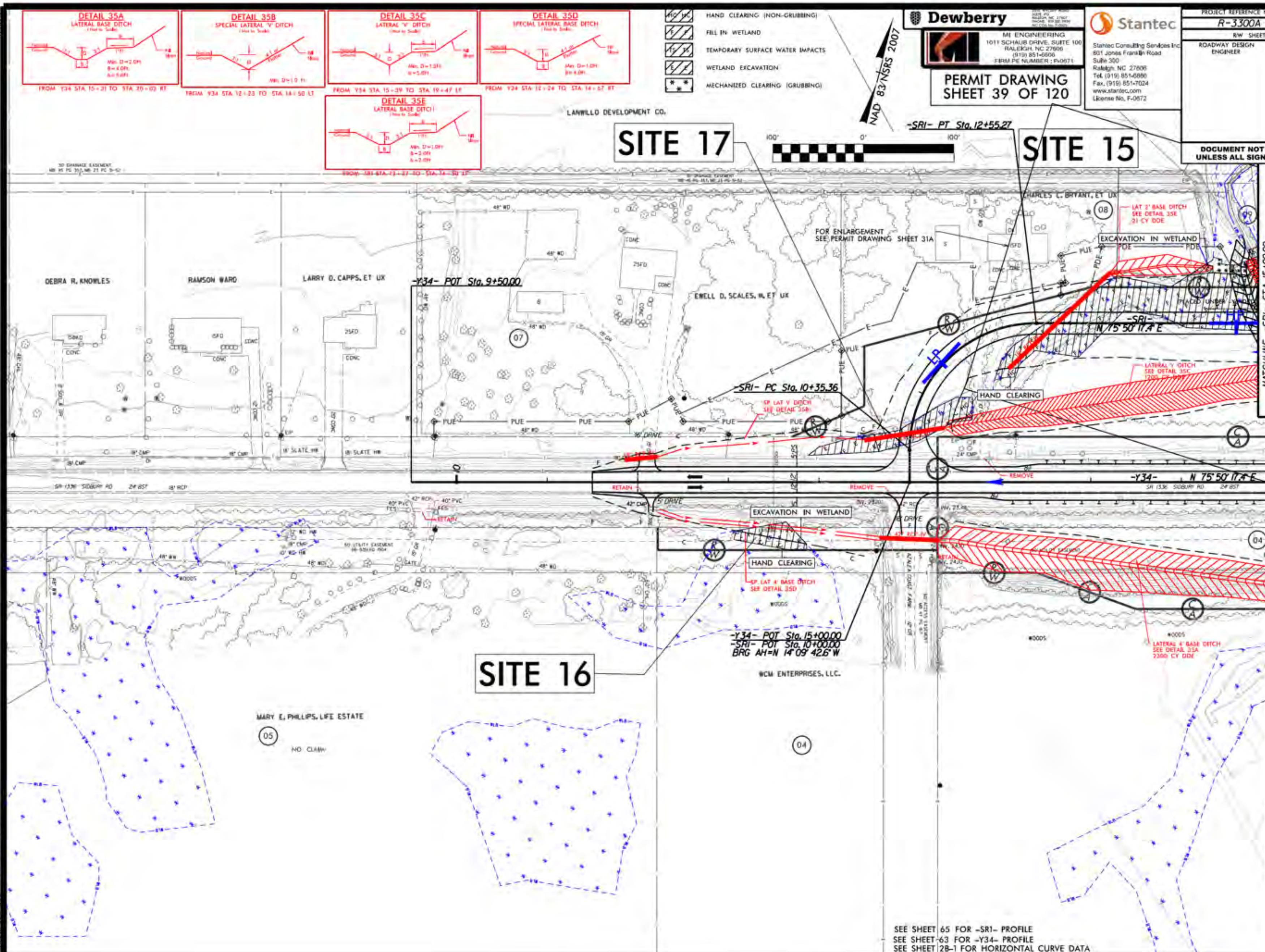
www.stantec.com
License No. F-0672
PERMIT DRAWING
SHEET 38 OF 120
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
35
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
NAD 83-NSRS 2007
LANVILLO DEVELOPMENT CO.
SITE 17
SITE 15
SITE 16
-SRI- PT Sta. 12+55.27
-SRI- PC Sta. 10+35.36
-Y34- POT Sta. 9+50.00
-Y34- POT Sta. 15+00.00
-SRI- POT Sta. 10+00.00
BRG AH=N 14°09'42.6"W
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 31A
DEBRA R. KNOWLES
RAMSON WARD
LARRY D. CAPPS, ET UX
EWELL D. SCALES, III, ET UX
CHARLES L. BRYANT, ET UX
WCM ENTERPRISES, LLC.
MARY E. PHILLIPS, LIFE ESTATE
NO CLAIM
EXCAVATION IN WETLAND
HAND CLEARING
MATCHLINE -SRI- STA 15+00.00 SEE SHEET 14
MATCHLINE -Y34- STA 19+00.00 SEE SHEET 14
SEE SHEET 65 FOR -SRI- PROFILE
SEE SHEET 63 FOR -Y34- PROFILE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA

11/20/2024




Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6866
FIRM PE NUMBER : P-0671

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Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PERMIT DRAWING
SHEET 39 OF 120

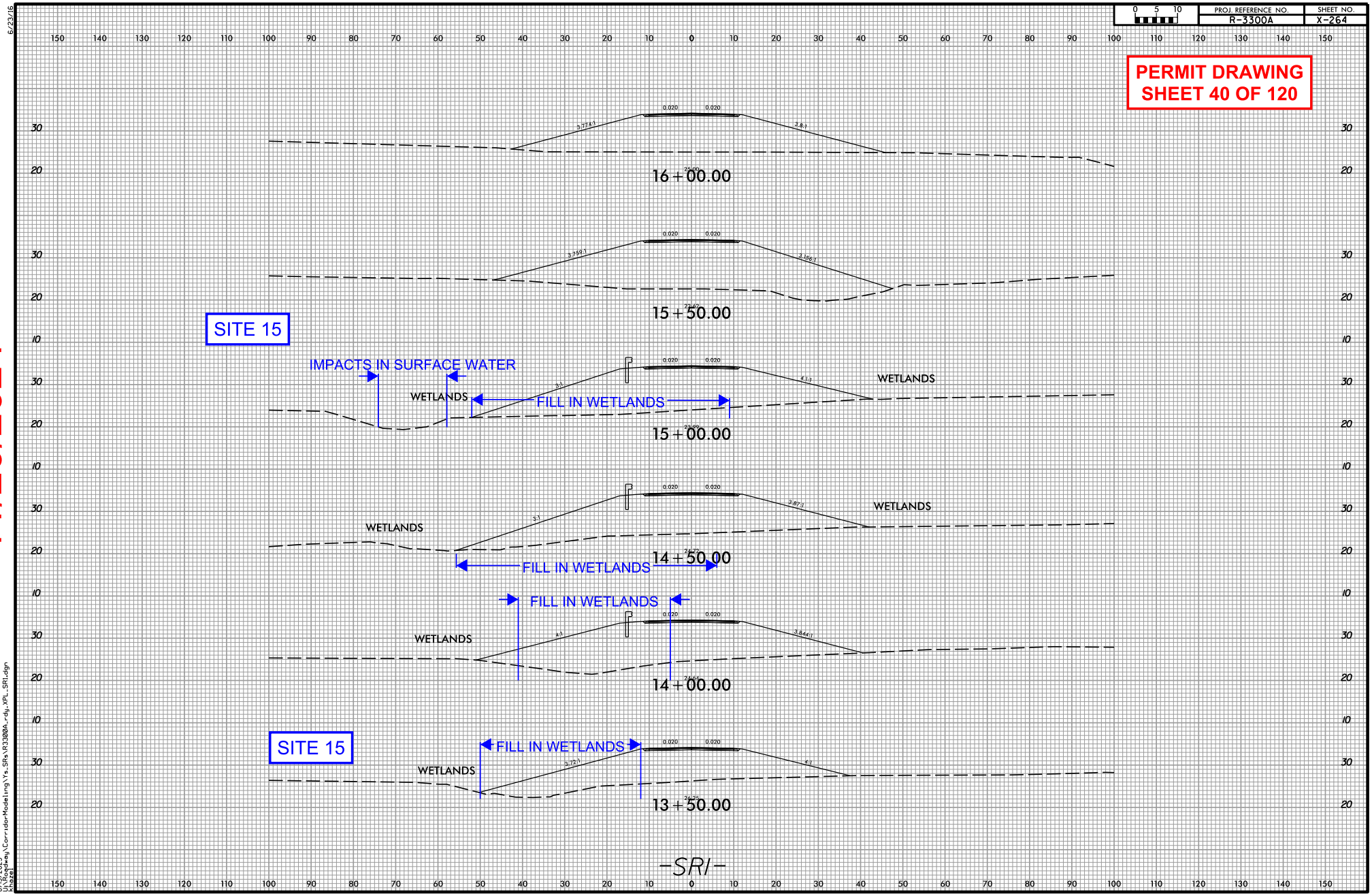
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-3300A | 35 |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEE SHEET 65 FOR -SR1- PROFILE
SEE SHEET 63 FOR -Y34- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

7/16/2024

11/20/2024




11/20/2024

6/23/16

8/15/2023
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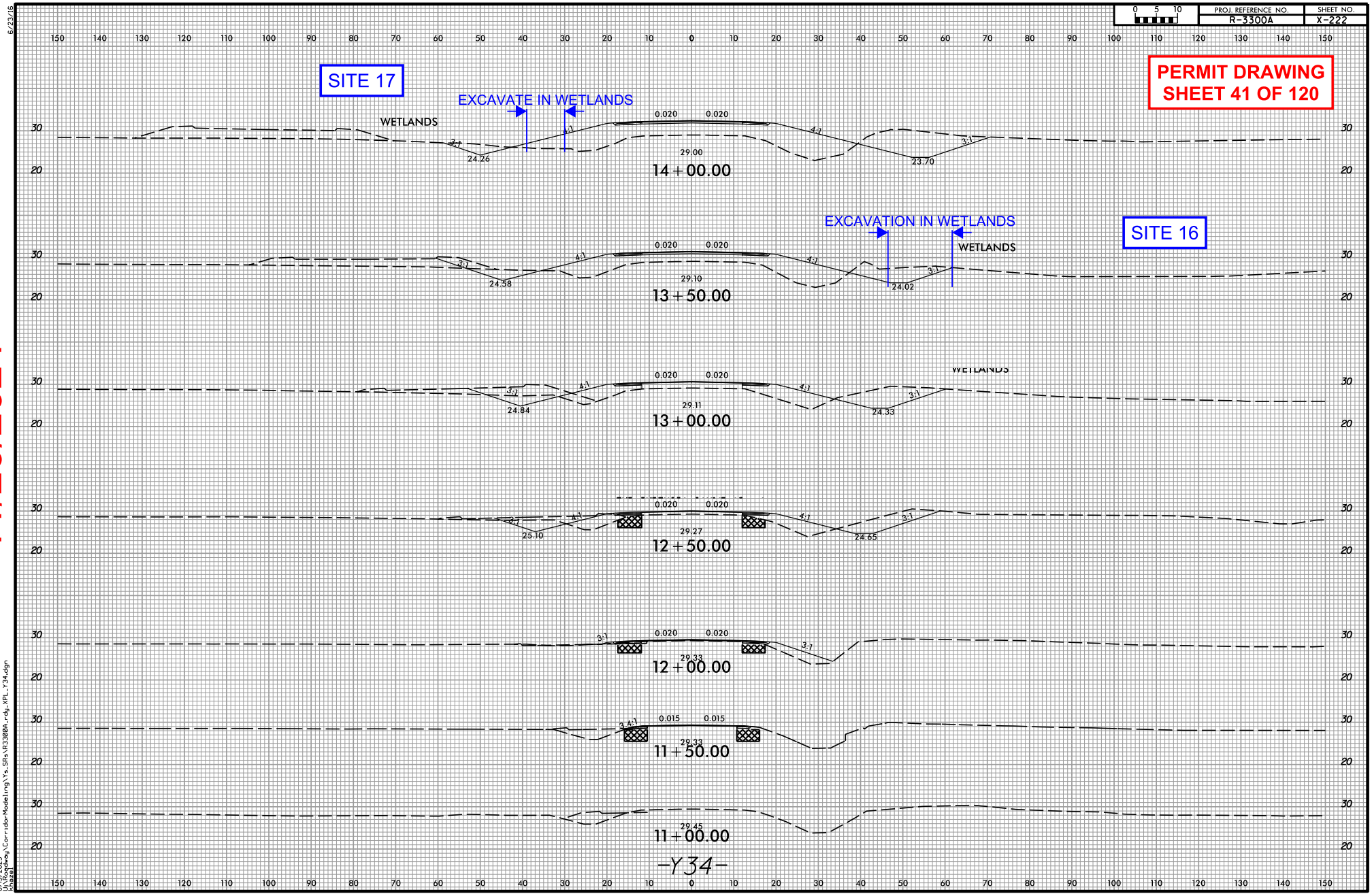
khazel


PROJ. REFERENCE NO.
R-3300A
SHEET NO.
X-222
PERMIT DRAWING
SHEET 41 OF 120
SITE 17
EXCAVATE IN WETLANDS
WETLANDS
0.020
0.020
29.00
14+00.00
24.26
23.70
SITE 16
EXCAVATION IN WETLANDS
WETLANDS
29.10
13+50.00
24.58
24.02
29.11
13+00.00
24.84
24.33
29.27
12+50.00
25.10
24.65
29.33
12+00.00
0.015
0.015
29.33
11+50.00
29.45
11+00.00
-Y34-
11/20/2024
6/23/16
8/15/2023
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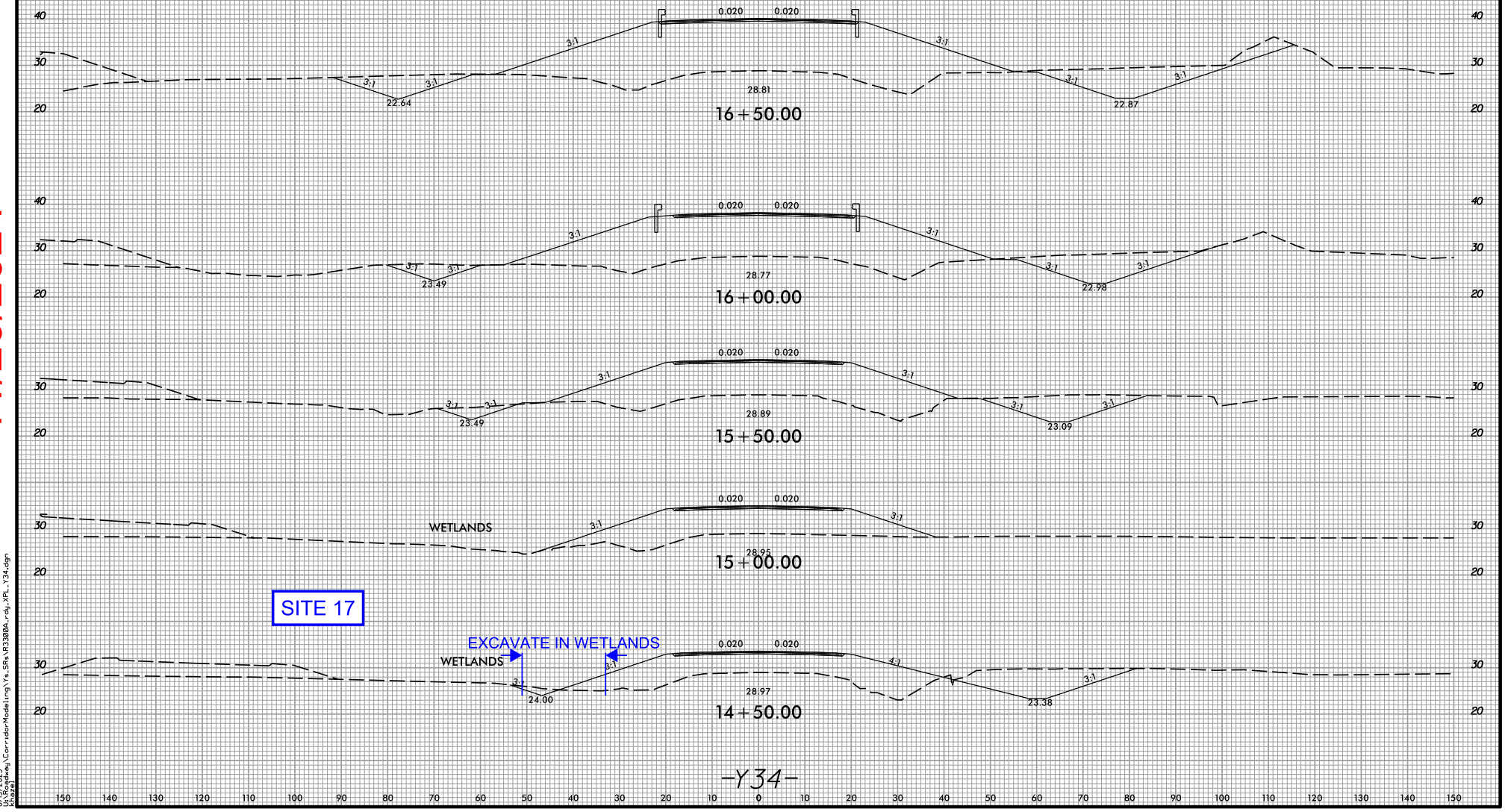
User:

**PERMIT DRAWING**
**SHEET 42 OF 120**




-Y34-

11/20/2024

6/23/16

8/15/2023
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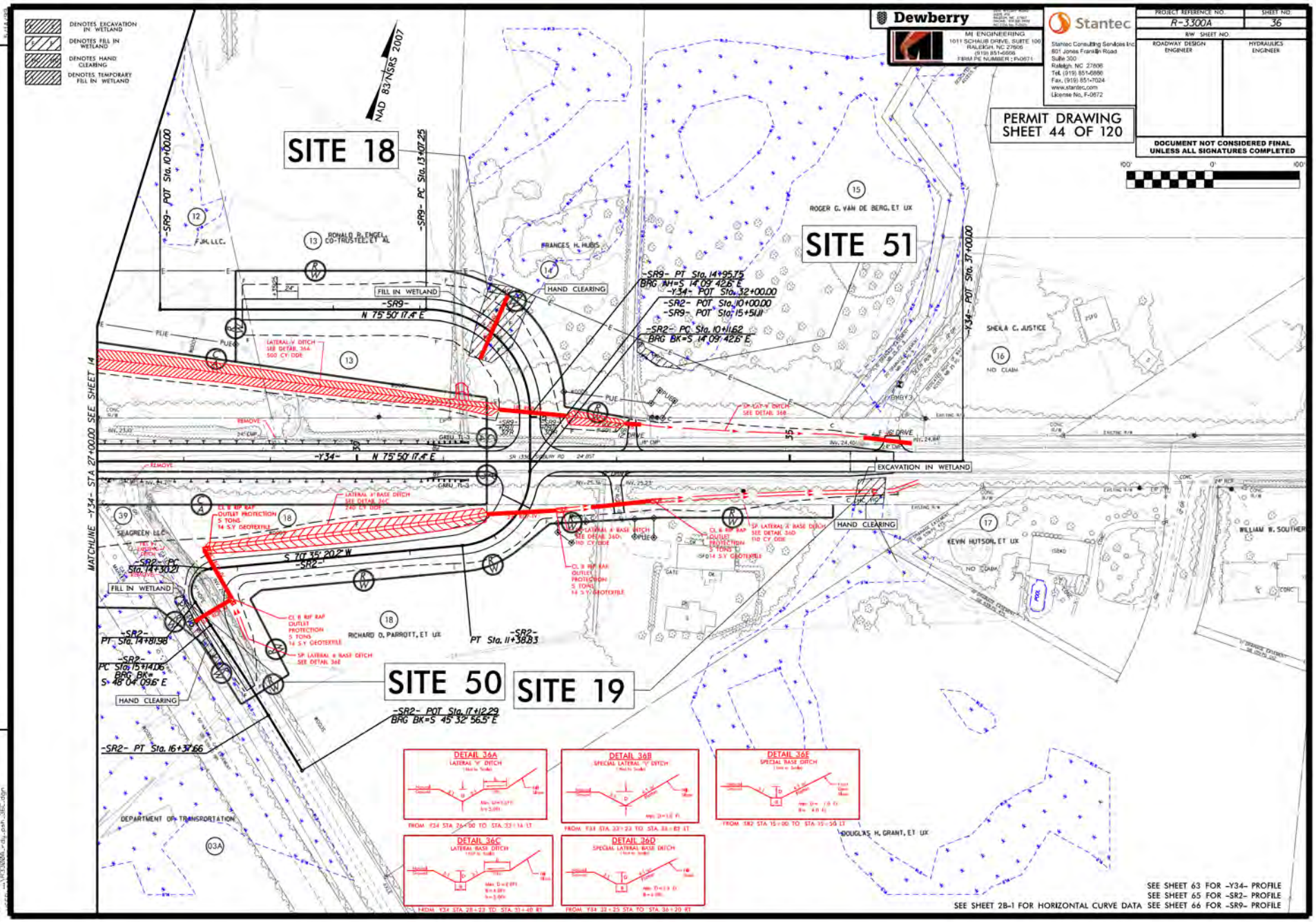
User:

SITE 18
SITE 19
SITE 50
SITE 51
PERMIT DRAWING
SHEET 43 OF 120
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED
Dewberry
Stantec
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
36
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
RW SHEET NO.
NAD 83/NSRS 2007
SEE SHEET 63 FOR -Y34- PROFILE
SEE SHEET 65 FOR -SR2- PROFILE
SEE SHEET 66 FOR -SR9- PROFILE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA
DENOTES EXCAVATION IN WETLAND
DENOTES FILL IN WETLAND
DENOTES HAND CLEARING
DENOTES TEMPORARY FILL IN WETLAND
REVISIONS
RW REV MARCH 2023: REVISED ROW ON PARCELS 18 & 39 -STANTEC
RW REV FEB 2024: REVISED PUE ON PARCEL 12. -STANTEC

11/20/2024




Dewberry
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(919) 851-6606
FIRM PE NUMBER: P-0671

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801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-3300A | 36 |

RW SHEET NO.

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

PERMIT DRAWING
SHEET 44 OF 120

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

100' 0' 100'

REVISIONS
RW REV MARCH 2023: REVISED ROW ON PARCELS 18 & 39. -STANTEC
RW REV FEB 2024: REVISED PUE ON PARCEL 12. -STANTEC

10/3/2024 2:13:08 PM
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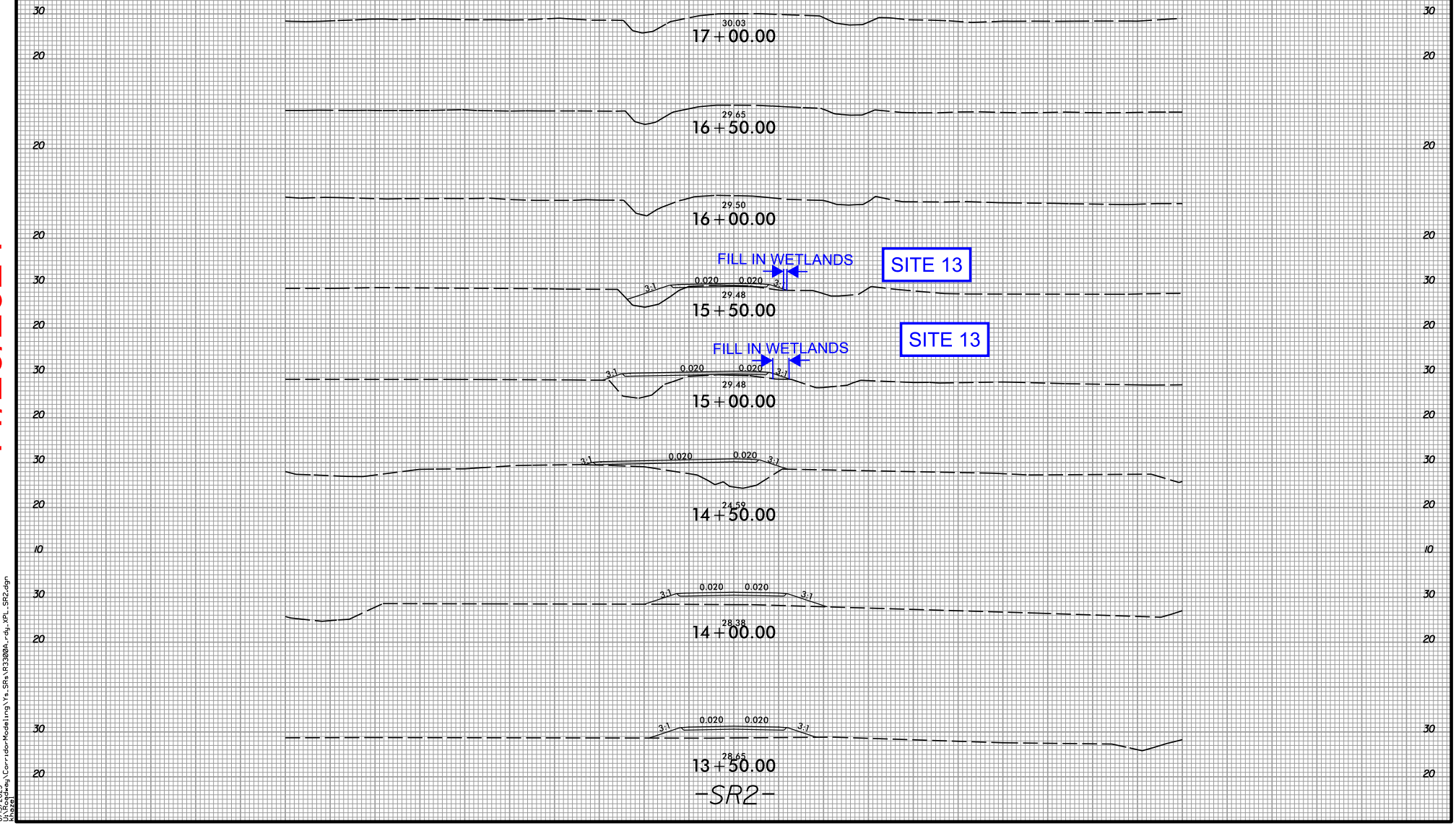
11/20/2024

**PERMIT DRAWING**
**SHEET 45 OF 120**




11/20/2024

6/23/16
8/15/2023
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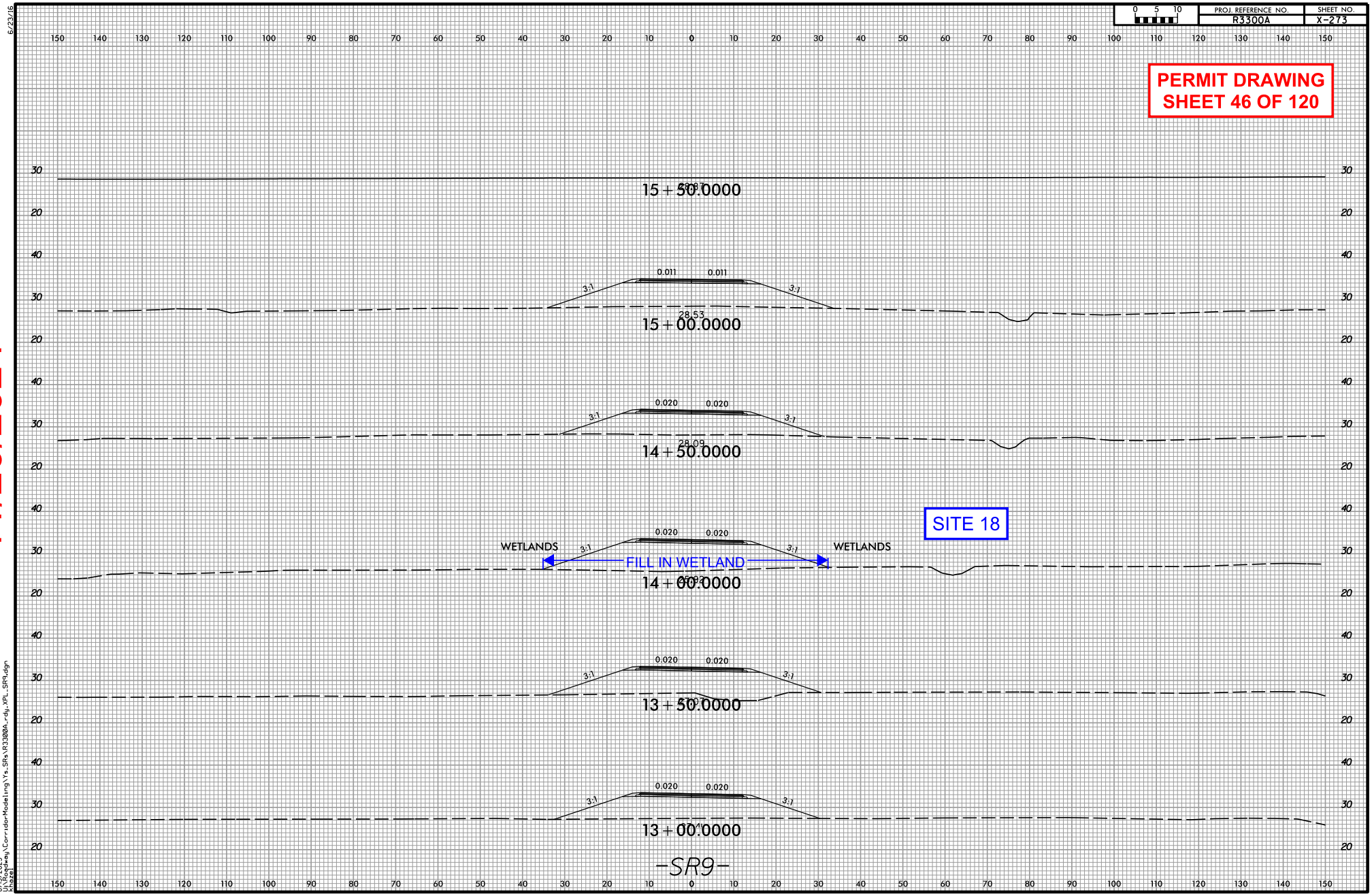
User:




11/20/2024

6/23/16

8/15/2023
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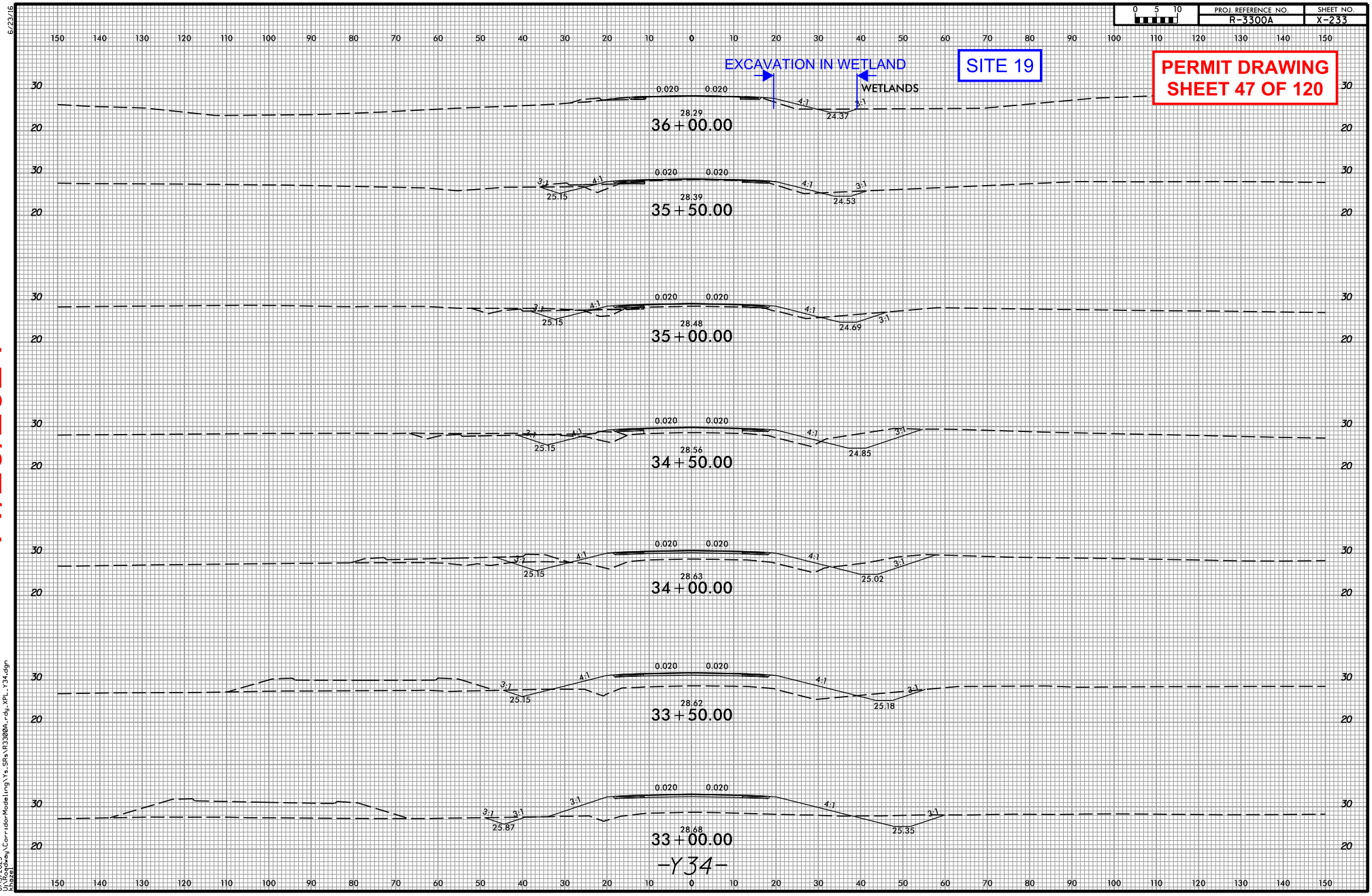
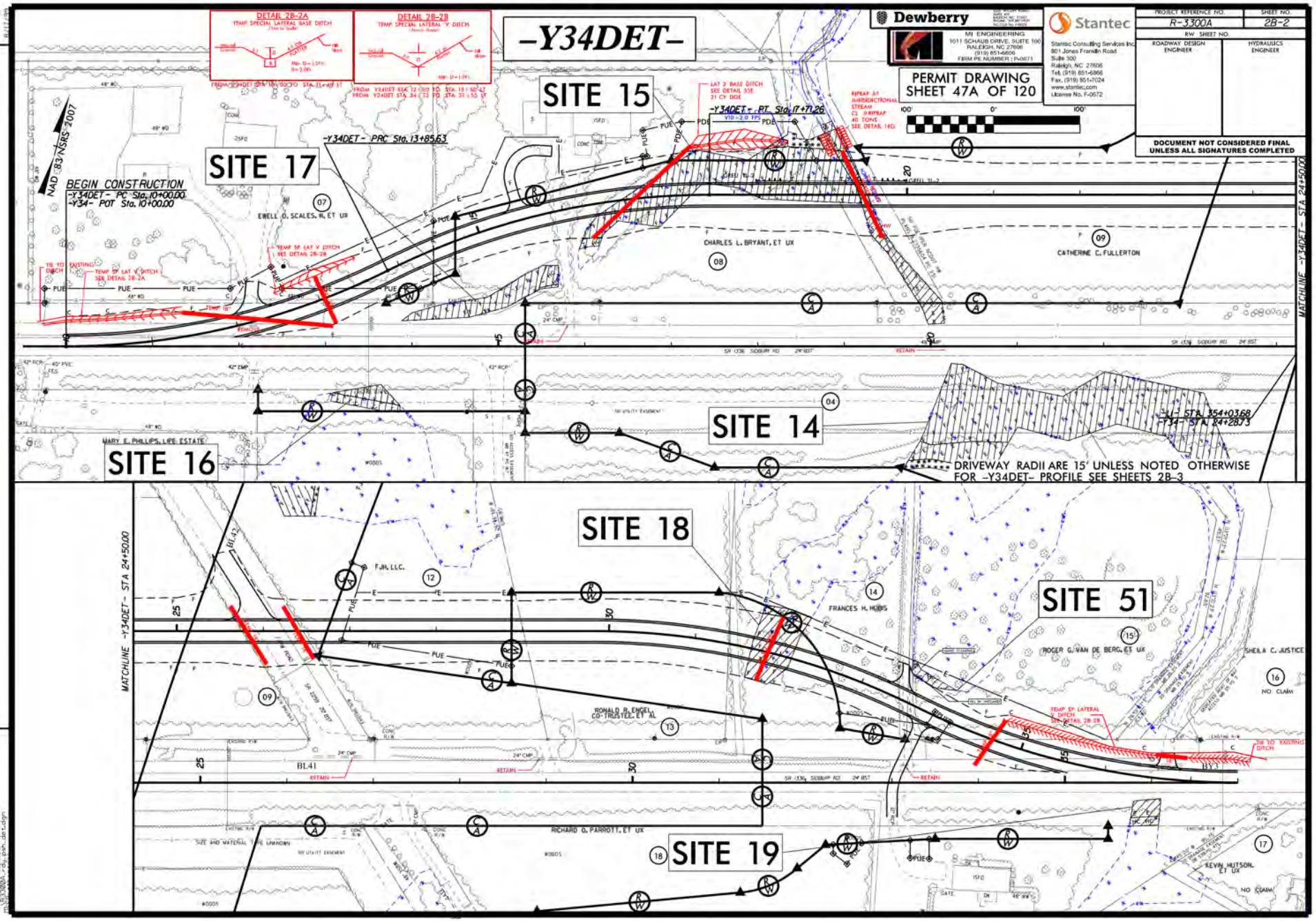
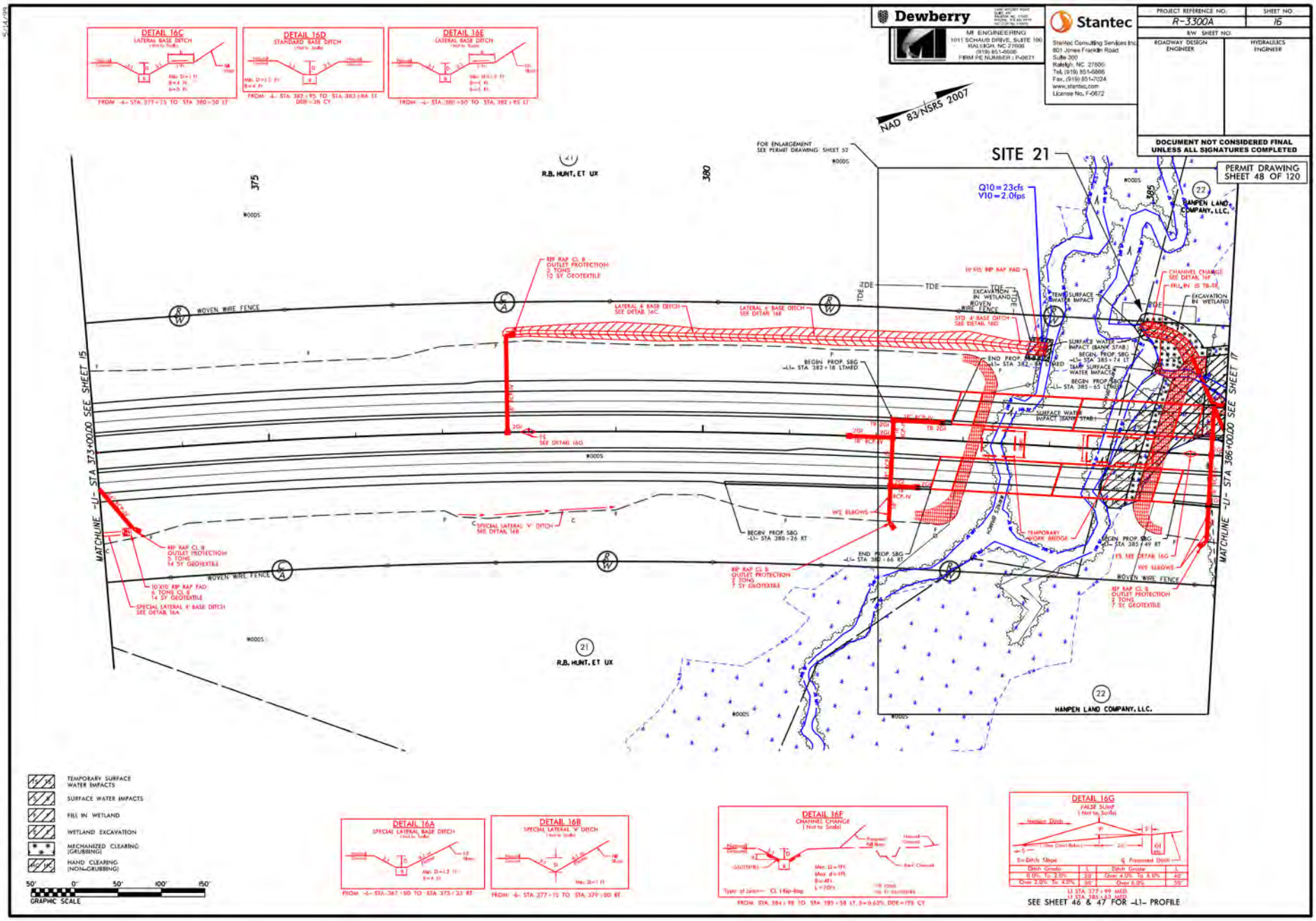

PROJ. REFERENCE NO.
R-3300A
SHEET NO.
X-233
SITE 19
PERMIT DRAWING
SHEET 47 OF 120
EXCAVATION IN WETLAND
WETLANDS
36+00.00
35+50.00
35+00.00
34+50.00
34+00.00
33+50.00
33+00.00
-Y34-

11/20/2024


-Y34DET-
SITE 15
SITE 17
SITE 16
SITE 14
SITE 18
SITE 51
SITE 19
DETAIL 2B-2A
TEMP SPECIAL LATERAL BASE DITCH
DETAIL 2B-2B
TEMP SPECIAL LATERAL "V" DITCH
Dewberry
Stantec
PERMIT DRAWING
SHEET 47A OF 120
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
2B-2
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
NAD 83/NSRS 2007
BEGIN CONSTRUCTION
-Y34DET- PC Sta. 10+00.00
-Y34- POT Sta. 10+00.00
-Y34DET- PRC Sta. 13+85.63
-Y34DET- PT Sta. 17+71.26
EWELL O. SCALES, III, ET UX
CHARLES L. BRYANT, ET UX
CATHERINE C. FULLERTON
MARY E. PHILLIPS, LIFE ESTATE
SR 1136 SIDBURY RD
-L- STA. 354+03.68
-Y34- STA. 24+28.73
DRIVEWAY RADII ARE 15' UNLESS NOTED OTHERWISE
FOR -Y34DET- PROFILE SEE SHEETS 2B-3
MATCHLINE -Y34DET- STA 24+50.00
FJH, LLC.
FRANCES H. HUBS
ROGER G. VAN DE BERG, ET UX
SHEILA C. JUSTICE
NO CLAIM
RONALD B. ENGEL, CO-TRUSTEE, ET AL
RICHARD O. PARROTT, ET UX
KEVIN HUTSON, ET UX
SR 2239 25TH
BL41
REVISIONS
11/20/2024

