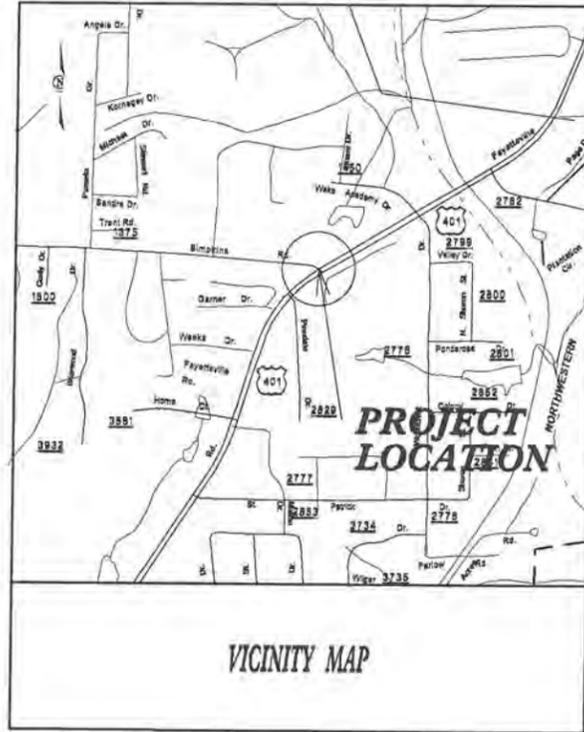


PROJECT: SS-4905BF CONTRACT: DE00063

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

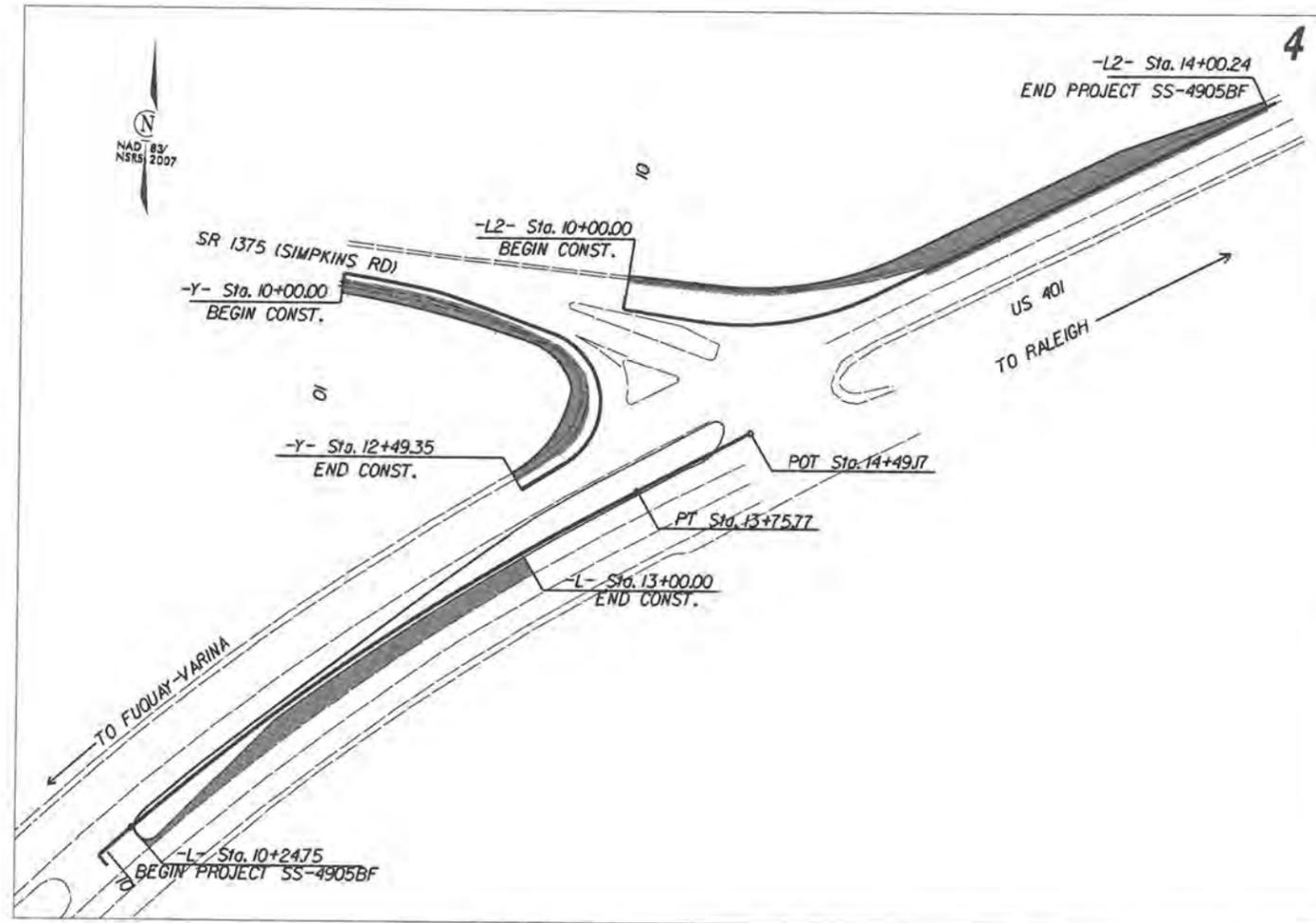


STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
WAKE COUNTY

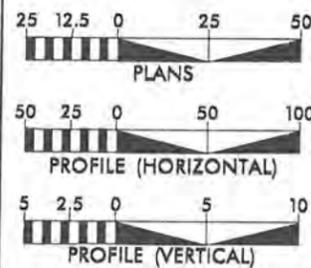
LOCATION: US 401 AT SR 1375 (SIMPKINS RD)

TYPE OF WORK: GRADING, PAVING, CONCRETE ISLAND, DRAINAGE AND SIGNALS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	SS-4905BF	1	43
STATE ROAD NO.	P.A. PROJECT NO.	DISCIPLINE	
43445.1.1	HSIP-0401(233)	PE	
43445.2.1		RW	
43445.3.1		CONST.	



GRAPHIC SCALES



PROJECT LENGTH

Length Roadway Project SS-4905BF = 0.16 Miles

Prepared in the Office of:

DIVISION OF HIGHWAYS

2612 N. Duke St., Durham, NC 27704

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPT 2012

LETTING DATE:
JUNE 2013

B.J. Upshaw, P.E.
PROJECT ENGINEER

C.A. Hoffman
PROJECT DESIGN ENGINEER

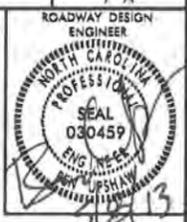
DIVISION DESIGN ENGINEER



Ben Upshaw 5/8/2013
SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

FIFTH DIVISION
J.W. Bowman, P.E.
DIVISION ENGINEER



INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C	SURVEY CONTROL
2	PAVEMENT SCHEDULE, AND TYPICAL SECTIONS
2A-2C	DETAIL SHEETS
3	DRAINAGE AND EARTHWORK SUMMARY
4	PLAN SHEET
TMP-1 THRU TMP-3	TRANSPORTATION MANAGEMENT PLANS
PM-1	PAVEMENT MARKING PLAN
EC-1	EROSION CONTROL PLAN
SIG-1 THRU SIG-5	SIGNAL PLANS
X-0 THRU X-22	CROSS-SECTIONS

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
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
840.00	Concrete Base Pad for Drainage Structures
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
852.01	Concrete Islands
852.10	Median Construction - with Curb and Gutter

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 11/01/11

CLEARING:

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

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.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

SUBSURFACE PLANS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE ATT/D, CITY OF RALEIGH, PROGRESS ENERGY, TIME WARNER CABLE, DUKENET COMMUNICATIONS, PALMETTONET INC

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

*S.U.E = SUBSURFACE UTILITY ENGINEER

ROADS & RELATED ITEMS

Edge of Pavement	-----
Curb	-----
Prop. Slope Stakes Cut	----- C
Prop. Slope Stakes Fill	----- F
Prop. Woven Wire Fence	----- ○ ○
Prop. Chain Link Fence	----- □ □
Prop. Barbed Wire Fence	----- ◇ ◇
Prop. Wheelchair Ramp	----- WCR
Exist. Guardrail	-----
Prop. Guardrail	-----
Equality Symbol	----- ⊕
Pavement Removal	----- XXXX

RIGHT OF WAY

Baseline Control Point	----- ◆
Existing Right of Way Marker	----- △
Exist. Right of Way Line w/Marker	----- △
Prop. Right of Way Line with Proposed RW Marker (Iron Pin & Cap)	----- ▲
Prop. Right of Way Line with Proposed (Concrete or Granite) RW Marker	----- ▲
Exist. Control of Access Line	----- ⊙
Prop. Control of Access Line	----- ⊙
Exist. Easement Line	----- E
Prop. Temp. Construction Easement Line	----- E
Prop. Temp. Drainage Easement Line	----- TDE
Prop. Perm. Drainage Easement Line	----- PDE

HYDROLOGY

Stream or Body of Water	-----
Flow Arrow	----- →
Disappearing Stream	----- ↘
Spring	----- ○
Swamp Marsh	----- ▽
Shoreline	-----
Falls, Rapids	-----
Prop Lateral, Tail, Head Ditches	----- TDM

STRUCTURES

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

MINOR	
Head & End Wall	----- CONC HW
Pipe Culvert	----- =====
Footbridge	----- >-----<
Drainage Boxes	----- □ CB
Paved Ditch Gutter	-----

UTILITIES

Exist. Pole	----- •
Exist. Power Pole	----- •
Prop. Power Pole	----- ○
Exist. Telephone Pole	----- •
Prop. Telephone Pole	----- ○
Exist. Joint Use Pole	----- •
Prop. Joint Use Pole	----- ○
Telephone Pedestal	----- □
Cable TV Pedestal	----- □
Hydrant	----- ◇
Satellite Dish	----- ↘
Exist. Water Valve	----- ⊗
Sewer Clean Out	----- ⊕
Power Manhole	----- ⊕
Telephone Booth	----- ⊕
Water Manhole	----- ⊕
Light Pole	----- □
H-Frame Pole	----- •
Power Line Tower	----- ⊗
Pole with Base	----- □
Gas Valve	----- ◇
Gas Meter	----- ⊕
Telephone Manhole	----- ⊕
Power Transformer	----- ⊕
Sanitary Sewer Manhole	----- ⊕
Storm Sewer Manhole	----- ⊕
Tank; Water, Gas, Oil	----- ○
Water Tank With Legs	----- ⊗
Traffic Signal Junction Box	----- ⊕
Fiber Optic Splice Box	----- ⊕
Television or Radio Tower	----- ⊗
Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement	----- TS TS

Recorded Water Line	----- W W
Designated Water Line (S.U.E.*)	----- W W
Sanitary Sewer	----- SS SS
Recorded Sanitary Sewer Force Main	----- FSS FSS
Designated Sanitary Sewer Force Main(S.U.E.*)	----- FSS FSS
Recorded Gas Line	----- G G
Designated Gas Line (S.U.E.*)	----- G G
Storm Sewer	----- S S
Recorded Power Line	----- P P
Designated Power Line (S.U.E.*)	----- P P
Recorded Telephone Cable	----- T T
Designated Telephone Cable (S.U.E.*)	----- T T
Recorded U/G Telephone Conduit	----- TC TC
Designated U/G Telephone Conduit (S.U.E.*)	----- TC TC
Unknown Utility (S.U.E.*)	----- RUTL RUTL
Recorded Television Cable	----- TV TV
Designated Television Cable (S.U.E.*)	----- TV TV
Recorded Fiber Optics Cable	----- FO FO
Designated Fiber Optics Cable (S.U.E.*)	----- FO FO
Exist. Water Meter	----- ⊕
U/G Test Hole (S.U.E.*)	----- ⊕
Abandoned According to U/G Record	----- ATTUR
End of Information	----- E.O.I.

BOUNDARIES & PROPERTIES

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Property Line Symbol	----- PL
Exist. Iron Pin	----- ⊕
Property Corner	----- +
Property Monument	----- ⊕
Property Number	----- 123
Parcel Number	----- 6
Fence Line	----- X X X
Existing Wetland Boundaries	----- WLB
Proposed Wetland Boundaries	----- WLB
Existing Endangered Animal Boundaries	----- EAB
Existing Endangered Plant Boundaries	----- EPB

BUILDINGS & OTHER CULTURE

Buildings	----- ⊕
Foundations	----- ⊕
Area Outline	----- ⊕
Gate	----- ⊕
Gas Pump Vent or U/G Tank Cap	----- ⊕
Church	----- ⊕
School	----- ⊕
Park	----- ⊕
Cemetery	----- ⊕
Dam	----- ⊕
Sign	----- ⊕
Well	----- ⊕
Small Mine	----- ⊕
Swimming Pool	----- ⊕

TOPOGRAPHY

Loose Surface	-----
Hard Surface	-----
Change in Road Surface	-----
Curb	-----
Right of Way Symbol	----- R/W
Guard Post	----- ⊕ GP
Paved Walk	-----
Bridge	-----
Box Culvert or Tunnel	-----
Ferry	-----
Culvert	-----
Footbridge	-----
Trail, Footpath	-----
Light House	----- ⊕

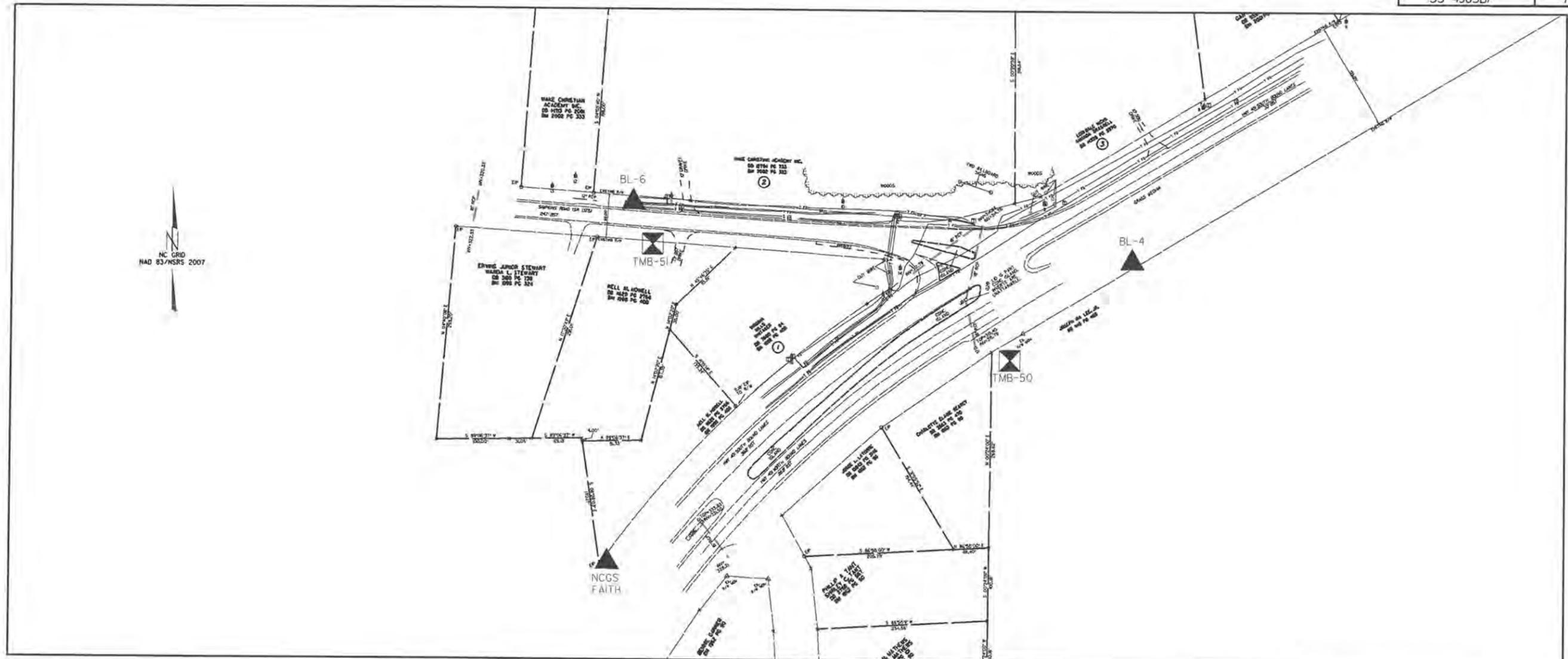
VEGETATION

Single Tree	----- ⊕
Single Shrub	----- ⊕
Hedge	----- ⊕
Woods Line	-----
Orchard	----- ⊕
Vineyard	----- VINEYARD

RAILROADS

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

10/26/99
11-SEP-2012 14:01
R:\Roadway\Projects\SS4905BF_Rdy_psh_1B.dgn
User: jmc



SURVEY CONTROL SYMBOL

SURVEY CONTROL DATA

POINT	NORTH	EAST	ELEVATION
NCGS FAITH	710103.419	2097684.751	340.67
BL-4	710519.130	2098405.731	320.19
BL-6	710597.571	2097716.977	331.11

BENCHMARK CONTROL DATA (SYMBOL)

POINT	DISCRIPTION	ELEVATION
TMB-50	RRS SET IN 14" PINE	325.57
TMB-51	RRS SET IN 18" PINE	338.59

POINT	ALIGNMENT DATA	
	NORTH	EAST
-L- 10+24.75	710224.806	2097876.317
-L- 13+00.00	710402.054	2098086.345
-Y- 10+00.00	710553.306	2097969.650
-Y- 12+49.35	710438.646	2098082.651
-L2- 10+00.00	710547.126	2098132.304
-L2- 14+00.24	710694.790	2098493.926

