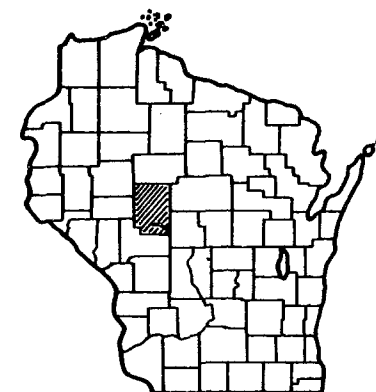


Index of Sheets

Sheet No.	Title
Sheet No. 1	Typical Cross Sections
Sheet No. 2-2.1	Estimate of Quantities
Sheet No. 3	Miscellaneous Quantities
Sheet No. 3A	Right of Way Plat
Sheet No. 5-5.16	Plan and Profile STA. 5+00 TO 888+95.5
Sheet No. 6-6.6	Standard Details
Sheet No. -	Structure Plans
Sheet No. -	Computer Earthwork Data
Sheet No. 8-8.12	Cross Sections

TOTAL SHEETS = 42



Design Designation

A.D.T. (1978)	= 700
A.D.T. (1998)	= 980
D.H.V.	= 176
D.	= 60-40
T.	= 10.7
V.	= 60 M.P.H.

Conventional Signs

County Line	-----
Township or Range Line	-----
Section Line	-----
New Right of Way Line	-----
Present Right of Way Line	-----
Wire Fence	-----
Corporate or City Limits	-----
Property Line	-----
Traveled Way or P.E.	-----
Railroads	-----
Base or Survey Line	-----
Caution Symbol (combustible fluids under pressure)	-----

Culverts in Place	-----
Culverts Required	-----
Drop Inlet	-----
Power Pole	-----
Telephone or Telegraph Pole	-----
Right of Way Markers	-----
Reference Stake for Hubs Only	-----
Marsh	-----
Hedge	-----
Trees	-----
Ground Elevation	-----
Grade Elevation	-----

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

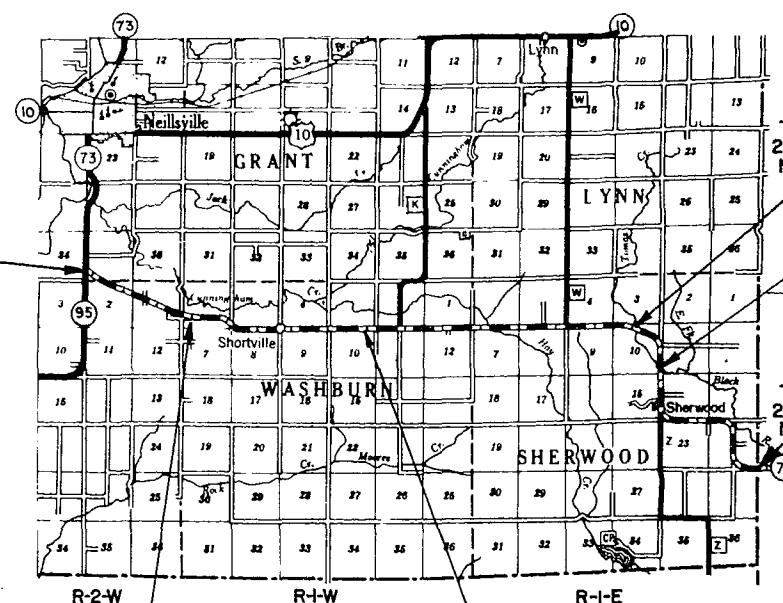
PLAN AND PROFILE OF PROPOSED NEILLSVILLE - E. CO. LINE RD.

S.T.H. 95 TO E. CO. LINE

S.T.H. 73
CLARK COUNTY

STATE PROJECT NUMBER
1521-3-71

Scales
Plan 1 in. = 100 ft.
Profile Hor. 1 in. = 100 ft. Vert. 1 in. = 10 ft.
Cross Sections Hor. 1 in. = 10' Vert. 1 in. = 10'



**BEGIN PROJECT 1521-3-71
STA. 5+00**
N. 248,250 ± 200'
E. 1,834,000 ± 200'
APPROX. 1214' N. AND 89'E. OF THE
S.E. COR. SEC. 34, T24N, R2W.

**EXCEPTION TO NET & LENGTH
STA. 630+10 - STA. 630+70
B-10-5**

**EXCEPTION TO NET & LENGTH
STA. 697+80 - STA. 698+50
B-10-6**

**END PROJECT 1521-3-71
STA. 888+95.5**
N. 226,300 ± 200'
E. 1,917,500 ± 200'
APPROX. AT THE S.E. COR. OF SEC. 24,
T23N, R1E.

**EXCEPTION TO NET & LENGTH
STA. 335+61.5 - STA. 335+86.5
B-10-984**
**EQUATION STA. 136+05.23 BK. =
STA. 143+24.00AH.**

Layout
Scale 1 in. = 2 Miles

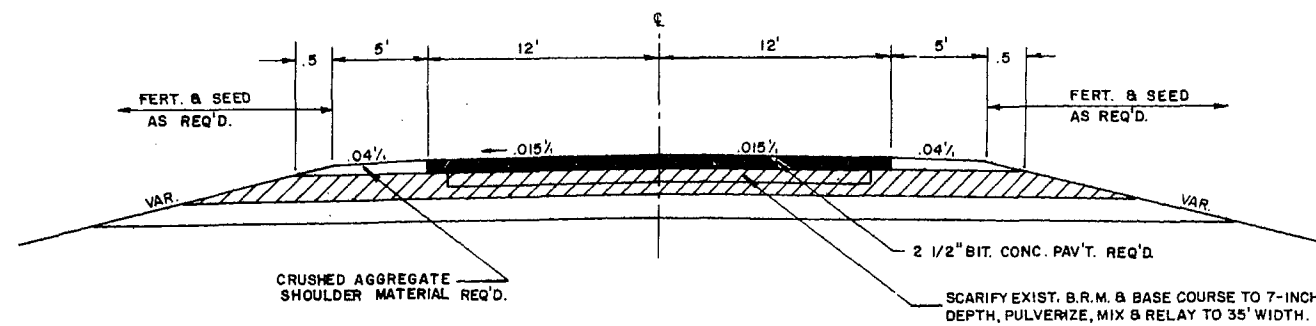
Total Net Length of Centerline = 16.576 Mi. RURAL

ALL CO-ORDINATES SHOWN ON THIS PLAN ARE REFERENCED TO THE WISCONSIN CO-ORDINATE SYSTEM, CENTRAL ZONE, AND ARE SCALED FROM U.S.G.S. TOPOGRAPHIC MAPS NEILLSVILLE & CITY POINT WISCONSIN QUADRANGLES FOR IDENTIFICATION ONLY.