11/20/2024


DETAIL 16C
LATERAL BASE DITCH
DETAIL 16D
STANDARD BASE DITCH
DETAIL 16E
LATERAL BASE DITCH
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
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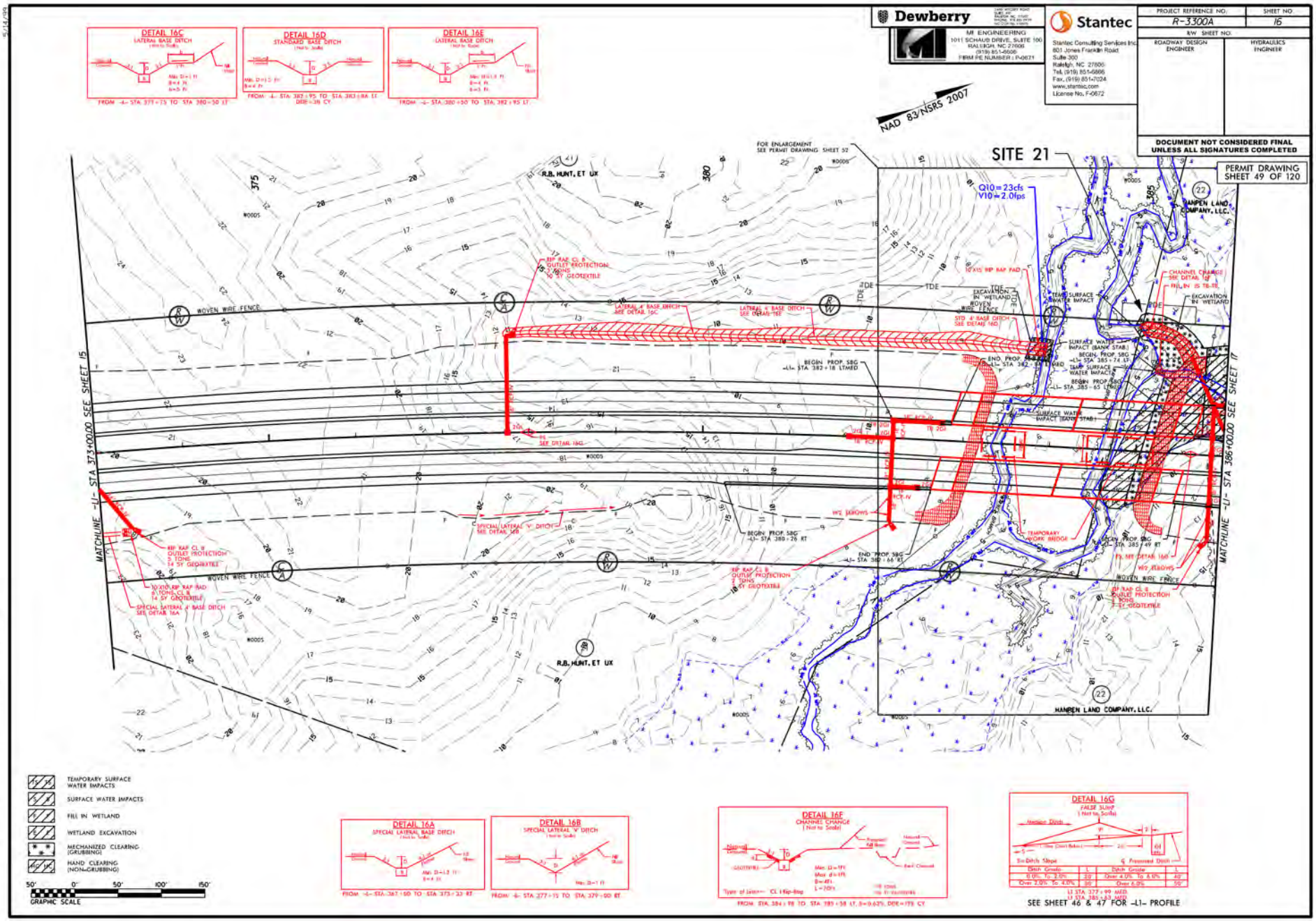
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
16
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 48 OF 120
NAD 83/NSRS 2007
SITE 21
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 57
R.B. HUNT, ET UX
HANPEN LAND COMPANY, LLC.
Q10 = 23cfs
V10 = 2.0fps
WOVEN WIRE FENCE
MATCHLINE -L1- STA 373+00.00 SEE SHEET 15
MATCHLINE -L1- STA 386+00.00 SEE SHEET 17
RIP RAP CL B OUTLET PROTECTION 3 TONS 10 SY GEOTEXTILE
LATERAL A BASE DITCH SEE DETAIL 16C
LATERAL C BASE DITCH SEE DETAIL 16E
STD A BASE DITCH SEE DETAIL 16D
BEGIN PROP SBG -L1- STA 382+18 LTMED
END PROP SBG -L1- STA 382+13 RTMED
BEGIN PROP SBG -L1- STA 385+74 LT
BEGIN PROP SBG -L1- STA 385+65 LTMED
END PROP SBG -L1- STA 385+49 RT
BEGIN PROP SBG -L1- STA 380+26 RT
END PROP SBG -L1- STA 380+66 RT
SPECIAL LATERAL 'V' DITCH SEE DETAIL 16B
SPECIAL LATERAL A' BASE DITCH SEE DETAIL 16A
10'X10' RIP RAP PAD 5 TONS CL B 14 SY GEOTEXTILE
RIP RAP CL B OUTLET PROTECTION 5 TONS 14 SY GEOTEXTILE
RIP RAP CL B OUTLET PROTECTION 3 TONS 7 SY GEOTEXTILE
TEMPORARY SURFACE WATER IMPACTS
EXCAVATION IN WETLAND
FILL IN WETLAND
SURFACE WATER IMPACT (BANK STAB.)
CHANNEL CHANGE SEE DETAIL 16F
W2 ELBOWS
TEMPORARY WORK BRIDGE
TEMPORARY SURFACE WATER IMPACTS
SURFACE WATER IMPACTS
FILL IN WETLAND
WETLAND EXCAVATION
MECHANIZED CLEARING (GRUBBING)
HAND CLEARING (NON-GRUBBING)
50' 0' 50' 100' 150'
GRAPHIC SCALE
DETAIL 16A
SPECIAL LATERAL BASE DITCH
DETAIL 16B
SPECIAL LATERAL 'V' DITCH
DETAIL 16F
CHANNEL CHANGE
DETAIL 16G
FALSE SUMP
SEE SHEET 46 & 47 FOR -L1- PROFILE

11/20/2024


DETAIL 16C
LATERAL BASE DITCH
FROM -L- STA. 377+75 TO STA. 380+50 LT
DETAIL 16D
STANDARD BASE DITCH
FROM -L- STA. 382+95 TO STA. 383+84 LT
DDE=.36 CY
DETAIL 16E
LATERAL BASE DITCH
FROM -L- STA. 380+50 TO STA. 382+95 LT
Dewberry
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1011 SCHAUB DRIVE, SUITE 100
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License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
16
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NAD 83/NSRS 2007
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 49 OF 120
SITE 21
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 52
MATCHLINE -L1- STA 373+00.00 SEE SHEET 15
MATCHLINE -L1- STA 386+00.00 SEE SHEET 17
R.B. HUNT, ET UX
HAMPEN LAND COMPANY, LLC.
WOVEN WIRE FENCE
Q10=23cfs
V10=2.0fps
RIP RAP CL B OUTLET PROTECTION 2 TONS 10 SY GEOTEXTILE
LATERAL A BASE DITCH SEE DETAIL 16C
LATERAL A BASE DITCH SEE DETAIL 16E
STD A BASE DITCH SEE DETAIL 16D
EXCAVATION IN WETLAND
TEMP SURFACE WATER IMPACT
SURFACE WATER IMPACT (BANK STAB.)
CHANNEL CHANGE SEE DETAIL 16F
FILL IN WETLAND
BEGIN PROP SBG -L1- STA 382+18 LTMED
END PROP SBG -L1- STA 382+33 RTMED
BEGIN PROP SBG -L1- STA 385+74 LT
BEGIN PROP SBG -L1- STA 385+65 LTMED
END PROP SBG -L1- STA 385+49 RT
BEGIN PROP SBG -L1- STA 380+26 RT
END PROP SBG -L1- STA 380+66 RT
SPECIAL LATERAL 'V' DITCH SEE DETAIL 16B
SPECIAL LATERAL A BASE DITCH SEE DETAIL 16A
10'X10' RIP RAP PAD 4 TONS CL B 14 SY GEOTEXTILE
W2 ARROWS
TEMPORARY WORK BRIDGE
TEMPORARY SURFACE WATER IMPACTS
SURFACE WATER IMPACTS
FILL IN WETLAND
WETLAND EXCAVATION
MECHANIZED CLEARING (GRUBBING)
HAND CLEARING (NON-GRUBBING)
50' 0' 50' 100' 150'
GRAPHIC SCALE
DETAIL 16A
SPECIAL LATERAL BASE DITCH
FROM -L- STA. 367+50 TO STA. 373+33 RT
DETAIL 16B
SPECIAL LATERAL 'V' DITCH
FROM -L- STA. 377+15 TO STA. 379+00 RT
DETAIL 16F
CHANNEL CHANGE
Type of Liner= CL I Rip-Rap
FROM STA. 384+98 TO STA. 385+58 LT, S=0.63%, DDE=179 CY
DETAIL 16G
FALSE SUMP
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
L1 STA. 377+99 MED.
L1 STA. 385+63 MED.
SEE SHEET 46 & 47 FOR -L1- PROFILE

11/20/2024

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FIRM PE NUMBER: P-0671

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License No. F-0672

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-3300A | 17 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 50 OF 120

NAD 83/NSRS 2007

DETAIL 17C
SPECIAL LATERAL BASE DITCH
(Not to Scale)

DETAIL 17D
TOE PROTECTION
(Not to Scale)

DETAIL 17E
LATERAL BASE DITCH
(Not to Scale)

DETAIL 17F
LATERAL BASE DITCH
(Not to Scale)

DETAIL 17G
SPECIAL LATERAL BASE DITCH
(Not to Scale)

FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 52

SITE 21

EACH PIPEPAD:
Q10 = 4.4cfs
V10 = 1.0fps

Q10 = 19cfs
V10 = 1.0fps

RIP RAP CL II OUTLET PROTECTION

EXCAVATION IN WETLAND

Q10 = 3.1cfs, V10 = 0.6fps

LATERAL 4' BASE DITCH SEE DETAIL 17C

LATERAL 3' BASE DITCH SEE DETAIL 17E

WOVEN WIRE FENCE

SLOPE PROTECTION SEE DETAIL 17I

TOE PROTECTION SEE DETAIL 17D

Q10 = 10cfs
V10 = 0.8fps

HANPEN LAND COMPANY, LLC.

NEW HANOVER COUNTY / PENDER COUNTY

SITE 22

RIP RAP CL I OUTLET PROTECTION
33 TONS
60 SY GEOTEXTILE

SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 17C

Q10 = 2.8cfs
V10 = 1.3fps

LATERAL 2' BASE DITCH SEE DETAIL 17E

RIP RAP CL II OUTLET PROTECTION
3 TONS
16 SY GEOTEXTILE

SPECIAL LATERAL 3' BASE DITCH SEE DETAIL 17A

SPECIAL LATERAL 3' BASE DITCH SEE DETAIL 17B

LATERAL 2' BASE DITCH SEE DETAIL 17E

15 YR RIPRAP PAD

Q10 = 3.7cfs
V10 = 0.7fps

EXCAVATION IN WETLAND

SLOPE PROTECTION SEE DETAIL 17I

MATCHLINE -L1- STA 386+00.00 SEE SHEET 16

MATCHLINE -L1- STA 399+00.00 SEE SHEET 18

SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)

50' 0' 50' 100' 150'
GRAPHIC SCALE

DETAIL 17A
SPECIAL LATERAL BASE DITCH
(Not to Scale)

FROM -L- STA. 394+50 TO STA. 393+50 RT

DETAIL 17B
SPECIAL LATERAL BASE DITCH
(Not to Scale)

FROM -L- STA. 393+00 TO STA. 393+13 RT.

DETAIL 17H
FALSE SUMP
(Not to Scale)

| S = Ditch Slope | | L | Ditch Grade | | L |
|---|---|---|---|---|---|
| Ditch Grade | | | Over 4.0% To 6.0% | | 40' |
| 0.0% To 2.0% | | 20' | Over 6.0% | | 50' |
| Over 2.0% To 4.0% | | 30' | | | |

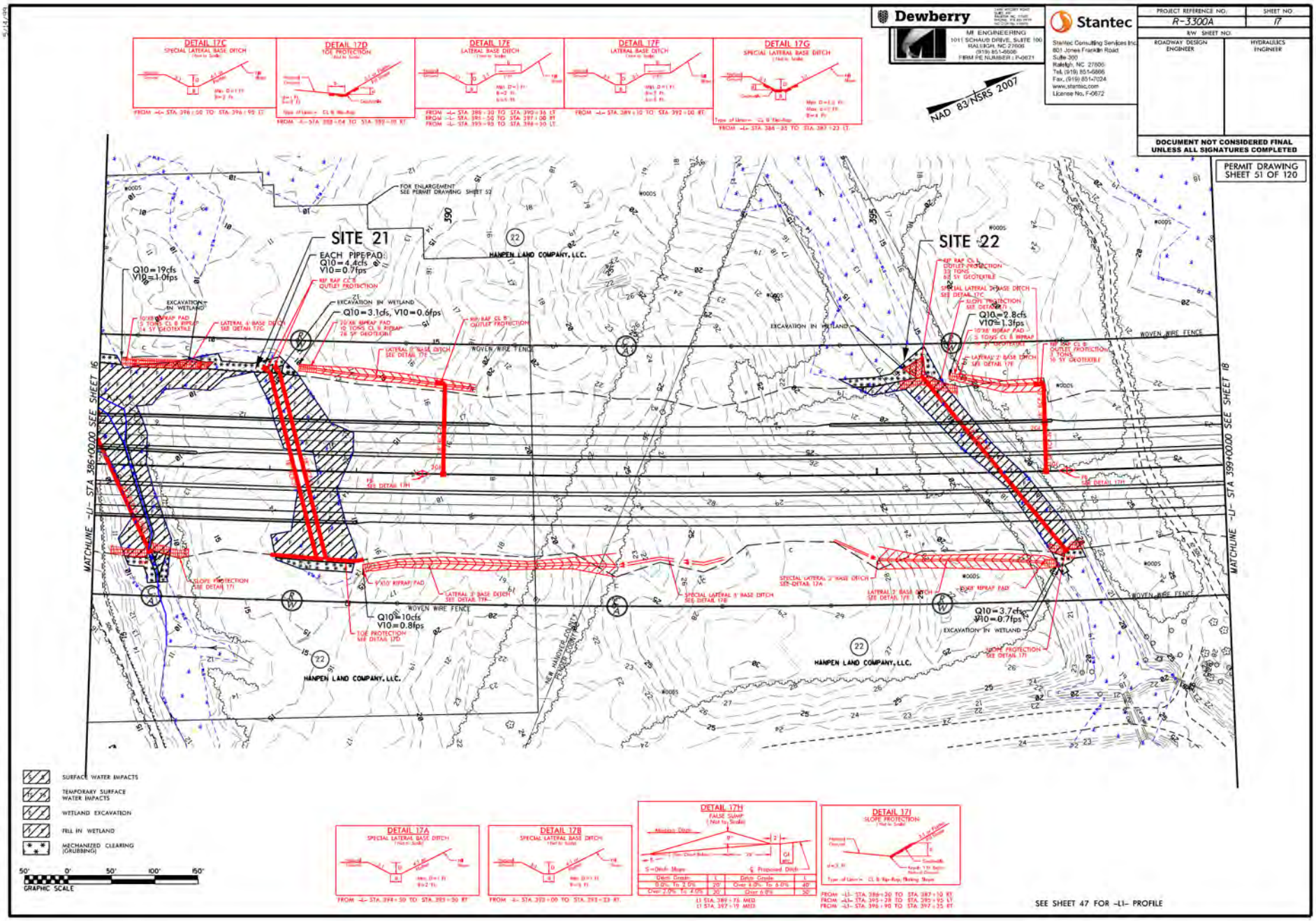
L1 STA. 389+75 MED.
L1 STA. 397+19 MED.

DETAIL 17I
SLOPE PROTECTION
(Not to Scale)

FROM -L1- STA. 386+30 TO STA. 387+10 RT
FROM -L1- STA. 395+28 TO STA. 395+95 LT
FROM -L1- STA. 396+90 TO STA. 397+35 RT

SEE SHEET 47 FOR -L1- PROFILE

11/20/2024


DETAIL 17C
SPECIAL LATERAL BASE DITCH
DETAIL 17D
TOE PROTECTION
DETAIL 17E
LATERAL BASE DITCH
DETAIL 17F
LATERAL BASE DITCH
DETAIL 17G
SPECIAL LATERAL BASE DITCH
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
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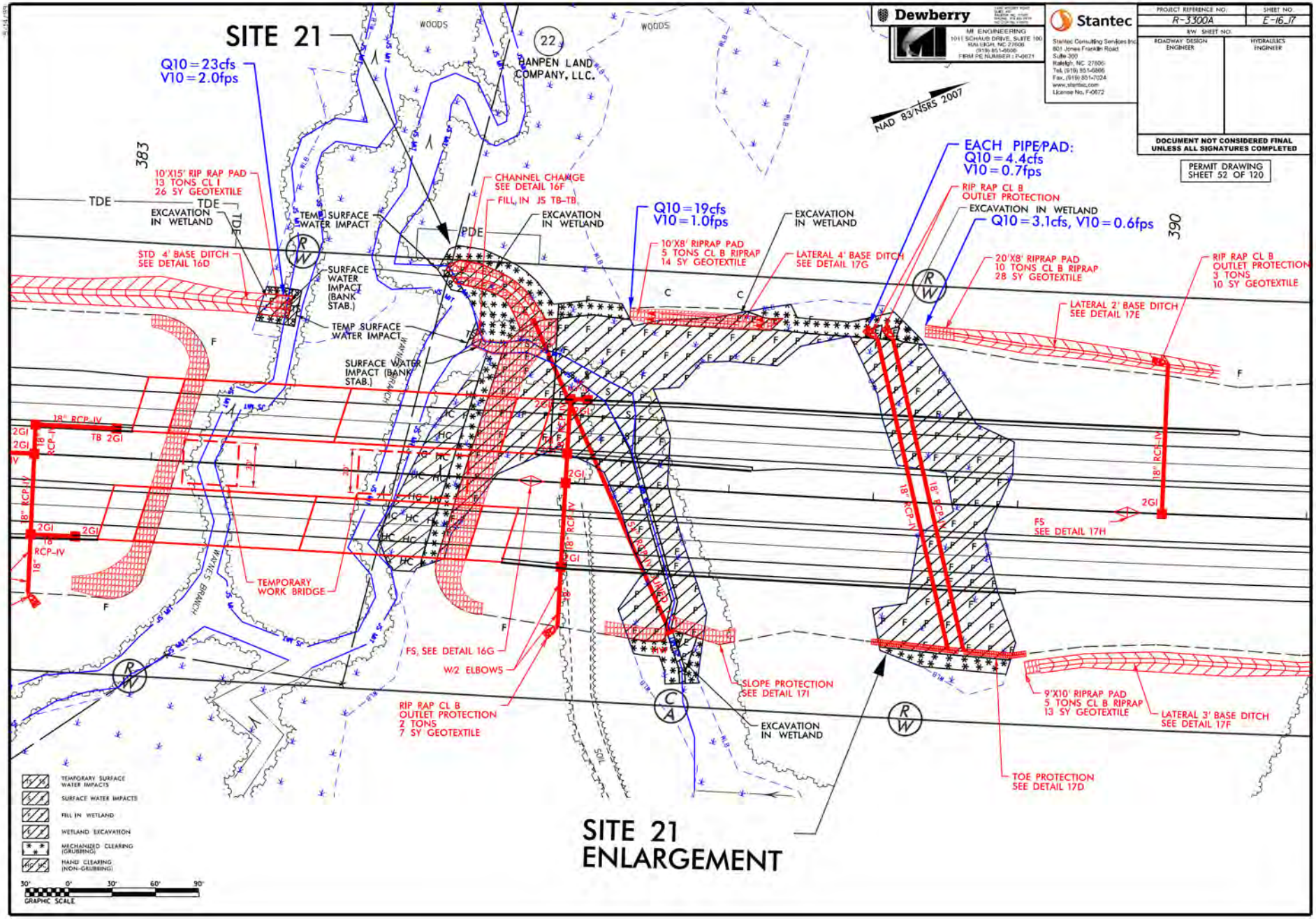
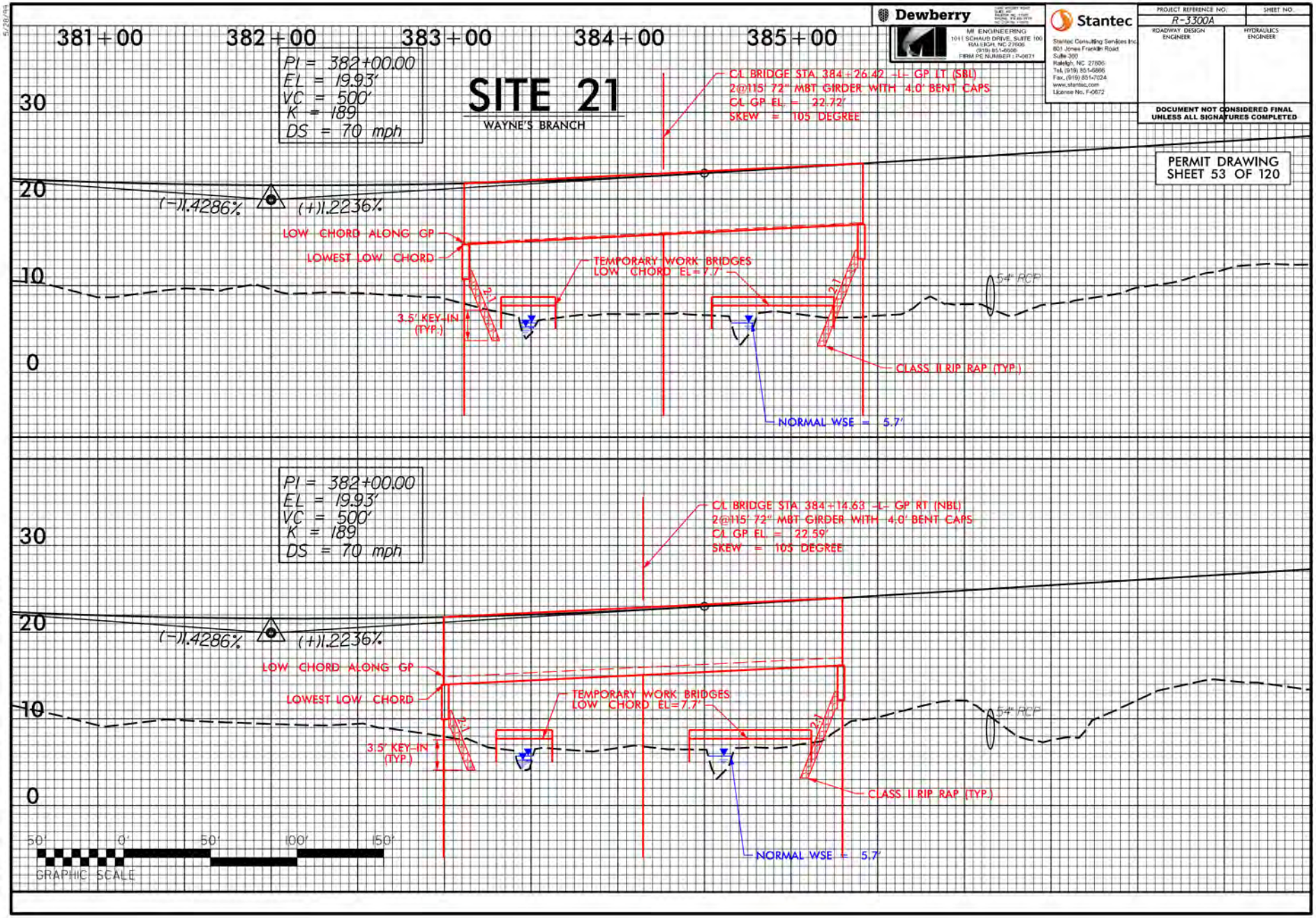
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
NAD 83/NSRS 2007
PROJECT REFERENCE NO.: R-3300A
SHEET NO.: 17
R/W SHEET NO.:
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 51 OF 120
SITE 21
SITE 22
EACH PIPEPAD
Q10 = 4.4cfs
V10 = 0.7fps
Q10 = 19cfs
V10 = 1.0fps
Q10 = 3.1cfs, V10 = 0.6fps
Q10 = 2.8cfs
V10 = 1.3fps
Q10 = 10cfs
V10 = 0.8fps
Q10 = 3.7cfs
V10 = 0.7fps
EXCAVATION IN WETLAND
WOVEN WIRE FENCE
HANPEN LAND COMPANY, LLC.
MATCHLINE -L1- STA 386+00.00 SEE SHEET 16
MATCHLINE -L1- STA 399+00.00 SEE SHEET 18
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
GRAPHIC SCALE
DETAIL 17A
SPECIAL LATERAL BASE DITCH
DETAIL 17B
SPECIAL LATERAL BASE DITCH
DETAIL 17H
FALSE SUMP
DETAIL 17I
SLOPE PROTECTION
SEE SHEET 47 FOR -L1- PROFILE

11/20/2024



SITE 21
Q10 = 23cfs
V10 = 2.0fps
10'X15' RIP RAP PAD
13 TONS CL I
26 SY GEOTEXTILE
TDE
EXCAVATION IN WETLAND
STD 4' BASE DITCH
SEE DETAIL 16D
TEMP SURFACE WATER IMPACT
SURFACE WATER IMPACT (BANK STAB.)
CHANNEL CHANGE
SEE DETAIL 16F
FILL, IN JS TB-TB
PDE
BANPEN LAND COMPANY, LLC.
WOODS
383
390
Q10 = 19cfs
V10 = 1.0fps
10'X8' RIPRAP PAD
5 TONS CL B RIPRAP
14 SY GEOTEXTILE
LATERAL 4' BASE DITCH
SEE DETAIL 17G
EACH PIPE/PAD:
Q10 = 4.4cfs
V10 = 0.7fps
RIP RAP CL B
OUTLET PROTECTION
Q10 = 3.1cfs, V10 = 0.6fps
20'X8' RIPRAP PAD
10 TONS CL B RIPRAP
28 SY GEOTEXTILE
LATERAL 2' BASE DITCH
SEE DETAIL 17E
RIP RAP CL B
OUTLET PROTECTION
3 TONS
10 SY GEOTEXTILE
18" RCP-IV
TB 2GI
2GI
TEMPORARY WORK BRIDGE
FS, SEE DETAIL 16G
W/2 ELBOWS
RIP RAP CL B
OUTLET PROTECTION
2 TONS
7 SY GEOTEXTILE
SLOPE PROTECTION
SEE DETAIL 17I
FS
SEE DETAIL 17H
9'X10' RIPRAP PAD
5 TONS CL B RIPRAP
13 SY GEOTEXTILE
LATERAL 3' BASE DITCH
SEE DETAIL 17F
TOE PROTECTION
SEE DETAIL 17D
WAYNES BRANCH
SOIL
NAD 83/NSRS 2007
TEMPORARY SURFACE WATER IMPACTS
SURFACE WATER IMPACTS
FILL IN WETLAND
WETLAND EXCAVATION
MECHANIZED CLEARING (GRUBBING)
HAND CLEARING (NON-GRUBBING)
GRAPHIC SCALE
SITE 21
ENLARGEMENT
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: F-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
E-16_17
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING
SHEET 52 OF 120


381+00
382+00
383+00
384+00
385+00
30
20
10
0
PI = 382+00.00
EL = 19.93'
VC = 500'
K = 189
DS = 70 mph
SITE 21
WAYNE'S BRANCH
C/L BRIDGE STA 384+26.42 -L- GP LT (SBL)
2@115' 72" MBT GIRDER WITH 4.0' BENT CAPS
C/L GP EL = 22.72'
SKEW = 105 DEGREE
(-)1.4286%
(+)1.2236%
LOW CHORD ALONG GP
LOWEST LOW CHORD
TEMPORARY WORK BRIDGES
LOW CHORD EL=7.7'
3.5' KEY-IN (TYP.)
54" RCP
CLASS II RIP RAP (TYP.)
NORMAL WSE = 5.7'
PI = 382+00.00
EL = 19.93'
VC = 500'
K = 189
DS = 70 mph
C/L BRIDGE STA 384+14.63 -L- GP RT (NBL)
2@115' 72" MBT GIRDER WITH 4.0' BENT CAPS
C/L GP EL = 22.59'
SKEW = 105 DEGREE
(-)1.4286%
(+)1.2236%
LOW CHORD ALONG GP
LOWEST LOW CHORD
TEMPORARY WORK BRIDGES
LOW CHORD EL=7.7'
3.5' KEY-IN (TYP.)
54" RCP
CLASS II RIP RAP (TYP.)
NORMAL WSE = 5.7'
50' 0' 50' 100' 150'
GRAPHIC SCALE
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671
Stantec
Stantec Consulting Services Inc.
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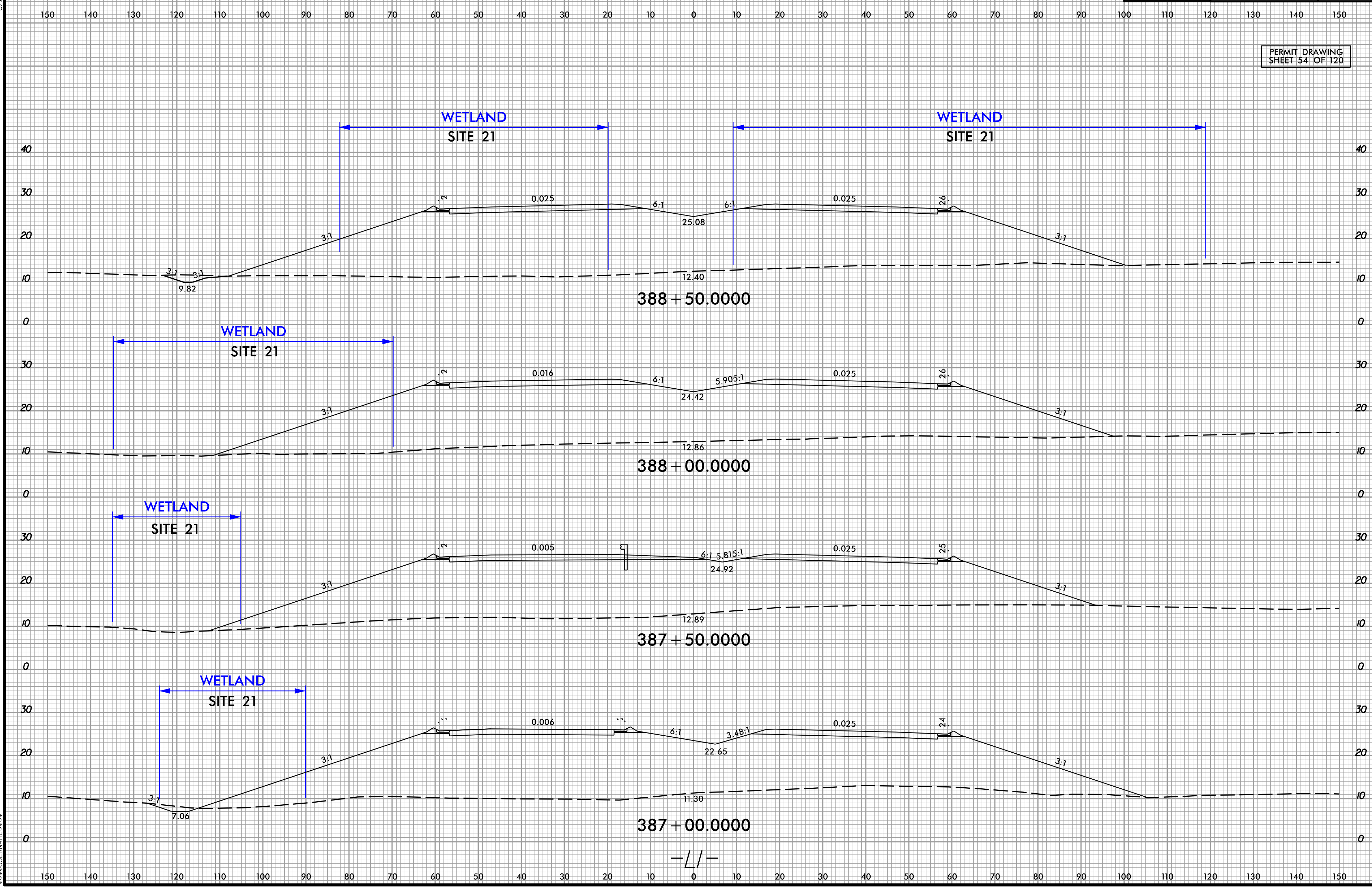
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING
SHEET 53 OF 120

11/20/2024

| PROJ. REFERENCE NO. | SHEET NO. |
|---|---|
| R-3300A | X-108 |

PERMIT DRAWING
SHEET 54 OF 120




11/20/2024

6/23/16

12/15/2023
MI ENGINEERING
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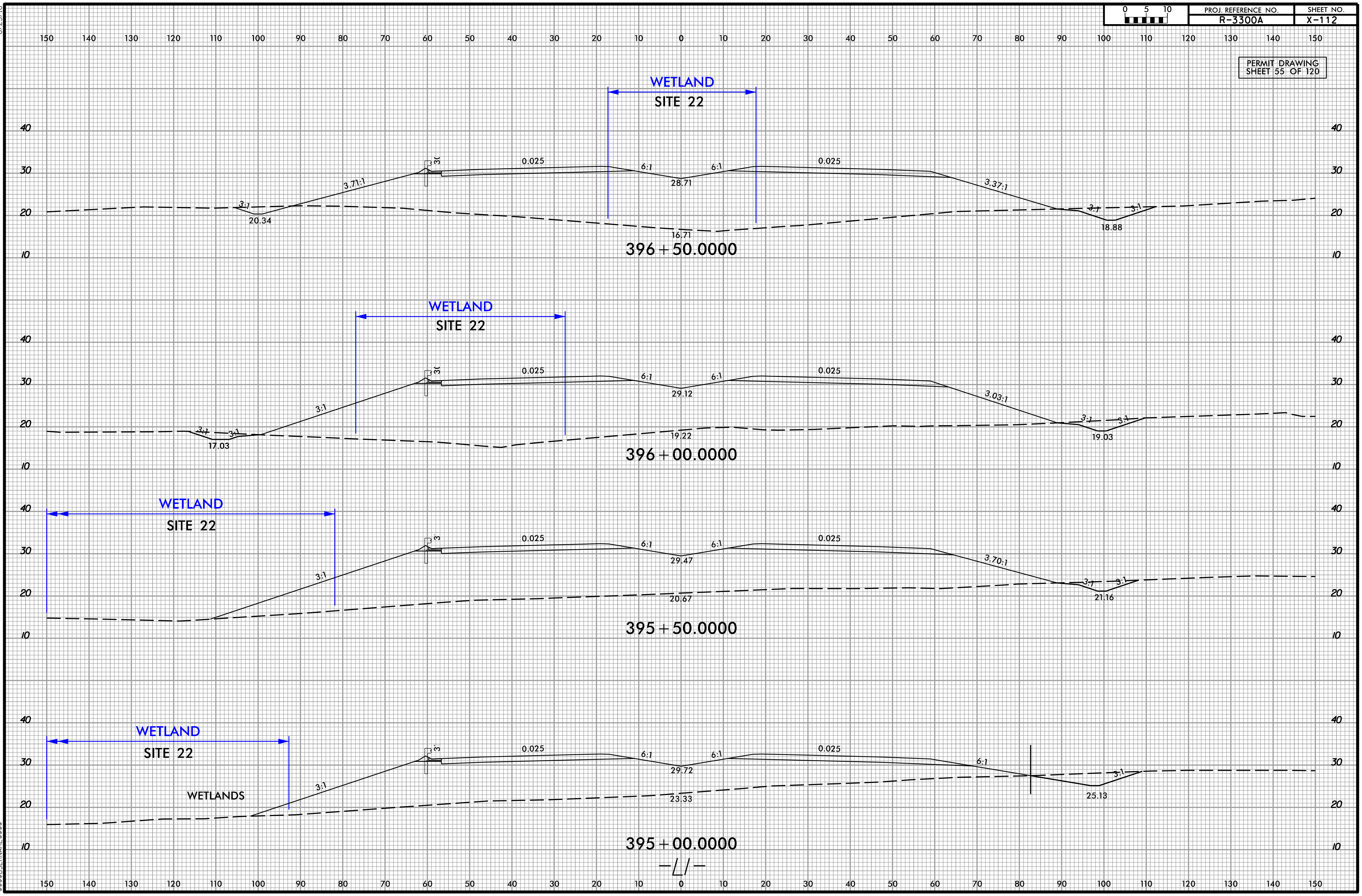


11/20/2024

6/23/16
12/15/2023
MI ENGINEERING
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$$$$USERNAME$$$$

11/20/2024

| Dewberry | Stantec |
|---|---|
| MI ENGINEERING<br>1011 SCHAUB DRIVE, SUITE 100<br>RALEIGH, NC 27606<br>(919) 851-6606<br>FIRM PE NUMBER: P-0671 | Stantec Consulting Services Inc.<br>801 Jones Franklin Road<br>Suite 300<br>Raleigh, NC 27606<br>Tel, (919) 851-6866<br>Fax, (919) 851-7024<br>www.stantec.com<br>License No. F-0672 |

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-3300A | 18 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 56 OF 120

NAD 83/NSRS 2007

SITE 23

SITE 24

HANPEN LAND COMPANY, LLC.

MATCHLINE -L1- STA 399+00.00 SEE SHEET 17

MATCHLINE -L1- STA 412+00.00 SEE SHEET 19

WOVEN WIRE FENCE

EXCAVATION IN WETLAND

SPECIAL LATERAL 'V' DITCH SEE DETAIL 18A

SPECIAL LATERAL 3' BASE DITCH SEE DETAIL 18D

SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 18C

SPECIAL LATERAL 5' BASE DITCH SEE DETAIL 18B

REF RAP CL II OUTLET PROTECTION

Q10=18cfs
V10=1.0fps

SPEC. PES SEE DETAIL SHT 2C-1

MTL CONTAINER

DETAIL 18A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM -L- STA. 408+50 TO STA. 410+59 LT

DETAIL 18B
SPECIAL LATERAL BASE DITCH
(Not to Scale)

FROM -L- STA. 399+50 TO STA. 400+56 RT
FROM -L- STA. 402+30 TO STA. 404+70 RT
FROM -L- STA. 408+10 TO STA. 407+65 RT

DETAIL 18C
SPECIAL LATERAL BASE DITCH
(Not to Scale)

FROM -L- STA. 400+56 TO STA. 402+30 RT

DETAIL 18D
SPECIAL LATERAL BASE DITCH
(Not to Scale)

FROM -L- STA. 409+59 TO STA. 414+15 RT

DETAIL 18E
RAISE BUMP
(Not to Scale)

| S=Drive Slope | | % Proposed Grade | |
|---|---|---|---|
| Drive Grade | L | Drive 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' |

L1 STA. 409+50 MED.

WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)

GRAPHIC SCALE 50' 0' 50' 100' 150'

SEE SHEET 47 & 48 FOR -L1- PROFILE

11/20/2024

Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6666
FIRM PE NUMBER: P-0871

Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
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Raleigh, NC 27606
Tel. (919) 851-6666
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-3300A | 18 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 57 OF 120

NAD 83/NSRS 2007

SITE 23

SITE 24

HANPEN LAND COMPANY, LLC.

MATCHLINE -L1- STA 399+00.00 SEE SHEET 17

MATCHLINE -L1- STA 412+00.00 SEE SHEET 19

WOVEN WIRE FENCE

EXCAVATION IN WETLAND

RIP RAP CL II OUTLET PROTECTION 3' TLE

Q10 = 18cfs
V10 = 1.0fps

SPEC PES SEE DETAIL SHT 20-J

SPECIAL LATERAL 'V' DITCH SEE DETAIL 18A

SPECIAL LATERAL 'V' BASE DITCH SEE DETAIL 18B

SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 18C

SPECIAL LATERAL 1' BASE DITCH SEE DETAIL 18B

SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 18B

RIP RAP CL II OUTLET PROTECTION 3 TONS 30 SY GEOTEXTILE

SPECIAL LATERAL 3' BASE DITCH SEE DETAIL 18D

MTL CONTAINER

WETLAND EXCAVATION

FILL IN WETLAND

MECHANIZED CLEARING (GRUBBING)

GRAPHIC SCALE 50' 0' 50' 100' 150'

DETAIL 18A
SPECIAL LATERAL 'V' DITCH
FROM -L- STA. 408+50 TO STA. 410+50 LT

DETAIL 18B
SPECIAL LATERAL BASE DITCH
FROM -L- STA. 399+20 TO STA. 400+50 RT
FROM -L- STA. 402+50 TO STA. 404+70 RT
FROM -L- STA. 406+10 TO STA. 407+68 RT

DETAIL 18C
SPECIAL LATERAL BASE DITCH
FROM -L- STA. 400+58 TO STA. 402+50 RT

DETAIL 18D
SPECIAL LATERAL BASE DITCH
FROM -L- STA. 409+58 TO STA. 411+15 RT

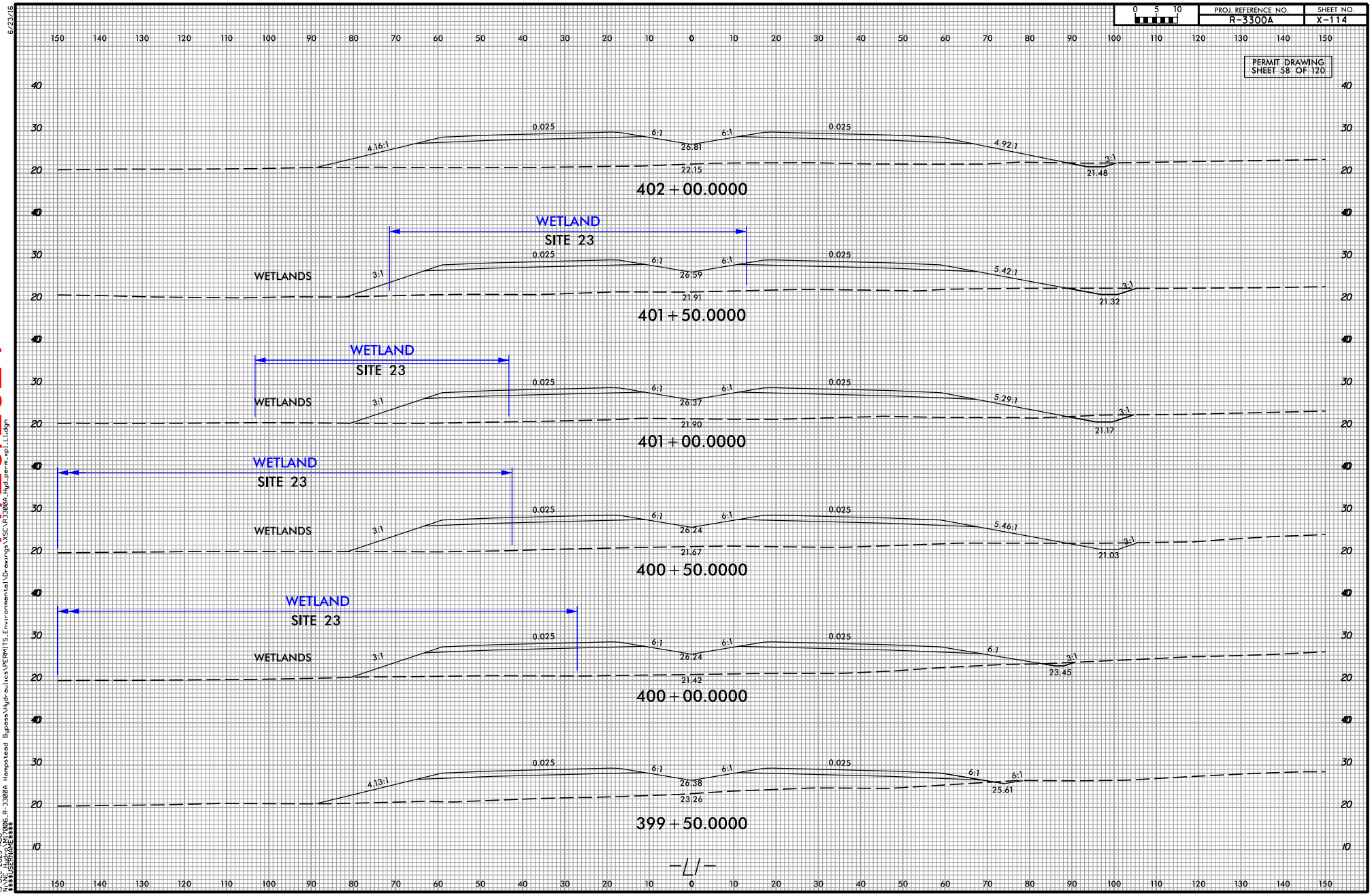
DETAIL 18E
FALSE SUMP
(Not to Scale)

| Ditch Grade | L |
|---|---|
| 0.0% To 2.0% | 20 |
| Over 2.0% To 4.0% | 30 |

| Ditch Grade | L |
|---|---|
| Over 4.0% To 6.0% | 40 |
| Over 6.0% | 50 |

-L1- STA. 409+55 MED.

