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09/08/99

TIP PROJECT: W-5601FN

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

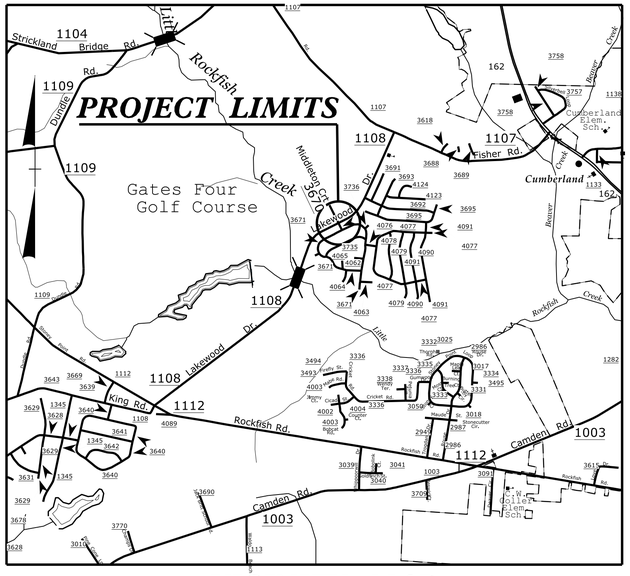
CUMBERLAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5601FN	1	

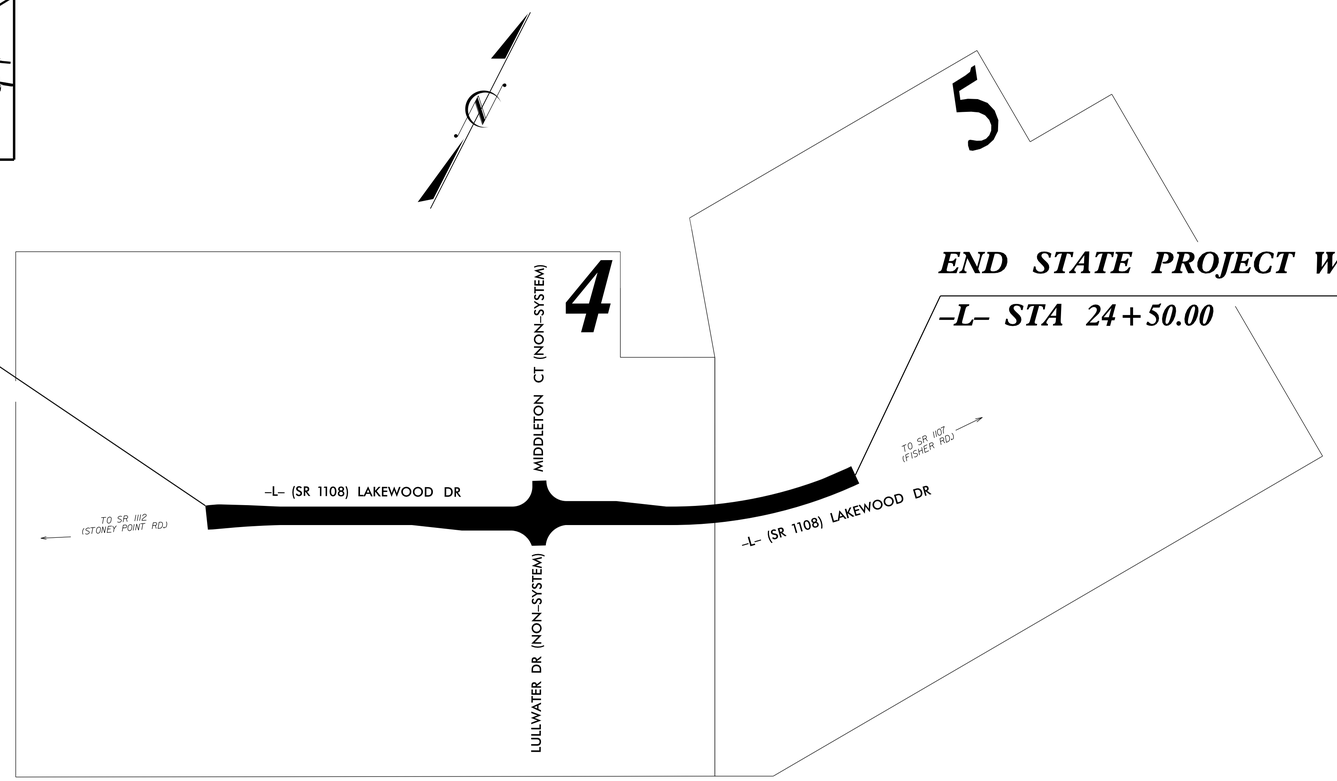
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
50138.1.171	HSIP-1108 (019)	P.E.
50138.2.171	HSIP-1108 (019)	ROW /UTIL
50138.3.171	HSIP-1108 (019)	CONSTRUCTION

LOCATION: SR 1108 (LAKEWOOD DR.) AT MIDDLETON CT. (NON-SYSTEM) AND LULLWATER DR. (NON-SYSTEM)

TYPE OF WORK: ADD RT. TURN LANES, CHANGE 2 LANE SECTION TO A 3 LANE SECTION, GRADING, PAVING, WIDENING, GUARDRAIL, DRAINAGE, AND PAVEMENT MARKINGS



VICINITY MAP (N.T.S.)



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

5 2.5 0 5 10
PROFILE (VERTICAL)

DESIGN DATA

ADT 12750 = 2017
ADT 23725 = 2037
45 Mph Posted

PROJECT LENGTH

TOTAL PROJECT LENGTH = 0.246 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
431 Transportation Dr., Fayetteville NC 28301

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: OCTOBER 31, 2017

LETTING DATE: NOVEMBER 14, 2018

JOHN GAUTHIER
PROJECT ENGINEER

GLENDA SNIVELY
PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

15-OCT-2018 08:19
H:\DDC_Projects\W-5601FN SR 1108 (Lakewood) @ (Lullwater-Middleton Crt)\Roadway\Proj\W-5601FN_Rdy_tsh.dgn
$$$$USERNAME$$$$

12/2/2016

PROJECT REFERENCE NO.	SHEET NO.
W-5601FN	1-B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Computed Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil — S
- Potential Contamination Area: Soil — S
- Known Contamination Area: Water — W
- Potential Contamination Area: Water — W
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:

- Secondary Horiz and Vert Control Point
- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Exist Permanent Easment Pin and Cap
- New Permanent Easement Pin and Cap
- Vertical Benchmark
- Existing Right of Way Marker
- Existing Right of Way Line
- New Right of Way Line — RW
- New Right of Way Line with Pin and Cap — RW
- New Right of Way Line with Concrete or Granite R/W Marker — RW
- New Control of Access Line with Concrete C/A Marker — C/A
- Existing Control of Access — C/A
- New Control of Access — C/A
- Existing Easement Line — E
- New Temporary Construction Easement — E
- New Temporary Drainage Easement — TDE
- New Permanent Drainage Easement — PDE
- New Permanent Drainage / Utility Easement — DUE
- New Permanent Utility Easement — PUE
- New Temporary Utility Easement — TUE
- New Aerial Utility Easement — AUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- U/G Telephone Cable LOS B (S.U.E.*) — T
- U/G Telephone Cable LOS C (S.U.E.*) — T
- U/G Telephone Cable LOS D (S.U.E.*) — T
- U/G Telephone Conduit LOS B (S.U.E.*) — TC
- U/G Telephone Conduit LOS C (S.U.E.*) — TC
- U/G Telephone Conduit LOS D (S.U.E.*) — TC
- U/G Fiber Optics Cable LOS B (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS C (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS D (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) — W
- U/G Water Line LOS C (S.U.E*) — W
- U/G Water Line LOS D (S.U.E*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