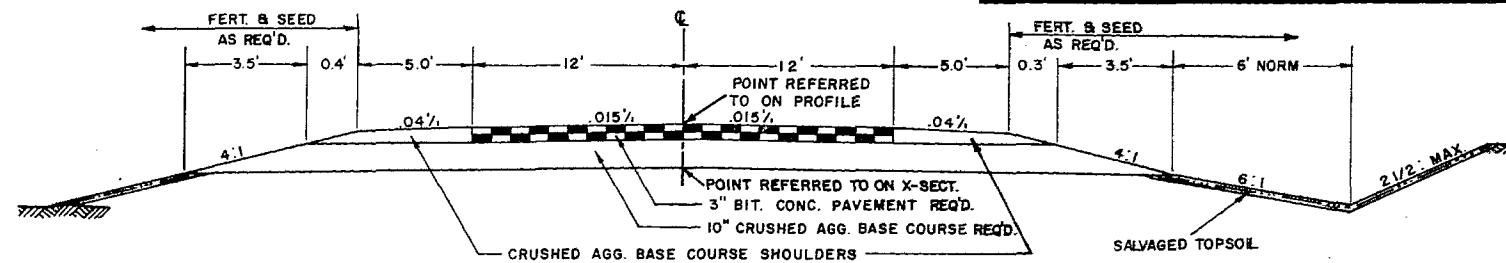
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1521-3-71	F077(1)	1

AS BUILT

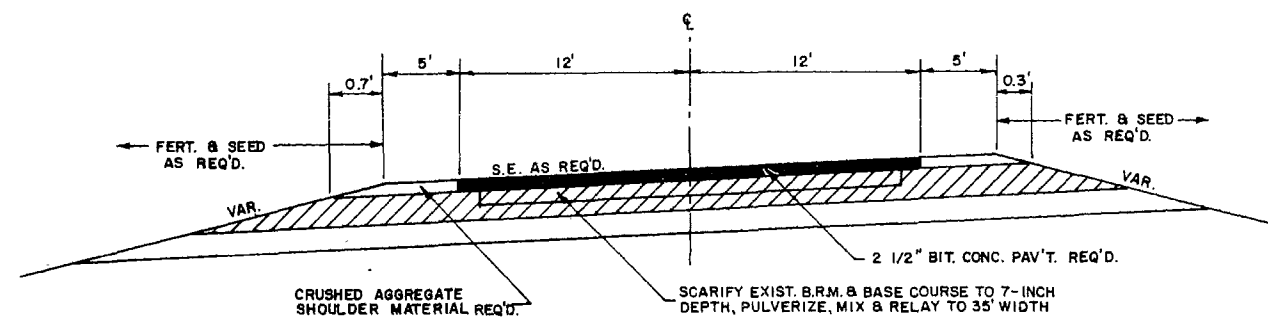
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	
Surveyor <u>DLW</u>	District Checker <u>RDF</u>
Designer <u>GEQ & P.T.B.</u>	C.O. Checker <u>RAC</u>
District Supervisor <u>LAF</u>	C.O. Monitor <u>DW</u>
Approved: _____	
Date <u>9/28/77</u>	<u>m.j. schaffer</u> District Engineer
Approved: _____	
Date <u>10-28-77</u>	<u>D. J. Strand</u> Chief of Facilities Development
Approved: _____	
Date <u>10/31/77</u>	<u>G. L. Giedler</u> State Highway Engineer
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION REGION 5 WISCONSIN DIVISION	
Approved: _____	
Date _____	Division Engineer



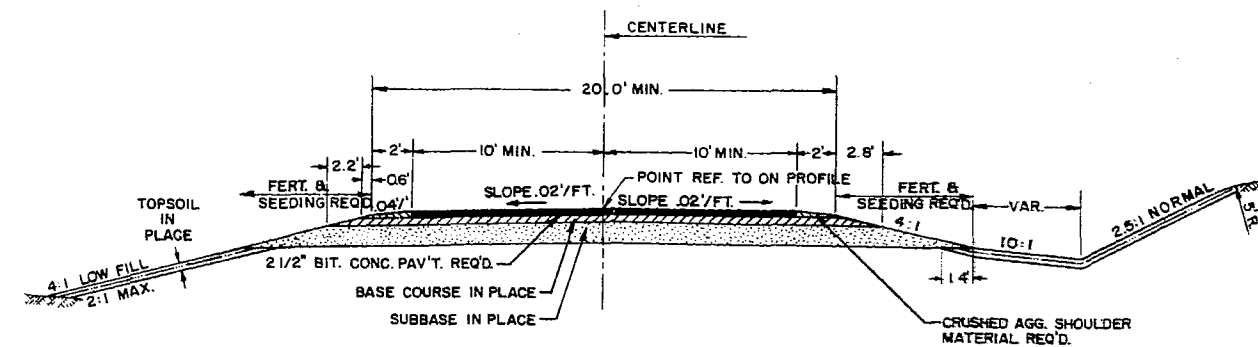
TYPICAL RECYCLED SECTION
S.T.H. 73



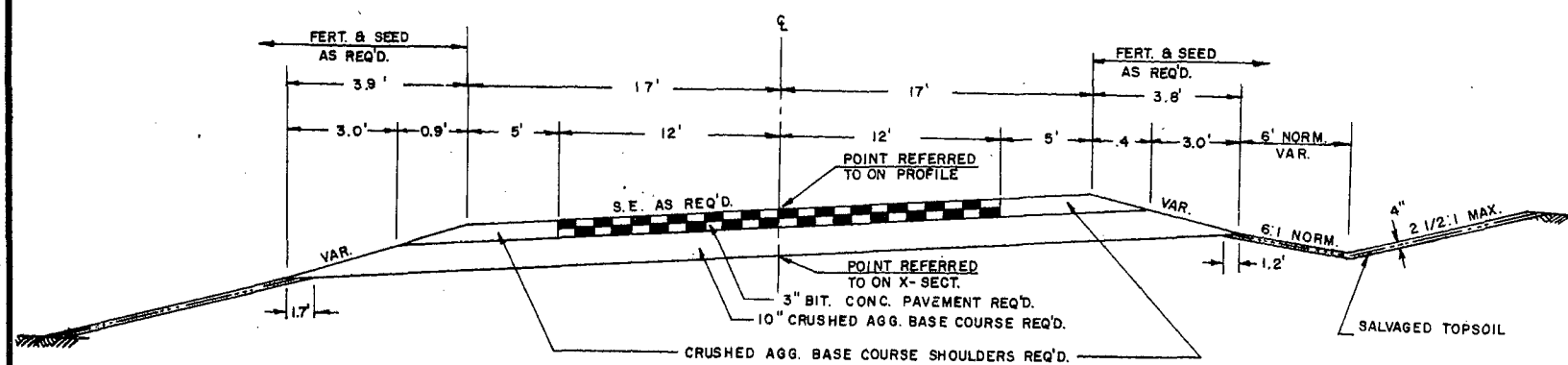
TYPICAL TANGENT SECTION FOR RECONSTRUCTION S.T.H. 73
STA. 561+93 TO STA. 576+00
STA. 758+80 TO STA. 762+00