SEE SHEET 47 & 48 FOR -L1- PROFILE




11/20/2024

12/15/2023
M ENGINEERING
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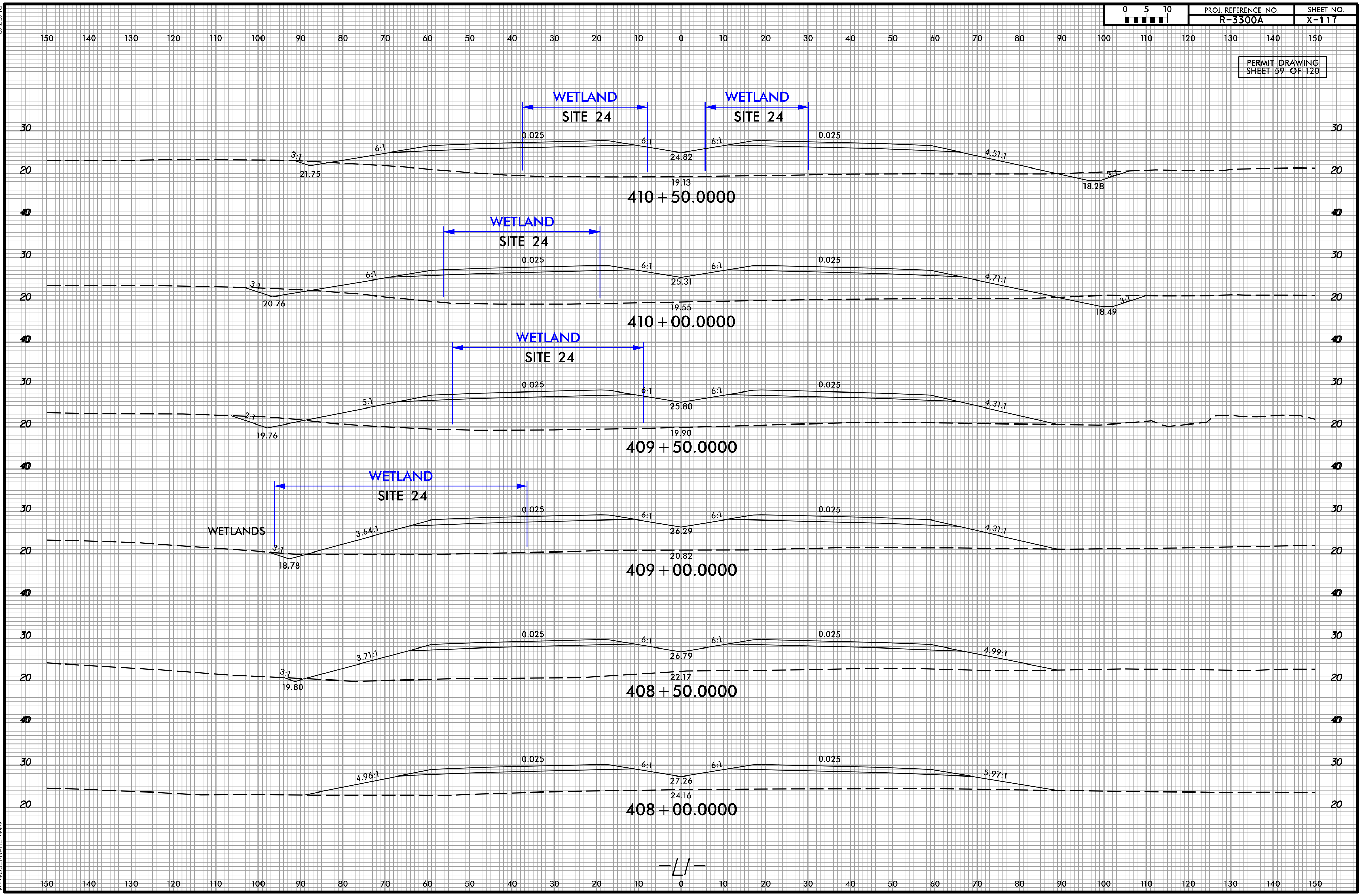
Master Model: 17006_R-3300A Hampstead Bypass\Hydraulics\PERMITS_Environmental\Drawings\XSC\R3300A_Hyd-perm_xpl_L1.dgn
6/23/16

| PROJ. REFERENCE NO. | SHEET NO. |
| --- | --- |
| R-3300A | X-117 |

PERMIT DRAWING
SHEET 59 OF 120




11/20/2024

6/23/16

12/15/2023
MI ENGINEERING
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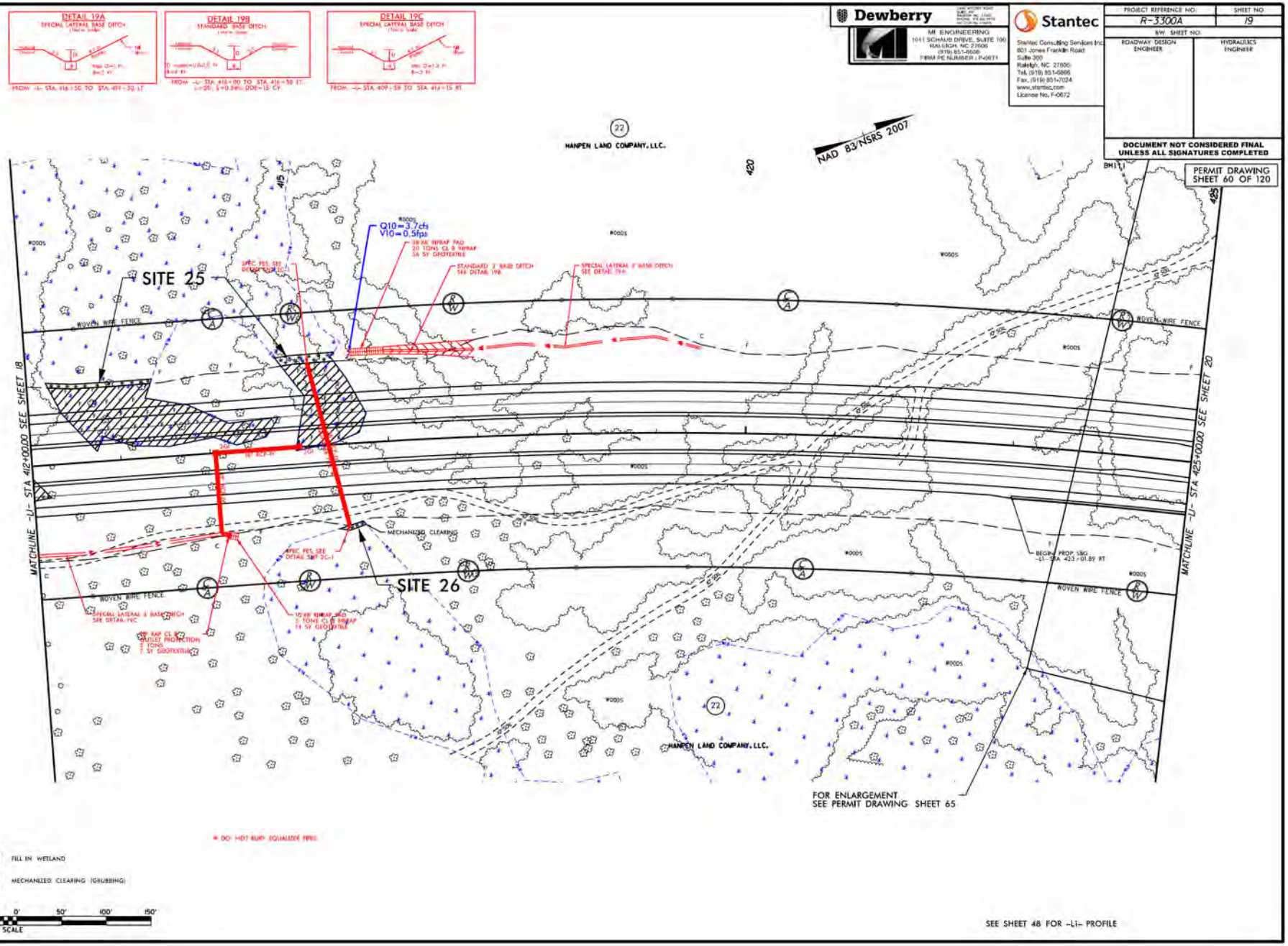
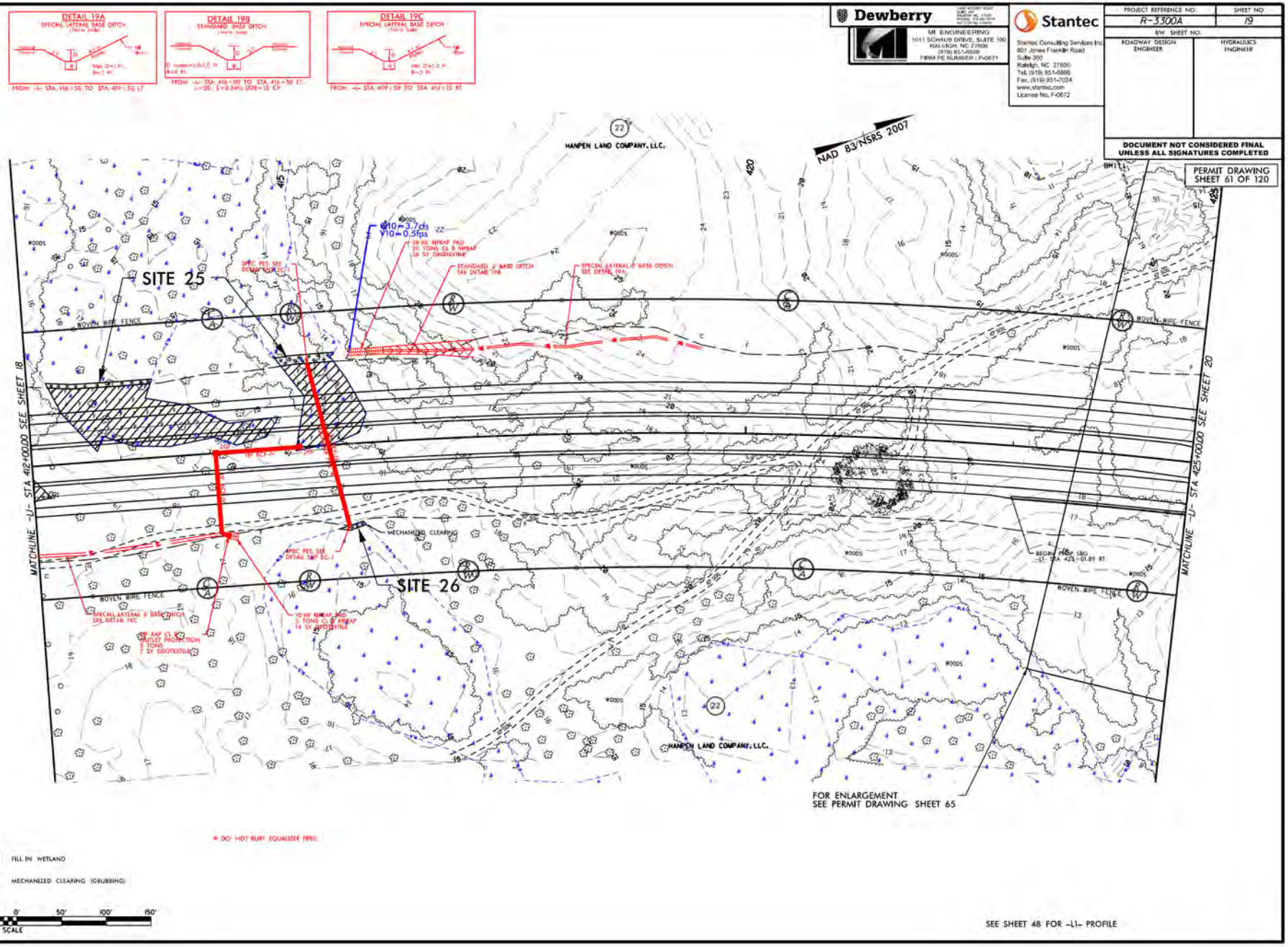
11/20/2024


DETAIL 19A
SPECIAL LATERAL BASE DITCH
DETAIL 19B
STANDARD BASE DITCH
DETAIL 19C
SPECIAL LATERAL BASE DITCH
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO: R-3300A
SHEET NO: 19
R/W SHEET NO:
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 60 OF 120
NAD 83/NSRS 2007
HANPEN LAND COMPANY, LLC.
SITE 25
SITE 26
Q10 = 3.7 cfs
V10 = 0.5 fps
WOVEN WIRE FENCE
MECHANIZED CLEARING
BEGIN PROP. SBG -L1- STA 423+01.89 RT
MATCHLINE -L1- STA 412+00.00 SEE SHEET 18
MATCHLINE -L1- STA 425+00.00 SEE SHEET 20
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 65
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
GRAPHIC SCALE
SEE SHEET 48 FOR -L1- PROFILE

11/20/2024


DETAIL 19A
SPECIAL LATERAL BASE DITCH
DETAIL 19B
STANDARD BASE DITCH
DETAIL 19C
SPECIAL LATERAL BASE DITCH
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO:
R-3300A
SHEET NO:
19
R/W SHEET NO:
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 61 OF 120
NAD 83/NSRS 2007
HANPEN LAND COMPANY, LLC.
SITE 25
SITE 26
WOVEN WIRE FENCE
MECHANIZED CLEARING
MATCHLINE -L1- STA 412+00.00 SEE SHEET 18
MATCHLINE -L1- STA 425+00.00 SEE SHEET 20
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 65
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
GRAPHIC SCALE
SEE SHEET 48 FOR -L1- PROFILE

| PROJ. REFERENCE NO. | SHEET NO. |
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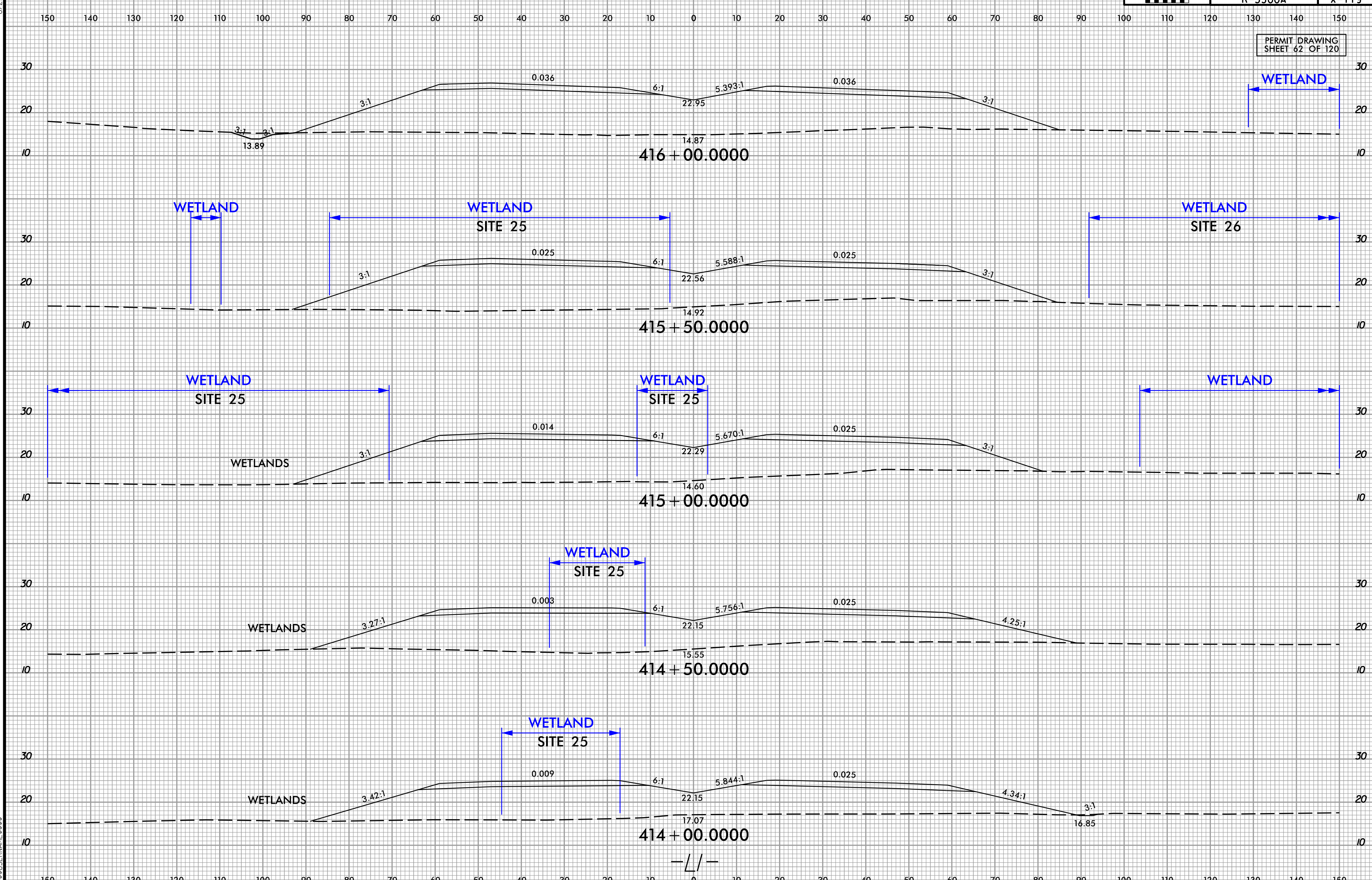
| R-3300A | X-119 |

PERMIT DRAWING
SHEET 62 OF 120




6/23/16

12/15/2023
MI ENGINEERING
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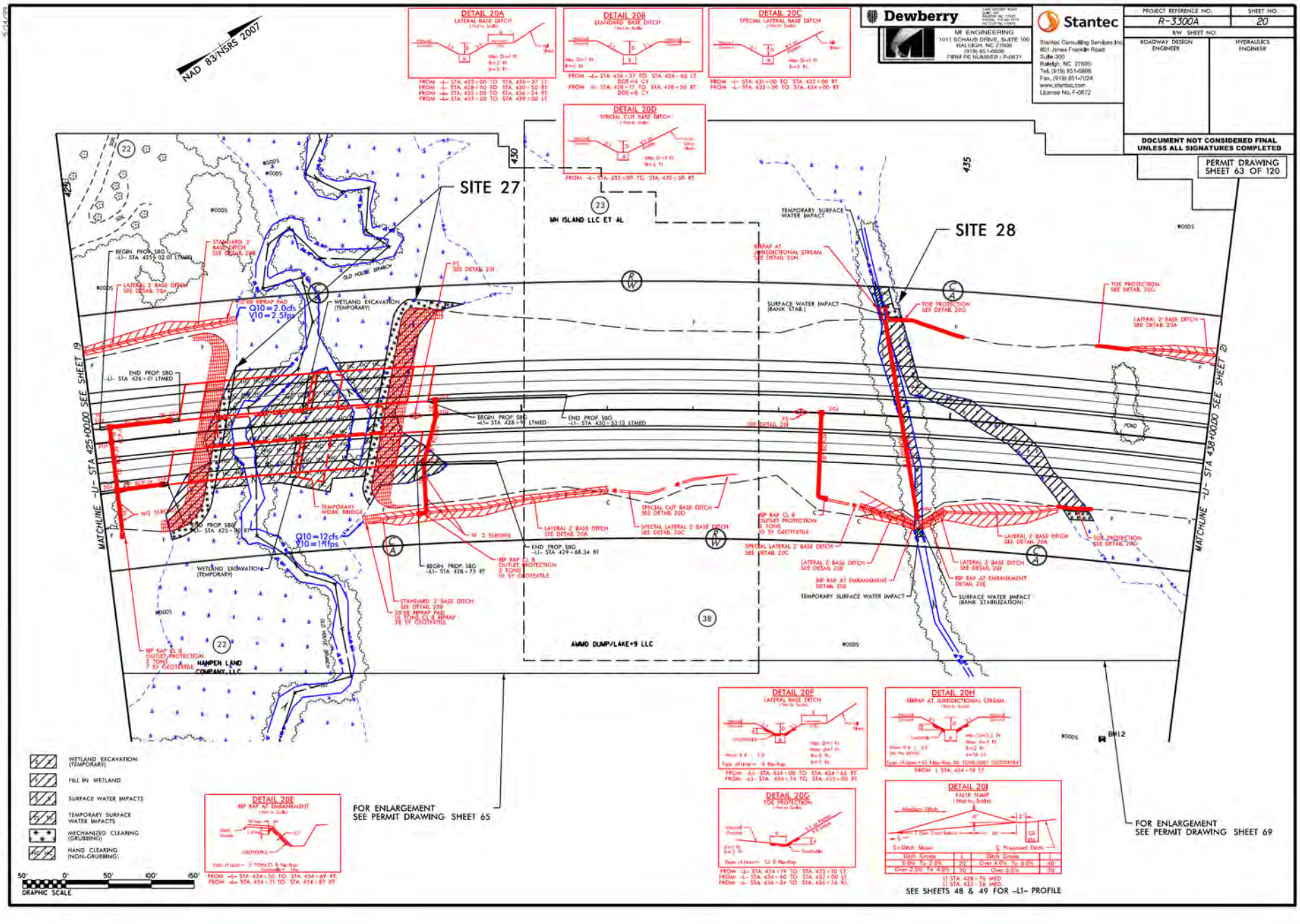
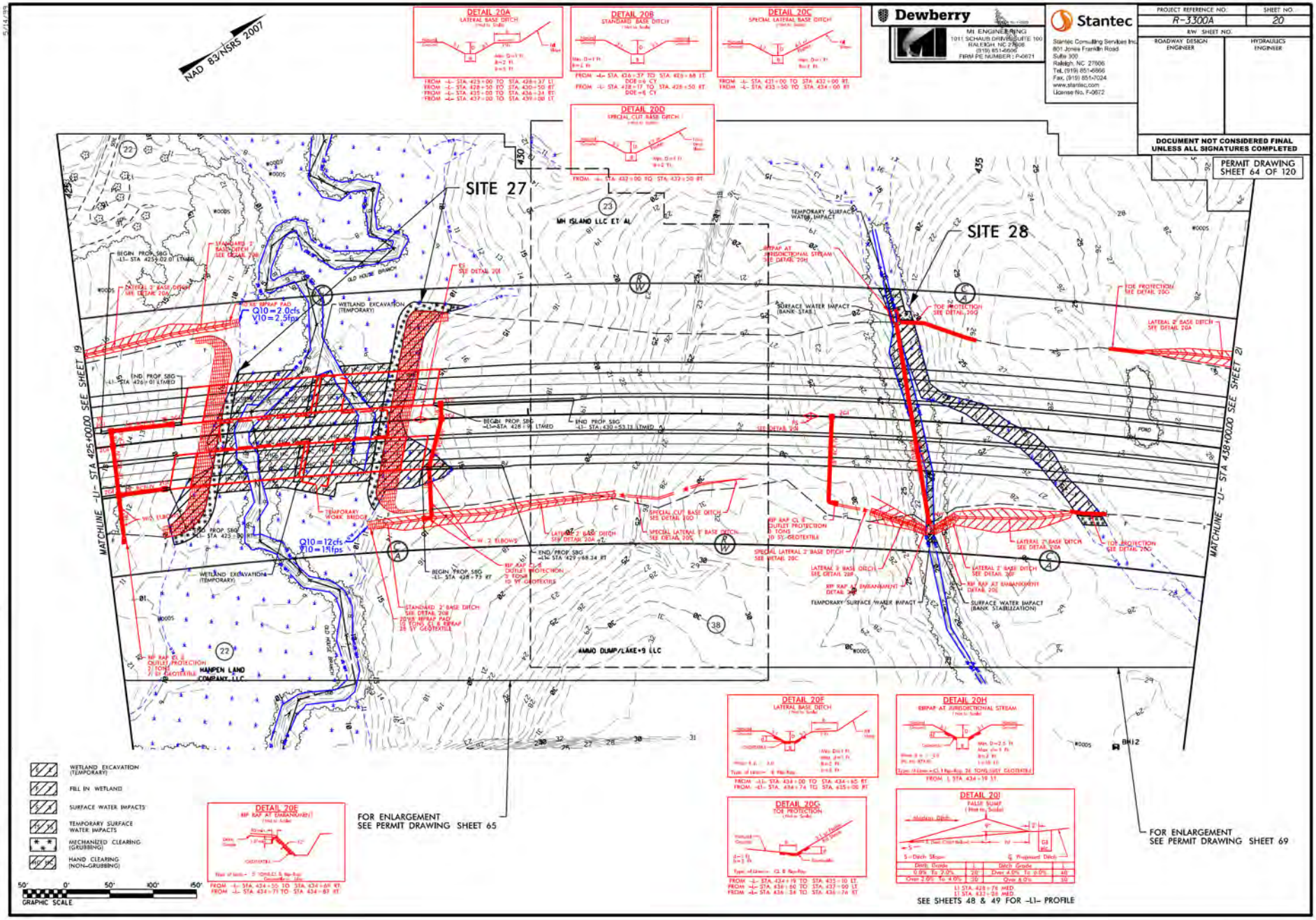
11/20/2024


NAD 83/NSRS 2007
DETAIL 20A
LATERAL BASE DITCH
DETAIL 20B
STANDARD BASE DITCH
DETAIL 20C
SPECIAL LATERAL BASE DITCH
DETAIL 20D
SPECIAL CUT BASE DITCH
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.: R-3300A
SHEET NO.: 20
R/W SHEET NO.:
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 63 OF 120
SITE 27
SITE 28
MH ISLAND LLC ET AL
AMMO DUMP/LAKE+9 LLC
HANPEN LAND COMPANY, LLC
MATCHLINE -L1- STA 425+00.00 SEE SHEET 19
MATCHLINE -L1- STA 438+00.00 SEE SHEET 20
OLD HOUSE BRANCH
POND
WETLAND EXCAVATION (TEMPORARY)
TEMPORARY WORK BRIDGE
SURFACE WATER IMPACT (BANK STAB.)
TEMPORARY SURFACE WATER IMPACT
RIPRAP AT JURISDICTIONAL STREAM SEE DETAIL 20H
TOE PROTECTION SEE DETAIL 20G
LATERAL 2' BASE DITCH SEE DETAIL 20A
SPECIAL CUT BASE DITCH SEE DETAIL 20D
SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 20C
RIP RAP CL II OUTLET PROTECTION 8 TONS 10 SY GEOTEXTILE
RIP RAP CL II OUTLET PROTECTION 3 TONS 10 SY GEOTEXTILE
RIP RAP AT EMBANKMENT DETAIL 20E
SURFACE WATER IMPACT (BANK STABILIZATION)
STANDARD 2' BASE DITCH SEE DETAIL 20B
20'X8' RIPRAP PAD 10 TONS CL II RIPRAP 28 SY GEOTEXTILE
Q10 = 2.0cfs
V10 = 2.5fps
Q10 = 12cfs
V10 = 1.9fps
DETAIL 20F
LATERAL BASE DITCH
DETAIL 20H
RIPRAP AT JURISDICTIONAL STREAM
DETAIL 20G
TOE PROTECTION
DETAIL 20I
FALSE SUMP
DM12
WETLAND EXCAVATION (TEMPORARY)
FILL IN WETLAND
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
HAND CLEARING (NON-GRUBBING)
GRAPHIC SCALE
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 65
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 69
SEE SHEETS 48 & 49 FOR -L1- PROFILE

11/20/2024


NAD 83/NSRS 2007
DETAIL 20A
LATERAL BASE DITCH
DETAIL 20B
STANDARD BASE DITCH
DETAIL 20C
SPECIAL LATERAL BASE DITCH
DETAIL 20D
SPECIAL CUT BASE DITCH
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE SUITE 100
RALEIGH, NC 27606
(919) 851-6666
FIRM PE NUMBER: P-0671
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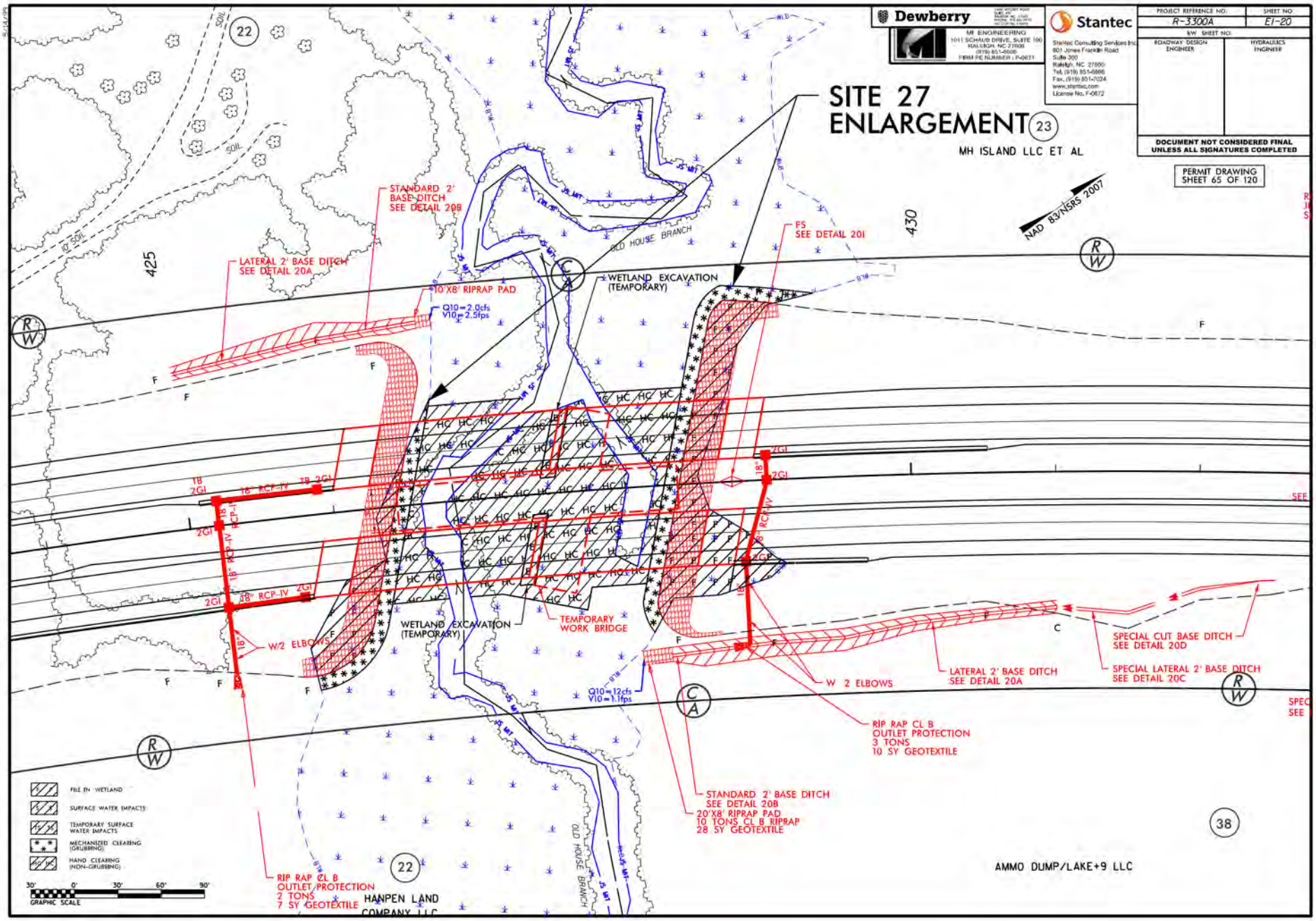
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
20
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 64 OF 120
SITE 27
SITE 28
MH ISLAND LLC ET AL
MANPEN LAND COMPANY, LLC
AMMO DUMP/LAKE 9 LLC
MATCHLINE -L- STA 425+00.00 SEE SHEET 19
MATCHLINE -L- STA 438+00.00 SEE SHEET 21
OLD HOUSE BRANCH
POND
WETLAND EXCAVATION (TEMPORARY)
TEMPORARY SURFACE WATER IMPACT
SURFACE WATER IMPACT (BANK STAB.)
TEMPORARY WORK BRIDGE
TOE PROTECTION SEE DETAIL 20G
LATERAL 2' BASE DITCH SEE DETAIL 20A
STANDARD 2' BASE DITCH SEE DETAIL 20B
RIP RAP AT JURISDICTIONAL STREAM SEE DETAIL 20H
RIP RAP CL II OUTLET PROTECTION 2 TONS 20 SY GEOTEXTILE
RIP RAP AT EMBANKMENT DETAIL 20E
SURFACE WATER IMPACT (BANK STABILIZATION)
Q10 = 2.0cfs
V10 = 2.5fps
Q10 = 12cfs
V10 = 1.9fps
WETLAND EXCAVATION (TEMPORARY)
FILL IN WETLAND
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
HAND CLEARING (NON-GRUBBING)
GRAPHIC SCALE
50' 0' 50' 100' 150'
DETAIL 20E
RIP RAP AT EMBANKMENT
DETAIL 20F
LATERAL BASE DITCH
DETAIL 20H
RIPRAP AT JURISDICTIONAL STREAM
DETAIL 20G
TOE PROTECTION
DETAIL 20I
FALSE SUMP
Ditch Grade | Ditch Grade
0.0% To 2.0% | 20' | Over 4.0% To 6.0% | 40'
Over 2.0% To 4.0% | 30' | Over 6.0% | 50'
L1 STA. 428+76 MED.
L1 STA. 433+20 MED.
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 65
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 69
SEE SHEETS 48 & 49 FOR -L1- PROFILE

11/20/2024

11/20/2024



Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: F-0671
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801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6666
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
EI-20
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 65 OF 120
SITE 27 ENLARGEMENT
23
MH ISLAND LLC ET AL
NAD 83/NSRS 2007
STANDARD 2' BASE DITCH SEE DETAIL 20B
LATERAL 2' BASE DITCH SEE DETAIL 20A
10'X8' RIPRAP PAD
Q10=2.0cfs
V10=2.5fps
WETLAND EXCAVATION (TEMPORARY)
OLD HOUSE BRANCH
FS SEE DETAIL 20I
425
430
22
18" RCP-IV
W/2 ELBOWS
TEMPORARY WORK BRIDGE
Q10=12cfs
V10=1.1fps
W 2 ELBOWS
SPECIAL CUT BASE DITCH SEE DETAIL 20D
SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 20C
RIP RAP CL B OUTLET PROTECTION 3 TONS 10 SY GEOTEXTILE
STANDARD 2' BASE DITCH SEE DETAIL 20B
20'X8' RIPRAP PAD 10 TONS CL B RIPRAP 28 SY GEOTEXTILE
RIP RAP CL B OUTLET PROTECTION 2 TONS 7 SY GEOTEXTILE
HANPEN LAND COMPANY LLC
AMMO DUMP/LAKE+9 LLC
38
FILE IN WETLAND
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
HAND CLEARING (NON-GRUBBING)
GRAPHIC SCALE

11/20/2024

Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671

Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-3300A | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 66 OF 120

# SITE 27

ISLAND CREEK TRIB.

425+00 426+00 427+00 428+00 429+00

PI = 425+00.00
EL = 27.53'
VC = 240'
K = 182
DS = 70 mph

PI = 430+00.00
EL = 30.29'
VC = 210'
K = 239
DS = 70 mph

CL STATION 427+48.28 -L- GP LT (SBL)
PROP 1@125', 1@117 72" MBT GIRDER
WITH 4.0' BENT CAPS
CL GRADE POINT ELEV = 28.90'
SKEW = 105 DEGREE

(-)0.7667% (+)0.5504% (+)0.5504% (+)1.4286%

LOW CHORD ALONG GP
LOWEST LOW CHORD
TEMPORARY WORK BRIDGE
LOW CHORD EL=10.5
2:1
2:1
3.5' KEY-IN (TYP.)
NORMAL WSE = 7.2'
CLASS II RIP RAP (TYP.)

30 20 10 0

PI = 425+00.00
EL = 27.53'
VC = 240'
K = 182
DS = 70 mph

PI = 430+00.00
EL = 30.29'
VC = 210'
K = 239
DS = 70 mph

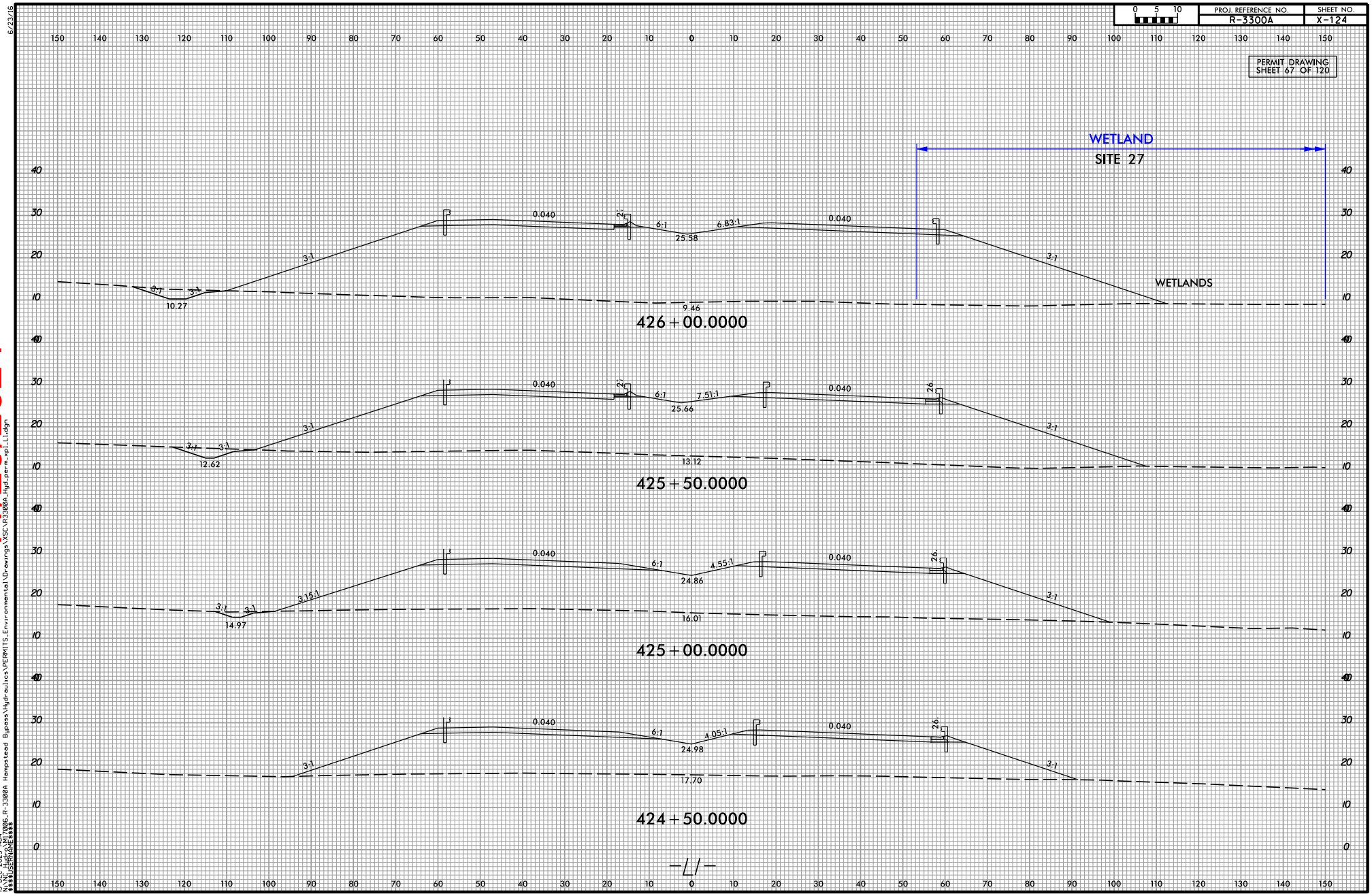
CL STATION 427+35.98 -L- GP RT (NBL)
PROP 1@125', 1@117 72" MBT GIRDER
WITH 4.0' BENT CAPS
CL GRADE POINT ELEV = 28.83'
SKEW = 105 DEGREE

(-)0.7667% (+)0.5504% (+)0.5504% (+)1.4286%

LOW CHORD ALONG GP
LOWEST LOW CHORD
TEMPORARY WORK BRIDGE
LOW CHORD EL=10.5
2:1
2:1
3.5' KEY-IN (TYP.)
NORMAL WSE = 7.2'
CLASS II RIP RAP (TYP.)

30 20 10 0 40

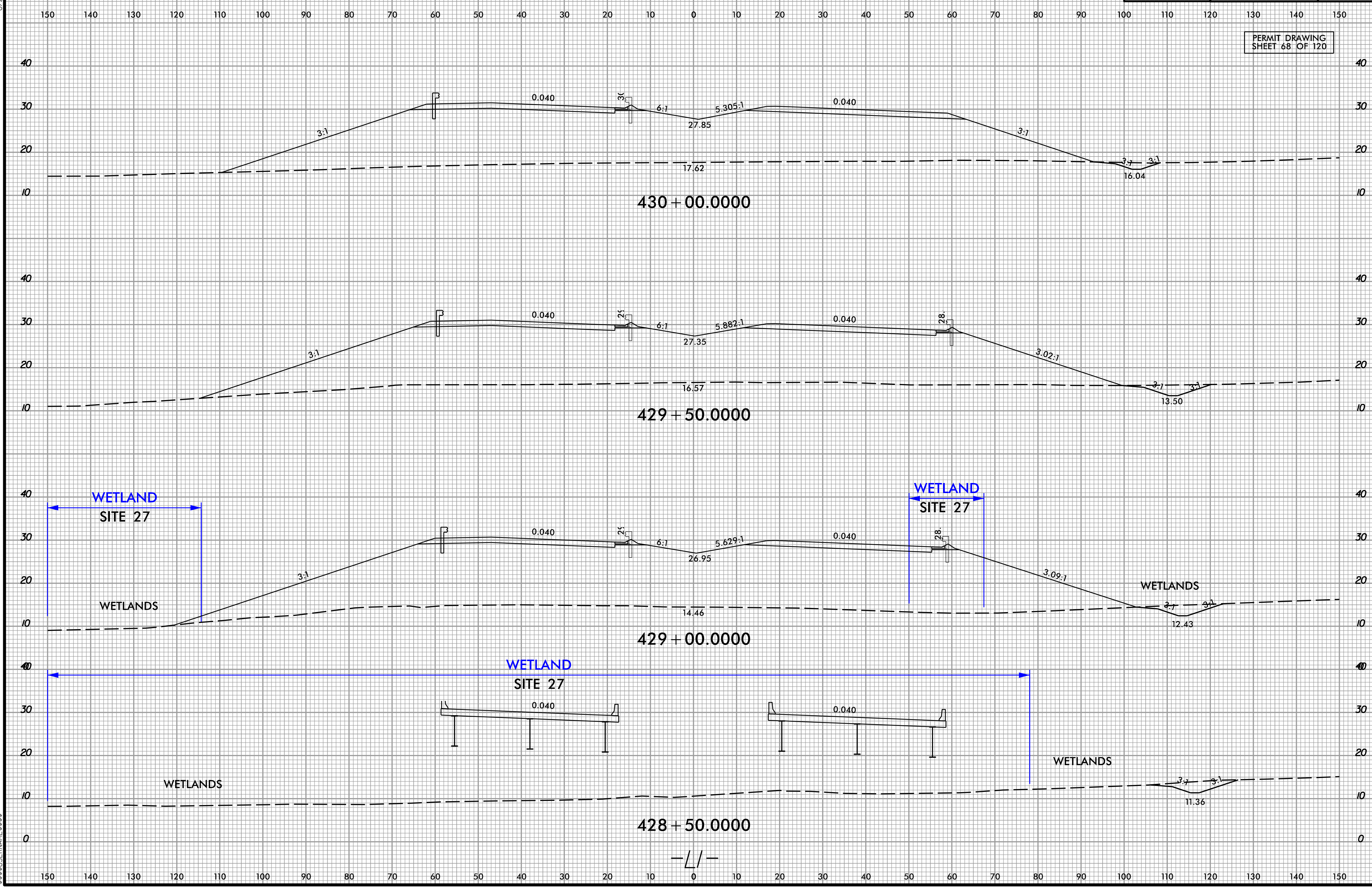
50' 0' 50' 100' 150'
GRAPHIC SCALE


0 5 10
PROJ. REFERENCE NO.
R-3300A
SHEET NO.
X-124
PERMIT DRAWING
SHEET 67 OF 120
WETLAND
SITE 27
WETLANDS
0.040
6:1
6.83:1
25.58
3:1
10.27
9.46
426+00.0000
7.51:1
25.66
12.62
13.12
425+50.0000
4.55:1
24.86
3.15:1
14.97
16.01
425+00.0000
4.05:1
24.98
17.70
424+50.0000
-L/-

11/20/2024

PROJ. REFERENCE NO. R-3300A | SHEET NO. X-126

PERMIT DRAWING
SHEET 68 OF 120




12/15/2023
MI ENGINEERING
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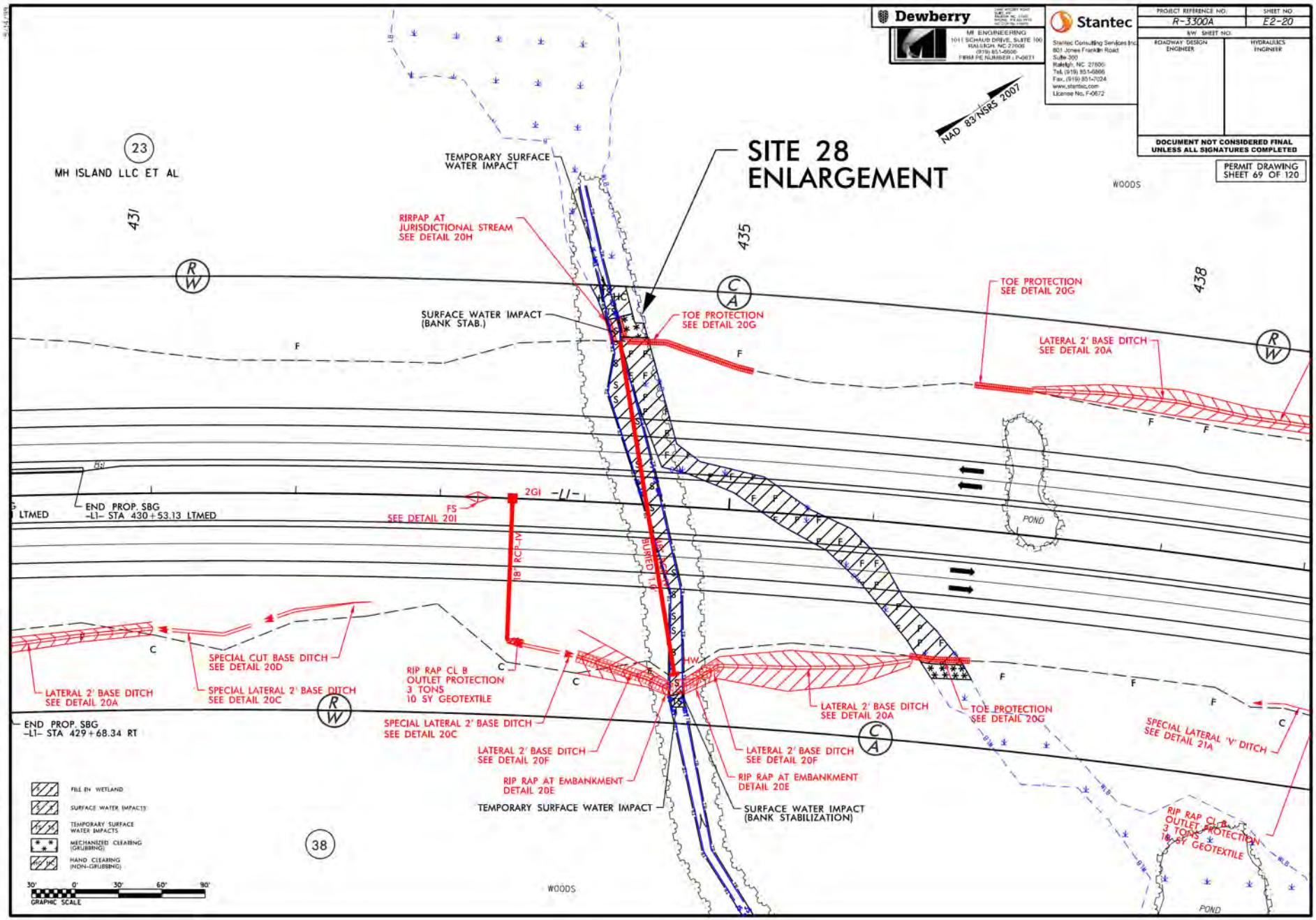
6/23/16

