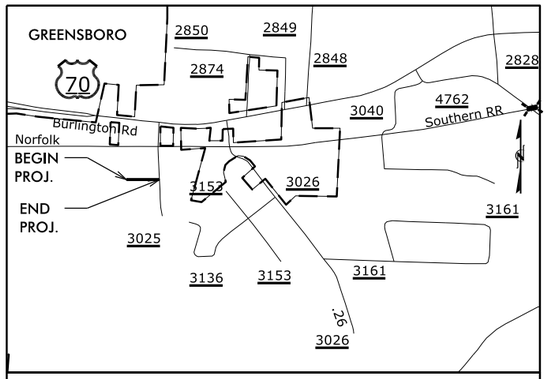
See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
RAIL DIVISION

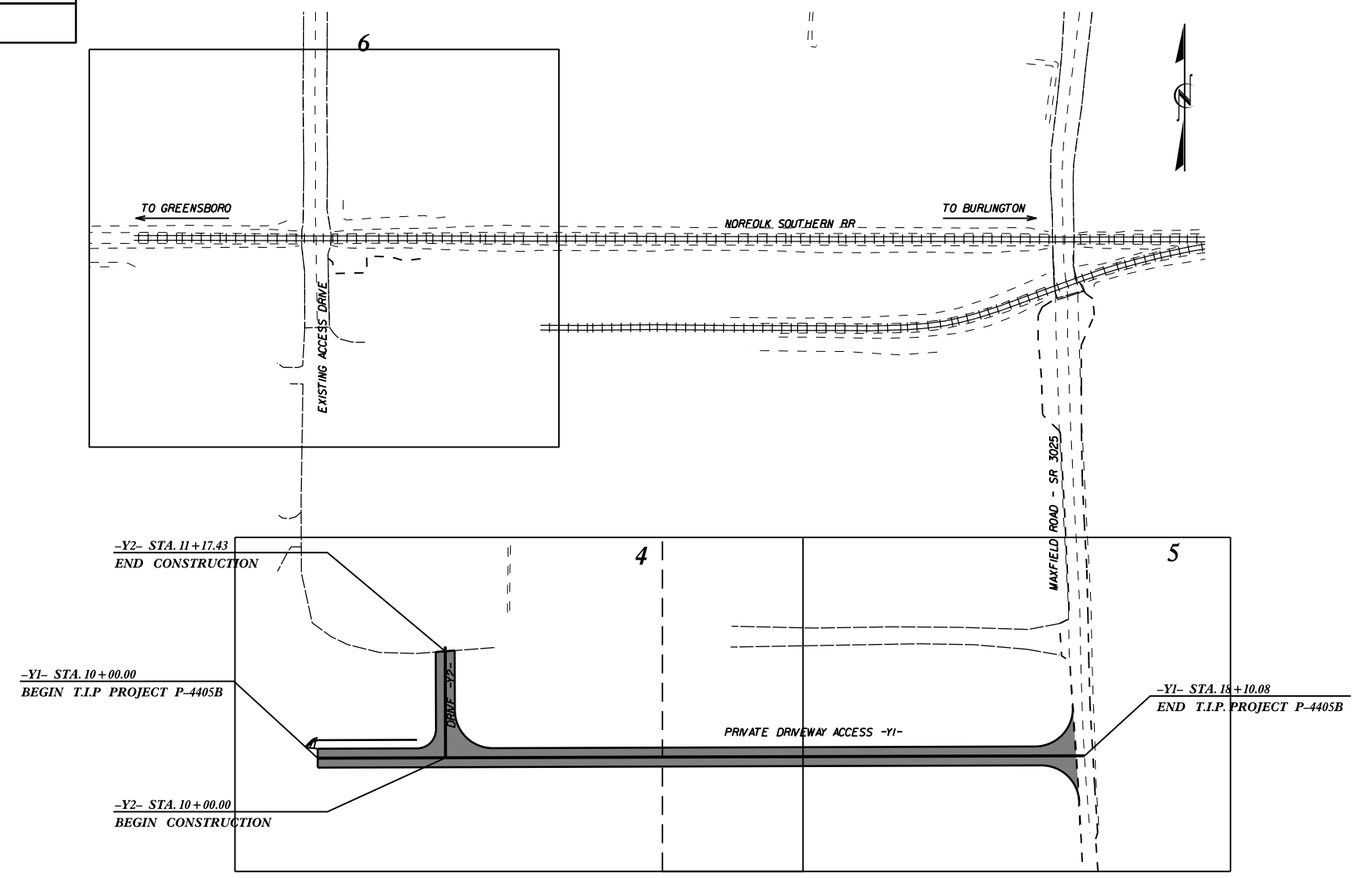
GUILFORD COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	P-4405B	1	.

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
62000.7.STR03T1B		PE
62000.7.STR05T4		CONST.

LOCATION: THOMAS & HOWARD CROSSING CLOSURE & ALTERNATE ACCESS FROM PARKING AREA TO SR 3025 (MAXFIELD ROAD)

TYPE OF WORK: PAVING, GRADING, AND DRAINAGE



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

5 2.5 0 4 8
PROFILE (VERTICAL)

DESIGN DATA

ADT 2012 = N/A
ADT 2032 = N/A
DHV = N/A %
D = N/A %
T = N/A % *
V = 25 MPH
N/A DUAL __
FUNC CLASS =
N/A
N/A TIER

PROJECT LENGTH

LENGTH OF ROADWAY TUP PROJECT P-4405B = 0.0153 MILE
TOTAL LENGTH STATE PROJECT P-4405B = 0.0153 MILE

Prepared in the Office of:
RAIL DIVISION
1556 MAIL SERVICE CENTER, RALEIGH, NC 27699

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE: SPRING 2014

DAN HAVENER, PE
PROJECT ENGINEER

BRIAN GACKSTETTER, EI
PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.

TIP PROJECT: P-4405B

CONTRACT:

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
P-4405B	1-A

DESIGN ENGINEER

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3-A	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
4 THRU 6	PLAN SHEET
7	PROFILE SHEET
EC-1 THRU EC-9	EROSION CONTROL PLANS
X-0 THRU X-5	CROSS-SECTIONS

EFF. 01-17-2012
REV. 10-30-2012

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch – N. C. Department of Transportation – Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 – EARTHWORK	
200.02	Method of Clearing – Method II
225.02	Guide for Grading Subgrade – Secondary and Local
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 – PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 8 – INCIDENTALS	
840.00	Concrete Base Pad for Drainage Structures
840.18	Concrete Grated Drop Inlet Type 'B' – 12" thru 36" Pipe
840.22	Frames and Wide Slot Sag Grates
840.25	Anchroage for Grames – Brick, Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'A' – 12" thru 72" Pipe
840.45	Precast Drainage Structure
862.01	Guardrail Placement
862.02	Guardrail Installation
DIVISION 9 – SIGNING	
904.50	Mounting of Type 'A', 'E', and 'F' Signs on 'U' Channel Posts
DIVISION 11 – WORK ZONE TRAFFIC CONTROL	
1101.01	Work Zone Advance Warning Signs For Facilities < 55 MPH
1101.02	Temporary Lane Closures–Divided Multi–Lane Roadway 1– Lane Closed (for Roadway < 60 MPH)
1101.04	Temporary Shoulder Closures
1101.11	Traffic Control Design Tables
1130.01	Drum

GENERAL NOTES: 2012 SPECIFICATIONS

EFFECTIVE: 01-17-2012
REVISED: 07-30-2012

GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

UTILITIES:

UTILITY ON THIS PROJECT WERE NOT PART OF THE SURVEY. THE CONTRACTOR SHALL CONTACT NORTH CAROLINA 811 TO LOCATE ANY UNDERGROUND UTILITIES.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATIONS AS TO THE SUBSURFACE CONDITIONS.

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PROJECT REFERENCE NO.	SHEET NO.
P-4405B	1-B

Note: Not to Scale

S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- 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
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

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:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

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
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

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

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (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
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?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 (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT REFERENCE NO.	SHEET NO.
P-4405B	2
R/W SHEET NO.	

DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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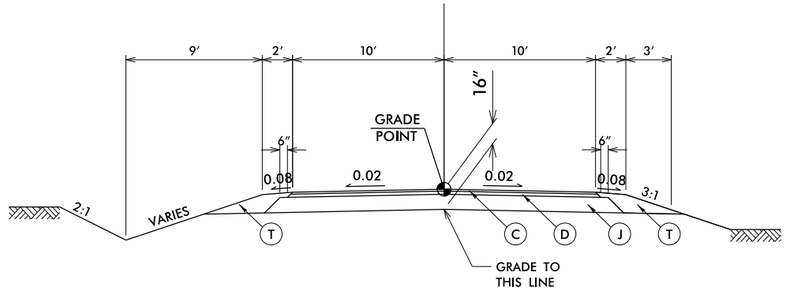
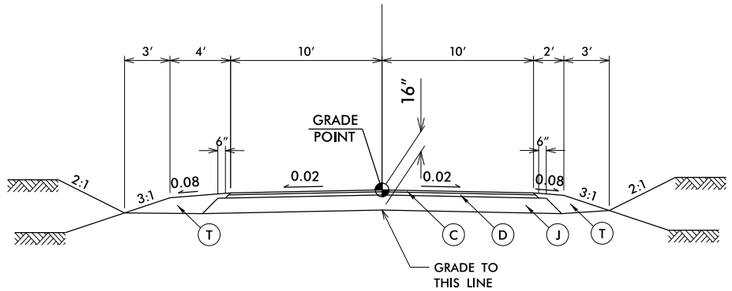
℄ –Y1– PRIVATE DRIVEWAY ACCESS



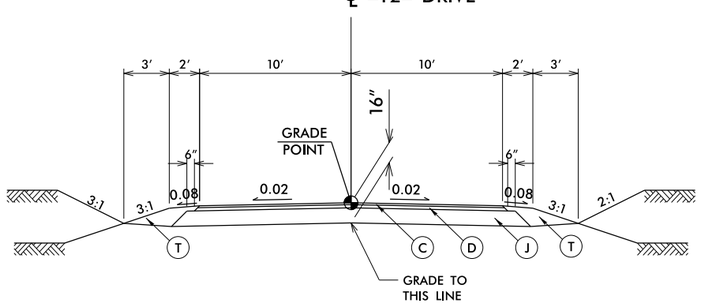
USE TYPICAL SECTION NO. 1:
–Y1– STA 10+00.00 TO 11+35.00

℄ –Y1– PRIVATE DRIVEWAY ACCESS



USE TYPICAL SECTION NO. 2:
–Y1– STA 11+35.00 TO 18+04.19

℄ –Y2– DRIVE



USE TYPICAL SECTION NO. 3:
–Y2– STA 10+00.00 TO 11+12.42

PAVEMENT SCHEDULE	
C	PROP. APPROX. 1.5″ ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
D	PROP. APPROX. 2.5″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
J	PROP. 12″ AGGREGATE BASE COURSE.
T	EARTH MATERIAL

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

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATION / SIZE / THICKNESS OR GAUGE	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) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT RCP	DO NOT CSP	DO NOT CAAP	DO NOT HDPE
-Y2- 10+37	CL	0501			766.04	766.52													
-Y1- 14+89.75	RT	0501		764.55															
-Y1- 14+89.75	LT	0501	0502		761.80	758.83													

STATION	C.S. PIPE 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"
-Y2- 10+37																		48						
-Y1- 14+89.75																								
-Y1- 14+89.75																		48						

STATION	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	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'	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	F	G		D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.22	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32					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
-Y2- 10+37																													
-Y1- 14+89.75			1											1		1													
-Y1- 14+89.75																													

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

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
-Y1- 10+00	18+00	1263	1144	119	0
-Y1- SUBTOTALS:		1263	1144	119	0
-Y2- 10+00	10+50	320	14	0	306
-Y2- SUBTOTALS:		320	14	0	306
SUBTOTALS:					
PROJECT TOTALS:		1583	1158	119	306
GRAND TOTALS:		1583	1158	119	310
SAY:		1585	1160	120	310

ADDITIONAL UNDERCUT = 100 CY

APPROXIMATE QUANTITIES ONLY. CLEARING AND GRUBBING, BORROW EXCAVATION, UNCLASSIFIED EXCAVATION, SHOULDER BORROW, FINE GRADING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AS THE LUMP SUM PRICE FOR "GRADING".

