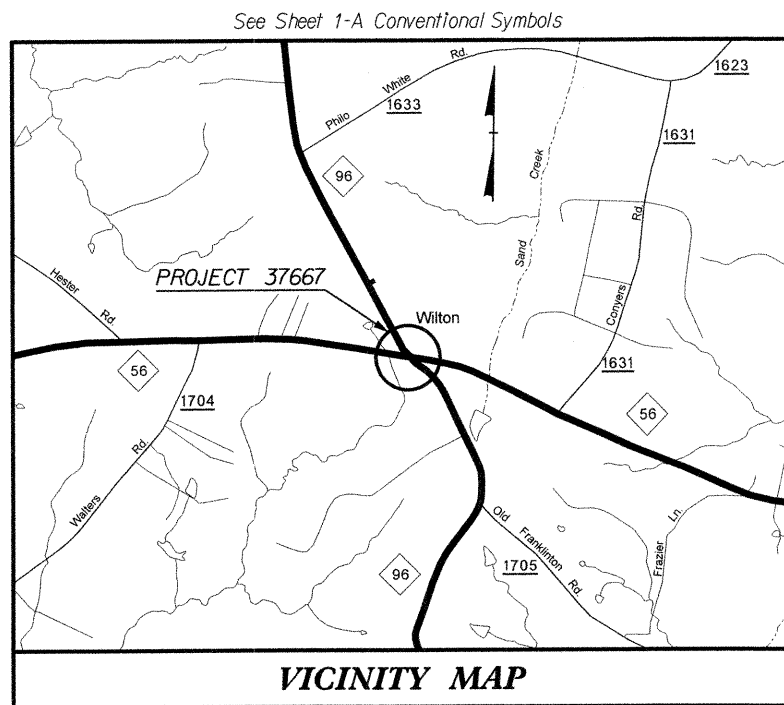


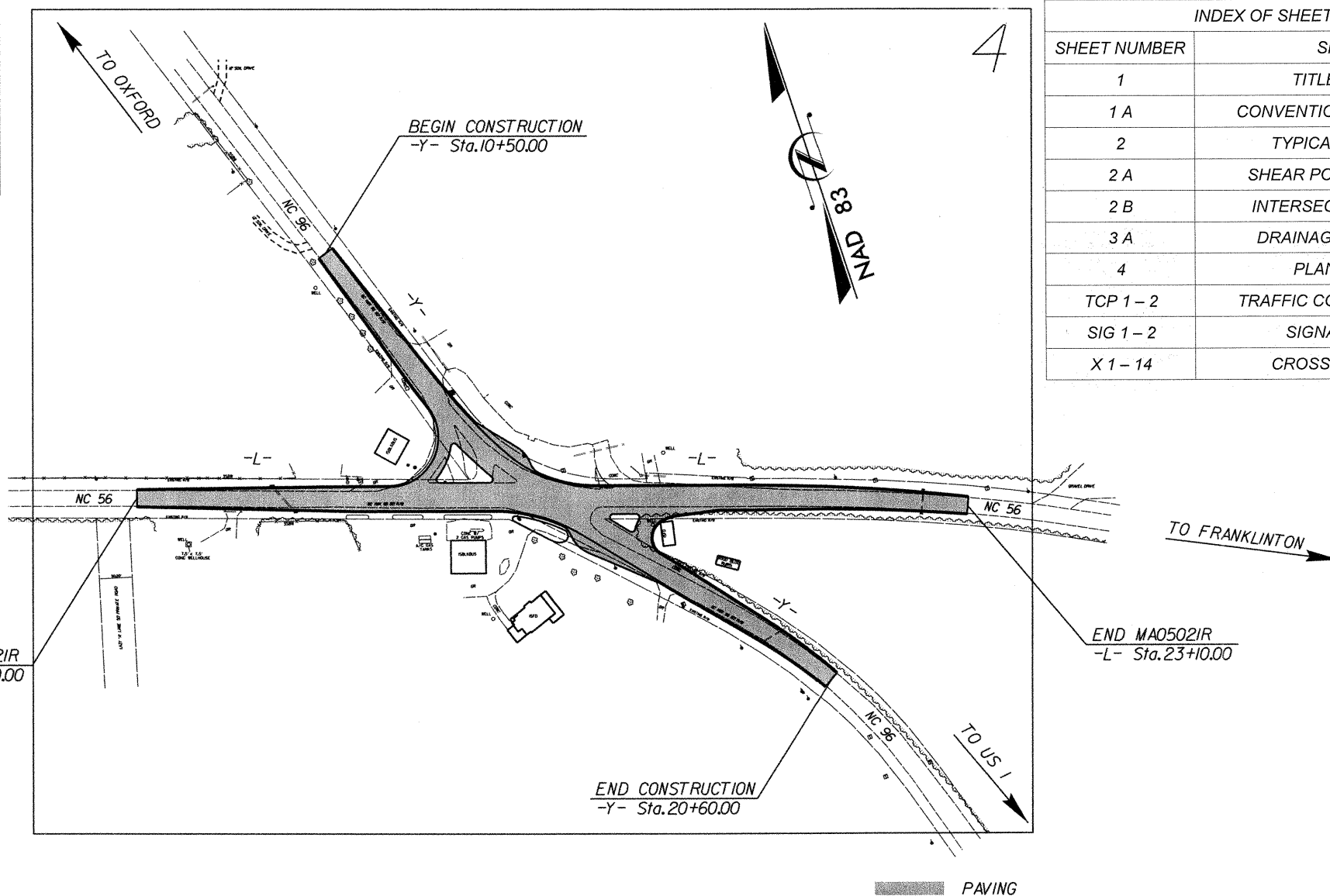
CONTRACT # C201699
PROJECT: 37667, 5CR.10391.6, etc.



STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
GRANVILLE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	MA05021R	1	
WBS NO.	F.A. PROJ. NO.	DESCRIPTION	
37667		P.E., CONST.	

LOCATION: INTERSECTION OF NC 56 AND NC 96
TYPE OF WORK: WIDENING, GRADING, DRAINAGE, PAVING AND PAVEMENT MARKINGS



INDEX OF SHEETS	
SHEET NUMBER	SHEET
1	TITLE SHEET
1 A	CONVENTIONAL SYMBOLS
2	TYPICAL SECTION
2 A	SHEAR POINT DIAGRAM
2 B	INTERSECTION DETAIL
3 A	DRAINAGE SUMMARY
4	PLAN SHEET
TCP 1-2	TRAFFIC CONTROL PLANS
SIG 1-2	SIGNAL PLANS
X 1-14	CROSS SECTIONS

<p>GRAPHIC SCALES</p> <p>PLANS</p>	<p>DESIGN DATA</p> <p>V = 55 MPH</p>	<p>PROJECT LENGTH</p> <p>LENGTH ROADWAY PROJECT 37667 = 0.24 MILES</p>	<p>Prepared in the Office of:</p> <p>TRANSITE CONSULTING ENGINEERS, INCORPORATED 1300 Paddock Drive, Suite G-10 Raleigh, N.C. 27609</p> <p>2006 STANDARD SPECIFICATIONS</p> <p>RICHARD L. BOLLINGER, JR. P.E. PROJECT ENGINEER</p> <p>CLINTON J. MORGAN, P.E. PROJECT DESIGN ENGINEER</p> <p>MICHAEL J. KNEIS, P.E. DIVISION 5 - PROJECT MANAGER</p>	<p>DESIGN ENGINEER</p> <p>10/06/06</p>	<p>DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA</p> <p>FIFTH DIVISION J. G. Nance, P.E. DIVISION ENGINEER</p> <p>APPROVED DIVISION ADMINISTRATOR</p> <p>DATE</p>
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

Edge of Pavement	
Curb	
Prop. Slope Stakes Cut	
Prop. Slope Stakes Fill	
Prop. Woven Wire Fence	
Prop. Chain Link Fence	
Prop. Barbed Wire Fence	
Prop. Wheelchair Ramp	
Exist. Guardrail	
Prop. Guardrail	
Equality Symbol	
Pavement Removal	

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	
Prop. Temp. Construction Easement Line	
Prop. Temp. Drainage Easement Line	
Prop. Perm. Drainage Easement Line	

HYDROLOGY

Stream or Body of Water	
Flow Arrow	
Disappearing Stream	
Spring	
Swamp Marsh	
Shoreline	
Falls, Rapids	
Prop Lateral, Tail, Head Ditches	

STRUCTURES

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

MINOR Head & End Wall	
Pipe Culvert	
Footbridge	
Drainage Boxes	
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	

CONC HW	
CB	

Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement	
Water Line	
Sanitary Sewer	
Sanitary Sewer Force Main	
Gas Line	
Storm Sewer	
Power Line	
Telephone Cable	
U/G Telephone Conduit	
Unknown Utility	
Television Cable	
Fiber Optics Cable	
Exist. Water Meter	
Drawn According to U/G Records	
Abandoned According to U/G Records	
End Of Information	

BOUNDARIES & PROPERTIES

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Property Line Symbol	
Exist. Iron Pin	
Property Corner	
Property Monument	
Property Number	
Parcel Number	
Fence Line	
Existing Wetland Boundaries	
Proposed Wetland Boundaries	
Existing Endangered Animal Boundaries	
Existing Endangered Plant Boundaries	

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	
Guard Post	
Paved Walk	
Bridge	
Box Culvert or Tunnel	
Ferry	
Culvert	
Footbridge	
Trail, Footpath	
Light House	

VEGETATION

Single Tree	
Single Shrub	
Hedge	
Woods Line	
Orchard	
Vineyard	

RAILROADS

Standard Gauge	
RR Signal Milepost	
Switch	

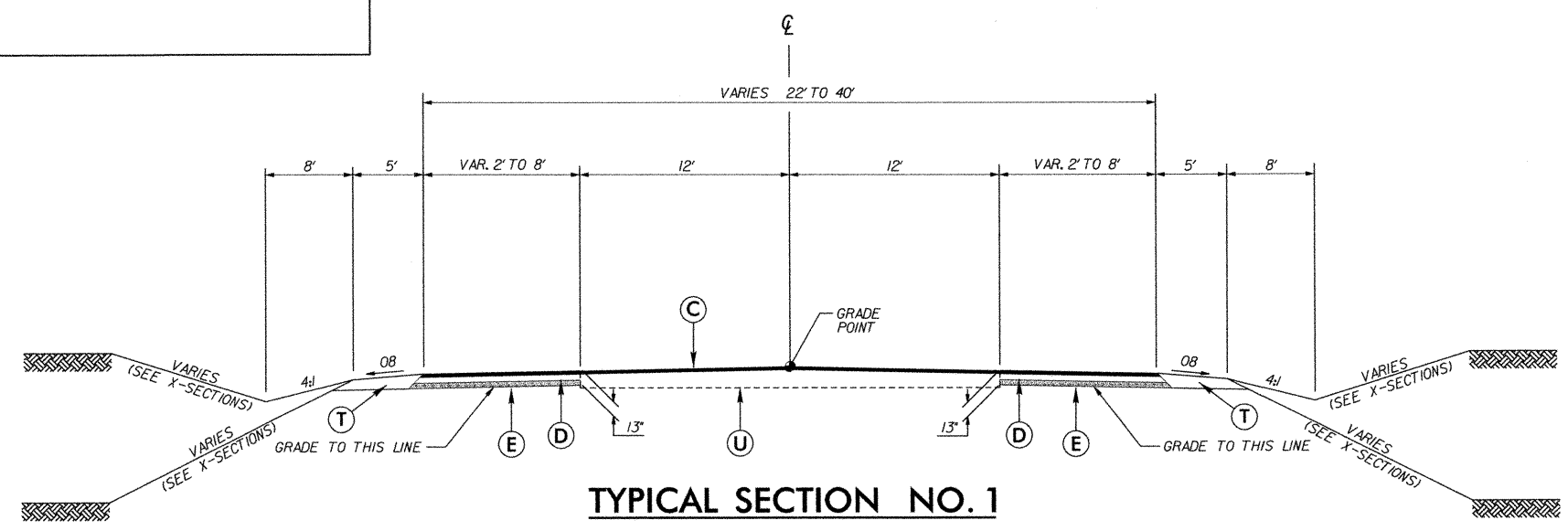
PAVEMENT SCHEDULE

C	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD.
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YARD.
E	PROP. APPROX. 8.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 484.5 LBS. PER SQ. YARD. IN EACH OF TWO LAYERS
T	EARTH MATERIAL
U	EXISTING PAVEMENT

DESIGN ENGINEER

Richard Leon Borkholder, Jr.
10/06/06
P.E.

NOTE: SEAL APPLIES TO PAVEMENT SCHEDULE ONLY



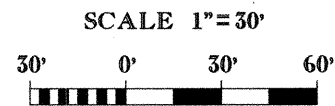
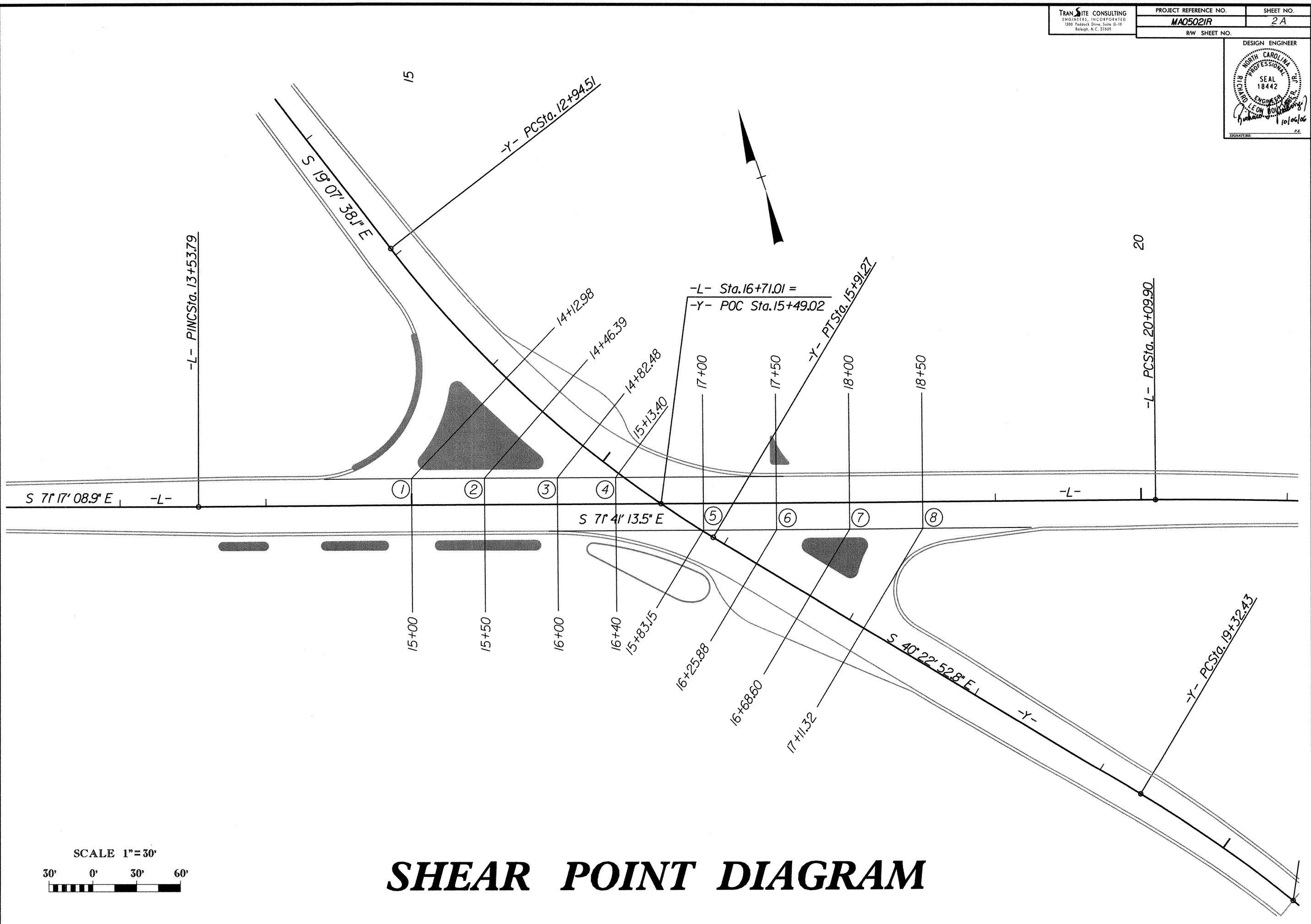
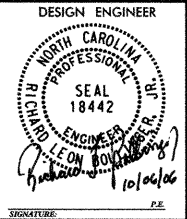
- L- STA. 10+50.00 TO 23+10.00
- Y- STA. 10+50.00 TO 15+17.97
- Y- STA. 15+81.93 TO 20+60.00