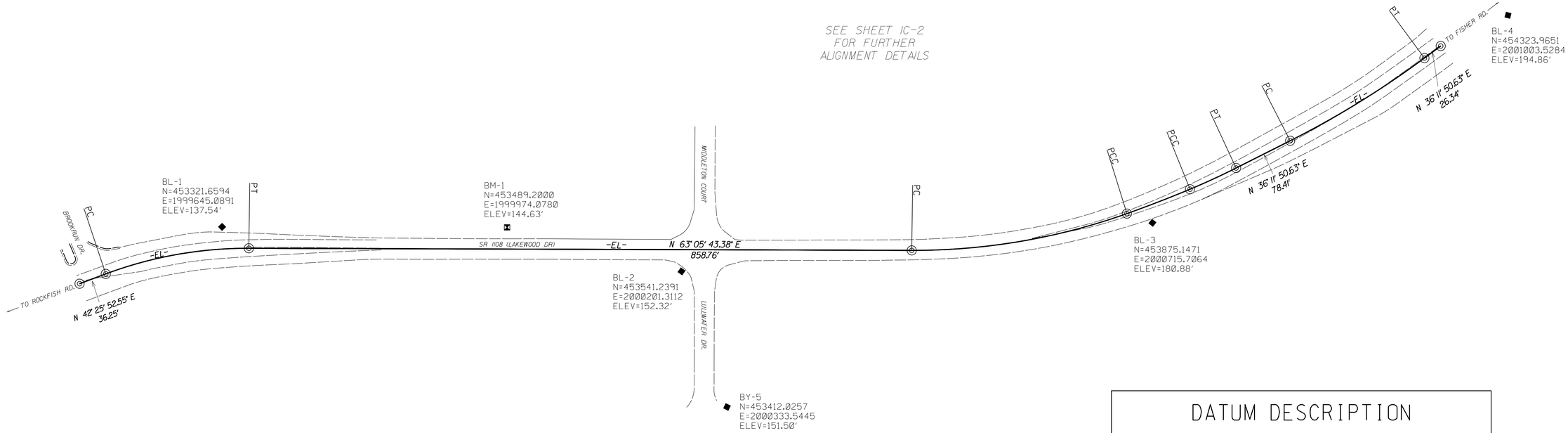
PROJECT REFERENCE NO.	SHEET NO.
W-5601FN	1C-1
Location and Surveys	

PROJECT SURVEYOR

SURVEY CONTROL SHEET W-5601FN

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

NC GRID
NAD 83 NA 2011



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W5601FN-2"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 453007.285(ft) EASTING: 1999377.898(ft)
ELEVATION: 134.74(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998804343
THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"W5601FN-2" TO -L- STATION 5+00.00 IS
N40°21'41.99"E 412.58'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

REVISIONS

6/2/99

28-JUN-2018 11:38
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6/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
W-5601FN	1C-2

Location and Surveys

PROJECT
SURVEYOR

SURVEY CONTROL SHEET W-5601FN

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

BASELINE

BL

POINT	DESC.		NORTH	EAST	ELEVATION	BL STATION	OFFSET
1	W5601FN	BL1	453321.6594	1999645.0891	137.54	5+00.00	0.00
2	W5601FN	BL2	453541.2391	2000201.3112	152.32	10+98.00	0.00
3	W5601FN	BL3	453875.1471	2000715.7064	180.88	17+11.26	0.00
4	W5601FN	BL4	454323.9651	2001003.5284	194.86	22+44.44	0.00

BY

POINT	DESC.		NORTH	EAST	ELEVATION	BY STATION	OFFSET
5	W5601FN	BY5	453412.0257	2000333.5445	151.50	5+00.00	0.00
200	W5601FN	BL2	453541.2391	2000201.3112	152.32	6+84.88	0.00

****
BM1 ELEVATION = 144.63
N 453489 E 1999974
BL STATION 8+68.00 35 LEFT
RR SPIKE IN BASE OF 10IN PINE
****

EL

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	453172.108	1999514.143							
LINE			N 42°25'52.6" E	36.25					
PC	453198.861	1999538.598							
CURVE			N 52°45'48.0" E	188.32	20°39'50.8"(RT)	10°54'48.5"	189.34	95.71	525.00
PT	453312.815	1999688.528							
LINE			N 63°05'43.4" E	858.76					
PC	453701.410	2000454.338							
CURVE			N 53°13'33.2" E	282.82	19°44'20.3"(LT)	06°56'41.8"	284.22	143.53	825.00
PCC	453870.722	2000680.876							
CURVE			N 41°48'41.5" E	87.62	03°05'23.2"(LT)	03°31'33.2"	87.63	43.83	1625.00
PCC	453936.029	2000739.291							
CURVE			N 38°13'55.3" E	65.68	04°04'09.3"(LT)	06°11'38.9"	65.69	32.86	925.00
PT	453987.623	2000779.937							
LINE			N 36°11'50.6" E	78.41					
PC	454050.899	2000826.244							
CURVE			N 31°18'58.7" E	204.21	09°45'43.8"(LT)	04°46'28.7"	204.46	102.48	1200.00
PT	454225.358	2000932.385							
LINE			N 26°26'06.8" E	26.24					
POT	454248.852	2000944.066							

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

28-JUN-2018 11:41
H:\DDC\Projects\W-5601FN SR 1108 (Lakewood) @ (Lullwater-Middleton Crt)\Roadway\Proj\w5601fn_ls_1c2.dgn
$$$$USERNAME$$$$

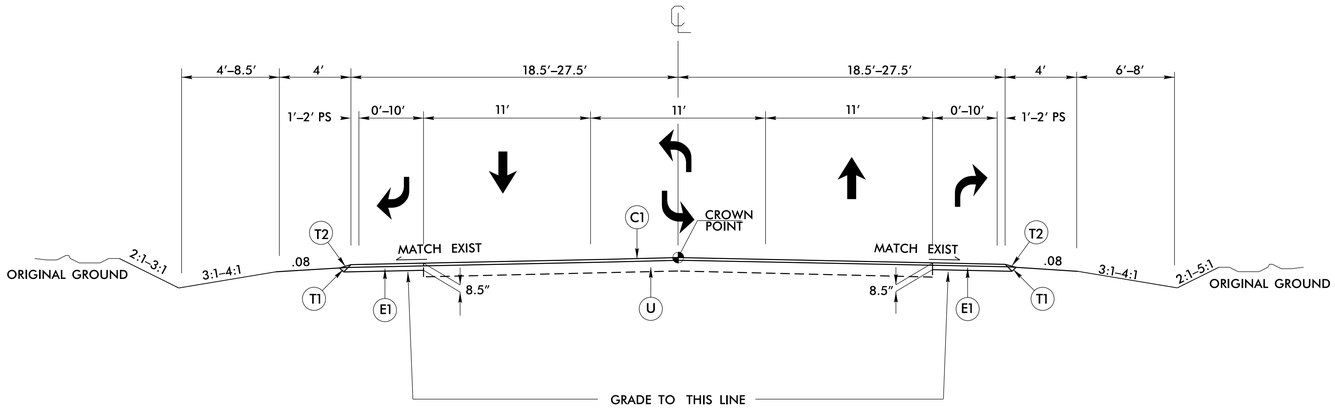
PAVEMENT SCHEDULE

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 330 LBS. PER SQ. YD.
E1	PROP. APPROX. 5 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
R1	2'-6" CONCRETE CURB & GUTTER x 8.5" DEEP
T1	EARTH MATERIAL.
T2	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

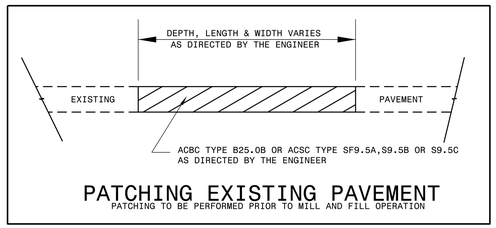
TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1

–L–LINE (LAKEWOOD DR.) STA. EXIST TO 13+00



TYPICAL SECTION NO. 1

LT–L– STA. 13+00.00 TO 24+50.00
RT–L– STA. 13+00.00 TO 17+50.00
RT–L– STA. 18+35.00 TO 24+50.00



PATCHING EXISTING PAVEMENT

PATCHING TO BE PERFORMED PRIOR TO MILL AND FILL OPERATION

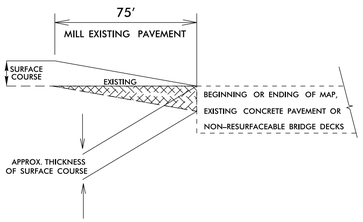
MILLING AT PAVEMENT TIE–INS

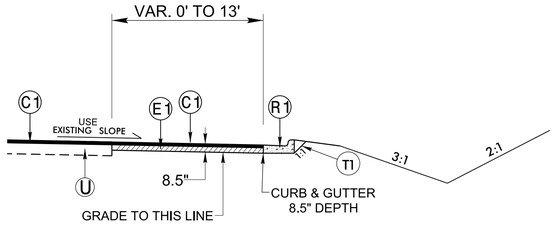
NOTES TO CONTRACTOR

For surface mixes over 1" in thickness, mill the existing pavement in acoordance with the following sketch as directed by the Engineer.

Locations shall include ties into existing concrete pavement, at bridge approaches where the bridge will not be resurfaced, and at the beginning and ending point of each resurfacing map.