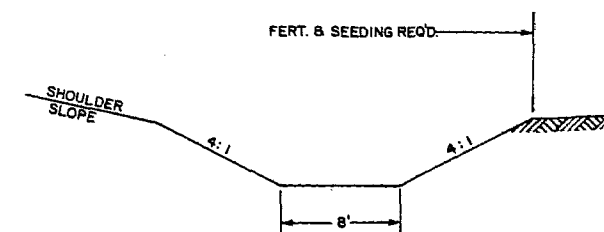
TYPICAL SUPERELEVATED RECYCLED SECTION
S.T.H. 73



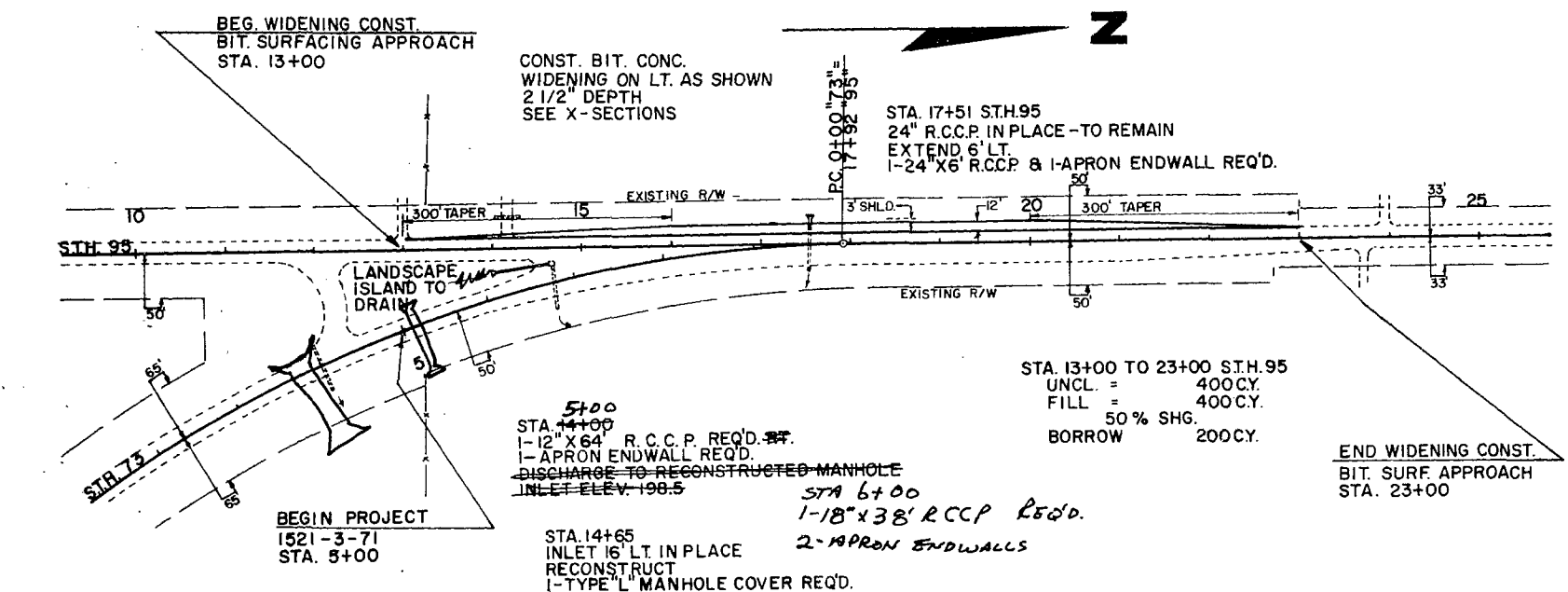
TYPICAL FINISHED SECTION FOR TOWN ROAD & C.T.H. CONNECTIONS



TYPICAL SUPERELEVATED SECTION FOR RECONSTRUCTION S.T.H. 73
STA. 558+00 TO STA. 561+93 S.E. .03 1/2
STA. 748+00 TO STA. 758+90 S.E. .06 1/2



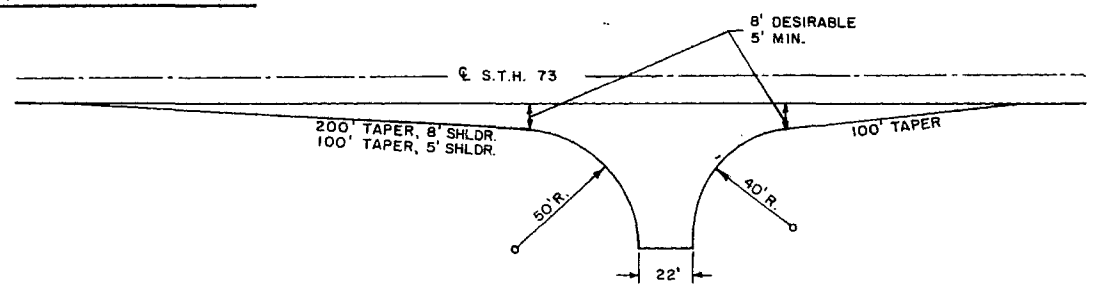
TYPICAL FOR DRAINAGE DITCHES
293±00 TO 310±00 LT. & RT.



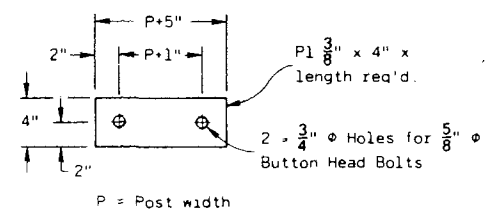
BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	13+18	POWER POLE 130' RT.	200.00