NOT TO SCALE

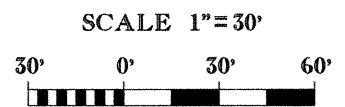
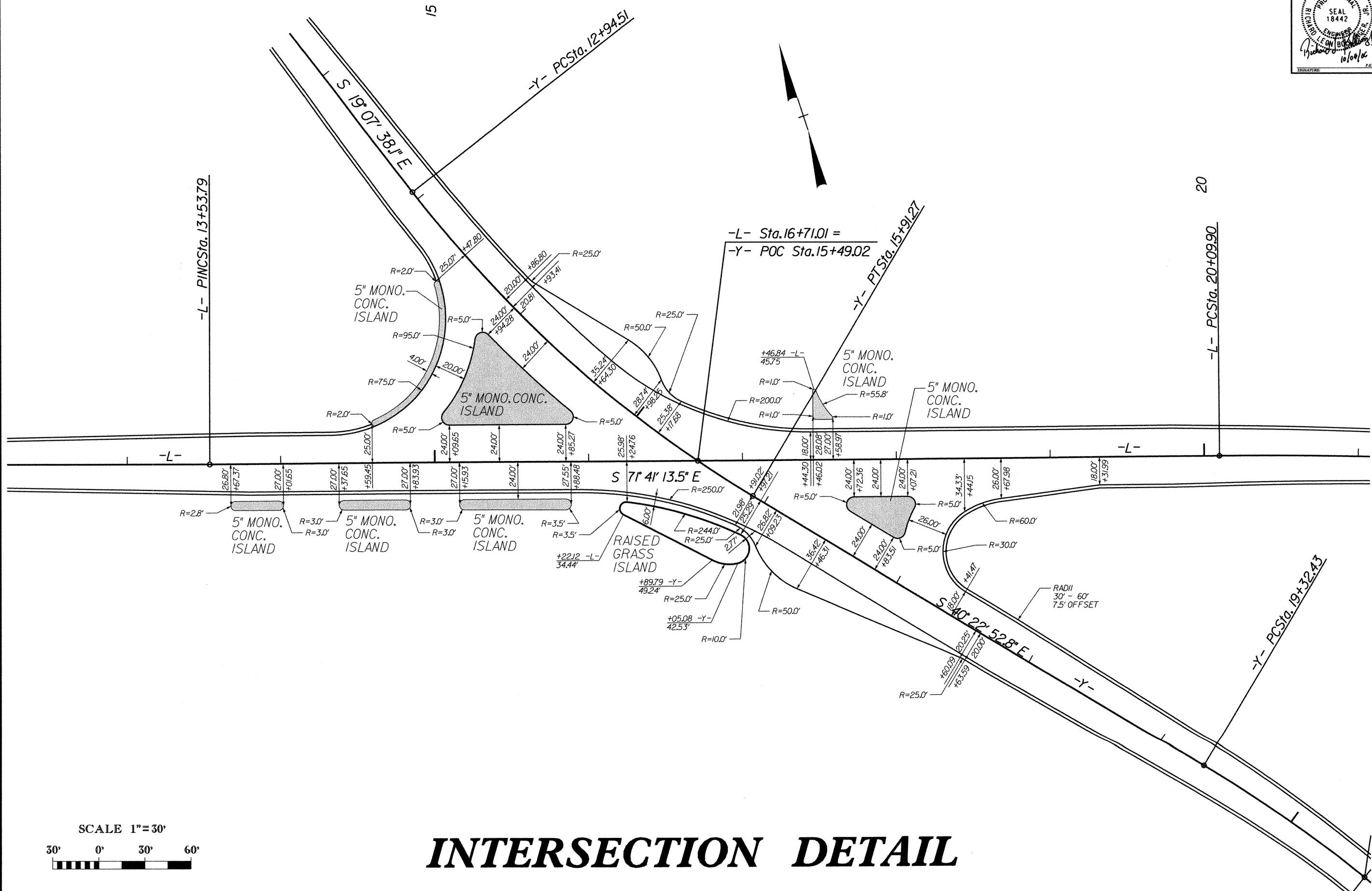
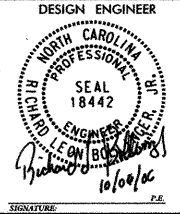
RIGHT OF WAY AREA DATA

COMPUTED BY: PER DATE: 6-7-04
CHECKED BY: CJM DATE: 6-7-04

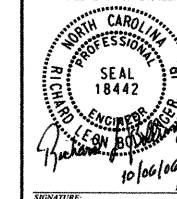
PARCEL NO.	PROPERTY OWNERS NAME	RIGHT OF WAY AREA TAKEN	TEMPORARY CONSTRUCTION EASEMENT	PERMANENT DRAINAGE EASEMENT	PARCEL NO.	PROPERTY OWNERS NAME	RIGHT OF WAY AREA TAKEN	TEMPORARY CONSTRUCTION EASEMENT	PERMANENT DRAINAGE EASEMENT
1	ELIZABETH PARROTT	2957 SF	6233 SF 0.143 ACRE	300 SF	7	DURWARD D. COLQUITT	1298 SF	876 SF	
2	WILLIAM T. & LENA GOOCH	2502 SF	2280 SF		8	GLENN J. PREDDY, ET AL	1292 SF	1839 SF	269 SF
3	GLENN J. PREDDY, ET AL		1464 SF		9	ELLA M. TIPPET	5490 SF 0.126 ACRE	2581 SF	
4	98 FOOD MART, INC.	3375 SF	5579 SF 0.128 ACRE		10	GLENN J. PREDDY, ET AL	63 SF	341 SF	
5	MABEL A. HARRIS		1975 SF		11	MARY G. GALLOGLY	1256 SF	1793 SF	140 SF
6	GLENN J. PREDDY, ET AL	1105 SF	2056 SF						



SHEAR POINT DIAGRAM



INTERSECTION DETAIL



CONTROL POINT DATA

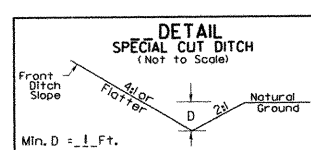
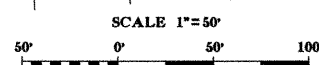
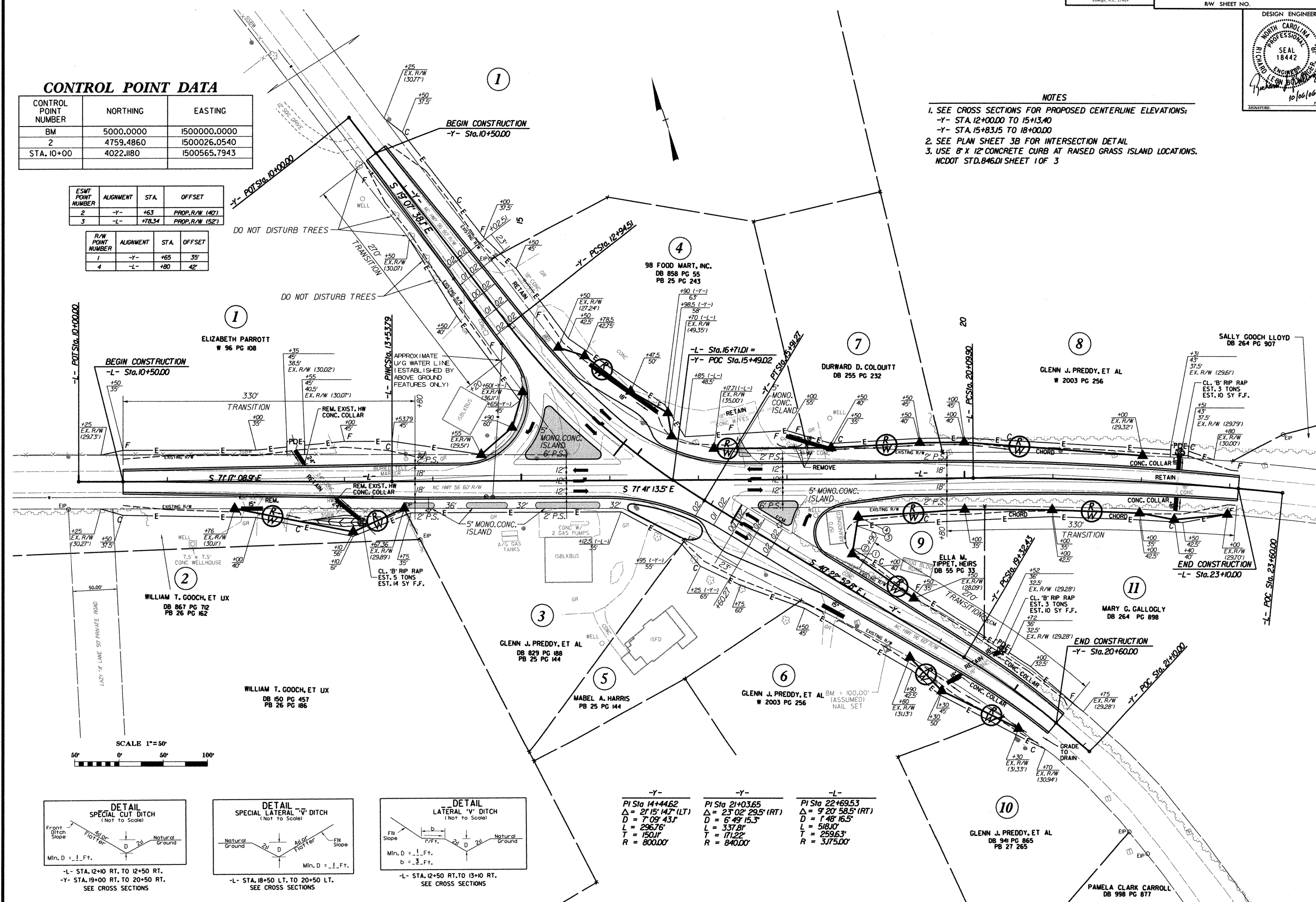
CONTROL POINT NUMBER	NORTHING	EASTING
BM	5000.0000	150000.0000
2	4759.4860	1500026.0540
STA. 10+00	4022.1180	1500565.7943

ESMT POINT NUMBER	ALIGNMENT	STA.	OFFSET
2	-Y-	+63	PROP. R/W (40')
3	-L-	+78.34	PROP. R/W (52')

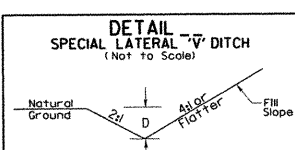
R/W POINT NUMBER	ALIGNMENT	STA.	OFFSET
1	-Y-	+65	35'
4	-L-	+80	42'

NOTES

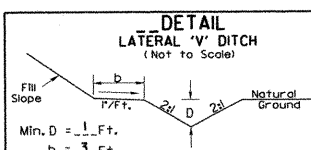
- SEE CROSS SECTIONS FOR PROPOSED CENTERLINE ELEVATIONS:
-Y- STA. 12+00.00 TO 15+13.40
-Y- STA. 15+83.15 TO 18+00.00
- SEE PLAN SHEET 3B FOR INTERSECTION DETAIL.
- USE 8" X 12" CONCRETE CURB AT RAISED GRASS ISLAND LOCATIONS.
NCDOT STD. 846.01 SHEET 1 OF 3



-L- STA. 12+10 RT. TO 12+50 RT.
-Y- STA. 19+00 RT. TO 20+50 RT.
SEE CROSS SECTIONS



-L- STA. 18+50 LT. TO 20+50 LT.
SEE CROSS SECTIONS



-L- STA. 12+50 RT. TO 13+10 RT.
SEE CROSS SECTIONS


-Y- PI Sta 14+44.62 Δ = 21°15'14.7" (LT) D = 7'09'43.1" L = 296.76' T = 150.11' R = 800.00'	-Y- PI Sta 21+03.65 Δ = 23°02'29.5" (RT) D = 6'49'15.3" L = 337.81' T = 171.22' R = 840.00'	-L- PI Sta 22+69.53 Δ = 9°20'58.5" (RT) D = 1'48'16.5" L = 518.10' T = 259.63' R = 3175.00'
---	---	---

GLENN J. PREDDY, ET AL
DB 941 PG 865
PB 27 265

PAMELA CLARK CARROLL
DB 998 PG 877

TWO LANE, TWO WAY WORK ZONE (L-LINES)

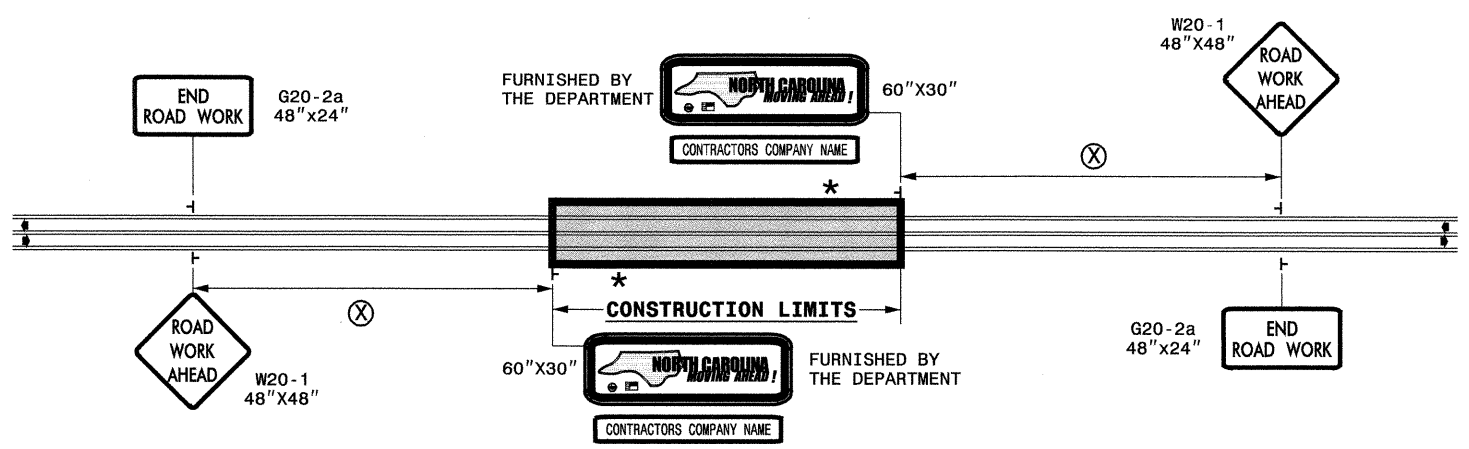
FURNISHED BY THE DEPARTMENT



60"X30"

CONTRACTORS COMPANY NAME

60" Max. X 12"



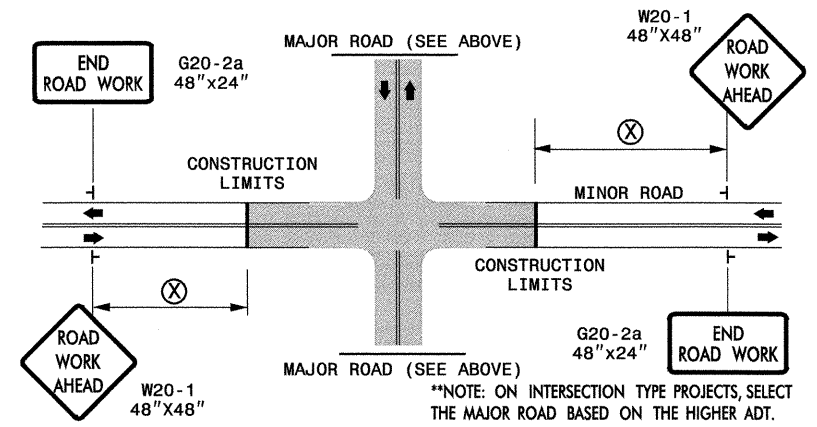
POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING
P.S.L. ≤ 50	350'
P.S.L. ≥ 55	500'

*** ROAD WORK NEXT XX MILES** G20-1A 60"X24"

THIS SIGN TO BE USED ON PROJECTS LONGER THAN 2 MILES. THE NUMBER DISPLAYED ON THE SIGN IS TO BE A WHOLE NUMBER ROUNDED UP TO THE NEXT MILE. IT'S TO BE LOCATED 1,500 FEET INSIDE OF THE CONSTRUCTION LIMITS.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

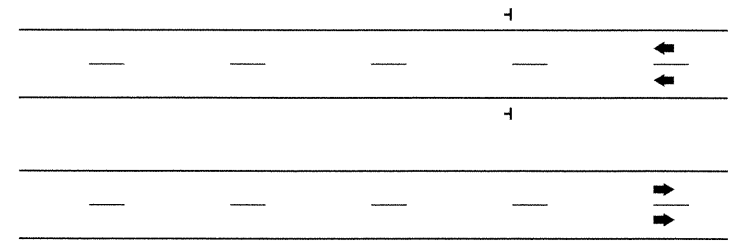
INTERSECTIONS (-Y- LINES)



FREEWAYS/INTERSTATES

DUAL MOUNT "ROAD WORK AHEAD" SIGNS 1,000' IN ADVANCE OF PROJECT LIMITS

DUAL MOUNT "MOVING AHEAD" SIGNS 500' IN ADVANCE OF PROJECT LIMITS



DETAIL DRAWING FOR ADVANCE WARNING WORK ZONE SIGNS

GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED. USE PORTABLE WORK ZONE SIGNS ONLY WITH PORTABLE WORK ZONE SIGN STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER. PORTABLE WORK ZONE SIGNS MAY BE ROLL UP OR APPROVED COMPOSITE.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.