SURVEY CONTROL DATA
US 401 @ SR 1375
(SIMPKINS RD)
 DIVISION 05 WAKE COUNTY

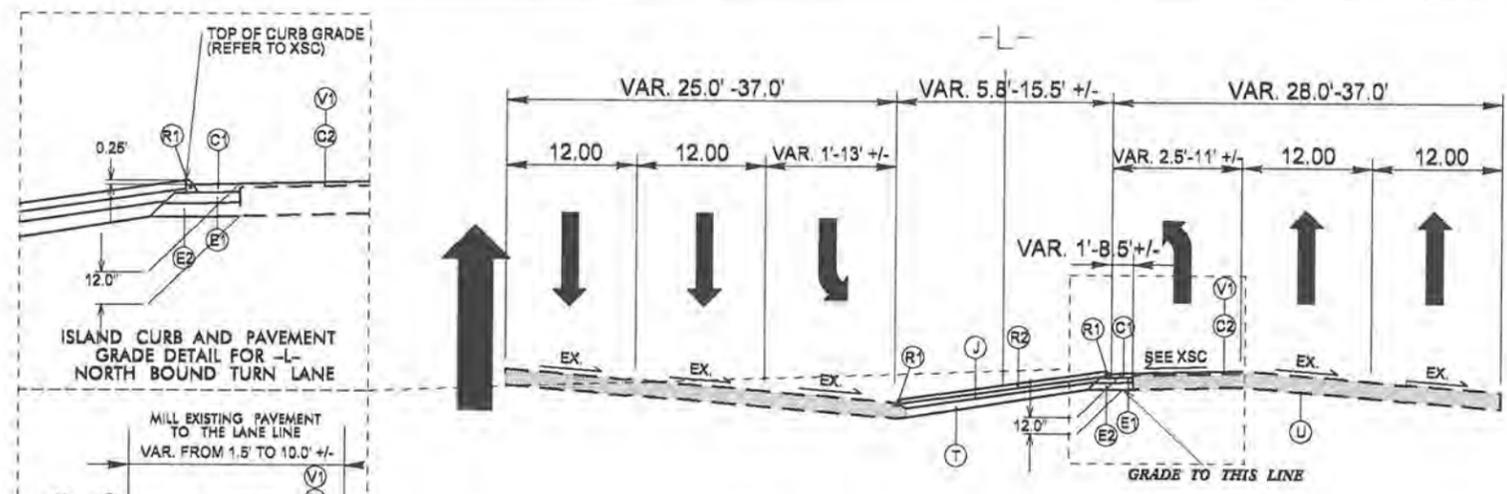
REVISIONS	INT.	DATE

SCALE: N/A DATE: _____

N.C. DEPARTMENT of TRANSPORTATION
 DIVISION of HIGHWAYS
 DIVISION FIVE DESIGN UNIT

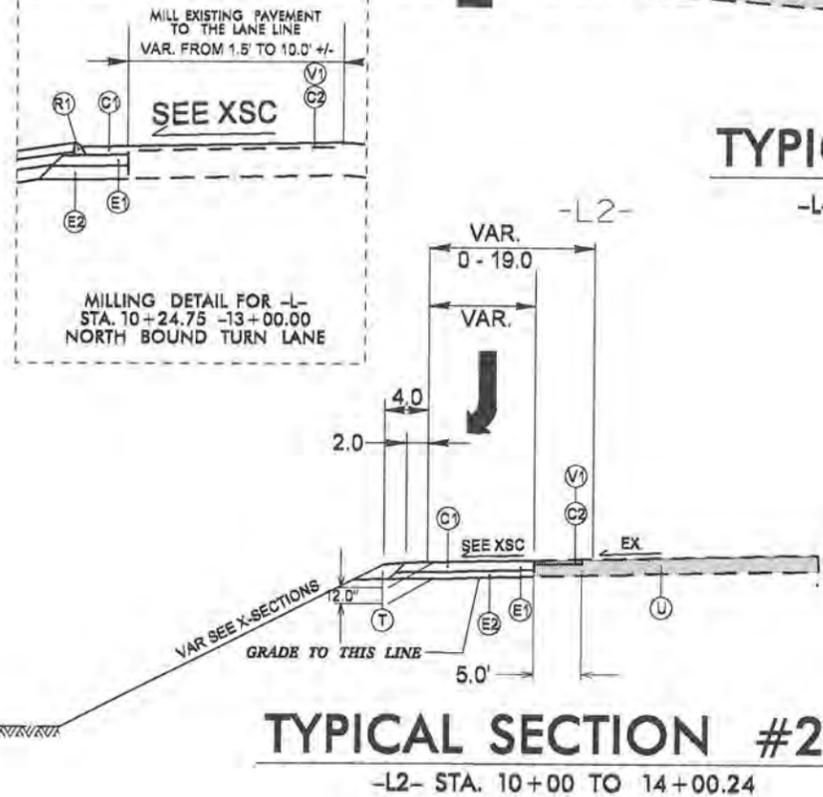
PREPARED BY: CAH
 REVIEWED BY: BJU
 REVIEWED BY: _____

6/2/99

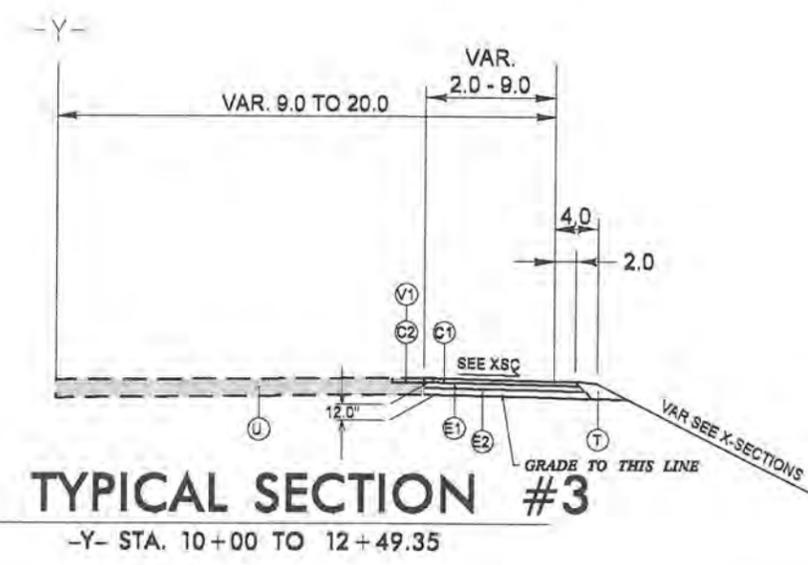


NOTES:
 1). THE PORTION OF EACH EXISTING PAVED SHOULDER THAT IS NOT FULL DEPTH IS TO BE REMOVED AND PAVED TO FULL DEPTH.
 2). PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

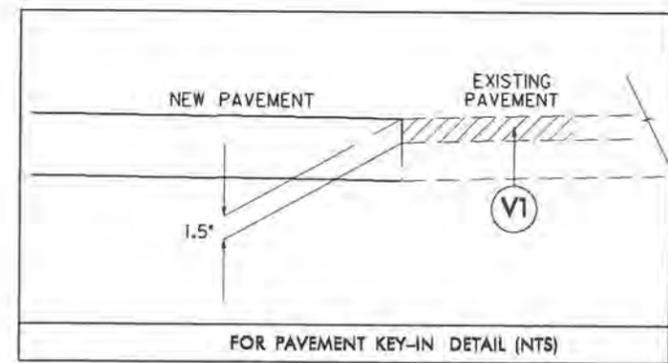
TYPICAL SECTION #1
 -L- STA. 10+24.75 TO 13+00.00



TYPICAL SECTION #2
 -L2- STA. 10+00 TO 14+00.24



TYPICAL SECTION #3
 -Y- STA. 10+00 TO 12+49.35

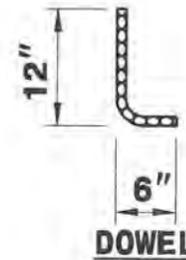
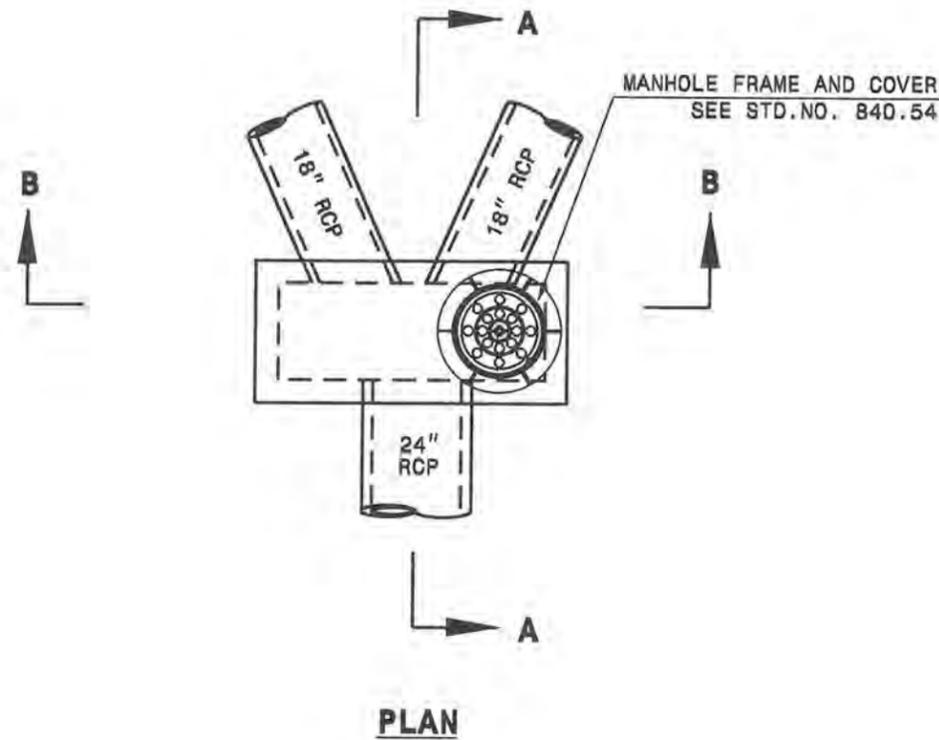


C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD. IN EACH OF TWO LIFTS
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
J	PROP. 4" AGGREGATE BASE COURSE
R1	8"x6" CONCRETE MEDIAN CURB
R2	4" CONCRETE ISLAND COVER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILL EXISTING PAVEMENT AT TIE IN. 1.5" DEPTH (SEE KEY-IN DETAIL)

22-APP-2013 13402
 R:\Roadway\ProJ\SS4905BF\RDY\psh_2.dgn
 6/2/99 11:51 AM

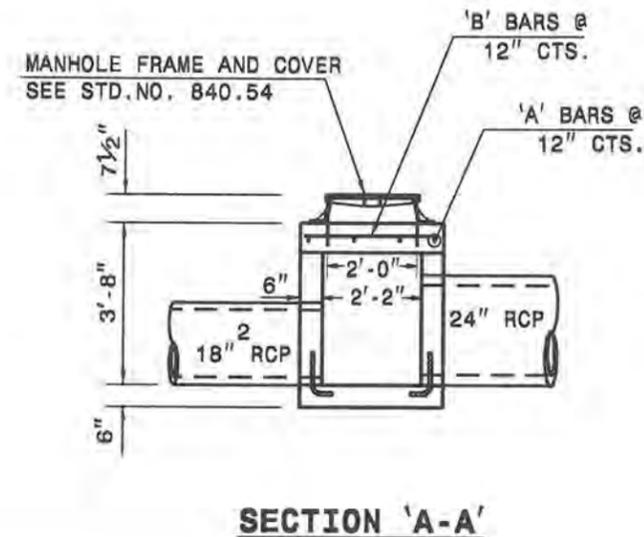
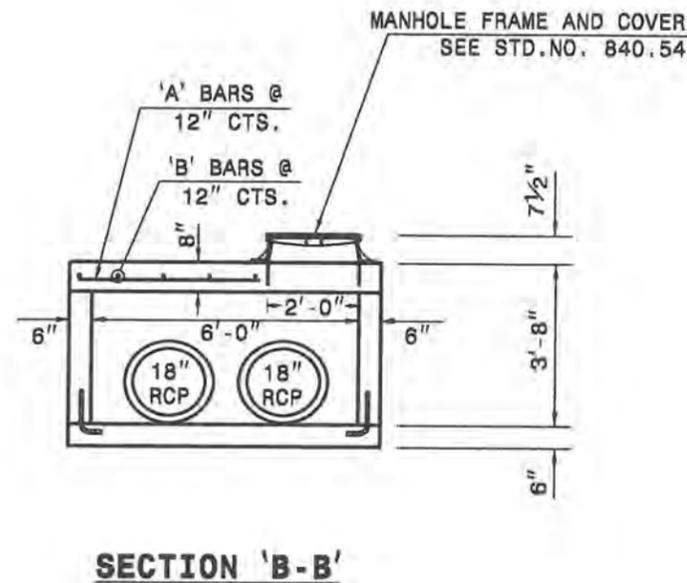
GENERAL NOTES:

- USE FORMS TO CONSTRUCT THE BASE SLAB.
- IF REINFORCED CONCRETE PIPE IS SET BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD.NO. 840.00
- USE CLASS "B" CONCRETE THROUGHOUT.
- BASE SLAB OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
- CHAMFER ALL EXPOSED CORNERS 1".
- PROVIDE JUNCTION BOX WITH STEPS TO BE PLACED ON 12" CTRS. REFERENCE STD.NO. 840.66.



BILL OF MATERIAL				
BAR NO.	SIZE	LENGTH	WEIGHT	
A	#4	5'-8"	15	
B	#4	2'-10"	11	
TOTAL REINFORCING STEEL (lbs.)			26	
CLASS "A" CONC. (cu. yds.)			2.2	

NO DEDUCTIONS HAVE BEEN MADE TO ACCOMMODATE PIPES, CATCH BASIN OPENING AND MANHOLE OPENING.



CONTRACTS STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
SPECIAL JUNCTION BOX WITH MANHOLE	
ORIGINAL BY: K.A.KEMPF	DATE: SEP 28, 2012
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: wkkempf/english/jb24 2x18rccp.dgn	

(2)
NAD 83/
NSRS 2007

CONCRETE ISLAND DETAIL

EXISTING CURBING TO
BE REMOVED
AND REPLACED AT
EXISTING LOCATION

TIE TO EXISTING
-L-
13+00.00
12.69 LT

-L-
13+00.00
2.40 RT
TIE TO EXISTING

1560' Rad

BACK OF CURB LINE

-L-
11+27.52
3.00 RT

MATCH TO
EXISTING
LOCATION

7' Rad

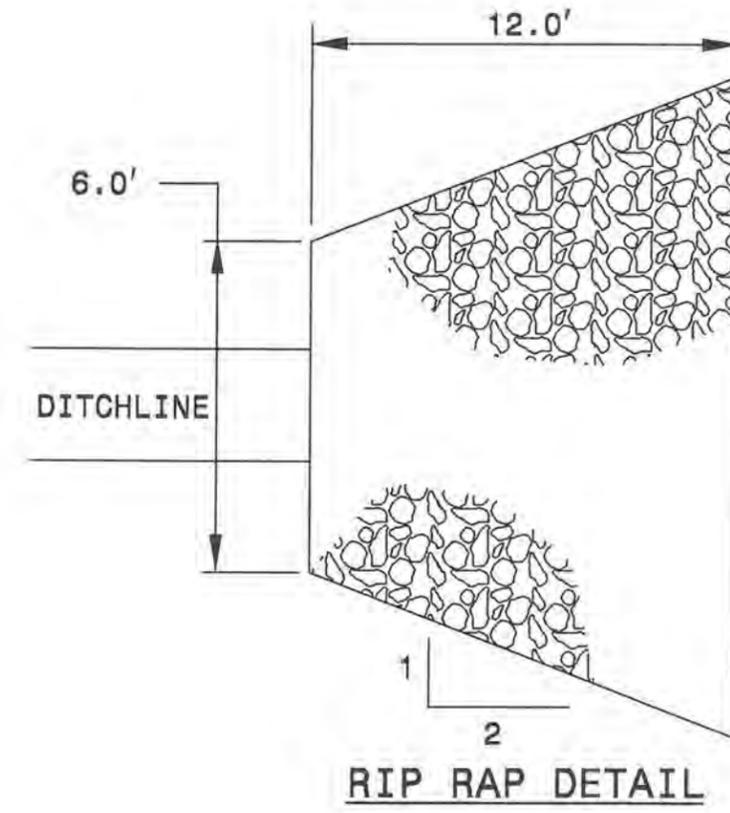
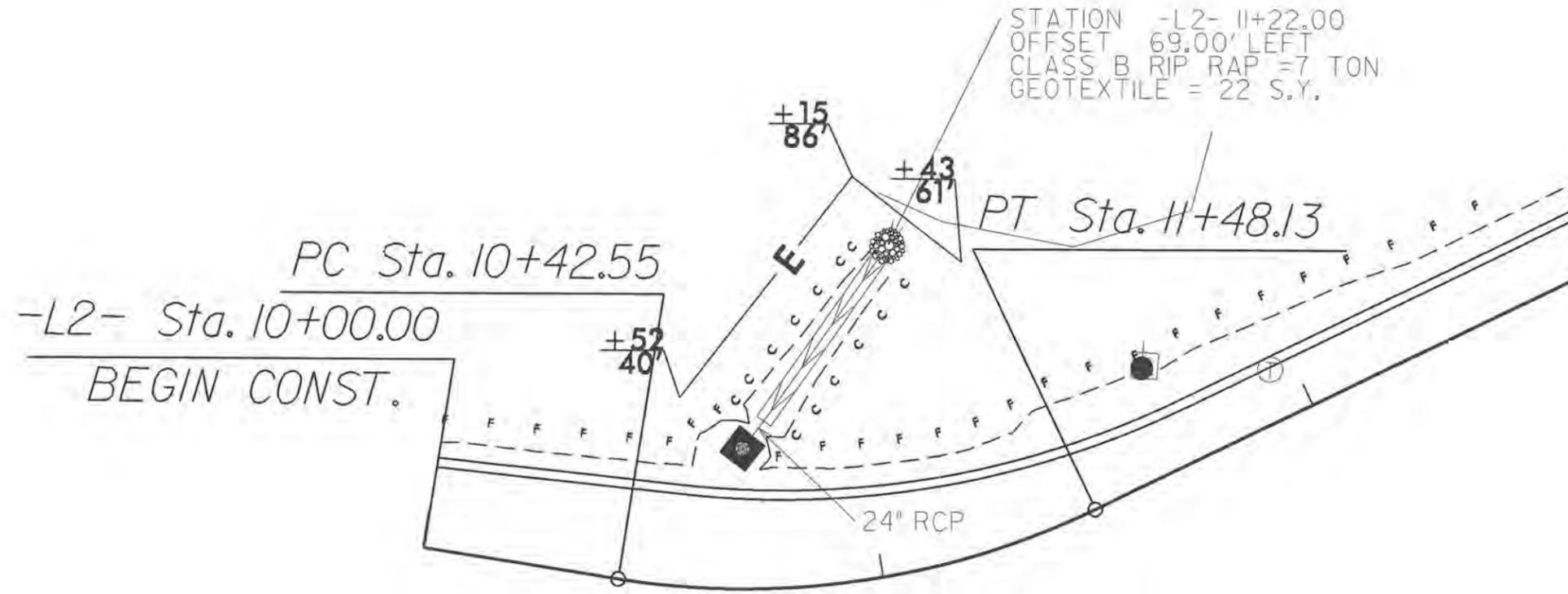
-L-
10+33.06
13.22 RT