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
SHEET 6	EXIST RAILROAD CROSSING		CL	400
		TOTAL:		400
		SAY:		400

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	SHOP CURVED	DOUBLE FACED	WARRANT POINT APPROACH END	TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	TRAILING END	W APPROACH END	TRAILING END	ANCHORS XI MOD	XI	GRAU 350	M-350	XIII	CAT-1	VI MOD	BIC	AT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
SHEET 6	EX DRIVEWAY AT RAILROAD CROSSING			25'																							X			CROSSING CLOSURE
-Y1-	10+00.00	10+00.00	LT/RT	25'																							X			SITUATED AT BEGINNING OF Y1
			TOTAL	50'																										

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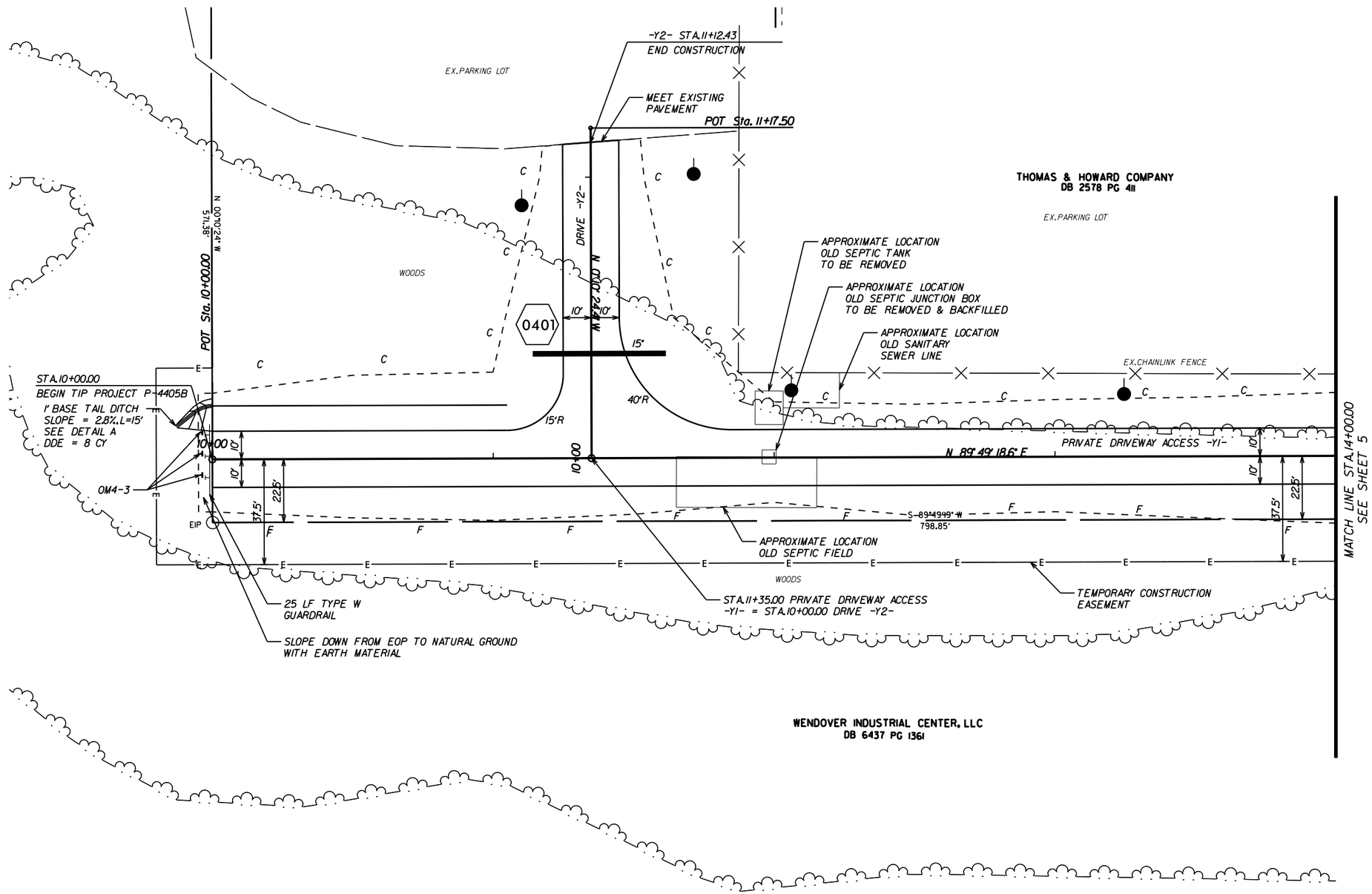
PROJECT REFERENCE NO.	SHEET NO.
P-4405B	4
R/W SHEET NO.	

DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NOTES:

1. ALL INFORMATION SHOWN ON THE PLAN SHEET HAS NOT BEEN COMPLETELY FIELD SURVEYED. INFORMATION BASED ON AERIAL PHOTOGRAPHY, AERIAL SURVEY AND FIELD SURVEY. ALL PHYSICAL LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. CONTRACTOR SHALL CONTACT NORTH CAROLINA 811 TO LOCATE ALL UNDERGROUND UTILITIES IN THE WORK AREA.

3. THE OLD SEPTIC SYSTEM SHOWN ON THE PLAN IS NOT ACTIVE AND SHOULD BE REMOVED. IF FOUND, ON-SITE MATERIAL, FROM EXCESS CUT, MAY BE USED. BACKFILL MATERIAL SHALL BE COMPACTED TO 95% MODIFIED PROCTOR.

-Y1- ALIGNMENT COORDINATES
STA.10+00.00 N-850,270.49
E-1,787,509.59
STA.18+10.08 N-850,273.01,
E-1,788,319.67

-Y2- ALIGNMENT COORDINATES
STA.10+00.00 N-850,270.91,
E-1,787,644.59
STA.11+17.50 N-850,388.41,
E-1,787,644.23

FOR -Y1- PROFILE SEE SHEET 7
FOR -Y2- PROFILE SEE SHEET 7

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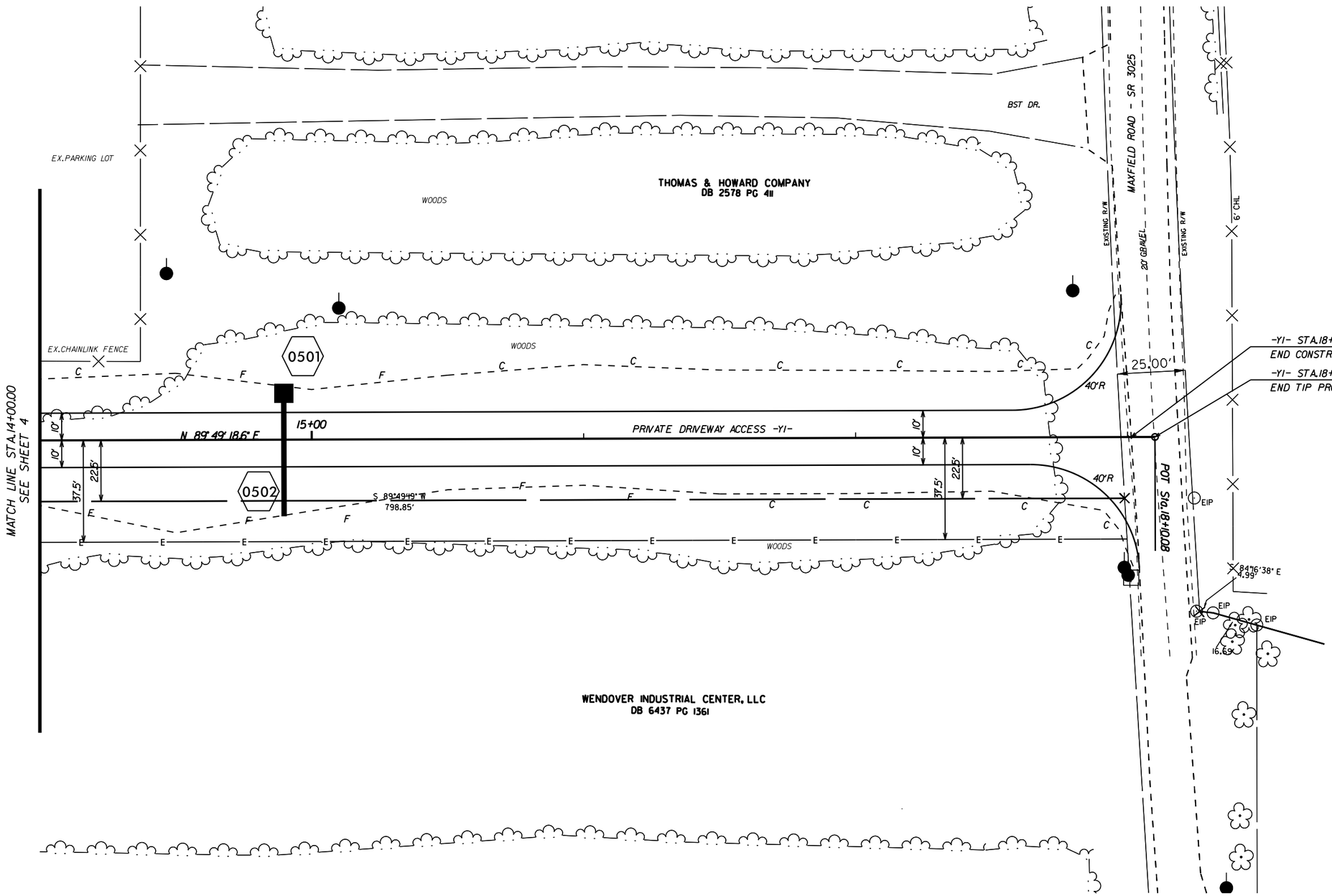
Alex Alvarez 2268

PROJECT REFERENCE NO.	SHEET NO.
P-4405B	5
R/W SHEET NO.	

DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NOTES:

1. ALL INFORMATION SHOWN ON THE PLAN SHEET HAS NOT BEEN COMPLETELY FIELD SURVEYED. INFORMATION BASED ON AERIAL PHOTOGRAPHY, AERIAL SURVEY AND FIELD SURVEY. ALL PHYSICAL LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. CONTRACTOR SHALL CONTACT NORTH CAROLINA 811 TO LOCATE ALL UNDERGROUND UTILITIES IN THE WORK AREA.

3. THE PLAN SHOWS MAXFIELD ROAD IN ITS CURRENT CONDITION AND IS CURRENTLY IN DESIGN TO BE PAVED AND SHIFTED IN ITS CURRENT ALIGNMENT. FIELD ADJUSTMENTS MAYBE REQUIRED TO ACCOMMODATE NEW LOCATION.