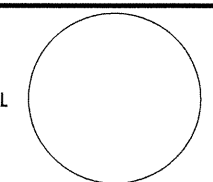
LEGEND

┆ STATIONARY SIGN

◄ DIRECTION OF TRAFFIC FLOW

APPROVED: _____ DATE: _____

SEAL

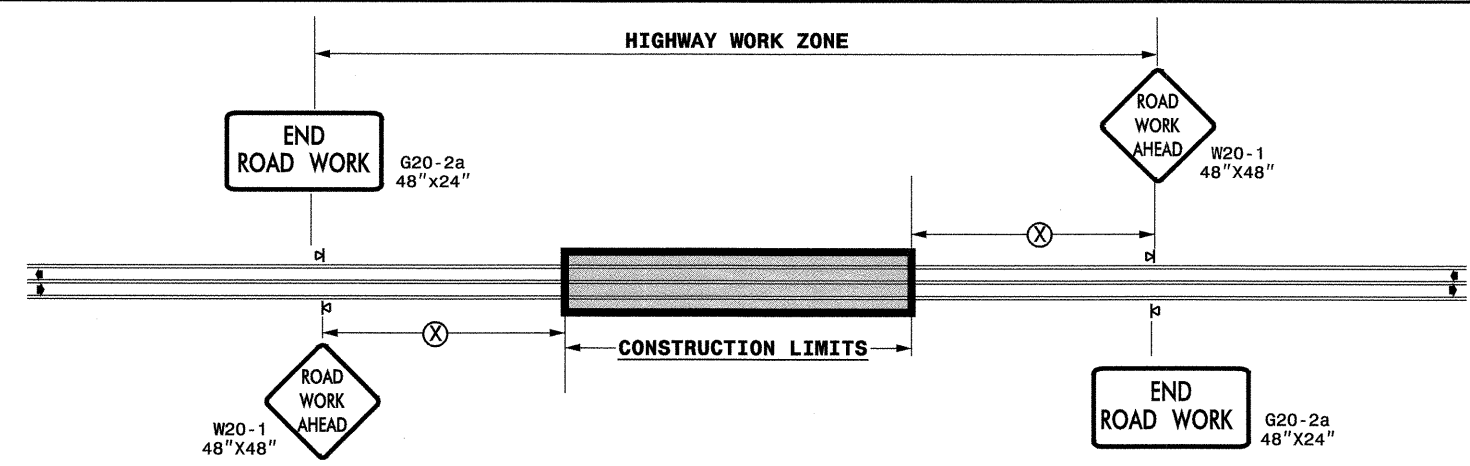


ADVANCE WARNING WORK ZONE SIGNS FOR "MOVING AHEAD"

SCALE: NONE	REVISIONS
DATE: 07/03	11/04
DWG. BY: JSK	12/04
DESIGN BY: JSK	
REVIEWED BY: SK	



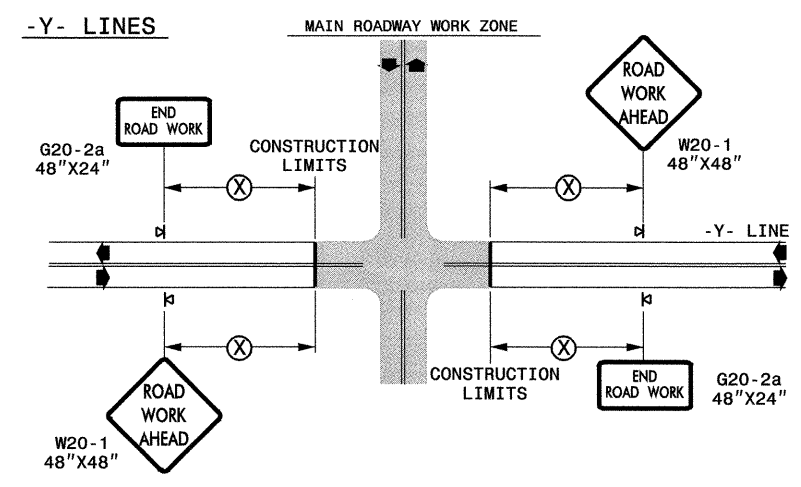
TWO-WAY UNDIVIDED ** (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING
≤ 50	500'
≥ 55	1000'

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE PORTABLE WORK ZONE SIGNS ONLY WITH PORTABLE WORK ZONE SIGN STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER. PORTABLE WORK ZONE SIGNS MAY BE ROLL UP OR APPROVED COMPOSITE.
- PROVIDE PORTABLE WORK ZONE SIGN STANDS, PORTABLE SIGNS AND SIGN SHEETING WHICH ARE LISTED ON THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCT LIST OR ACCEPTED AS TRAFFIC QUALIFIED BY THE TRAFFIC CONTROL UNIT.
- ** TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

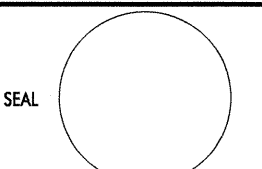

LEGEND

◀ PORTABLE SIGN

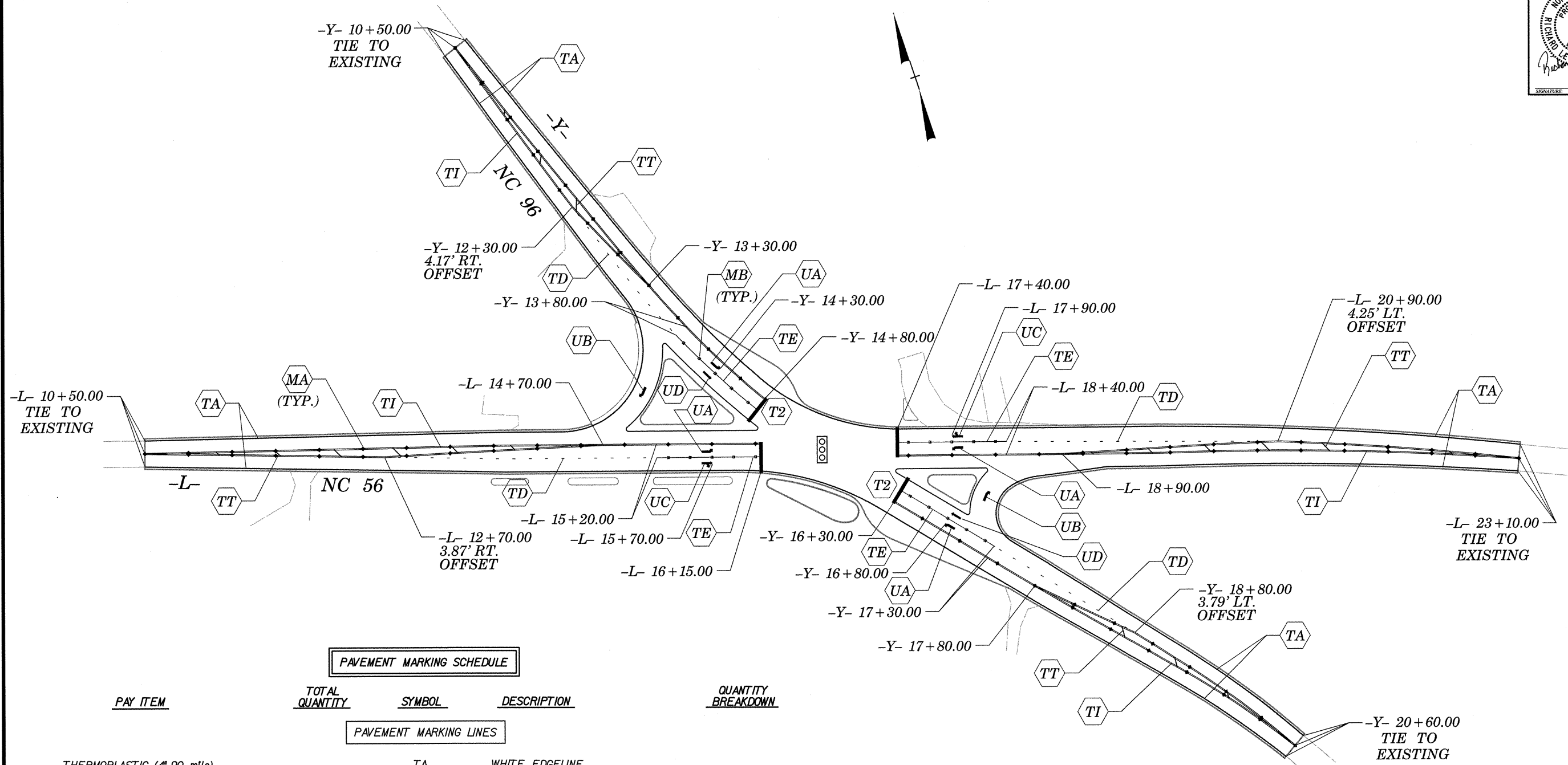
➡ DIRECTION OF TRAFFIC FLOW

**DETAIL DRAWING
FOR TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS**

SHEET 1 OF 1

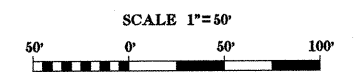
APPROVED: _____	DATE: _____	DETAIL DRAWING FOR TWO-WAY UNDIVIDED ADVANCED WORK ZONE WARNING SIGNS	
			
SCALE: NONE		REVISIONS	
DATE: _____		7-98	10/01
DESIGN BY: _____		10-98	03/04
REVIEWED BY: _____		01/01	11/04

30-NOV-2006 17:21
 \\D01\dfsroot\GROUPLS-WZT\ccc\design\group4\resur-facing\resur-facing2006\div05\37667\etogr-arville\37667_2wayundivurb-fr-wys\july2006.dgn
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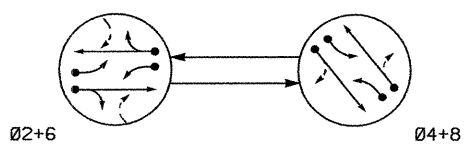


PAVEMENT MARKING SCHEDULE

<u>PAY ITEM</u>	<u>TOTAL QUANTITY</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>QUANTITY BREAKDOWN</u>
PAVEMENT MARKING LINES				
THERMOPLASTIC (4",90 mlls)		TA	WHITE EDGELINE	
THERMOPLASTIC (4",120 mlls)		TD	2 ft.WHIT MINISKIP	
		TE	TURN LANE LINE	
		TI	YELLOW DOUBLE CENTER LINE	
THERMOPLASTIC (8",90 mlls)		TT	YELLOW DIAGONAL	
THERMOPLASTIC (24",120 mlls)		T2	WHITE STOP BAR	
PAVEMENT MARKING SYMBOLS				
PAINT PAVEMENT MARKING SYMBOL		UA	LEFT TURN ARROW	
		UB	RIGHT TURN ARROW	
		UC	THRU RIGHT ARROW	
		UD	THRU ARROW	
PAVEMENT MARKERS				
PERMANENT RAISED		MA	YELLOW & YELLOW	
		MB	CRYSTAL & RED	



PHASING DIAGRAM

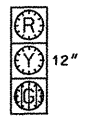


PHASING DIAGRAM DETECTION LEGEND
- DETECTED MOVEMENT (solid arrow)
- UNDETECTED MOVEMENT (OVERLAP) (dashed arrow)
- UNSIGNALIZED MOVEMENT (dotted arrow)
- PEDESTRIAN MOVEMENT (dashed arrow with symbol)

TABLE OF OPERATION table with columns for SIGNAL FACE, PHASE (G, R, Y, F, FLASH), and values for different signal faces.

SIGNAL FACE I.D.

Denotes L.E.D.
Denotes Louvers



21, 22
41, 42
61, 62
81, 82

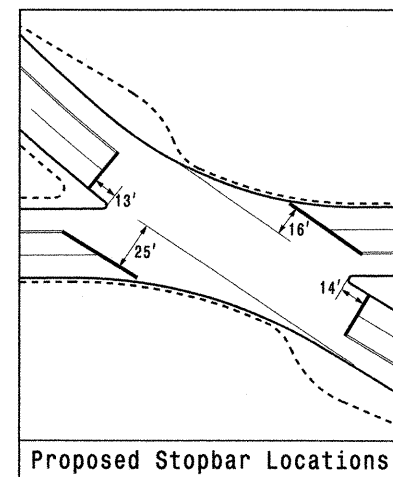
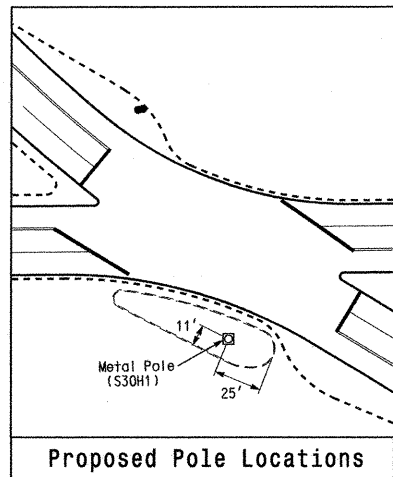
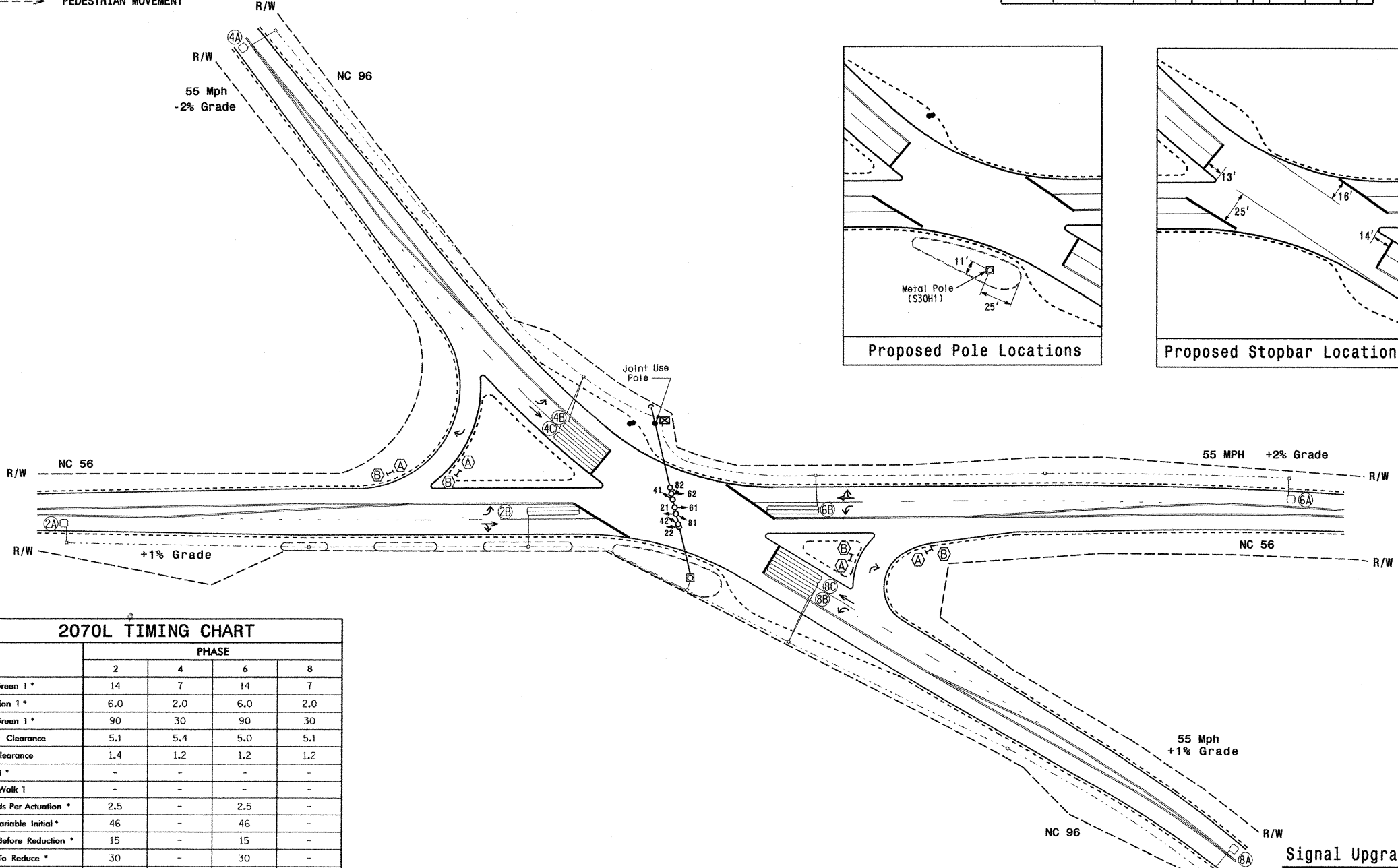
2070L LOOP & DETECTOR INSTALLATION

Table with columns for LOOP, SIZE (FT), DISTANCE FROM STOPBAR (FT), TURNS, NEW LOOP, PHASE, CALLING, EXTENSION, FULL TIME DELAY, STRETCH TIME, DELAY TIME, SYSTEM LOOP, NEW CARD.