US 401 AND SR 1375 (SIMPKINS RD.) INTERSECTION IMPROVEMENTS		
DIVISION 05 WAKE COUNTY		
REVISIONS	INT.	DATE
N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS DIVISION FIVE DESIGN UNIT		SCALE: 1"=30' DATE: 28 FEB 13 PREPARED BY: CAH REVIEWED BY: BJU REVIEWED BY:

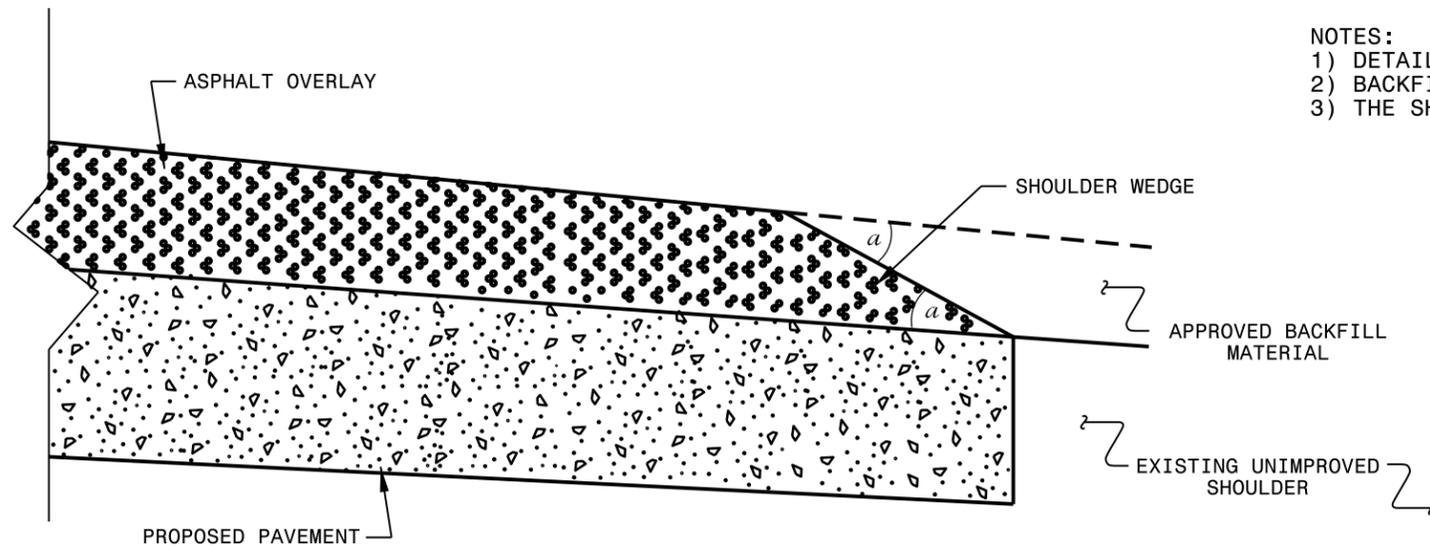
Note: Not to Scale

RIP RAP PLACEMENT DETAIL

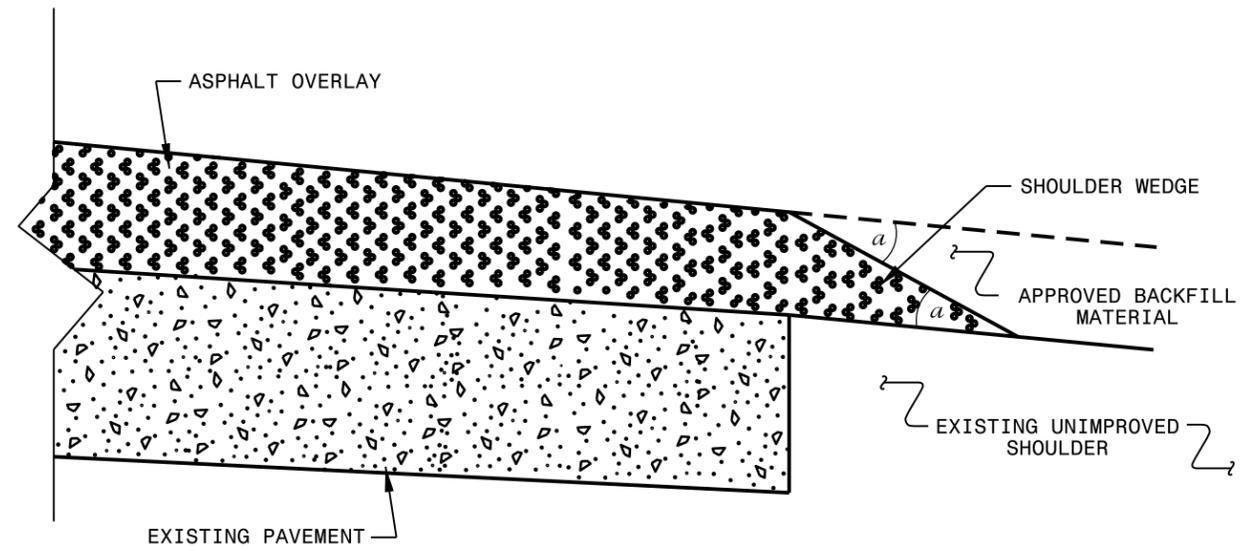
PROJECT REFERENCE NO. SS-4905BF	SHEET NO. 2C
------------------------------------	-----------------



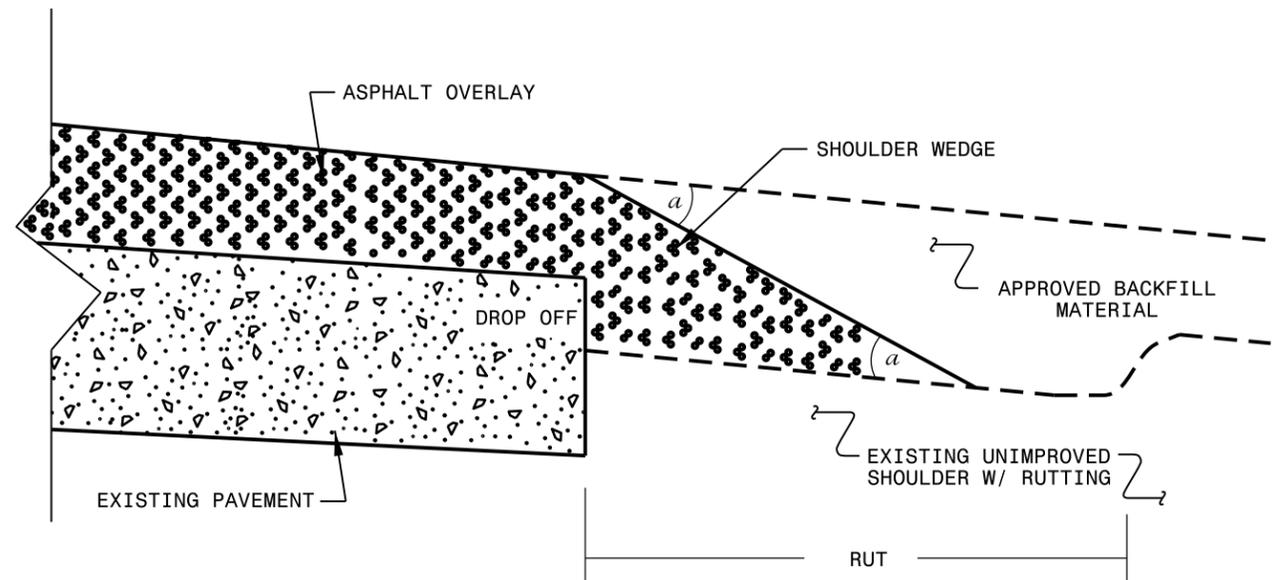
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ Widening or
 with Existing Paved Shoulder having no dropoffs)



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ NO Widening)

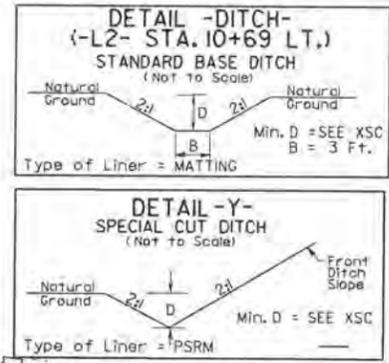


SHOULDER WEDGE DETAIL
 (Resurfacing Adjacent to
 Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

CONTRACT STANDARDS AND DEVELOPMENT UNIT			
Office 919-707-6950		FAX 919-250-4119	
SHOULDER WEDGE DETAILS			
ORIGINAL BY: T.SPELL	DATE: 7-19-11		
MODIFIED BY:	DATE: 10/16/12		
CHECKED BY:	DATE:		
FILE SPEC.: susr/details/stand/shoulderwedgedetail.dgn			

SYSTEMS DESIGN
 USER NAME



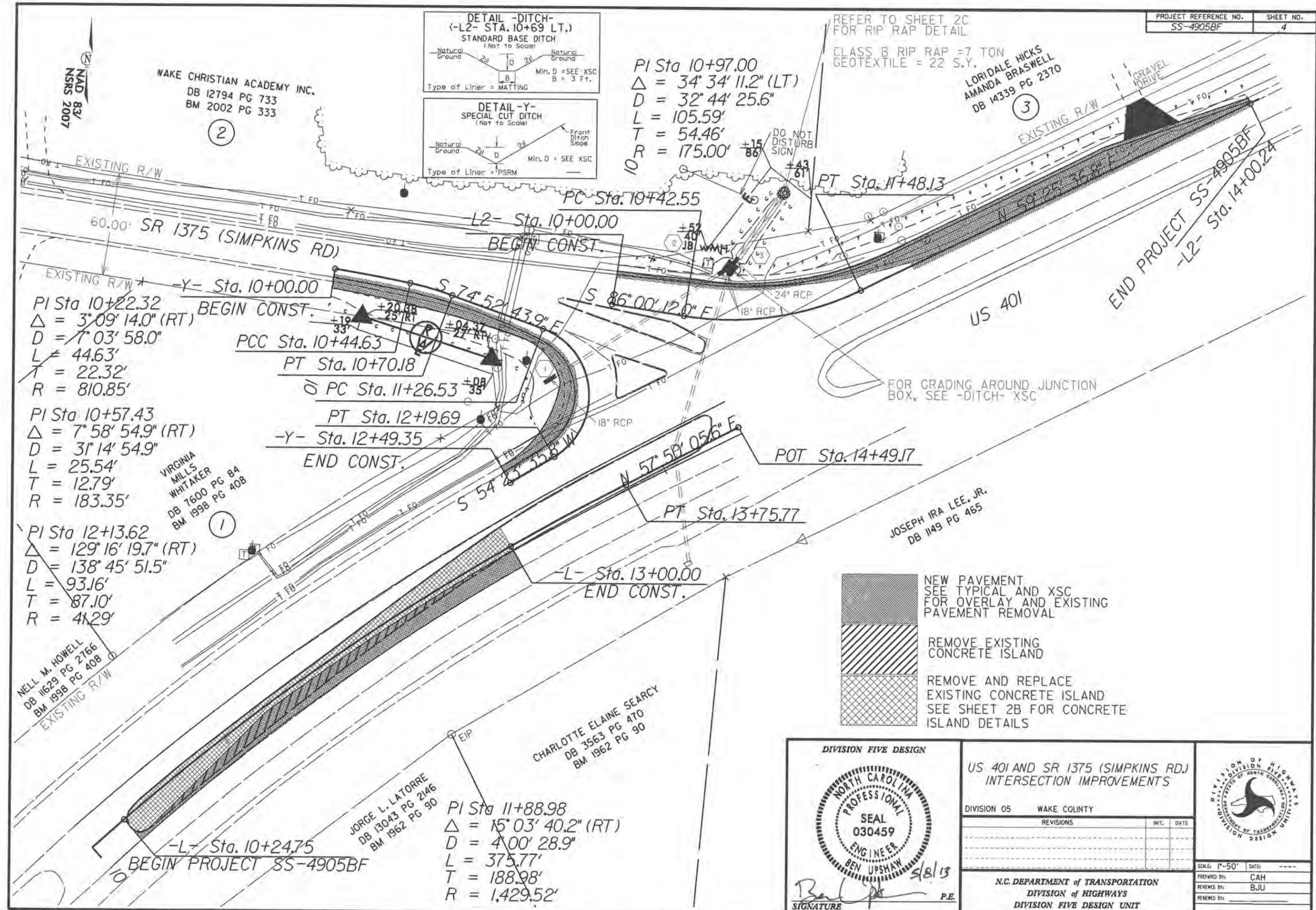
REFER TO SHEET 2C FOR RIP RAP DETAIL

CLASS B RIP RAP = 7 TON
GEOTEXTILE = 22 S.Y.
LORIDALE HICKS
AMANDA BRASWELL
DB 14339 PG 2370

NAD 83/
NSRS 2007

WAKE CHRISTIAN ACADEMY INC.
DB 12794 PG 733
BM 2002 PG 333

PI Sta 10+97.00
 $\Delta = 34^{\circ} 34' 11.2''$ (LT)
 $D = 32^{\circ} 44' 25.6''$
 $L = 105.59'$
 $T = 54.46'$
 $R = 175.00'$



PI Sta 10+22.32
 $\Delta = 3^{\circ} 09' 14.0''$ (RT)
 $D = 7^{\circ} 03' 58.0''$
 $L = 44.63'$
 $T = 22.32'$
 $R = 810.85'$

PI Sta 10+57.43
 $\Delta = 7^{\circ} 58' 54.9''$ (RT)
 $D = 31^{\circ} 14' 54.9''$
 $L = 25.54'$
 $T = 12.79'$
 $R = 183.35'$

PI Sta 12+13.62
 $\Delta = 129^{\circ} 16' 19.7''$ (RT)
 $D = 138^{\circ} 45' 51.5''$
 $L = 93.16'$
 $T = 87.10'$
 $R = 41.29'$

PCC Sta. 10+44.63
PT Sta. 10+70.18
PC Sta. 11+26.53

PT Sta. 12+19.69
-Y- Sta. 12+49.35
END CONST.

-L- Sta. 13+00.00
END CONST.