Perform the work in accordance with Section 607 of the January 2012 North Carolina Department of Transportation Standard Specifications for Roads and Structures. Resurfacing will be accomplished at the same time as the milling operation.





USE WITH TYPICAL SECTION NO.1 AT THE FOLLOWING LOCATION:
-L- STA 17+50.00 RT TO STA 18+01.00 (RT)

PROJECT NOTES

1. The contractor shall not work on both sides of the road simultaneously within the same area.
2. Ingress and egress shall be maintained to all businesses and dwellings on the project.
3. At the end of each workday, the contractor shall be required to backfill any area adjacent to existing travelway that has been graded, leaving no more than a 1" drop–off.
4. A minimum of two–way, two–lane traffic (plus all existing left and right turn lanes) shall be maintained during periods of construction inactivity.
5. The Contractor shall not be allowed to stop traffic for more than 5 minutes at a time in any one direction.
6. During periods of construction inactivity, the difference in elevation between lanes shall not exceed 1–1/2 inch.
7. Access to police and fire stations, fire hydrants, and hospitals shall be maintained at all times.
8. During periods of construction inactivity, place cones/drums 3' from existing edge of pavement (travelway) as directed by the Engineer.
9. Contractor to install and maintain Erosion Control devices as directed by the Engineer.
10. Contractor shall coordinate with the Division Six Traffic Services Unit (910–486–1452) for placement of all pavement markings and signs 14 days prior to placement.
11. The contractor shall be responsible for the permanent staking of all Proposed Right of Way, Control of Access and Drainage Easements Per NCDOT Division 6 Special Provision in the contract.

PROJECT REFERENCE NO.	SHEET NO.
W-5601FN	3B

SUMMARY OF EARTHWORK

IN CUBIC YARDS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE			
		TOTAL UNCL. EXCAV.	ROCK	UNDER–CUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. (+) 25%		ROCK	SUITABLE	UNSUIT.	TOTAL
–L– 11+50	–L– 24+50	1487				1487	324		324	405			1082		
TOTALS		1487				1487	324		324	405			1082		
WASTE IN LIEU OF BORROW															
GRAND TOTALS													1082		
SAY													1100		

Earthwork quantities are calculated by the Roadway Design Unit.
No subsurface data provided by the Geotechnical Engineering Unit.

NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300–5".

STATEWIDE
LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

COMPUTED BY: GLENDA SNIVELY DATE: 6-27-2018
CHECKED BY: DATE:

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE	SIDE DRAIN PIPE THICKNESS OR GAUGE	C.S. PIPE SIZE	C.S. PIPE THICKNESS OR GAUGE	R.C. PIPE (CLASS III) SIZE	R.C. PIPE (CLASS IV) SIZE	*** R. C. PIPE (CLASS V)	*** R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	*** R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. "A" + (1.3 X COL. "B") PER EACH (0' THRU 5.0')	LIN. FT. A 5.0' THRU 10.0'	LIN. FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	TYPE OF GRATE F	TYPE OF GRATE G	CONCRETE TRANSITIONAL SECTION CATCH BASIN	CONCRETE TRANSITIONAL SECTION DROP INLET	D.I. FRAME & GRATE STD. 840.16	M.H. FRAME & COVER STD. 840.54	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD. 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
–L–18+17.80	LT	401			150.90	148.20							88																				
–L–19+34.31	RT	402																															
		402	403		158.05	154.65						32																					
–L–19+18.31	RT	403		157.34																	1	0.50								1			DI
		403	404		154.65	152.00						72																					
–L–18+49.98	RT	404		154.40																	1	2.0								1			DI
		404	405		147.80	147.60																											
–L–18+00.00	RT	405																															
						147.34							100																				88	REMOVE
SHEET TOTALS												104	188								2	2.5							2			88	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

PROJECT REFERENCE NO.	SHEET NO.
W-5601FN	4

8/17/99

REVISIONS

BEGIN STATE PROJECT W-5601FN

-L- STA 11+50.00

BM-1
N 453489.2000
E 1999974.0780
ELEV 144.63
-L- STA 15+60.05
28.08' LT

BL-1
N 453321.6594
E 1999645.0891
ELEV 137.54
-L- STA 11+92.63
28.63' LT

N 70°28'53" E 180.65'

N 70°28'46" E 145.00'

20' SANITARY SEWER EASEMENT

S 85°17'52" W 122.21'

N 84°57'00" W 145.34'

N 70°32'12" W 185.36'

N 65°26'53" W 176.80'

N 85°41'53" W 141.01'

MILES KIHARA
DB 8605 PG 783
PB 98 PG 8

GEORGE COLEMAN
DB 5625 PG 529
PB 98 PG 8

SEONTAE SANDLIN
DB 8209 PG 822
PB 98 PG 8

SANDRA I. GUTIERREZ
DB 6973 PG 608
PB 98 PG 8

HARRIET PLAYER
DB 6248 PG 618
PB 98 PG 8

LATHERN MARSHALL
DB 3599 PG 553
PB 71PG 60

ZETTA HOCKADAY
DB 7734 PG 312
PB 71PG 60

SAMUEL VELASQUEZ
DB 9026 PG 756
PB 71PG 60

S 26°55'52" E 880.00'

S 26°55'52" E 133.00'

N 26°55'52" W 1013.00'

183' TAPER

DO NOT DISTURB FENCE

72" WD FENCE

EXISTING R/W

2' PS

-L- SR 1108 (LAKEWOOD DR) 27' BST

N 63°05'43.4" E

TO ROCKFISH RD. N 42°25'526" E

INV=132.54'

18" RCP

INV=133.01'

16'DI

F

E

C

T

G

PWL WATER LINE

GREU TL-3

1'P.S.

EIP

PDE

MI

AT-1

CONC

MIDDLETON COURT 26' BST

LAWMAKER DR. 26' BST

AQUA OF NC WATER LINE

SR 1108 (LAKEWOOD DR) -L-

26' BST

-L- + 70.10

100'

100' TAPER

N 63°04'40" E 160.00'

N 63°04'47" E 160.00'

N 63°08'03" E 148.00'

N 63°08'10" E 160.40'

N 37°47'20" E 148.29'

S 50°48'49" E 90.25'

N 35°54'57" W 140.71'

N 35°54'57" W 132.38'

N 62°53'24" E 148.40'

TCE +33.30
50' LT
EX. R/W

KAREN RAY
DB 7719 PG 720
PB 71PG 60

TCE +84.93
50' LT

DANIEL MARTENS
DB 8731PG 109
PB 71PG 60

RAYMOND AUDU
DB 7505 PG 555
PB 71PG 60

TCE +45.58
50' LT

TRACEY MESSENGER
DB 6854 PG 789
PB 71PG 60

TODD BZDAFKA
DB 5590 PG 496
PB 71PG 60

TCE +00.62
50' LT

TCE +11.04
50' LT

VINCENT MEARES
DB 4932 PG 135
PB 71PG 60

TCE +36.63
50' LT
EXIST. R/W

PC Sta. 20+84.35

MATCH LINE -L- STA. 21+67.34

DO NOT DISTURB

R=40'

PROP INV OUT 148.20

PROP INV IN 150.90

18" RCP-IV REMOVE

INV=146.97

INV=152.52'

INV=152.87'

18" RCP-III

INV=158.05'

401

402

403

404

405

DO NOT DISTURB FENCE

SEE DET.A

TCE +66.02
59' RT
EX. R/W

PROP INV OUT 147.35

TCE +90.51
59' RT

TCE +41.31
61' RT

PROP INV IN 158.05

TCE +06.00
61' RT
EXIST. R/W

DO NOT DISTURB

PROP DI
STD. 840.16
TOP 154.40
INV IN 147.80
INV OUT 147.60

PROP DI
STD. 840.16
TOP 157.34
INV IN 154.65
INV OUT 152.00

-L- + 50.00

100' TAPER

100'

BEG. C&G -L- + 50.00

-L- + 97.66 RT 68.34
END C&G

BL-2
N 453541.2391
E 2000201.3112
ELEV 152.32
-L- STA 17+86.18
28.18' RT

S 42°25'526" E

PT Sta. 12+25.59

PC Sta. 10+36.25

S 36°03'28" E 167.53'

S 36°03'28" E 216.06'

S 26°55'52" E 165.00'

S 26°55'52" E 165.00'

S 26°32'47" E 165.30'

S 26°32'47" E 165.00'

S 56°08'28" W 162.73'