2 Phase Fully Actuated (Isolated)

NOTES

- 1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006...
2. Do not program signal for late night flashing operation...
3. Set all detector units to presence mode.
4. Locate new cabinet so as not to obstruct sight distance...



2070L TIMING CHART table with columns for PHASE (2, 4, 6, 8) and rows for timing parameters like Min Green, Extension, Max Green, etc.

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown.

LEGEND table defining symbols for PROPOSED and EXISTING elements like Traffic Signal Head, Sign, Pole, Conduit, etc.

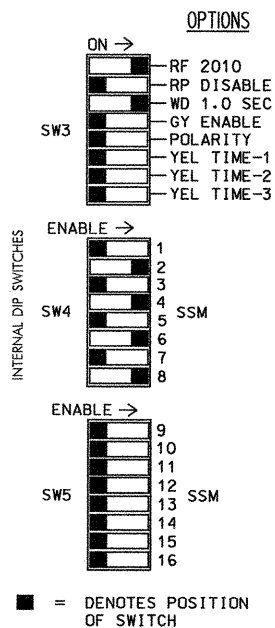
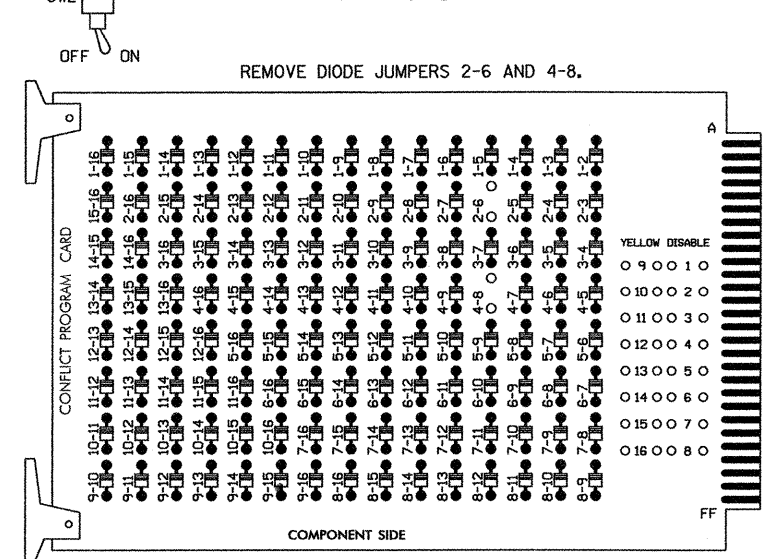
Professional seal area for NC 56 at NC 96, Granville County, including plan date (July 2006), prepared by (Sterling), and a seal for Robert J. Ziemba, Engineer.

07-AUG-2006 14:53
5:11:16 s:\pda\ssm\grcup\ssm\ax\pda\er-mc_mov\mg_ahred\05805-granville-20060803.dgn

EDI MODEL 2010ECL CONFLICT MONITOR

PROGRAMMING DETAIL

WD ENABLE SW2 (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 SEL1-SEL5 are present on the monitor board.

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, 5, 7, 9, 10, 11, 12, 13, 14, 15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
- Program phases 2 and 6, on the controller unit, for Start Up In Green.
- Enable Simultaneous Gap-Out, on the controller unit, for all phases.
- Program phases 4 and 8, on the controller unit, for Dual Entry.
- Program phases 2 and 6, on the controller unit, for Variable Initial and Gap Reduction.

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42	NU	NU	61,62	NU	NU	81,82	NU
RED		128			101			134			107	
YELLOW		129			102			135			108	
GREEN		130			103			136			109	
RED ARROW												
YELLOW ARROW												
GREEN ARROW												

NU = Not Used

EQUIPMENT INFORMATION

CONTROLLER.....CONTRACTOR SUPPLIED 2070L
 CABINET.....CONTRACTOR SUPPLIED 332
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S2,S4,S6,S8
 PHASES USED.....2,4,6,8
 OVERLAPS.....NONE

INPUT FILE POSITION LAYOUT

(front view)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE U	FS	∅ 2	FS	FS	FS	∅ 4	∅ 4	FS	FS	FS	FS	FS	FS	FS
"I"		2A				4A	4C							FS
L		∅ 2				∅ 4	NOT USED							DC ISOLATOR
		2B				4B								DC ISOLATOR
FILE U	FS	∅ 6	FS	FS	FS	∅ 8	∅ 8	FS	FS	FS	FS	FS	FS	FS
"J"		6A				8A	8C							FS
L		∅ 6				∅ 8	NOT USED							DC ISOLATOR
		6B				8B								DC ISOLATOR

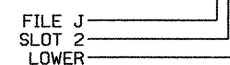
EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
 ST = STOP TIME

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	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B	TB2-7,8	I2L	43	5	12	2	Y	Y	Y		3
4A	TB4-9,10	I6U	41	3	4	4		Y		4.2	
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			3
4C	TB6-1,2	I7U	65	27	34	4	Y	Y			
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
6B	TB3-7,8	J2L	44	6	16	6	Y	Y	Y		3
8A	TB5-9,10	J6U	42	4	8	8		Y		4.2	
8B	TB5-11,12	J6L	46	8	18	8	Y	Y			3
8C	TB7-1,2	J7U	66	28	38	8	Y	Y			

INPUT FILE POSITION LEGEND: J2L



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-0805
 DESIGNED: JULY 2006
 SEALED: 8/3/06
 REVISED: N/A

Signal Upgrade

Electrical and Programming Details For: NC 56 at NC 96

Prepared in the Offices of: [Logo]

Division 5 Granville County Wilton

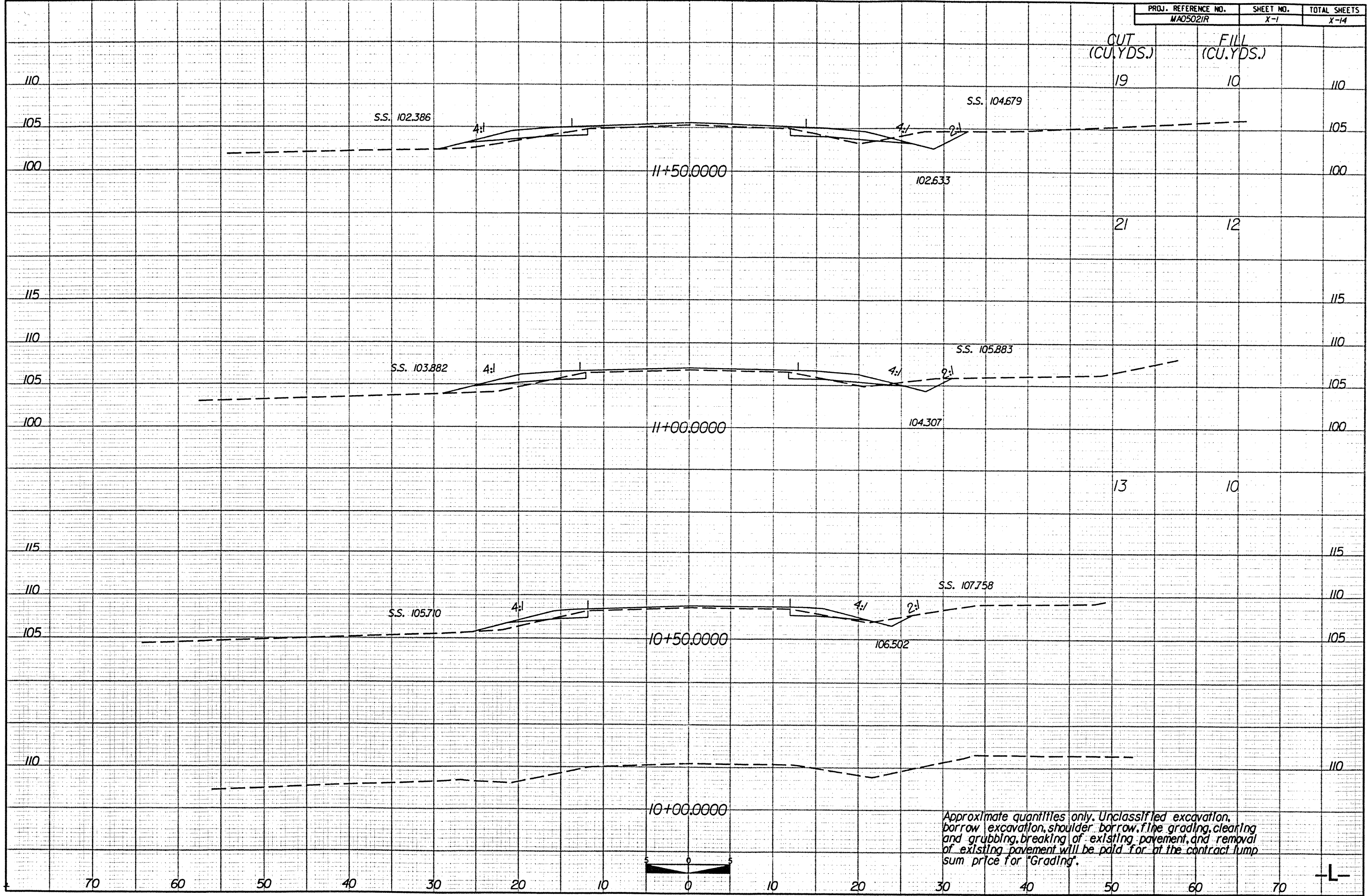
PLAN DATE: July 2006 REVIEWED BY: T. Jeph

PREPARED BY: A.A. KLOOZ REVIEWED BY:

REVISIONS INIT. DATE

Signature: [Signature] 8-3-06

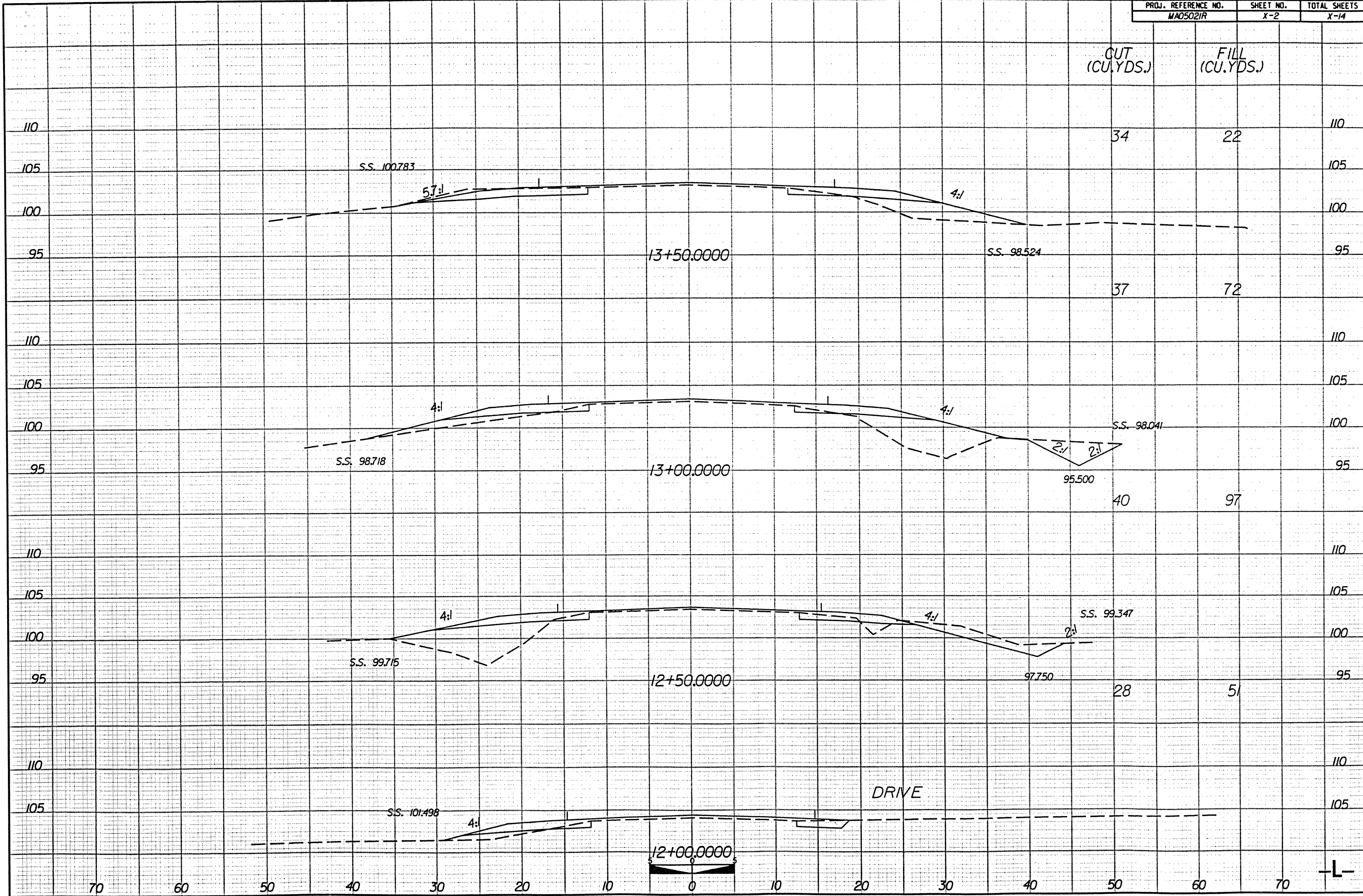
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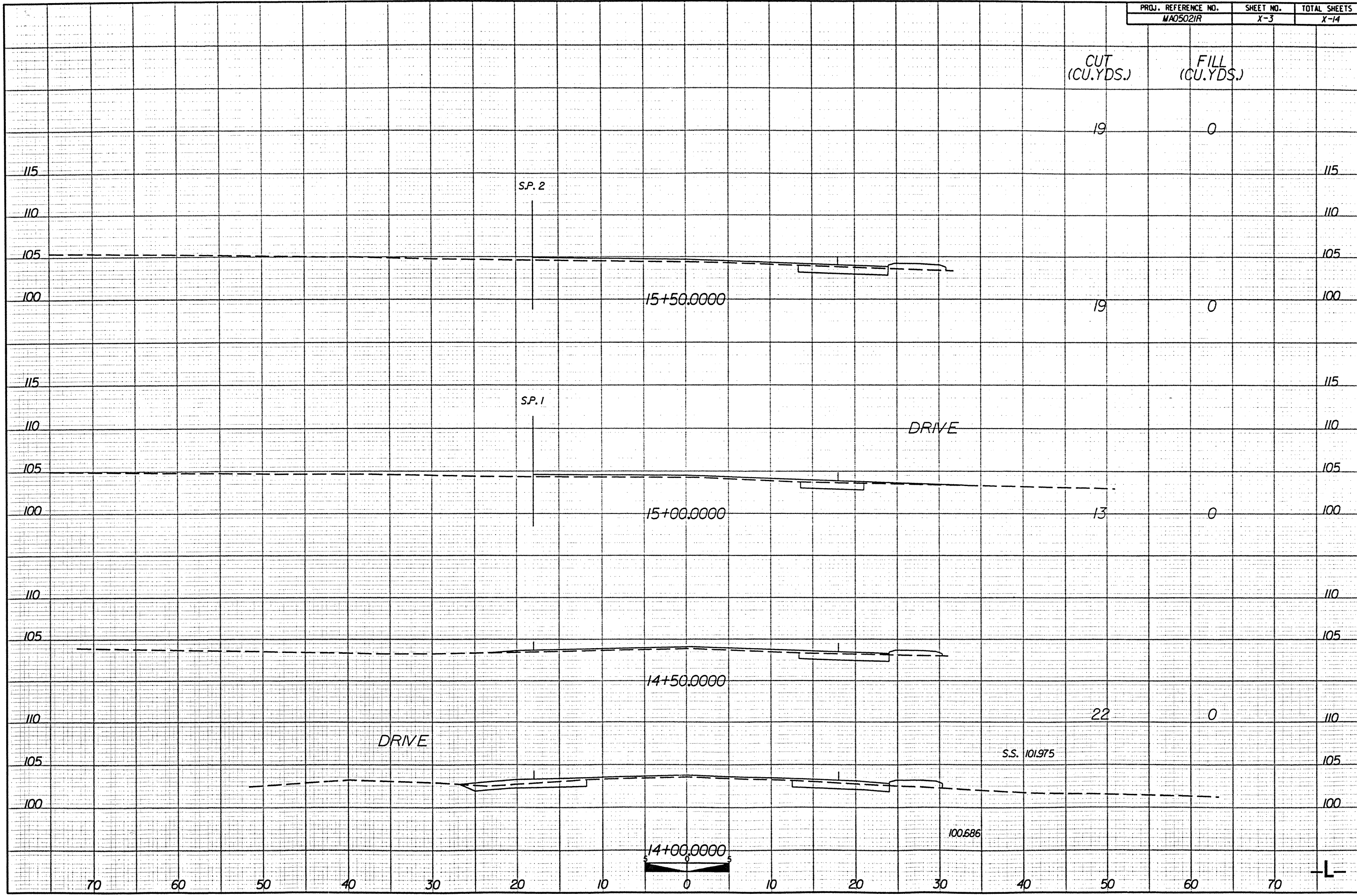


Approximate quantities only. Unclassified excavation, borrow excavation, shoulder borrow, fine grading, clearing and grubbing, breaking of existing pavement, and removal of existing pavement will be paid for at the contract lump sum price for "Grading".