-Y1- ALIGNMENT COORDINATES
STA.10+00.00 N-850,270.49
E-1,787,509.59
STA.18+10.08 N-850,273.01,
E-1,788,319.67

-Y2- ALIGNMENT COORDINATES
STA.10+00.00N-850,270.91,
E-1,787,644.59
STA.11+17.50N-850,388.41,
E-1,787,644.23

FOR -Y1- PROFILE SEE SHEET 7

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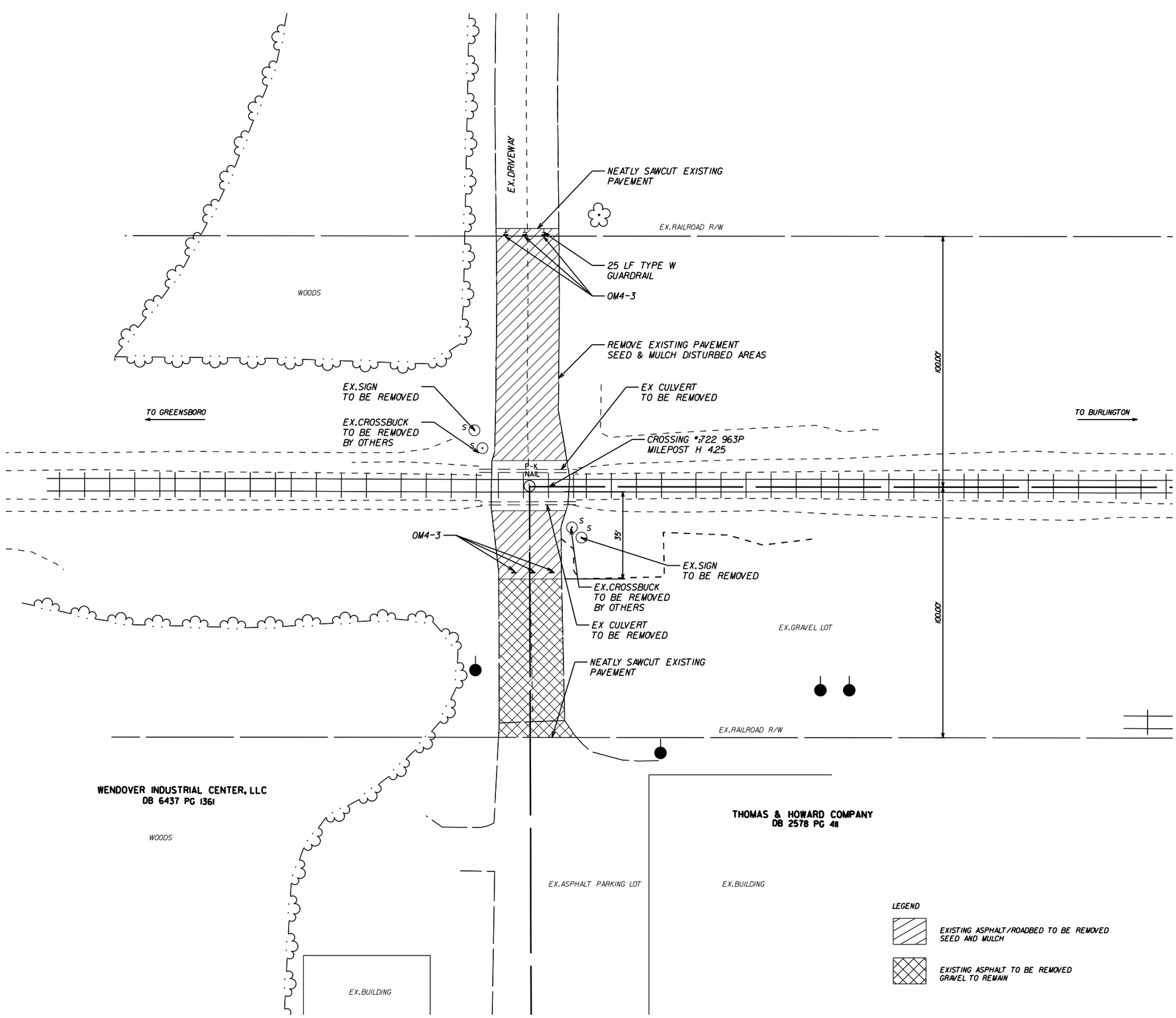
PROJECT REFERENCE NO.	SHEET NO.
P-4405B	6
R/W SHEET NO.	

DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NOTES:

1.THE EXISTING PAVEMENT INSIDE THE NORFOLK SOUTHERN RAILROAD RAILS AND TO A POINT 10 FEET OUTSIDE THE RAILS WILL BE REMOVED BY THE RAILROAD CONTRACTOR. THE RAIL SEAL AND ASPHALT OVER THE TIES WILL ALSO BE REMOVED BY THE RAILROAD CONTRACTOR.

2.THE EXISTING RAILROAD CROSSBUCKS SHALL BE REMOVED BY THE RAILROAD CONTRACTOR

3.THE EXISTING CULVERT ADJACENT TO THE TRACK WILL BE REMOVED BY THE CONTRACTOR AND THE DITCH WILL BE REGRADED BY THAT CONTRACTOR AS WELL.

4.CONTRACTOR SHALL SEED AND MULCH THE DISTURBED AREA OUTSIDE THE RAILROAD BALLAST LINE.

5.ALL INFORMATION SHOWN ON THE PLAN SHEET HAS NOT BEEN COMPLETELY FIELD SURVEYED.INFORMATION BASED ON AERIAL PHOTOGRAPHY.AERIAL SURVEY AND FIELD SURVEY. ALL PHYSICAL LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

6.CONTRACTOR SHALL CONTACT NORTH CAROLINA 811 TO LOCATE ALL UNDERGROUND UTILITIES IN THE WORK AREA.CONTRACTOR SHALL ALSO CONTACT NSR TO VERIFY AND LOCATE ANY NSR UTILITIES THAT ARE IN THE PROJECT AREA (E.G.BURIED SIGNAL CABLES) BEFORE COMMENCING WORK.

7.CONTRACTOR SHALL REMOVE EXISTING ROADBED AND GRADE AREA TO MATCH ADJACENT TOPOGRAPHY AND GRADE EXISTING DITCHES TO DRAIN. ANY EXISTING CULVERTS IN THE RAILROAD DITCHES SHALL BE REMOVED AS WELL.

8.A W14-1 SIGN SHALL BE PLACED ON THE SOUTHBOUND SIDE OF THE DRIVEWAY,30 FEET FROM THE INTERSECTION OF US 70.

9.PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

10.ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

DGN 0001T_P21g 5/14/99

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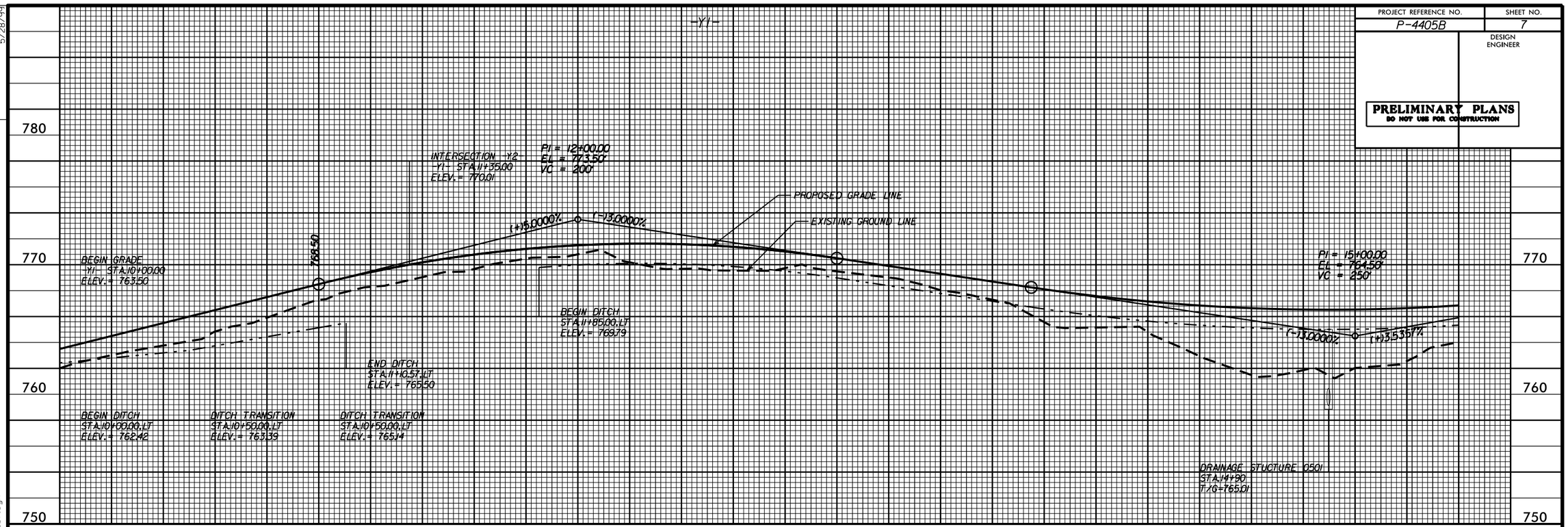
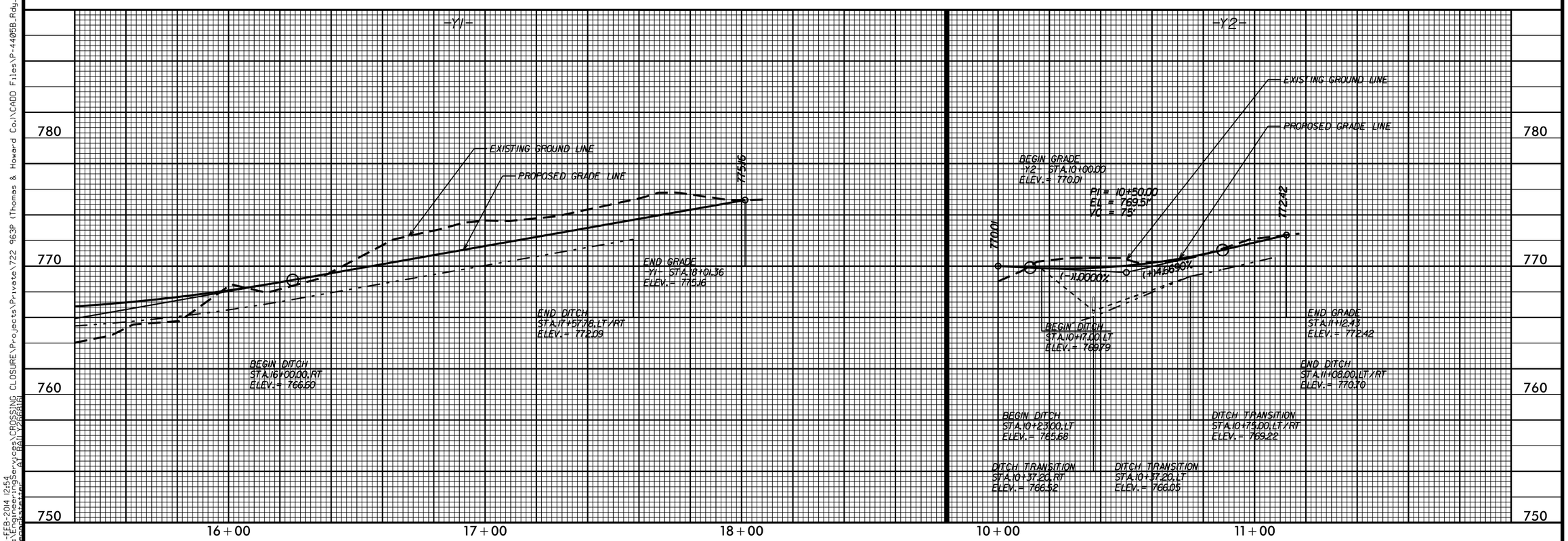
Projects\P-4405B\722 963P (Thomas & Howard Co.)\CADD Files\P-4405B_Rdg_psh06.dgn
User: ALBRIGHT, JOSHUA

PROJECT REFERENCE NO.	SHEET NO.
P-4405B	7

DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





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Bob Hartman

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
P-4405B	X-0

INDEX TO CROSS SECTIONS

ALIGNMENT	ROAD NAME	NO. OF SHEETS	SHEET NO.	
			FROM	TO
-Y1-	DRIVEWAY	9	X-1	X-4
-Y2-	DRIVEWAY	2	X-5	X-5

CROSS-SECTION SUMMARY

STATION	UNCL. EXCAV.	EMBANK.
Y1		
10+50	37	34
11+00	78	46
11+50	63	34
12+00	34	17
12+50	30	33
13+00	25	38
13+50	38	34
14+00	38	59
14+50	38	166
15+00	18	238
15+50	19	146
16+00	107	47
16+50	183	13
17+00	218	13
17+50	230	13
18+00	107	6
Y2		
10+50	125	5
11+00	181	5
11+50	14	2

APPROXIMATE QUANTITIES ONLY. CLEARING AND GRUBBING, BORROW EXCAVATION, UNCLASSIFIED EXCAVATION, SHOULDER BORROW, FINE GRADING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AS THE LUMP SUM PRICE FOR "GRADING".