YIXI XIE
DB 8673 PG 755
PB 68 PG 39

STEVEN R. KAMRADT
DB 7670 PG 134
PB 68 PG 39

JAMES E. BROWN III
DB 4486 PG 738
PB 68 PG 39

ALEXANDER PEREZ-SUAREZ
DB 6106 PG 231
PB 68 PG 39

DENNIS CAMPBELL
DB 4150 PG 486
PB 68 PG 39

YAHYA A. ALSAIDI
DB 5245 PG 364
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RUSTON L. HILL
DB 8677 PG 783
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JULIAN MENDOZA JR.
DB 7903 PG 425
PB 68 PG 39

BRADLEY C. FOOSE
DB 7862 PG 287
PB 68 PG 39

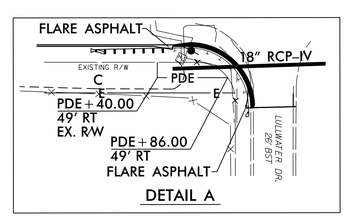
JERRY A. WHITE
DB 8084 PG 225
PB 68 PG 39

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W5601FN-2" WITH NAD83/NA2011 STATE PLANE GRID COORDINATES OF NORTHING: 453007.285 EASTING: 1999377.898 THE AVERAGE COMBINED FACTOR USED ON THIS PROJECT GROUND TO GRID IS 0.999804343
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W5601FN-2" TO "BL-1" IS N40°21'41.99"E 412.58'(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

-L-

CURVE 1
PI Sta 11+31.96
Δ = 20° 39' 50.8" (RT)
D = 10° 54' 48.5"
L = 189.34'
T = 95.71'
R = 525.00'



DETAIL A

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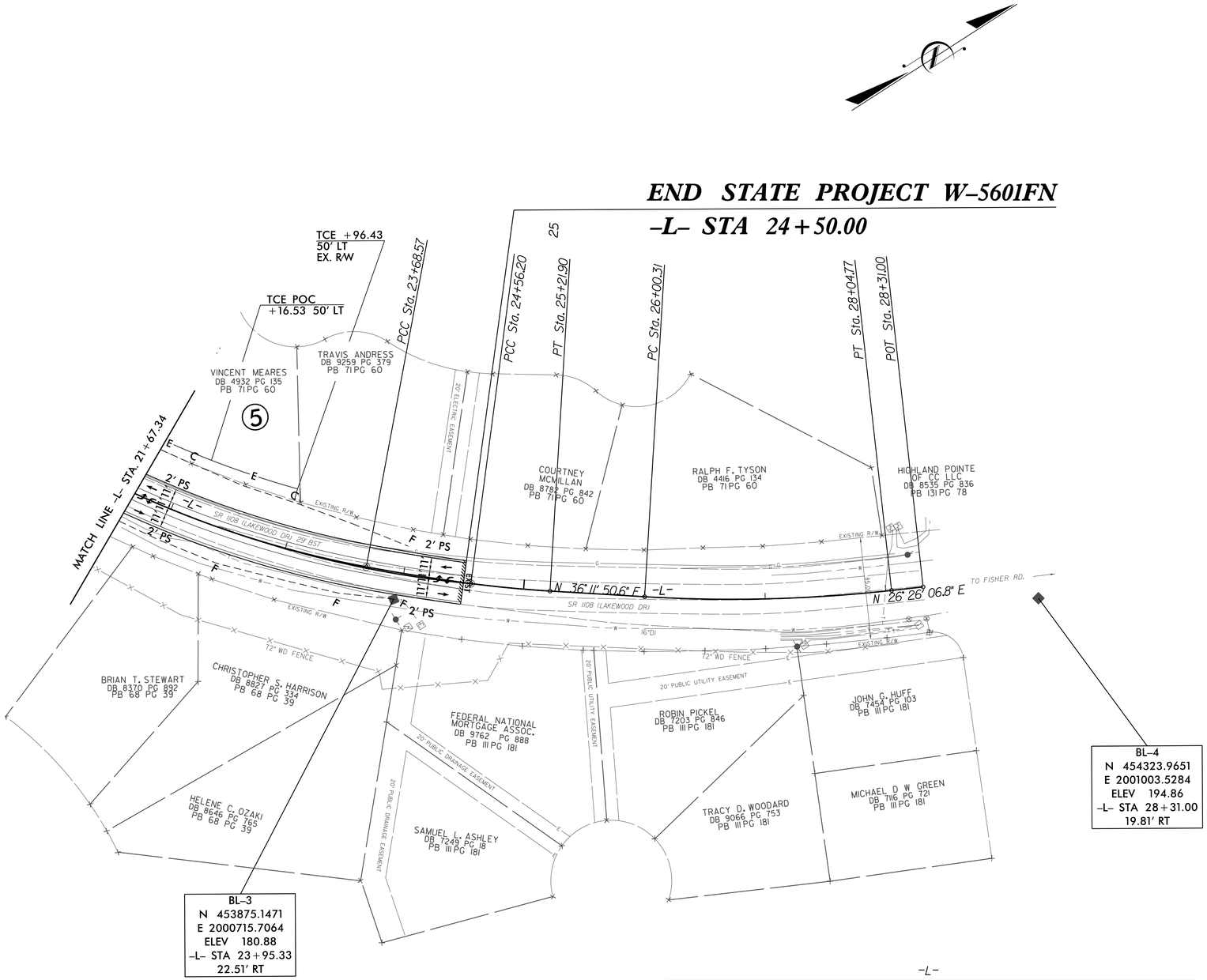
PROJECT REFERENCE NO.	SHEET NO.
W-5601FN	5

8/17/99

REVISIONS



-L-

CURVE 2	CURVE 3	CURVE 4	CURVE 5
PI Sta 22+27.88	PI Sta 24+12.40	PI Sta 24+89.07	PI Sta 27+02.79
Δ = 19° 44' 20.3" (LT)	Δ = 3° 05' 23.2" (LT)	Δ = 4° 04' 09.3" (LT)	Δ = 9° 45' 43.8" (LT)
D = 6° 56' 41.8"	D = 3° 31' 33.2"	D = 6° 11' 38.9"	D = 4° 46' 28.7"
L = 284.22'	L = 87.63'	L = 65.69'	L = 204.46'
T = 143.53'	T = 43.83'	T = 32.86'	T = 102.48'
R = 825.00'	R = 1,625.00'	R = 925.00'	R = 1,200.00'

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$$$$USERNAME$$$$

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
W-5601FN	6

BEGIN STATE PROJECT W-5601FN

-L- STA 11+50.00

BM-1
N 453489.20000
E 1999974.0780
-L- STA 15+60.05 28.08' LT
ELEV 144.63

BEGIN RESURFACING
ELEV. 135.62

-L- STA 13+00.00
BEGIN WIDENING
ELEV. 138.40

-L- STA 24+00.00
END WIDENING
ELEV. 180.00

-L- STA 24+50.00
END RESURFACING
ELEV. 181.15

200 190 180 170 160 150 140 130 120 110

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00

230 220 210 200 190 180 170 160 150 140

24+00 25+00 26+00 27+00 28+00

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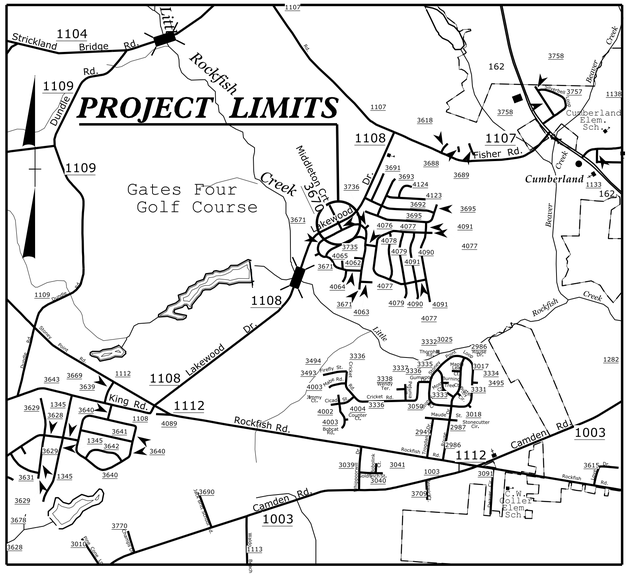
09/08/99

TIP PROJECT: W-5601FN

CONTRACT:



VICINITY MAP
(N.T.S.)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

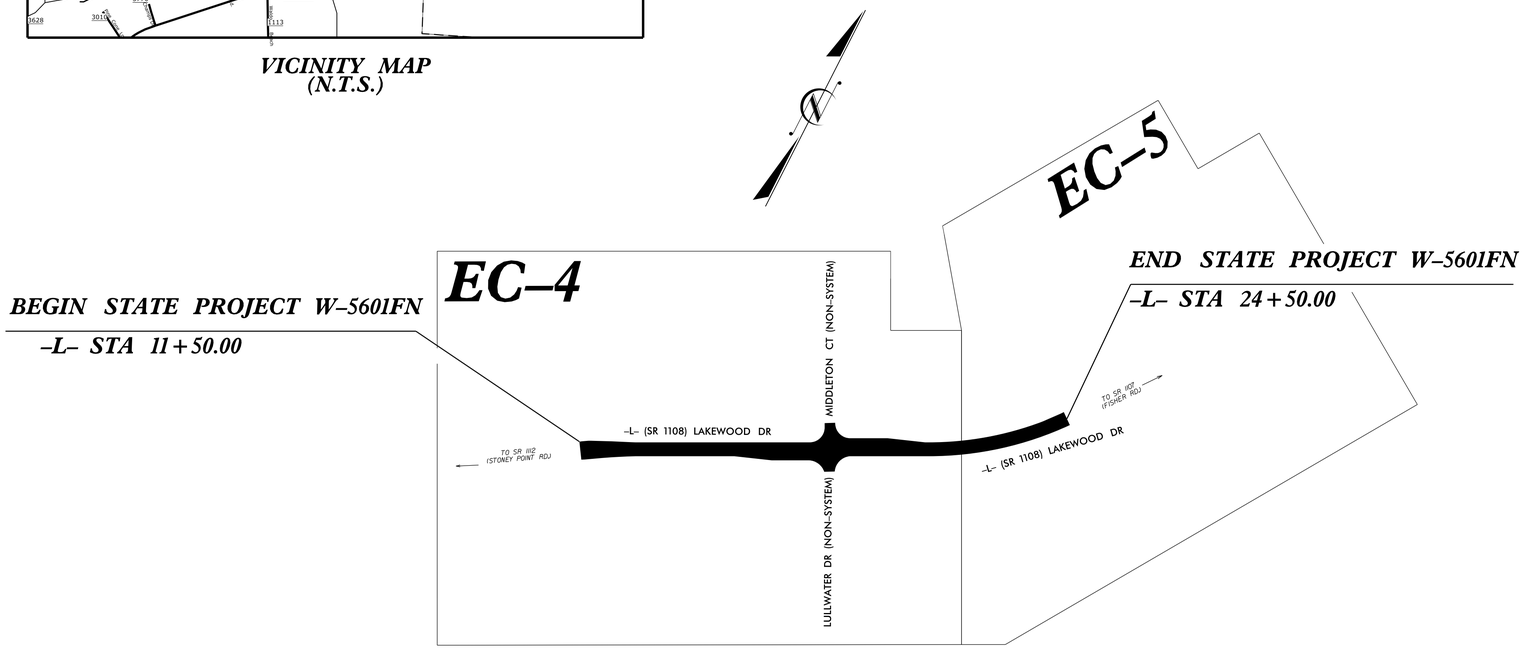
CUMBERLAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5601FN	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
50138.1.171	HSIP-1108 (019)	P.E.
50138.2.171	HSIP-1108 (019)	ROW /UTIL
50138.3.171	HSIP-1108 (019)	CONSTRUCTION

LOCATION: SR 1108 (LAKEWOOD DR.) AT MIDDLETON CT. (NON-SYSTEM) AND LULLWATER DR. (NON-SYSTEM)

TYPE OF WORK: ADD RT. TURN LANES, CHANGE 2 LANE SECTION TO A 3 LANE SECTION, GRADING, PAVING, WIDENING, DRAINAGE, AND PAVEMENT MARKINGS



GRAPHIC SCALES

50 25 0 50 100

PLANS

PLANS PREPARED BY:
DIVISION OF HIGHWAYS
431 TRANSPORTATION DRIVE, FAYETTEVILLE, NC 28301

2018 STANDARD SPECIFICATIONS

23-AUG-2018 15:26
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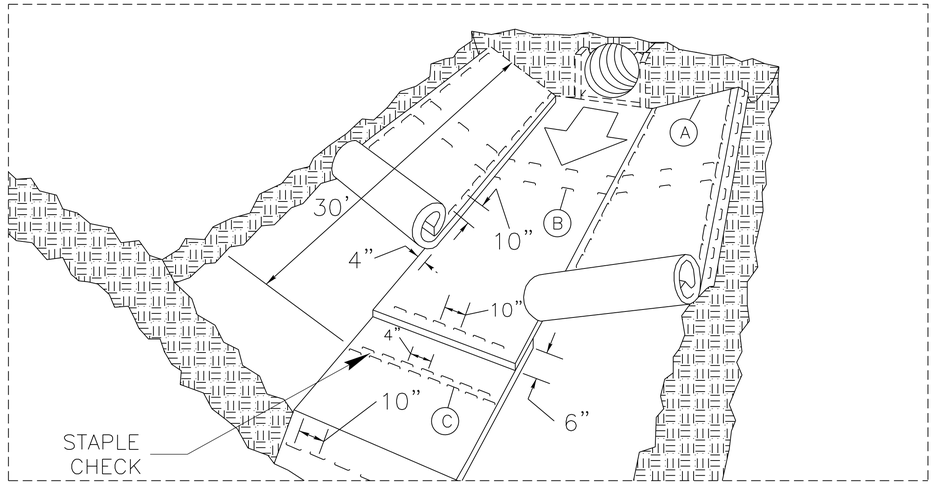
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
W-5601FN	EC-2G

MATTING INSTALLATION DETAIL



MATTING IN DITCHES

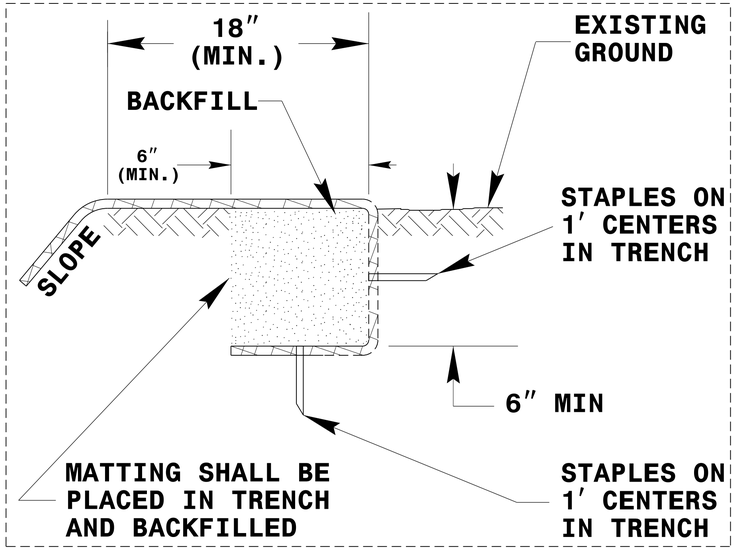
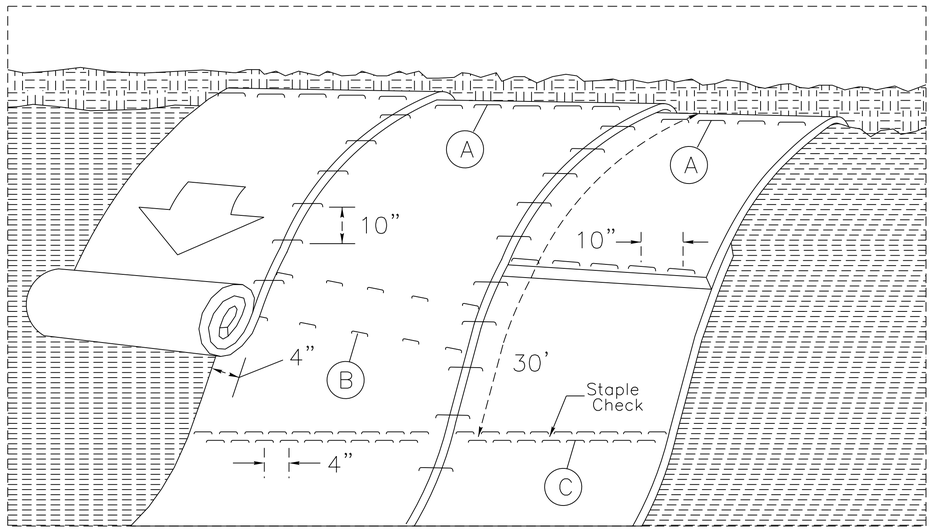


DIAGRAM (A)