PI Sta 11+88.98
 $\Delta = 15^{\circ} 03' 40.2''$ (RT)
 $D = 4^{\circ} 00' 28.9''$
 $L = 375.77'$
 $T = 188.98'$
 $R = 1,429.52'$

-L- Sta. 10+24.75
BEGIN PROJECT SS-4905BF

FOR GRADING AROUND JUNCTION BOX, SEE -DITCH- XSC



JOSEPH IRA LEE, JR.
DB 1149 PG 465

CHARLOTTE ELAINE SEARCY
DB 3563 PG 470
BM 1962 PG 90

JORGE L. LATORRE
DB 13043 PG 2146
BM 1962 PG 90

DIVISION FIVE DESIGN

SIGNATURE *Ben Upshaw* P.E. 5/8/13

US 401 AND SR 1375 (SIMPKINS RD.) INTERSECTION IMPROVEMENTS

DIVISION 05 WAKE COUNTY

REVISIONS	INT.	DATE

SCALE: 1"=50' DATE: ---

PREPARED BY: CAH
REVIEWED BY: BJU
REVIEWED BY: ---

N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
DIVISION FIVE DESIGN UNIT

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.		SHEET NO.
SS-4905BF		TMP-1
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
43445.1.1	HSIP-0401(233)	PE

TRANSPORTATION MANAGEMENT PLAN
WAKE COUNTY

ROADWAY STANDARD DRAWINGS

EV. SEPTEMBER 2011

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1150.01	FLAGGING DEVICES
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, INDEX OF SHEETS AND LEGEND
TMP-2	PROJECT NOTES
TMP-3	TIME RESTRICTIONS DETAIL SHEET

LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  NORTH ARROW
-  PROPOSED PVMT.  EXIST. PVMT.
-  WORK AREA
-  REMOVAL OF EXISTING PAVEMENT

TRAFFIC CONTROL DEVICES

-  TYPE I BARRICADE
-  TYPE II BARRICADE
-  TYPE III BARRICADE
-  CONE
-  DRUM
-  FLASHING ARROW PANEL (TYPE C)
-  TYPE 'B' WARNING LIGHT
-  STATIONARY SIGN
-  PORTABLE SIGN
-  WARNING FLAGS
-  CRASH CUSHION
-  CHANGEABLE MESSAGE SIGN
-  TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
-  POLICE
-  FLAGGER

PAVEMENT MARKINGS

-  CRYSTAL PAVEMENT MARKER
-  YELLOW/YELLOW PAVEMENT MARKER
-  CRYSTAL/RED PAVEMENT MARKER
-  PAVEMENT MARKING SYMBOLS

PROJECT: 43445

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.		SHEET NO.
SS-4905BF		TMP-2
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
43455.1.1	HSIP-0401(233)	PE

TRANSPORTATION MANAGEMENT PLAN
WAKE COUNTY

PROJECT NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
US 401 NB	MONDAY THRU FRIDAY 07:00-09:00 AM
US 401 SB	MONDAY THRU FRIDAY 03:00-07:00 PM
SR 1375	MONDAY THRU FRIDAY 07:00-09:00 AM AND 3:00-7:00 PM

FOR ADDITIONAL RESTRICTIONS, SEE SHEET TMP-3

LANE AND SHOULDER CLOSURE REQUIREMENTS

- B) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- F) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- G) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- H) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- I) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- J) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.
- K) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- L) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

- M) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- N) PERFORM 1.5" LAP JOINT MILLING PRIOR TO RE-OPENING TRAVEL LANE ON L & L2 TO CREATE A SAFE DROP-OFF

PROJECT: 43445

SR 1375 (SIMPKINS RD)

-  LEFT TURN LANE WILL BE CLOSED TO TRAFFIC FOR UP TO ONE WEEK TO ALLOW FOR WORK TO BE COMPLETED
-  AREAS TO FOLLOW NORMAL TIME RESTRICTIONS AS NOTED ON TMP-2

TRANSPORTATION MANAGEMENT PLAN
SPECIAL RESTRICTIONS

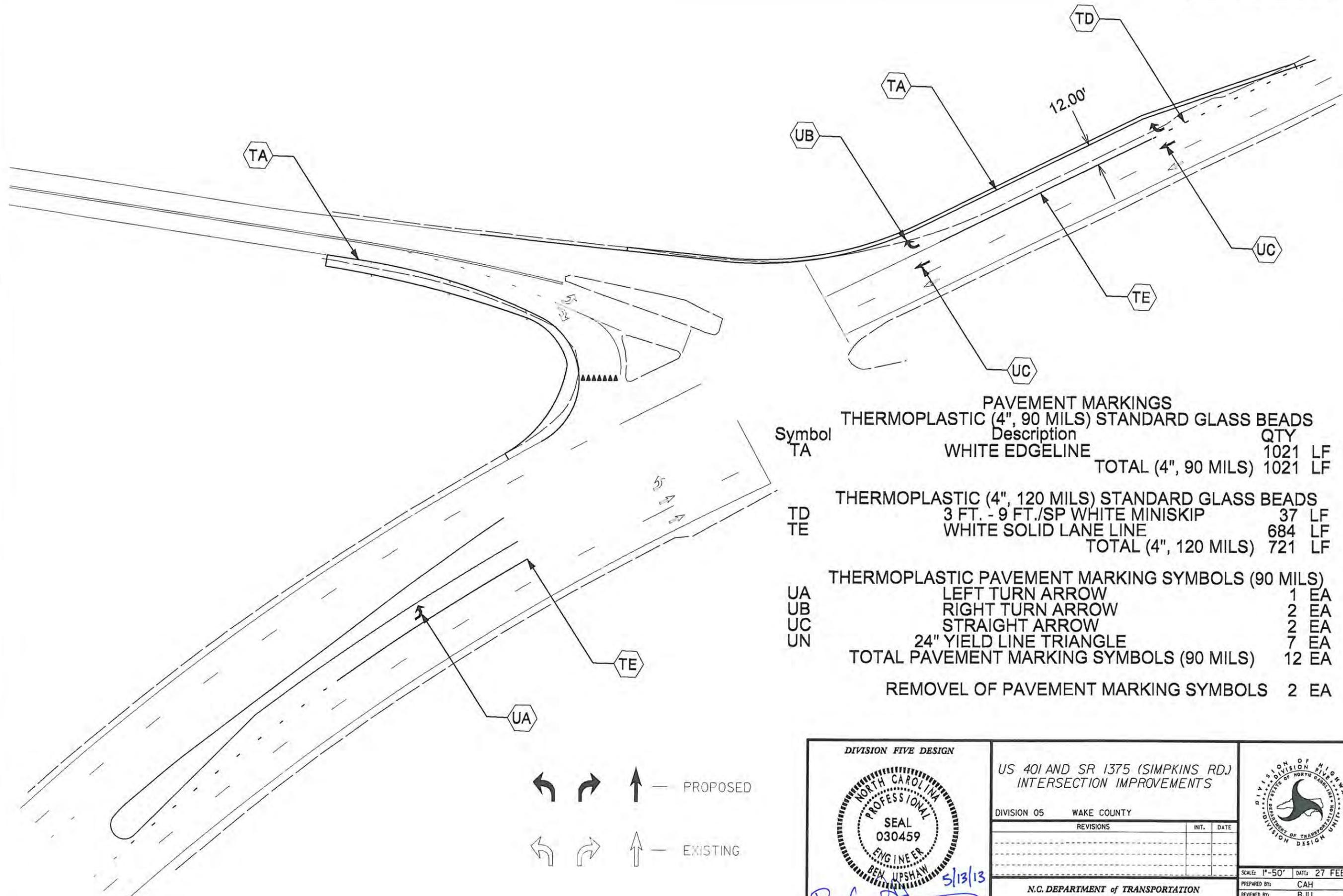
DIVISION 05 WAKE COUNTY

REVISIONS	INT.	DATE

N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
DIVISION FIVE DESIGN UNIT

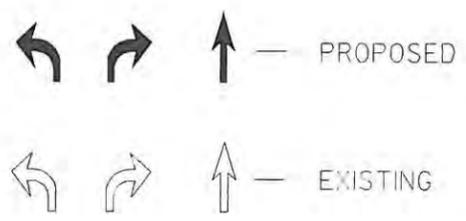


SCALE: 1"=50' DATE: 22 APR 13
 PREPARED BY: CAH
 REVIEWED BY: BJU
 REVIEWED BY: _____



PAVEMENT MARKINGS

Symbol	Description	QTY	
TA	THERMOPLASTIC (4", 90 MILS) STANDARD GLASS BEADS WHITE EDGE LINE	1021	LF
	TOTAL (4", 90 MILS)	1021	LF
TD	THERMOPLASTIC (4", 120 MILS) STANDARD GLASS BEADS 3 FT. - 9 FT./SP WHITE MINISKIP	37	LF
TE	WHITE SOLID LANE LINE	684	LF
	TOTAL (4", 120 MILS)	721	LF
UA	THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS) LEFT TURN ARROW	1	EA
UB	RIGHT TURN ARROW	2	EA
UC	STRAIGHT ARROW	2	EA
UN	24" YIELD LINE TRIANGLE	7	EA
	TOTAL PAVEMENT MARKING SYMBOLS (90 MILS)	12	EA
	REMOVAL OF PAVEMENT MARKING SYMBOLS	2	EA



DIVISION FIVE DESIGN

SEAL
030459
ENGINEER
BEN UPSHAW

5/13/13
P.E.
SIGNATURE

US 401 AND SR 1375 (SIMPKINS RD.)
INTERSECTION IMPROVEMENTS

DIVISION 05 WAKE COUNTY

REVISIONS	INT.	DATE

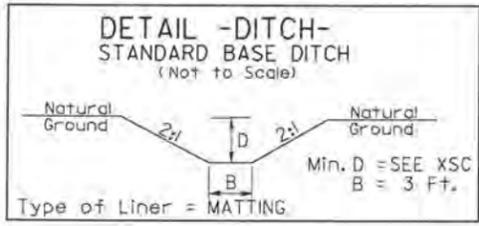
N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
DIVISION FIVE DESIGN UNIT

DIVISION OF HIGHWAYS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

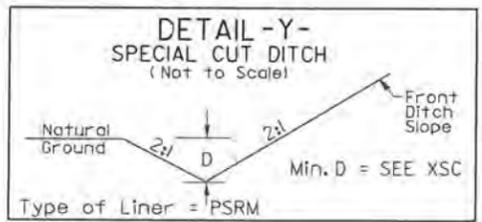
SCALE: 1"=50' DATE: 27 FEB 13

PREPARED BY: CAH
REVIEWED BY: BJU
REVIEWED BY:

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.



CLASS B RIP RAP = 7 TON
GEOTEXTILE = 22 S.Y.
SEE SHEET 2C SPECIAL DETAIL RIP RAP PLACEMENT



Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	~ ~ ~ ~ ~
1622.01	Temporary Berms and Slope Drains	— T —
1630.02	Silt Basin Type B	▨
1630.03	Temporary Silt Ditch	— TD —
1630.05	Temporary Diversion	— TD —
1630.06	Special Stilling Basin	—
1632.03	Rock Inlet Sediment Trap Type C	□
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	⤿
	Wattle with Polyacrylamide (PAM)	⤿
1634.02	Temporary Rock Sediment Dam Type-B	⤿
1635.01	Rock Pipe Inlet Sediment Trap Type-A	⤿

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

US 401 AND SR 1375 (SIMPKINS RD.) INTERSECTION IMPROVEMENTS

DIVISION 05 WAKE COUNTY

REVISIONS	INT.	DATE

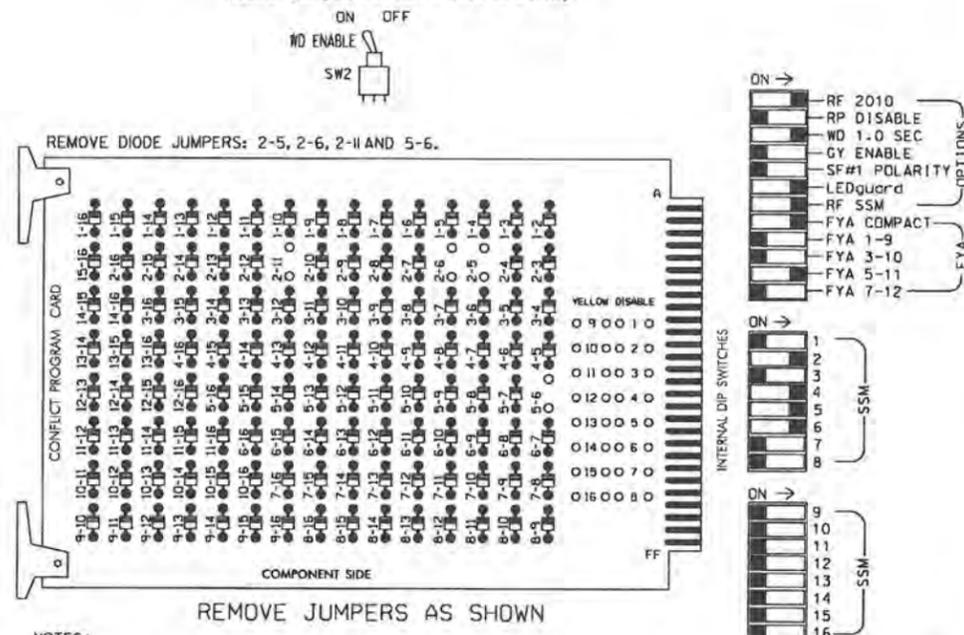
SCALE: 1"=50' DATE: 28 Feb 13

N.C. DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DIVISION FIVE DESIGN UNIT

PREPARED BY: CAH
REVIEWED BY: BJU
REVIEWED BY:

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Make sure jumpers SEL2-SEL5 are present on the monitor board.
- Special cabinet wiring is required to utilize FYA COMPACT mode. See Ped Yellow Conflict Monitor Wiring Detail on this sheet.

■ = DENOTES POSITION OF SWITCH

NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
- Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels, tie unused red monitor inputs 1,3,7,8,9,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Variable Initial and Gap Reduction.
- Program phases 2 and 6 for Start Up in Green.
- Program phases 2 and 6 for Yellow Flash.
- The cabinet and controller are part of the US 401 Closed Loop System #1.

EQUIPMENT INFORMATION

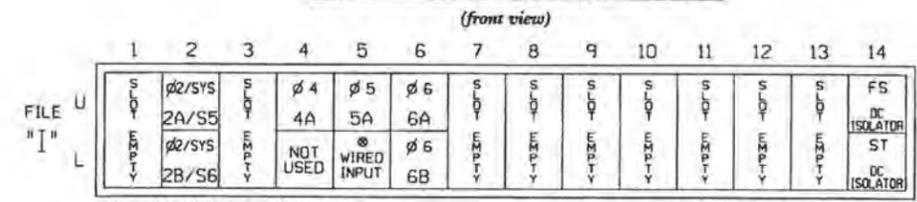
CONTROLLER.....2070L
 CABINET.....CONTRACTOR SUPPLIED 336
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....POLE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S2,S2P,S4,S4P,S5,S6,S6P
 PHASES USED.....2,4,5,6
 OVERLAP "A".....NOT USED
 OVERLAP "B".....NOT USED
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P	
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	11	15	7	8	16
PHASE	1	2	PED	3	4	PED	DLC	6	5 GRN	6 PED	7	8	PED
SIGNAL HEAD NO.	NU	21,22	**	NU	41,42	62	**	51	61,62	51	NU	NU	NU
RED		128			101				134				
YELLOW		129			102				135				
GREEN		130			103				136				
RED ARROW								131					
YELLOW ARROW					102			132					
FLASHING YELLOW ARROW								133					
GREEN ARROW					103				120				*

NU = Not Used
 * Denotes install load resistor. See load resistor installation detail this sheet.
 * See pictorial of head wiring in detail below.
 ** Advance beacon will be wired to S2P-Y and S4P-Y. See wiring and programming detail on sheet 4.
 NOTE: Load Switches S5, S6P require output remapping. See sheet 3 of this electrical detail for instructions.

INPUT FILE POSITION LAYOUT

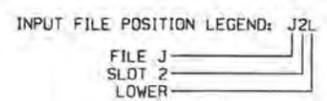


EX.: 1A, 2A, ETC. = LOOP NO.'S
 FS = FLASH SENSE
 ST = STOP TIME
 * Wired Input - turn off Channel 2.

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
2A/S5	TB21-3,4	I2U	39	1	2	2	Y	Y			
2B/S6	TB23-3,4	I2L	43	5	12	2	Y	Y			
4A	TB21-7,8	I4U	41	3	4	4	Y	Y			
5A'	TB21-9,10	I5U	55	17	5	5	Y	Y			15
	-	I5L	48	10	26	2	Y	Y	Y		3
6A	TB21-11,12	I6U	40	2	6	6	Y	Y			
6B	TB23-11,12	I6L	44	6	16	6	Y	Y			

*Add jumper from I5-F to I5-W, on rear of input file.



PED YELLOW CONFLICT MONITOR WIRING DETAIL

(make cabinet wiring changes as shown below)

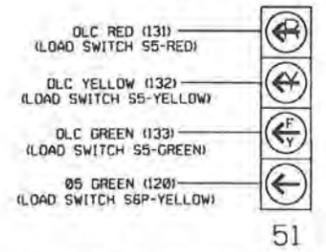
In order to use FYA COMPACT mode on the 2010ECL-NC Monitor, the cabinet must be wired such that the (unused) Ped Yellow load switch outputs are wired to the conflict monitor as follows: From 6 PY (field term. 120) to chan. 10 green (monitor pin R).

- Follow the instructions below to make the appropriate connections:
- STEP 1: Fold down rear panel of output file.
- STEP 2: Find unused wiring harness from conflict monitor card edge connector (which should be tied and bundled together).
- STEP 3: Find the conductors that correspond to the following conflict monitor card edge pins and solder wire to the appropriate terminal on the rear of the output file as shown below:
- CMU-R ----- 6PY (term. 120)

NOTE: Some cabinet manufacturers use a molex plug to accomplish this wiring configuration. If connectors are used, simply plug the two connectors together that are labeled with the pin-out as shown above.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

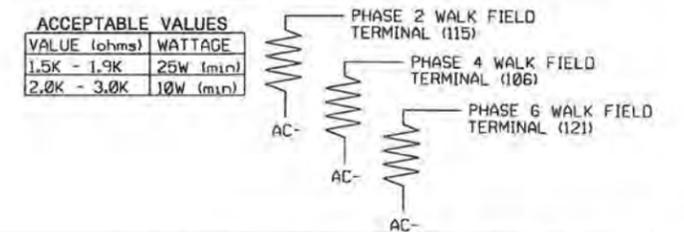
(wire signal heads as shown)



NOTE: 1. The sequence display for this signal requires special logic and output remapping. See sheet 2 of 4 for programming instructions.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)



This Electrical Detail supersedes the detail sealed on 2-11-13.