DCN 0001T_P2lg 12/06/07
14-FEB-2014 13:05
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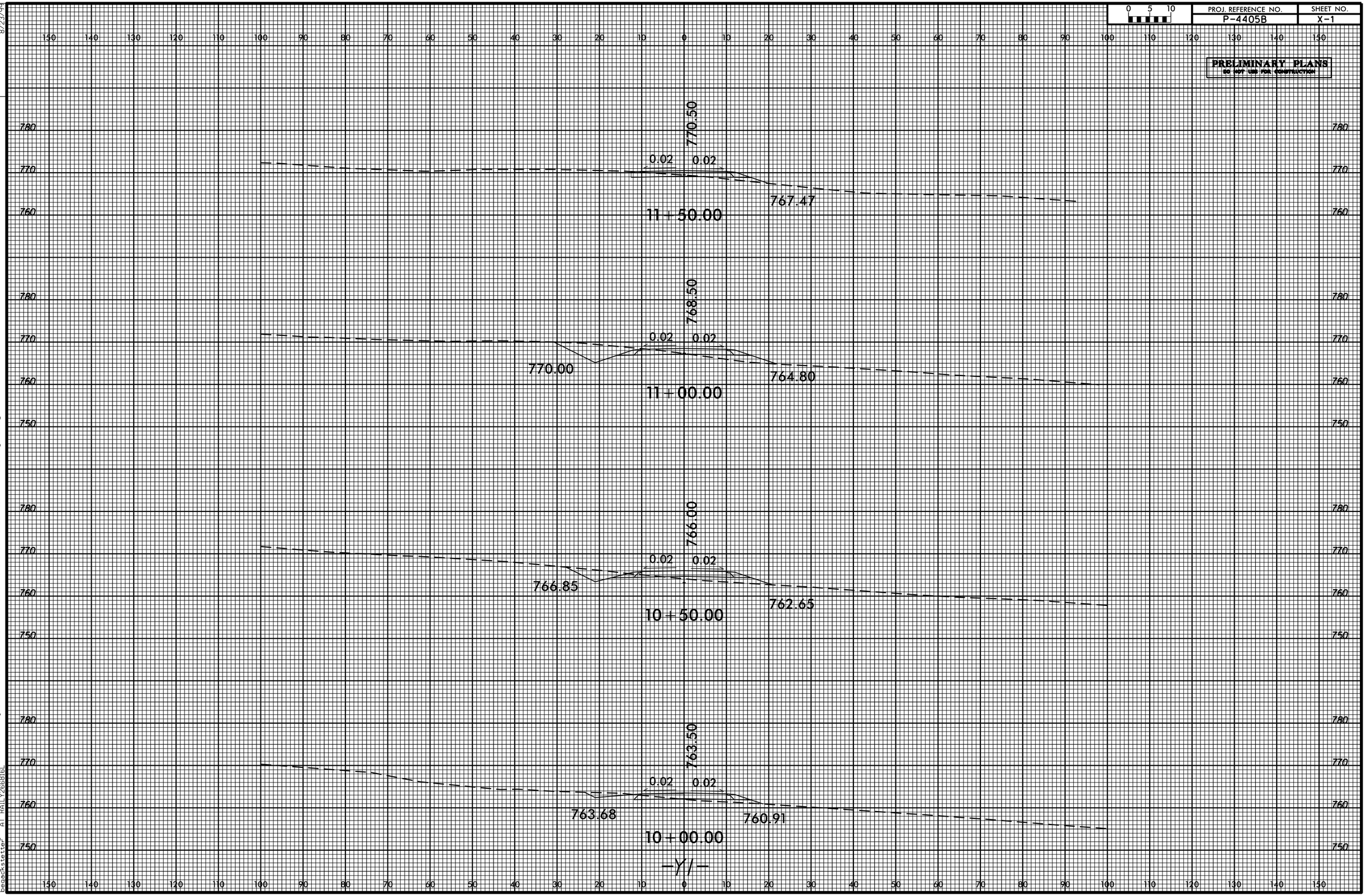

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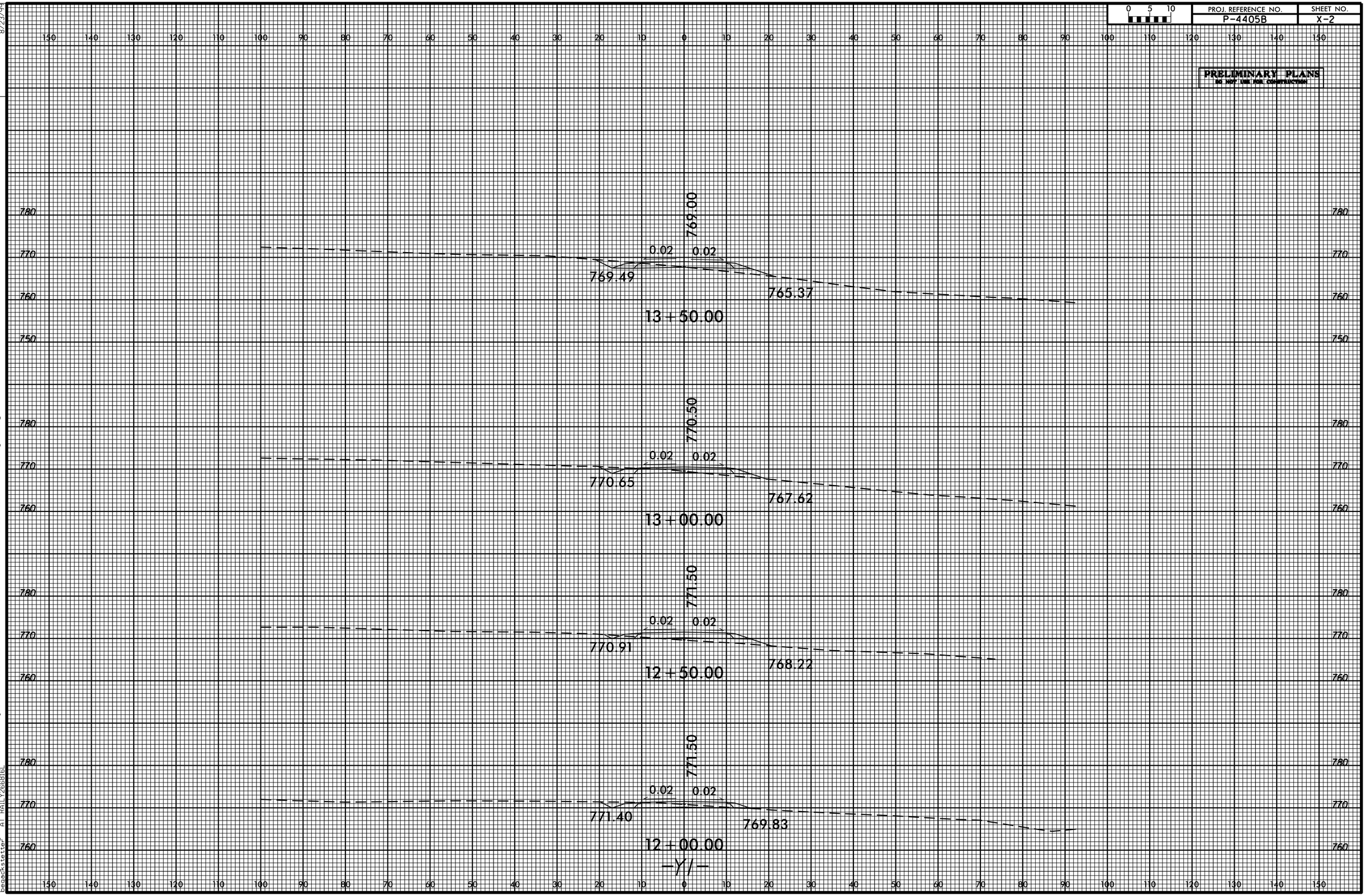

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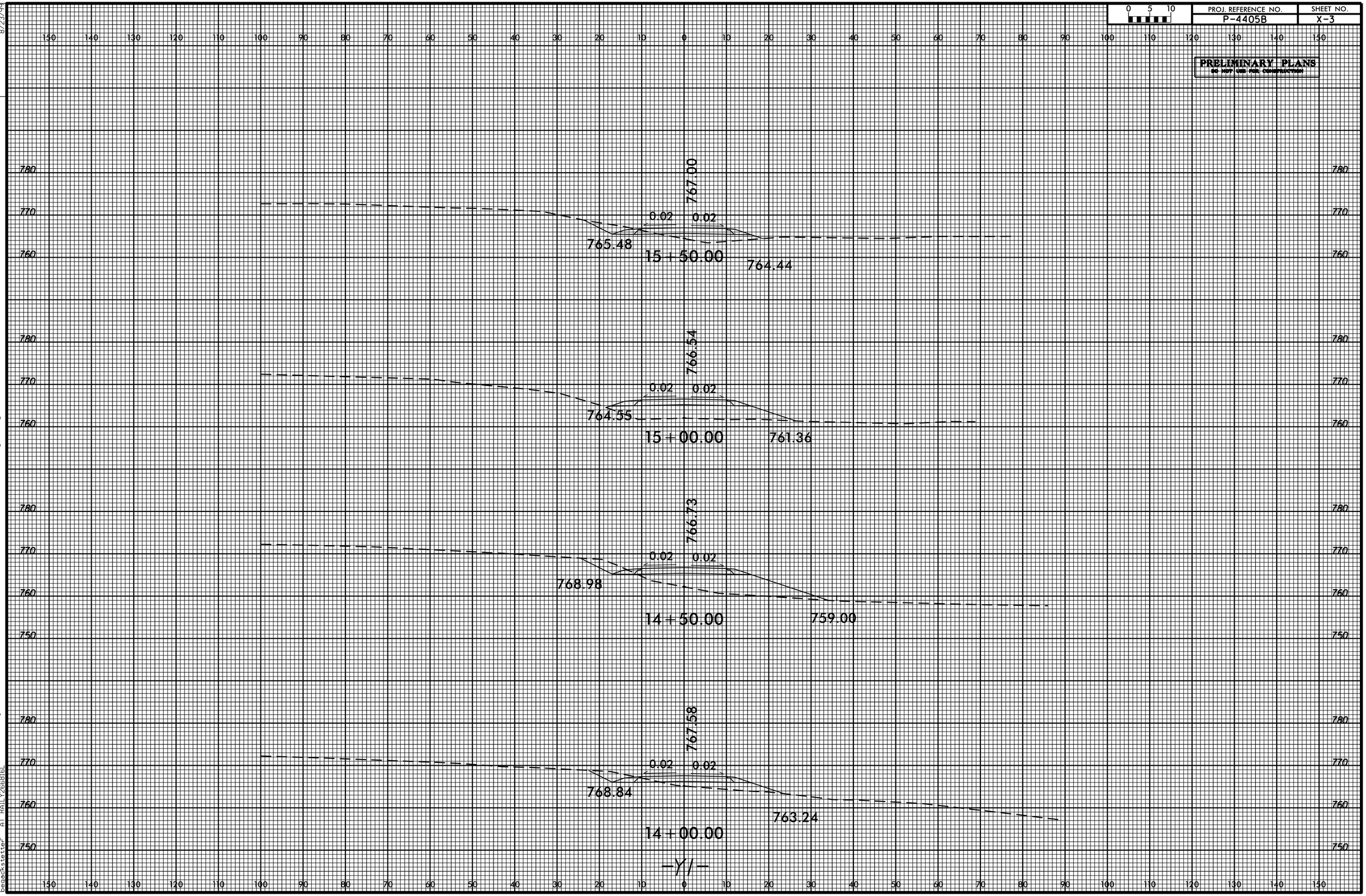