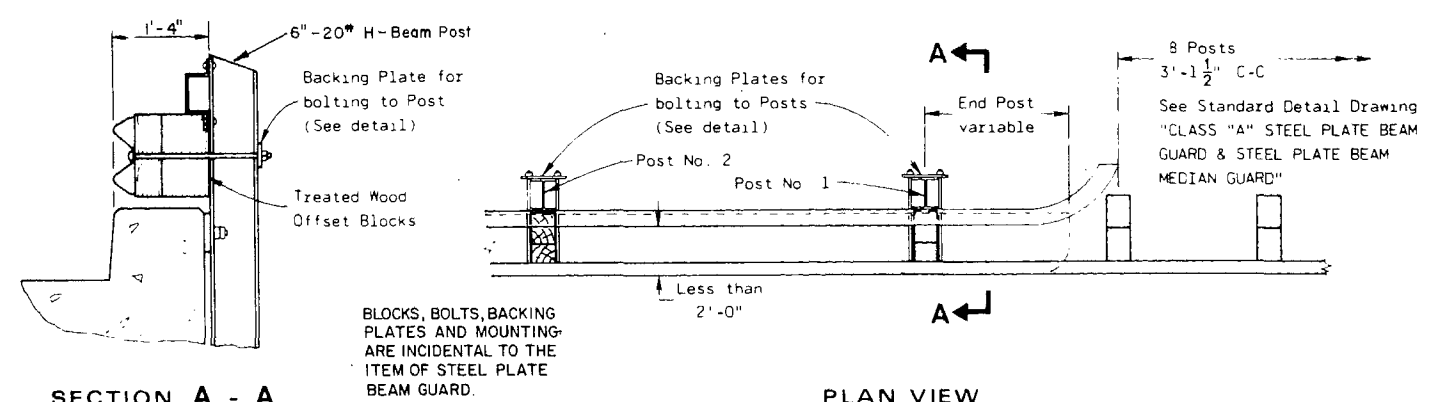
LAYOUT FOR S.T.H. "73" & "95" INTERSECTION



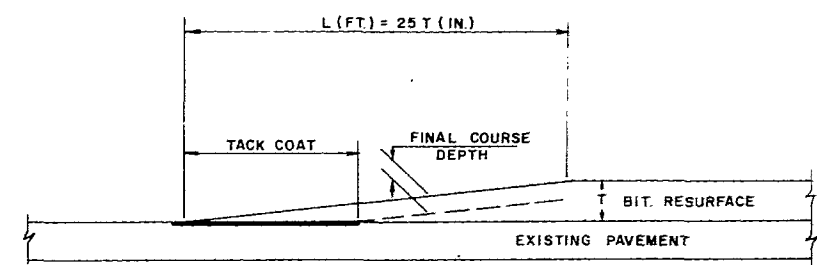
TYPE "C" MODIFIED
DETAIL FOR C.T.H. INTERSECTIONS



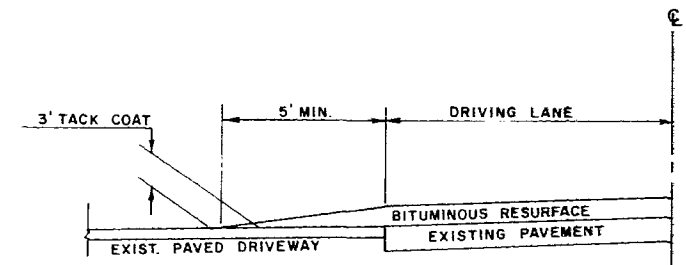
BACKING PLATE



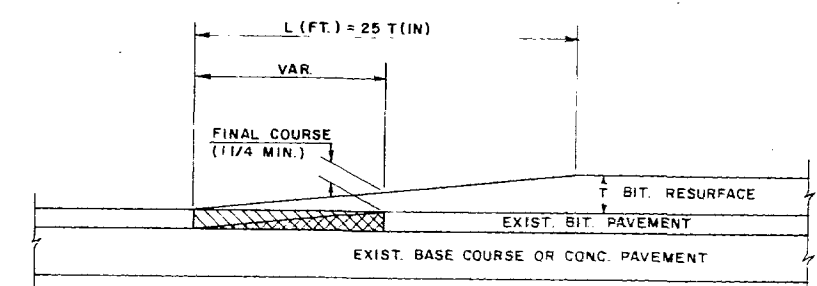
DETAIL FOR ATTACHING STEEL PLATE BEAM GUARD TO BRIDGES B-984, B-10-5, B-10-6



FEATHER JOINT DETAIL
USE AS DIRECTED BY THE ENGINEER



PRIVATE ENTRANCE JOINT DETAIL



- REMOVE EXIST. PAVEMENT
- WEDGE TO BE PLACED IN MAX. OF 2\"/>

BUTT JOINT DETAIL

BITUMINOUS RESURFACING &
GRADING, BASE, & BIT. SURFACE (2 SECTIONS)

STATE PROJECT NUMBER

1521-3-71

MEET 1.

3

[illegible]

* INCLUDES 14,600 TONS OF SHOULDER MATERIAL

[illegible]

**** NO FEDERAL PARTICIPATION**

DETAIL SUMMARY OF MISCELLANEOUS QUANTITIES

STATE PROJECT NUMBER

1521 - 3 - 71

SHEET NO.

3A

NEILLSVILLE - EAST COUNTY LINE ROAD

S.T.H. 73 CLARK COUNTY

REMOVING BITUMINOUS CONCRETE SURFACING

STATION	LOCATION	S.Y.
5+70 RT.	S.T.H. 95 INTERSECTION *	10
335+74	BRIDGE B-984	70
372+93	C.T.H. "K" *	10
557+07	C.T.H. "W" *	10
742+00	C.T.H. "Z" *	10

* BUTT JOINTS

REMOVING GUARDRAIL

STATION	TO STATION	LOCATION	LIN. FT.
335+45	335+70	LT. & RT.	50
335+95	336+20	LT. & RT.	50
629+85	630+10	LT. & RT.	50
630+70	630+95	LT. & RT.	50
697+55	697+80	LT. & RT.	50
698+50	698+70	LT. & RT.	50
738+00	739+60	RT.	160

STEEL PLATE BEAM GUARD, CLASS "A"

STATION	TO STATION	LOCATION	LIN. FT.	ANCHORAGES
334+32	337+15	LT. & RT.	566	4
628+91	631+99	LT. & RT.	616	4
696+48	699+81	LT. & RT.	666	4

CONCRETE CURB, TYPE "J"

STATION	LOCATION	LIN. FT.
742+30	RT.	125

SURFACING, BASE COURSE AND EROSION CONTROL

LOCATION	BIT. CONC. PAVT. TONS	BIT. MAT. FOR SURF. COURSE TONS	CR. AGG. BASE COURSE TONS	CR. AGG. BASE COURSE SHLDR. MAT. TONS	SALVAGED TOPSOIL S.Y.	SEEDING LB.	FERTILIZER CWT.
S.T.H. 73 & S.T.H. 95 CONNECTION	170	10	700	100	1500	27	1
MAINLINE S.T.H. 73							
STA. 5+00 TO 558+00	21,459	1288		8730		982	25
STA. 558+00 TO 576+00	840	50	4212	342	6500	120	4
STA. 576+00 TO 748+00	6,714	403		2731		307	8
STA. 748+00 TO 762+00	653	39	3276	266	5800	190	3
STA. 762+00 TO 888+95.5	4,994	300		2031		230	6
SIDE ROAD CONNECTIONS	2,025	122	810	270			
DRAINAGE DITCH LT. & RT.							
STA. 293+00 TO 310+00						140	4
UNDISTRIBUTED MISC.	395	28	402	130	200	44	3