MATTING ON SLOPES

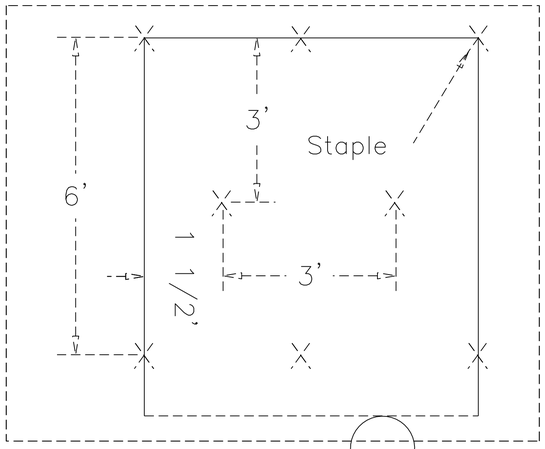


DIAGRAM (B)

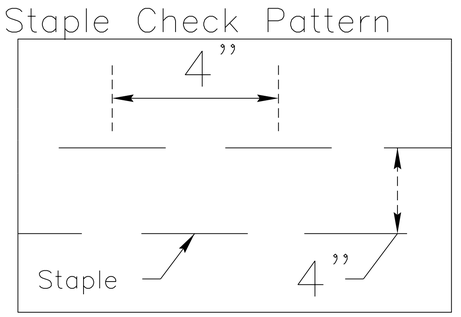


DIAGRAM (C)

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
W-5601FN	EC 4

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	CW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	CW
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

BEGIN STATE PROJECT W-5601FN

-L- STA 11+50.00

BL-1
N 453321.6594
E 1999645.0891
ELEV 137.54
-L- STA 11+92.63
28.63' LT

BM-1
N 453489.2000
E 1999974.0780
ELEV 144.63
-L- STA 15+60.05
28.08' LT

MILES KIHARA
DB 8605 PG 783
PB 98 PG 8

GEORGE COLEMAN
DB 5625 PG 529
PB 98 PG 8

SANDRA I. GUTIERREZ
DB 6973 PG 608
PB 98 PG 8

SEONTAE SANDLIN
DB 8209 PG 822
PB 98 PG 8

HARRIET PLAYER
DB 6248 PG 618
PB 98 PG 8

LATHERN MARSHALL
DB 3599 PG 553
PB 71PG 60

ZETTA HOCKADAY
DB 7734 PG 312
PB 71PG 60

SAMUEL VELASQUEZ
DB 9026 PG 756
PB 71PG 60

KAREN RAY
DB 7719 PG 720
PB 71PG 60

DANIEL MARTENS
DB 8731PG 109
PB 71PG 60

RAYMOND AUDU
DB 7505 PG 555
PB 71PG 60

TRACEY MESSENGER
DB 6854 PG 789
PB 71PG 60

TODD BZDAFKA
DB 5590 PG 496
PB 71PG 60

VINCENT MEARES
DB 4932 PG 135
PB 71PG 60

STEVEN R. KAMRADT
DB 7670 PG 134
PB 68 PG 39

YIXI XIE
DB 8673 PG 755
PB 68 PG 39

JAMES E. BROWN III
DB 4486 PG 738
PB 68 PG 39

ALEXANDER PEREZ-SUAREZ
DB 6106 PG 231
PB 68 PG 39

DENNIS CAMPBELL
DB 4150 PG 486
PB 68 PG 39

YAHYA A. ALSAIDI
DB 5245 PG 364
PB 68 PG 39

RUSTON L. HILL
DB 8677 PG 783
PB 68 PG 39

JULIAN MENDOZA JR.
DB 7903 PG 425
PB 68 PG 39

BRADLEY C. FOOSE
DB 7862 PG 287
PB 68 PG 39

JERRY A. WHITE
DB 8084 PG 225
PB 68 PG 39

PC Sta. 10+36.25
PT Sta. 12+25.59
PC Sta. 20+84.35

183' TAPER
100'
100' TAPER
-L- +70.10

TCE +33.30
50' LT
EX. R/W

TCE +84.93
50' LT

TCE +45.58
50' LT

TCE +00.62
50' LT

TCE +11.04
50' LT

TCE +36.63
50' LT
EXIST. R/W

DO NOT DISTURB FENCE

DO NOT DISTURB

PROP INV OUT 148.20

PROP INV IN 150.90

PROP INV OUT 147.35

PROP INV IN 158.05

TCE +90.51
59' RT

TCE +66.02
59' RT
EX. R/W

TCE +41.31
61' RT

TCE +06.00
61' RT
EXIST. R/W

SEE DET.A

R=40'

18" RCP-IV REMOVE

18" RCP-III

1' PS

2' PS

-L- SR 1108 (LAKEWOOD DR) 27' BST

SR 1108 (LAKEWOOD DR) -L- 26' BST

N 63°05'43.4" E

N 42°25'52.6" E

TO ROCKFISH RD.

BROOKRUN DR.

LULLWATER DR. 26' BST

PDE

PDE+40.00
49' RT
EX. R/W

PDE+86.00
49' RT

FLARE ASPHALT

DETAIL A

PROP DI
STD. 840.16
TOP 154.40
INV IN 147.80
INV OUT 147.60

PROP DI
STD. 840.16
TOP 157.34
INV IN 154.65
INV OUT 152.00

-L- +50.00
100' TAPER
100'
BEG. C&G
-L- +50.00

-L- +97.66 RT 68.34
END C&G

BL-2
N 453541.2391
E 2000201.3112
ELEV 152.32
-L- STA 17+86.18
28.18' RT

MATCH LINE -L- STA. 21+67.34

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W5601FN-2" WITH NAD83/NA2011 STATE PLANE GRID COORDINATES OF NORTHING: 453007.285 EASTING: 1999377.898 THE AVERAGE COMBINED FACTOR USED ON THIS PROJECT GROUND TO GRID IS 0.999804343
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W5601FN-2" TO "BL-1" IS N40°21'41.99"E 412.58'(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

-L-
CURVE 1
PI Sta 11+31.96
Δ = 20° 39' 50.8" (RT)
D = 10° 54' 48.5"
L = 189.34'
T = 95.71'
R = 525.00'

REVISIONS

8/17/99

23-AUG-2018 15:26
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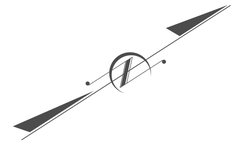
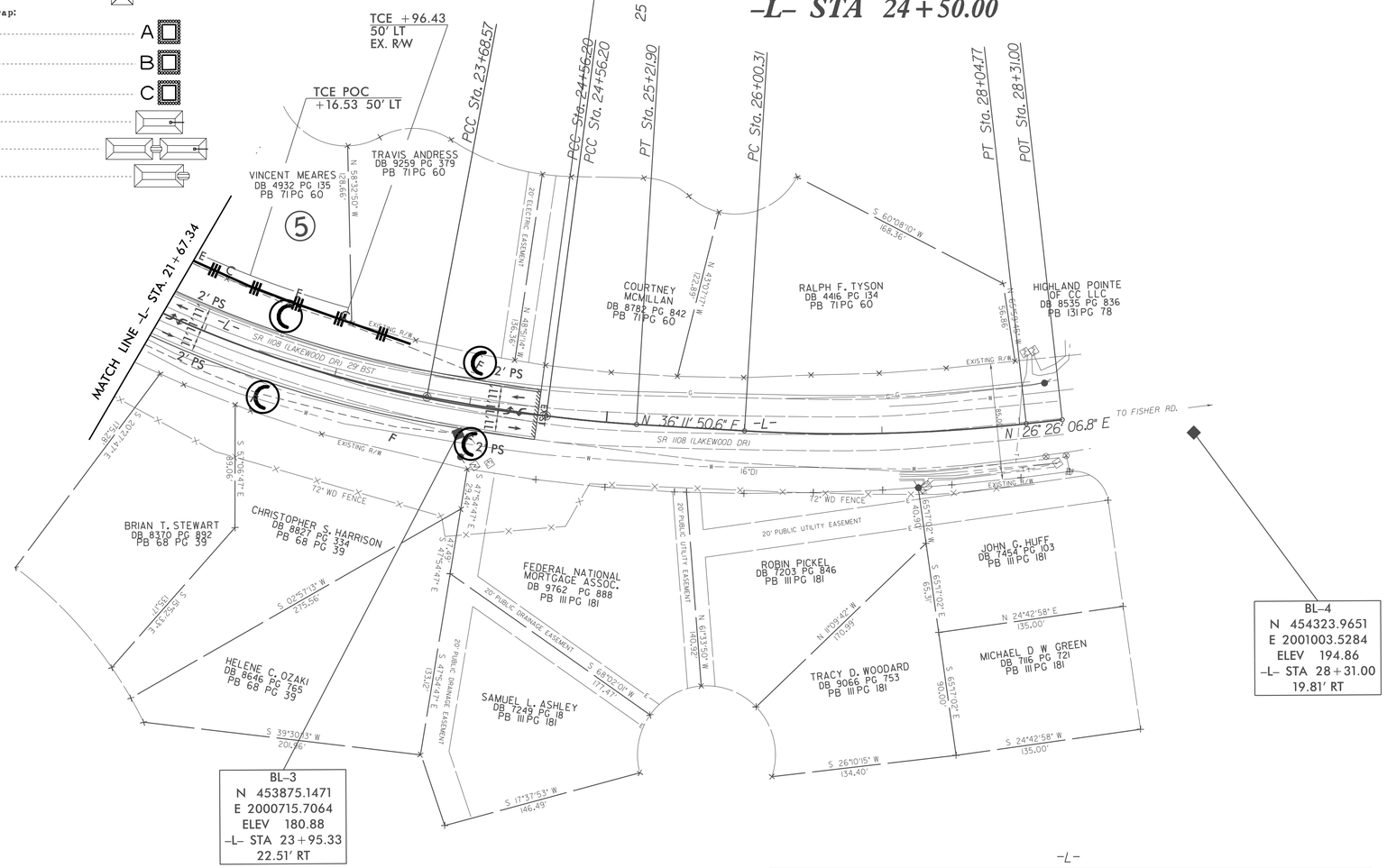
PROJECT REFERENCE NO.	SHEET NO.
W-5601FN	EC 5