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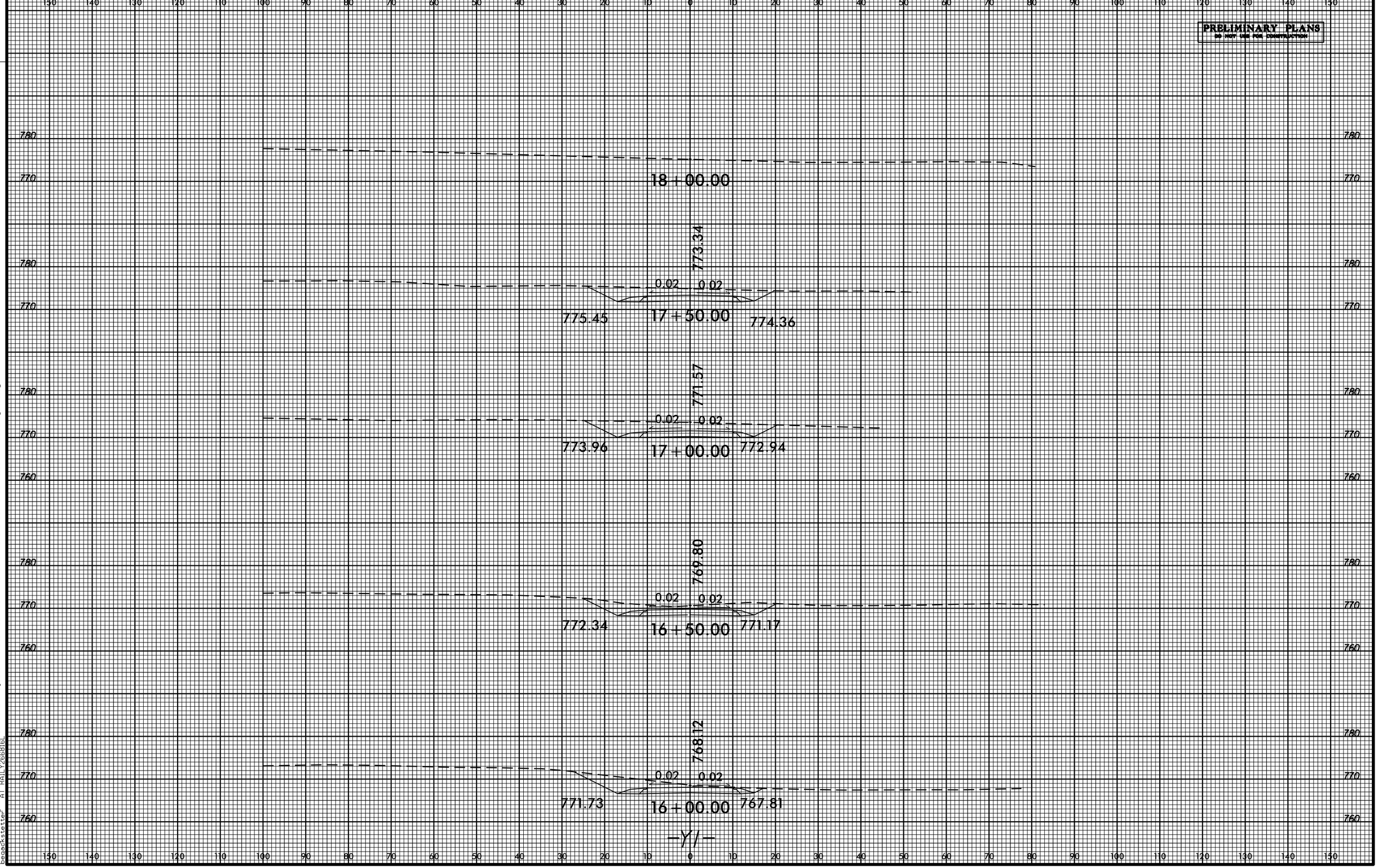

PROJ. REFERENCE NO.
P-4405B
SHEET NO.
X-4
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
18+00.00
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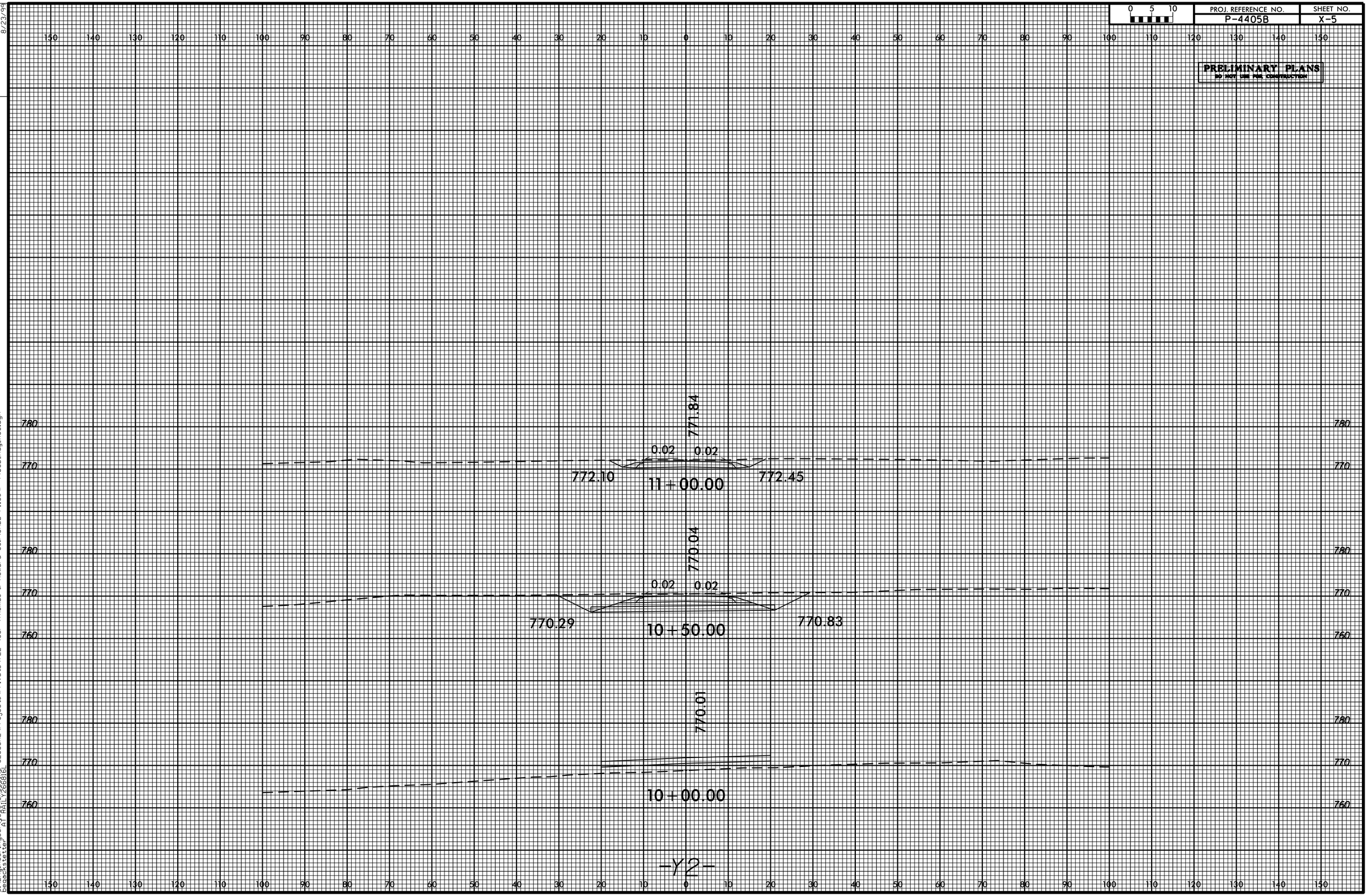
0.02
0.02
775.45
17+50.00
774.36
771.57
0.02
0.02
773.96
17+00.00
772.94
769.80
0.02
0.02
772.34
16+50.00
771.17
768.12
0.02
0.02
771.73
16+00.00
767.81
-Y/-



PROJ. REFERENCE NO.
P-4405B
SHEET NO.
X-5
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
771.84
0.02
0.02
772.10
11+00.00
772.45
770.04
0.02
0.02
770.29
10+50.00
770.83
770.01
10+00.00
-Y2-

TIP PROJECT: P-4405B

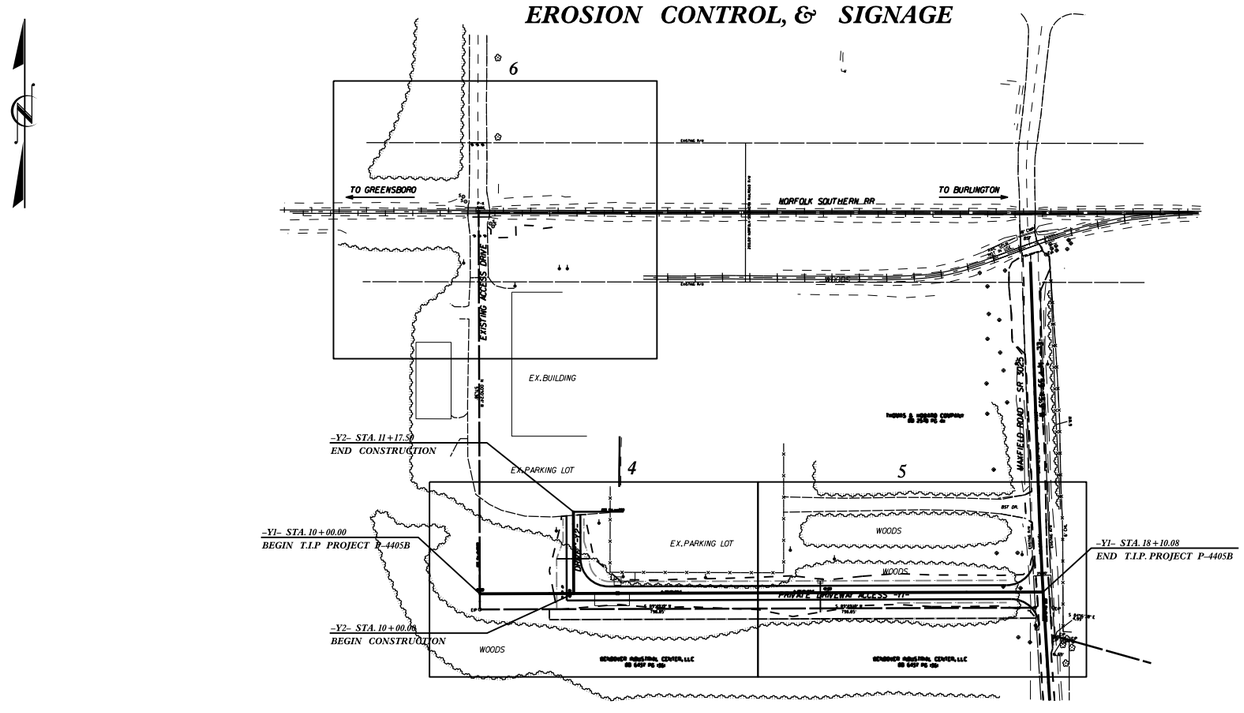
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

GUILFORD COUNTY

LOCATION: THOMAS & HOWARD CROSSING CLOSURE & ALTERNATE ACCESS FROM PARKING AREA TO SR 3025 (MAXFIELD ROAD)

TYPE OF WORK: PAVING, GRADING, DRAINAGE, PAVEMENT REMOVAL EROSION CONTROL, & SIGNAGE



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	P-4405B	EC-1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

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	

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:

ROADSIDE ENVIRONMENTAL UNIT

1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

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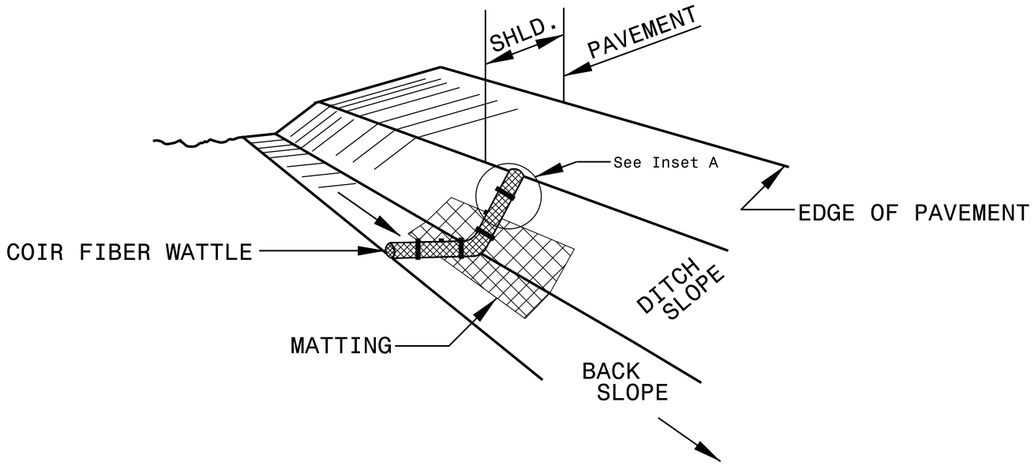
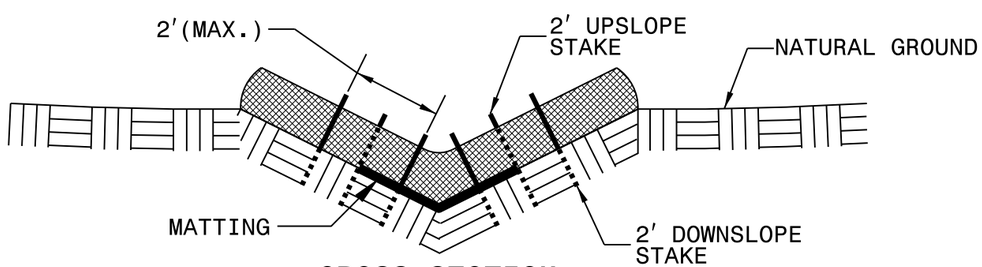
$$$$USER ALTERNATE$$$$