11/20/2024

11/20/2024


Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6600
FIRM PE NUMBER: P-0871
Stantec
Stantec Consulting Services Inc.
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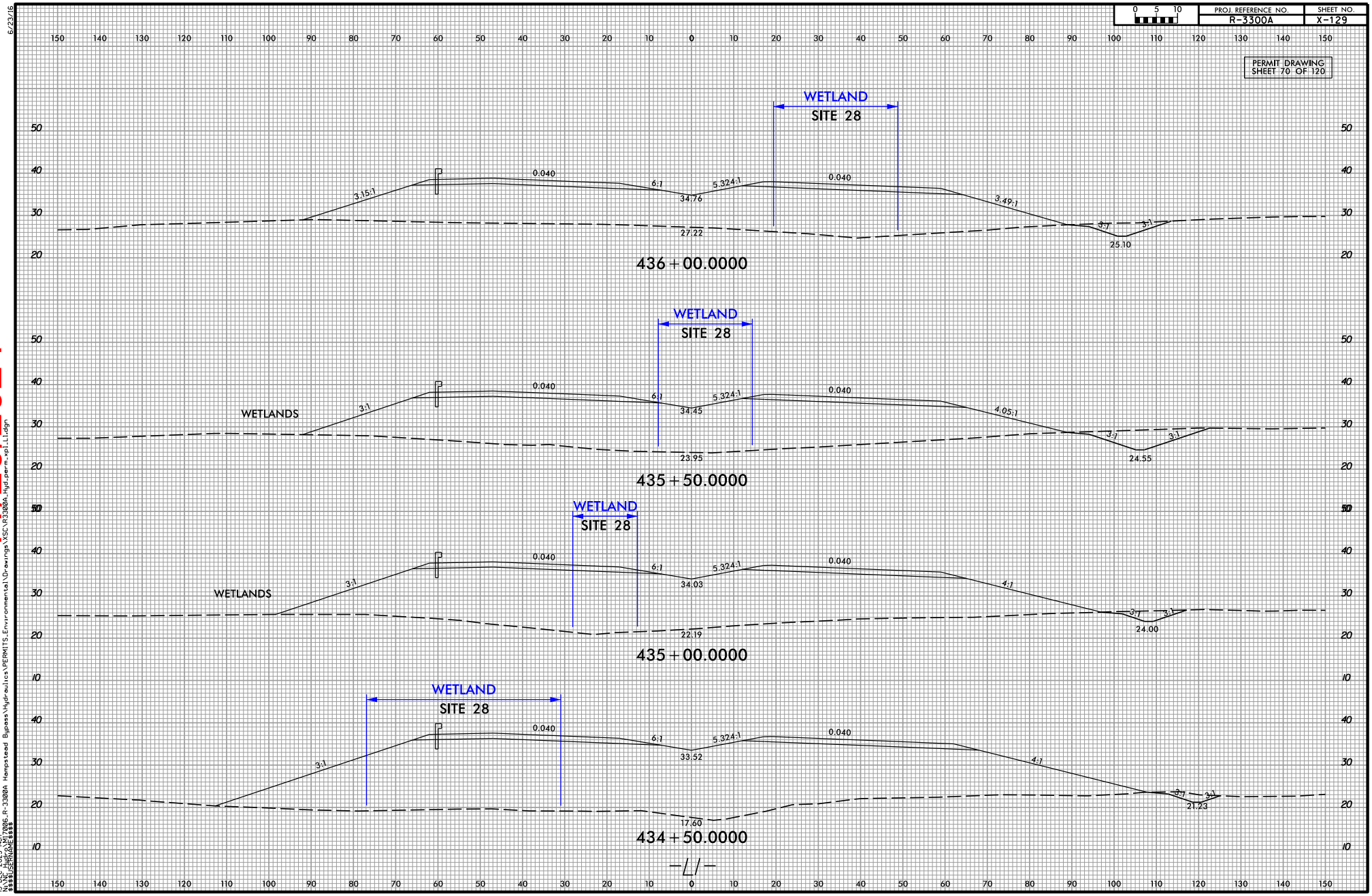
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.: R-3300A
SHEET NO.: E2-20
R/W SHEET NO.:
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 69 OF 120
NAD 83/NSRS 2007
SITE 28 ENLARGEMENT
23
MH ISLAND LLC ET AL
431
435
438
WOODS
TEMPORARY SURFACE WATER IMPACT
RIPRAP AT JURISDICTIONAL STREAM SEE DETAIL 20H
SURFACE WATER IMPACT (BANK STAB.)
TOE PROTECTION SEE DETAIL 20G
LATERAL 2' BASE DITCH SEE DETAIL 20A
END PROP. SBG -L1- STA 430+53.13 LTMED
FS SEE DETAIL 20I
2GI -L1-
18" RCP IV
BURIED 1'
POND
SPECIAL CUT BASE DITCH SEE DETAIL 20D
SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 20C
RIP RAP CL B OUTLET PROTECTION 3 TONS 10 SY GEOTEXTILE
END PROP. SBG -L1- STA 429+68.34 RT
LATERAL 2' BASE DITCH SEE DETAIL 20F
RIP RAP AT EMBANKMENT DETAIL 20E
TEMPORARY SURFACE WATER IMPACT
SURFACE WATER IMPACT (BANK STABILIZATION)
SPECIAL LATERAL 'V' DITCH SEE DETAIL 21A
RIP RAP CL B OUTLET PROTECTION 3 TONS 10 SY GEOTEXTILE
FILL IN WETLAND
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
HAND CLEARING (NON-GRUBBING)
38
30' 0' 30' 60' 90'
GRAPHIC SCALE




11/20/2024

6/23/16
12/15/2023
M ENGINEERING
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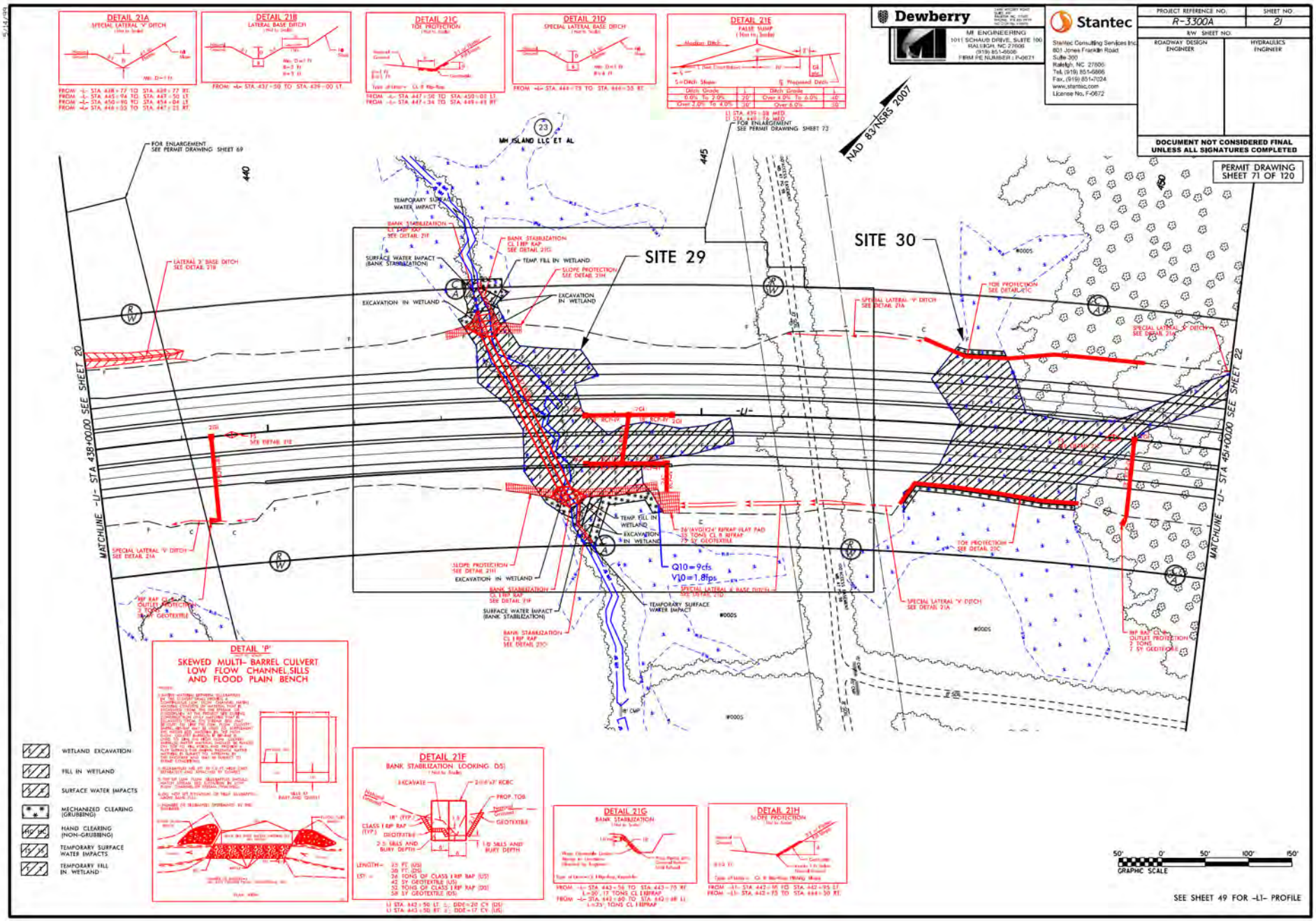
USER: jhenderson
$$$$ 8.5000E+03


DETAIL 21A
SPECIAL LATERAL "V" DITCH
DETAIL 21B
LATERAL BASE DITCH
DETAIL 21C
TOE PROTECTION
DETAIL 21D
SPECIAL LATERAL BASE DITCH
DETAIL 21E
FALSE SUMP
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
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(919) 851-6606
FIRM PE NUMBER: P-0671
Stantec
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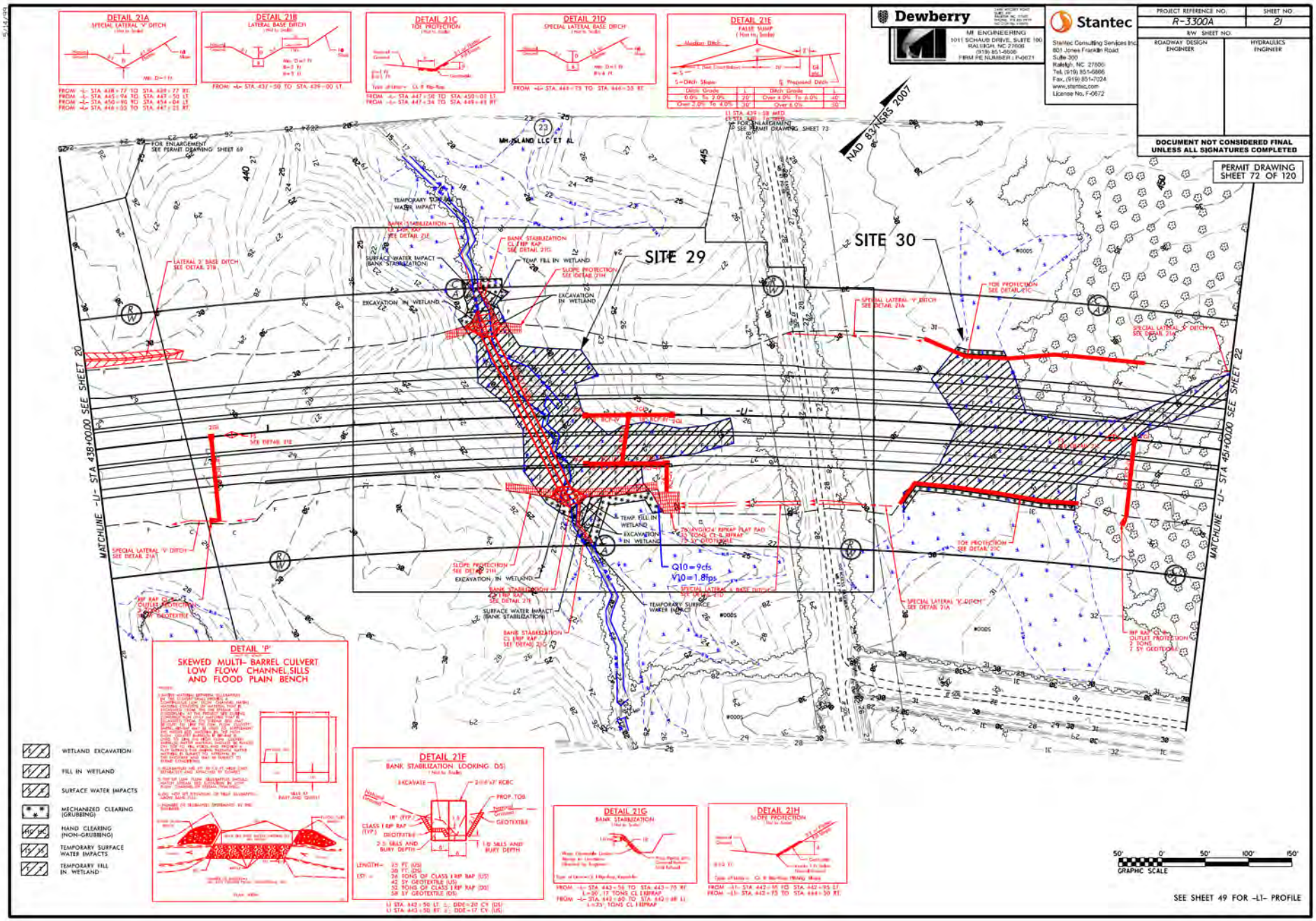
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
21
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 71 OF 120
NAD 83/NSRS 2007
SITE 29
SITE 30
MH ISLAND LLC ET AL
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 69
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 73
MATCHLINE -L1- STA 438+00.00 SEE SHEET 20
MATCHLINE -L1- STA 451+00.00 SEE SHEET 22
TEMPORARY SURFACE WATER IMPACT
BANK STABILIZATION CL I RIP RAP SEE DETAIL 21F
BANK STABILIZATION CL I RIP RAP SEE DETAIL 21G
SURFACE WATER IMPACT (BANK STABILIZATION)
TEMP. FILL IN WETLAND
SLOPE PROTECTION SEE DETAIL 21H
EXCAVATION IN WETLAND
LATERAL 2' BASE DITCH SEE DETAIL 21B
SPECIAL LATERAL "V" DITCH SEE DETAIL 21A
TOE PROTECTION SEE DETAIL 21C
Q10=9cfs
V10=1.8fps
SPECIAL LATERAL A BASE DITCH SEE DETAIL 21D
RIP RAP CL I OUTLET PROTECTION 7 TONS 7 SY GEOTEXTILE
DETAIL 'P'
SKEWED MULTI-BARREL CULVERT LOW FLOW CHANNEL SILLS AND FLOOD PLAIN BENCH
DETAIL 21F
BANK STABILIZATION LOOKING DS
DETAIL 21G
BANK STABILIZATION
DETAIL 21H
SLOPE PROTECTION
WETLAND EXCAVATION
FILL IN WETLAND
SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
HAND CLEARING (NON-GRUBBING)
TEMPORARY SURFACE WATER IMPACTS
TEMPORARY FILL IN WETLAND
GRAPHIC SCALE
SEE SHEET 49 FOR -L1- PROFILE

11/20/2024


DETAIL 21A
SPECIAL LATERAL "V" DITCH
DETAIL 21B
LATERAL BASE DITCH
DETAIL 21C
TOE PROTECTION
DETAIL 21D
SPECIAL LATERAL BASE DITCH
DETAIL 21E
FALSE SUMP
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671
Stantec
Stantec Consulting Services Inc.
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Raleigh, NC 27606
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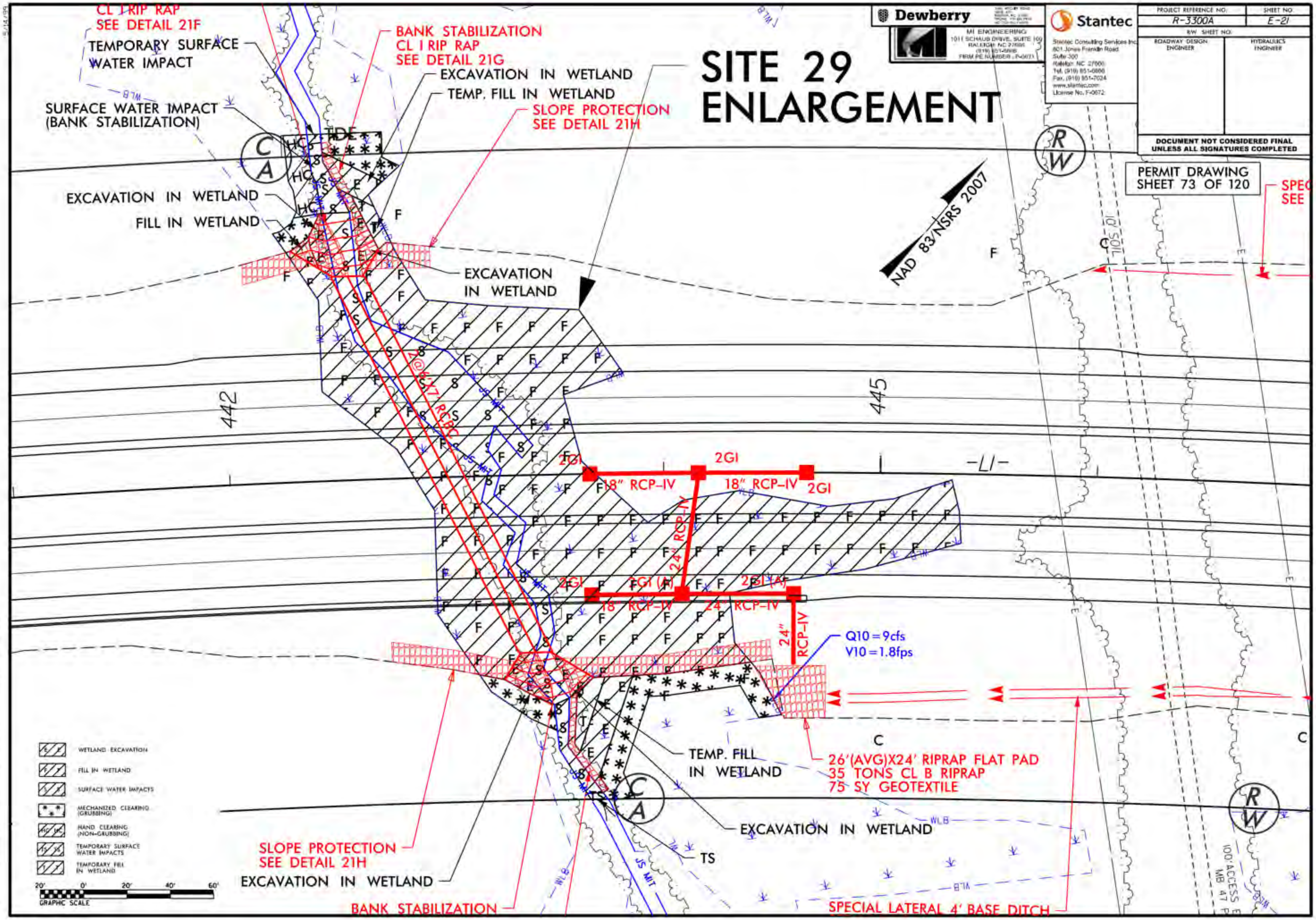
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
21
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 72 OF 120
NAD 83/NSRS 2007
SITE 29
SITE 30
MATCHLINE -L- STA 438+00.00 SEE SHEET 20
MATCHLINE -L- STA 451+00.00 SEE SHEET 22
MH-ISLAND LLC ET AL
TEMPORARY SURFACE WATER IMPACT
BANK STABILIZATION CL II RIP RAP SEE DETAIL 21E
SURFACE WATER IMPACT (BANK STABILIZATION)
TEMP FILL IN WETLAND
SLOPE PROTECTION SEE DETAIL 21H
EXCAVATION IN WETLAND
LATERAL 2' BASE DITCH SEE DETAIL 21B
SPECIAL LATERAL "V" DITCH SEE DETAIL 21A
TOE PROTECTION SEE DETAIL 21C
Q10=9cfs
V10=1.8fps
RIP RAP OUTLET PROTECTION 7 TONS 7 SY GEOTEXTILE
DETAIL 'P'
SKEWED MULTI-BARREL CULVERT LOW FLOW CHANNEL SILLS AND FLOOD PLAIN BENCH
DETAIL 21F
BANK STABILIZATION LOOKING DS
DETAIL 21G
BANK STABILIZATION
DETAIL 21H
SLOPE PROTECTION
WETLAND EXCAVATION
FILL IN WETLAND
SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
HAND CLEARING (NON-GRUBBING)
TEMPORARY SURFACE WATER IMPACTS
TEMPORARY FILL IN WETLAND
GRAPHIC SCALE
SEE SHEET 49 FOR -L1- PROFILE

11/20/2024

11/20/2024


SITE 29 ENLARGEMENT
Dewberry
MI ENGINEERING
Stantec
PROJECT REFERENCE NO. R-3300A
SHEET NO. E-21
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 73 OF 120
NAD 83/NSRS 2007
CL I RIP RAP SEE DETAIL 21F
TEMPORARY SURFACE WATER IMPACT
SURFACE WATER IMPACT (BANK STABILIZATION)
EXCAVATION IN WETLAND
FILL IN WETLAND
BANK STABILIZATION CL I RIP RAP SEE DETAIL 21G
EXCAVATION IN WETLAND
TEMP. FILL IN WETLAND
SLOPE PROTECTION SEE DETAIL 21H
EXCAVATION IN WETLAND
2@6'X7' RCBC
442
445
-L1-
2GI
18" RCP-IV
24" RCP-IV
Q10 = 9cfs
V10 = 1.8fps
TEMP. FILL IN WETLAND
26'(AVG)X24' RIPRAP FLAT PAD
35 TONS CL B RIPRAP
75 SY GEOTEXTILE
EXCAVATION IN WETLAND
TS
SLOPE PROTECTION SEE DETAIL 21H
EXCAVATION IN WETLAND
BANK STABILIZATION
SPECIAL LATERAL 4' BASE DITCH
100' ACCESS E MB 47 P
10' SOIL
WETLAND EXCAVATION
FILL IN WETLAND
SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
HAND CLEARING (NON-GRUBBING)
TEMPORARY SURFACE WATER IMPACTS
TEMPORARY FILL IN WETLAND
GRAPHIC SCALE

MI ENGINEERING
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(919) 851-6606
FIRM PE NUMBER : P-0671

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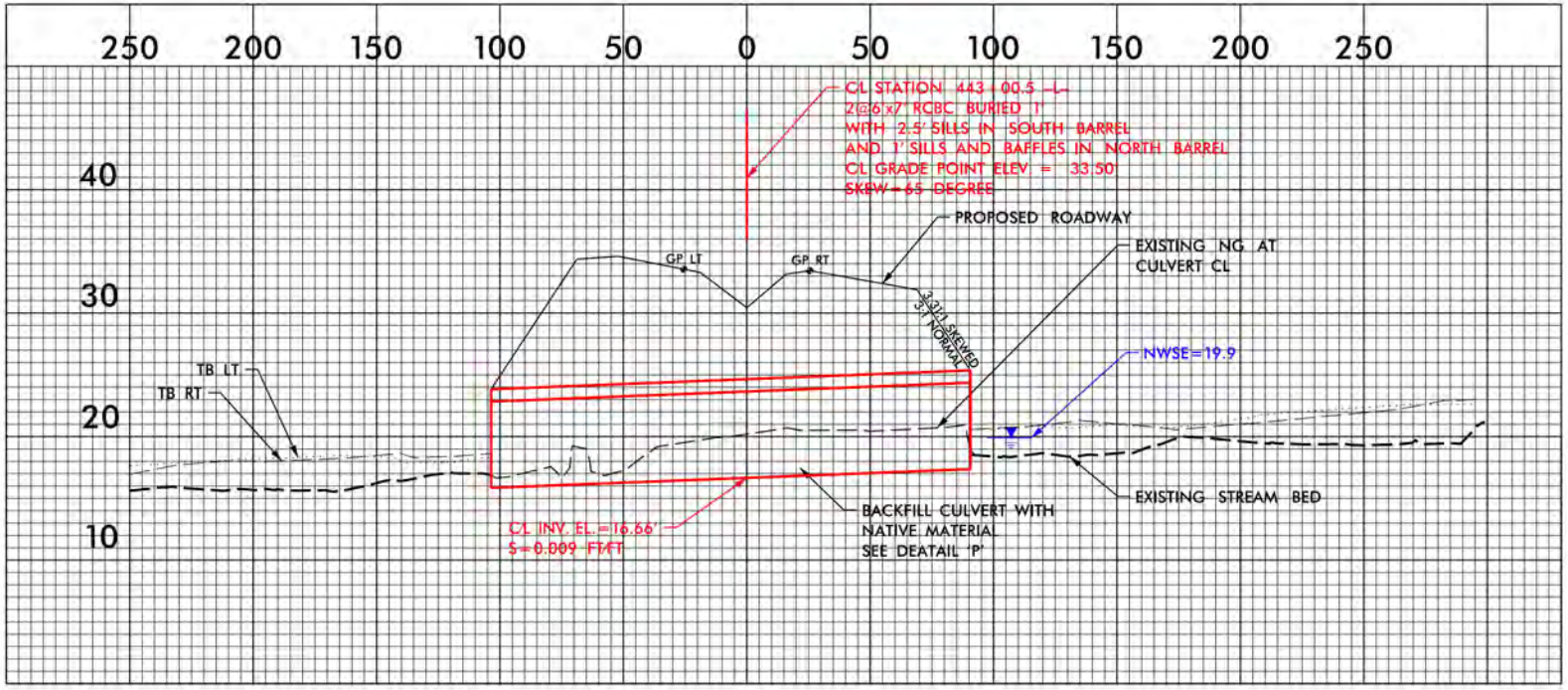
| PROJECT REFERENCE NO: | SHEET NO |
|---|---|
| R-3300A | |
| R/W SHEET NO: | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 74 OF 120

# SITE 29

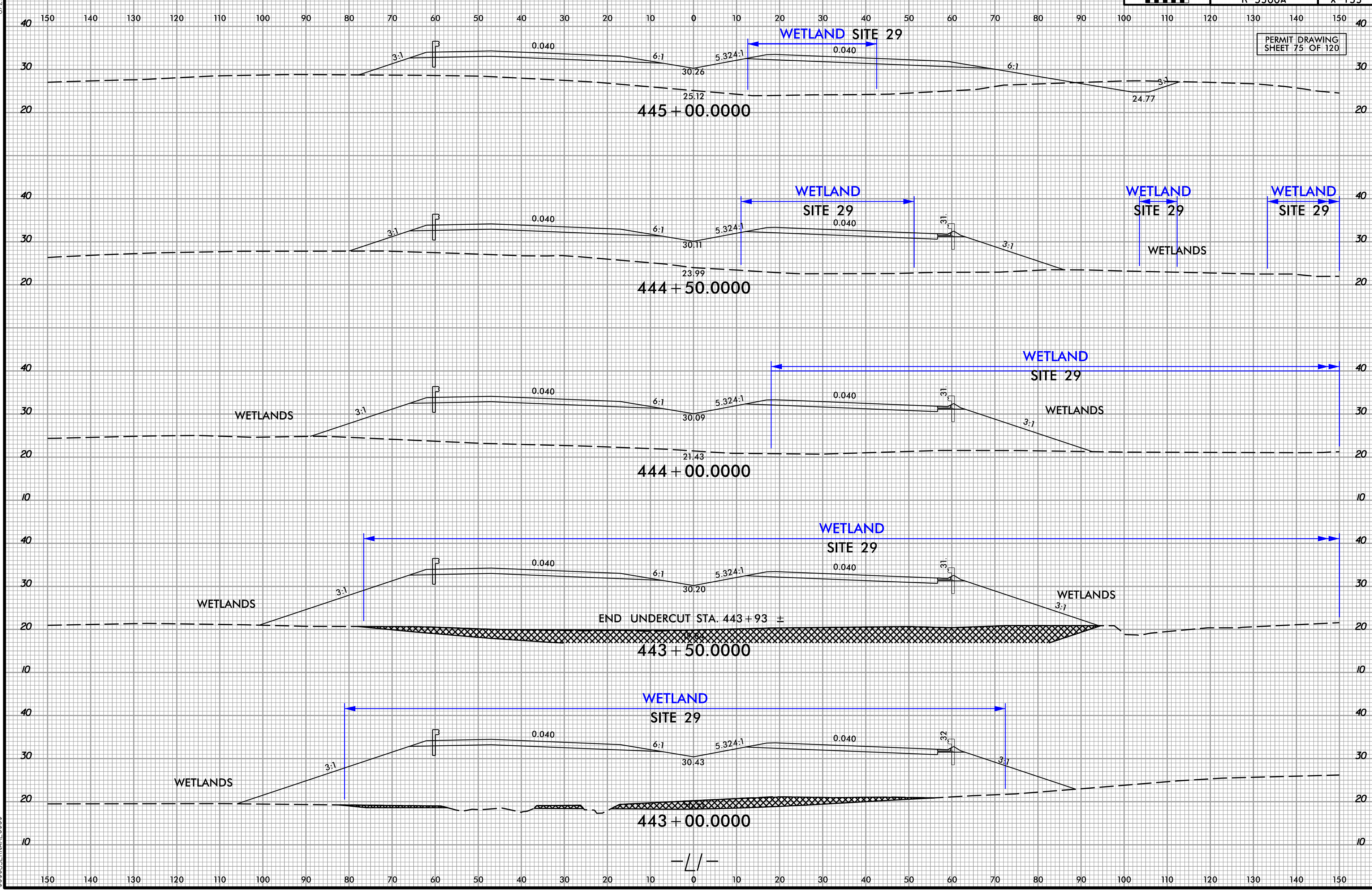



50' 0' 50' 100' 150'
GRAPHIC SCALE

11/20/2024

| PROJ. REFERENCE NO. | SHEET NO. |
|---|---|
| R-3300A | X-133 |

PERMIT DRAWING
SHEET 75 OF 120




11/20/2024

12/15/2023
MI ENGINEERING
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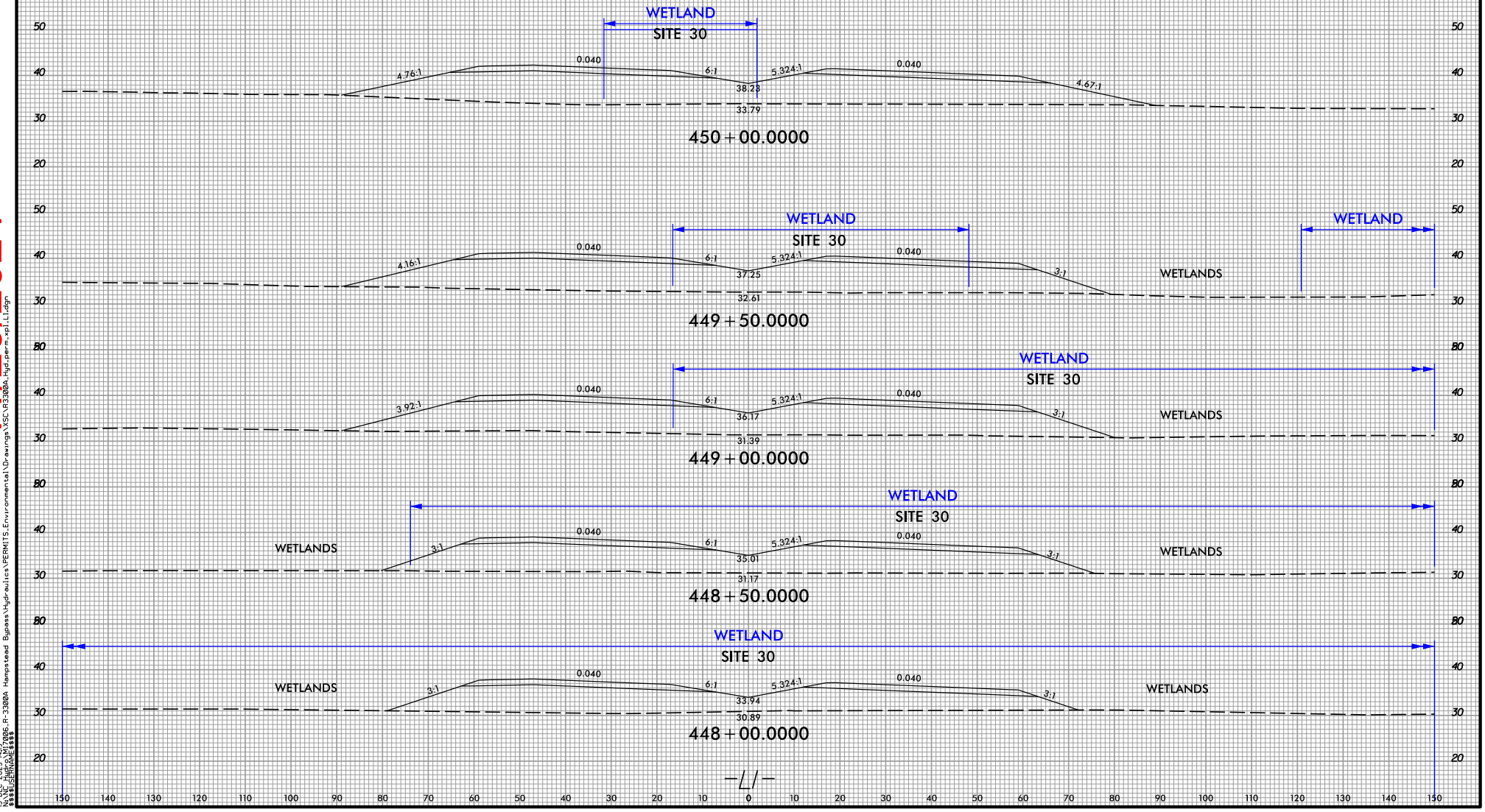
6/23/16

PERMIT DRAWING
SHEET 76 OF 120

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11/20/2024

12/15/2023
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USER: jhagan
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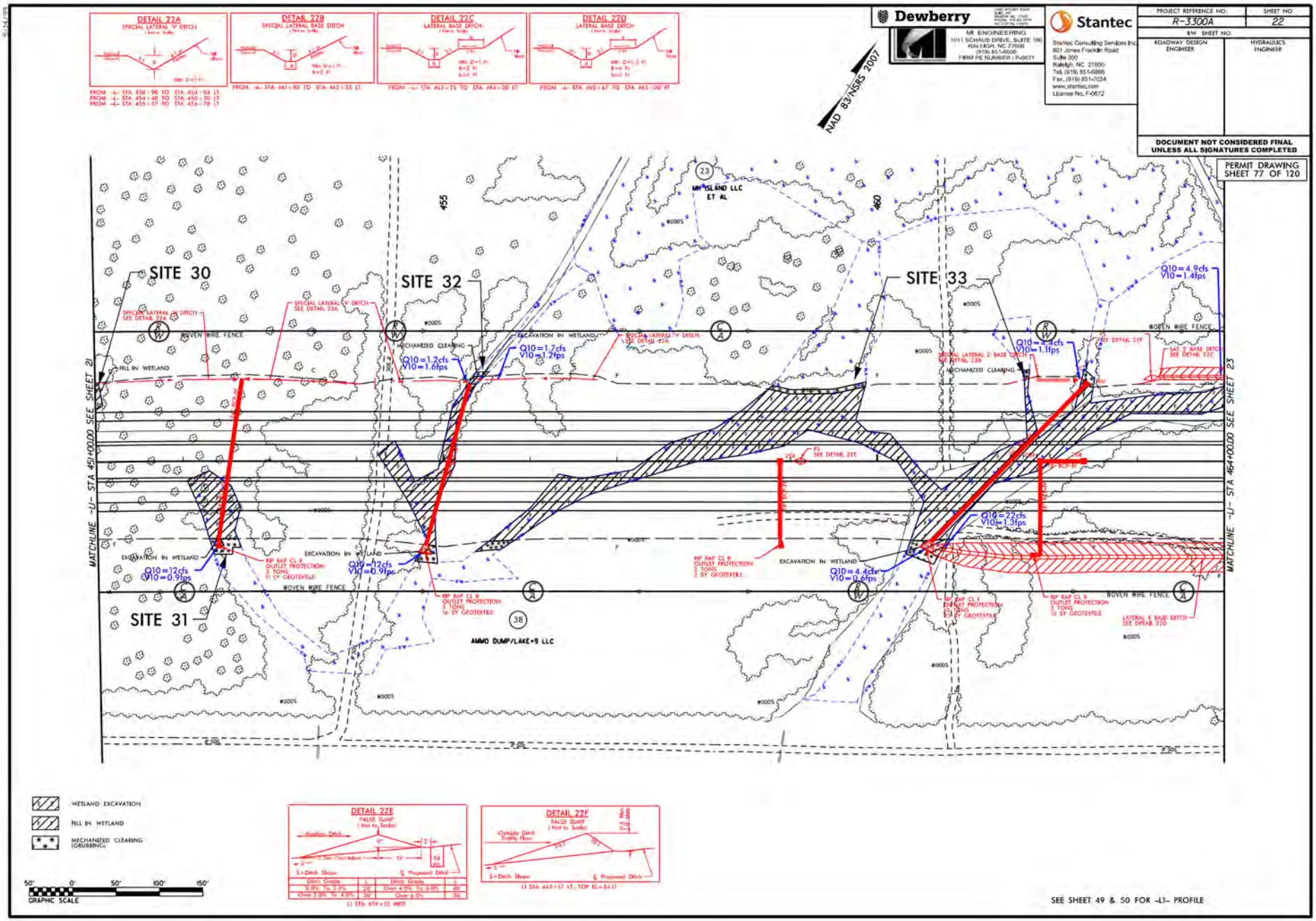
11/20/2024


DETAIL 22A
SPECIAL LATERAL "A" DITCH
DETAIL 22B
SPECIAL LATERAL BASE DITCH
DETAIL 22C
LATERAL BASE DITCH
DETAIL 22D
LATERAL BASE DITCH
NAD 83/NSRS 2007
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671
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Raleigh, NC 27606
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www.stantec.com
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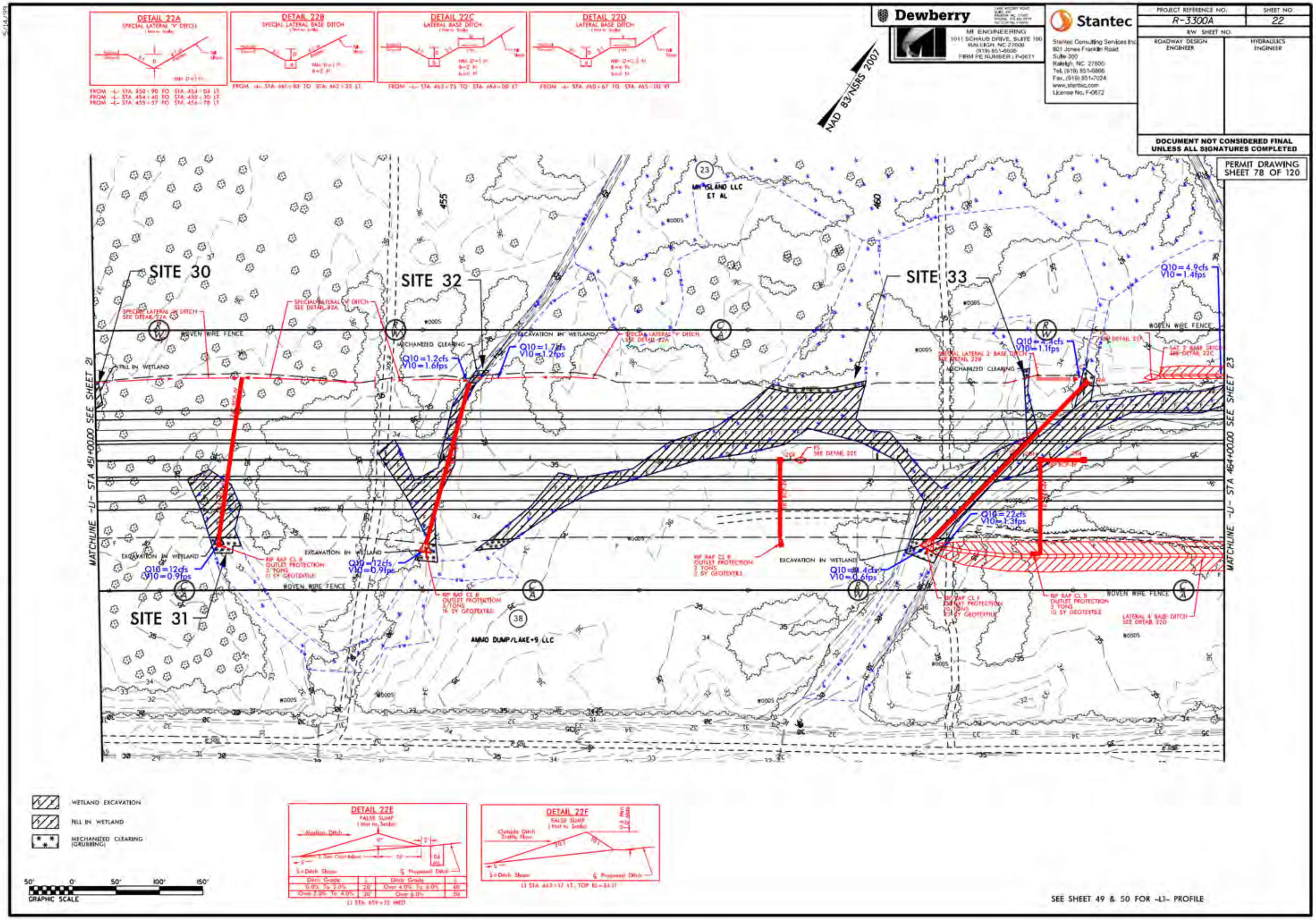
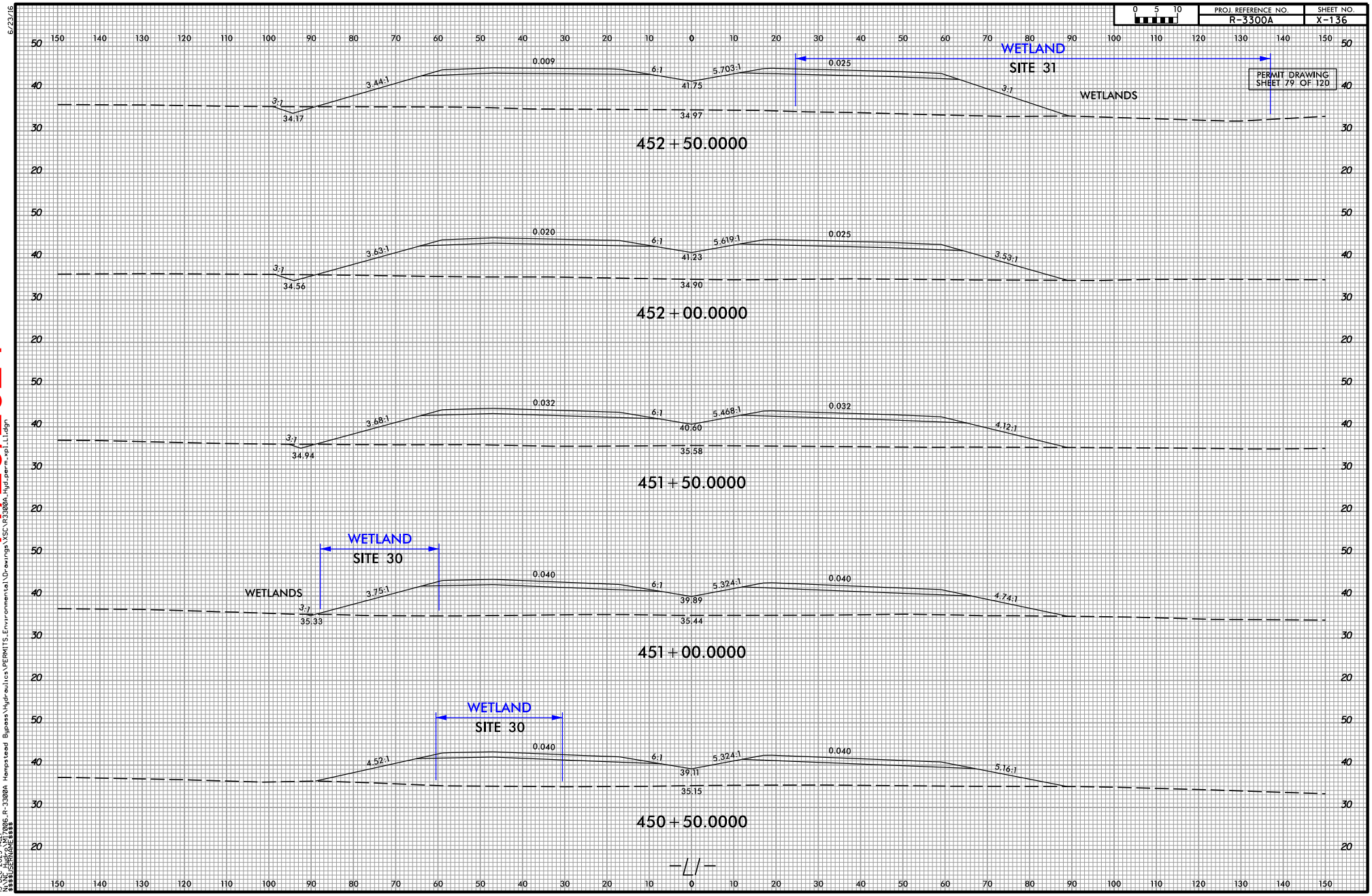
PROJECT REFERENCE NO:
R-3300A
SHEET NO
22
R/W SHEET NO:
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 77 OF 120
SITE 30
SITE 31
SITE 32
SITE 33
MH ISLAND LLC ET AL
AMMO DUMP/LAKE-9 LLC
WOVEN WIRE FENCE
MECHANIZED CLEARING
EXCAVATION IN WETLAND
FILL IN WETLAND
Q10=1.2cfs V10=1.6fps
Q10=1.7cfs V10=1.2fps
Q10=12cfs V10=0.9fps
Q10=12cfs V10=0.9fps
Q10=2.4cfs V10=1.1fps
Q10=4.9cfs V10=1.4fps
Q10=4.4cfs V10=0.6fps
Q10=22cfs V10=1.3fps
RIP RAP CL II OUTLET PROTECTION 3 TONS 13 SY GEOTEXTILE
MATCHLINE -L1- STA 451+00.00 SEE SHEET 21
MATCHLINE -L1- STA 464+00.00 SEE SHEET 23
WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
GRAPHIC SCALE
DETAIL 22E
FALSE SUMP
DETAIL 22F
FALSE SUMP
SEE SHEET 49 & 50 FOR -L1- PROFILE

11/20/2024



PROJECT REFERENCE NO.
R-3300A
SHEET NO.
22
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 78 OF 120
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
NAD 83/NSRS 2007
DETAIL 22A
SPECIAL LATERAL 'V' DITCH
DETAIL 22B
SPECIAL LATERAL BASE DITCH
DETAIL 22C
LATERAL BASE DITCH
DETAIL 22D
LATERAL BASE DITCH
SITE 30
SITE 31
SITE 32
SITE 33
MATCHLINE -L- STA 451+00.00 SEE SHEET 21
MATCHLINE -L- STA 464+00.00 SEE SHEET 23
WOVEN WIRE FENCE
FILL IN WETLAND
EXCAVATION IN WETLAND
MECHANIZED CLEARING
Q10=12cfs
V10=0.9fps
Q10=1.2cfs
V10=1.6fps
Q10=1.7cfs
V10=1.2fps
Q10=4.9cfs
V10=1.4fps
Q10=22cfs
V10=1.3fps
MH ISLAND LLC ET AL
AMMO DUMP/LAKE+9 LLC
455
460
WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
GRAPHIC SCALE
50' 0' 50' 100' 150'
DETAIL 22E
FALSE SUMP
DETAIL 22F
FALSE SUMP
SEE SHEET 49 & 50 FOR -L1- PROFILE