ELECTRICAL DETAIL SHEET 1 OF 4

Electrical and Programming Details For:

US 401 (Fayetteville Road) at SR 1375 (Simpkins Road)

Division 5 Wake County Garner

Plan Date: March 2013 Reviewed By: JTR

Prepared By: James Peterson Reviewed By:

Signature: John T. Rowe, P.E. 3-8-13

Professional Engineer Seal: JOHN T. ROWE, P.E. 008453

Signature: John T. Rowe, P.E. 3-8-13

Sig. Inventory No. 05-1636

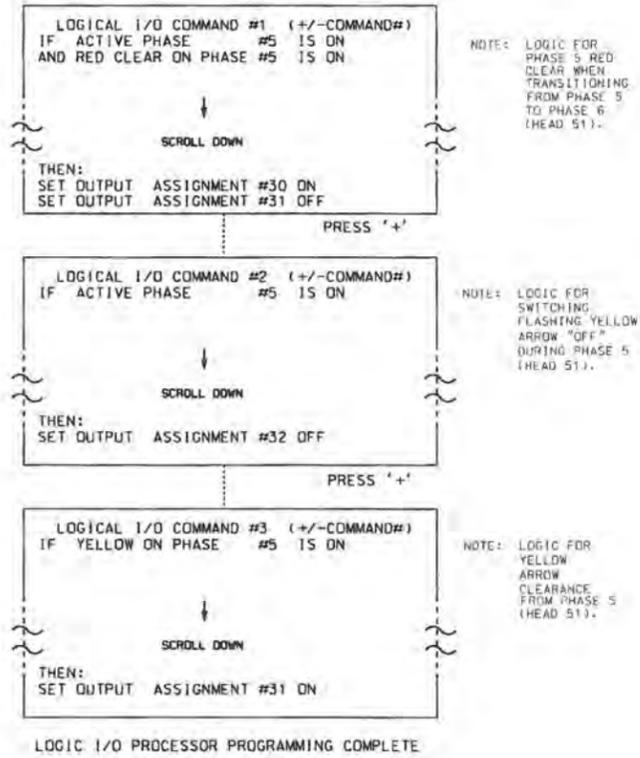
THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-1636
 DESIGNED: March 2013
 SEALED: 3-07-13
 REVISED: N/A

05-MAR-2013 09:10 51-A1753-115 51001aw00sigroun451g\kay\pater\ssm051616\sm_elec.dwg

**LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE**

(program controller as shown below)

- FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2 AND 3.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



OUTPUT REFERENCE SCHEDULE	
OUTPUT 30	= Overlap C Red
OUTPUT 31	= Overlap C Yellow
OUTPUT 32	= Overlap C Green
OUTPUT 34	= Phase 5 Green
OUTPUT 33	= Advance Beacon
OUTPUT 35	= Out of Phase Flasher

Note: All outputs shown above have been remapped. See sheets 3 and 4 of this electrical detail.

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

- FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).
PRESS '+' TWICE

```

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE:      :12345678910111213141516
VEH OVL PARENTS:  XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS:  - RED - YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0
    
```

← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 05-1636
DESIGNED: March 2013
SEALED: 3-07-13
REVISED: N/A

This Electrical Detail supersedes
the detail sealed on 2-11-13.

ELECTRICAL DETAIL SHEET 2 OF 4

	US 401 (Fayetteville Road) at SR 1375 (Simpkins Road)			
	Division 5 PLAN DATE: March 2013 PREPARED BY: James Peterson	Wake County REVIEWED BY: JTR REVIEWED BY:		Garner SIGNATURE: <i>John T. Rowe</i> DATE: 3-9-13
	REVISIONS			INIT. DATE

SIG. INVENTORY NO. 05-1636

06-Mar-2013 11:04
C:\Users\jtr\Documents\SS-4905BF\Drawings\SS-4905BF-03.dwg
JTR

**FYA SIGNAL OUTPUT REMAPPING ASSIGNMENT PROGRAMMING DETAIL
FOR SIGNAL HEAD 51**

(program controller as shown below)

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS), WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION, ENTER "30"

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

STEP 1

```

PAGE:1 C1 PIN:32 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....30
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:32 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...0
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

```

PAGE:1 C1 PIN:32 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....30
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

PRESS "+" KEY FOR OUTPUT 31

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

STEP 2

```

PAGE:1 C1 PIN:33 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....31
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:33 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...1
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

```

PAGE:1 C1 PIN:33 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....31
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

PRESS "+" KEY FOR OUTPUT 32

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

STEP 3

```

PAGE:1 C1 PIN:34 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....32
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:34 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...3
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

```

PAGE:1 C1 PIN:34 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....32
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

PRESS "+" TWICE TO REACH OUTPUT 34.

STEP 4

```

PAGE:1 C1 PIN:36 NOT ENABLED
OUTPUT ASSIGNMENT #.....34
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

THE OUTPUT IS SET AS "NOT ENABLED" BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE PHASE.

```

PAGE:1 C1 PIN:36 NOT ENABLED
SELECT VEHICLE PHASE (1-16)...5
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```

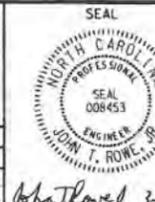
PAGE:1 C1 PIN:36 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....34
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....Y
WATCHDOG.....Y
DETECTOR RESET.....Y
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....Y
CONTROLLER FLASH.....Y
RUN FREE.....Y
RESERVED.....Y
PREEMPT.....Y
SOFT PREEMPT.....Y
ANY PREEMPT.....Y
COORDINATION PLAN.....Y
OFFSET.....Y
PHASE CHECK.....Y
PHASE ON.....Y
PHASE NEXT.....Y
    