PROJECT REFERENCE NO.	SHEET NO.
P-4405B	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

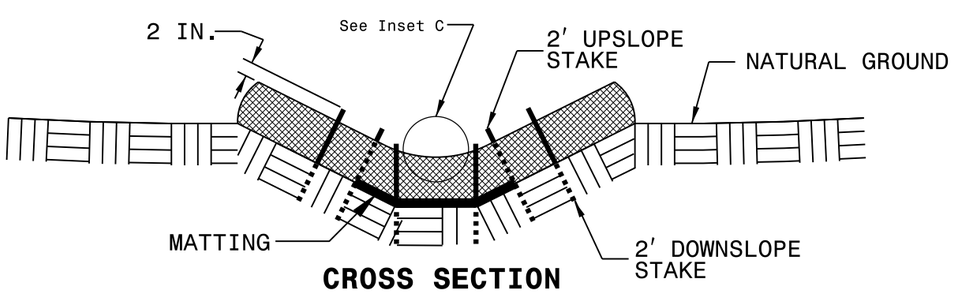
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

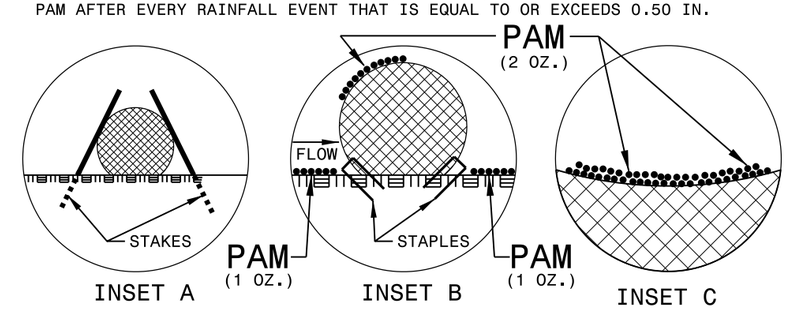
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

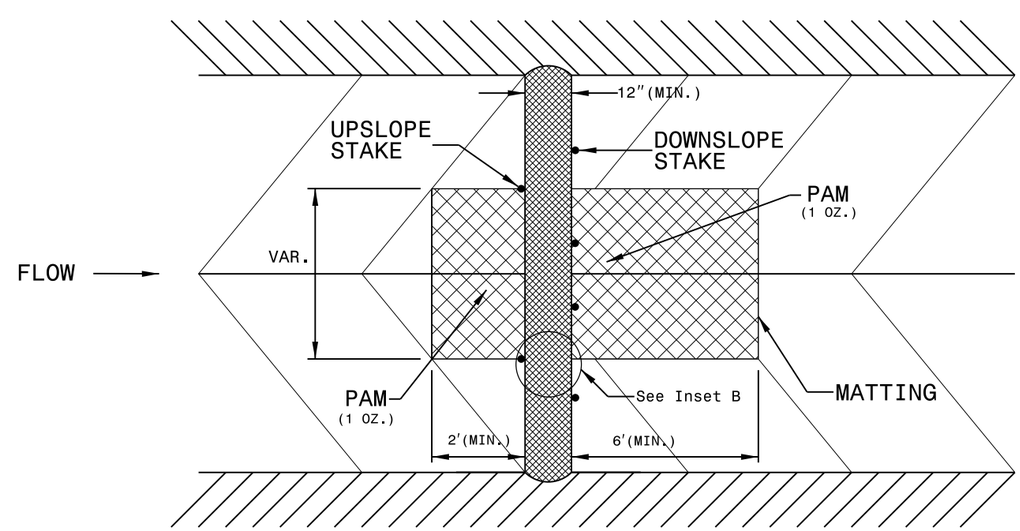
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

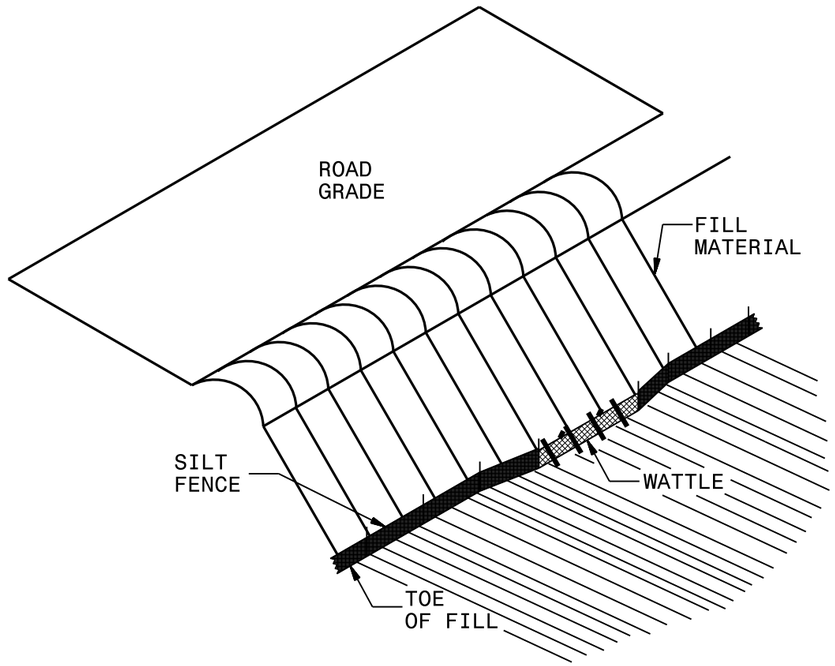




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
P-4405B	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

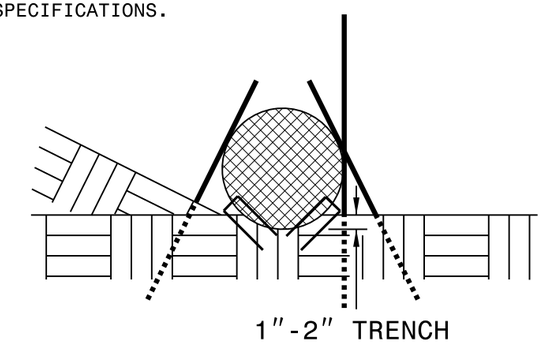
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

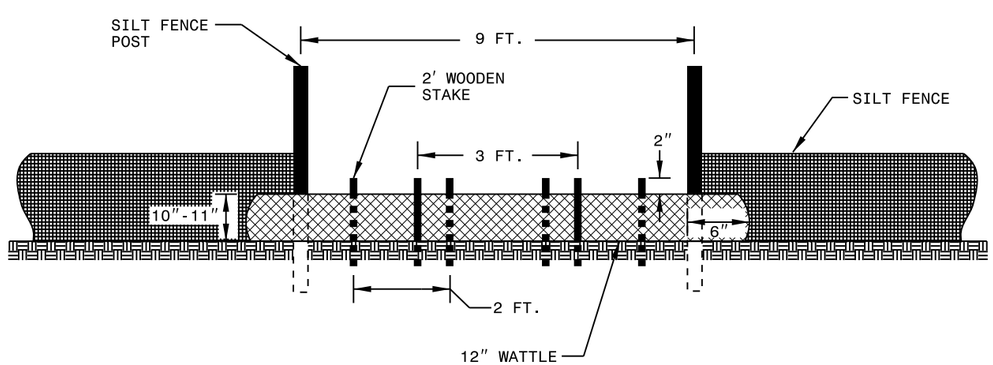
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

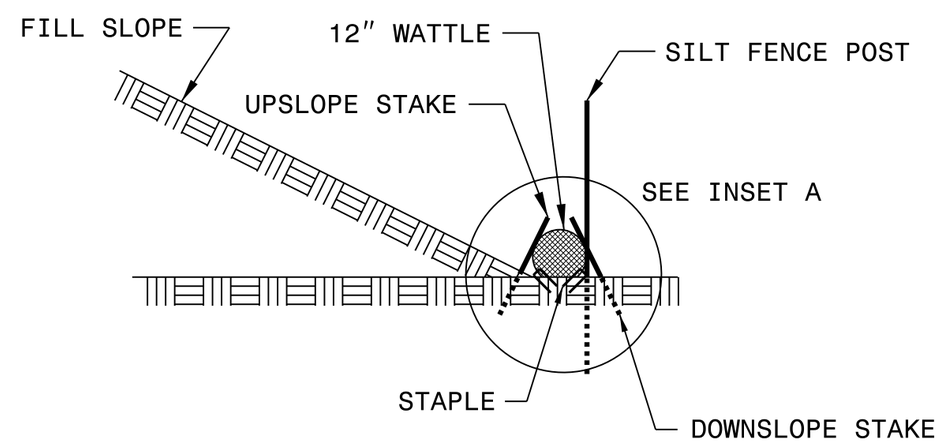
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A





VIEW FROM SLOPE



SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
P-4405B	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

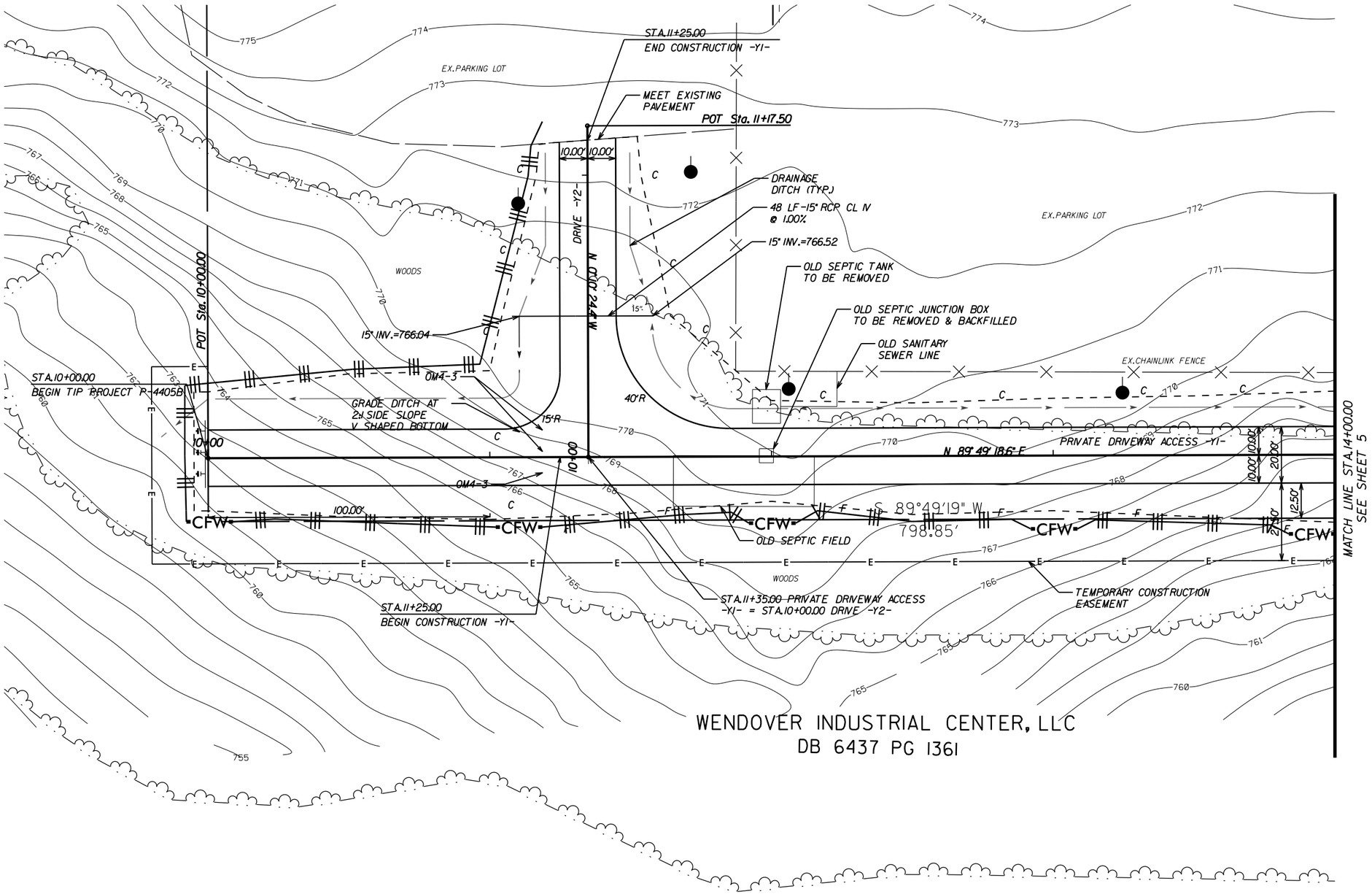
SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
P-4405B	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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