11/20/2024

6/23/16
12/15/2023
M ENGINEERING
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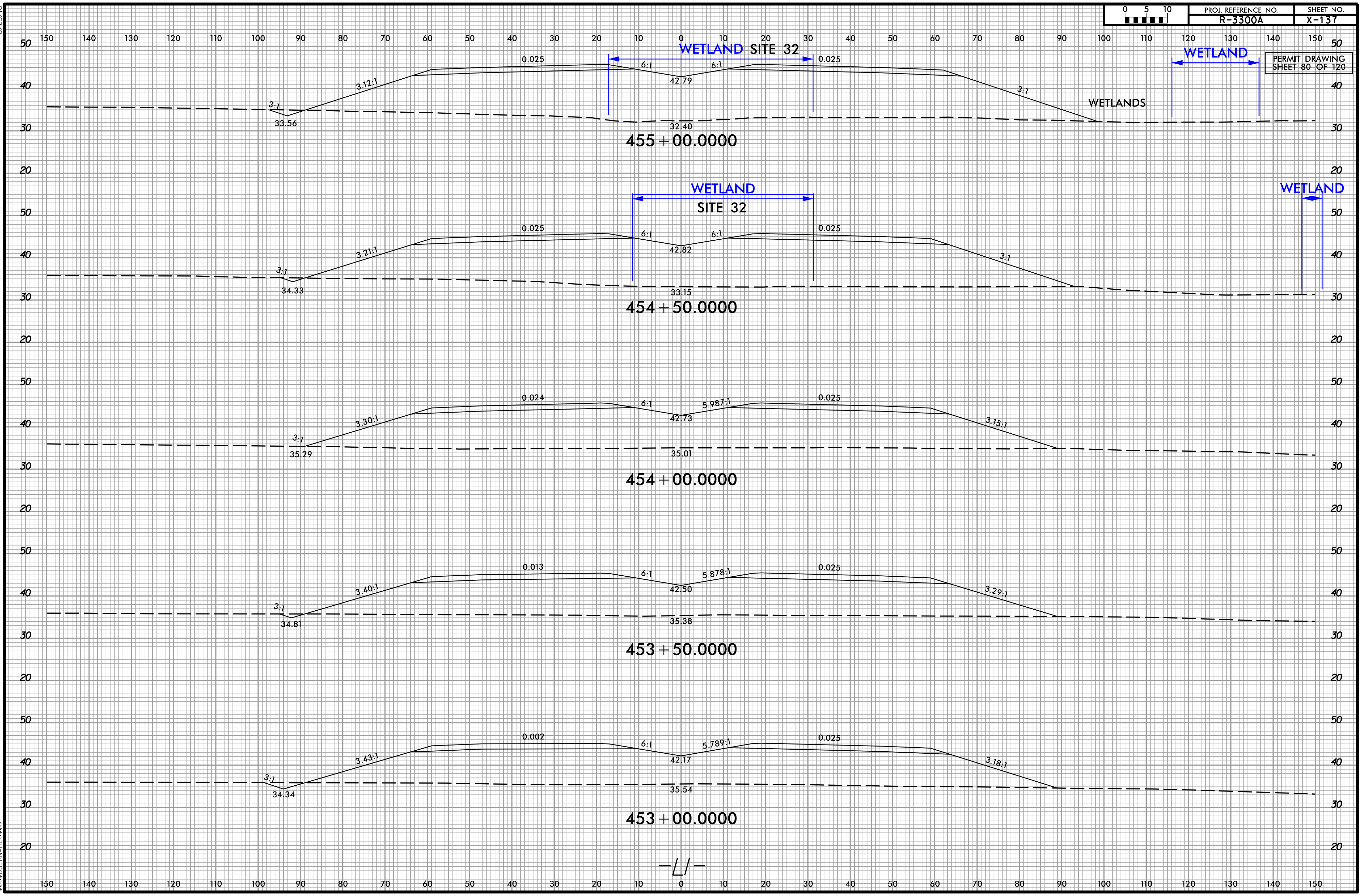
15-DEC-2023 14:21
User:kmcginnis
W:\Active\R-3300A_R-3300A Hampstead Bypass\Hydraulics\PERMITS_Environmental\Drawings\XSC\R3300A_Hyd-perm_xpl_LI.dgn

| PROJ. REFERENCE NO. | SHEET NO. |
| --- | --- |
| R-3300A | X-137 |

PERMIT DRAWING
SHEET 80 OF 120




6/23/16

11/20/2024

12/15/2023
MI ENGINEERING
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15-DEC-2023 14:22
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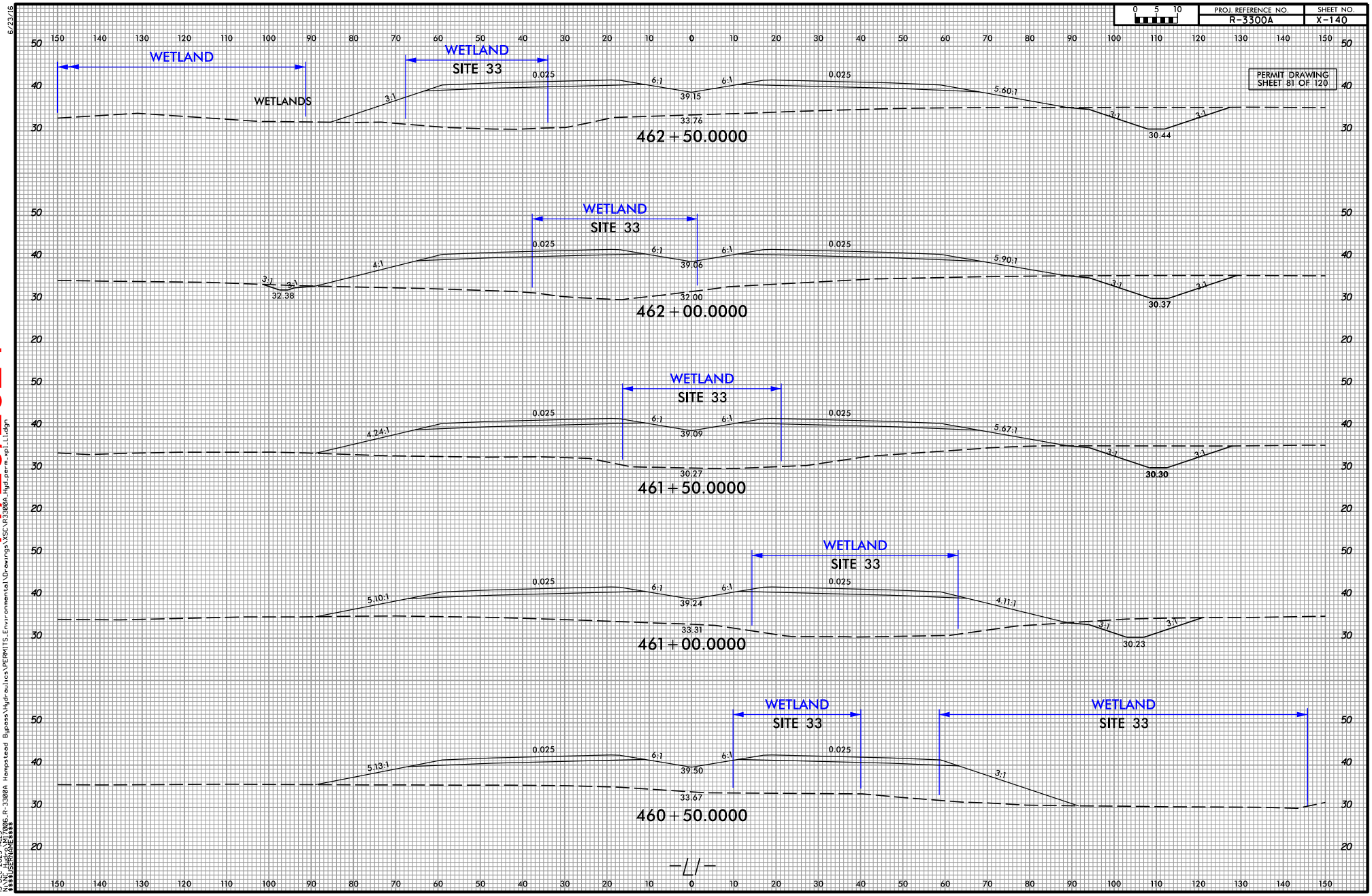
$$$$USERNAME$$$$


PROJ. REFERENCE NO.
R-3300A
SHEET NO.
X-140
PERMIT DRAWING
SHEET 81 OF 120
WETLAND
WETLANDS
WETLAND
SITE 33
462+50.0000
462+00.0000
461+50.0000
461+00.0000
460+50.0000
-L1-

11/20/2024

11/20/2024

WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)

50' 0' 50' 100' 150'
GRAPHIC SCALE

NAD 83/NSRS 2007

Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6666
FIRM PE NUMBER: P-0671

Stantec
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801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel (919) 851-6866
Fax (919) 851-7024
www.stantec.com
License No. F-0672

| PROJECT REFERENCE NO: | SHEET NO |
|---|---|
| R-3300A | 23 |
| R/W SHEET NO: | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 82 OF 120

MATCHLINE -L1- STA 464+00.00 SEE SHEET 22

MATCHLINE -L1- STA 477+00.00 SEE SHEET 24

SITE 33

SITE 34
Q10 = 3.0cfs
V10 = 1.5fps

SITE 35

Q10 = 4.9cfs
V10 = 1.4fps

SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 23B

EXCAVATION IN WETLAND

TOE PROTECTION SEE DETAIL 23F

WOVEN WIRE FENCE

RIP RAP CL B OUTLET PROTECTION 2 TONS 10 SY GEOTEXTILE

SPECIAL LATERAL 'V' DITCH SEE DETAIL 23A

SPEC. PES, SEE DETAIL SHT 2C-I

MECHANIZED CLEARING

RIP RAP CL I OUTLET PROTECTION 15 TONS 16 SY GEOTEXTILE

RIP RAP CL B OUTLET PROTECTION 2 TONS 10 SY GEOTEXTILE

LATERAL 2 BASE DITCH SEE DETAIL 23D

LATERAL 4 BASE DITCH SEE DETAIL 23C

MH ISLAND LLC ET AL

AMMO DUMP/LAKE+9 LLC

WOODS

465 470 475

DETAIL 23A
SPECIAL LATERAL 'V' DITCH
FROM -L- STA. 467+90 TO STA. 469+62 LT.

DETAIL 23B
SPECIAL LATERAL BASE DITCH
FROM -L- STA. 464+00 TO STA. 464+50 LT.

DETAIL 23C
LATERAL BASE DITCH
FROM -L- STA. 460+67 TO STA. 462+00 RT.

DETAIL 23D
LATERAL BASE DITCH
FROM -L- STA. 465+00 TO STA. 467+15 RT.

DETAIL 23E
TOE PROTECTION
FROM -L- STA. 464+30 TO STA. 465+15 LT.
FROM -L- STA. 467+40 TO STA. 467+90 LT.

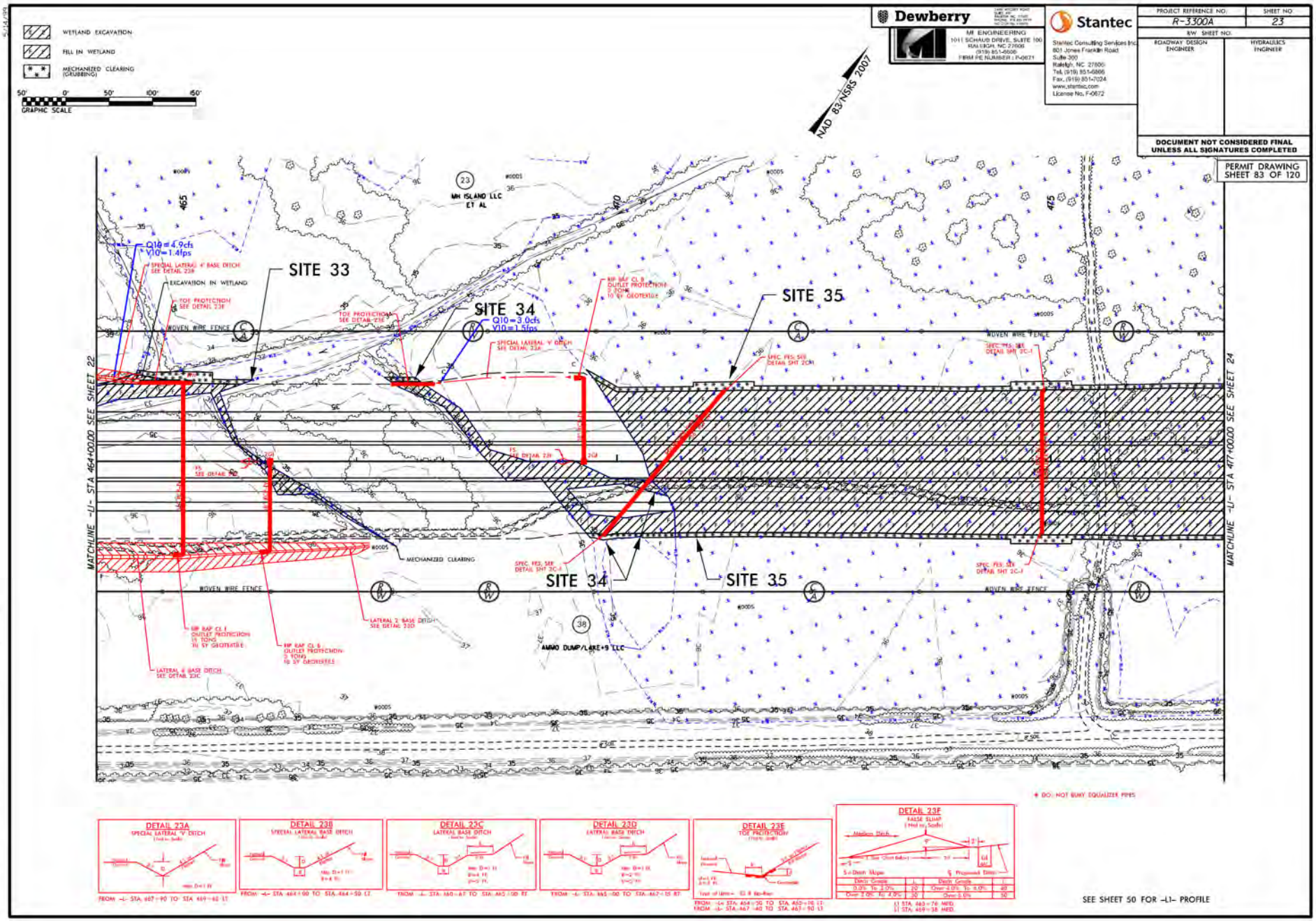
DETAIL 23F
RAISE BUMP
FROM -L- STA. 463+76 MED.
FROM -L- STA. 469+38 MED.

| Ditch Grade | L | Ditch Grade | L |
|---|---|---|---|
| 0.0% To 1.0% | 20 | Over 4.0% To 5.0% | 40 |
| Over 1.0% To 2.0% | 30 | Over 5.0% | 50 |

* DO NOT BURY EQUALIZER PIPES

SEE SHEET 50 FOR -L1- PROFILE

11/20/2024


WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
GRAPHIC SCALE
NAD 83/NSRS 2007
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
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FIRM PE NUMBER: P-0671
Stantec
Stantec Consulting Services Inc.
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Raleigh, NC 27606
Tel: (919) 851-6866
Fax: (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO: R-3300A
SHEET NO: 23
R/W SHEET NO:
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 83 OF 120
SITE 33
SITE 34
SITE 35
Q10 = 4.9cfs
V10 = 1.4fps
Q10 = 3.0cfs
V10 = 1.5fps
MH ISLAND LLC ET AL
AMMO DUMP/LAKE+9 LLC
EXCAVATION IN WETLAND
WOVEN WIRE FENCE
MECHANIZED CLEARING
TOE PROTECTION SEE DETAIL 23F
SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 23B
SPECIAL LATERAL 'V' DITCH SEE DETAIL 23A
LATERAL 2 BASE DITCH SEE DETAIL 23D
LATERAL 4 BASE DITCH SEE DETAIL 23C
RIP RAP CL I OUTLET PROTECTION 11 TONS 16 SY GEOTEXTILE
RIP RAP CL II OUTLET PROTECTION 2 TONS 16 SY GEOTEXTILE
SPEC. PES, SEE DETAIL SHT 2C-I
MATCHLINE -L1- STA 464+00.00 SEE SHEET 22
MATCHLINE -L1- STA 477+00.00 SEE SHEET 24
DETAIL 23A
SPECIAL LATERAL 'V' DITCH
DETAIL 23B
SPECIAL LATERAL BASE DITCH
DETAIL 23C
LATERAL BASE DITCH
DETAIL 23D
LATERAL BASE DITCH
DETAIL 23E
TOE PROTECTION
DETAIL 23F
RAISE BUMP
DO NOT BURY EQUALIZER PIPES
SEE SHEET 50 FOR -L1- PROFILE

11/20/2024

Dewberry

MI ENGINEERING
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(919) 851-6600
FIRM PE NUMBER: F-0671

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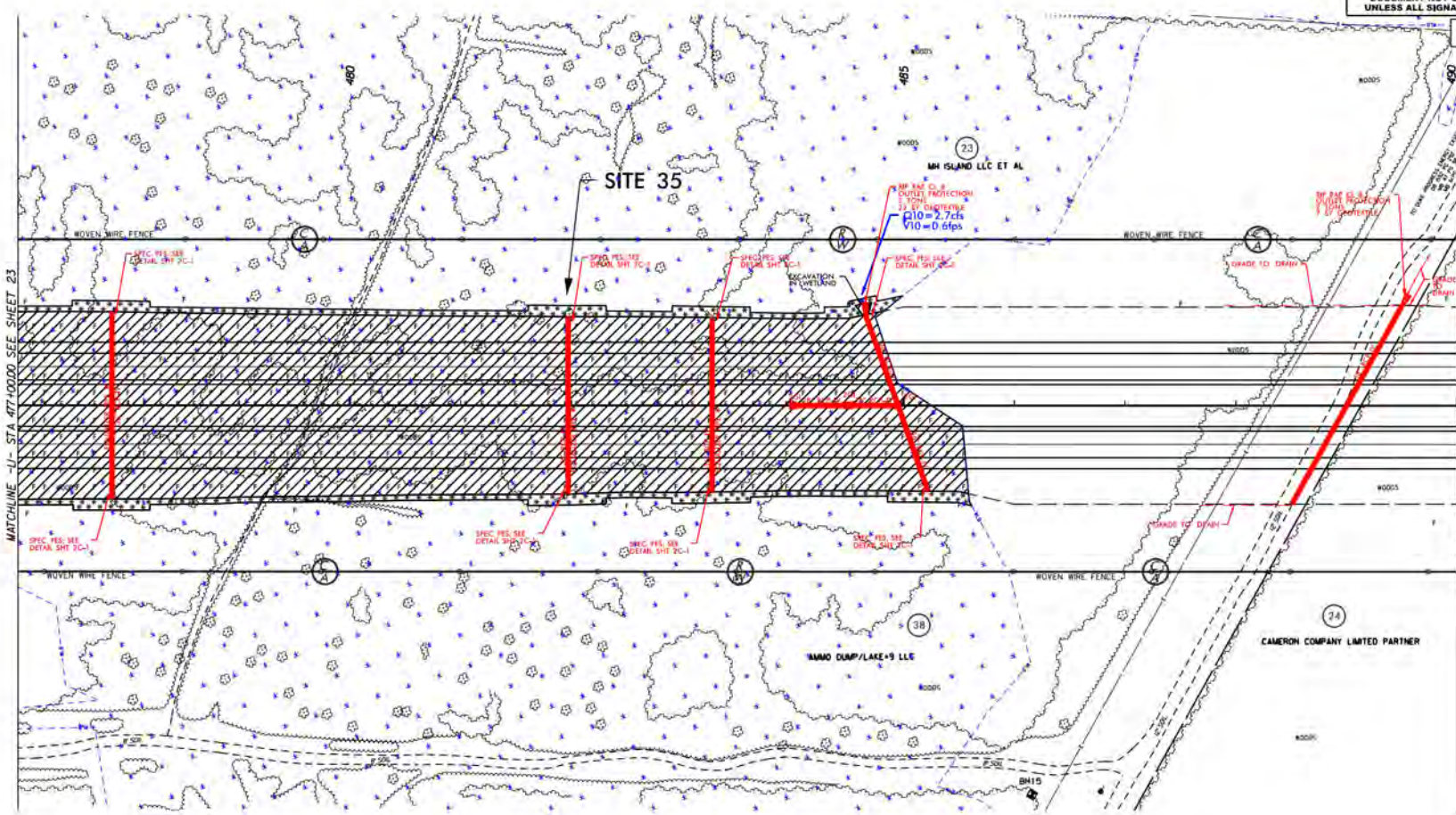
License No. F-0672

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-3300A | 24 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 84 OF 120




* DO NOT WIRE EQUALIZER PIPES.

WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)

50' 0' 50' 100' 150'
GRAPHIC SCALE

SEE SHEETS 50 & 51 FOR -L1- PROFILE

11/20/2024

Dewberry
MI ENGINEERING
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(919) 851-6600
FIRM PE NUMBER: P-0671

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www.stantec.com
License No. P-0672

| PROJECT REFERENCE NO: | SHEET NO |
|---|---|
| R-3300A | 24 |
| R/W SHEET NO: | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 85 OF 120

NAD 83/NSRS 2007

SITE 35

MATCHLINE -L1- STA 477+00.00 SEE SHEET 23

MATCHLINE -L1- STA 490+00.00 SEE SHEET 25

WOVEN WIRE FENCE

EXCAVATION IN WETLAND

Q10 = 2.7cfs
V10 = 0.6fps

MH ISLAND LLC ET AL

CAMERON COMPANY LIMITED PARTNER

WAMO DUMP/LAKE 9 LLC

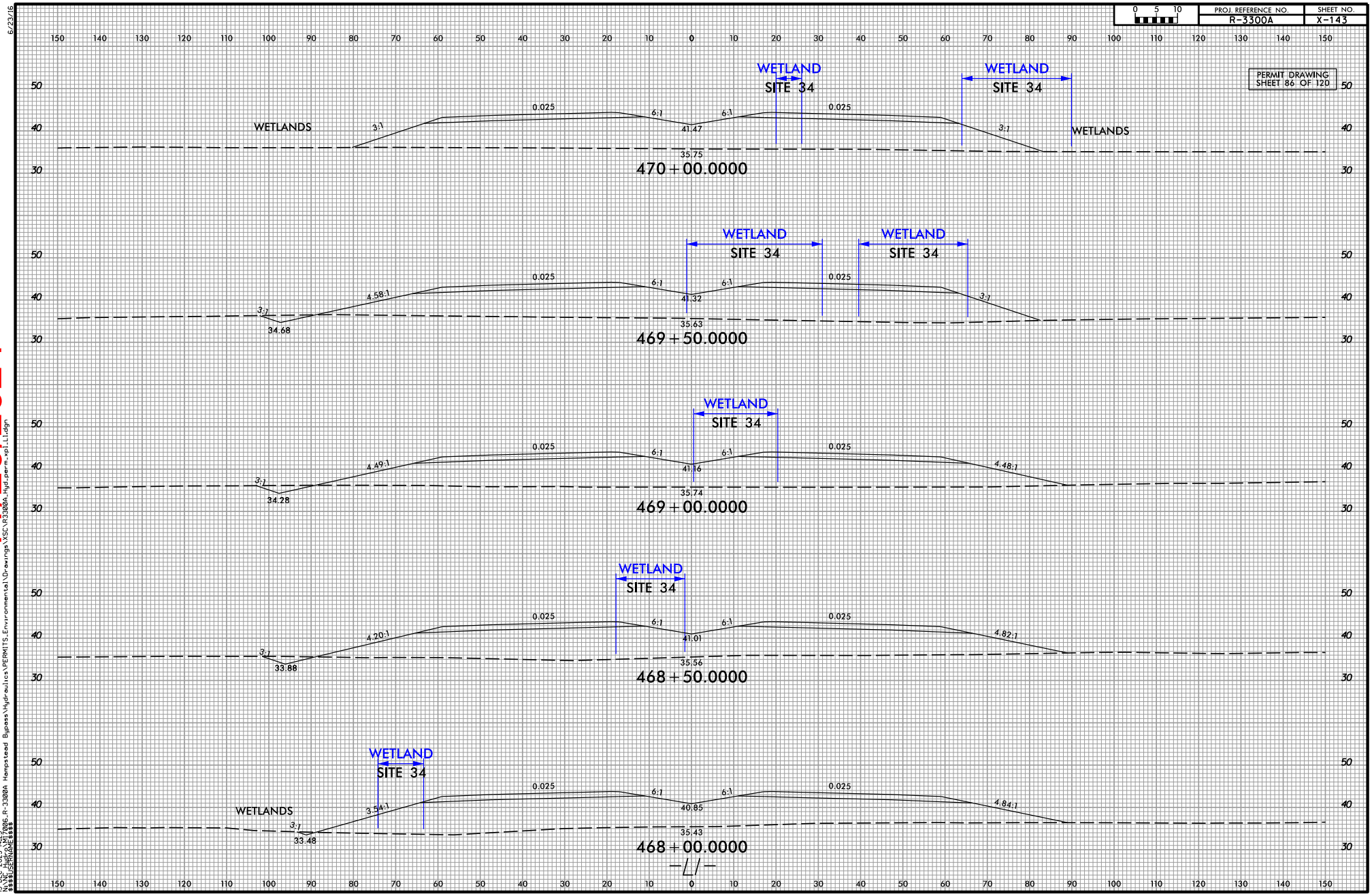
BM15

* DO NOT RAISE EQUALIZER PIPES.

WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)

GRAPHIC SCALE 50' 0' 50' 100' 150'

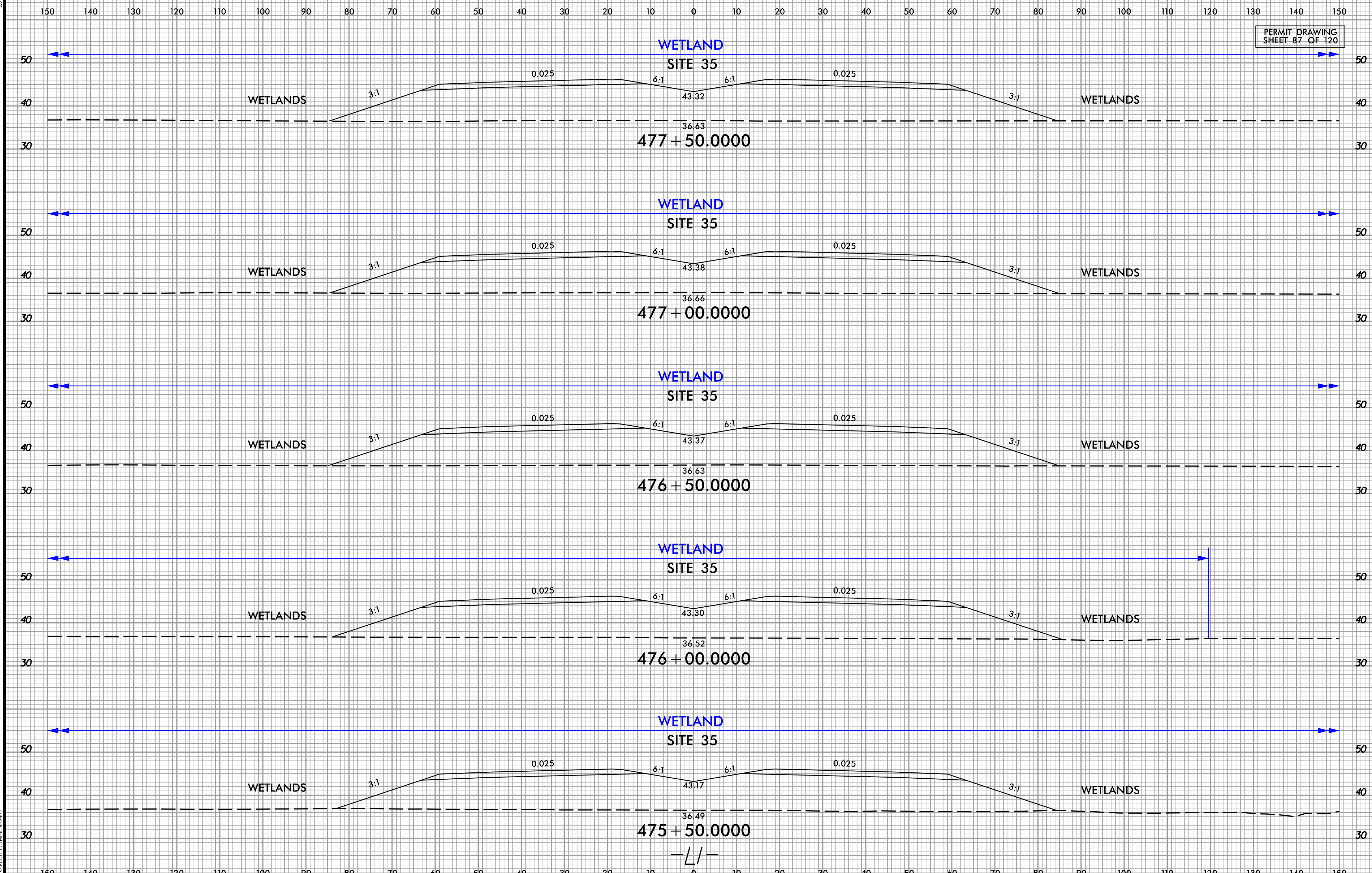
SEE SHEETS 50 & 51 FOR -L1- PROFILE


PROJ. REFERENCE NO.
R-3300A
SHEET NO.
X-143
PERMIT DRAWING
SHEET 86 OF 120
WETLAND
SITE 34
WETLANDS
0.025
6:1
3:1
41.47
35.75
470+00.0000
4.58:1
34.68
41.32
35.63
469+50.0000
4.49:1
34.28
41.16
35.74
469+00.0000
4.20:1
33.88
41.01
35.56
468+50.0000
3.54:1
33.48
40.85
35.43
468+00.0000

11/20/2024

| PROJ. REFERENCE NO. | SHEET NO. |
| --- | --- |
| R-3300A | X-146 |

PERMIT DRAWING
SHEET 87 OF 120




6/23/16

12/15/2023
MI ENGINEERING
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15-DEC-2023 14:26
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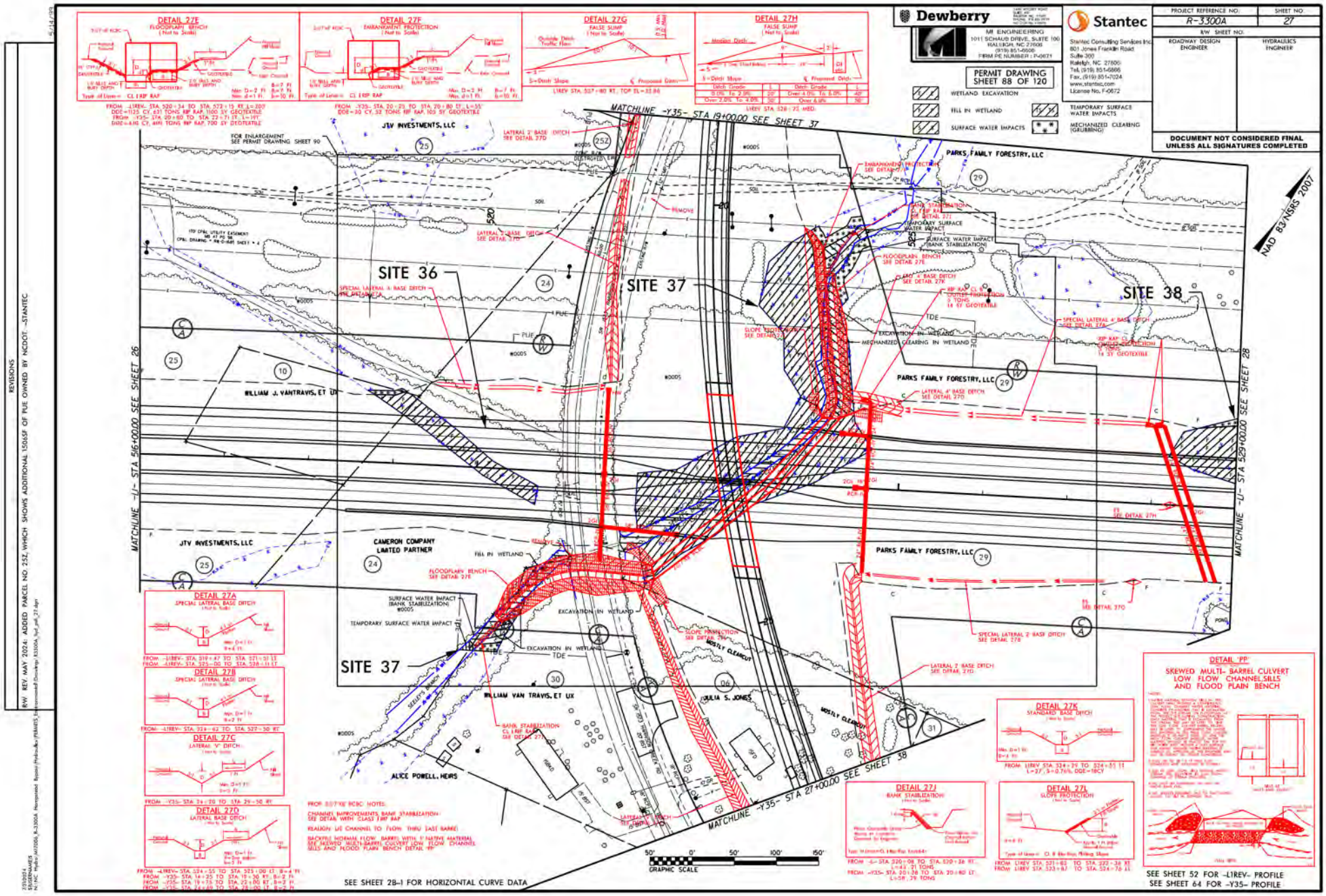
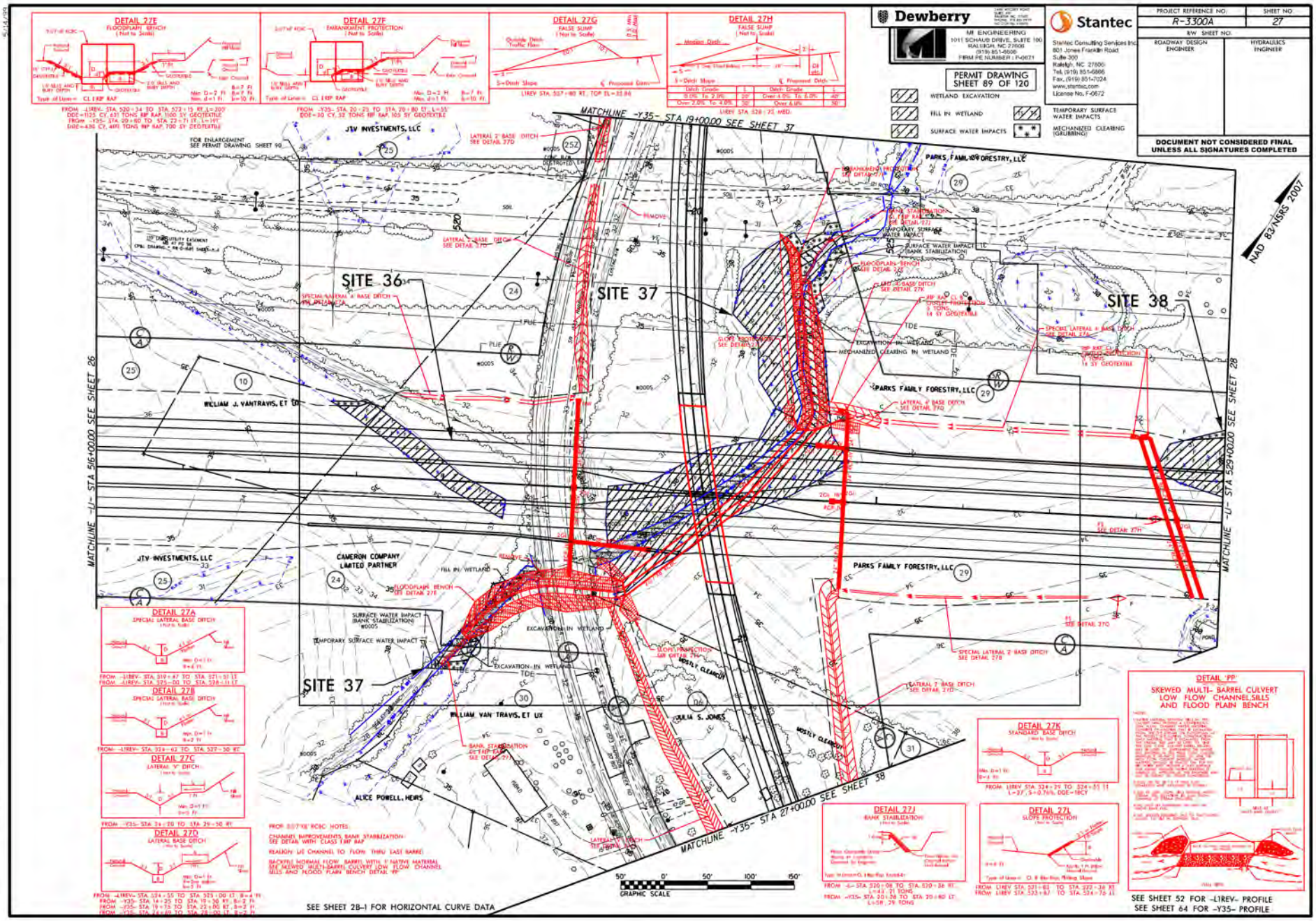
11/20/2024




11/20/2024

REVISIONS

R/W REV MAY 2024: ADDED PARCEL NO. 252, WHICH SHOWS ADDITIONAL 1506SF OF PUE OWNED BY NCDOT. -STANTEC


DETAIL 27E
FLOODPLAIN BENCH
DETAIL 27F
EMBANKMENT PROTECTION
DETAIL 27G
FALSE SUMP
DETAIL 27H
FALSE SUMP
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671
Stantec
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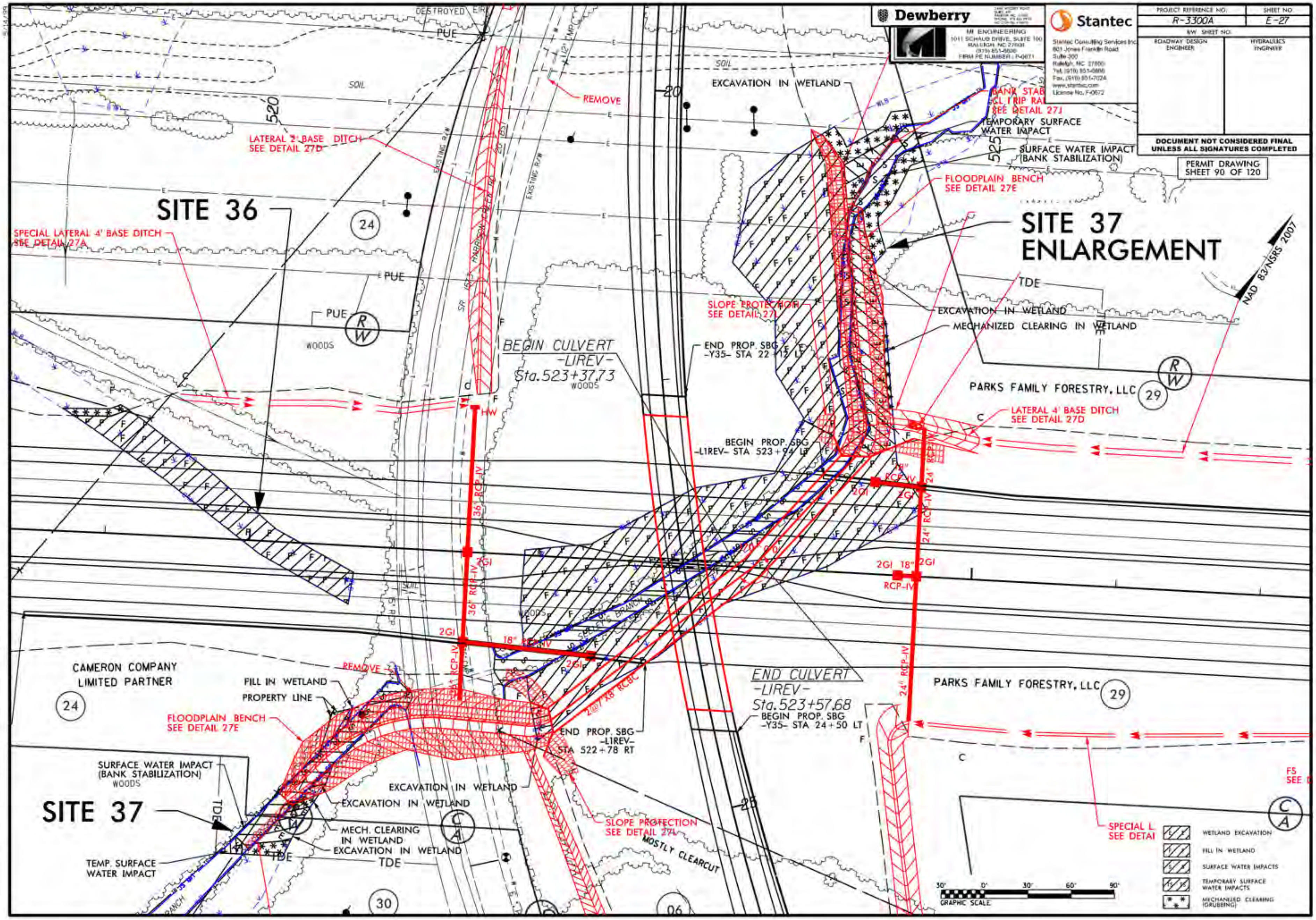
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO: R-3300A
SHEET NO: 27
R/W SHEET NO:
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING SHEET 89 OF 120
WETLAND EXCAVATION
FILL IN WETLAND
SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
TEMPORARY SURFACE WATER IMPACTS
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
MATCHLINE -Y35- STA 19+00.00 SEE SHEET 37
MATCHLINE -U- STA 516+00.00 SEE SHEET 26
MATCHLINE -U- STA 529+00.00 SEE SHEET 28
MATCHLINE -Y35- STA 27+00.00 SEE SHEET 38
NAD 83/NSRS 2007
SITE 36
SITE 37
SITE 38
JTV INVESTMENTS, LLC
PARKS FAMILY FORESTRY, LLC
WILLIAM J. VANTRAVIS, ET UX
CAMERON COMPANY LIMITED PARTNER
WILLIAM VAN TRAVIS, ET UX
JULIA S. JONES
ALICE POWELL, HEIRS
DETAIL 27A
SPECIAL LATERAL BASE DITCH
DETAIL 27B
SPECIAL LATERAL BASE DITCH
DETAIL 27C
LATERAL "V" DITCH
DETAIL 27D
LATERAL BASE DITCH
DETAIL 27J
BANK STABILIZATION
DETAIL 27K
STANDARD BASE DITCH
DETAIL 27L
SLOPE PROTECTION
DETAIL "PP"
SKEWED MULTI- BARREL CULVERT LOW FLOW CHANNEL SILLS AND FLOOD PLAIN BENCH
GRAPHIC SCALE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA
SEE SHEET 52 FOR -L1REV- PROFILE
SEE SHEET 64 FOR -Y35- PROFILE

11/20/2024


Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
Stantec
Stantec Consulting Services Inc.
PROJECT REFERENCE NO. R-3300A
SHEET NO. E-27
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 90 OF 120
SITE 36
SITE 37 ENLARGEMENT
SITE 37
NAD 83/NSRS 2007
SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 27A
LATERAL 2' BASE DITCH SEE DETAIL 27D
LATERAL 4' BASE DITCH SEE DETAIL 27D
FLOODPLAIN BENCH SEE DETAIL 27E
SLOPE PROTECTION SEE DETAIL 27I
TEMPORARY SURFACE WATER IMPACT
SURFACE WATER IMPACT (BANK STABILIZATION)
EXCAVATION IN WETLAND
MECHANIZED CLEARING IN WETLAND
FILL IN WETLAND
PROPERTY LINE
REMOVE
BEGIN CULVERT -LIREV- Sta.523+37.73
END CULVERT -LIREV- Sta.523+57.68
BEGIN PROP. SBG -LIREV- STA 523+94 LT
END PROP. SBG -Y35- STA 22+12 LT
BEGIN PROP. SBG -Y35- STA 24+50 LT
END PROP. SBG -LIREV- STA 522+78 RT
PARKS FAMILY FORESTRY, LLC
CAMERON COMPANY LIMITED PARTNER
MECH. CLEARING IN WETLAND
TEMP. SURFACE WATER IMPACT
36" RCP-IV
24" RCP-IV
18" RCP-IV
2GI
2@7' X8' RCBC
MOSTLY CLEARCUT
WOODS
SOIL
PUE
TDE
WETLAND EXCAVATION
FILL IN WETLAND
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
GRAPHIC SCALE
30' 0' 30' 60' 90'

11/20/2024

MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6646
FIRM PE NUMBER: P-0671