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	EW / CFW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	





-L-

CURVE 2	CURVE 3	CURVE 4	CURVE 5
PI Sta 22+27.88	PI Sta 24+12.40	PI Sta 24+89.07	PI Sta 27+02.79
Δ = 19° 44' 20.3" (LT)	Δ = 3° 05' 23.2" (LT)	Δ = 4° 04' 09.3" (LT)	Δ = 9° 45' 43.8" (LT)
D = 6° 56' 41.8"	D = 3° 31' 33.2"	D = 6° 11' 38.9"	D = 4° 46' 28.7"
L = 284.22'	L = 87.63'	L = 65.69'	L = 204.46'
T = 143.53'	T = 43.83'	T = 32.86'	T = 102.48'
R = 825.00'	R = 1,625.00'	R = 925.00'	R = 1,200.00'

REVISIONS

8/17/99

23-AUG-2018 15:26
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$$$$USERNAME$$$$

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601FN	X-1

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

150
145
140
135
130

EXIST.

137.57

12 + 50.00

EXIST.

137.01

12 + 00.00

BEGIN RESURFACING

EXIST.

136.62

11 + 50.00

136.25

11 + 00.00

136.00

10 + 50.00

—℄—

23-AUG-2018 15:26
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$$$$USERNAME$$$$

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601FN	X-2

14 + 50.00

EXIST.

141.16

139.91

2:1

3:1

3:1

S.S. 145.39

S.S. 139.02

14 + 00.00

EXIST.

140.29

138.81

2:1

3:1

3:1

S.S. 144.05

S.S. 137.78

13 + 50.00

BEGIN WIDENING

EXIST.

139.38

138.15

2:1

3:1

3:1

S.S. 144.25

S.S. 137.08

13 + 00.00

BEGIN WIDENING

EXIST.

138.40

3:1

S.S. 135.45

23-AUG-2018 15:26
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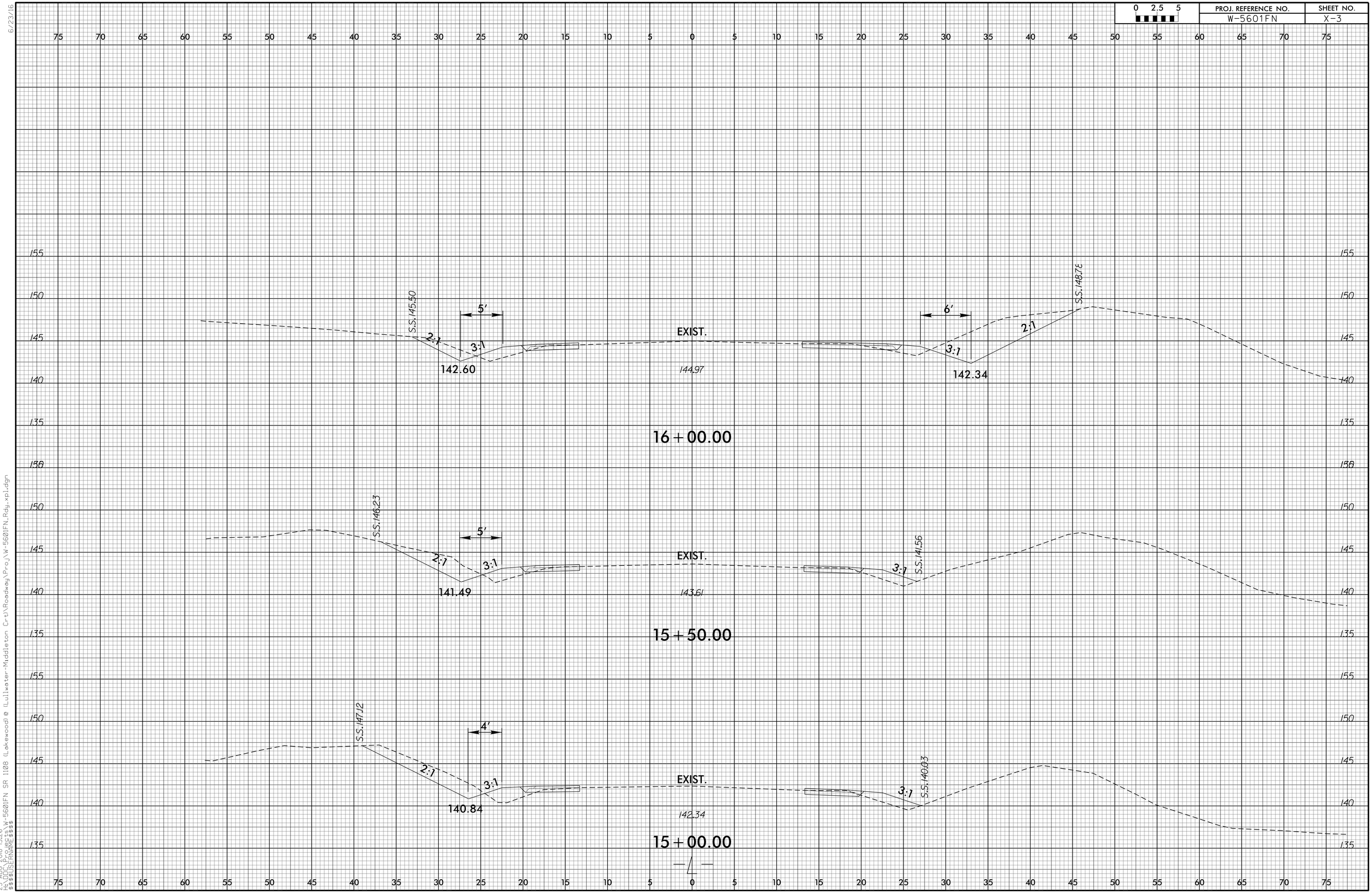
	W-5601FN	X-3



6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601FN	X-4

MIDDLETON CT

PROP. 18" RCP

EXIST. 152.67

18+00.00

LULLWATER DR

PROP. 18"

S.S. 151.03

8.5'

2:1

3:1

146.98

EXIST. 150.49

17+50.00

10'

S.S. 154.44

3:1

2:1

PROP. 18" RCP
INV. 147.35

S.S. 150.19

6'

2:1

3:1

145.64

EXIST. 148.38

17+00.00

6'

S.S. 152.02

3:1

2:1

146.18

S.S. 148.09

6'

2:1

3:1

143.76

EXIST. 146.56

16+50.00

6'