-L-





CUT (CU.YDS.)	FILL (CU.YDS.)
19	0
19	0
13	0
22	0

115

110

105

100

115

110

105

100

110

105

110

105

100

70

60

50

40

30

20

10

0

10

20

30

40

50

60

70

L

S.P. 2

S.P. 1

15+50.0000

15+00.0000

14+50.0000

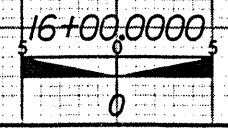
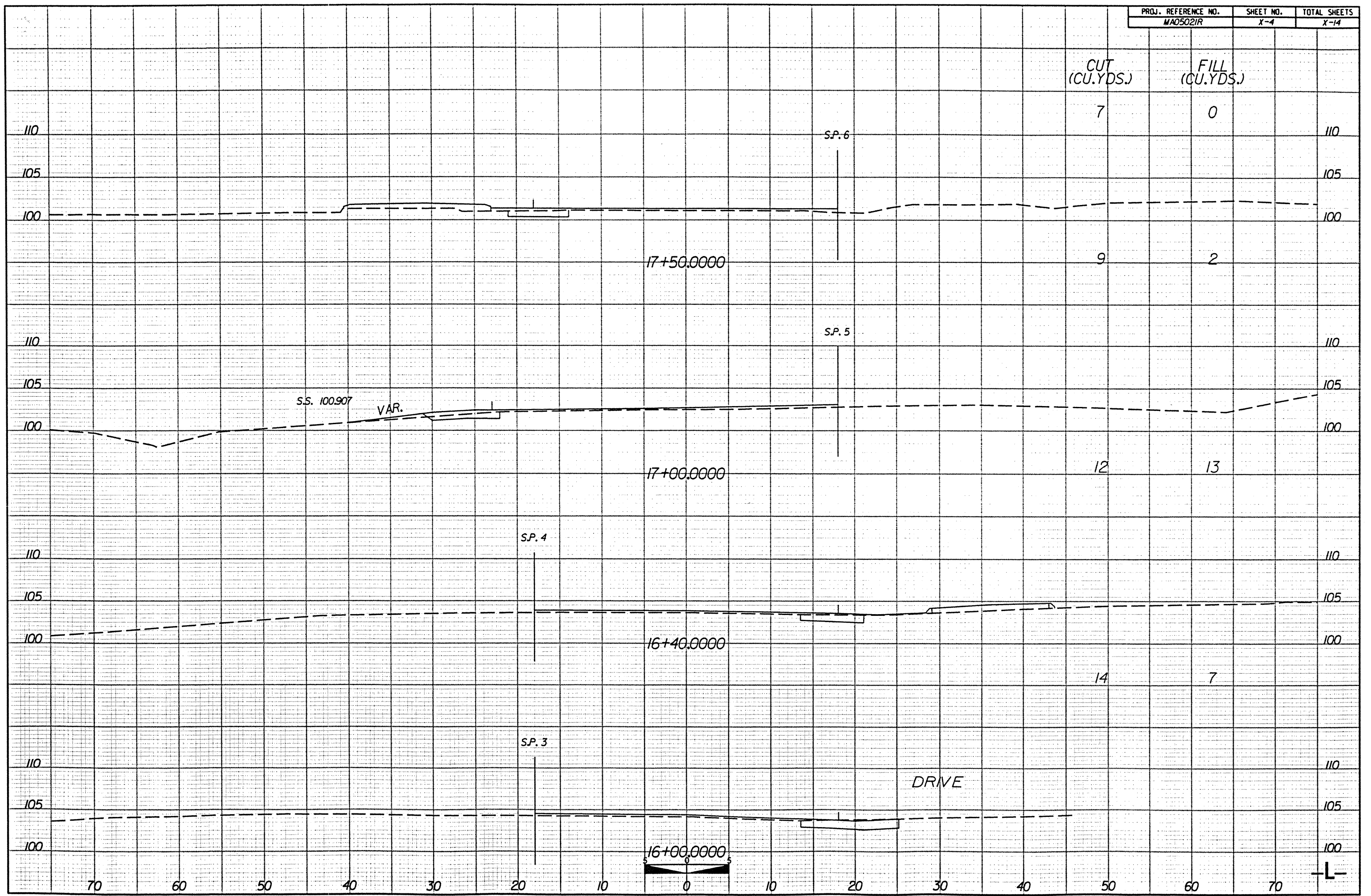
14+00.0000

DRIVE

DRIVE

SS. 101.975

100.686



DRIVE

S.S. 100.907
VAR.

17+50.0000

17+00.0000

16+40.0000

16+00.0000

S.P. 6

S.P. 5

S.P. 4

S.P. 3

110

105

100

110

105

100

110

105

100

110

105

100

110

105

100

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105

100

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105

100

70

60

50

40

30

20

10

0

10

20

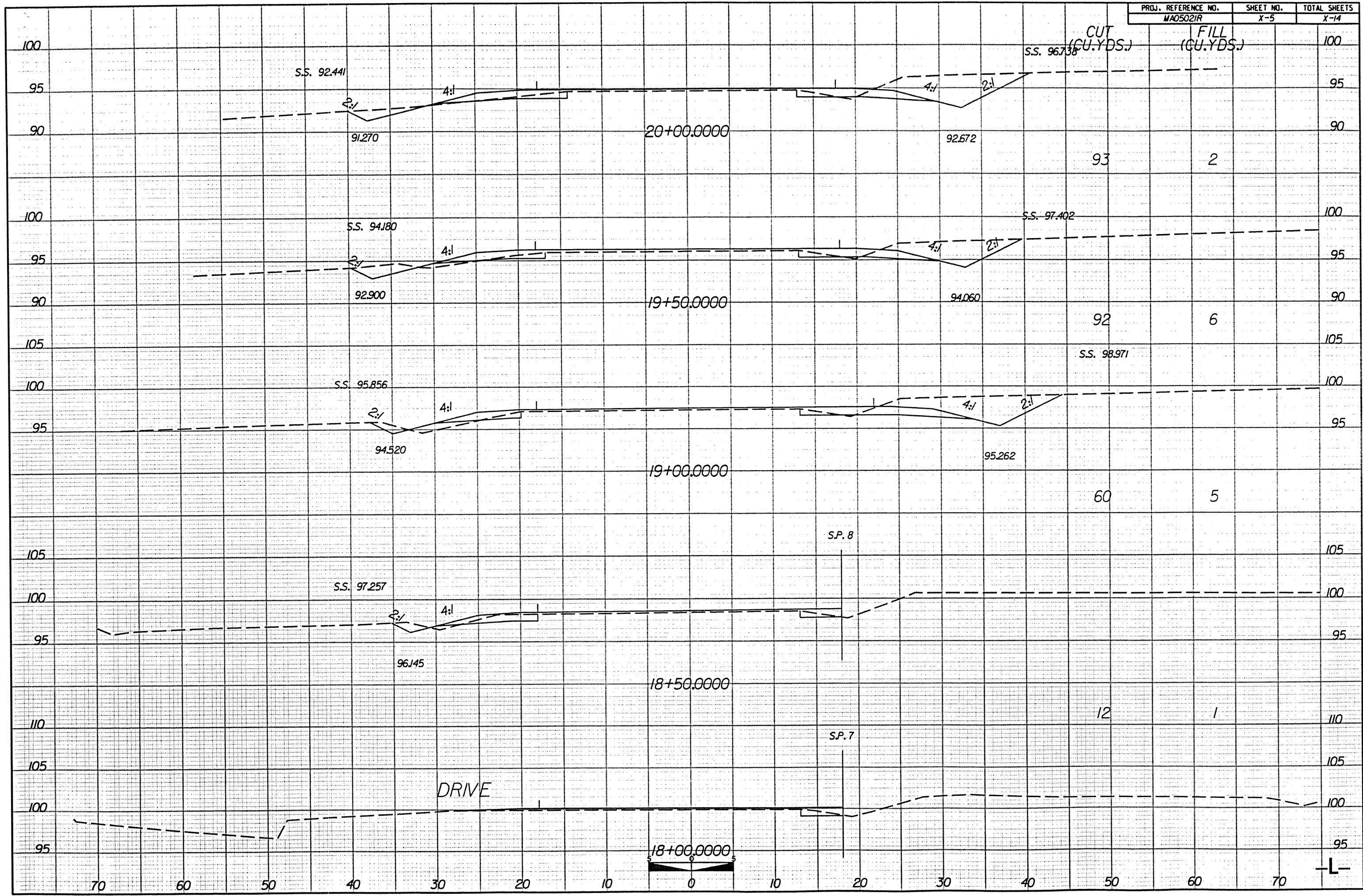
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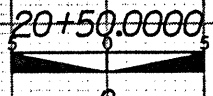
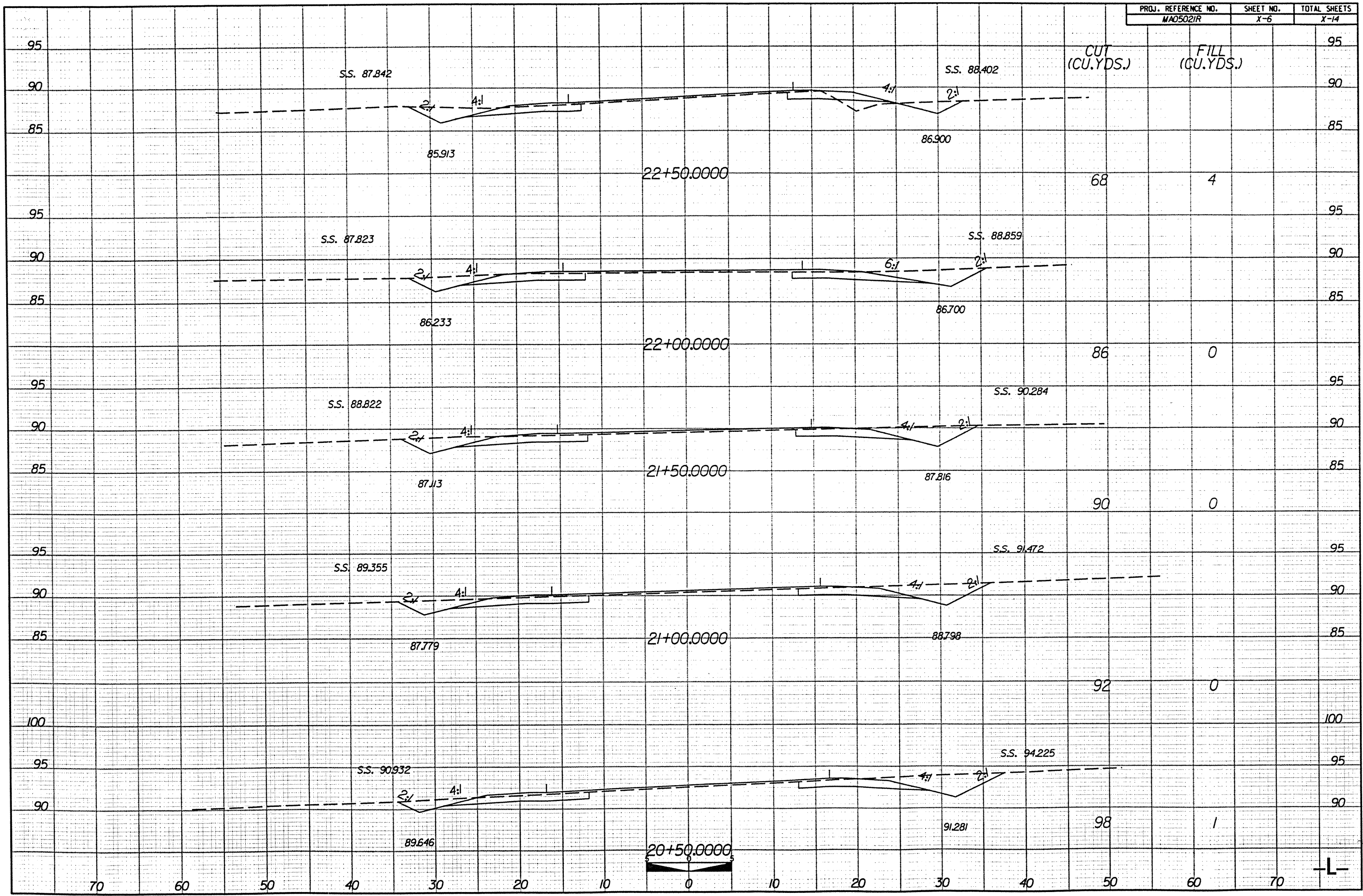
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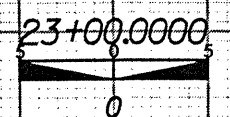
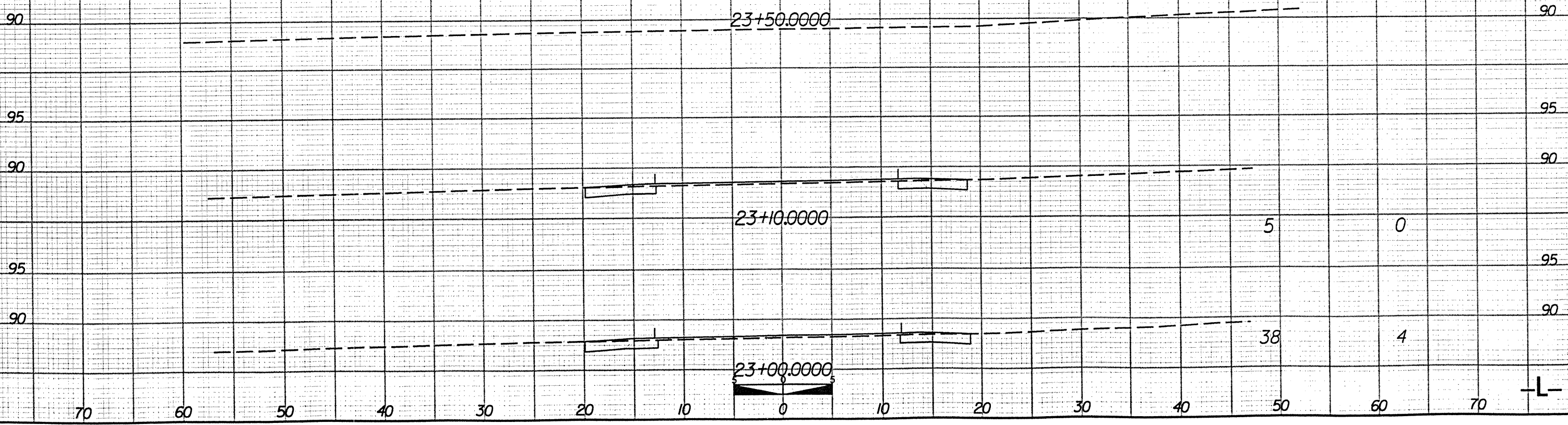




L

CUT
(CU.YDS.)

FILL
(CU.YDS.)



-L-

CUT
(CU.YDS.)

FILL
(CU.YDS.)

26

11

115

115

110

110

105

105

S.S. 108.063

0.0300

108.52

0.0028

S.S. 108.246

2:1

4:1

8:1

106.181

11+50.0000

38

2

115

115

110

110

105

105

S.S. 109.114

0.0300

109.11

0.0246

S.S. 109.035

2:1

4:1

8:1

106.771

11+00.0000

26

1

115

115

110

110

S.S. 108.436

0.0373

109.07

0.0373

S.S. 109.629

10+50.0000

10+00.0000

110

110



70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

-Y-

CUT
(CU.YDS.)

FILL
(CU.YDS.)

12

27

110

110

105

105

100

100

S.S. 101.897

0.0200

106.03

0.0200

S.S. 104.827

4:1

13+50.0000

4

10

110

110

105

105

DRIVE

0.0200

106.81

0.0200

6:1

S.S. 105.811

13+00.0000

2

4

115

115

110

110

DRIVE

0.0200

107.56

0.0006

8:1

S.S. 106.751

12+50.0000

11

10

115

115

110

110

S.S. 105.548

0.0211

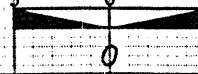
108.37

0.0189

VAR.