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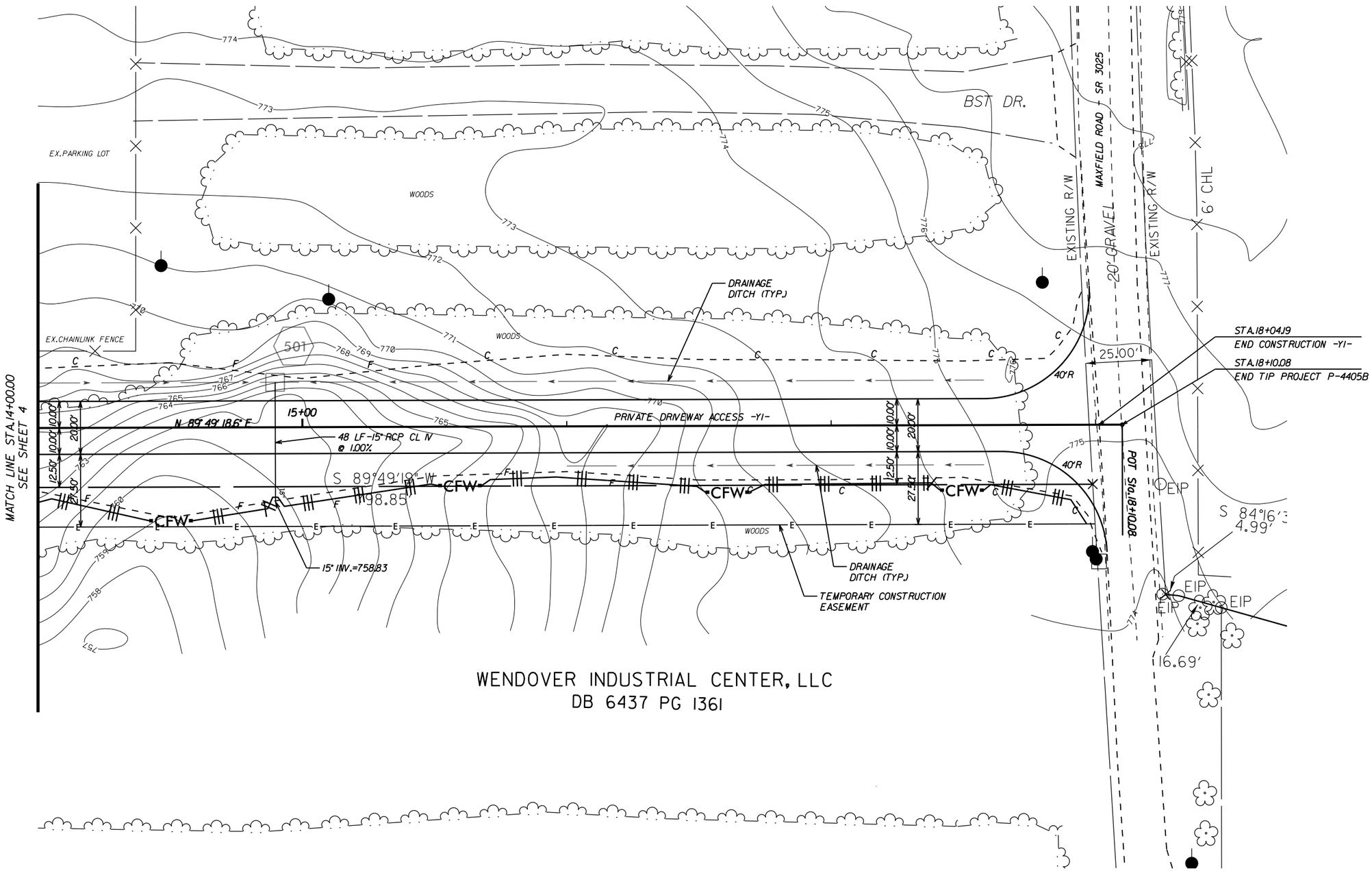
PROJECT REFERENCE NO.	SHEET NO.
P-4405B	EC-5/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

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



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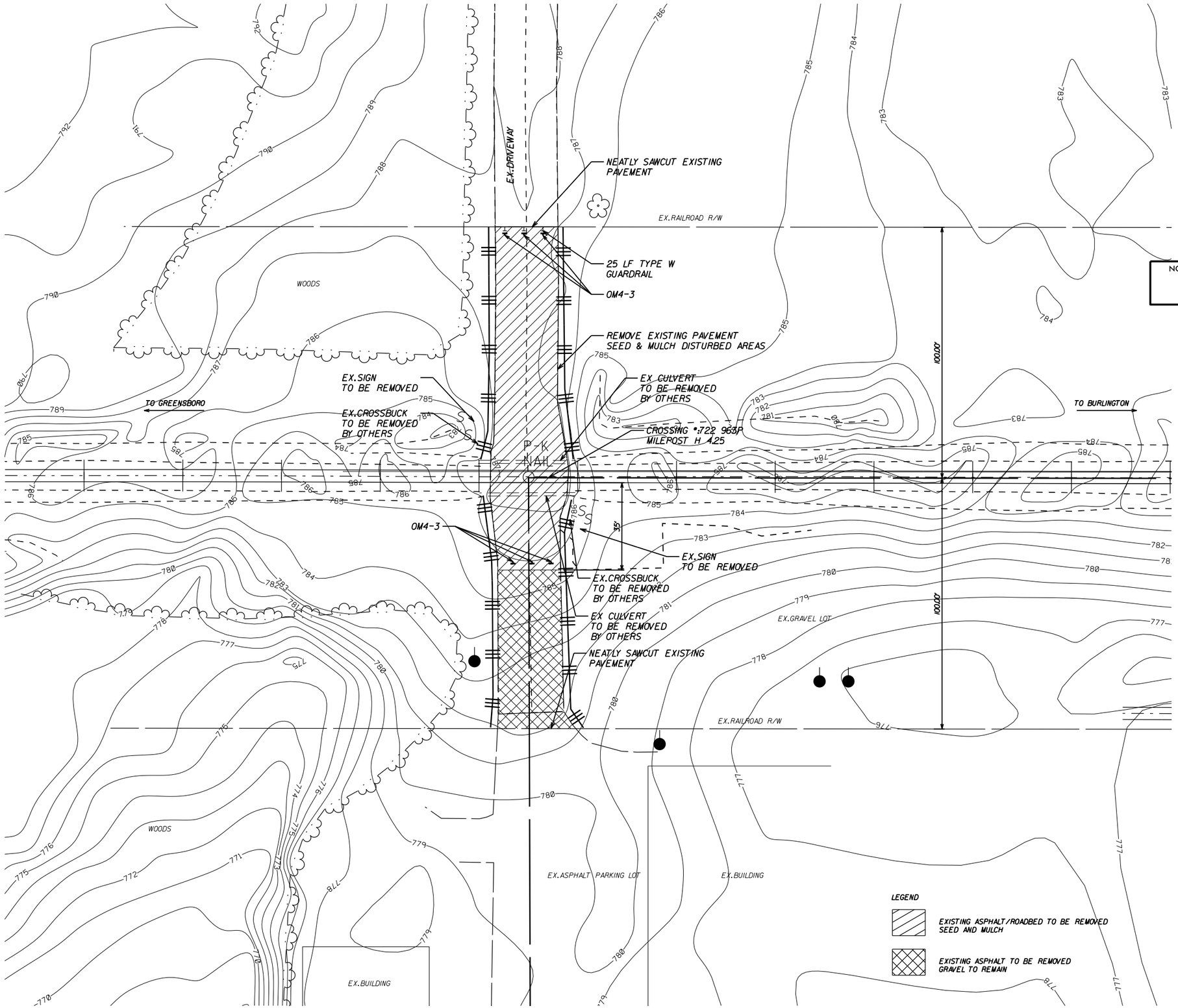
PROJECT REFERENCE NO.	SHEET NO.
P-4405B	EC-6/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
20 10 0 20 40
PLANS



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

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

NOTES:

1.THE EXISTING PAVEMENT INSIDE THE NORFOLK SOUTHERN RAILROAD RAILS WILL BE REMOVED BY THE RAILROAD CONTRACTOR.THE RAIL SEAL AND ASPHALT OVER THE TIES WILL ALSO BE REMOVED BY THE RAILROAD CONTRACTOR.

2.THE EXISTING RAILROAD CROSSBUCKS SHALL BE REMOVED BY THE RAILROAD CONTRACTOR.

3.THE EXISTING CULVERT ADJACENT TO THE TRACK WILL BE REMOVED BY THE RAILROAD CONTRACTOR AND THE DITCH WILL BE REGRADED BY THAT CONTRACTOR AS WELL.

4.CONTRACTOR SHALL SEED AND MULCH THE DISTURBED AREA OUTSIDE THE RAILROAD BALLAST LINE.

5.ALL INFORMATION SHOWN ON THE PLAN SHEET HAS NOT BEEN COMPLETELY FIELD SURVEYED.INFORMATION BASED ON AERIAL PHOTOGRAPHY,AERIAL SURVEY AND FIELD SURVEY. ALL PHYSICAL LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

6.CONTRACTOR SHALL CONTACT NORTH CAROLINA 811 TO LOCATE ALL UNDERGROUND UTILITIES IN THE WORK AREA.

7.CONTRACTOR SHALL REMOVE EXISTING ROADBED AND GRADE AREA TO MATCH ADJACENT TOPOGRAPHY AND GRADE EXISTING DITCHES TO DRAIN. ANY EXISTING CULVERTS IN THE RAILROAD DITCHES SHALL BE REMOVED AS WELL.