```

OUTPUT PROGRAMMING FOR HEAD 51 COMPLETE

This Electrical Detail supersedes the detail sealed on 2-11-13.

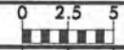
ELECTRICAL DETAIL SHEET 3 OF 4

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-1636
DESIGNED: March 2013
SEALED: 3-07-13
REVISED: N/A

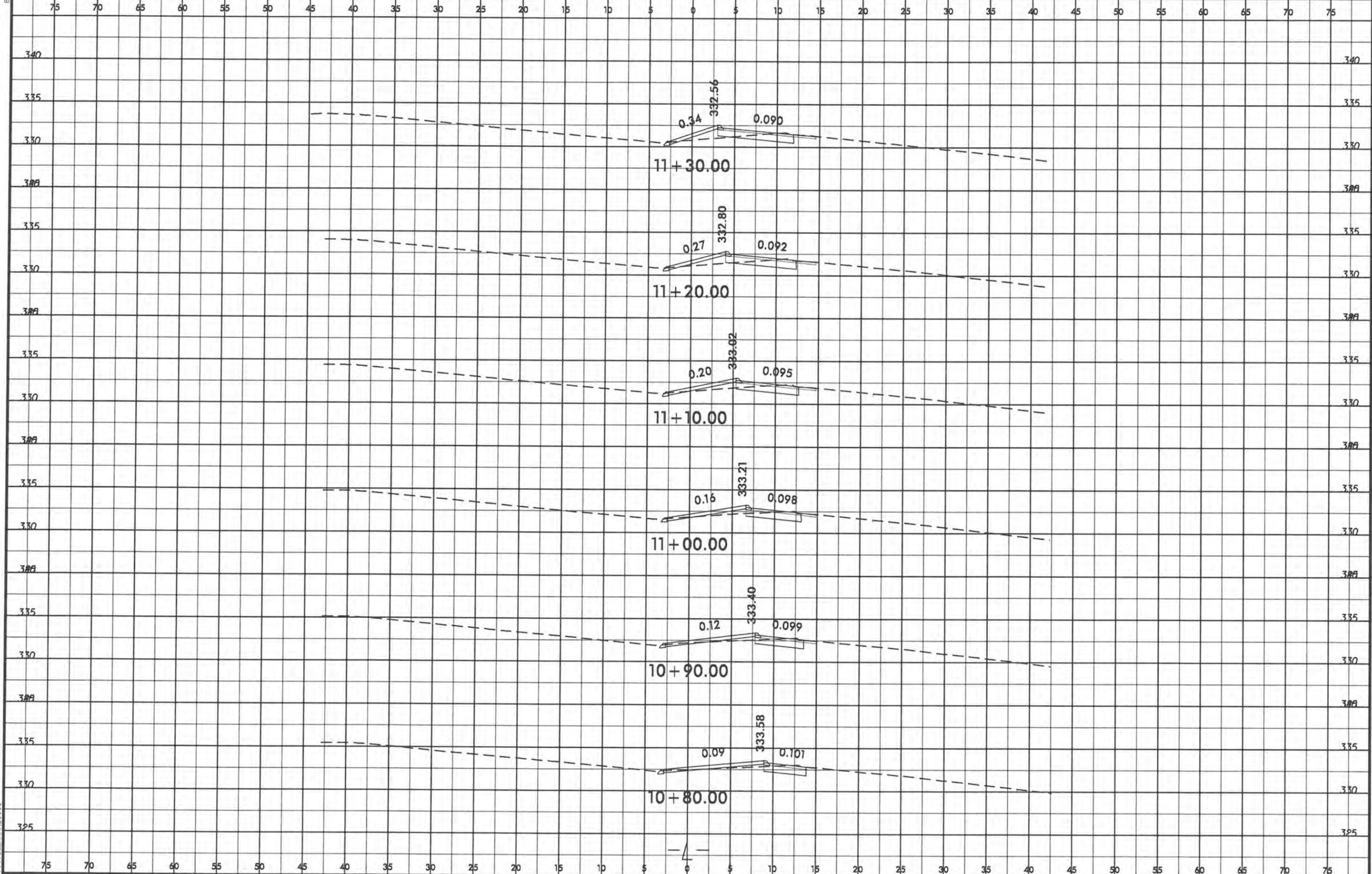
	US 401 (Fayetteville Road) at SR 1375 (Simpkins Road)		
	Division 5 PLAN DATE: March 2013 PREPARED BY: James Peterson	Wake County REVIEWED BY: JTR REVIEWED BY:	
REVISIONS			SIGNATURE: <i>James Peterson</i> 3-8-13 DATE:
REVISIONS			SIG. INVENTORY NO. 05-1636

05-1636-2013-03-01
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION ENGINEERING SECTION
 750 N. Greenfield Parkway, Garner, NC 27529

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
SS4905BF	X-2



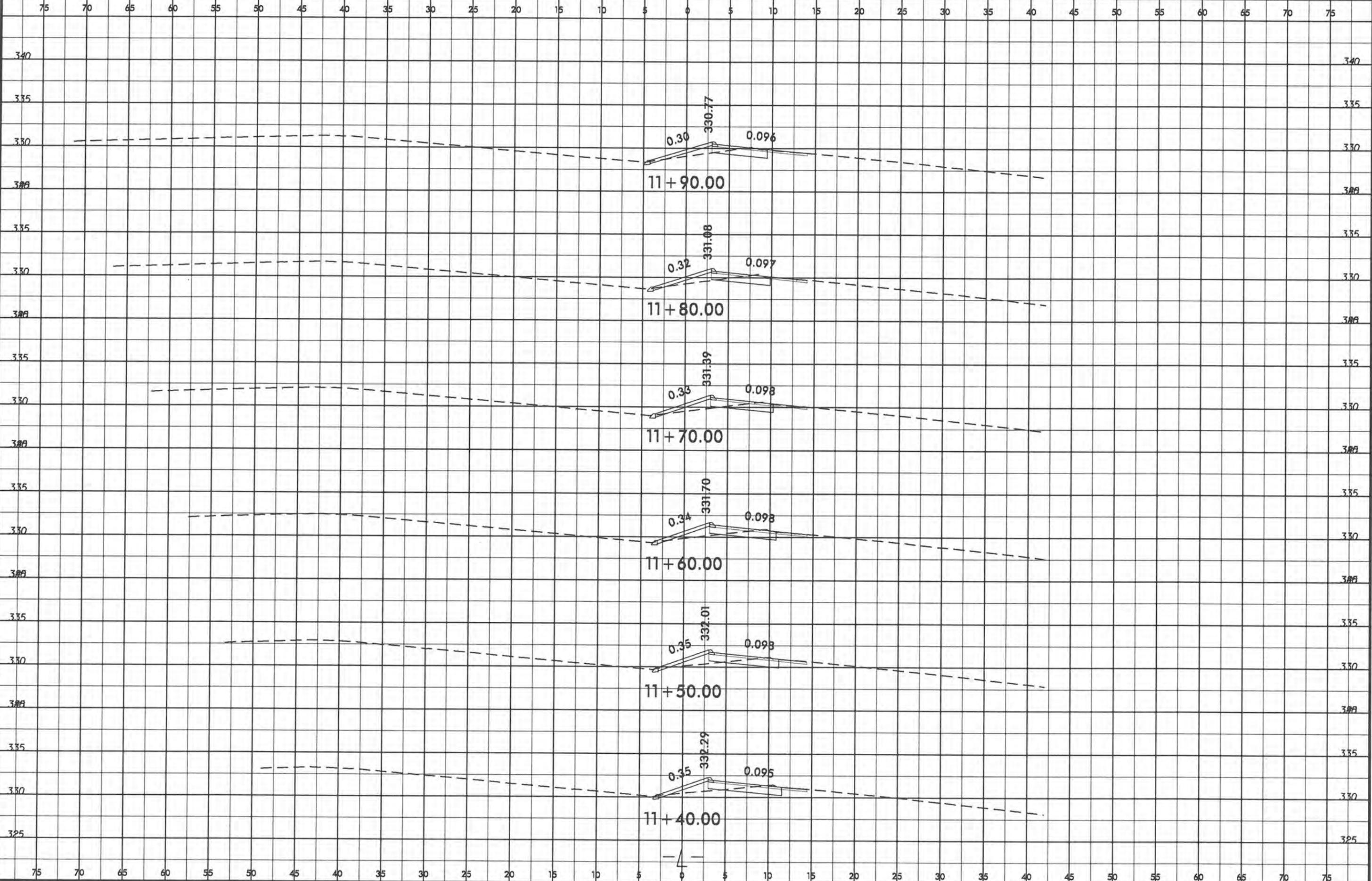
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 SS4905BF-Modeling-Mode.dwg
 SS4905BF-Modeling-Mode.dwg

8/23/99



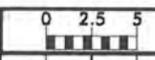
PROJ. REFERENCE NO.
SS4905BF

SHEET NO.
X-3



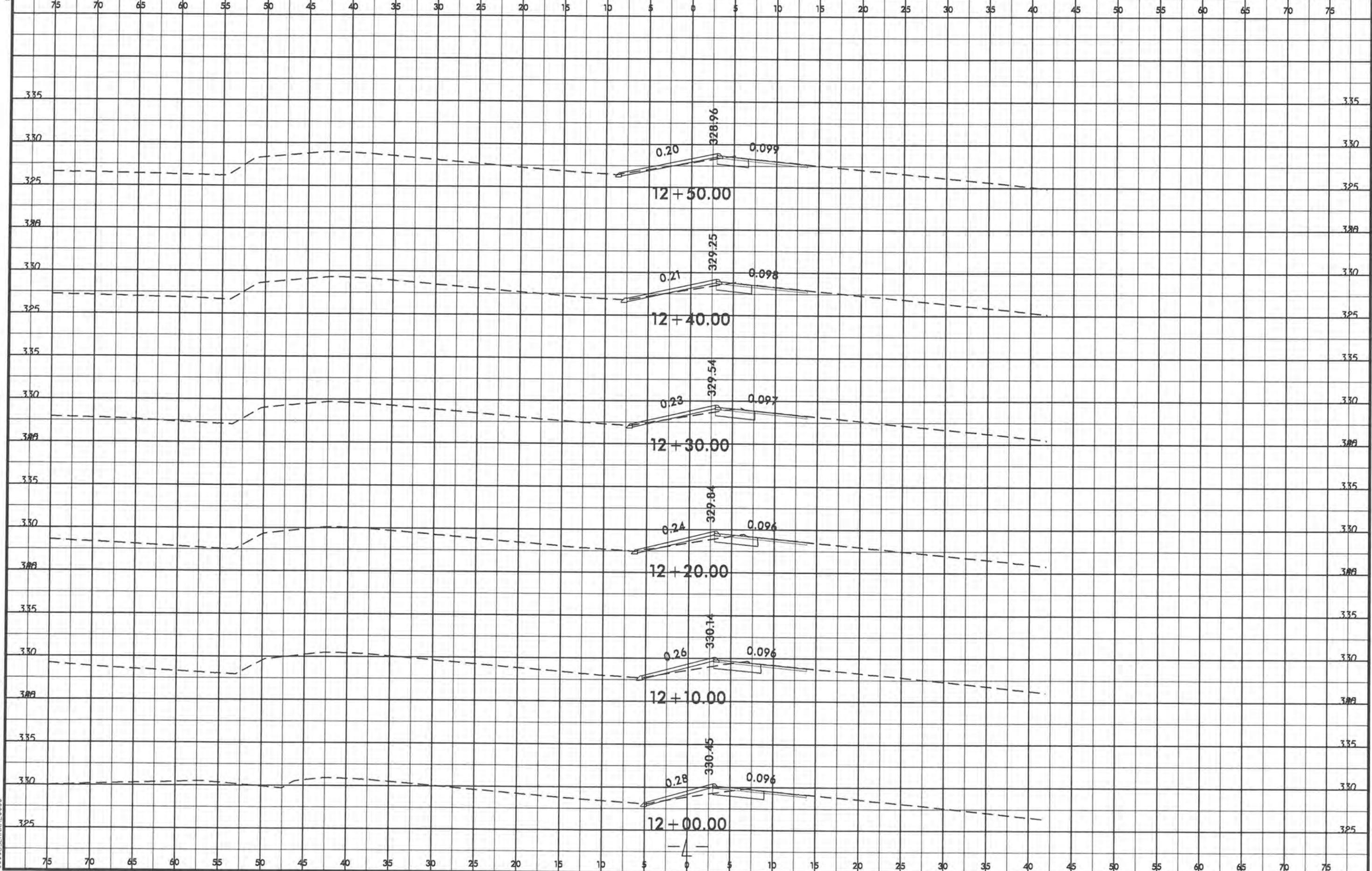
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8/23/99



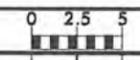
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SS4905BF

SHEET NO.
X-4



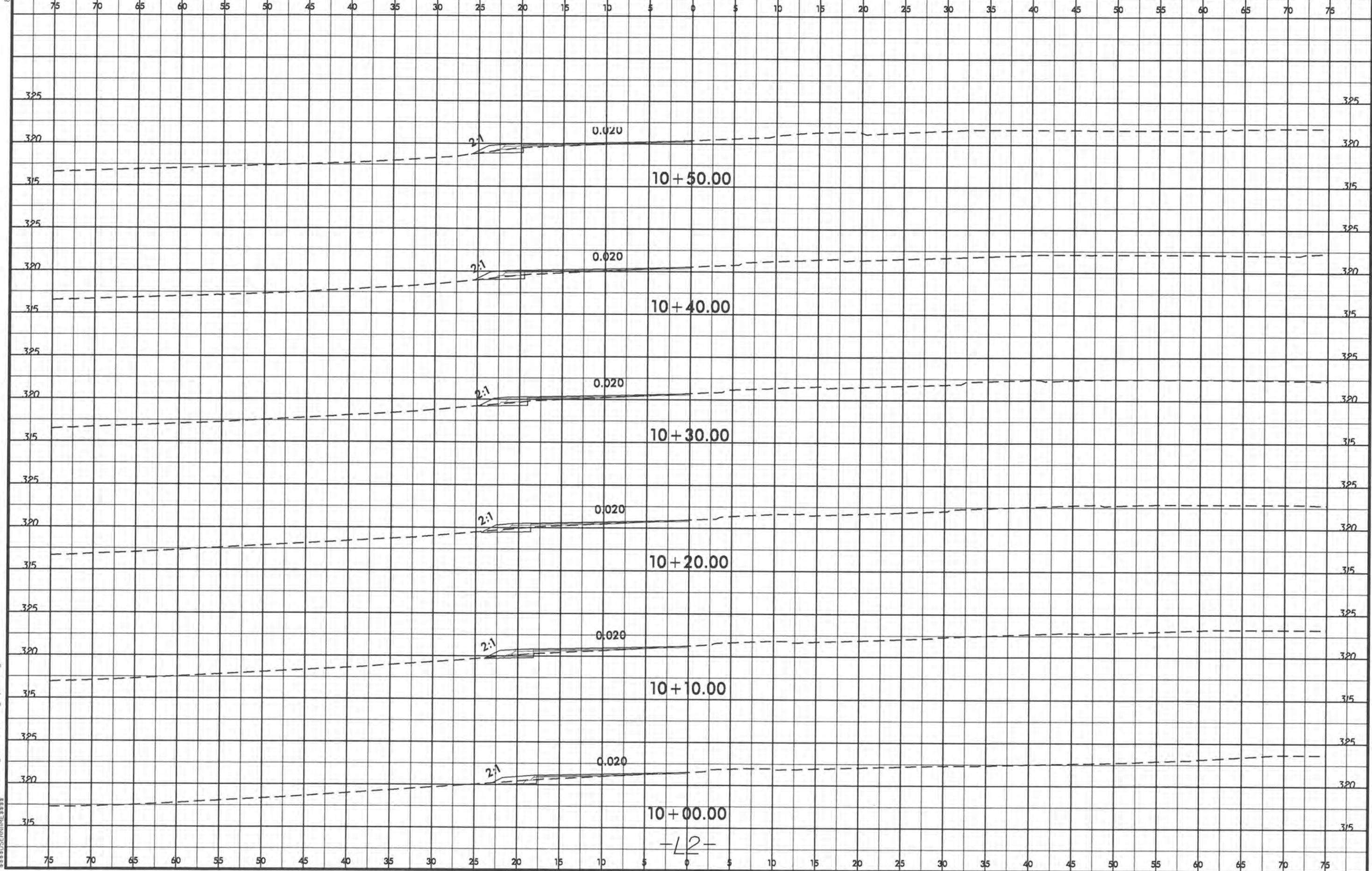
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 \$\$\$\$

8/23/99



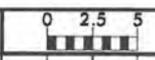
PROJ. REFERENCE NO.
SS-4905BF

SHEET NO.
X-5



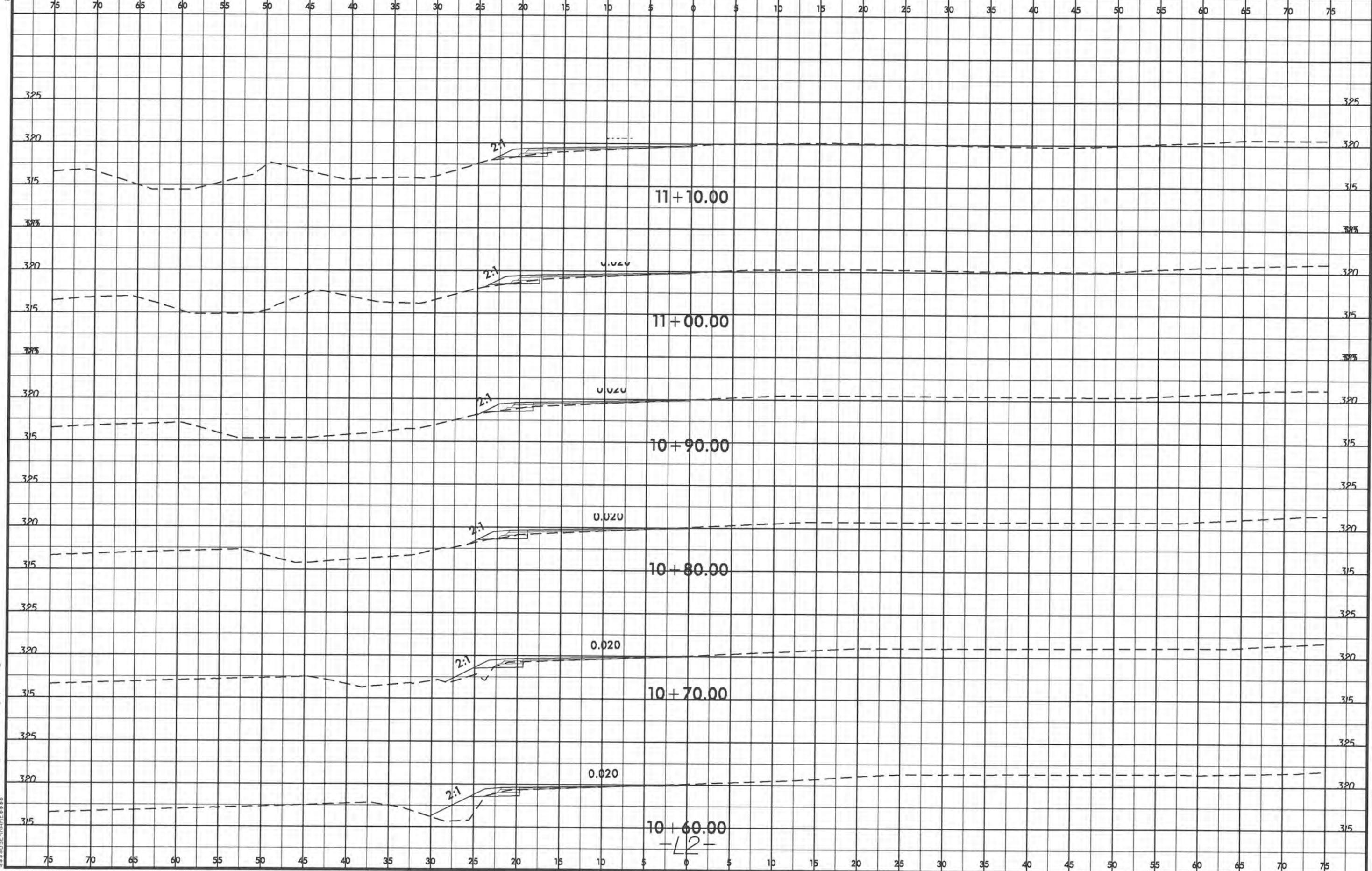
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8/23/99



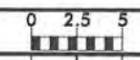