S.S. 107.305

12+00.0000



-Y-

70

60

50

40

30

20

10

0

10

20

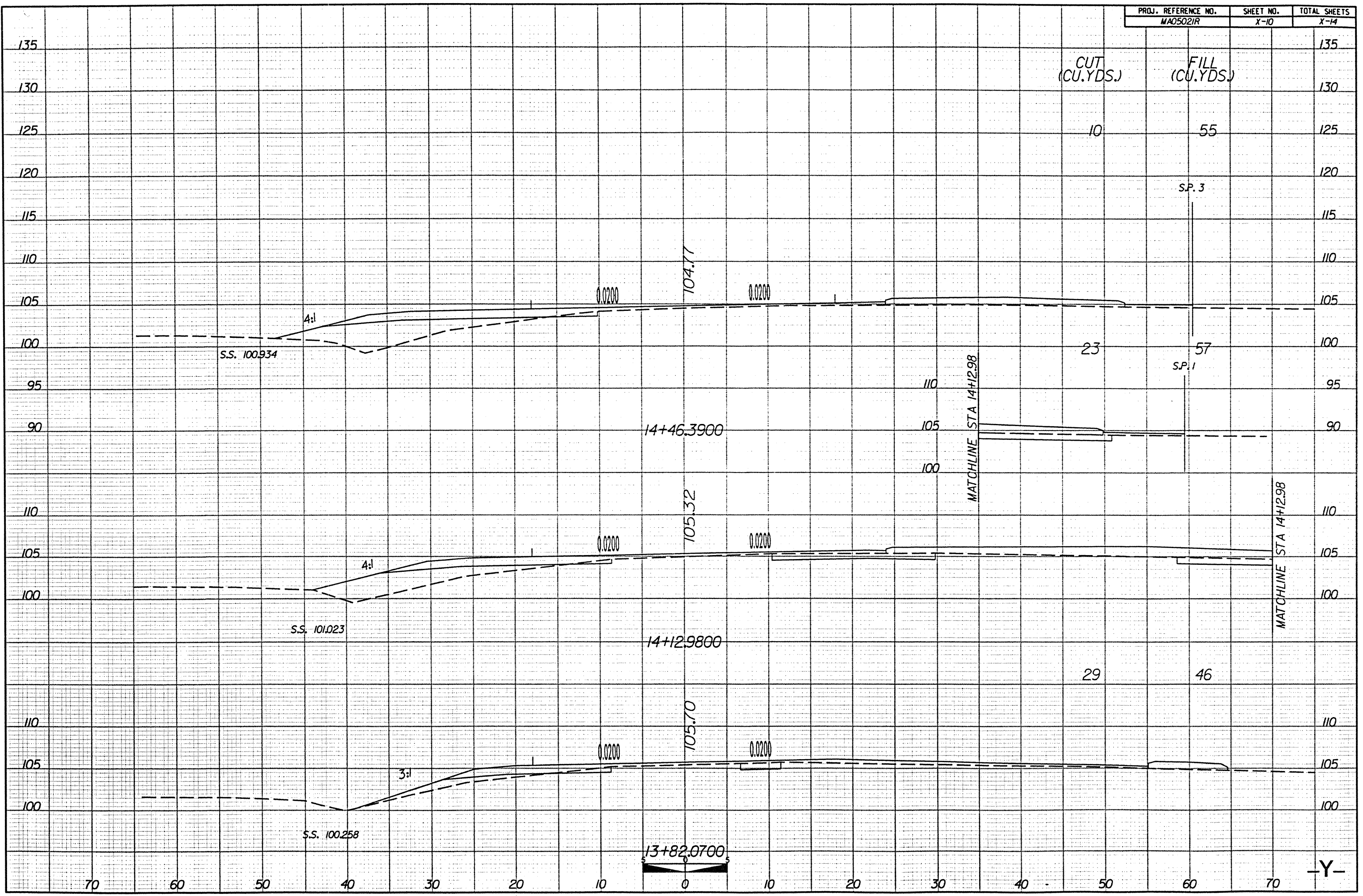
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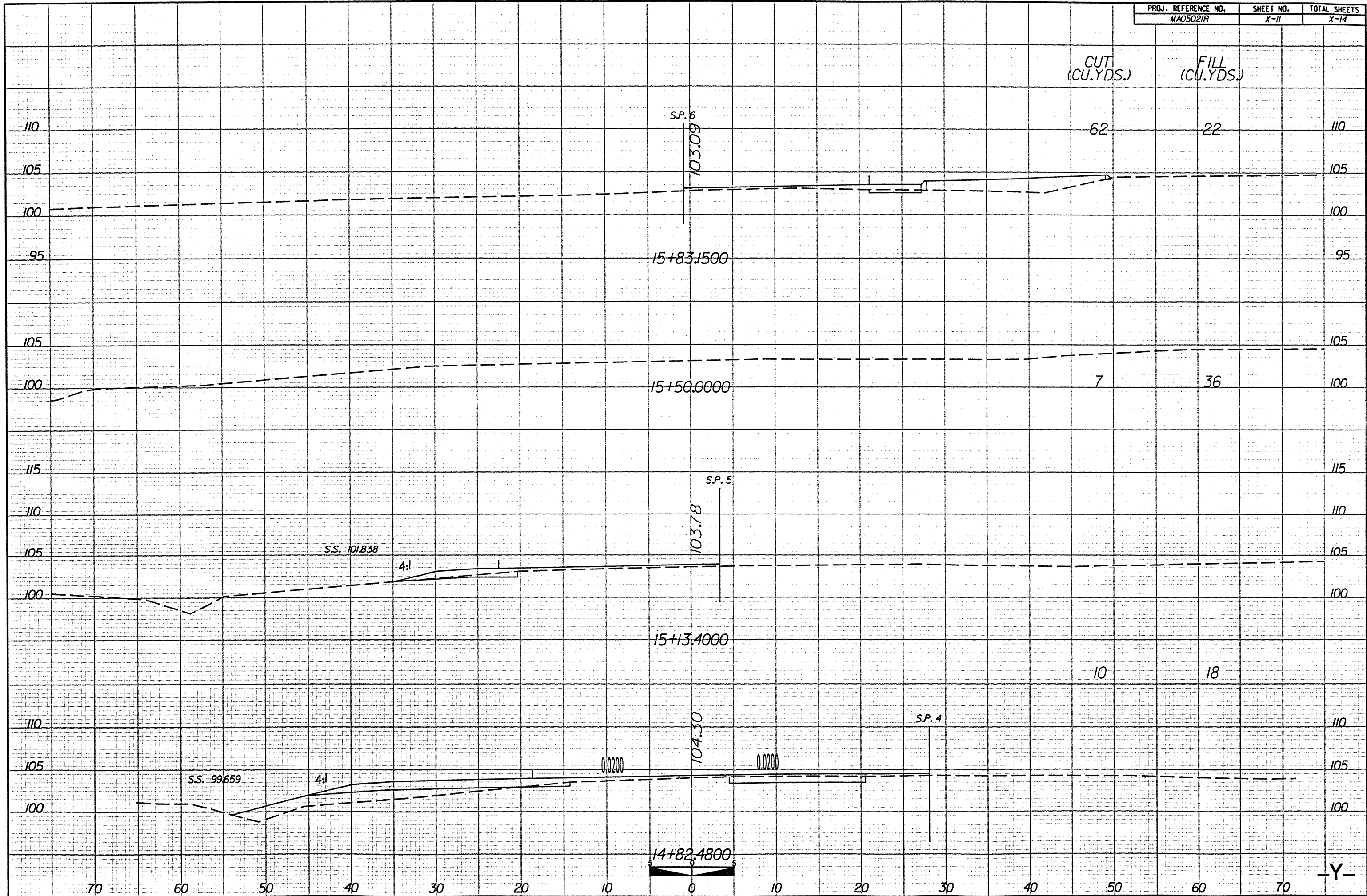
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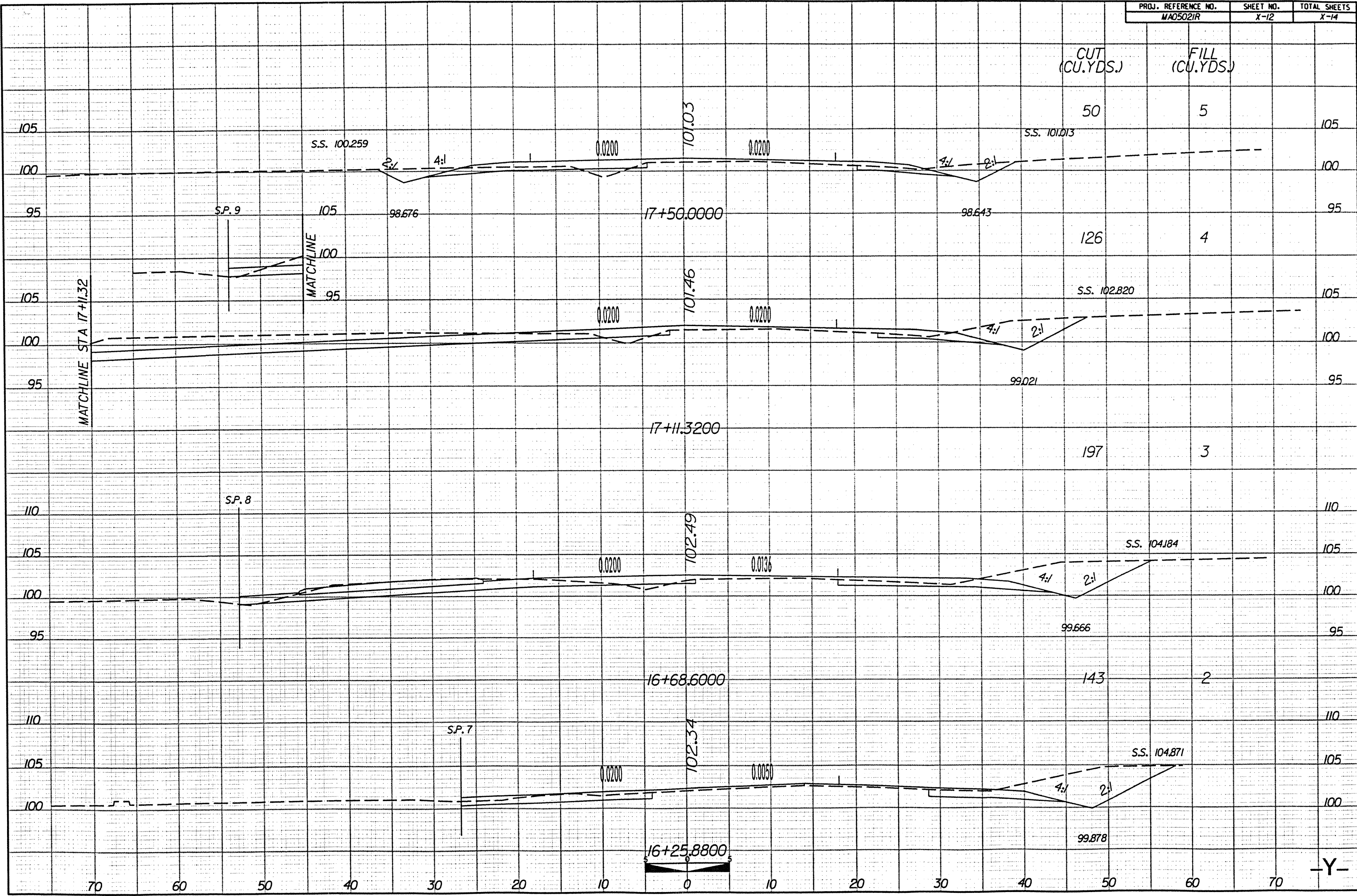
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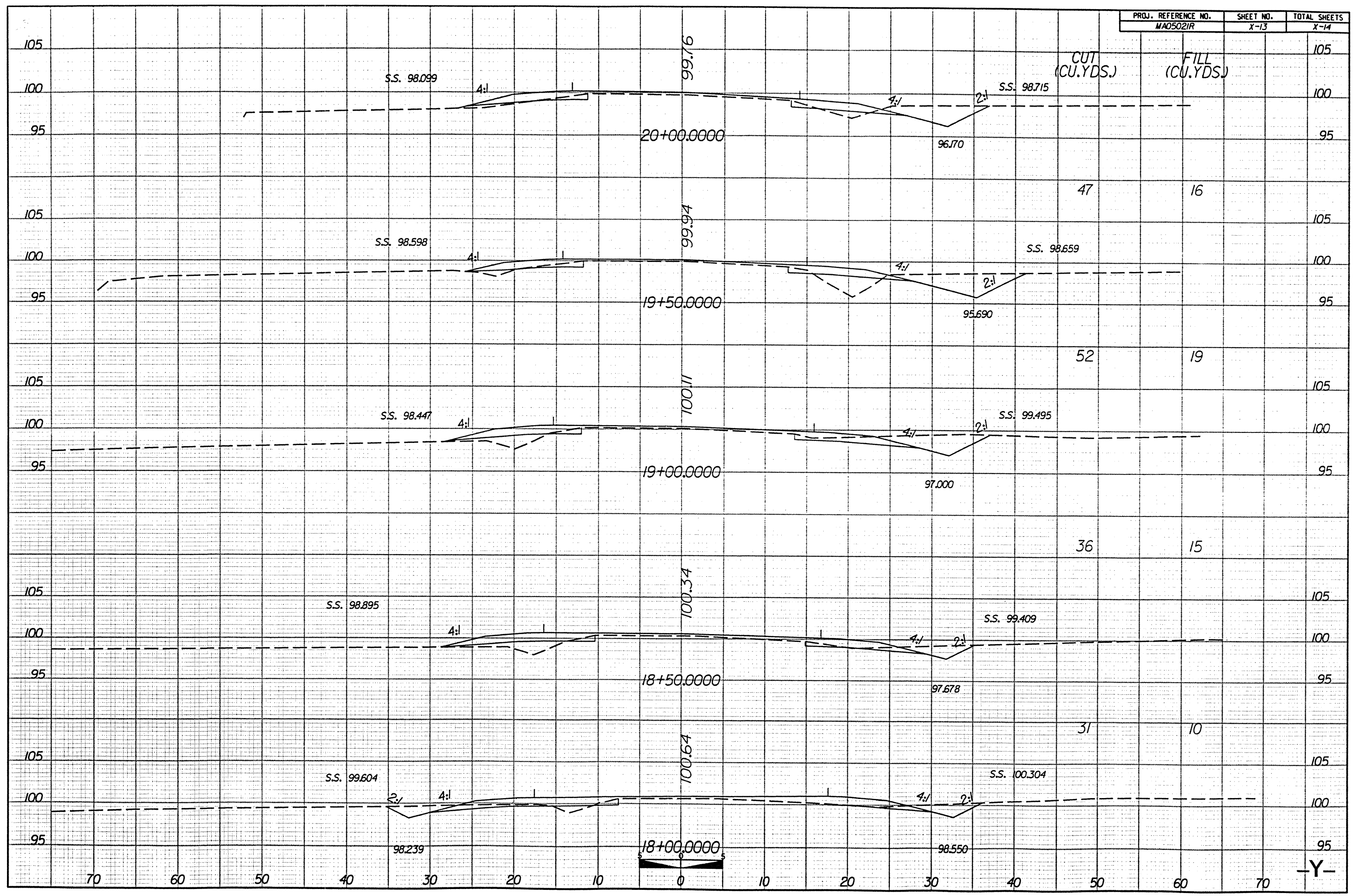
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70









CUT
(CU. YDS.)

FILL
(CU. YDS.)