CULVERT PIPE

REINFORCED CONCRETE CULVERT PIPE CLASS III

STATION	LOCATION	DIAMETER (INCHES)	LENGTH (LIN. FT.)	EACH	REMARKS
14+00	S.T.H. 95 INTER.	12	64	1	ISLAND DRAIN TO MANHOLE
17+51	S.T.H. 95 LT.	24	6	1	EXTENSION
219+15	€	48	108	4	TWIN CULVERTS
293+75	TN. RD. LT.	24	50 44'	2	INLET EL. 204.7
293+75	TN. RD. RT.	24	52 44'	2	INLET EL. 203.9
298+30	F.E. LT.	24	30 2 1/2'	2	
298+30	F.E. RT.	24	30 2 1/2'	2	
304+10	€	72	50	2	INLET EL. 200.6
306+70	F.E. LT.	24	30 2 1/2'	2	
306+70	F.E. RT.	24	30 2 1/2'	2	
488+27	€	30	50 5 1/2'	2	
521+04	€	30	46 5 1/2'	2	
528+00	€	30	56 6 0'	2	SKEW ± 5° R.H.F.
532+66	€	24	46 5 4'	2	

SALVAGED CULVERT PIPE

465+14	€	42	48		TWIN PIPE, REMOVE, RELAY & TIE
465+14	€	48	24		REMOVE, RELAY & TIE

CORRUGATED METAL CULVERT PIPE .079 THICK STEEL

475+87	€	24	8	2	REPLACE 4' AT INLET & DISCH.
548+00	€	30	8	2	REPLACE 4' AT INLET & DISCH.
560+85	€	30	-	2	METAL APR. ENDW. FOR EXIST. C.M.C.P.
573+80	P.E. RT.	18	-	2	METAL APR. ENDW. FOR EXIST. C.M.C.P.
607+21	€	30	4	2	REPLACE 4' AT INLET

APRON ENDWALLS

REINFORCED CONCRETE METAL

EACH EACH

GENERAL NOTES

CURVE DATA IS BASED ON ARC DEFINITION.

NO TREES ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

DISTURBED AREAS, WITHIN THE RIGHT OF WAY, EXCEPT THE AREA WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE FERTILIZED AND/OR SEEDS AS DIRECTED BY THE ENGINEER.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS UNCLASSIFIED EXCAVATION. THE LOCATION FOR EBS WILL BE DETERMINED BY THE ENGINEER.

UNLESS OTHERWISE SHOWN ON THE PLANS, ALL INTERSECTIONS SHALL BE TYPE "C" AS SHOWN ON THE STANDARD DETAIL DRAWING.

WHEN THE QUANTITY OF THE ITEMS OF SUBBASE BASE OR SURFACE COURSE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL DIRECTED BY THE ENGINEER.

TOPSOIL SHALL BE PLACED AS SHOWN ON THE TYPICAL SECTION TO AN APPROXIMATE DEPTH OF 4 INCHES AT THE TIME OF PLACEMENT.