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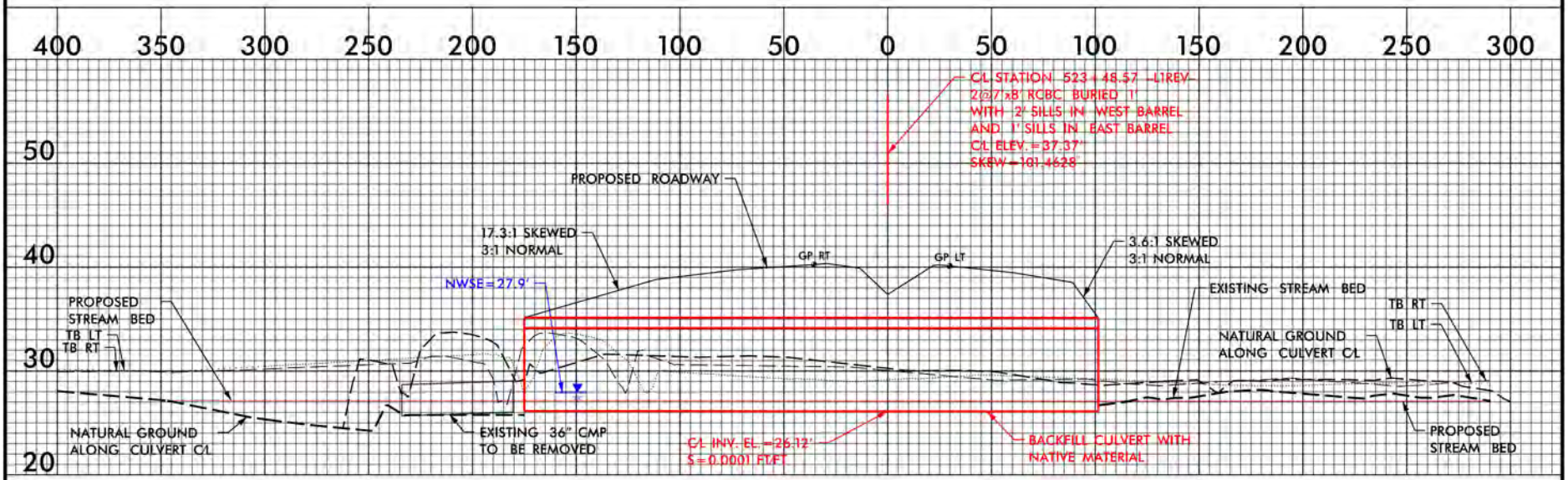
Fax, (919) 851-7024
www.stantec.com
License No. F-0672

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-3300A | |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

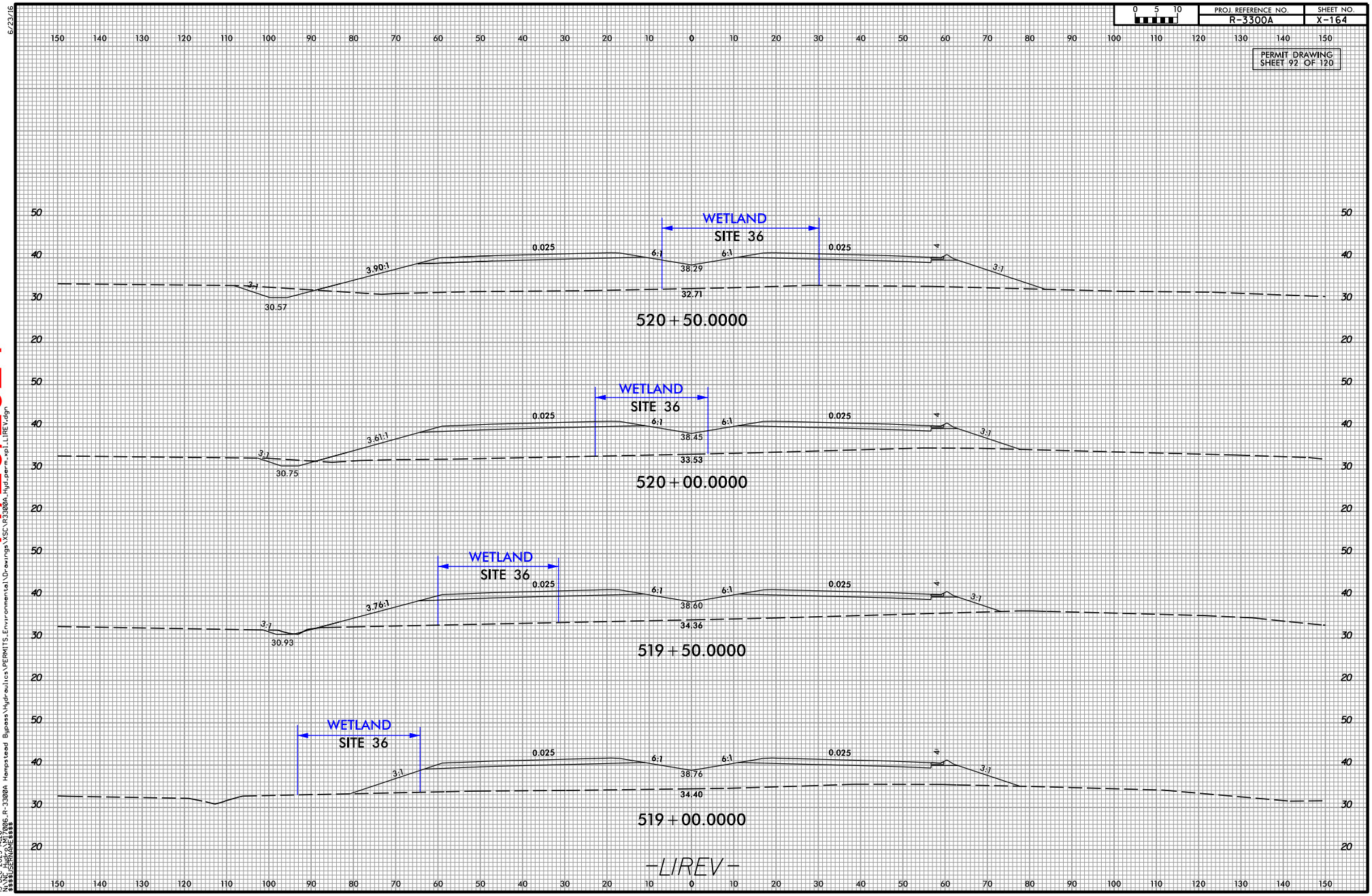
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

# SITE 37

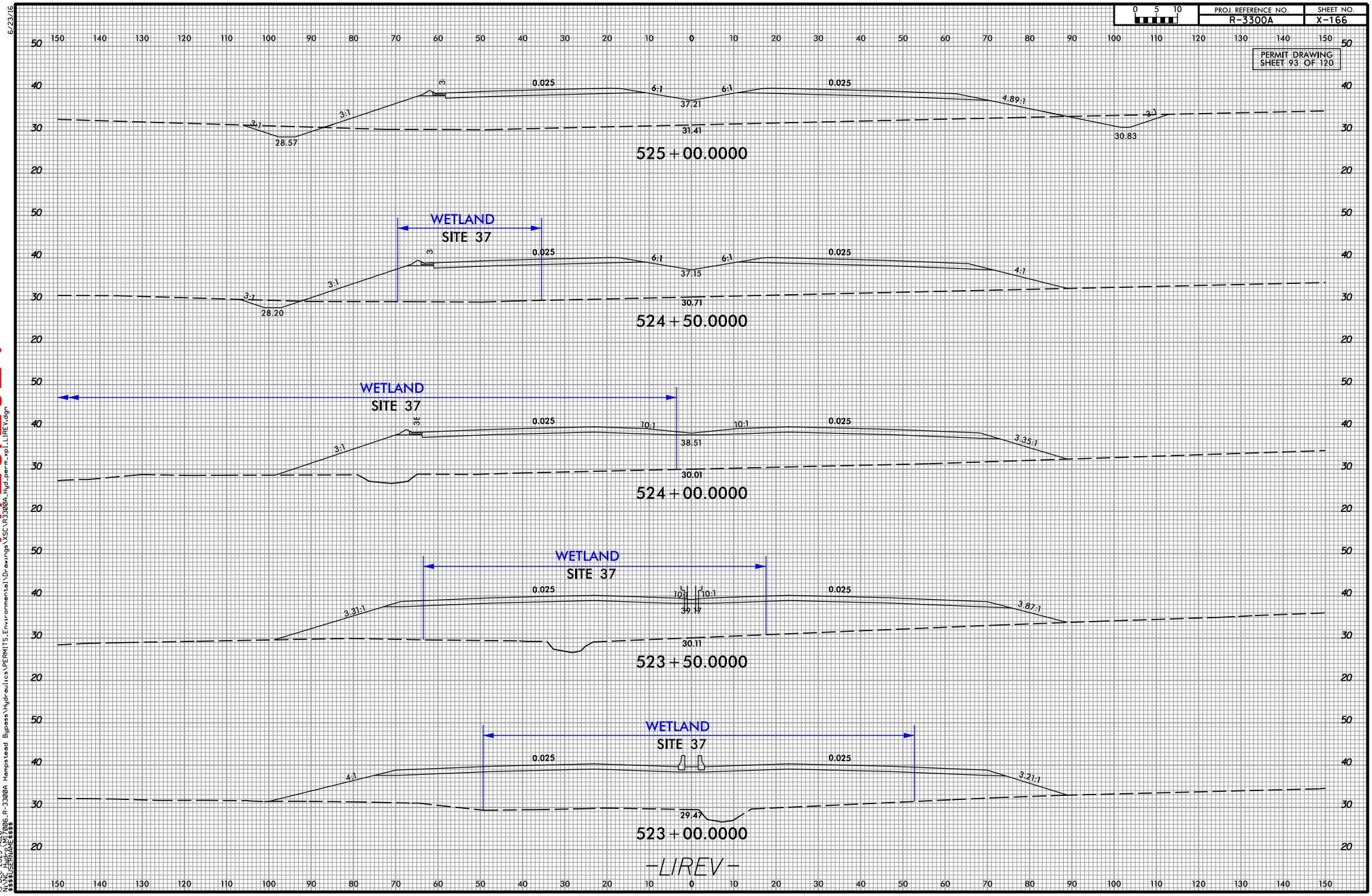
PERMIT DRAWING
SHEET 91 OF 120



11/20/2024


0 5 10
PROJ. REFERENCE NO.
R-3300A
SHEET NO.
X-164
PERMIT DRAWING
SHEET 92 OF 120
WETLAND
SITE 36
0.025
6:1
3:1
3.90:1
38.29
32.71
30.57
520+50.0000
WETLAND
SITE 36
3.61:1
38.45
33.53
30.75
520+00.0000
WETLAND
SITE 36
3.76:1
38.60
34.36
30.93
519+50.0000
WETLAND
SITE 36
38.76
34.40
519+00.0000
-LIREV-

11/20/2024




6/23/16

11/20/2024

12/15/2023
MJ ENGINEERING
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15-DEC-2023 14:26
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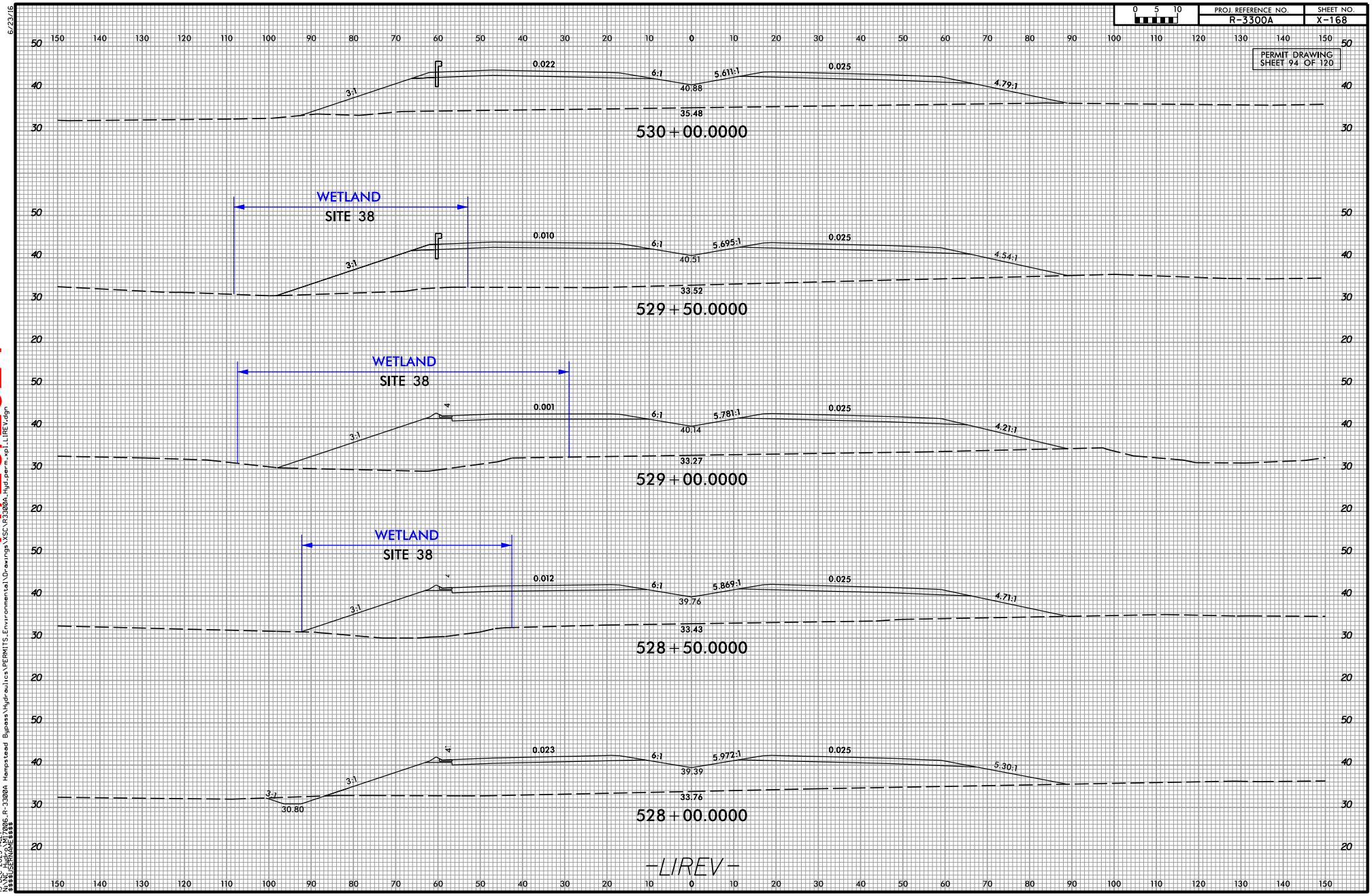


6/23/16

11/20/2024

12/15/2023
MJ ENGINEERING
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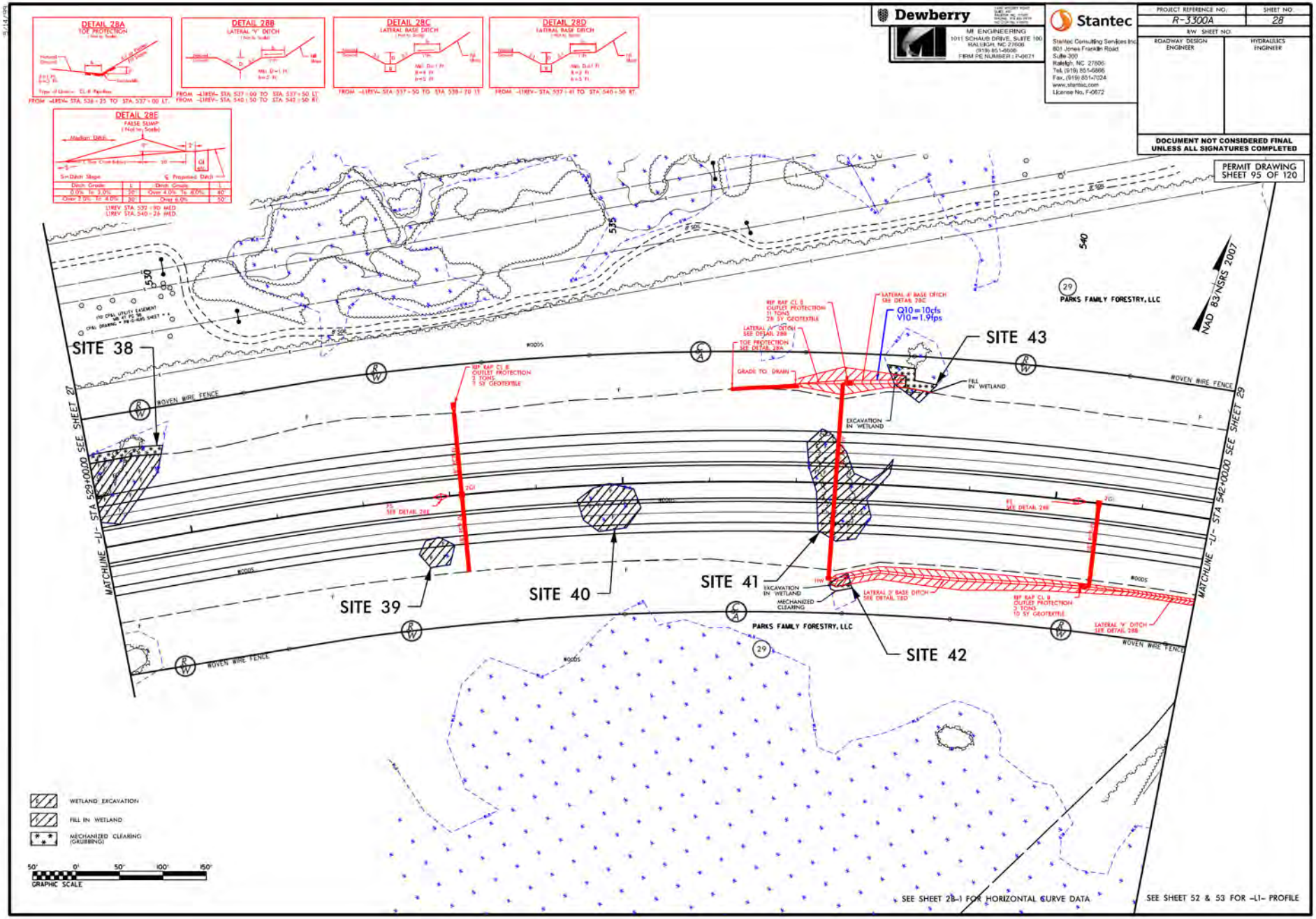
11/20/2024


DETAIL 28A
TOE PROTECTION
DETAIL 28B
LATERAL 'V' DITCH
DETAIL 28C
LATERAL BASE DITCH
DETAIL 28D
LATERAL BASE DITCH
DETAIL 28E
FALSE SUMP
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671
Stantec
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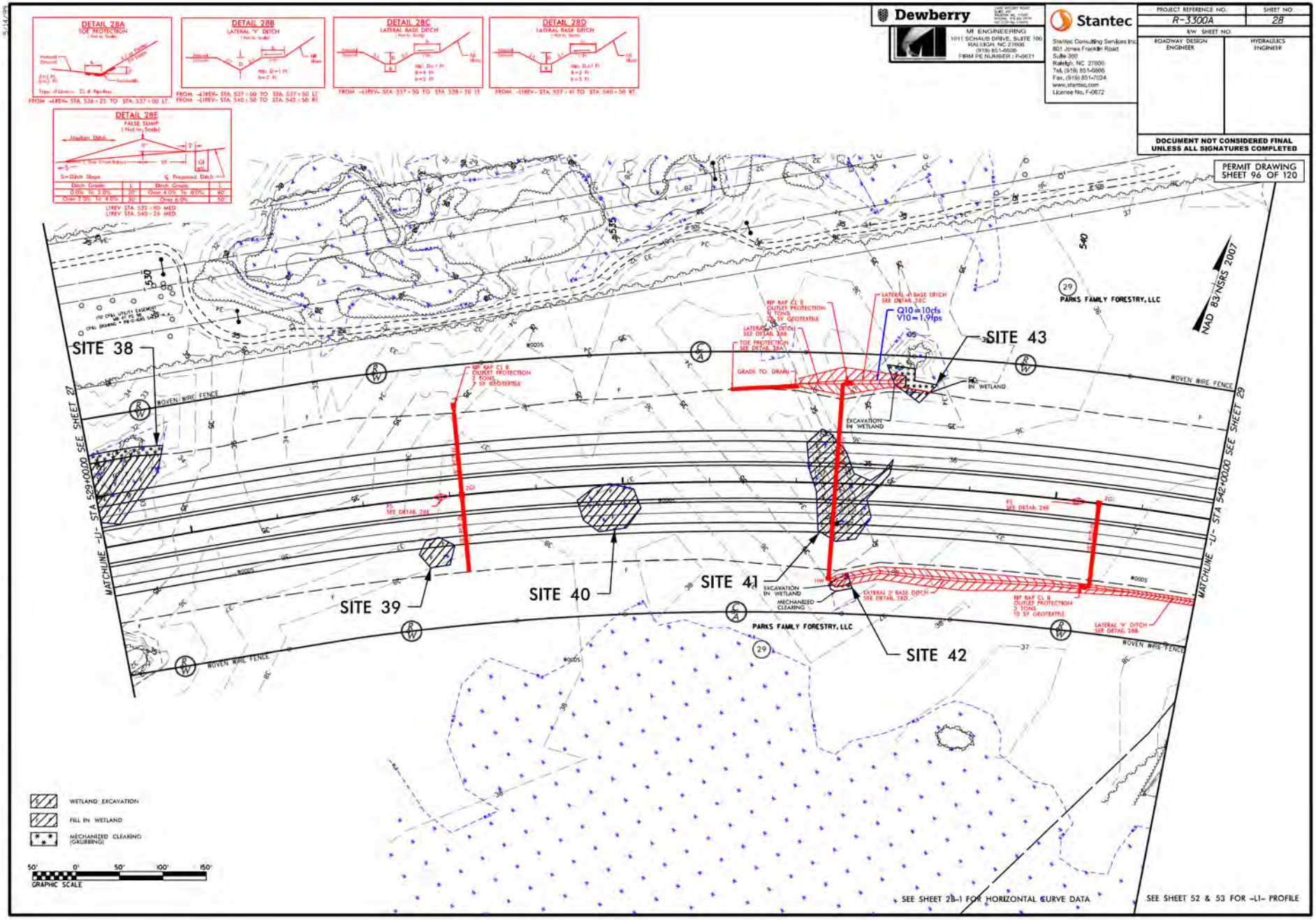
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
28
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 95 OF 120
SITE 38
SITE 39
SITE 40
SITE 41
SITE 42
SITE 43
PARKS FAMILY FORESTRY, LLC
WOVEN WIRE FENCE
MATCHLINE -L1- STA 529+00.00 SEE SHEET 27
MATCHLINE -L1- STA 542+00.00 SEE SHEET 29
NAD 83/NSRS 2007
Q10 = 10 cfs
V10 = 1.9 fps
WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GAUBBING)
GRAPHIC SCALE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA
SEE SHEET 52 & 53 FOR -L1- PROFILE

11/20/2024


DETAIL 28A
TOE PROTECTION
DETAIL 28B
LATERAL 'V' DITCH
DETAIL 28C
LATERAL BASE DITCH
DETAIL 28D
LATERAL BASE DITCH
DETAIL 28E
FALSE SUMP
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
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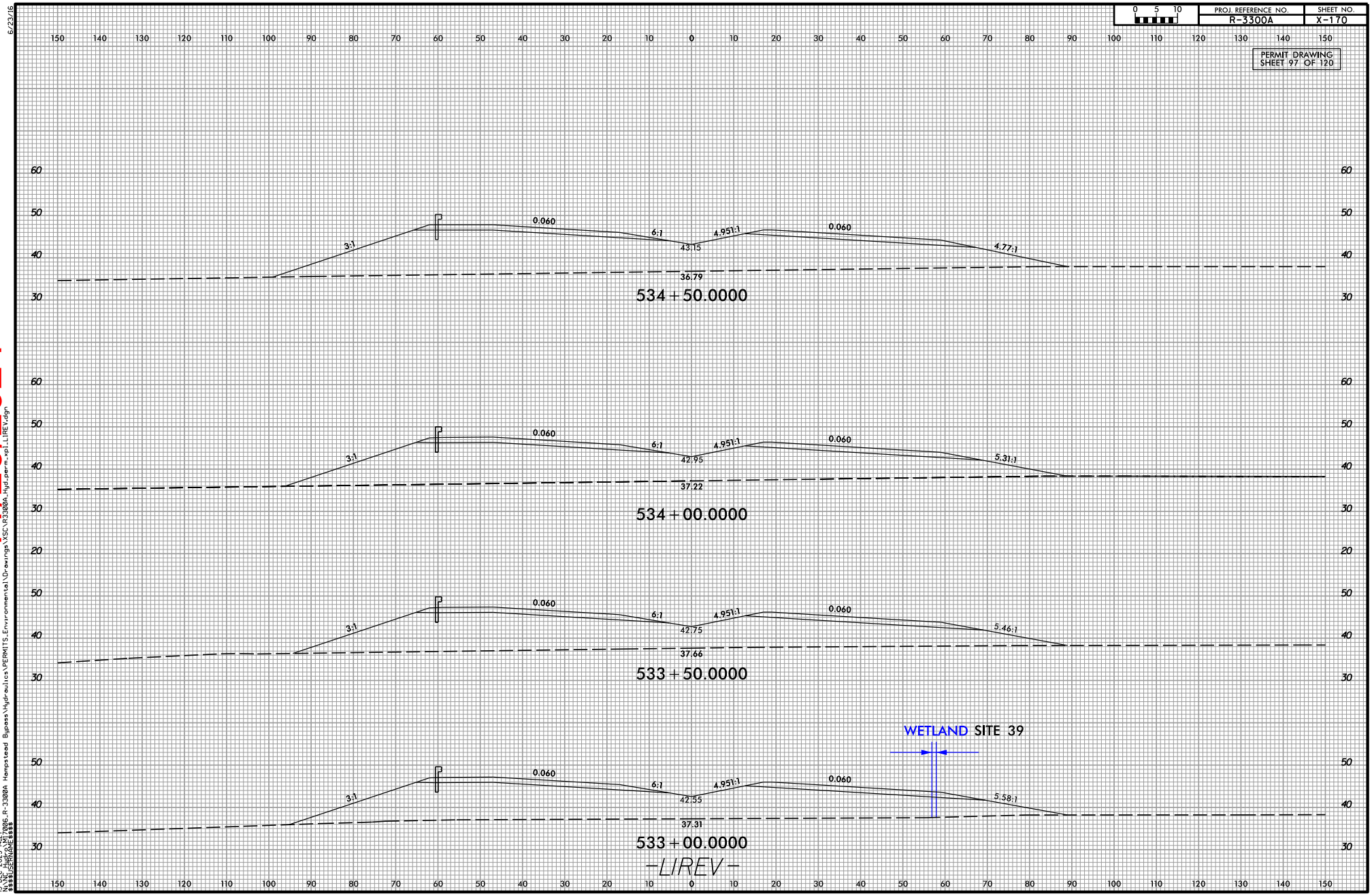
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.: R-3300A
SHEET NO.: 28
R/W SHEET NO.:
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 96 OF 120
SITE 38
SITE 39
SITE 40
SITE 41
SITE 42
SITE 43
MATCHLINE -L1- STA 529+00.00 SEE SHEET 27
MATCHLINE -L1- STA 542+00.00 SEE SHEET 29
WOVEN WIRE FENCE
PARKS FAMILY FORESTRY, LLC
NAD 83/NSRS 2007
Q10 = 10 cfs
V10 = 1.1 fps
WETLAND EXCAVATION
FILL IN WETLAND
MECHANIZED CLEARING (GAUGING)
GRAPHIC SCALE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA
SEE SHEET 52 & 53 FOR -L1- PROFILE




11/20/2024
6/23/16
12/15/2023
M ENGINEERING
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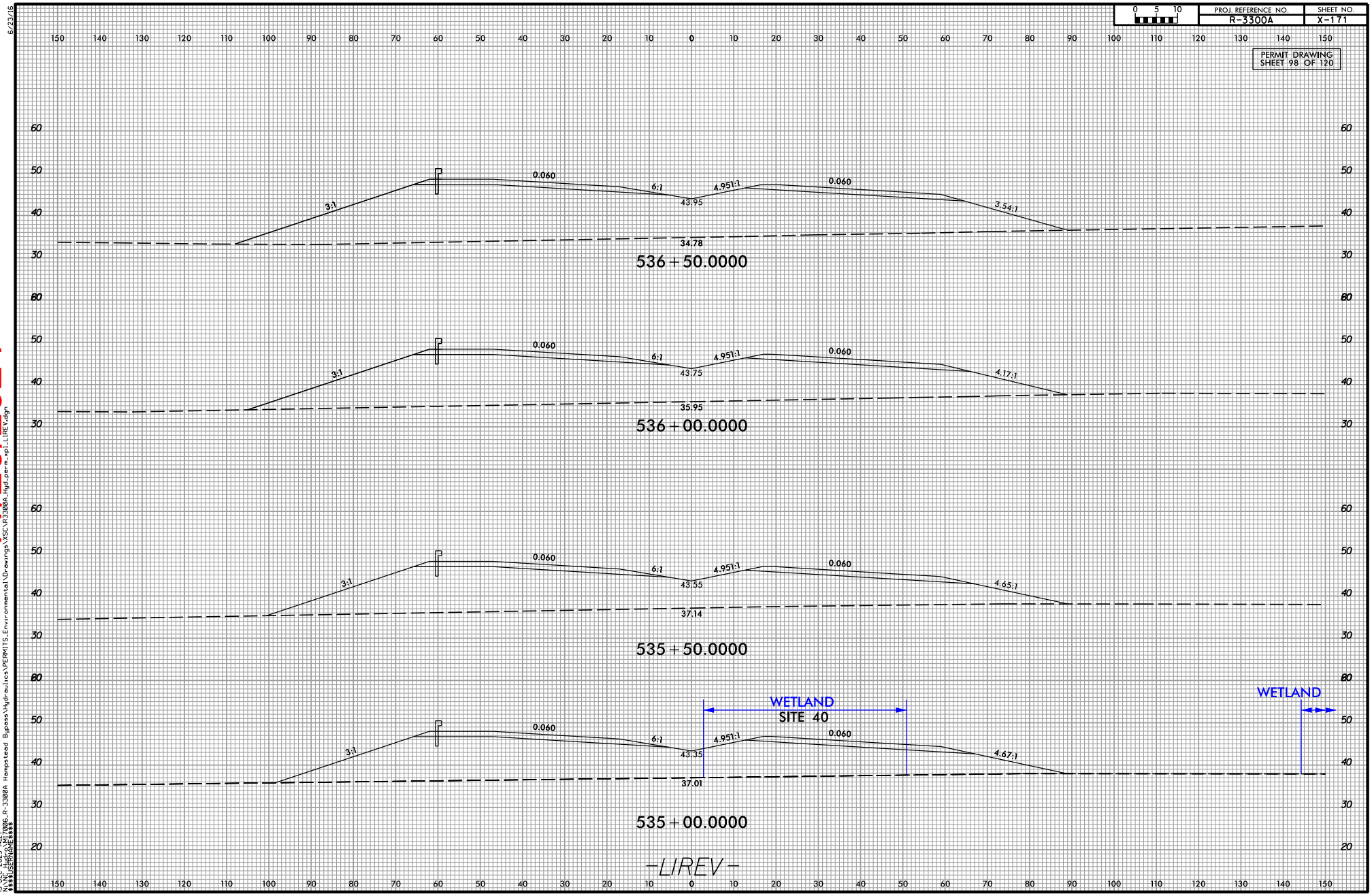
11/20/2024

| 0 5 10 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | R-3300A | X-171 |

PERMIT DRAWING
SHEET 98 OF 120




12/15/2023
MJ ENGINEERING
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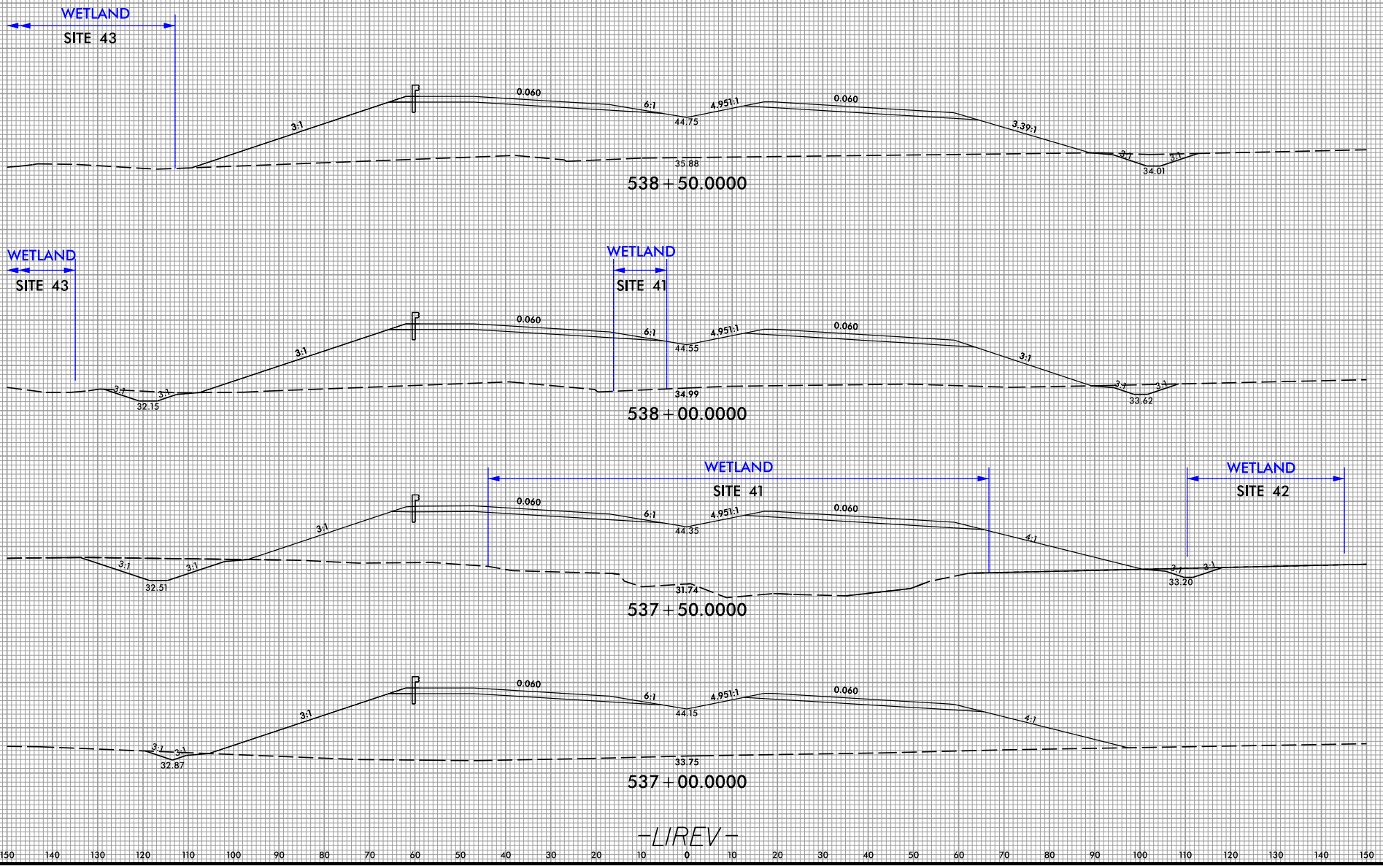
6/23/16

PERMIT DRAWING
SHEET 99 OF 120

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6/23/16
12/15/2023
MJ ENGINEERING
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15-DEC-2023 14:27
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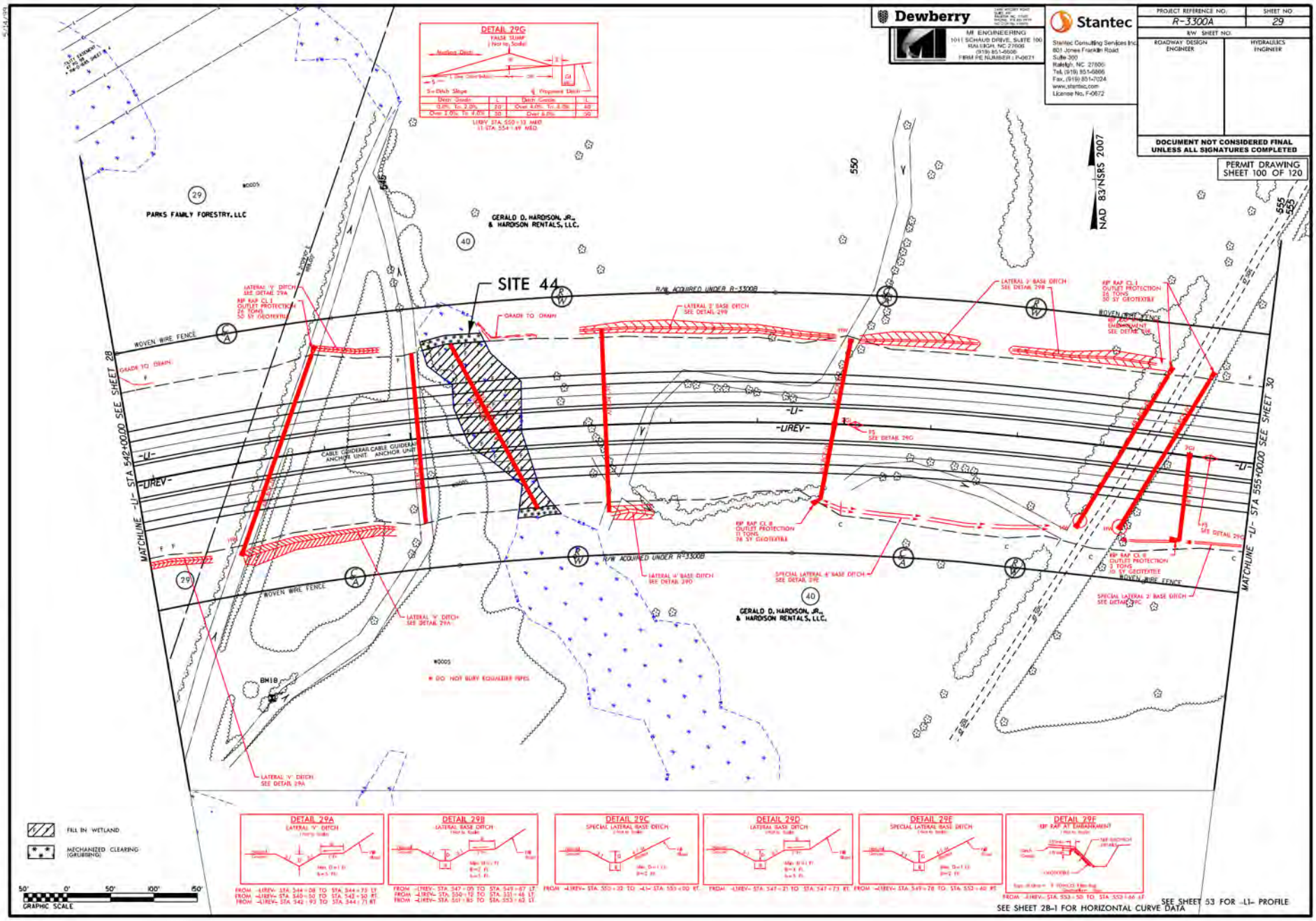
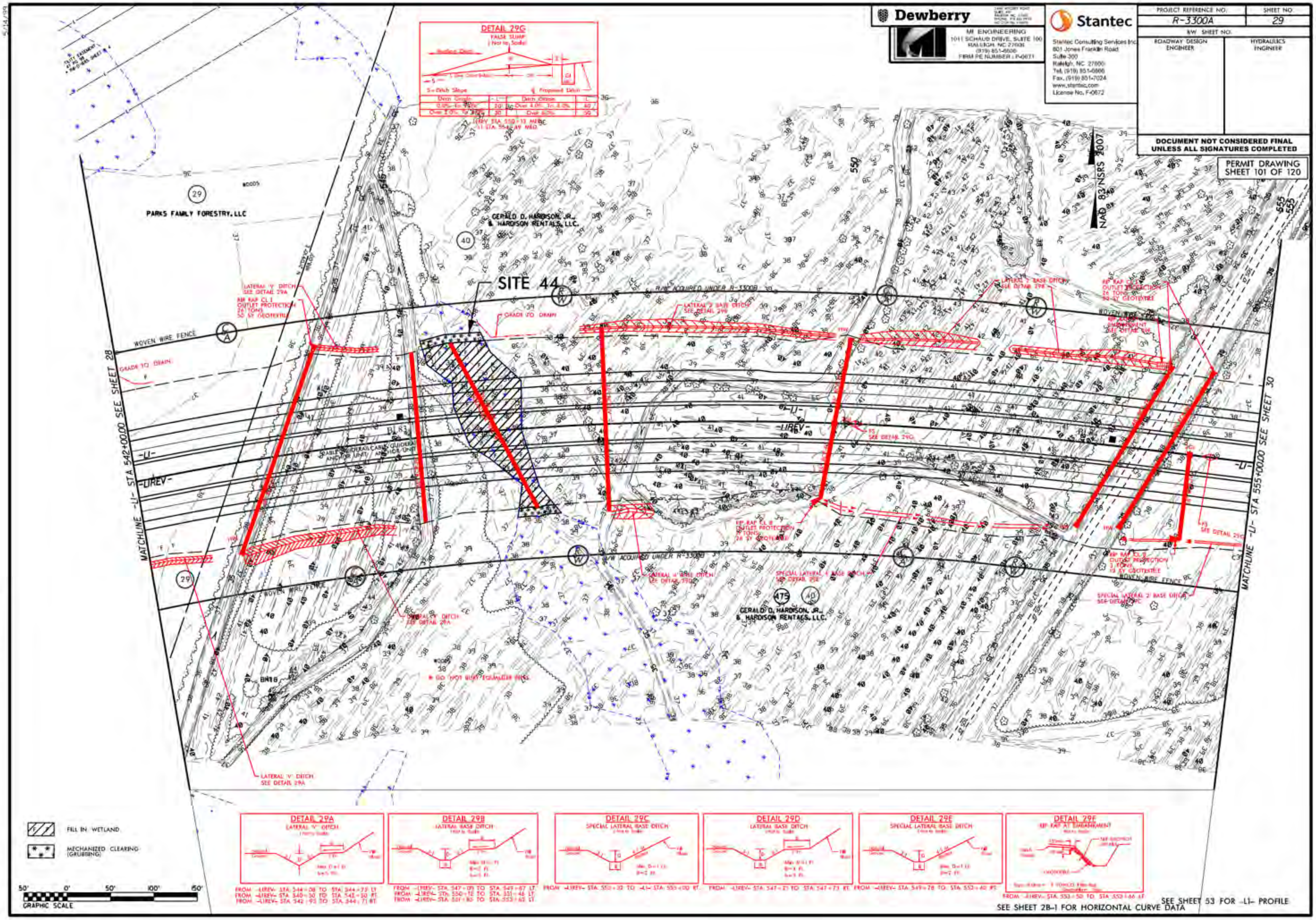
11/20/2024



Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
29
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 100 OF 120
NAD 83/NSRS 2007
DETAIL 29G
FALSE SUMP
LEREV STA. 550+13 MED
LI STA. 554+49 MED
PARKS FAMILY FORESTRY, LLC
GERALD D. HARDISON, JR., & HARDISON RENTALS, LLC.
SITE 44
R/W ACQUIRED UNDER R-3300B
WOVEN WIRE FENCE
GRADE TO DRAIN
LATERAL 'V' DITCH SEE DETAIL 29A
RIP RAP CL I OUTLET PROTECTION 26 TONS 50 SY GEOTEXTILE
LATERAL 2' BASE DITCH SEE DETAIL 29B
RIP RAP CL I OUTLET PROTECTION 26 TONS 50 SY GEOTEXTILE
RIP RAP CL II OUTLET PROTECTION 11 TONS 28 SY GEOTEXTILE
RIP RAP CL II OUTLET PROTECTION 3 TONS 10 SY GEOTEXTILE
LATERAL 4' BASE DITCH SEE DETAIL 29D
SPECIAL LATERAL 4' BASE DITCH SEE DETAIL 29E
SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 29C
CABLE GUIDERAIL ANCHOR UNIT
-LI-
-LIREV-
MATCHLINE -LI- STA 542+00.00 SEE SHEET 28
MATCHLINE -LI- STA 555+00.00 SEE SHEET 30
BM18
* DO NOT BURY EQUALIZER PIPES
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
GRAPHIC SCALE
DETAIL 29A LATERAL 'V' DITCH
DETAIL 29B LATERAL BASE DITCH
DETAIL 29C SPECIAL LATERAL BASE DITCH
DETAIL 29D LATERAL BASE DITCH
DETAIL 29E SPECIAL LATERAL BASE DITCH
DETAIL 29F RIP RAP AT EMBANKMENT
SEE SHEET 53 FOR -LI- PROFILE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA