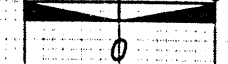
20+00.0000

19+50.0000

19+00.0000

18+50.0000

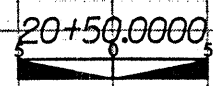
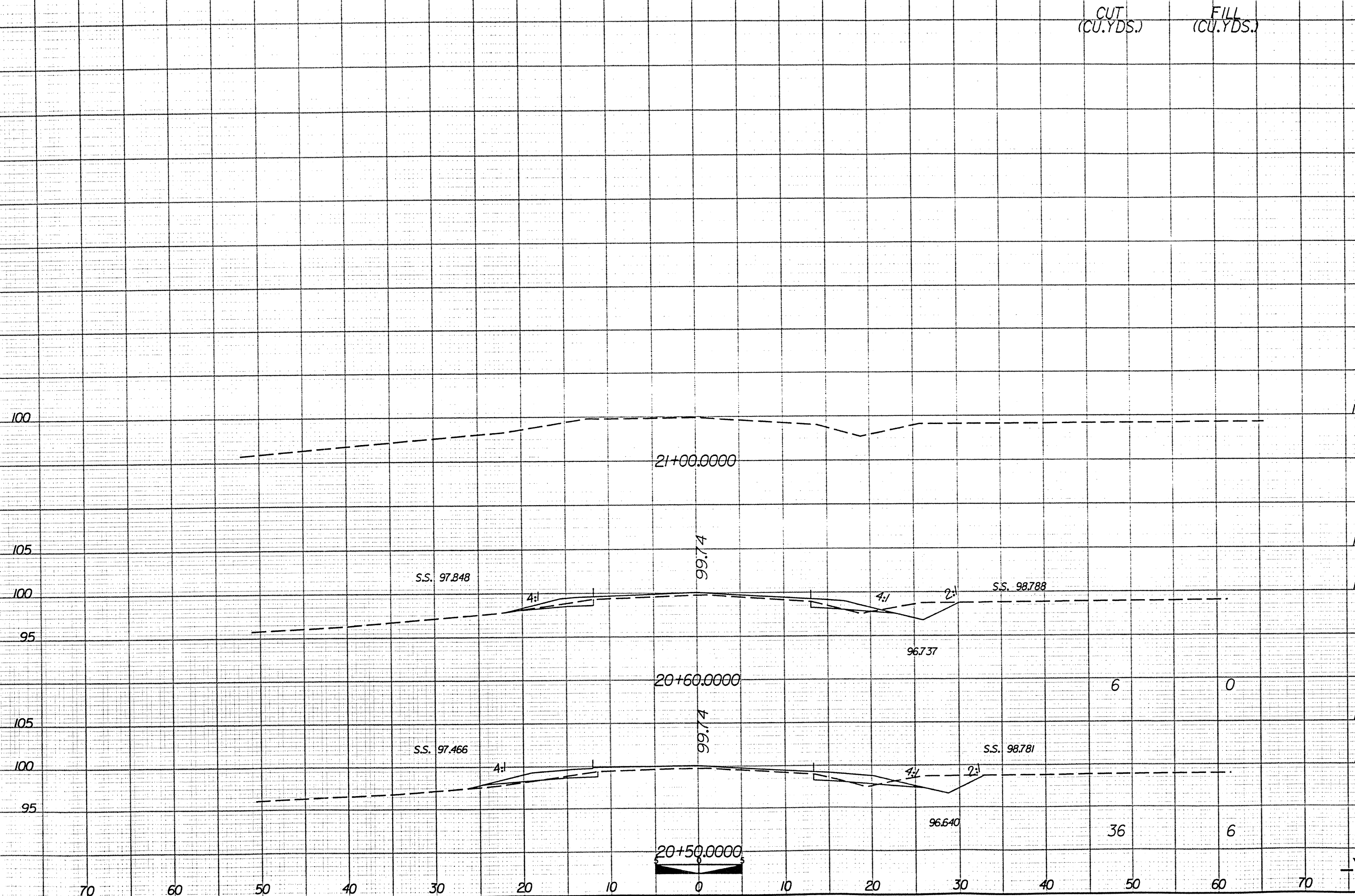
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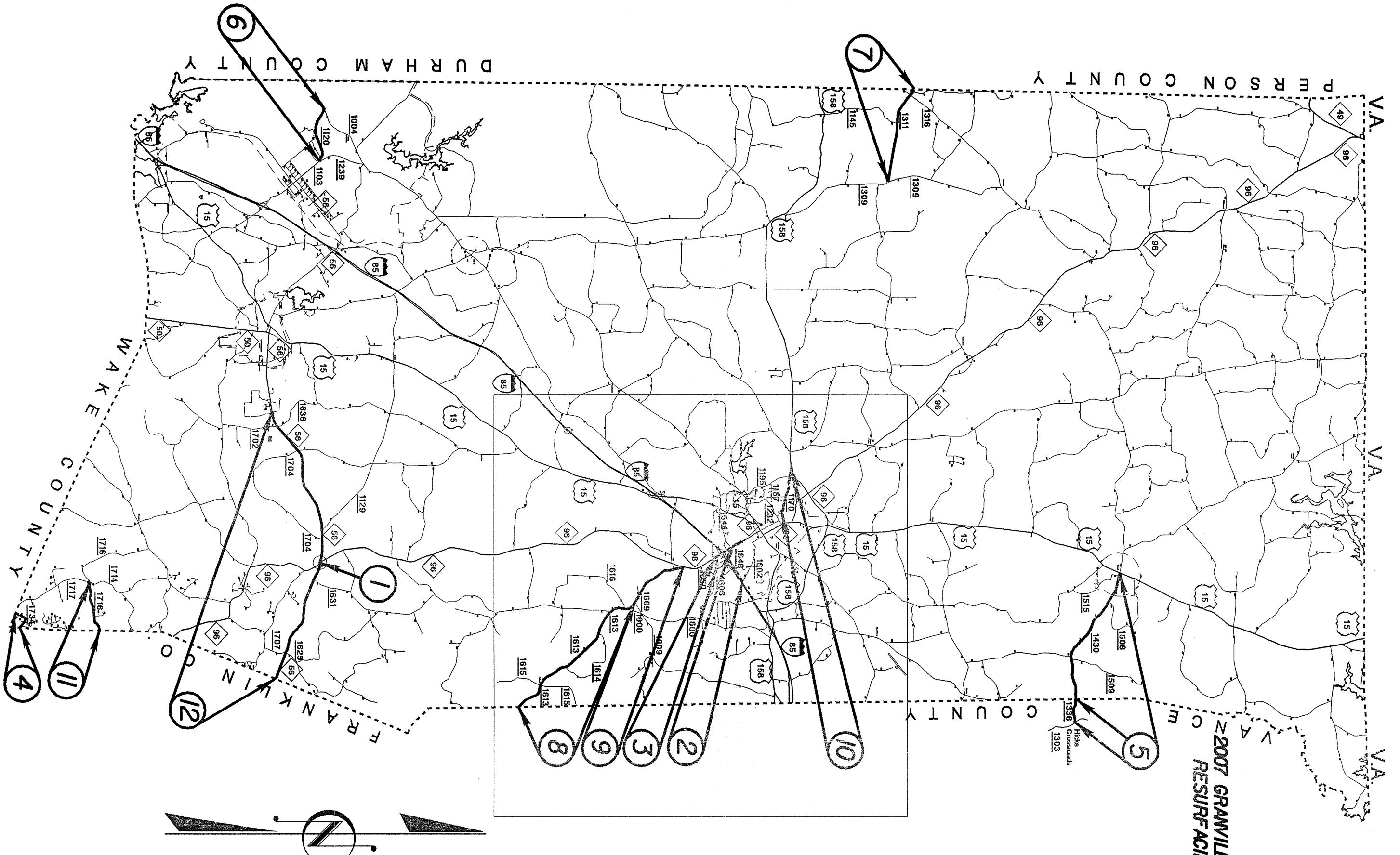
-Y-

CUT
(CU.YDS.)

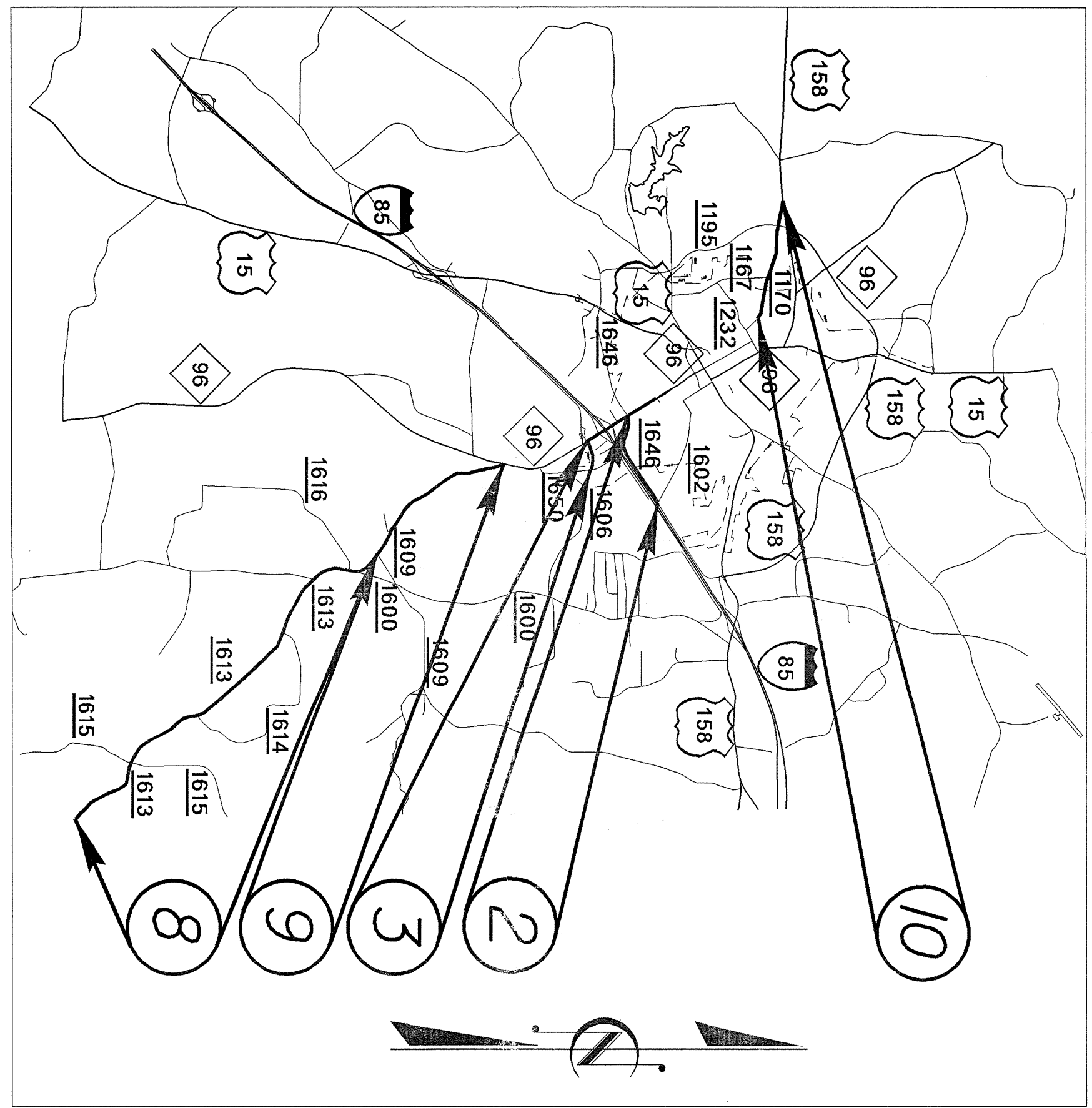
FILL
(CU.YDS.)



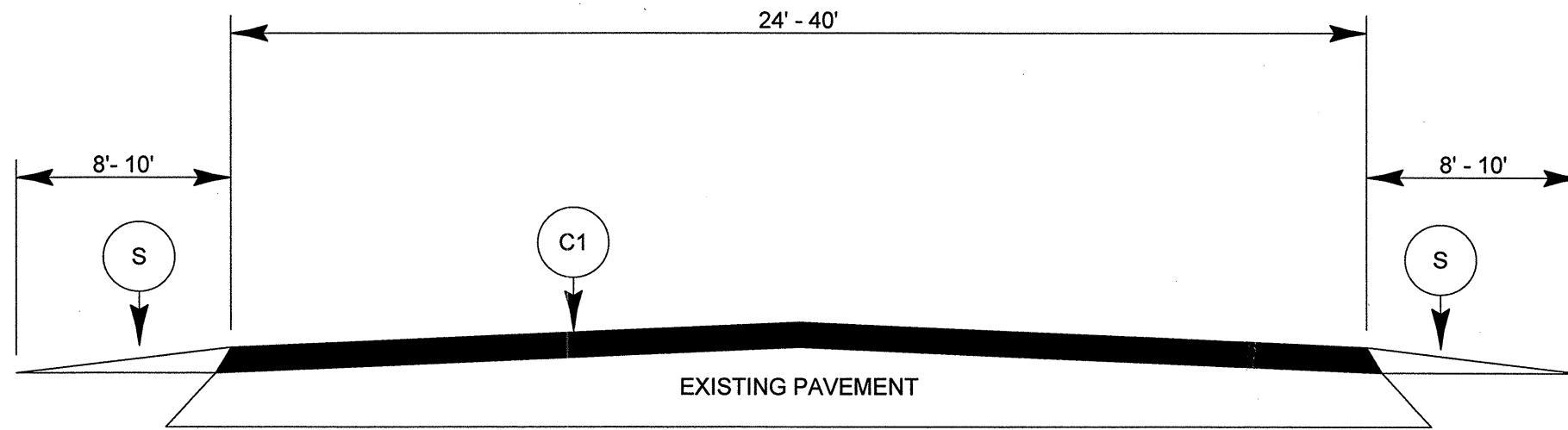
-Y-



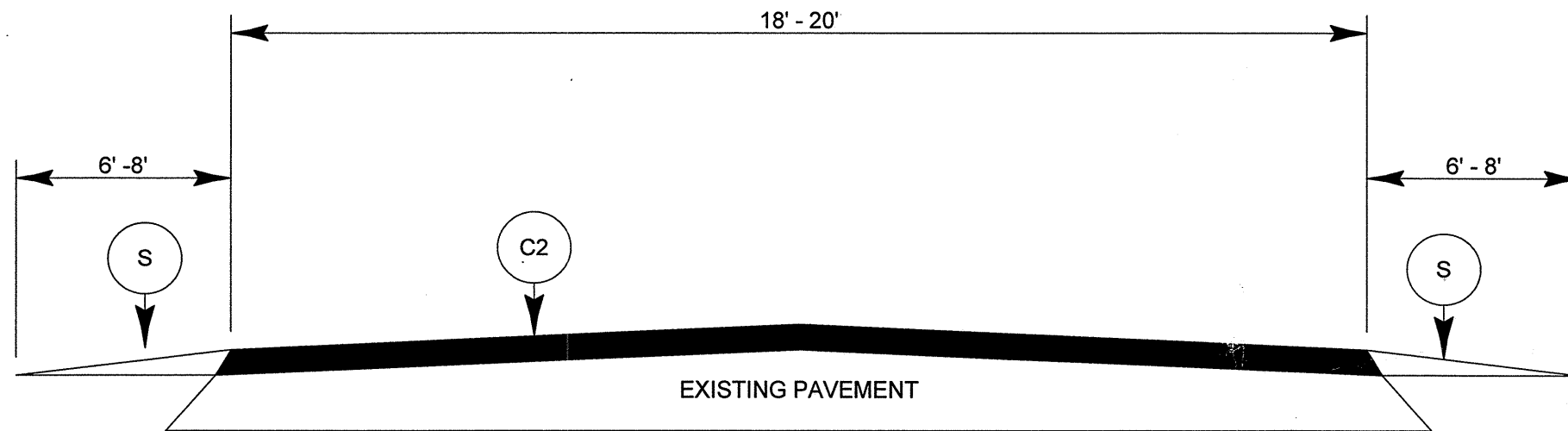
2007 GRAVELLY CO.
RESURFACING



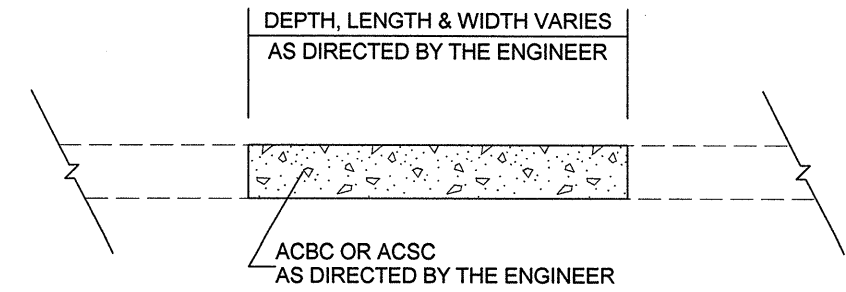
PROJECT NO. 37667, 5CR.10391.6, 5CR.20391.6, ETC.	SHEET NO. 3	TOTAL SHEETS
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TYPICAL SECTION NO. 1