UTILITIES

CLARK COUNTY ELECTRIC CO-OPERATIVE
GREENWOOD, WISCONSIN 54437
H.M. BERGMAN 715-267-6188

MIDWAY TELEPHONE
202 EAST OGDEN STREET
MIDFORD, WISCONSIN 54451
SY PERNSTEINER 715-748-3500

STANDARD ABBREVIATIONS

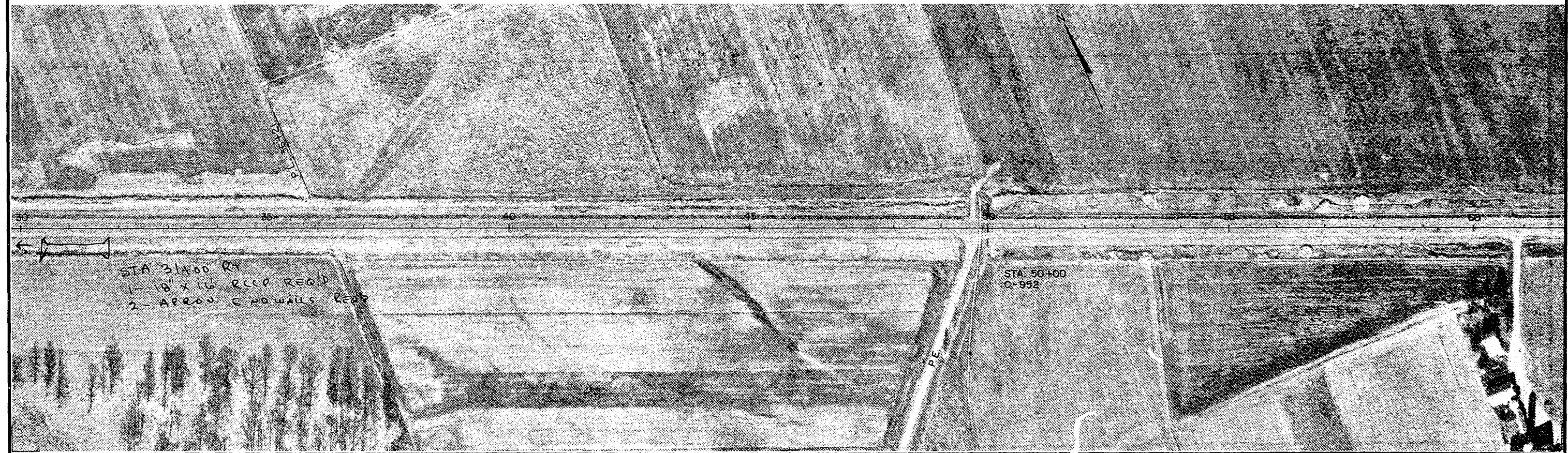
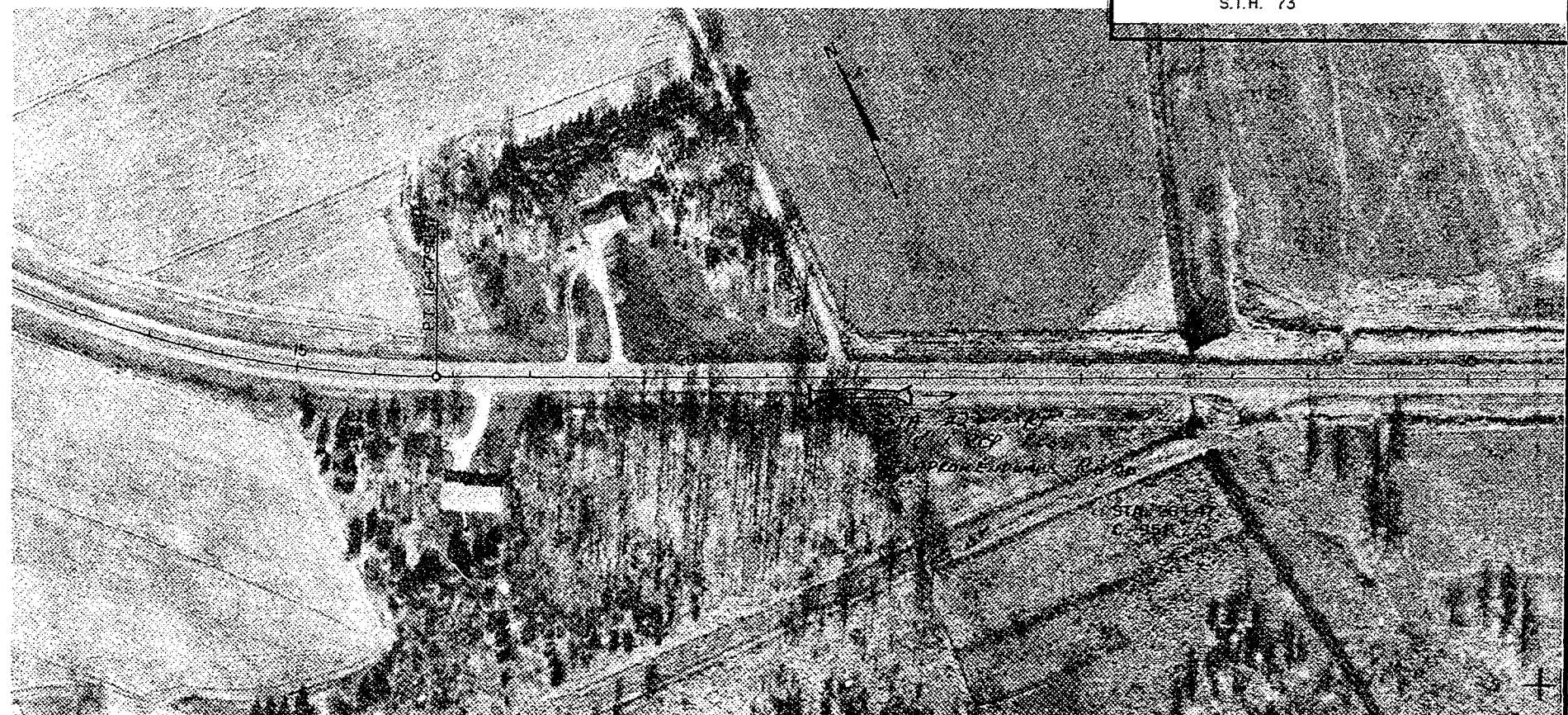
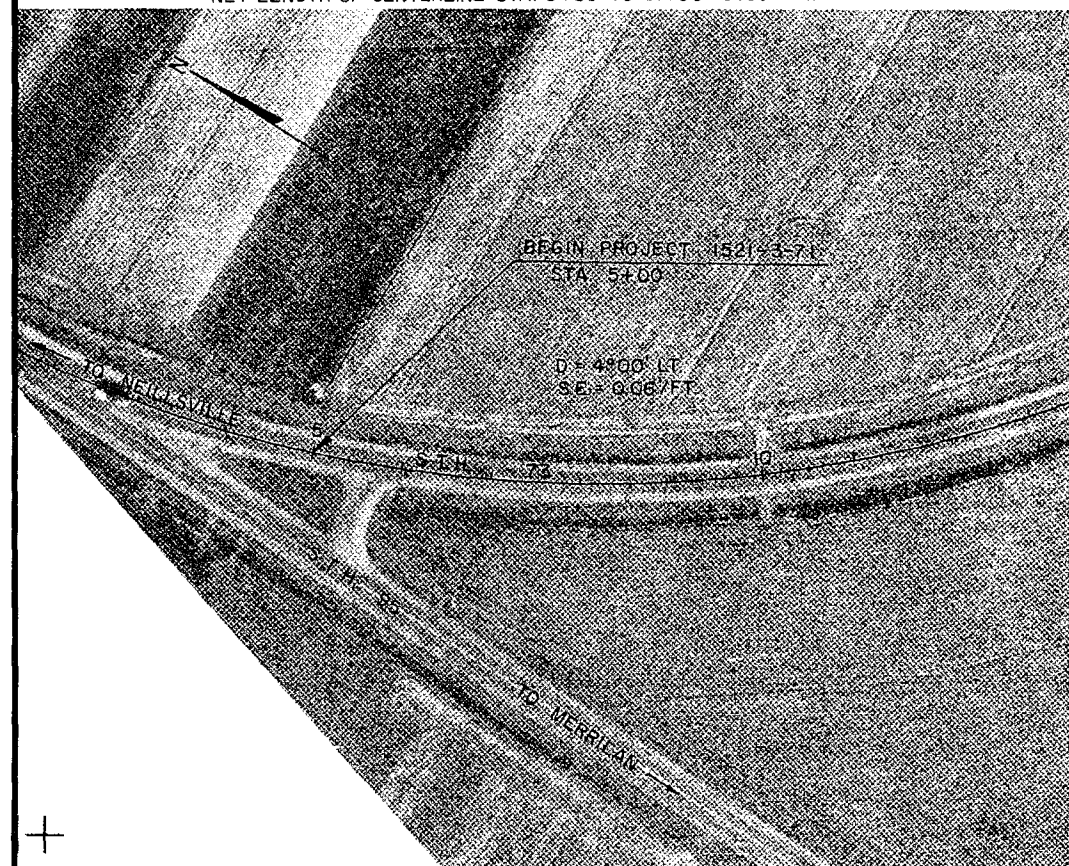
ADT	AVERAGE DAILY TRAFFIC	MAG	MAGNETIC
AGG	AGGREGATE	MAT	MATERIAL
AH	AHEAD	M.H.	MAN HOLE
AZ	AZIMUTH	M.L.	MATCH LINE
		MON	MONUMENT
B.M.	BENCH MARK	P.C.	POINT OF CURVATURE
B	BARN	P.E.	PRIVATE ENTRANCE
BIT.	BITUMINOUS	PE	PEDESTAL
BK	BACK	P.I.	POINT OF INTERSECTION
B.M.	BITUMINOUS ROAD MIX	P.L.	PROPERTY LINE
CONST.	CONSTRUCT - TION	P.O.S.T.	POINT ON SUB TANGENT
C.B.G.	CURB & GUTTER	P.O.T.	POINT ON TANGENT
C.B.	CATCH BASIN	P.T.	POINT OF TANGENCY
CEM.	CEMETERY	REQD.	REQUIRED
CH.	CHAINS	REINF.	REINFORCED
CH.	CHANNELIZATION	R	RADIUS - RANGE
CL.	CLASS	R.C.C.P.	REINFORCED CONCRETE
CL.	CENTERLINE	CULVERT	CULVERT PIPE
CMCP	CORRUGATED METAL	RD.	ROAD - ROADS
CULVERT	CULVERT PIPE	R.H.F.	RIGHT HAND FORWARD
CONN.	CONNECTION	R	REFERENCE LINE
COR.	CORNER	R/W	RIGHT OF WAY
C.P.	CULVERT PIPE	RDWY	ROADWAY
C.Y.	CUBIC YARDS	SURF	SURFACE
COMM.	COMMERCIAL	S	SHED
Δ	DELTA - INTERSECTION ANGLE	SANS	SANITARY SEWER
D	DEGREE OF CURVE - DIRECTION	SCH.	SCHOOL
DHV	DESIGN HOURLY VOLUME	S.E.	SUPERELEVATION
D.G.	DITCH GRADE	SEC.	SECTION
E	EXTERNAL DISTANCE	SHR.	SHRINKAGE
ETAL	AND OTHERS	SL	SLOPE
EXC.	EXCAVATION	S.S.	STORM SEWER
F.E.	FIELD ENTRANCE	STA.	STATION
		S.S.D.	STOPPING SIGHT DISTANCE
G	GARAGE	S.Y.	SQUARE YARDS
GAL.	GALLON	T	TANGENT DISTANCE - TRUCKS
H	HOUSE	TOWNSHIP	TOWNSHIP
HYD.	HYDRANT	TAV.	TAVERN
		TEL.	TELEPHONE
		T.H.	TRAILER HOUSE
I	INTERSECTION ANGLE	T	TRANSIT LINE
INL.	INLET	TN.	TOWN
I.P.	IRON PIPE OR PIN	TRANS.	TRANSITION
INT. EMB.	INTERCEPTING EMBANKMENT	U.C.	UNDERGROUND CABLE
		UNCL.	UNCLASSIFIED
L	LENGTH OF CURVE	VAR.	VARIABLE
L.H.E.	LIMITED HIGHWAY EASEMENT	V	VELOCITY
L.H.F.	LEFT HAND FORWARD	V.C.	VERTICAL CURVE
LIN. FT.	LINEAR FEET	W.V.	WATER VALVE
L.S.	LUMP SUM		