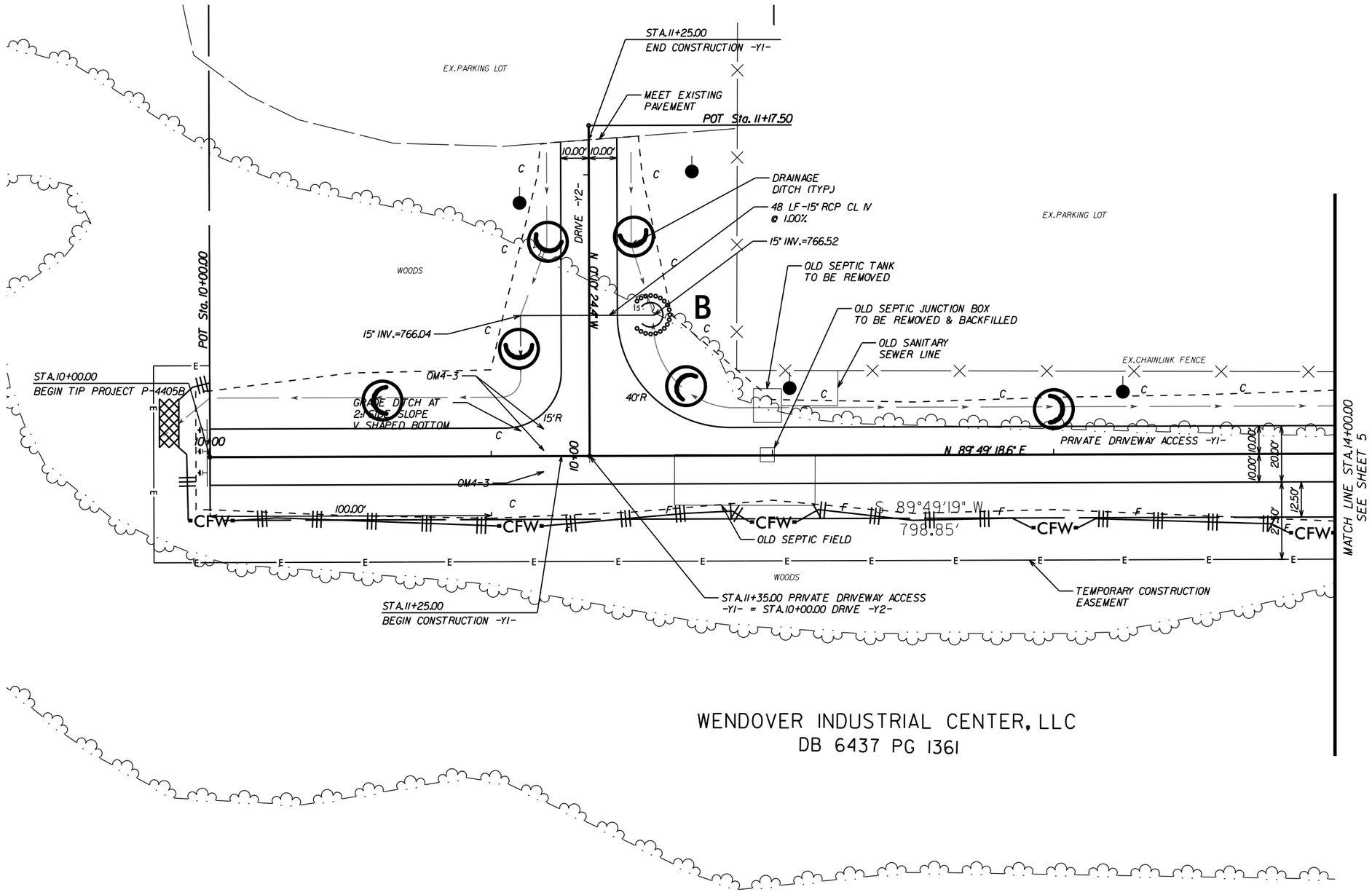
8.A W14-1 SIGN SHALL BE PLACED ON THE SOUTHBOUND SIDE OF THE DRIVEWAY,30 FEET FROM THE INTERSECTION OF US 70.

9.PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

10.ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

5/14/99
07-JAN-2014 10:39
Environmental Design\P-4405B_EC_psh06.dgn
Bentley Microstation

PROJECT REFERENCE NO.	SHEET NO.
P-4405B	EC-7/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



WENDOVER INDUSTRIAL CENTER, LLC
DB 6437 PG 1361

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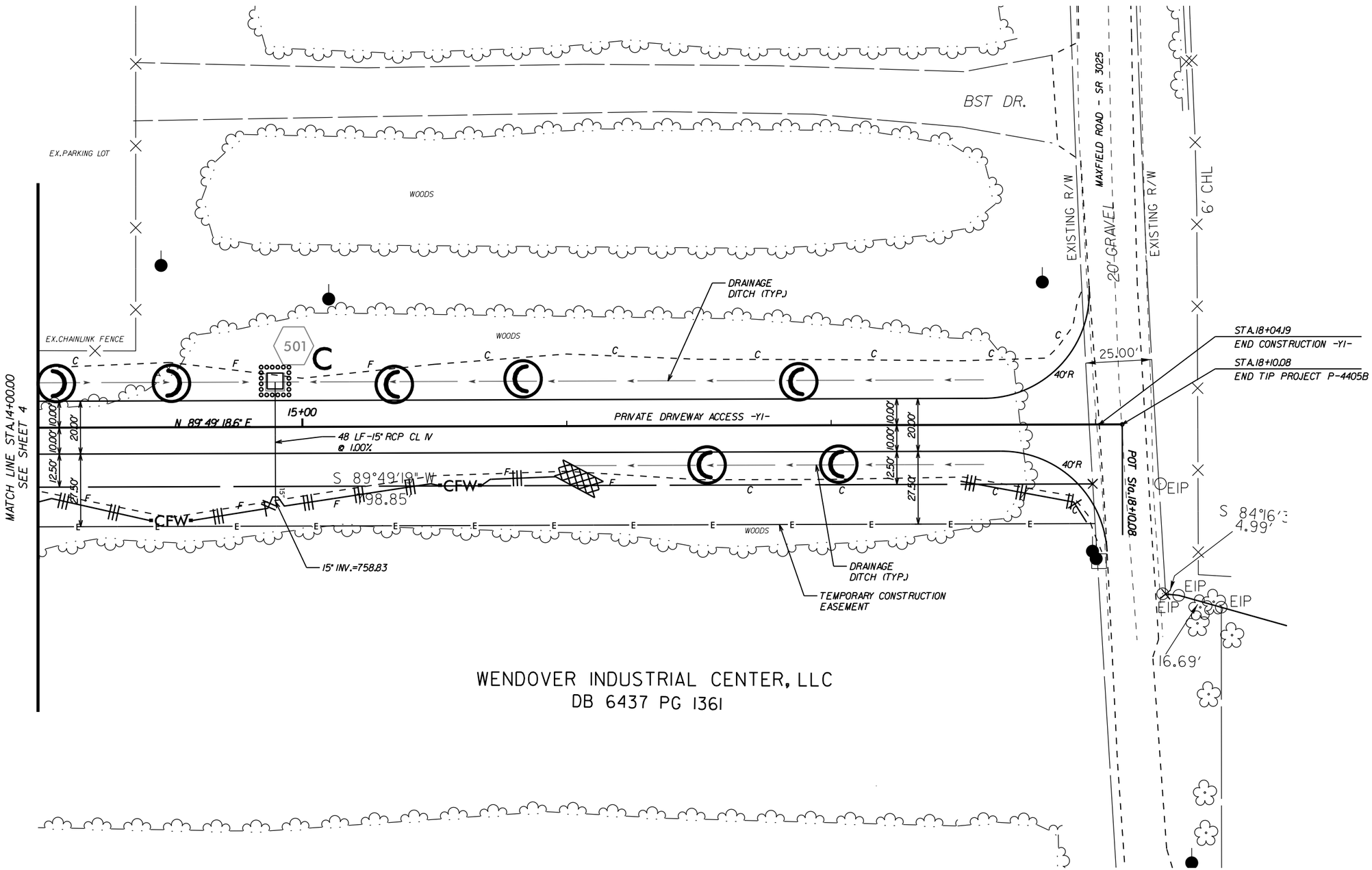
PROJECT REFERENCE NO.	SHEET NO.
P-4405B	EC-8/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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PROJECT REFERENCE NO.	SHEET NO.
P-4405B	EC-9/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
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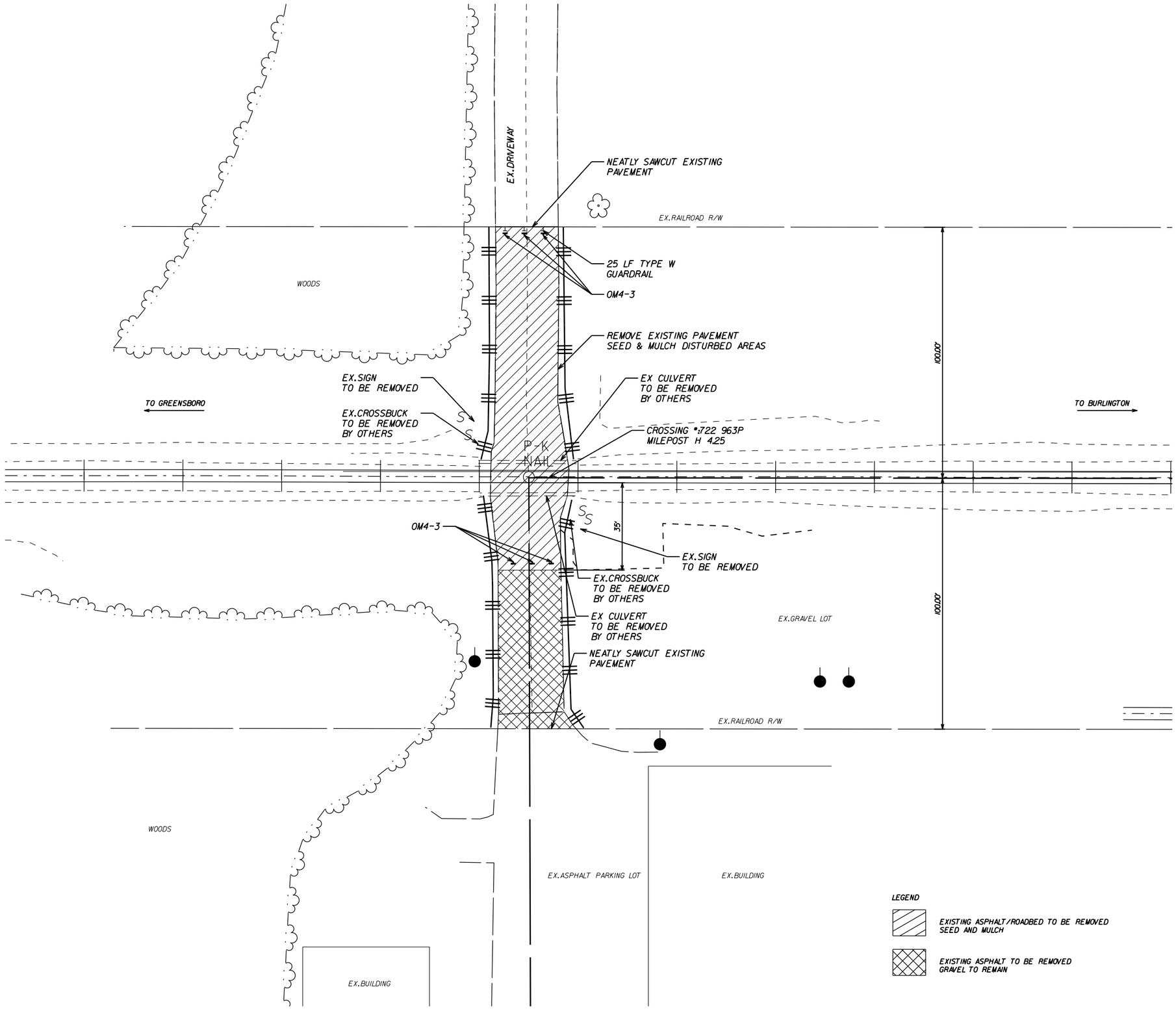
PLANS



NOTES:

1.THE EXISTING PAVEMENT INSIDE THE NORFOLK SOUTHERN RAILROAD RAILS WILL BE REMOVED BY THE RAILROAD CONTRACTOR.THE RAIL SEAL AND ASPHALT OVER THE TIES WILL ALSO BE REMOVED BY THE RAILROAD CONTRACTOR.

2.THE EXISTING RAILROAD CROSSBUCKS SHALL BE REMOVED BY THE RAILROAD CONTRACTOR.

3.THE EXISTING CULVERT ADJACENT TO THE TRACK WILL BE REMOVED BY THE RAILROAD CONTRACTOR AND THE DITCH WILL BE REGRADED BY THAT CONTRACTOR AS WELL.

4.CONTRACTOR SHALL SEED AND MULCH THE DISTURBED AREA OUTSIDE THE RAILROAD BALLAST LINE.

5.ALL INFORMATION SHOWN ON THE PLAN SHEET HAS NOT BEEN COMPLETELY FIELD SURVEYED.INFORMATION BASED ON AERIAL PHOTOGRAPHY,AERIAL SURVEY AND FIELD SURVEY. ALL PHYSICAL LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

6.CONTRACTOR SHALL CONTACT NORTH CAROLINA 811 TO LOCATE ALL UNDERGROUND UTILITIES IN THE WORK AREA.

7.CONTRACTOR SHALL REMOVE EXISTING ROADBED AND GRADE AREA TO MATCH ADJACENT TOPOGRAPHY AND GRADE EXISTING DITCHES TO DRAIN. ANY EXISTING CULVERTS IN THE RAILROAD DITCHES SHALL BE REMOVED AS WELL.

8.A W14-1 SIGN SHALL BE PLACED ON THE SOUTHBOUND SIDE OF THE DRIVEWAY,30 FEET FROM THE INTERSECTION OF US 70.

9.PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

10.ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

LEGEND

EXISTING ASPHALT/ROADBED TO BE REMOVED SEED AND MULCH

EXISTING ASPHALT TO BE REMOVED GRAVEL TO REMAIN

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