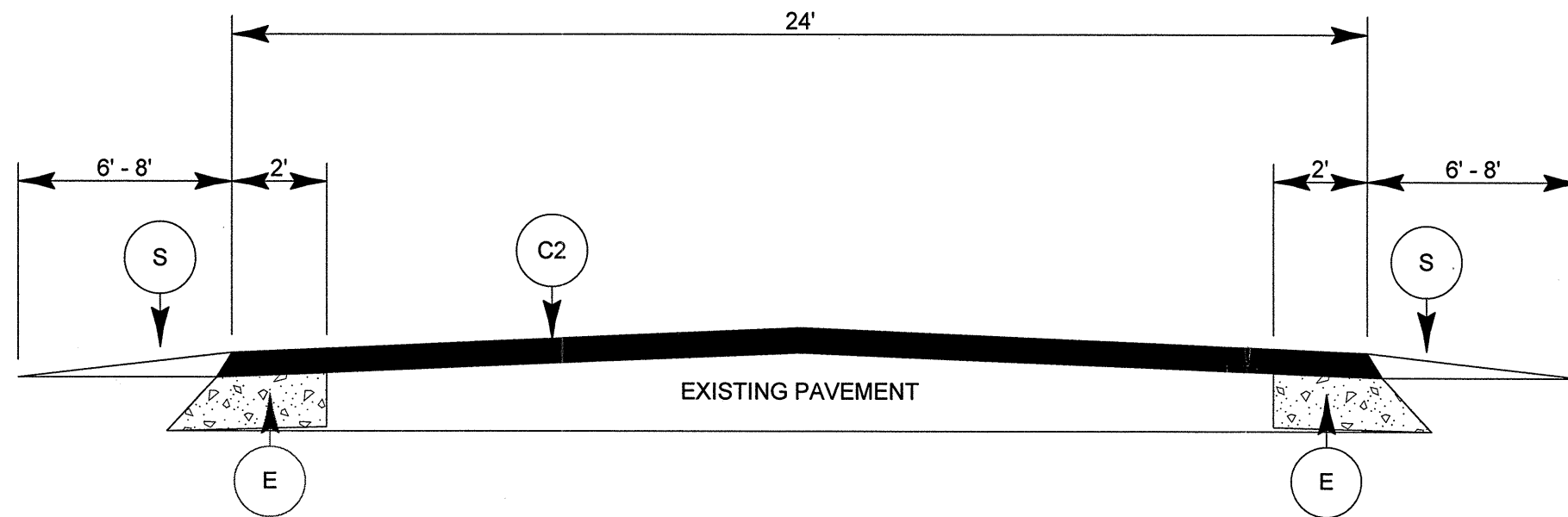
TYPICAL SECTION NO. 2



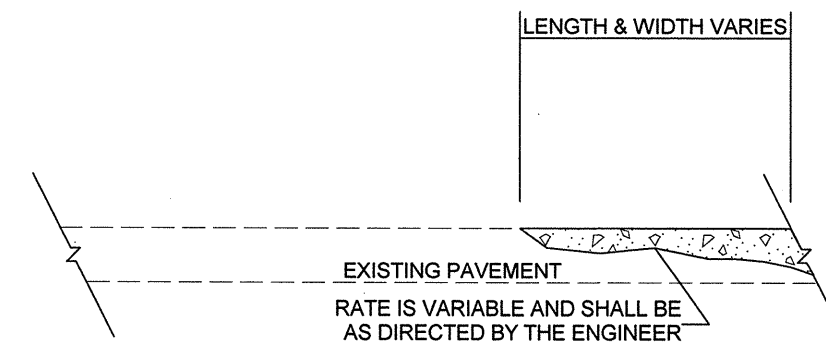
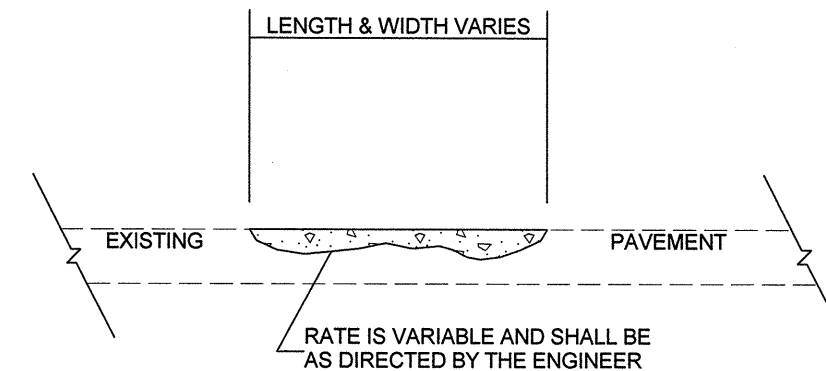
PATCHING EXISTING PAVEMENT

PAVEMENT SCHEDULE	
C1	PROP APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT THE AVERAGE RATE OF 168 LBS PER SQ YD
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT THE AVERAGE RATE OF 165 LBS PER SQ YD
E	PROP APPROX 10" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT THE AVERAGE RATE OF 1,140 LBS PER SQ YARD
S	SHOULDER RECONSTRUCTION

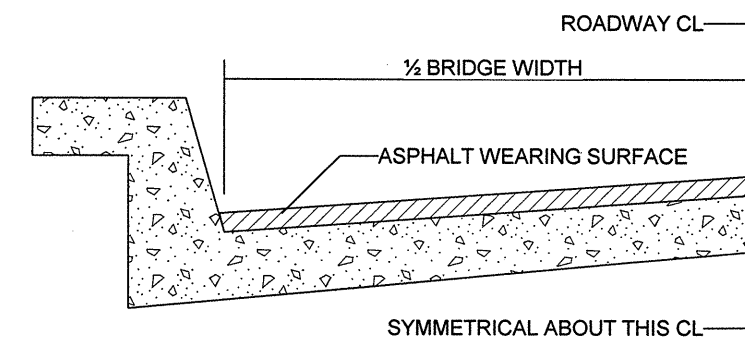
PROJECT NO. 37667, 5CR.10391.6, 5CR.20391.6, ETC.	SHEET NO. 4	TOTAL SHEETS
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TYPICAL SECTION NO. 3



ASPHALT CONCRETE SURFACE COURSE
(LEVELING COURSE)



BRIDGE HALF TYPICAL SECTION

FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN

THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. A THICKNESS OF NOT LESS THAN 5/8" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1 1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.

NOTES

ALL UNPAVED ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT. ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.
SHOULDERS AND DITCHES ARE TO BE CONSTRUCTED BY OTHERS UNLESS OTHERWISE INDICATED.
BRIDGES ARE TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER

PROJECT NO.	SHEET NO.	TOTAL NO.
37667, 5CR.10391.6	5	
5CR.20391.6, ETC.		

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LENGTH MI	WIDTH FT	GRADING LS	FOUNDATI ON COND MATL, MINOR STR TON	15" SIDE DRAIN PIPE LF	18" SIDE DRAIN PIPE LF	18" RCP CULVERTS, CLASS III LF	24" RCP CULVERTS, CLASS III LF	PIPE REMOVAL LF	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	BASE COURSE, B25.0B TONS	INTERMEDIATE COURSE, I19.0B TONS	SURFACE COURSE, S9.5B TONS	LEVELING COURSE, TYPE S9.5B TON	SURFACE COURSE, SF9.5A TON	PG 64-22 PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	LEVELING COURSE, TYPE SF9.5A TONS	PIPE COLLAR CY	8" X 12" CONCRETE CURB LF	5" MONOLITHIC CONCRETE ISLANDS SY	GUARDRAIL ANCHOR UNITS	TEMPORARY SILT FENCE LF	STONE FOR EROSION CONTROL, TYP R TON	SEED & MULCHING AC
37667	Granville	1	NC 56	AT NC 96	SEE PLANS	0.4	40	1.00	35.00	52.00	148.00	52.00	56.00	84.00			1,675.00	575.00				99.00			2.90	550.00	625.00		500.00	12.00	
TOTAL FOR PROJ NO. 37667						0.4		1.00	35.00	52.00	148.00	52.00	56.00	84.00			1,675.00	575.00				99.00			2.90	550.00	625.00		500.00	12.00	
5CR.10391.6	Granville	12	NC 56	FROM CREEDMOOR EAST CL TO FRANKLIN COUNTY LINE	1	8.8	24								528.00	17.60			11,718.00			703.00	500.00								13.20
TOTAL FOR PROJ NO. 5CR.10391.6						8.8									528.00	17.60			11,718.00			703.00	500.00								13.20
5CR.20391.6	Granville	2	SR 1646 (OXDORD LOOP)	FROM NC96 TO SR 1602 (HENDERSON ST)	1	1.1	28								66.00	2.20			1,570.00	400.00		118.00	300.00					2.00			1.60
		3	SR 1606 (WEST ANTIOCH RD)	FROM NC 96 TO SR 1650 (RALEIGH RD)	3	0.3	24								18.00	0.60	533.00				361.00	46.00									0.44
		4	SR 1734 (JONAH DAVIS)	FORM FRANKLIN CO L TO WAKE CO L	3	0.5	24								30.00	1.00	889.00				601.00	77.00	220.00								0.73
		5	SR 1430 (ROCKWELL RD)	FROM US 15 TO VANCE CO LINE	2	3.6	20								216.00	7.20					3,652.00	304.00	400.00	1,000.00							5.22
		6	SR 1120 (VEASEY RD)	FROM 1004 (OLD NC 75) TO SR 1103 CENTRAL AVE)	2	1	20								60.00	2.00					1,003.00	65.00	150.00								1.45
		7	SR 1311 (OLD ROXBORO)	FROM SR 1309 TO PERSON CO LINE	2	2.7	20								162.00	5.40					2,709.00	209.00	250.00	500.00							3.92
		8	SR 1613 (FAIRPORT RD)	FROM SR 1609 (ED HARRIS RD) TO VANCE CO L	2	4.33	20								260.00	8.66					4,344.00	295.00	350.00	200.00							6.28
		9	SR 1609 (FAIRPORT RD)	FROM NC 96 TO SR 1613	2	1.7	20								102.00	3.40					1,706.00	111.00									2.47
		10	SR 1170 (IVEY DAY RD)	FROM US 158 BY PASS TO GOSHEN ST	2	1.28	20								77.00	2.56					1,284.00	103.00	200.00	300.00							1.86
		11	SR 1715 (HUGH DAVIS RD)	FROM SR 1714 (WOODLAND CHURCH RD) TO FRANKLIN CO L)	2	1.18	20								71.00	1.71					1,184.00	90.00	200.00	200.00							1.71
TOTAL FOR PROJ NO. 5CR.20391.6						17.69									1,062.00	34.73	1,422.00		1,570.00	400.00	16,874.00	1,418.00	2,070.00	2,200.00			2.00			25.68	
5CR.20911.6	Vance	5	SR 1336 (STOVALL RD)	FROM GRANVILLE COUNTY LINE TO SR 1303 (HICKS RD)	2	0.6	20								24.00	1.20					602.00	39.00	70.00								0.90
TOTAL FOR PROJ NO. 5CR.20911.6						0.6									24.00	1.20					602.00	39.00	70.00								0.90
GRAND TOTAL						27.49		1	35	52	148	52	56	84	1,614	53.53	3,097	575	13,288	400	17,476	2,259	2,640	2,200	2.90	550	625	2	500	12	39.78

PROJECT NO.	SHEET NO.	TOTAL NO.
37667, 5CR.10391.6 5CR.20391.6, ETC.	6	

SUMMARY OF QUANTITIES

PROJECT NO.	COUNTY	MAP NO.	ROUTE	DESCRIPTION	TYP	SIGNAL CABLE	VEHICLE SIGNAL HEAD (12" 3 SECT)	LOUVER	MESSAGE R CABLE (3/8")	PAVED TRENCHING (1 CONDUIT, 2")	UNPAVED TRENCHING (1 COND, 2")	JUNCTION BOX (STD. SIZE)	GUY ASSEMBLY	1" RISER W/WEATHE RHEAD	2" RISER W/WEATHE RHEAD	INDUCTIVE LOOP	LEAD-IN CABLE (18-2)	LEAD-IN CABLE (18-4)	METAL STRAIN SIGNAL POLE	SOIL TEST	DRILLED PIER FOUNDATIO N	SIGN FOR SIGNALS	SIGNAL CABINET FOUNDATIO N	CONTROLL ER W/CAB- CARD (TYPE 2070L, BASE MT)	DETECTOR CARD (TYPE 2070L)	CABINET BASE EXTENDER	FILTER FABRIC FOR DRAINAGE		
NO		NO			NO	LF	EA	EA	LF	LF	LF	EA	EA	EA	EA	LF	LF	LF	EA	EA	CY	EA	EA	EA	EA	EA	EA	SY	
37667	Granville	1	NC 56	AT NC 96	SEE PLANS	480.00	8.00	8.00	125.00	350.00	1,930.00	12.00	2.00	1.00	3.00	900.00	2,000.00	300.00	1.00	1.00	8.00	8.00	1.00	1.00	5.00	1.00	1.00	35	
TOTAL FOR PROJ NO. 37667						480.00	8.00	8.00	125.00	350.00	1,930.00	12.00	2.00	1.00	3.00	900.00	2,000.00	300.00	1.00	1.00	8.00	8.00	1.00	1.00	5.00	1.00	1.00	35	
5CR.10391.6	Granville	12	NC 56	FROM CREEDMOOR EAST CL TO FRANKLIN COUNTY LINE	1																								
TOTAL FOR PROJ NO. 5CR.10391.6																													
5CR.20391.6	Granville	2	SR 1646 (OXDORD LOOP)	FROM NC96 TO SR 1602 (HENDERSON ST)	1																								
		3	SR 1606 (WEST ANTIOCH RD)	FROM NC 96 TO SR 1650 (RALEIGH RD)	3																								
		4	SR 1734 (JONAH DAVIS)	FORM FRANKLIN CO L TO WAKE CO L	3																								
		5	SR 1430 (ROCKWELL RD)	FROM US 15 TO VANCE CO LINE	2																								
		6	SR 1120 (VEASEY RD)	FROM 1004 (OLD NC 75) TO SR 1103 CENTRAL AVE)	2																								
		7	SR 1311 (OLD ROXBORO)	FROM SR 1309 TO PERSON CO LINE	2																								
		8	SR 1613 (FAIRPORT RD)	FROM SR 1609 (ED HARRIS RD) TO VANCE CO L	2																								
		9	SR 1609 (FAIRPORT RD)	FROM NC 96 TO SR 1613	2																								
		10	SR 1170 (IVEY DAY RD)	FROM US 158 BY PASS TO GOSHEN ST	2																								
		11	SR 1715 (HUGH DAVIS RD)	FROM SR 1714 (WOODLAND CHURCH RD) TO FRANKLIN CO L	2																								
TOTAL FOR PROJ NO. 5CR.20391.6																													
5CR.20911.6	Vance	5	SR 1336 (STOVALL RD)	FROM GRANVILLE COUNTY LINE TO SR 1303 (HICKS RD)	2																								
TOTAL FOR PROJ NO. 5CR.20911.6																													
GRAND TOTAL						480	8	8	125	350	1,930	12	2	1	3	900	2,000	300	1	1	8	8	1	1	5	1	1	35	

PROJECT NO.	SHEET NO.	TOTAL NO.
37667, 5CR.10391.6 5CR.20391.6, ETC.	7	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4685000000-E	4686000000-E	4695000000-E	4705000000-E	4710000000-E	4721000000-E	4725000000-E				4810000000-E		4835000000-E	4840000000-N	4845000000-N		4900000000-N			
					4" X 90 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	8" X 90 M YELLOW THERMO LF	16" X 120 M WHITE THERMO LF	24" X 120 M WHITE THERMO LF	THERMO MSG SCHOOL 120 M EA	THERMO LT ARROW 90 M EA	THERMO STR ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	4" WHITE PAINT LF	4" YELLOW PAINT LF	24" WHITE PAINT LF	PAINT MSG SCHOOL EA	PAINT LT ARROW EA	PAINT STR ARROW EA	YELLOW & YELLOW MARKERS EA	CRYSTAL & RED MARKERS EA		
37667	Granville	1	NC 56	AT NC 96																				
TOTAL FOR PROJ NO. 37667																								
5CR.10391.6	Granville	12	NC 56	FROM CREEDMOOR EAST CL TO FRANKLIN COUNTY LINE	94,688	83,600	150		325	12	15	4	3	2								581	20	
TOTAL FOR PROJ NO. 5CR.10391.6					94,688	83,600	150		325	12	15	4	3	2								581	20	
											24												601	
5CR.20391.6	Granville	2	SR 1646 (OXDORD LOOP)	FROM NC96 TO SR 1602 (HENDERSON ST)	11,836	7,260		100	100		4	3	3									73		
		3	SR 1606 (WEST ANTIOCH RD)	FROM NC 96 TO SR 1650 (RALEIGH RD)											6,456	5,700	100	12				20		
		4	SR 1734 (JONAH DAVIS)	FORM FRANKLIN CO L TO WAKE CO L											10,760	9,500						33		
		5	SR 1430 (ROCKWELL RD)	FROM US 15 TO VANCE CO LINE											77,472	68,400						252		
		6	SR 1120 (VEASEY RD)	FROM 1004 (OLD NC 75) TO SR 1103 CENTRAL AVE)											21,520	19,000						80		
		7	SR 1311 (OLD ROXBORO)	FROM SR 1309 TO PERSON CO LINE											58,104	51,300						178		
		8	SR 1613 (FAIRPORT RD)	FROM SR 1609 (ED HARRIS RD) TO VANCE CO L											93,182	82,270						286		
		9	SR 1609 (FAIRPORT RD)	FROM NC 96 TO SR 1613											36,584	32,300						112		
		10	SR 1170 (IVEY DAY RD)	FROM US 158 BY PASS TO GOSHEN ST											27,546	24,320			4	4		113		
		11	SR 1715 (HUGH DAVIS RD)	FROM SR 1714 (WOODLAND CHURCH RD) TO FRANKLIN CO L)											25,394	22,420						78		
TOTAL FOR PROJ NO. 5CR.20391.6					11,836	7,260		100	100		4	3	3		357,017	315,210	100	12	4	4		1,224		
											10				672,227				8	4			1,224	
5CR.20911.6	Vance	5	SR 1336 (STOVALL RD)	FROM GRANVILLE COUNTY LINE TO SR 1303 (HICKS RD)											12,912	11,400						40		
TOTAL FOR PROJ NO. 5CR.20911.6															12,912	11,400							40	
											34				696,539				8	4			1,865	
GRAND TOTAL					106,524	90,860	150	100	425	12	19	7	6	2	369,929	326,610	100	12	4	4		1,845	20	