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SS-4905BF

SHEET NO.
X-6

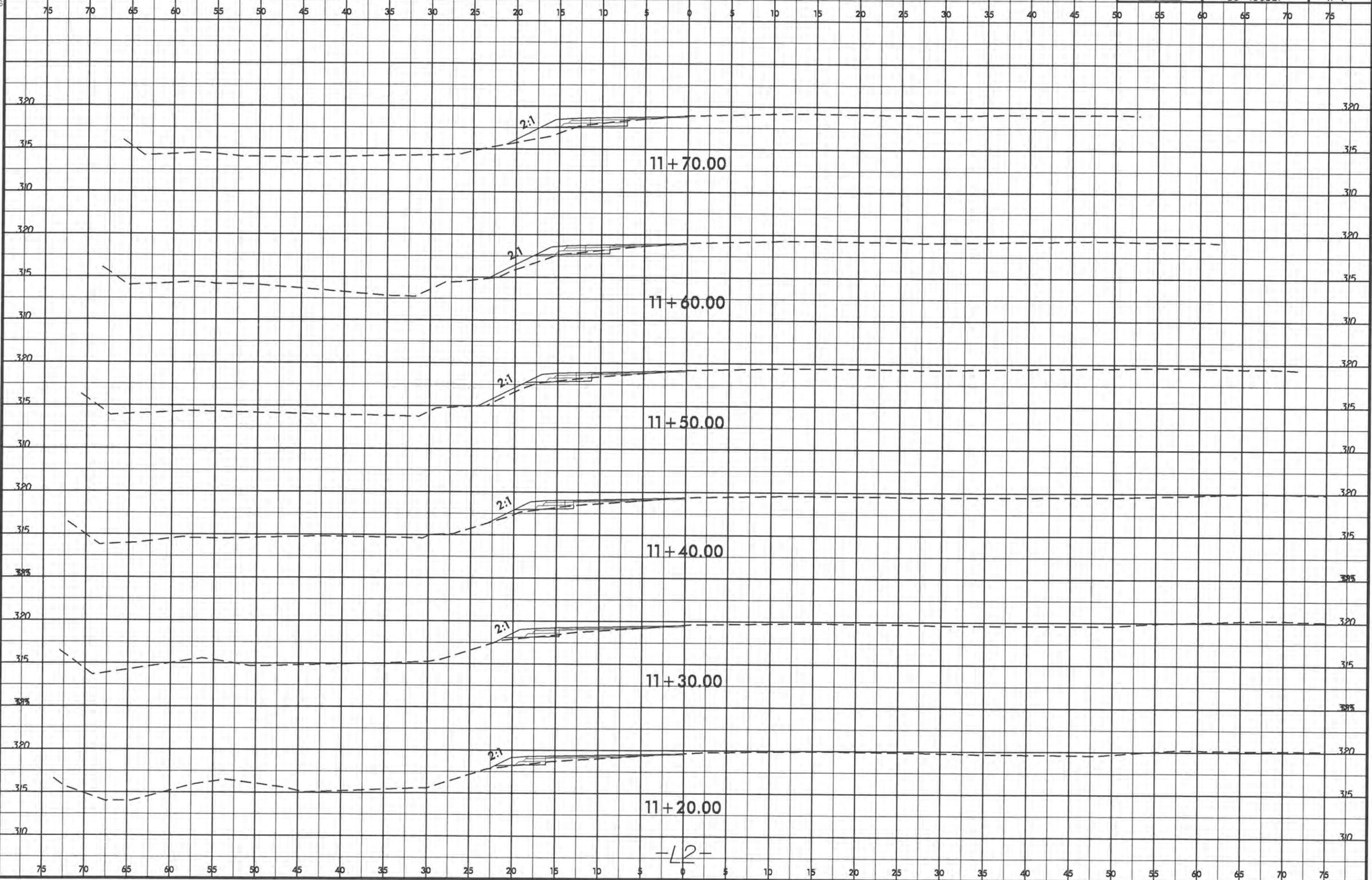


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8/23/99



PROJ. REFERENCE NO.	SHEET NO.
SS-4905BF	X-7



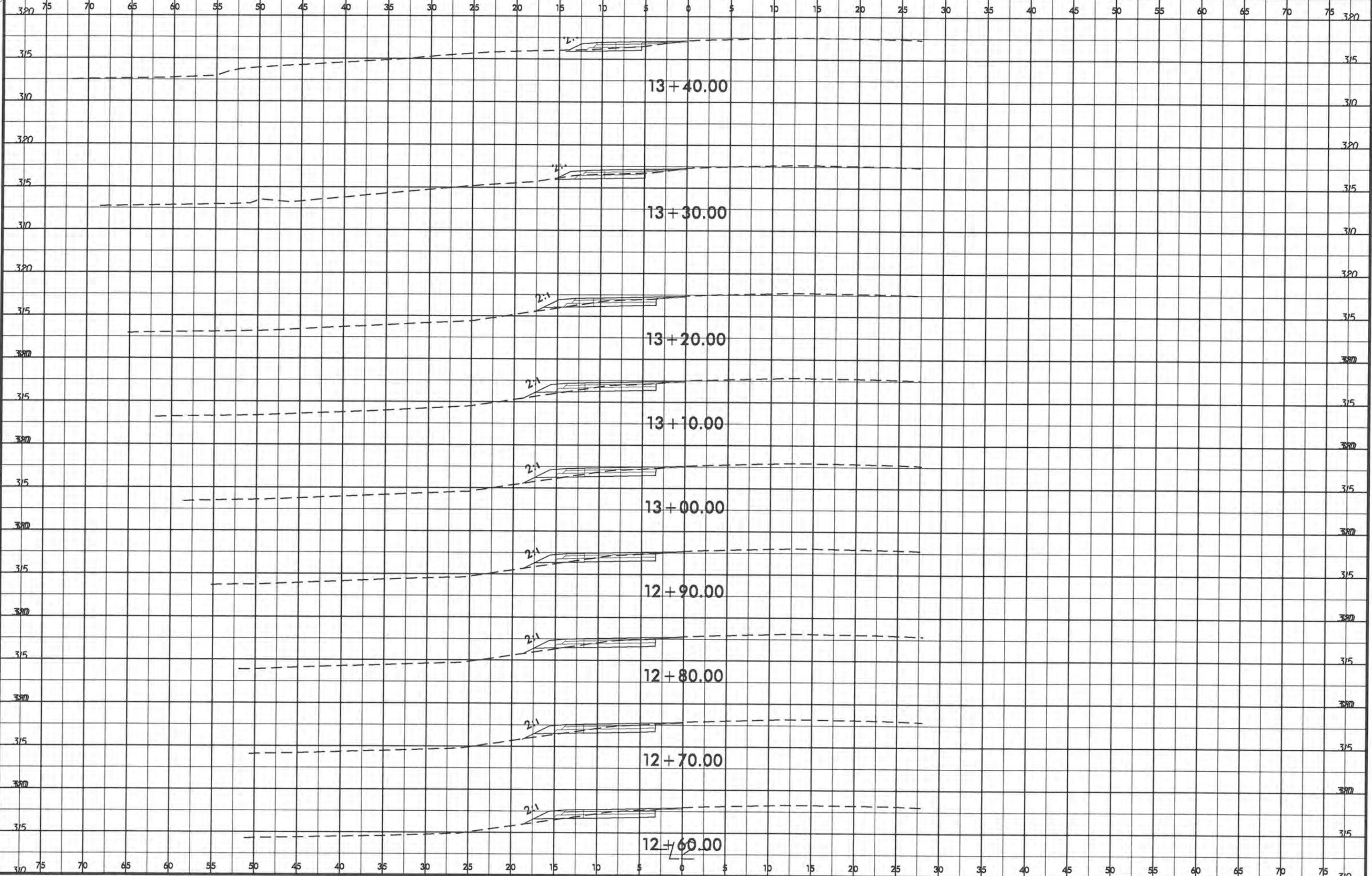
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8/23/99

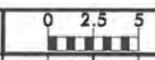


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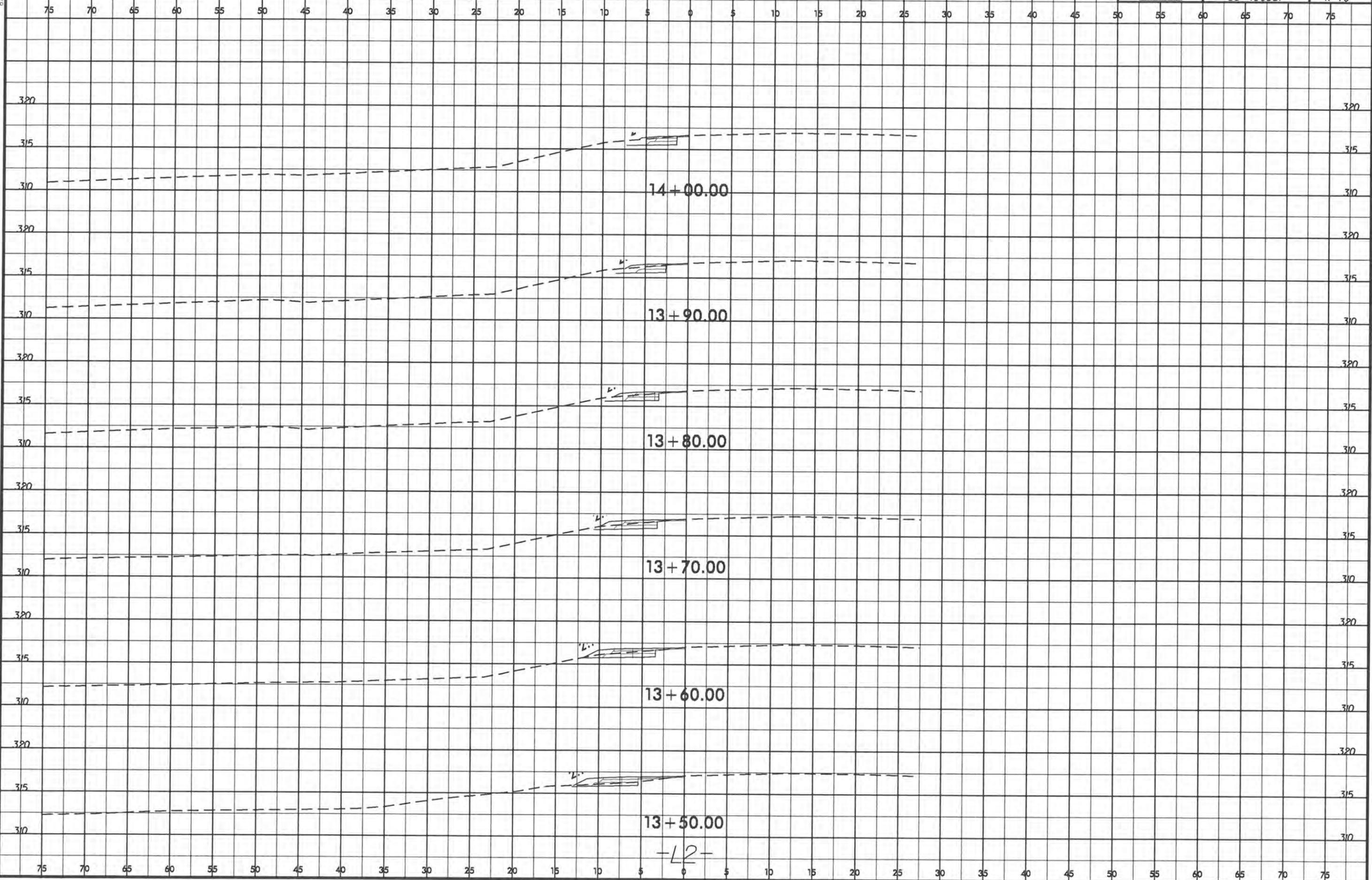


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8/23/99



PROJ. REFERENCE NO.	SHEET NO.
SS-4905BF	X-10



-L2-

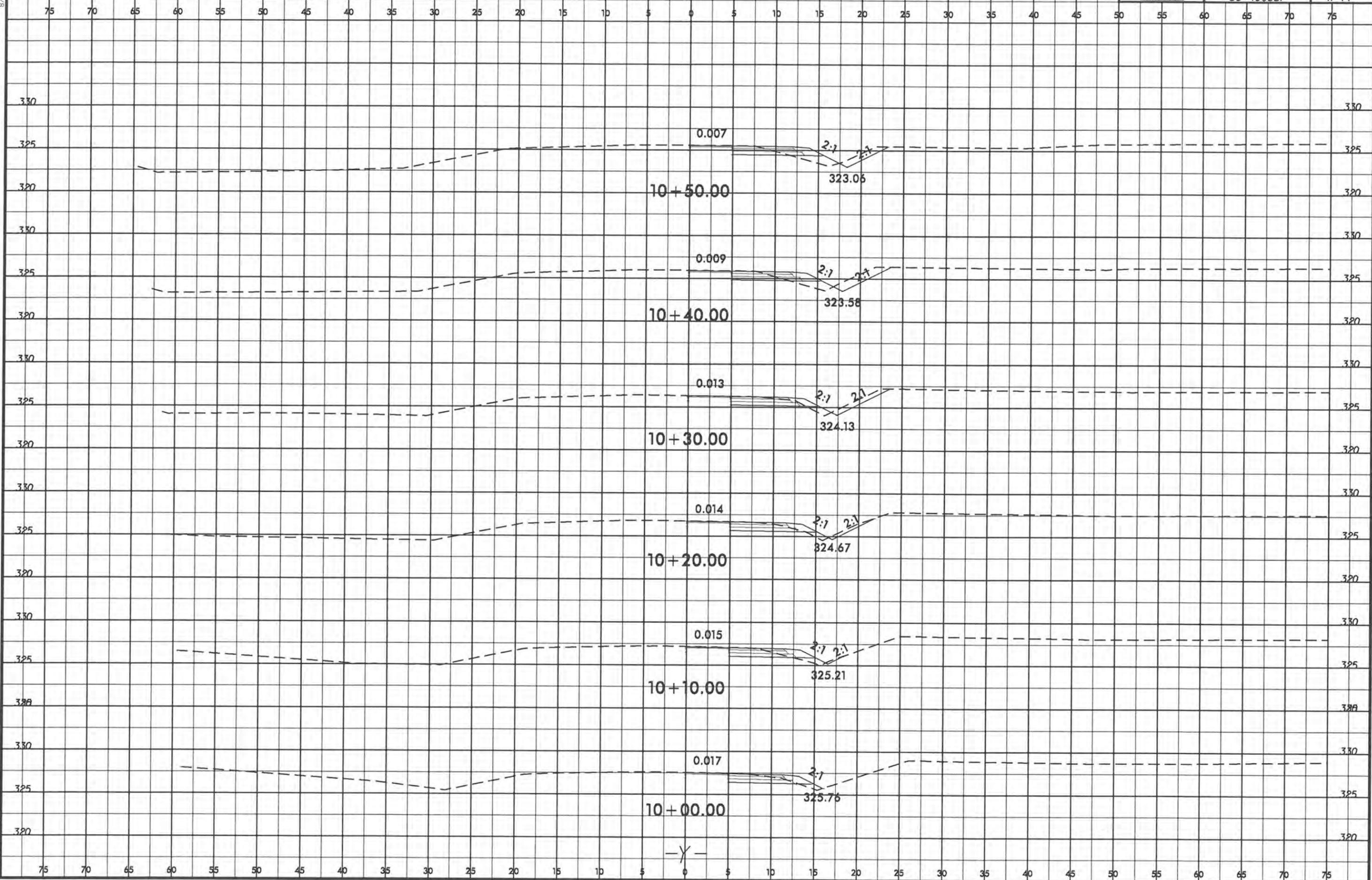
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8/23/99



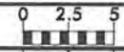
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SS-4905BF

SHEET NO.
X-11



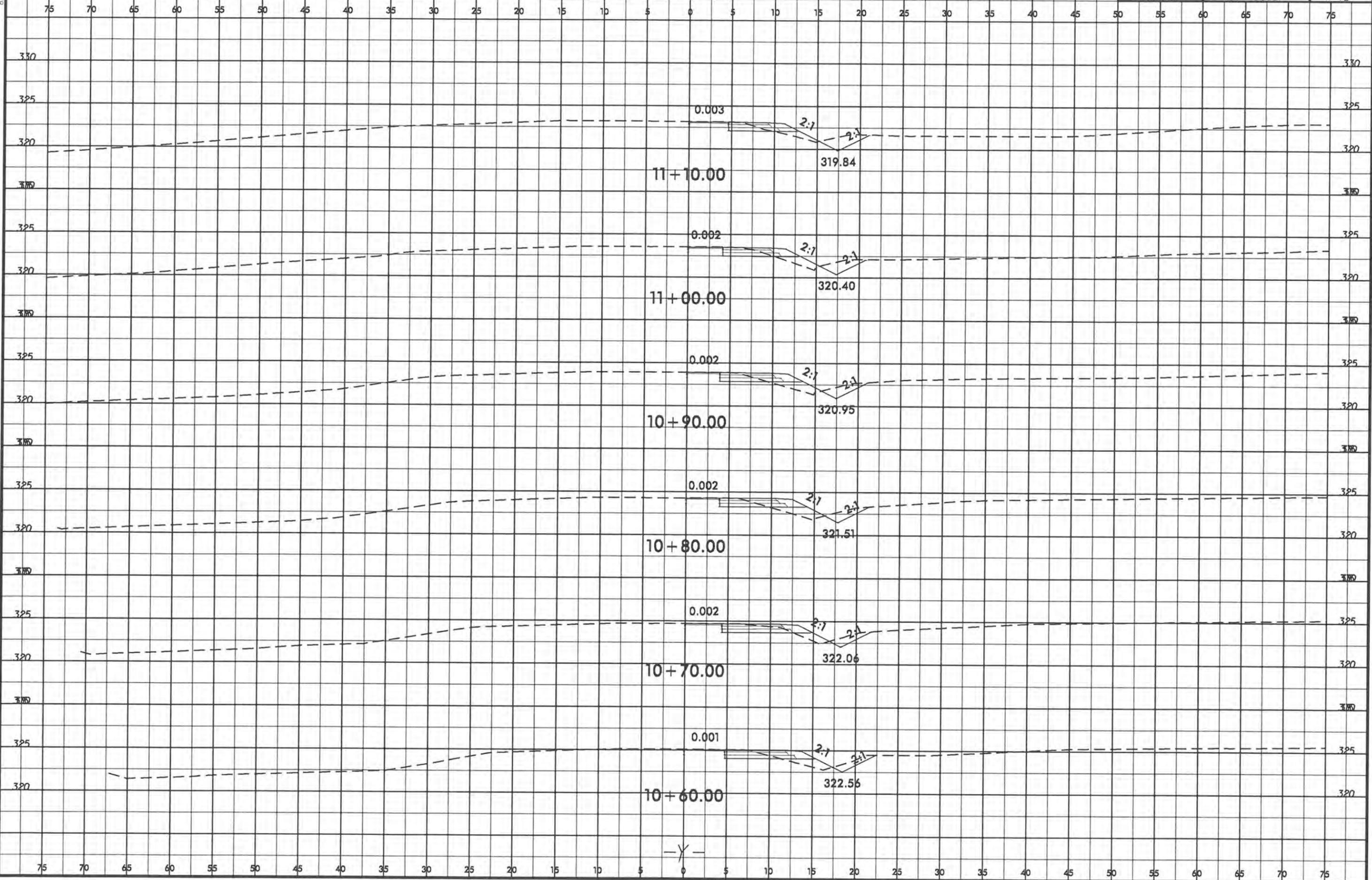
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8/23/99



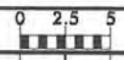
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SS-4905BF

SHEET NO.
X-12



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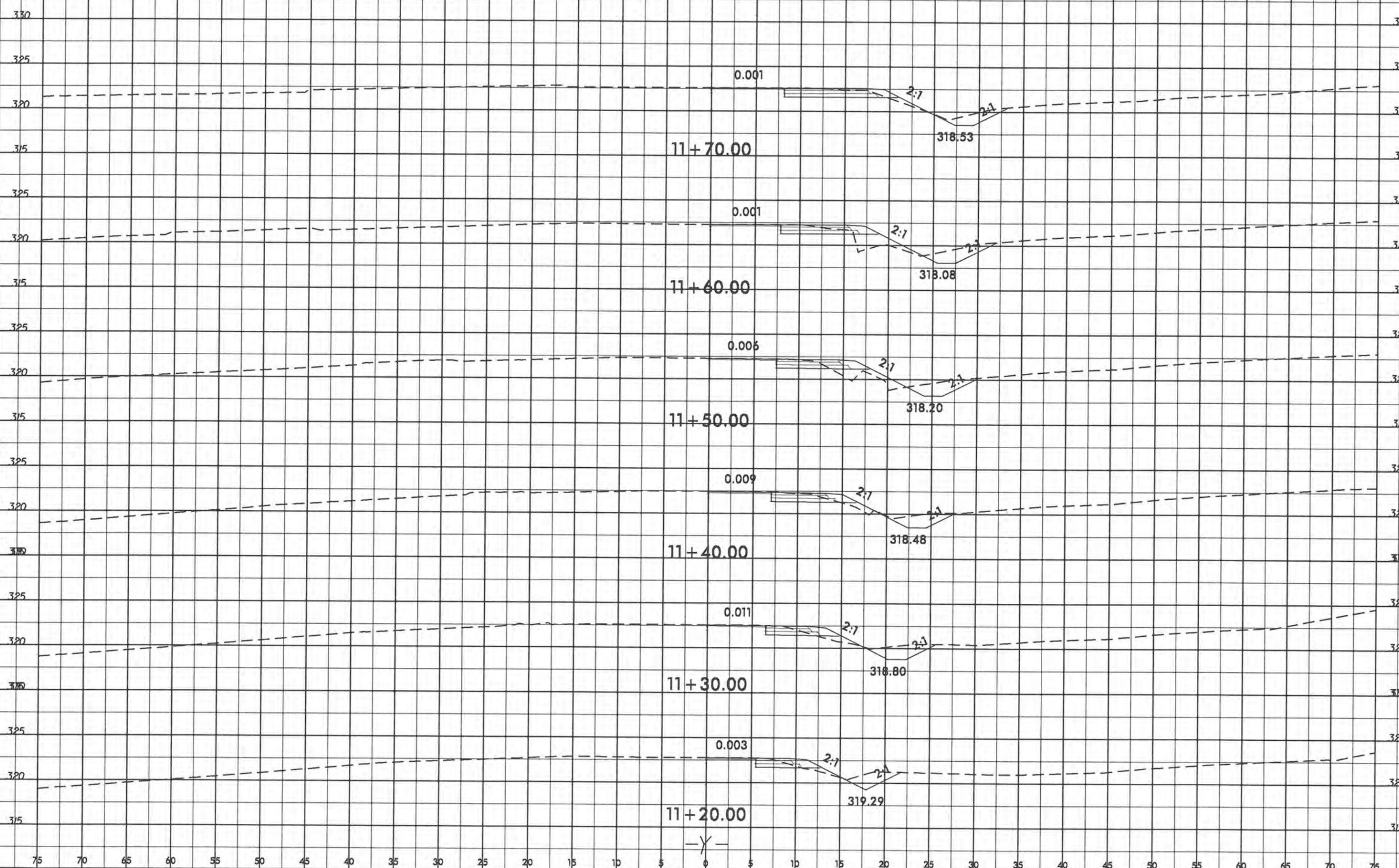
8/23/99



PROJ. REFERENCE NO.
SS-4905BF

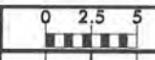
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X-13

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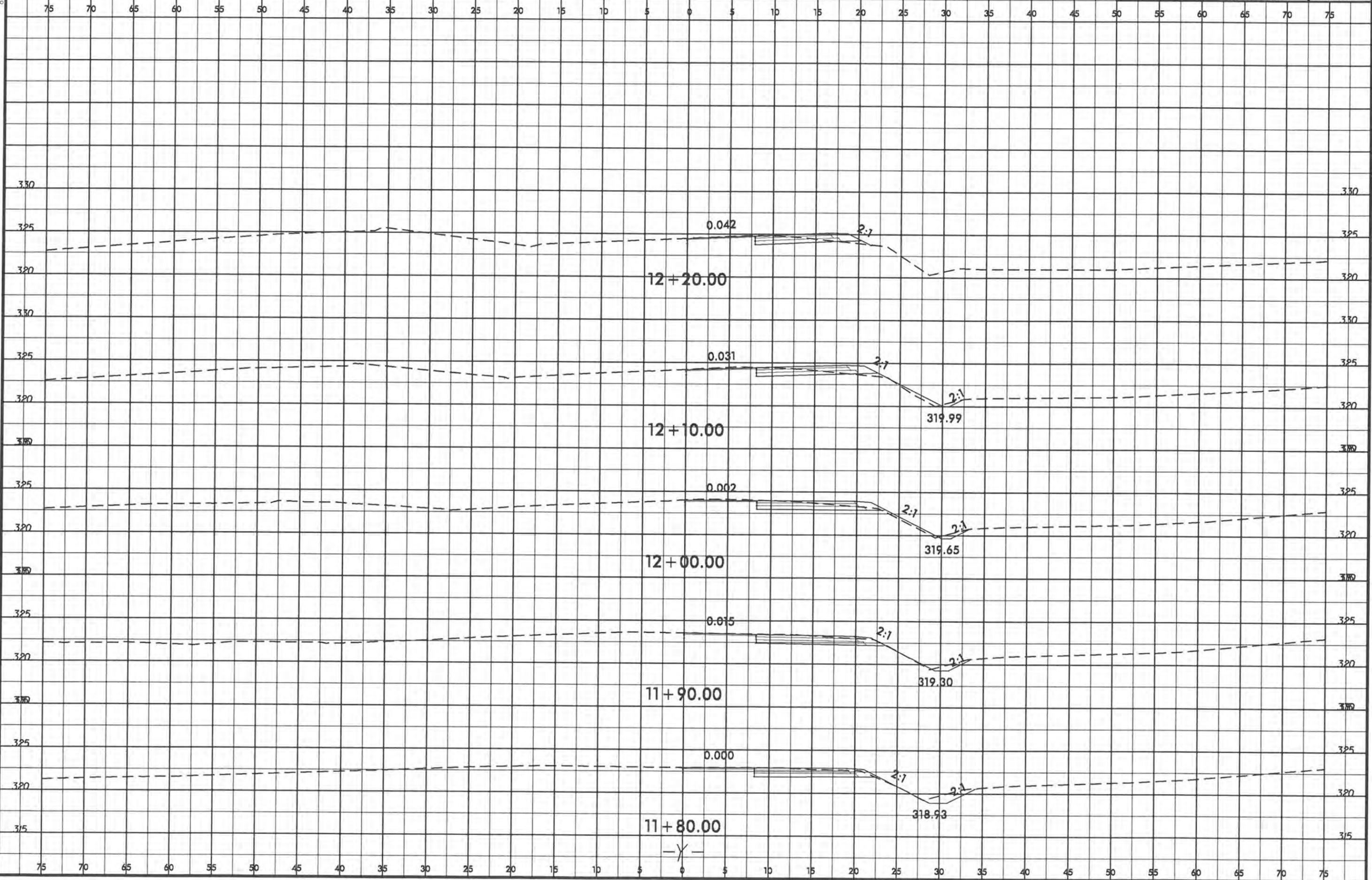


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8/23/99

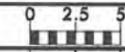


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SS-4905BF	X-14

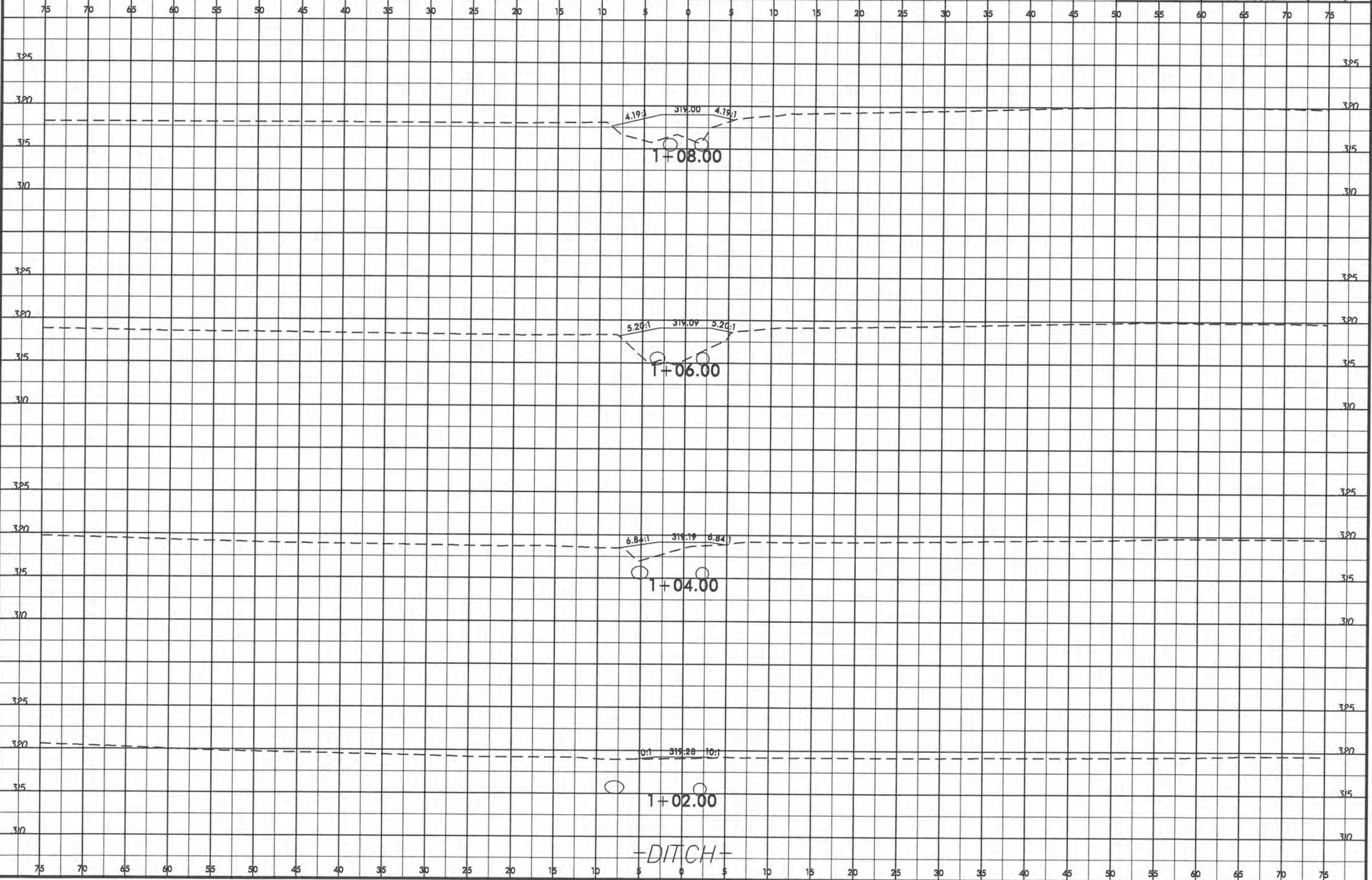