11/20/2024



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FIRM PE NUMBER : P-0671
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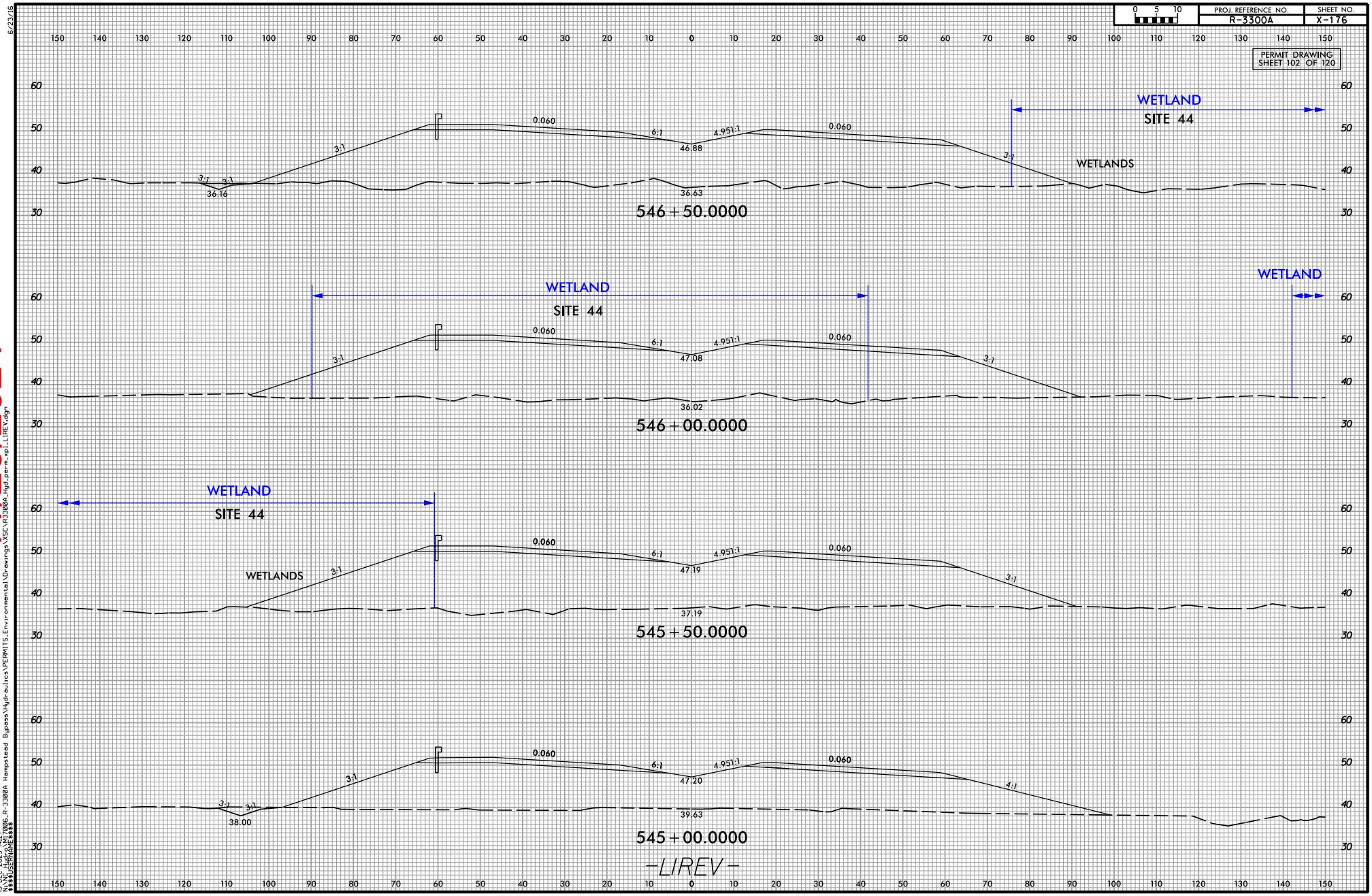
Suite 300
Raleigh, NC 27606
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
29
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 101 OF 120
NAD 83/NSRS 2007
SITE 44
PARKS FAMILY FORESTRY, LLC
GERALD D. HARDISON, JR., & HARDISON RENTALS, LLC.
WOVEN WIRE FENCE
GRADE TO DRAIN
LATERAL 'V' DITCH SEE DETAIL 29A
RIP RAP CL I OUTLET PROTECTION
LATERAL 2' BASE DITCH SEE DETAIL 29B
SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 29C
MATCHLINE -L- STA 542+00.00 SEE SHEET 28
MATCHLINE -L- STA 555+00.00 SEE SHEET 30
-L-
-LREV-
DETAIL 29G
FALSE SUMP
DETAIL 29A
LATERAL 'V' DITCH
DETAIL 29B
LATERAL BASE DITCH
DETAIL 29C
SPECIAL LATERAL BASE DITCH
DETAIL 29D
LATERAL BASE DITCH
DETAIL 29E
SPECIAL LATERAL BASE DITCH
DETAIL 29F
RIP RAP AT EMBANKMENT
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
GRAPHIC SCALE
SEE SHEET 53 FOR -L1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA




6/23/16

11/20/2024

12/15/2023
MJ ENGINEERING
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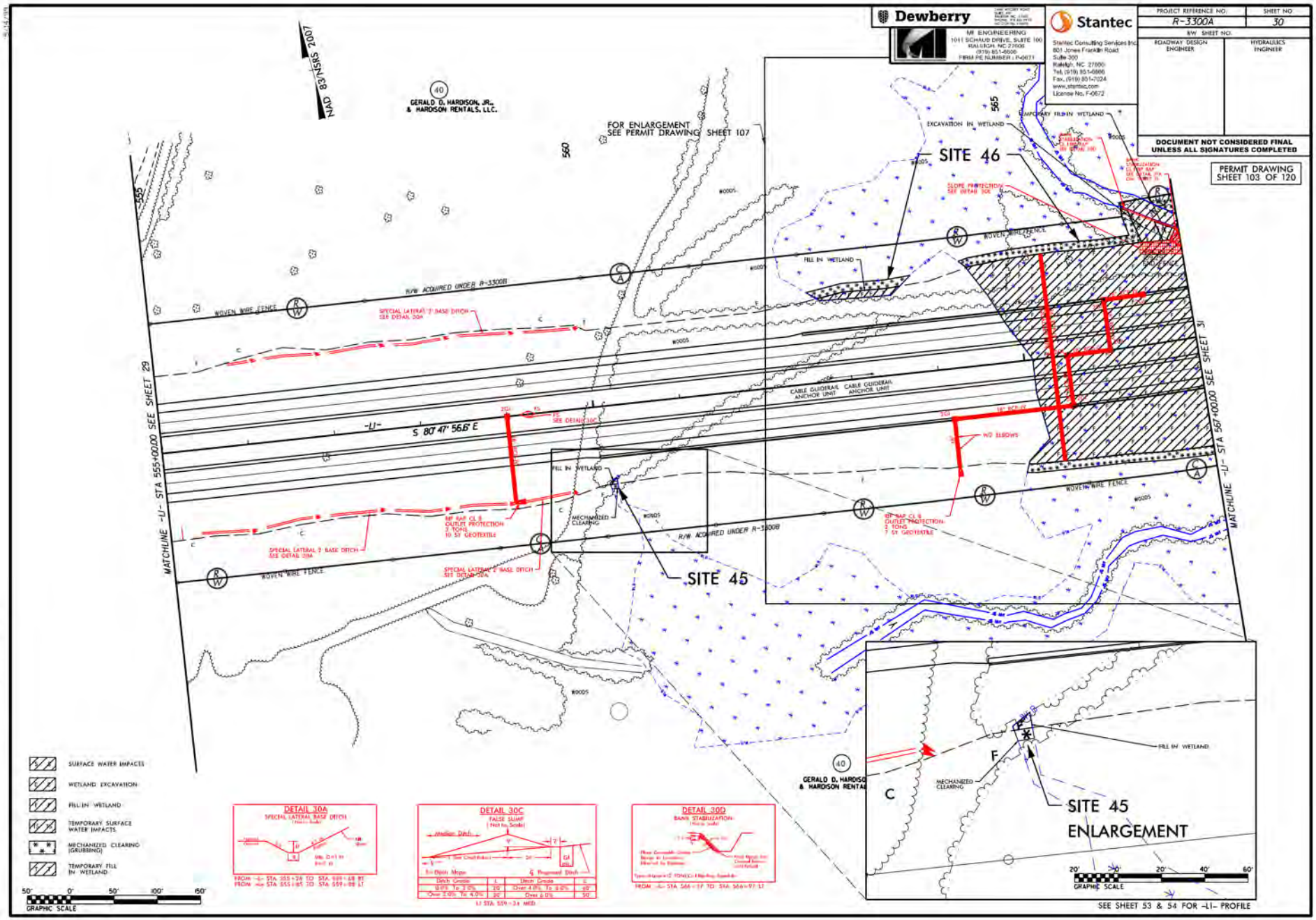
15-DEC-2023 14:27
N:\NC Hydro\M17006_R-3300A Hampstead Bypass\Hydraulics\PERMITS_Environmental\Drawings\NSC\R3300A_Hyd-perm_xpl_LIREV.dgn


Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
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(919) 851-6666
FIRM PE NUMBER: P-0671
Stantec
Stantec Consulting Services Inc.
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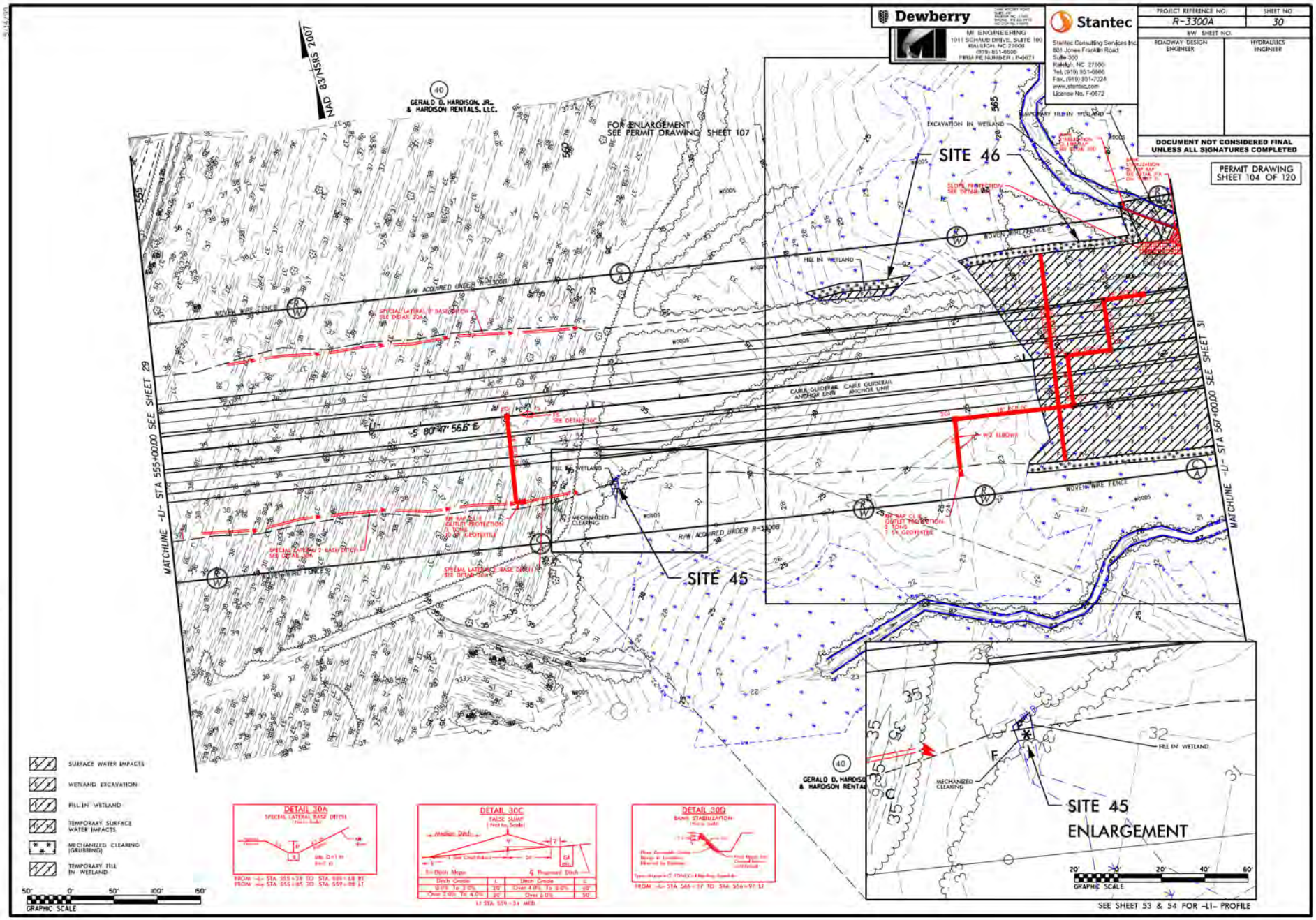
Fax, (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO: R-3300A
SHEET NO: 30
R/W SHEET NO:
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 103 OF 120
NAD 83/NSRS 2007
GERALD D. HARDISON, JR., & HARDISON RENTALS, LLC.
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 107
SITE 46
SITE 45
SITE 45 ENLARGEMENT
MATCHLINE -U- STA 555+00.00 SEE SHEET 29
MATCHLINE -U- STA 567+00.00 SEE SHEET 31
-U-
S 80° 47' 56.6" E
R/W ACQUIRED UNDER R-3300B
WOVEN WIRE FENCE
FILL IN WETLAND
EXCAVATION IN WETLAND
TEMPORARY FILL IN WETLAND
MECHANIZED CLEARING
CABLE GUIDERAIL ANCHOR UNIT
SLOPE PROTECTION SEE DETAIL 30B
SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 30A
SEE DETAIL 30C
W/2 ELBOWS
WOODS
555
560
565
SURFACE WATER IMPACTS
WETLAND EXCAVATION
FILL IN WETLAND
TEMPORARY SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
TEMPORARY FILL IN WETLAND
GRAPHIC SCALE
DETAIL 30A
SPECIAL LATERAL BASE DITCH
DETAIL 30C
FALSE SUMP
DETAIL 30D
BANK STABILIZATION
SEE SHEET 53 & 54 FOR -LI- PROFILE

11/20/2024

11/20/2024



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MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
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(919) 851-6666
FIRM PE NUMBER: F-0671
Stantec
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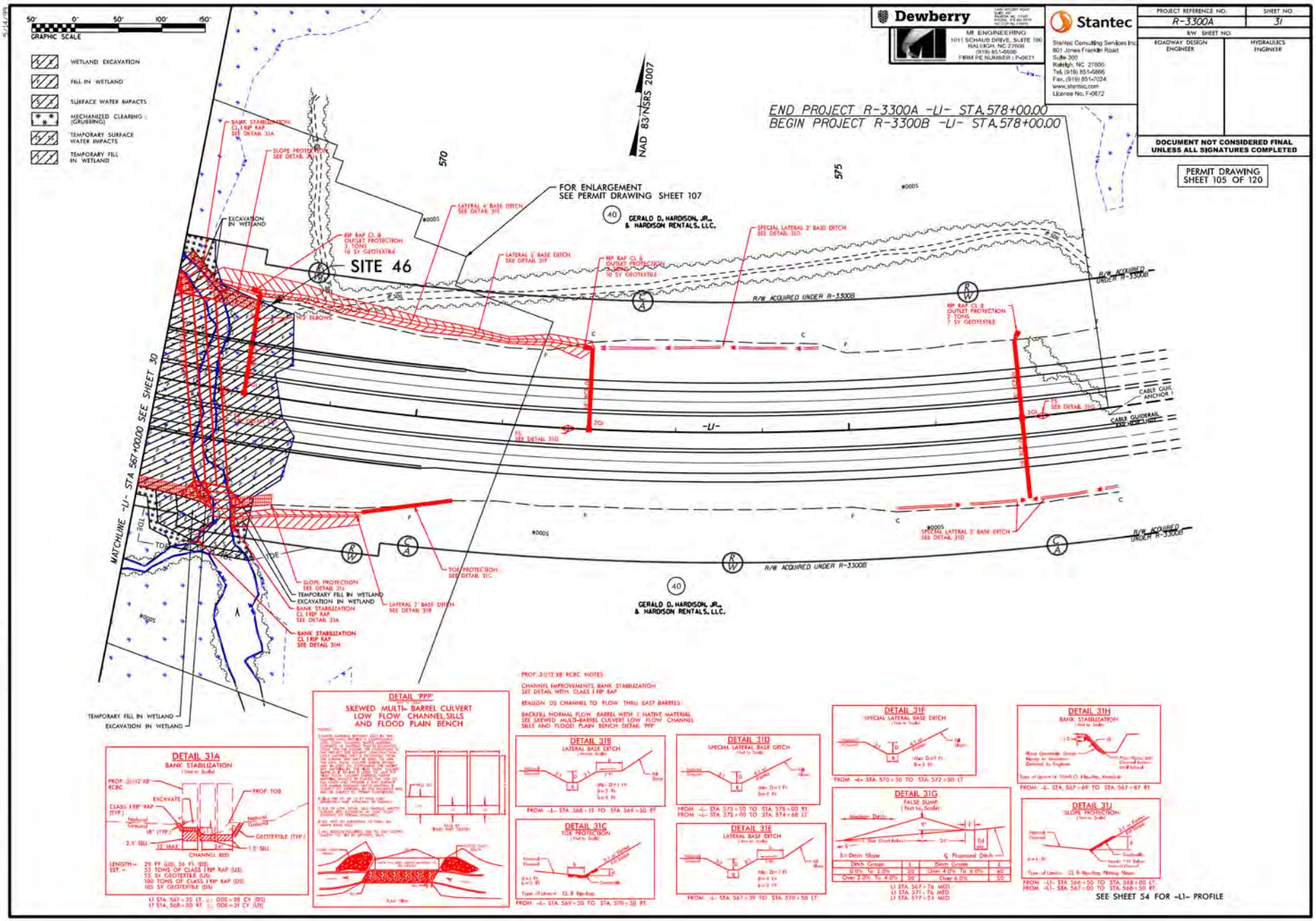
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
30
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 104 OF 120
NAD 83/NSRS 2007
GERALD D. HARDISON, JR., & HARDISON RENTALS, LLC.
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 107
SITE 46
SITE 45
SITE 45 ENLARGEMENT
MATCHLINE -L1- STA 555+00.00 SEE SHEET 29
MATCHLINE -L1- STA 567+00.00 SEE SHEET 31
EXCAVATION IN WETLAND
FILL IN WETLAND
WOVEN WIRE FENCE
R/W ACQUIRED UNDER R-3300B
CABLE GUIDERAIL ANCHOR UNIT
MECHANIZED CLEARING
SURFACE WATER IMPACTS
WETLAND EXCAVATION
FILL IN WETLAND
TEMPORARY SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
TEMPORARY FILL IN WETLAND
GRAPHIC SCALE
DETAIL 30A
SPECIAL LATERAL BASE DITCH
DETAIL 30C
FALSE SUMP
DETAIL 30D
BANK STABILIZATION
SEE SHEET 53 & 54 FOR -L1- PROFILE

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MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671

Stantec
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801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
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Fax (919) 851-7024
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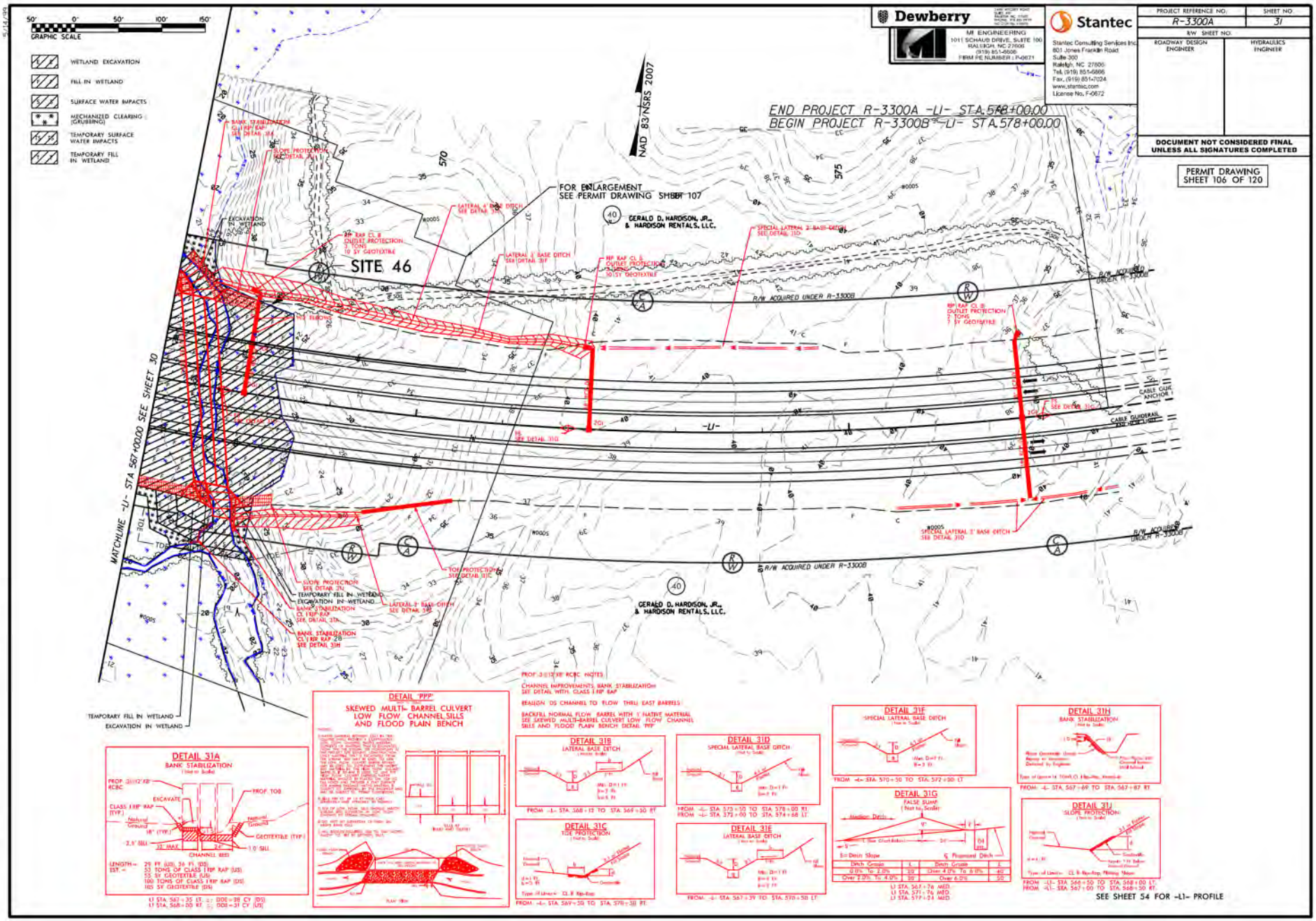
License No. F-0672

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-3300A | 31 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 105 OF 120

11/20/2024


GRAPHIC SCALE
50' 0' 50' 100' 150'
WETLAND EXCAVATION
FILL IN WETLAND
SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
TEMPORARY SURFACE WATER IMPACTS
TEMPORARY FILL IN WETLAND
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671
Stantec
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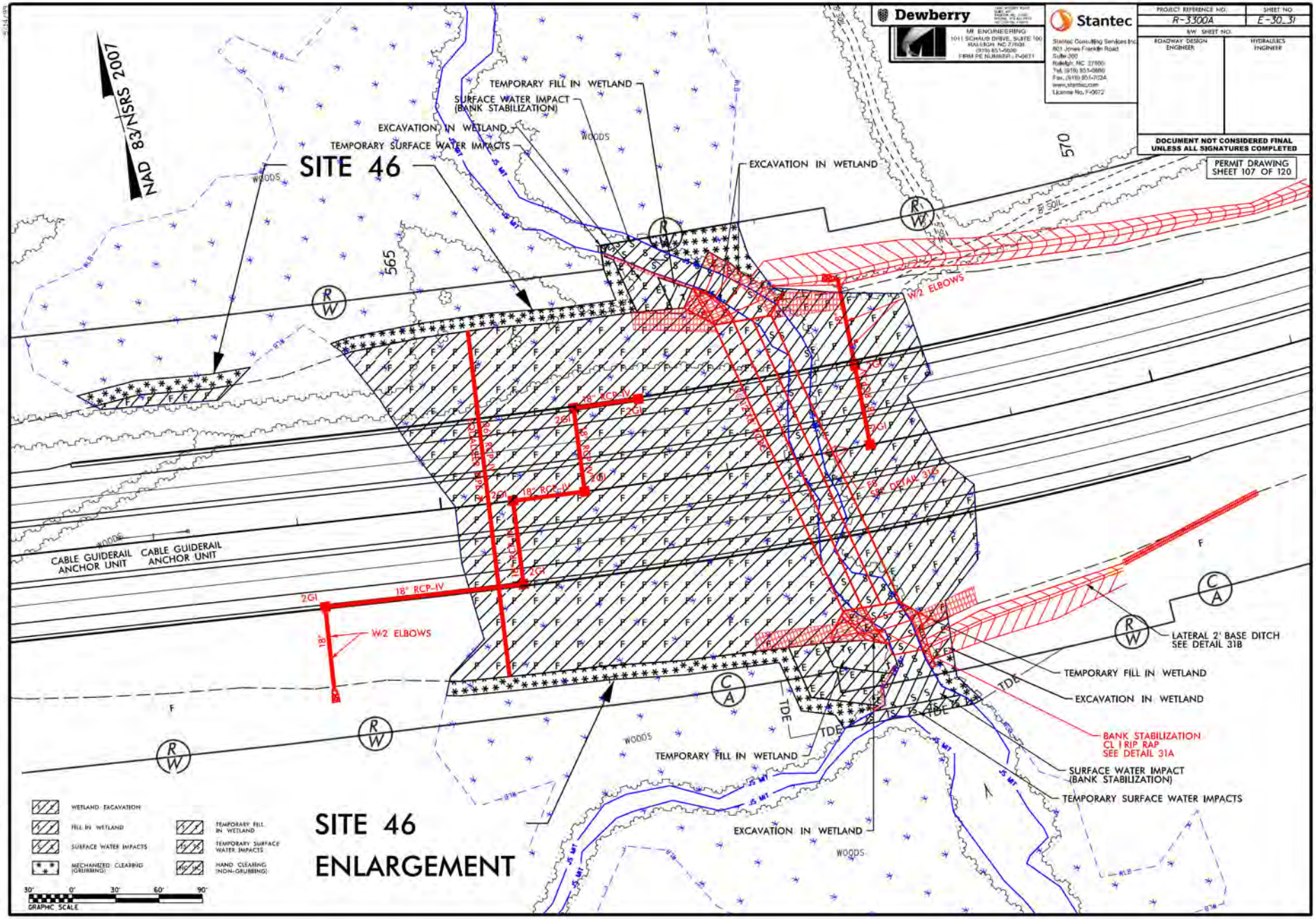
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.: R-3300A
SHEET NO.: 31
R/W SHEET NO.:
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 106 OF 120
NAD 83/NSRS 2007
END PROJECT R-3300A -L1- STA 578+00.00
BEGIN PROJECT R-3300B -L1- STA 578+00.00
FOR ENLARGEMENT SEE PERMIT DRAWING SHEET 107
SITE 46
MATCHLINE -L1- STA 567+00.00 SEE SHEET 30
GERALD D. HARDISON, JR., & HARDISON RENTALS, LLC.
R/W ACQUIRED UNDER R-3300B
TEMPORARY FILL IN WETLAND
EXCAVATION IN WETLAND
DETAIL 31A
BANK STABILIZATION
DETAIL "PPP"
SKEWED MULTI- BARREL CULVERT LOW FLOW CHANNEL SILLS AND FLOOD PLAIN BENCH
DETAIL 31B
LATERAL BASE DITCH
DETAIL 31C
TOE PROTECTION
DETAIL 31D
SPECIAL LATERAL BASE DITCH
DETAIL 31E
LATERAL BASE DITCH
DETAIL 31F
SPECIAL LATERAL BASE DITCH
DETAIL 31G
FALSE SUMP
DETAIL 31H
BANK STABILIZATION
DETAIL 31J
SLOPE PROTECTION
SEE SHEET 54 FOR -L1- PROFILE

11/20/2024

11/20/2024


Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-9500
FIRM PE NUMBER - P-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6860
Fax. (919) 851-7024
www.stantec.com
License No. P-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
E-30.31
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING
SHEET 107 OF 120
NAD 83/NSRS 2007
SITE 46
TEMPORARY FILL IN WETLAND
SURFACE WATER IMPACT (BANK STABILIZATION)
EXCAVATION IN WETLAND
TEMPORARY SURFACE WATER IMPACTS
EXCAVATION IN WETLAND
WOODS
565
570
W2 ELBOWS
CABLE GUIDERAIL ANCHOR UNIT
CABLE GUIDERAIL ANCHOR UNIT
18" RCP-IV
2GI
W2 ELBOWS
LATERAL 2' BASE DITCH SEE DETAIL 31B
TEMPORARY FILL IN WETLAND
EXCAVATION IN WETLAND
BANK STABILIZATION CL I RIP RAP SEE DETAIL 31A
SURFACE WATER IMPACT (BANK STABILIZATION)
TEMPORARY SURFACE WATER IMPACTS
TEMPORARY FILL IN WETLAND
EXCAVATION IN WETLAND
WETLAND EXCAVATION
FILL IN WETLAND
SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
TEMPORARY FILL IN WETLAND
TEMPORARY SURFACE WATER IMPACTS
HAND CLEARING (NON-GRUBBING)
GRAPHIC SCALE
SITE 46
ENLARGEMENT

MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6646
FIRM PE NUMBER: P-0671

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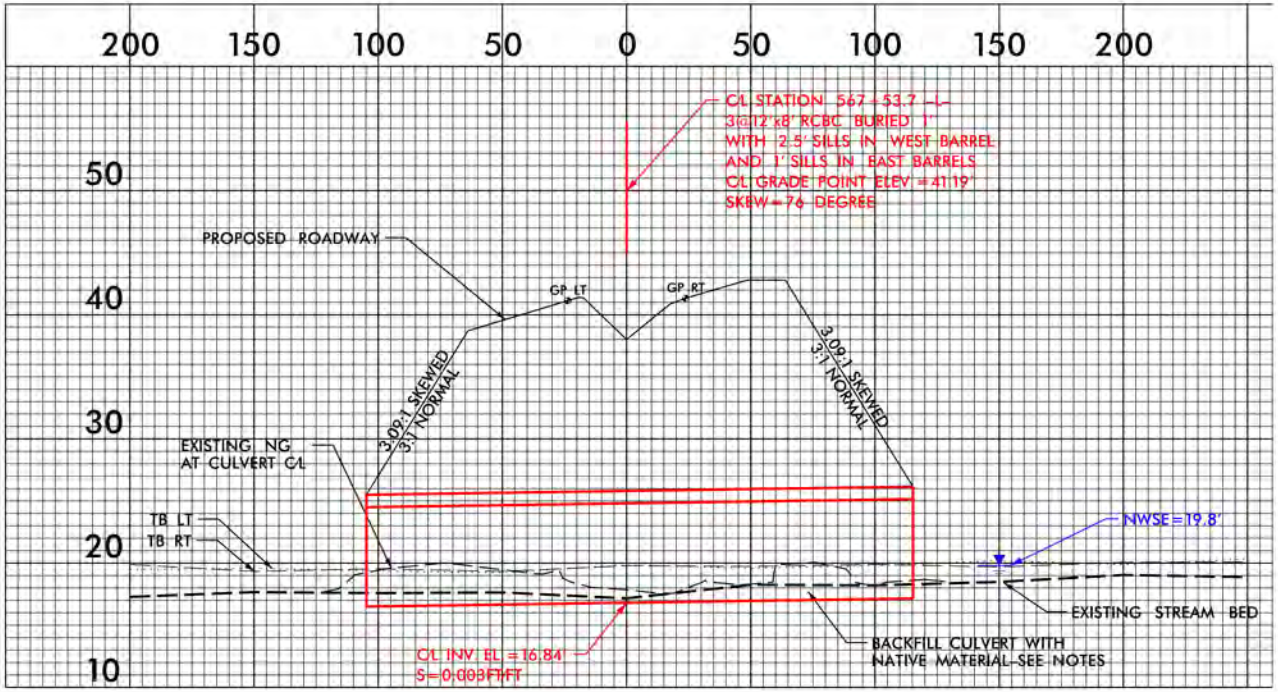
License No. F-0672

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-3300A | |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 108 OF 120

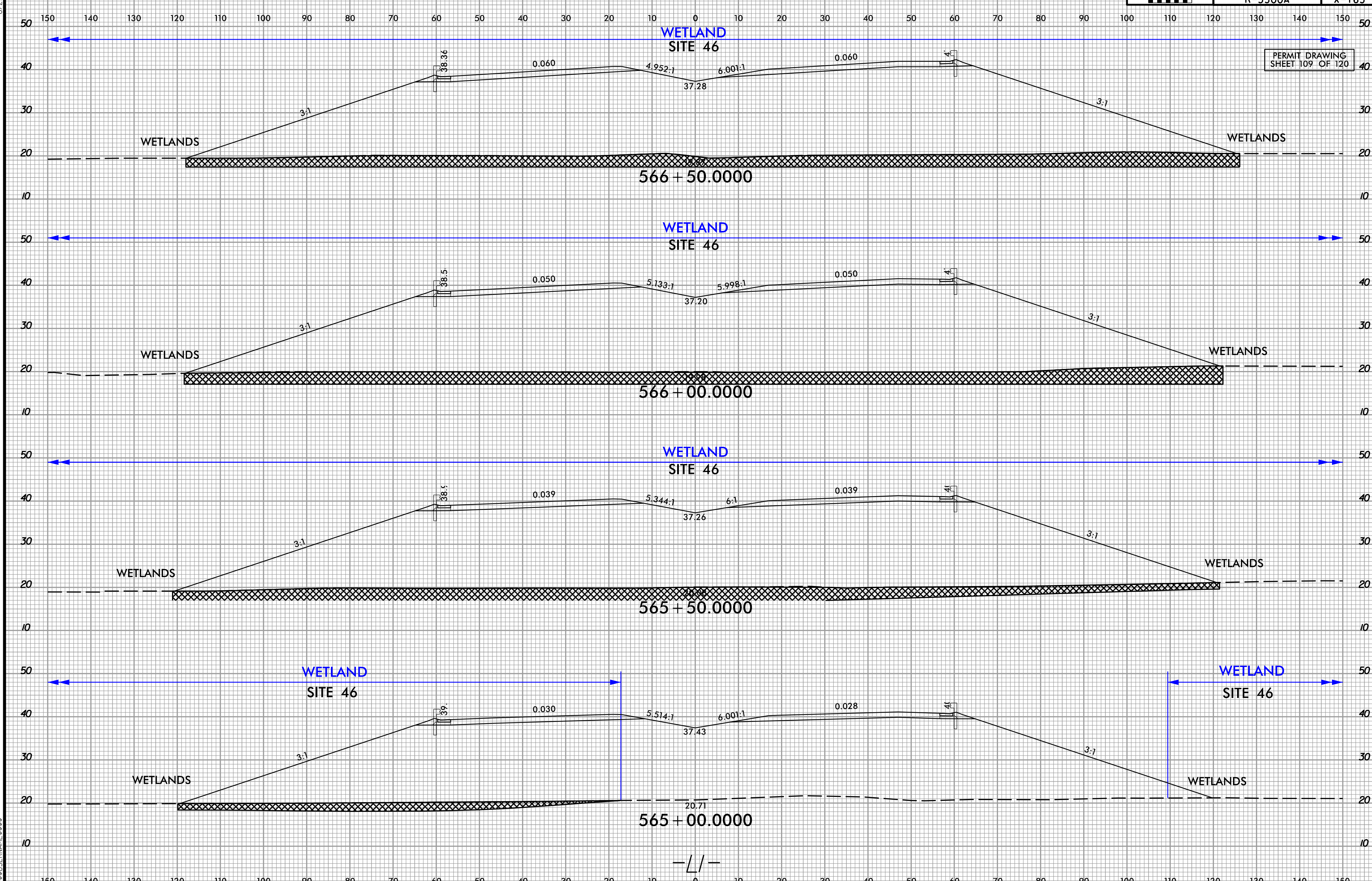
# SITE 46




11/20/2024

PROJ. REFERENCE NO. R-3300A | SHEET NO. X-165

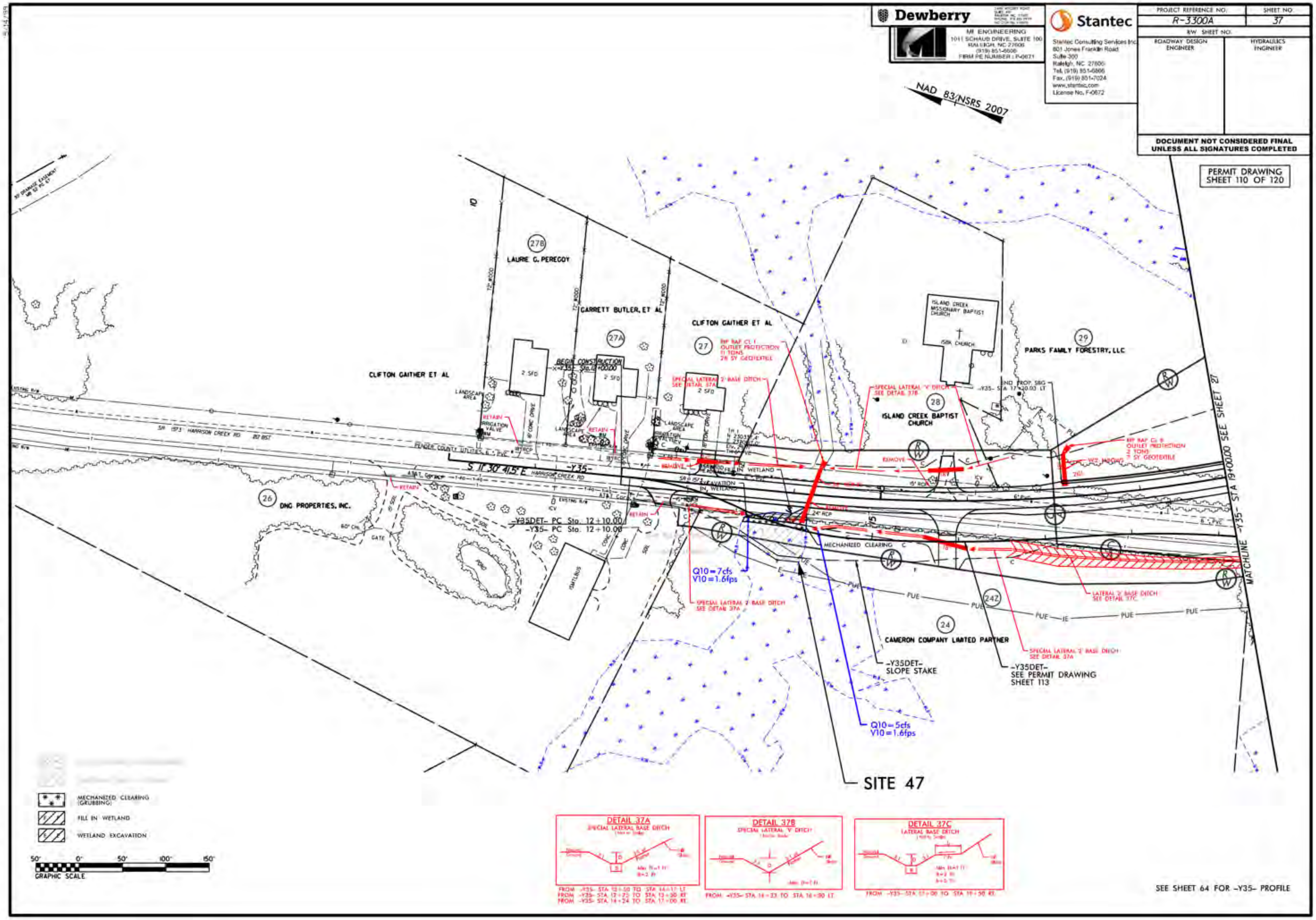
PERMIT DRAWING SHEET 109 OF 120




11/20/2024

12/15/2023
MI ENGINEERING
N:\NC Hydro\M17006_R-3300A Hampstead Bypass\Hydraulics\PERMITS_Environmental\Drawings\XSC\R3300A_Hyd_perm_xpl_L1.dgn
15-DEC-2023 14:29

6/23/16


PROJECT REFERENCE NO.
R-3300A
SHEET NO.
37
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 110 OF 120
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
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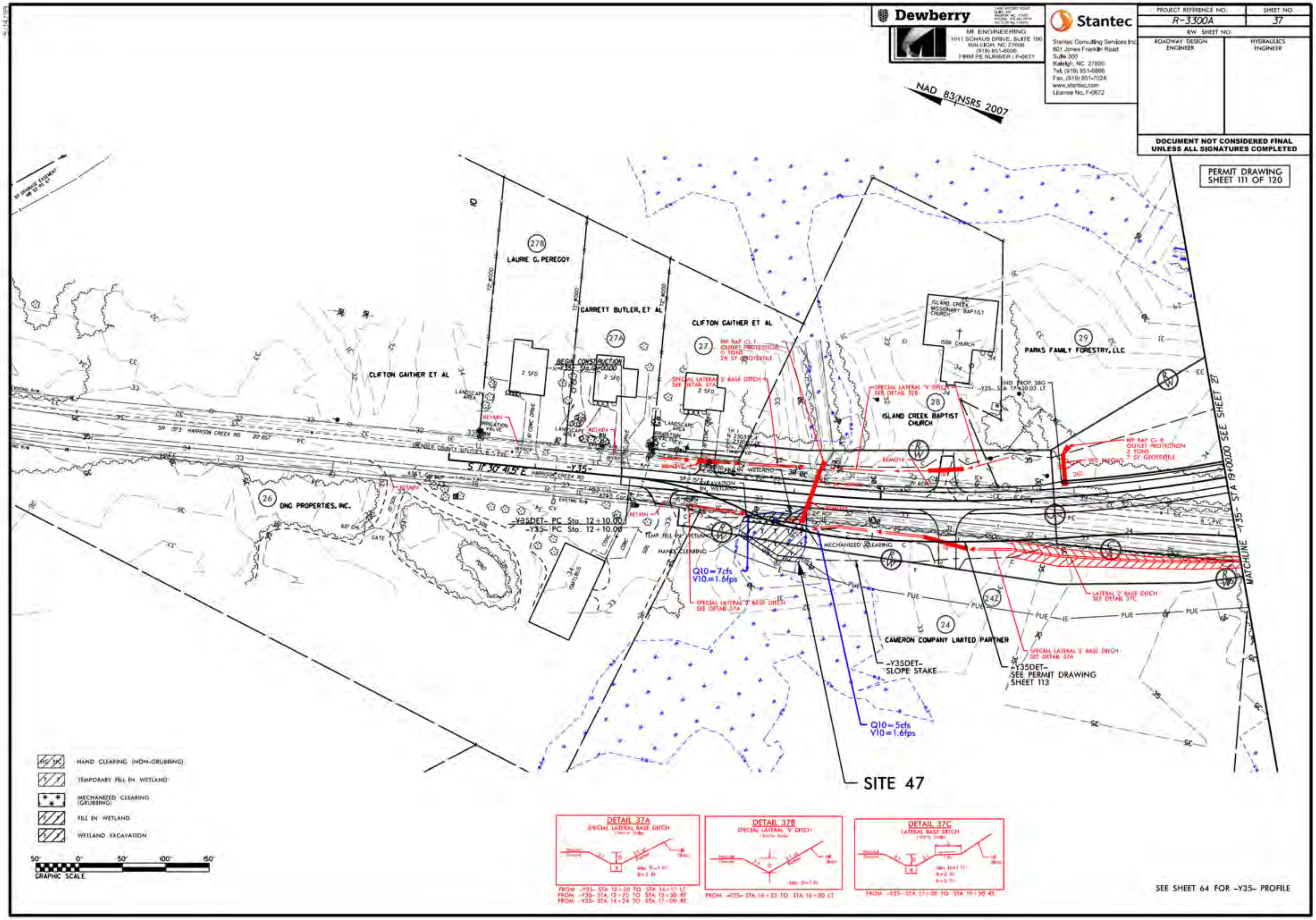
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
NAD 83/NSRS 2007
LAURE C. PEREGOY
GARRETT BUTLER, ET AL
CLIFTON GAITHER ET AL
ISLAND CREEK MISSIONARY BAPTIST CHURCH
PARKS FAMILY FORESTRY, LLC
ISLAND CREEK BAPTIST CHURCH
DNC PROPERTIES, INC.
CAMERON COMPANY LIMITED PARTNER
BEGIN CONSTRUCTION
S 11°30'41.5" E
-Y35-
-Y35DET- PC Sta. 12+10.00
-Y35- PC Sta. 12+10.00
RIP RAP CL I OUTLET PROTECTION 11 TONS 28 SY GEOTEXTILE
SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 37A
SPECIAL LATERAL 'V' DITCH SEE DETAIL 37B
LATERAL 2' BASE DITCH SEE DETAIL 37C
MECHANIZED CLEARING
Q10=7cfs
V10=1.6fps
Q10=5cfs
V10=1.6fps
-Y35DET- SLOPE STAKE
-Y35DET- SEE PERMIT DRAWING SHEET 113
SITE 47
MATCHLINE -Y35- STA 19+00.00 SEE SHEET 27
MECHANIZED CLEARING (GRUBBING)
FILL IN WETLAND
WETLAND EXCAVATION
GRAPHIC SCALE
DETAIL 37A
SPECIAL LATERAL BASE DITCH
DETAIL 37B
SPECIAL LATERAL 'V' DITCH
DETAIL 37C
LATERAL BASE DITCH
SEE SHEET 64 FOR -Y35- PROFILE