S.S. 150.5

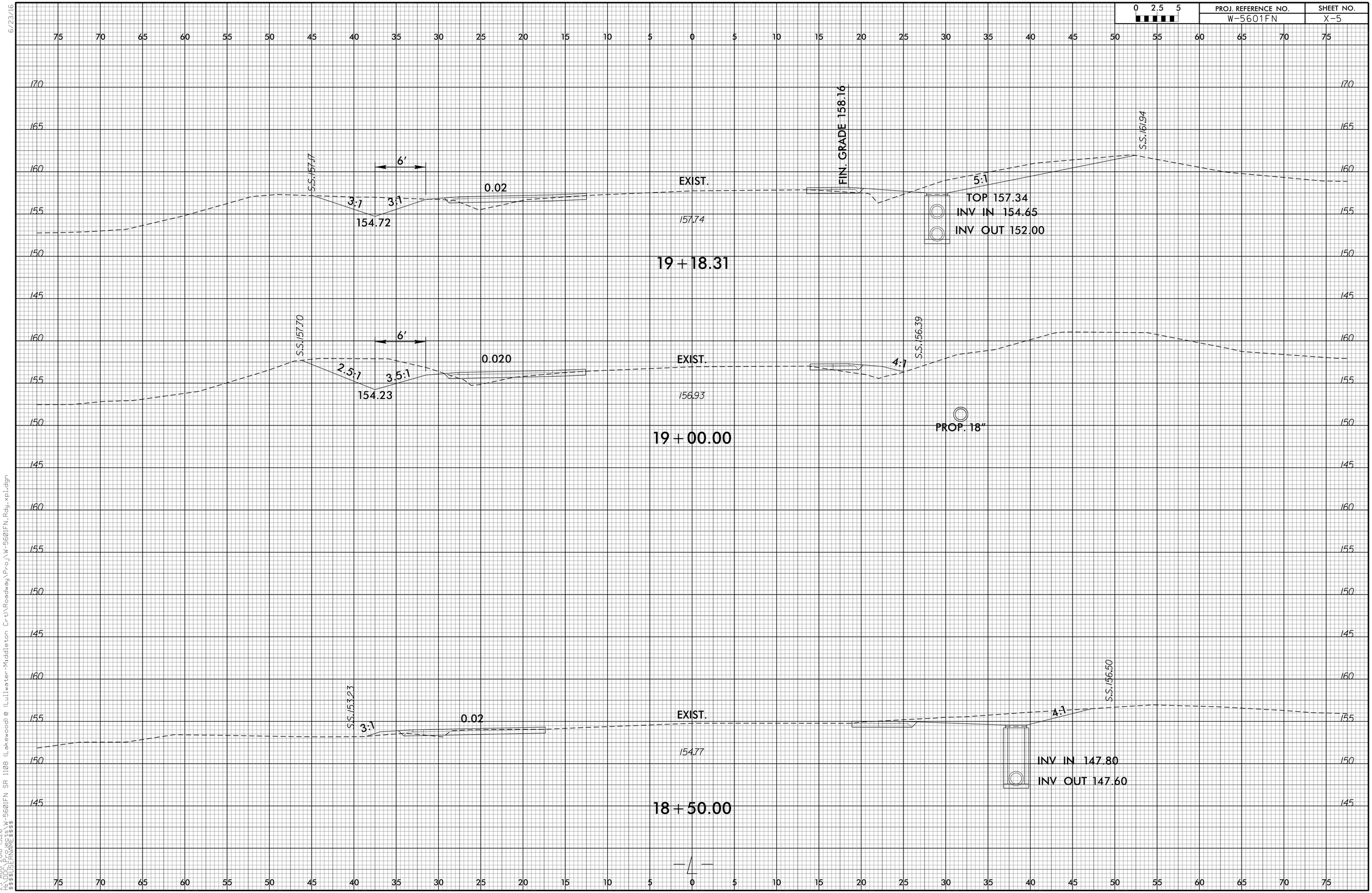
3:1

2:1

144.25

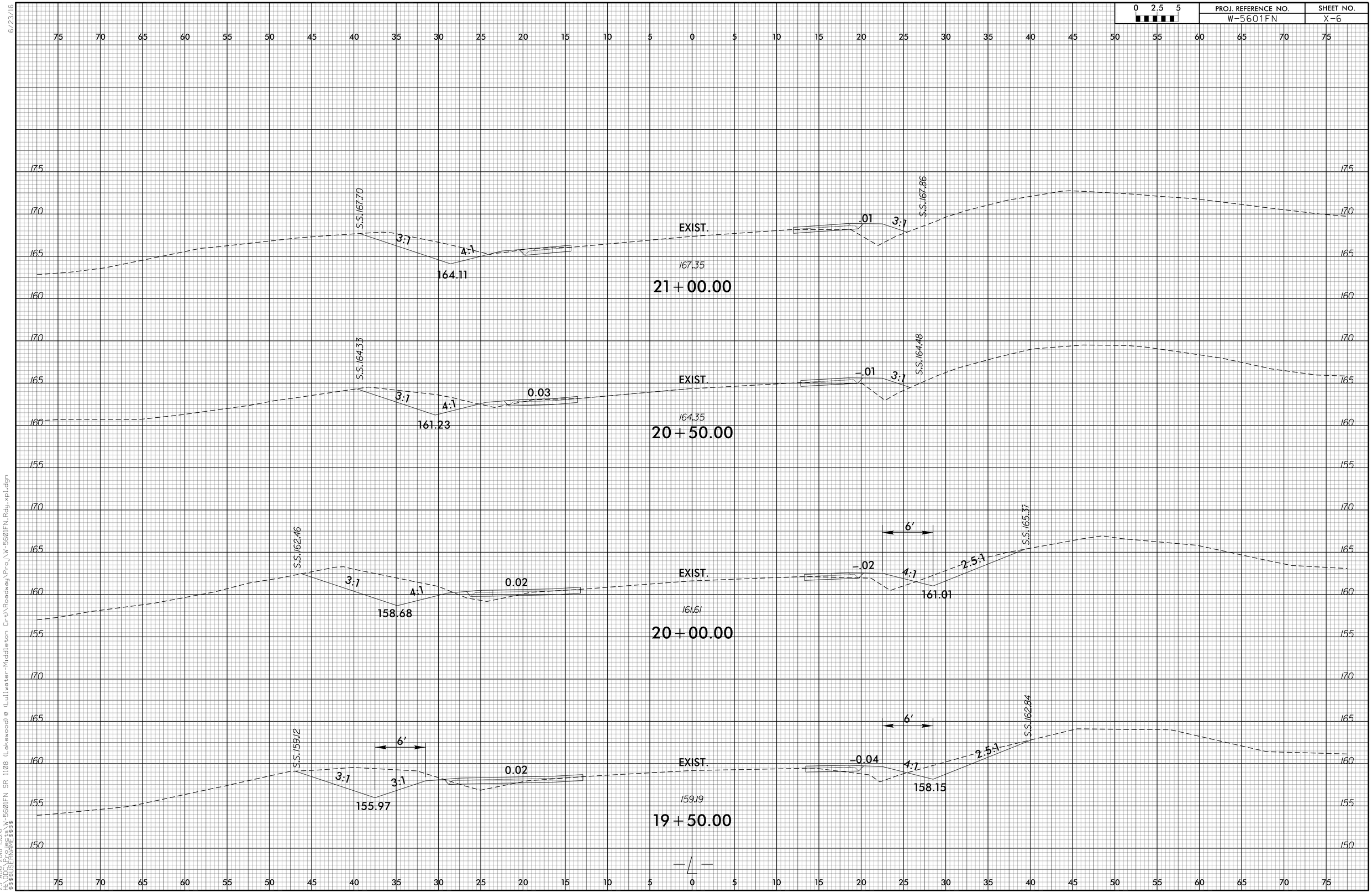
6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601FN	X-5



6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601FN	X-6



23-AUG-2018 15:26
H:\PROJECTS\W-5601FN SR 1108 (Lakewood) @ (Tullwater-Middleton C-U)\Roadway\Proj\W-5601FN_Rdy_xpl.dgn
$$$$USERNAME$$$$

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601FN	X-7

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

185 180 175 170

S.S.177.16

6'

3:1 4:1

173.91

EXIST.

.01

3:1

S.S.177.29

177.09

23+00.00

185 180 175 170

S.S.175.29

3:1 4:1

171.75

EXIST.

.01

3:1

S.S.174.51

175.06

22+50.00

165 180 175 170

S.S.173.70

3:1 4:1

169.37

EXIST.

.01

3:1

S.S.172.71

172.75

22+00.00

165 180 175 170

S.S.171.33

6'

3:1 4:1

166.93

EXIST.

.01

3:1

S.S.170.61

170.27

21+50.00

165 160

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601FN	X-8

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

190 185 180 175 195

182.25
25+00.00

END RESURFACING

EXIST.

181.15
24+50.00

END WIDENING

EXIST.

180.00
24+00.00

S.S.177.56

3:1

S.S.181.57

S.S.178.87

6'

3:1

3:1

176.14

.00

3:1

S.S.179.01

EXIST.

178.72
23+50.00

23-AUG-2018 15:26
USER NAME = $$$$USER
$$$$ICE_NAME = $$$$

C:\Users\$$$$USER\Desktop\W-5601FN_SR 1108 (Lakewood) @ (Lullwater-Middleton Crt)\Roadway\Proj\W-5601FN_Rdy-xpl.dgn