STANDARD DETAIL DRAWINGS

8A5-2	CATCH BASIN, MANHOLE & INLET COVERS
8F1-7	APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
9A1-3	LAYOUT DETAILS FOR AT-GRADE SIDE ROAD INTERSECTIONS
1482-4a&b	CLASS "A" STEEL PLATE BEAM GUARD & STEEL PLATE BEAM MEDIAN GUARD
15C1-5	CONSTRUCTION BARRICADES & STANDARD SIGNS
8F4-1	JOINT TIES FOR CONCRETE PIPE

STATE PROJECT NUMBER	SHEET NO.
1521-3-71	5
PLAN FOR S.T.H. 73	

NET LENGTH OF CENTERLINE STA. 5+00 TO 61+00=5600 LIN. FT.



NET LENGTH OF CENTERLINE STA. 61+00 TO 126+00 = 6500 LIN. FT.

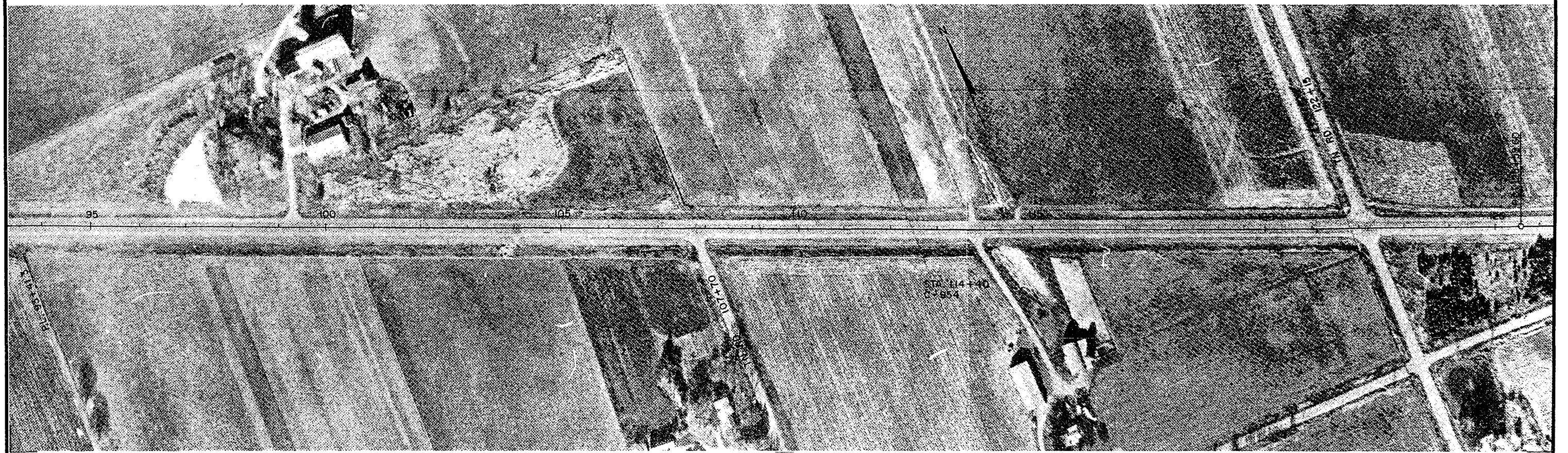
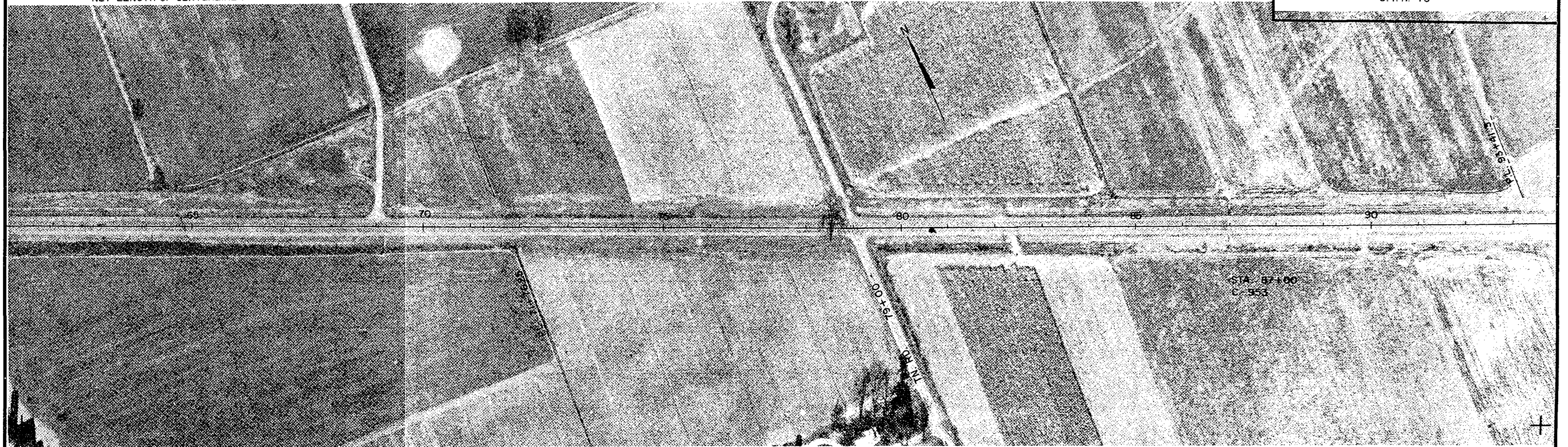
STATE PROJECT NUMBER

SHEET NO.