11/20/2024

11/20/2024


Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
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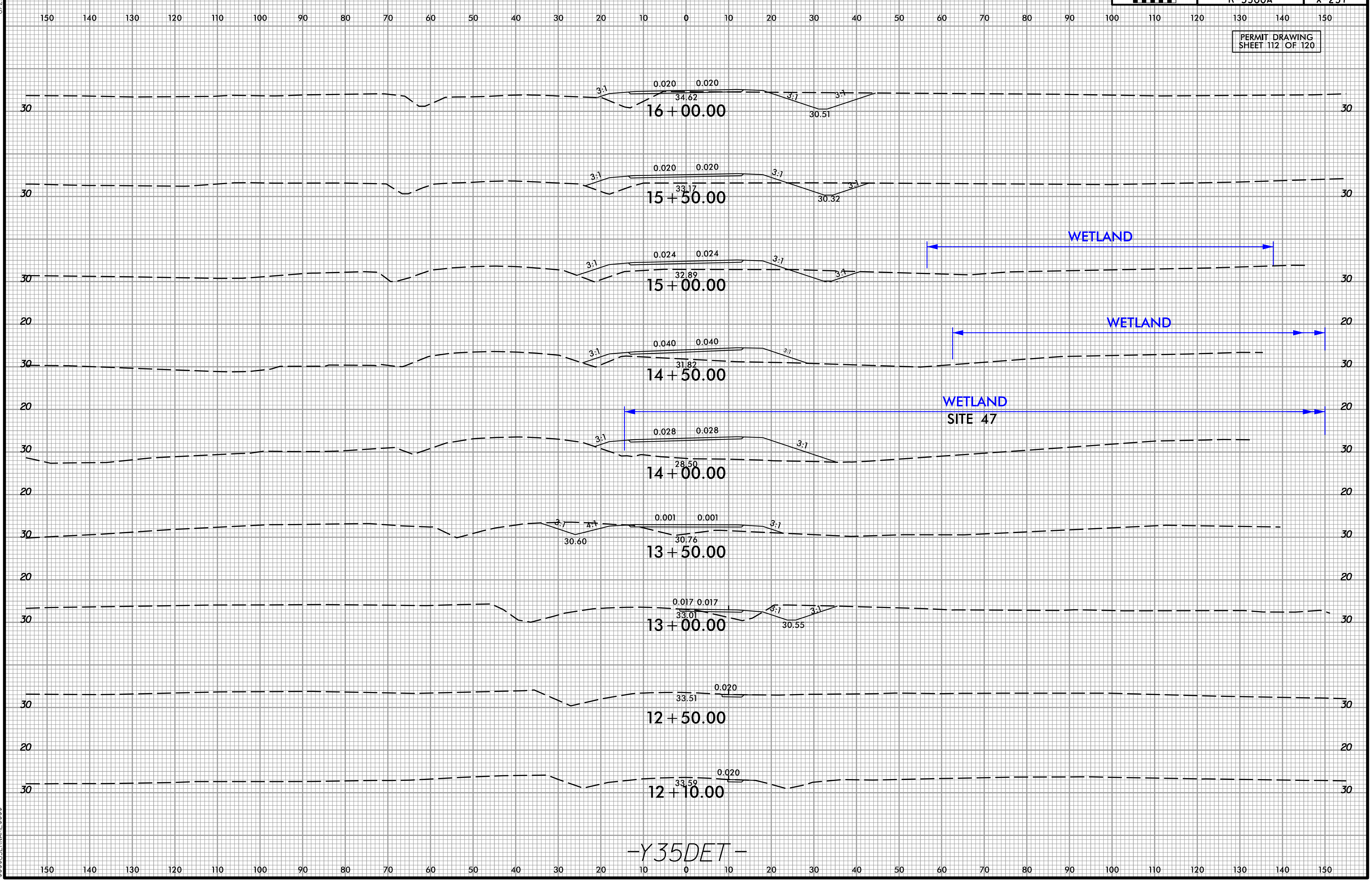
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
37
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 111 OF 120
NAD 83/NSRS 2007
LAURE C. PEREGOY
GARRETT BUTLER, ET AL
CLIFTON GAITHER ET AL
ISLAND CREEK MISSIONARY BAPTIST CHURCH
ISLAND CREEK BAPTIST CHURCH
PARKS FAMILY FORESTRY, LLC
DNC PROPERTIES, INC.
CAMERON COMPANY LIMITED PARTNER
BEGIN CONSTRUCTION
-Y35DET- PC Sta. 12+10.00
-Y35- PC Sta. 12+10.00
S 11°30' 41.5" E
MECHANIZED CLEARING
HAND CLEARING
Q10=7cfs
V10=1.6fps
Q10=5cfs
V10=1.6fps
SPECIAL LATERAL 'Z' BASE DITCH SEE DETAIL 37A
SPECIAL LATERAL 'V' DITCH SEE DETAIL 37B
LATERAL 'Z' BASE DITCH SEE DETAIL 37C
-Y35DET- SLOPE STAKE
-Y35DET- SEE PERMIT DRAWING SHEET 113
MATCHLINE -Y35- STA 19+00.00 SEE SHEET 27
SITE 47
HAND CLEARING (NON-GRUBBING)
TEMPORARY FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
FILL IN WETLAND
WETLAND EXCAVATION
GRAPHIC SCALE
DETAIL 37A
SPECIAL LATERAL BASE DITCH
FROM -Y35- STA 12+50 TO STA 14+17 LT
FROM -Y35- STA 12+75 TO STA 13+50 RT
FROM -Y35- STA 14+24 TO STA 17+00 RT
DETAIL 37B
SPECIAL LATERAL 'V' DITCH
FROM -Y35- STA 16+23 TO STA 16+90 LT
DETAIL 37C
LATERAL BASE DITCH
FROM -Y35- STA 17+00 TO STA 19+50 RT
SEE SHEET 64 FOR -Y35- PROFILE

| PROJ. REFERENCE NO. | SHEET NO. |
| --- | --- |
| R-3300A | X-257 |

PERMIT DRAWING
SHEET 112 OF 120

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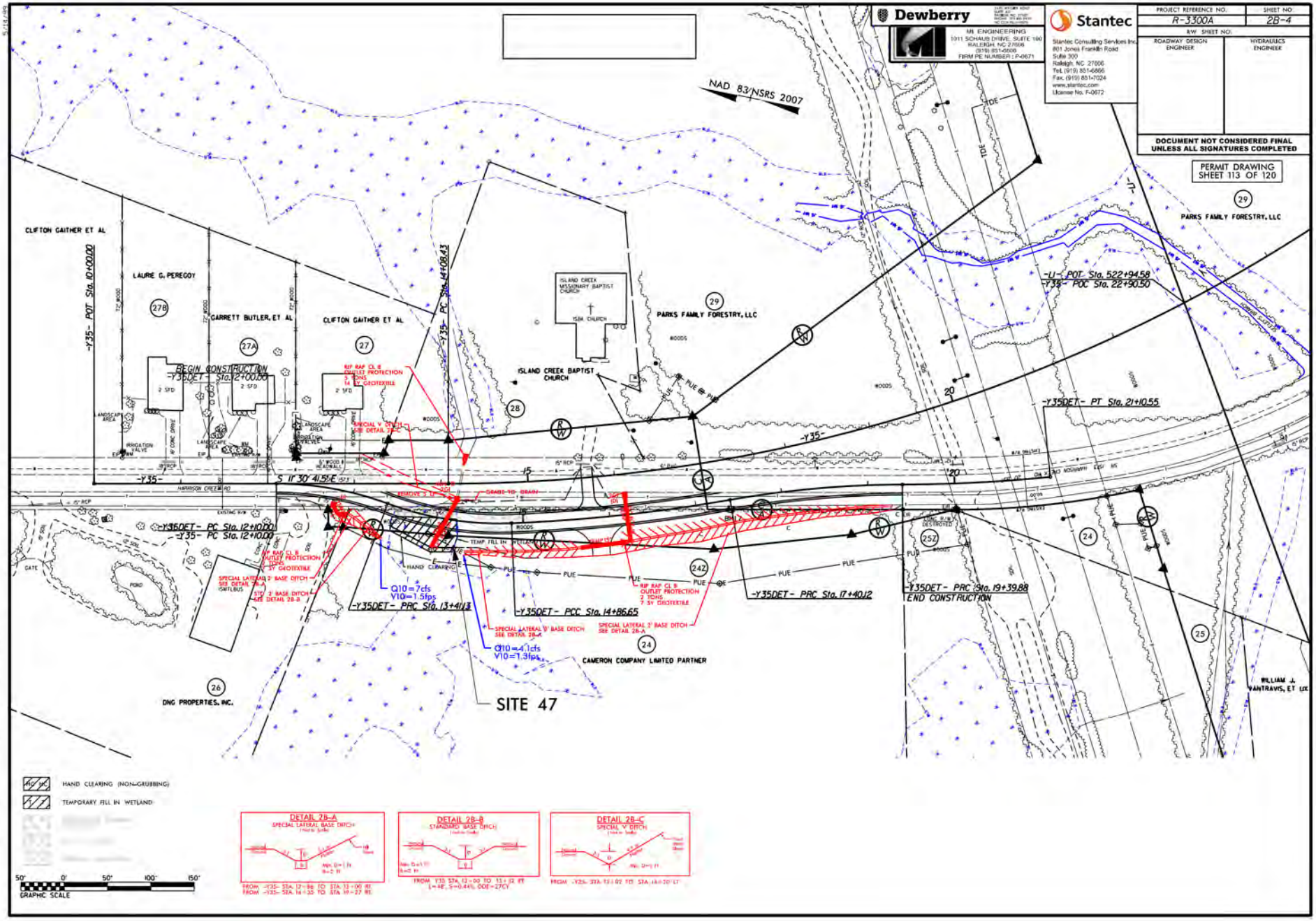
Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-0600
FIRM PE NUMBER: P-0671
Stantec
Stantec Consulting Services Inc.
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Suite 300
Raleigh, NC 27606
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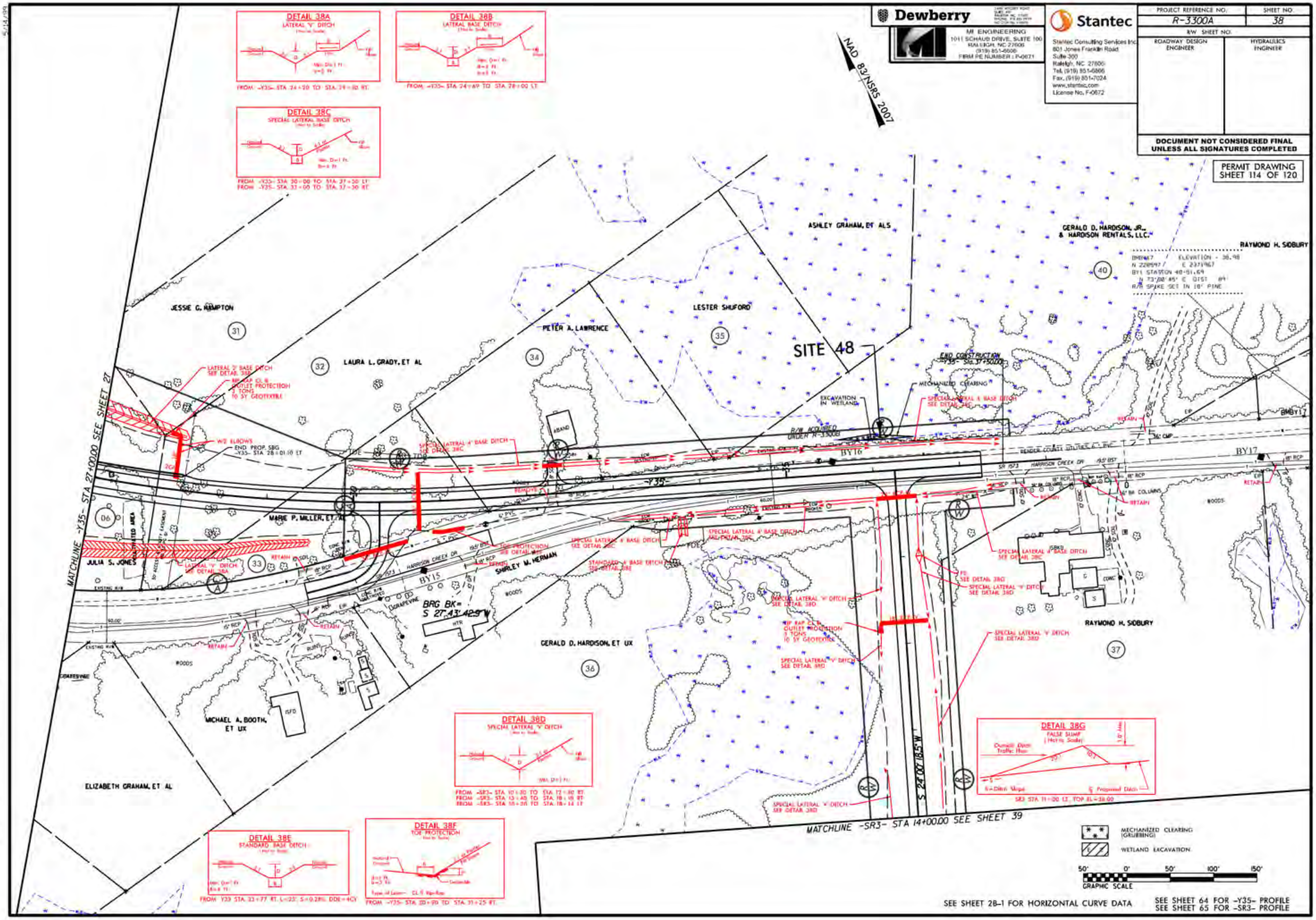
Fax. (919) 851-7024
www.stantec.com
License No. F-0672
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
2B-4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING
SHEET 113 OF 120
NAD 83/NSRS 2007
CLIFTON GAITHER ET AL
LAURE G. PEREGOY
GARRETT BUTLER, ET AL
CLIFTON GAITHER ET AL
ISLAND CREEK MISSIONARY BAPTIST CHURCH
ISLAND CREEK BAPTIST CHURCH
PARKS FAMILY FORESTRY, LLC
PARKS FAMILY FORESTRY, LLC
DNG PROPERTIES, INC.
CAMERON COMPANY LIMITED PARTNER
WILLIAM J. VANTRAVIS, ET UX
-Y35- POT Sta. 10+00.00
-Y35- PC Sta. 14+08.43
-L- POT Sta. 522+94.58
-Y35- POC Sta. 22+90.50
BEGIN CONSTRUCTION
-Y35DET- Sta. 12+00.00
-Y35DET- PT Sta. 21+10.55
-Y35DET- PC Sta. 12+10.00
-Y35- PC Sta. 12+10.00
-Y35DET- PRC Sta. 13+41.13
-Y35DET- PCC Sta. 14+86.65
-Y35DET- PRC Sta. 17+40.12
-Y35DET- PRC Sta. 19+39.88
END CONSTRUCTION
SITE 47
Q10 = 7cfs
V10 = 1.5fps
Q10 = 4.1cfs
V10 = 1.3fps
S 11° 30' 41.5" E
HAND CLEARING (NON-GRUBBING)
TEMPORARY FILL IN WETLAND
DETAIL 2B-A
SPECIAL LATERAL BASE DITCH
DETAIL 2B-B
STANDARD BASE DITCH
DETAIL 2B-C
SPECIAL 'V' DITCH
GRAPHIC SCALE

11/20/2024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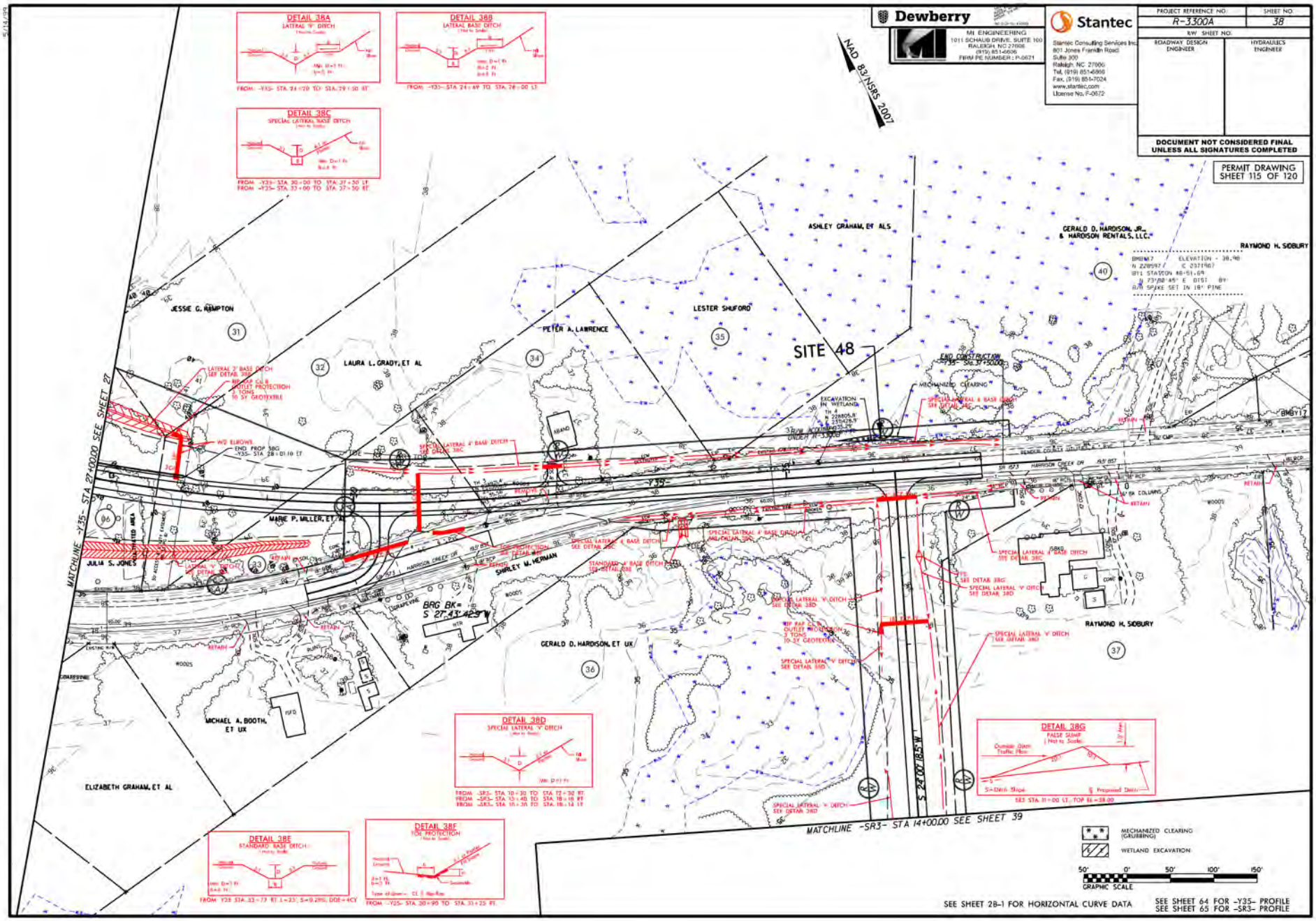
PROJECT REFERENCE NO.
R-3300A
SHEET NO.
38
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 114 OF 120
NAD 83/NSRS 2007
SITE 48
DETAIL 38A
LATERAL 'V' DITCH
FROM -Y35- STA 24+20 TO STA 29+30 RT
DETAIL 38B
LATERAL BASE DITCH
FROM -Y35- STA 24+69 TO STA 28+00 LT
DETAIL 38C
SPECIAL LATERAL BASE DITCH
DETAIL 38D
SPECIAL LATERAL 'V' DITCH
DETAIL 38E
STANDARD BASE DITCH
DETAIL 38F
TOE PROTECTION
DETAIL 38G
FALSE SUMP
JESSIE G. HAMPTON
LAURA L. GRADY, ET AL
PETER A. LAWRENCE
LESTER SHUFORD
ASHLEY GRAHAM, ET ALS
GERALD D. HARDISON, JR., & HARDISON RENTALS, LLC.
RAYMOND H. SIDBURY
MARIE P. MILLER, ET AL
JULIA S. JONES
SHIRLEY M. HERMAN
GERALD D. HARDISON, ET UX
MICHAEL A. BOOTH, ET UX
ELIZABETH GRAHAM, ET AL
BRG BK= S 27°43'42.9"W
MATCHLINE -Y35- STA 27+00.00 SEE SHEET 27
MATCHLINE -SR3- STA 14+00.00 SEE SHEET 39
S 24°07'18.5"W
MECHANIZED CLEARING (GRUBBING)
WETLAND EXCAVATION
GRAPHIC SCALE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA
SEE SHEET 64 FOR -Y35- PROFILE
SEE SHEET 65 FOR -SR3- PROFILE

11/20/2024

11/20/2024



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R-3300A
SHEET NO.
38
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING SHEET 115 OF 120
NAD 83/NSRS 2007
DETAIL 38A
LATERAL 'V' DITCH
DETAIL 38B
LATERAL BASE DITCH
DETAIL 38C
SPECIAL LATERAL BASE DITCH
DETAIL 38D
SPECIAL LATERAL 'V' DITCH
DETAIL 38E
STANDARD BASE DITCH
DETAIL 38F
TOE PROTECTION
DETAIL 38G
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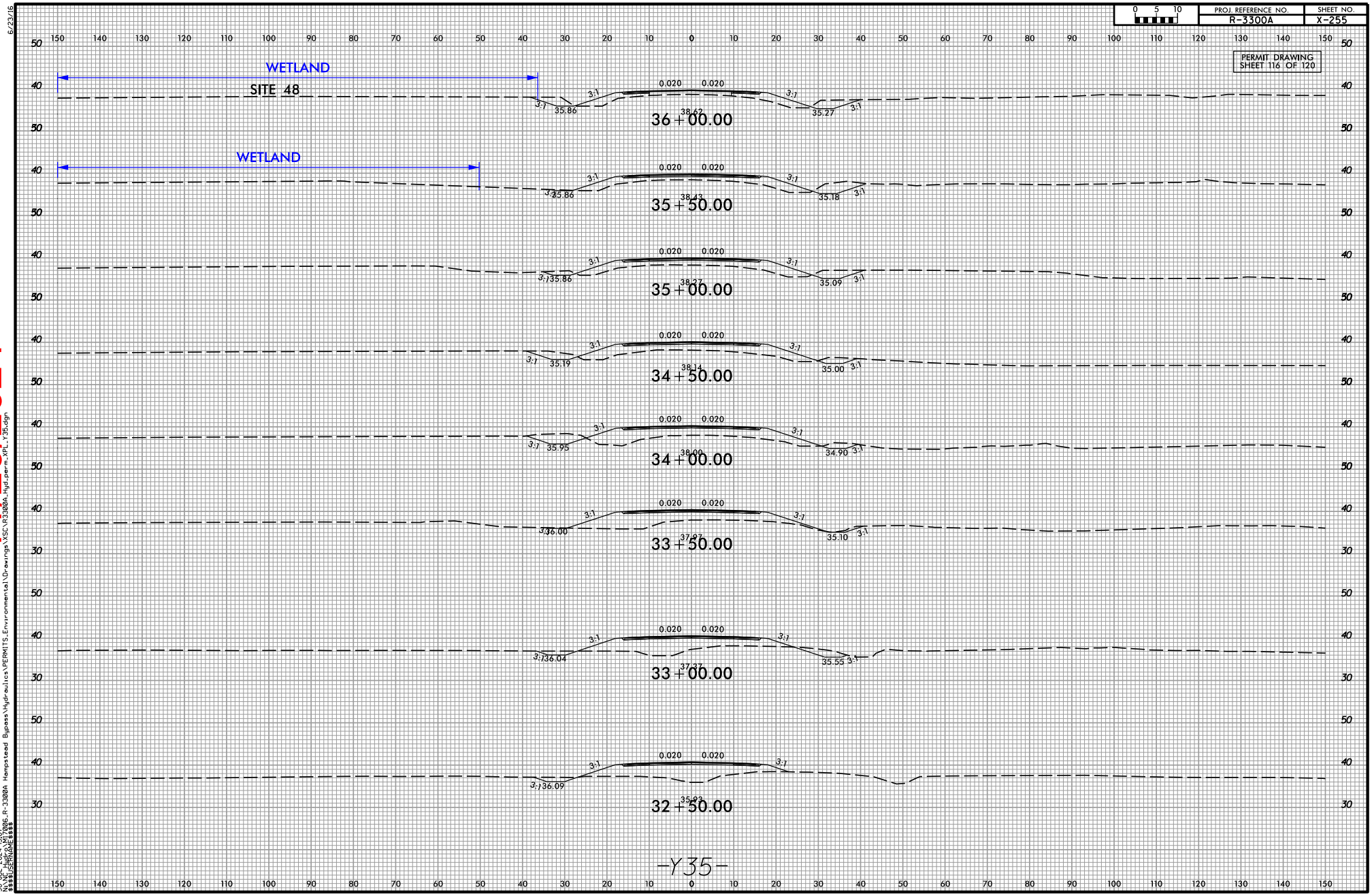
ELIZABETH GRAHAM, ET AL
MATCHLINE -Y35- STA 27+00.00 SEE SHEET 27
MATCHLINE -SR3- STA 14+00.00 SEE SHEET 39
S 24°00'18.5" W
BRG BK= S 27°43'42.9" W
MECHANIZED CLEARING (GRUBBING)
WETLAND EXCAVATION
GRAPHIC SCALE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA
SEE SHEET 64 FOR -Y35- PROFILE
SEE SHEET 65 FOR -SR3- PROFILE

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MicroStation V8i (SELECTseries 3)

## WETLAND AND SURACE WATER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | WETLAND IMPACTS: Permanent Fill In Wetlands (ac) | WETLAND IMPACTS: Temp. Fill In Wetlands (ac) | WETLAND IMPACTS: Excavation in Wetlands (ac) | WETLAND IMPACTS: Mechanized Clearing in Wetlands (ac) | WETLAND IMPACTS: Hand Clearing in Wetlands (ac) | SURFACE WATER IMPACTS: Permanent SW impacts (ac) | SURFACE WATER IMPACTS: Temp. SW impacts (ac) | SURFACE WATER IMPACTS: Existing Channel Impacts Permanent (ft) | SURFACE WATER IMPACTS: Existing Channel Impacts Temp. (ft) | SURFACE WATER IMPACTS: Natural Stream Design (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site 1 | Y33RPCA 23+50 TO Y33LPC 21+45 IMPACTS LOCATED AT Y33RPCA FILL, Y33LPC FILL, AND DITCH INSIDE Y33LPC | Roadway Fill | 4.493 | | 0.205 | 0.476 | | | | | | |
| Site 2 | Y33RPCA 29+35 RT TO 30+87 LT, Y33LPC 5+47 TO 8+09 RT | Roadway Fill | 0.672 | | 0.016 | 0.036 | | | | | | |
| Site 2 | L1 216+22 LT | Bank Stabilization | | | | | | 0.002 | 0.002 | | | |
| Site 3 | Y33 77+38 LT | Bank Stabilization | | | | | | 0.049 | 0.021 | 89 | 27 | |
| Site 49 | Y33 100+10 LT | Bank Stabilization | | | | | | 0.004 | 0.007 | 14 | 15 | |
| Site 52 | Y33 101+22 TO 101+65 LT | Roadway Fill | | | | 0.017 | | | | | | |
| Site 4 | Y33RPB 15+70 TO 14+00 RT | Roadway Fill | 0.103 | | | 0.022 | | | | | | |
| Site 5 | L 234+23 TO 243+02 RT | Roadway Fill | | | | | | 0.440 | | | | |
| Site 6 | Y33RPCA 47+84 LT TO 49+50 LT | Bank Stabilization | | | | | | 0.108 | | 300 | | |
| Site 6 | Y33RPCA 49+50 LT TO 58+15 RT | Roadway Fill** | | | | | | 0.592 | 0.021 | 940 | 36 | |
| Site 7 | L1 249+91 TO 254+73 | Roadway Fill | 1.655 | | 0.009 | 0.126 | | | | | | |
| Site 7 | L1 253+29 LT | Bank Stabilization | | | | | | 0.030 | 0.013 | 77 | 30 | |
| Site 7 | L1 253+29 | 2-9'X7' RCBC | | | | | | 0.096 | | 226 | | |
| Site 7 | | Temp. Diversion Channel*** | | | 0.040 | | 0.017 | | | | | |
| Site 7 | L1 252+86 RT | Bank Stabilization | | | | | | 0.027 | 0.003 | 75 | 12 | |
| Site 8 | L1 254+84 TO 260+33 | 36" Pipe/Roadway Fill | 2.188 | | 0.030 | 0.224 | | | | | | |
| Site 8 | L1 258+25 LT | Bank Stabilization | | | | | | 0.003 | 0.002 | 20 | 10 | |
| Site 9 | L1 282+72 TO 285+60 | Roadway Fill | 0.605 | | | | 0.097 | | | | | |
| Site 9 | L1 283+46 | 3-12'X7' RCBC | | | | | | 0.088 | 0.016 | 375 | 93 | |
| Site 10 | L1 306+20 LT | Bank Stabilization | | | | | | 0.013 | 0.005 | 50 | 17 | |
| Site 10 | L1 306+00 | 7'X5' RCBC | | | | | | 0.059 | | 182 | | |
| Sub Totals*: | | | 9.716 | | 0.300 | 0.901 | 0.114 | 1.511 | 0.090 | 2348 | 240 | |

NOTES:

** Site 6 - 916 LF of stream channel will be relocated to partially offset the 940 lf of permanent stream impacts at this site. The remaining 24 LF of stream loss willed require mitigation at 1:1 per email correspondence from DWR and USACE on 4/30/21.

*** Temporary Excavation Impact for the Diversion Channel

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
11/20/24
PENDER & NEW HANOVER
R-3300A
40237.1.1





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## WETLAND AND SURACE WATER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | WETLAND IMPACTS: Permanent Fill In Wetlands (ac) | WETLAND IMPACTS: Temp. Fill In Wetlands (ac) | WETLAND IMPACTS: Excavation in Wetlands (ac) | WETLAND IMPACTS: Mechanized Clearing in Wetlands (ac) | WETLAND IMPACTS: Hand Clearing in Wetlands (ac) | SURFACE WATER IMPACTS: Permanent SW impacts (ac) | SURFACE WATER IMPACTS: Temp. SW impacts (ac) | SURFACE WATER IMPACTS: Existing Channel Impacts Permanent (ft) | SURFACE WATER IMPACTS: Existing Channel Impacts Temp. (ft) | SURFACE WATER IMPACTS: Natural Stream Design (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site 10 | L1 305+81 RT | Bank Stabilization | | | | | | 0.017 | 0.002 | 53 | 8 | |
| Site 11 | L1 312+06 TO 312+33 LT | Outlet Protection (keyed in) | | | | | | 0.006 | 0.028 | 22 | 56 | |
| Site 11 | L1 313+03 | 48" Pipe (JS mit) | | | | | | 0.029 | | 107 | | |
| Site 11 | L1 313+03 | 48" Pipe (JS non-mit) | | | | | | 0.122 | 0.013 | | | |
| Site 11 | L1 312+20 LT TO 315+52 RT | Roadway Fill | 0.278 | | | 0.031 | | | | | | |
| Site 12 | L1 335+64 to 337+84 LT | Roadway Fill | 0.211 | | | 0.045 | | | | | | |
| Site 13 | L1 337+91 TO 350+22RT | Roadway Fill | 3.762 | | | | 0.405 | | | | | |
| Site 50 | SR2 14+30 | 24" Pipe | 0.005 | | | | 0.022 | | | | | |
| Site 14 | L1 350+22 RT to 353+09 LT | Roadway Fill | 0.918 | | 0.057 | | 0.040 | | | | | |
| Site 15 | SR1 14+86 LT | Bank Stabilization | | | | | | 0.017 | 0.003 | 53 | 10 | |
| Site 15 | SR1 15+38 | 72" Pipe | | | | | | 0.073 | | 231 | | |
| Site 15 | | Temp. Diversion Channel** | | | 0.015 | 0.006 | | | | | | |
| Site 15 | SR1 11+87 to 15+36 RT | Roadway Fill | 0.332 | | 0.004 | 0.018 | 0.005 | | | | | |
| Site 16 | Y34 12+86 to 13+92 RT | Lateral 4' Base Ditch | | | 0.018 | | 0.018 | | | | | |
| Site 17 | Y34 13+88 to 15+70 LT | 24" Pipe | 0.046 | | 0.025 | | 0.010 | | | | | |
| Site 18 | SR9 13+67 to 14+16 | 18" Pipe | 0.083 | | | | 0.013 | | | | | |
| Site 19 | Y34 35+75 to 36+11 RT | Special Lateral 4' Base Ditch | | | 0.015 | | 0.008 | | | | | |
| Site 20 | L1 357+54 to 360+80 | 2 @ 18" Pipe | 0.758 | | 0.005 | 0.037 | | | | | | |
| Site 20*** | L1 358+61 to 360+03 LT | Indirect Impacts - Total Take | 0.035 | | | | | | | | | |
| Site 51 | Y34DET 33+42 to 34+04 LT | Roadway Fill | 0.001 | | | | 0.011 | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Sub Totals*: | | | 6.429 | | 0.139 | 0.137 | 0.532 | 0.264 | 0.046 | 466 | 74 | |

NOTES:

** Temporary Excavation Impact for the Diversion Channel

*** Site 20: Total Site Impact of 0.79 acres includes 0.76 acres of direct impacts and 0.03 acres of indirect impacts. Total Take impacts 1:1 mitigation.

11/20/2024

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NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
11/20/24
PENDER & NEW HANOVER
R-3300A
40237.1.1
SHEET 118 OF 120

11/20/2024

## WETLAND AND SURACE WATER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | WETLAND IMPACTS: Permanent Fill In Wetlands (ac) | Temp. Fill In Wetlands (ac) | Excavation in Wetlands (ac) | Mechanized Clearing in Wetlands (ac) | Hand Clearing in Wetlands (ac) | SURFACE WATER IMPACTS: Permanent SW impacts (ac) | Temp. SW impacts (ac) | Existing Channel Impacts Permanent (ft) | Existing Channel Impacts Temp. (ft) | Natural Stream Design (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site 21 ** | L1 383+67 LT - 385+75 LT | Dual 2@115', 72" MBT | 0.110 | | 0.025 | 0.079 | 0.075 | 0.009 | | 61 | | |
| Site 21 | L1 383+85 LT - 385+20 LT | Bank Stabilization | | | 0.006 | 0.004 | | 0.003 | 0.007 | 42 | 26 | |
| Site 21 | L1 385+75 LT - 389+03 RT | 54" RCP & 2@18" RCP | 0.620 | | 0.021 | 0.076 | | 0.035 | 0.003 | 219 | 37 | |
| Site 22 | L1 394+75 LT - 397+33 RT | 54" RCP | 0.196 | | 0.008 | 0.044 | | | | | | |
| Site 23 | L1 399+85 LT - 401+69 RT | 30" RCP | 0.192 | | 0.002 | 0.020 | | | | | | |
| Site 24 | L1 408+64 LT - 412+19 RT | 18" RCP | 0.384 | | 0.006 | 0.003 | | | | | | |
| Site 25 | L1 412+20 LT - 414+78 LT | Roadway fill | 0.240 | | | 0.013 | | | | | | |
| Site 25 | L1 414+86 LT - 415+77 LT | 36" RCP | 0.134 | | | 0.014 | | | | | | |
| Site 26 | L1 415+39 RT - 415+69 RT | 36" RCP | | | | 0.003 | | | | | | |
| Site 27 *** | L1 425+74 RT - 429+10 LT | Dual 1@125',1@117', 72" MBT | 0.192 | | 0.023 | 0.111 | 0.415 | | | | | |
| Site 27 | L1 428+70 RT - 429+37 LT | Roadway fill | 0.020 | | | 0.002 | | | | | | |
| Site 28 | L1 434+12 LT - 436+70 RT | 48" RCP | 0.141 | | | 0.012 | 0.008 | 0.059 | | 235 | | |
| Site 28 | L1 434+12 LT - 436+70 RT | Bank Stabilization | | | | | | 0.005 | 0.005 | 31 | 33 | |
| Site 29 | L1 442+28 LT - 445+38 RT | 2@6'x7' RCBC | 0.498 | 0.009 | 0.020 | 0.052 | 0.010 | 0.079 | | 273 | | |
| Site 29 **** | L1 442+28 LT - 445+38 RT | Bank Stabilization | | | 0.022 | | | 0.012 | 0.001 | 80 | 8 | |
| Site 30 | L1 447+37 RT - 451+09 LT | Roadway fill | 0.625 | | | 0.031 | | | | | | |
| Site 31 | L1 452+05 RT - 452+66 RT | 24" RCP | 0.070 | | 0.002 | 0.010 | | | | | | |
| Site 32 | L1 454+25 LT - 455+48 LT | 30" RCP | 0.106 | | 0.004 | 0.009 | | | | | | |
| Site 33 | L1 455+52 RT - 467+46 RT | Roadway fill & 2@36" RCP | 0.798 | | 0.017 | 0.061 | | | | | | |
| Site 34 | L1 467+39 LT - 470+68 RT | Roadway fill & 36" RCP | 0.197 | | | 0.015 | | | | | | |
| Site 35 | L1 469+64 LT - 485+61 RT | 5@36" RCP | 5.599 | | 0.002 | 0.434 | | | | | | |
| Site 36 | L1REV 518+59 LT - 520+73 RT | Roadway fill | 0.108 | | | 0.005 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Sub Totals*: | | | 10.230 | 0.009 | 0.158 | 0.998 | 0.508 | 0.202 | 0.016 | 941 | 104 | |

NOTES:

** Site 21: Temp. work brg, "Temp Fill in Wetlands" (14HP piles): 40 sf total. (not included in quantities above)

*** Site 27: Temp. work brg, "Temp Fill in Wetlands": (14HP piles) 244sf total. (not included in quantities above)

*** Site 27: Temp. work brg, "Temp Fill in SW": (14HP piles) 20 sf total. (not included in quantities above)

*** Site 27: Interior Bent "Fill in Wetlands" (15@ 2'x2' sq. piles): 60 sf total. (not included in quantities above )

*** Site 27: Within the footprint of the interior bents, a 10 ft wide swath of Temp "Excavation in Wetlands" is shown for stump removal for pile installation.

**** Site 29: Temp Excavation impacts acreage includes temp fill impacts for bank stabilization shown on diversion channel.

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PENDER & NEW HANOVER
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## WETLAND AND SURACE WATER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | WETLAND IMPACTS: Permanent Fill In Wetlands (ac) | Temp. Fill In Wetlands (ac) | Excavation in Wetlands (ac) | Mechanized Clearing in Wetlands (ac) | Hand Clearing in Wetlands (ac) | SURFACE WATER IMPACTS: Permanent SW impacts (ac) | Temp. SW impacts (ac) | Existing Channel Impacts Permanent (ft) | Existing Channel Impacts Temp. (ft) | Natural Stream Design (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site 37 | L1REV 519+89 RT - Y35 20+28 LT | 2@7'x8' RCBC | 0.489 | | | | | 0.076 | | 285 | | |
| Site 37 | L1REV 519+89 RT - Y35 20+28 LT | Channel Relocation | 0.242 | | 0.081 | 0.054 | | 0.068 | 0.007 | 294 | 30 | |
| Site 37 ** | L1REV 519+89 RT - Y35 20+28 LT | Bank Stabilization | | | 0.020 | | | 0.024 | | 100 | | |
| | | | | | | | | | | | | |
| Site 38 | L1REV 528+18 LT - 529+81 LT | Roadway fill | 0.185 | | | 0.024 | | | | | | |
| Site 39 | L1REV 532+78 RT | Roadway fill | 0.023 | | | | | | | | | |
| Site 40 | L1REV 534+46 - 535+20 RT | Roadway fill | 0.067 | | | | | | | | | |
| Site 41 | L1REV 537+11 - 538+10 LT | 36" RCP | 0.151 | | | | | | | | | |
| Site 42 | L1REV 537+60 RT | Lateral ditch | | | 0.005 | 0.003 | | | | | | |
| Site 42 *** | L1REV 537+60 RT ** | Indirect Impacts - Total Take | | | 0.010 | | | | | | | |
| | | | | | | | | | | | | |
| Site 43 | L1REV 538+02 - 538+47 LT | Lateral ditch | 0.006 | | 0.005 | 0.015 | | | | | | |
| Site 44 | L1REV 545+23 LT - 546+61 RT | 36" RCP | 0.268 | | | 0.027 | | | | | | |
| Site 45 | L1 560+15 RT | Roadway fill | 0.001 | | | 0.001 | | | | | | |
| Site 46 | L1 562+69 LT - 563+66 LT | Roadway fill | 0.015 | | | 0.025 | | | | | | |
| Site 46 | L1 564+45 LT - 568+65 RT | 1@36" RCP,3@12'X8' RCBC | 1.827 | 0.026 | 0.049 | 0.172 | | 0.130 | 0.014 | 332 | 12 | |
| Site 46 **** | L1 564+45 LT - 568+65 RT | Bank Stabilization | | | 0.058 | | | 0.050 | | 102 | | |
| Site 47 | Y35 13+45 RT - 14+17 RT | 36" RCP | 0.014 | | 0.001 | 0.008 | | | | | | |
| Site 47 | Y35DET | Temp Detour | | 0.047 | | | 0.009 | | | | | |
| Site 48 | Y35 36+00 LT | Lateral ditch | | | 0.001 | 0.006 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Sub Totals | THIS SHEET | | 3.288 | 0.073 | 0.230 | 0.335 | 0.009 | 0.348 | 0.021 | 1113 | 42 | |
| Sub Totals | SHEETS 117-119 | | 26.375 | 0.009 | 0.597 | 2.036 | 1.154 | 1.977 | 0.152 | 3755 | 418 | |
| TOTALS*: | | | 29.663 | 0.082 | 0.827 | 2.371 | 1.163 | 2.325 | 0.173 | 4868 | 460 | |

NOTES:

** Site 37: Temp Excavation impacts acreage includes temp fill impacts for bank stabilization shown on diversion channel.

*** Site 42: Total Take - total site impact of 0.018 acres includes includes 0.008 acres of direct impacts and 0.010 acres of indirect impacts.

**** Site 46: Temp Excavation impacts acreage includes temp fill impacts for bank stabilization shown on diversion channel.

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PENDER & NEW HANOVER
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40237.1.1
SHEET 120 OF 120

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# R-3300A PNG Utility Permit Drawings

R-3300A Impacts

- WETLAND EXCAVATION
- FILL IN WETLAND
- SURFACE WATER IMPACTS
- MECHANIZED CLEARING (GRUBBING)
- HAND CLEARING (NON-GRUBBING)
- TEMPORARY SURFACE WATER IMPACTS
- TEMPORARY FILL IN WETLAND
- MECHANIZED CLEARING (GRUBBING)
- DENOTES TEMPORARY FILL IN WETLAND

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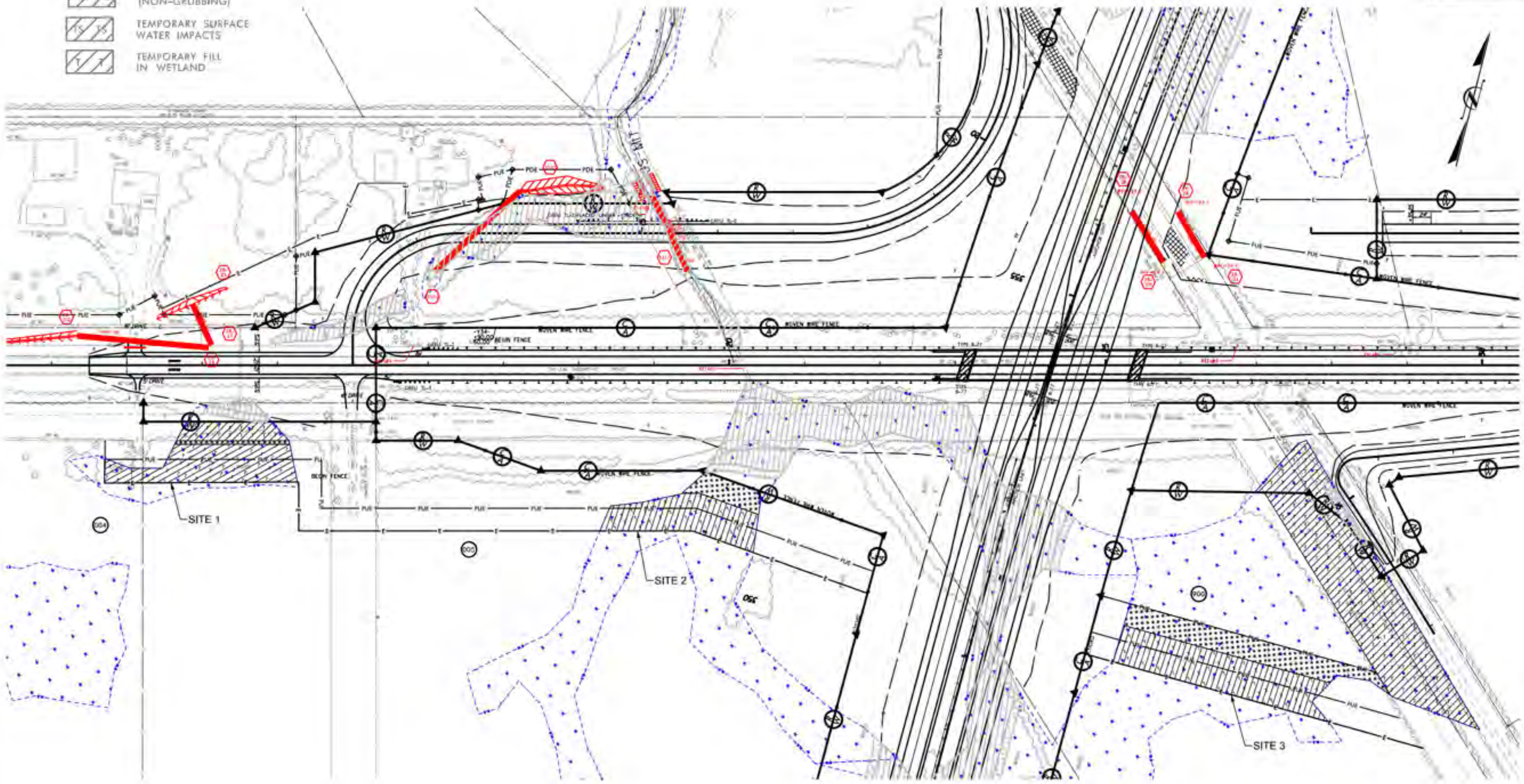
License No. F-0672

| PROJECT REFERENCE NO. | SHEET NO. |
| --- | --- |
| R-3300A | PNG |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PNG PERMIT DRAWING SHEET 1 OF 2

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DELIVERY GROUP\R-3300A\UBOs\R-3300A_PNG_PRM.dgn

11/20/2024

## WETLAND AND SURACE WATER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | WETLAND IMPACTS | | | | | SURFACE WATER IMPACTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Permanent Fill In Wetlands (ac) | Temp. Fill In Wetlands (ac) | Excavation in Wetlands (ac) | Mechanized Clearing in Wetlands (ac) | Hand Clearing in Wetlands (ac) | Permanent SW impacts (ac) | Temp. SW impacts (ac) | Existing Channel Impacts Permanent (ft) | Existing Channel Impacts Temp. (ft) | Natural Stream Design (ft) |
| Site 1 ** | Y34 11+71 RT TO Y34 14+26 RT | PNG GAS LINE | | 0.310 | | 0.017 | | | | | | |
| Site 2 ** | Y34 18+28 RT TO Y34 20+39 RT | PNG GAS LINE | | 0.211 | | 0.064 | | | | | | |
| Site 3 ** | Y34 25+10 RT TO Y34 29+97 RT | PNG GAS LINE | | 1.020 | | 0.221 | | | | | | |
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| Sub Totals*: | | | | 1.541 | | 0.302 | | | | | | |

*Rounded totals are sum of actual impacts

NOTES:
**Impacts are based on information and routing provided by PNG
PNG = Piedmont Natural Gas (Duke Energy)

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