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 433199 SS-4905BF.dwg
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8/23/99

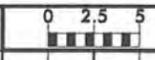


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SS-4905BF	X-16

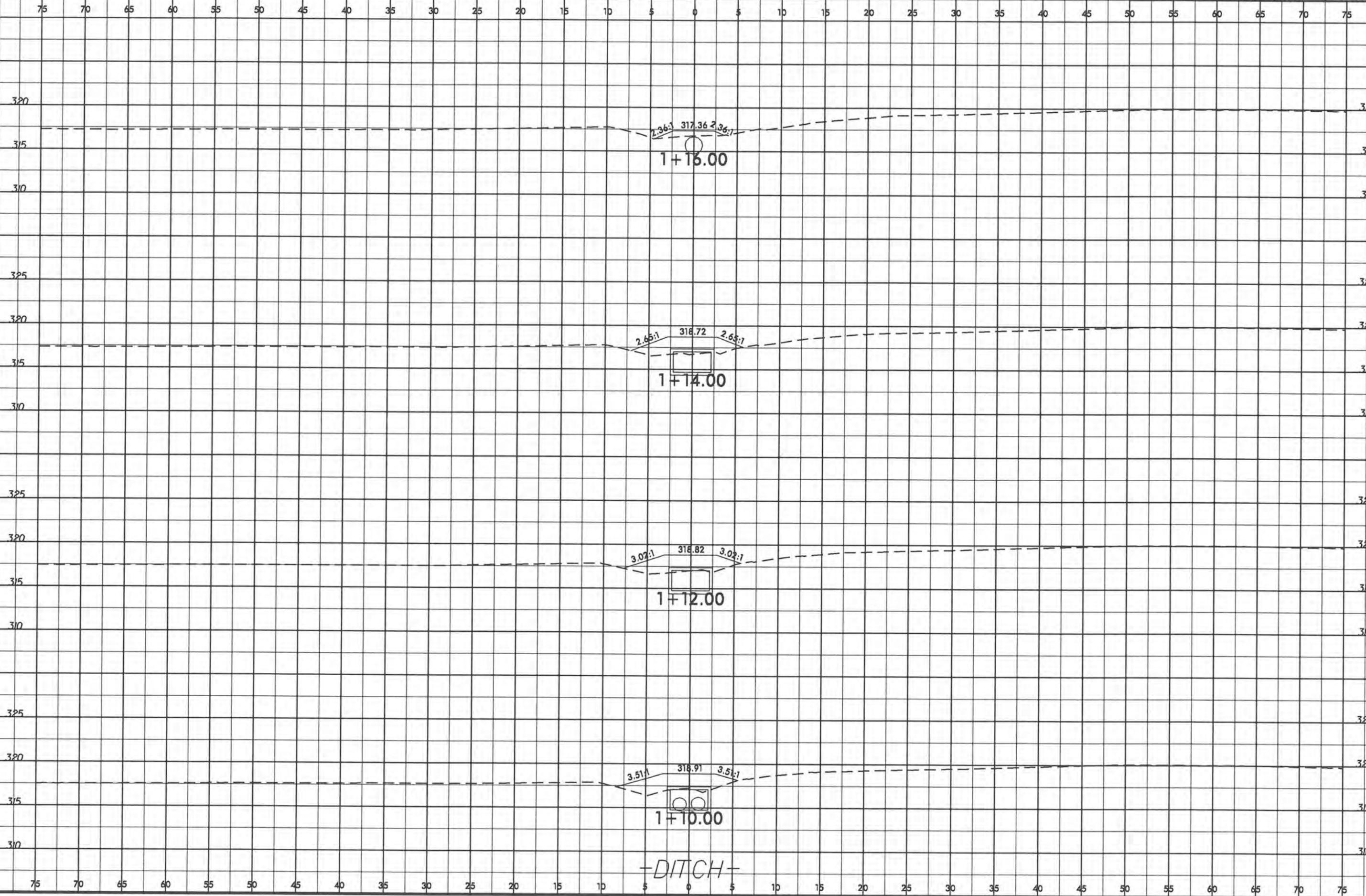


25 SEP 2002 07:39
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 \$\$\$USERNAME\$\$\$

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
SS-4905BF	X-17



2.36:1 317.36 2.36:1
 1+16.00

2.65:1 318.72 2.65:1
 1+14.00

3.02:1 318.82 3.02:1
 1+12.00

3.51:1 318.91 3.51:1
 1+10.00

-DITCH-

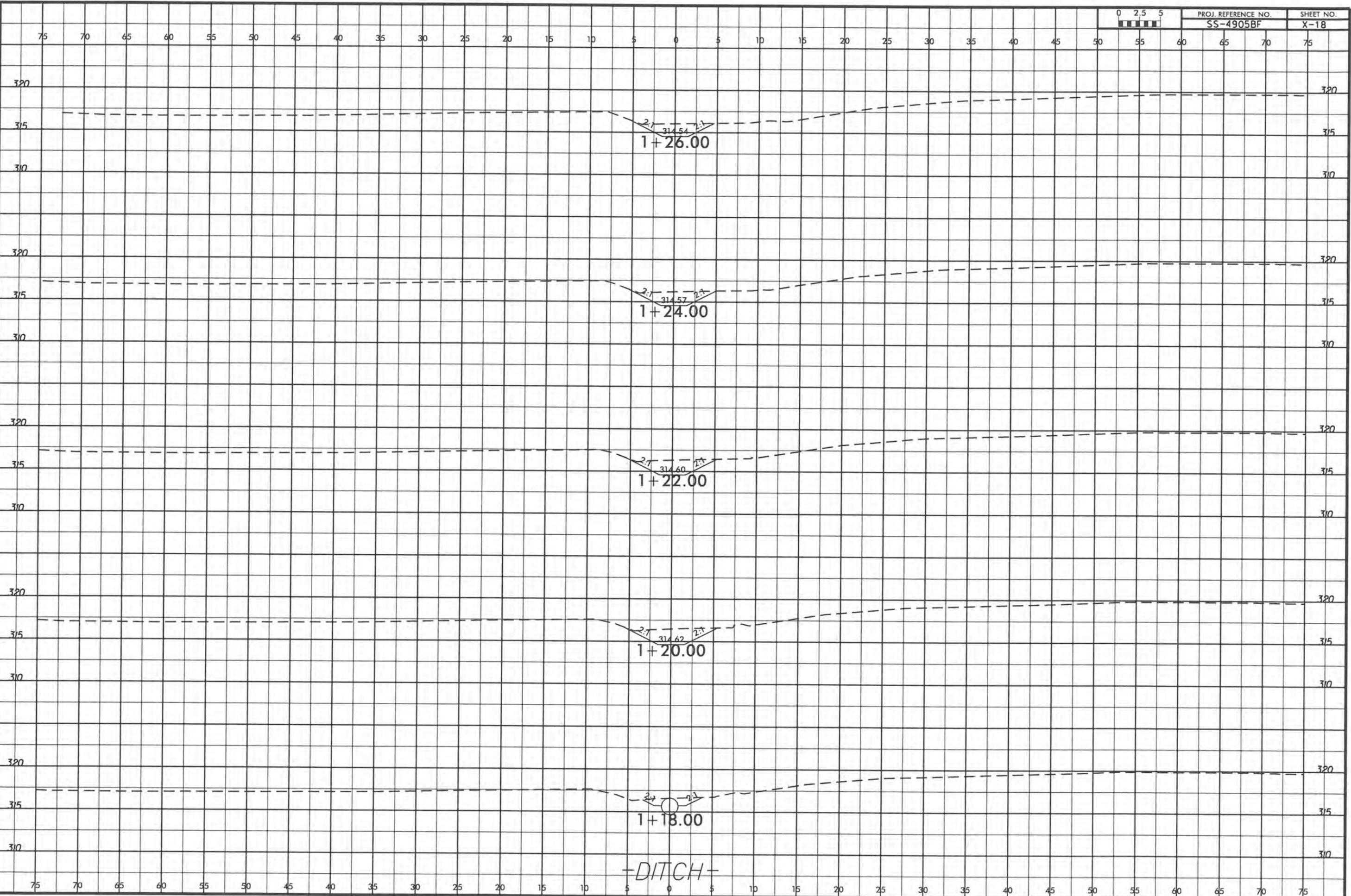
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8/23/99



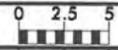
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SS-4905BF

SHEET NO.
X-18



23-APR-2013 12:54
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SS4905BF

8/23/99



PROJ. REFERENCE NO.
SS-4905BF

SHEET NO.
X-20

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3.20 3.20

3.15 3.15

3.10 3.10

2:1 31+24.21
1+46.00

3.20 3.20

3.15 3.15

3.10 3.10

2:1 31+27.21
1+44.00

3.20 3.20

3.15 3.15

3.10 3.10

2:1 31+30.21
1+42.00

3.20 3.20

3.15 3.15

3.10 3.10

2:1 31+33.21
1+40.00

3.20 3.20

3.15 3.15

3.10 3.10

2:1 31+36.21
1+38.00

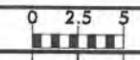
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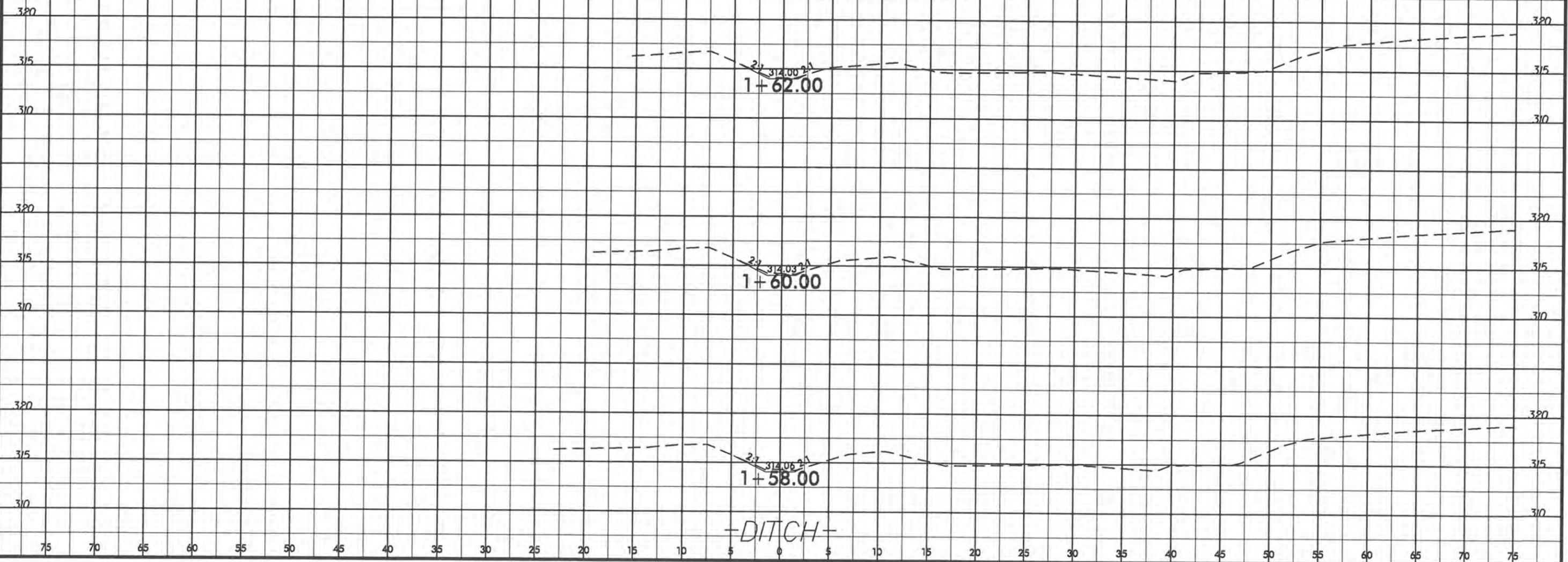
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8/23/99

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PROJ. REFERENCE NO. SS-4905BF SHEET NO. X-22



26-SEP-2016 07:40
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