1521-3-71

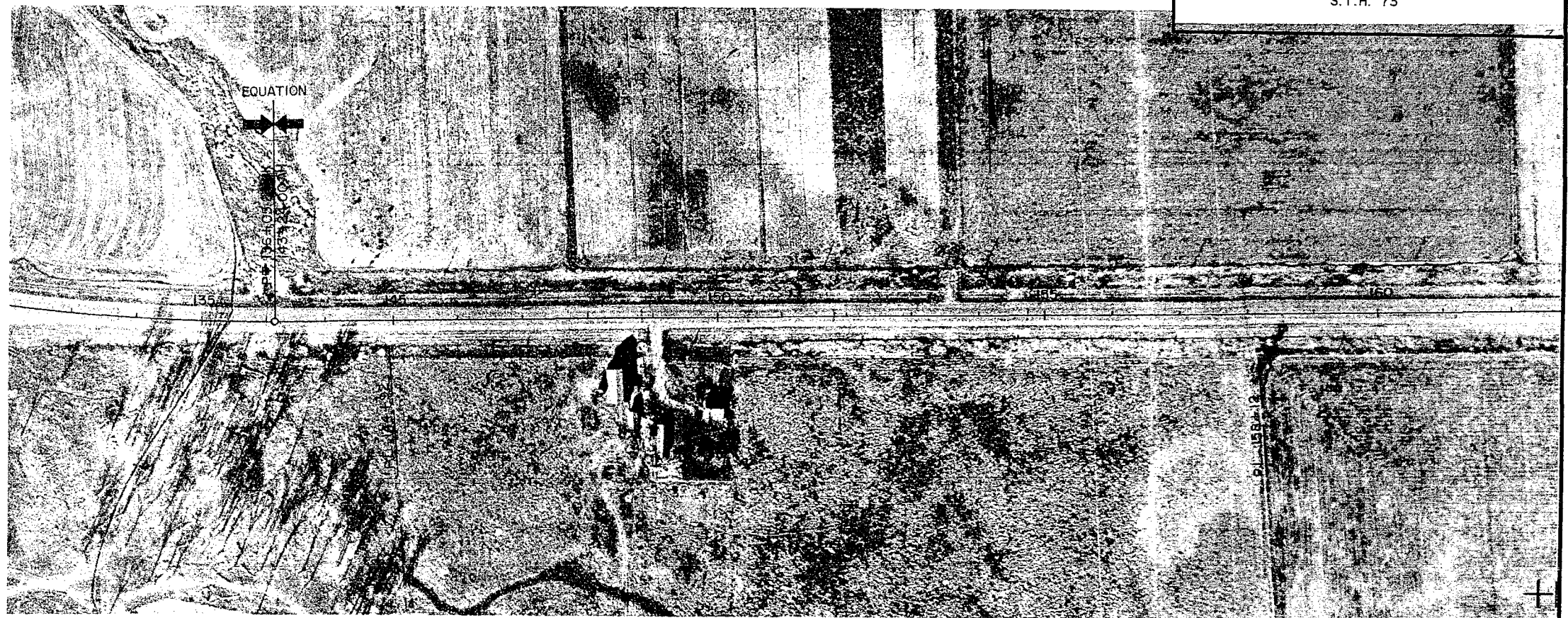
5.1

PLAN FOR
S.T.H. 73

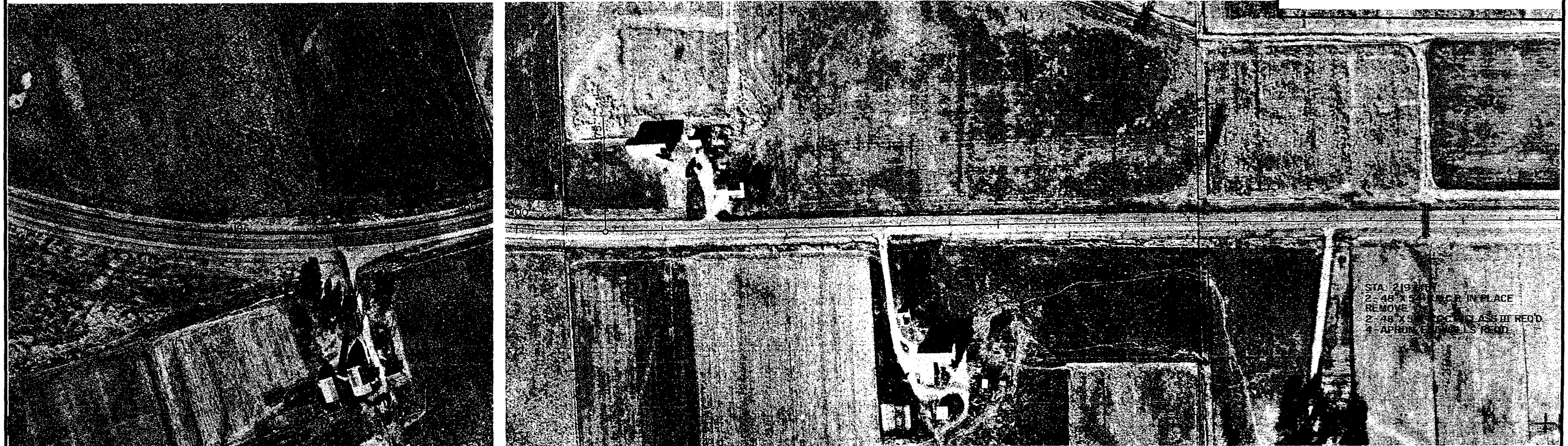


STATE PROJECT NUMBER	SHEET NO.
1521-3-71	5.2
PLAN FOR S.T.H. 73	

NET LENGTH OF CENTERLINE STA. 126+00 TO 191+00 = 5781.23



NET LENGTH OF CENTERLINE STA. 191+00 TO 254+00 = 6300 LIN. FT.



NET LENGTH OF CENTERLINE STA. 254+00 TO 317+00 = 6300 LIN. FT.

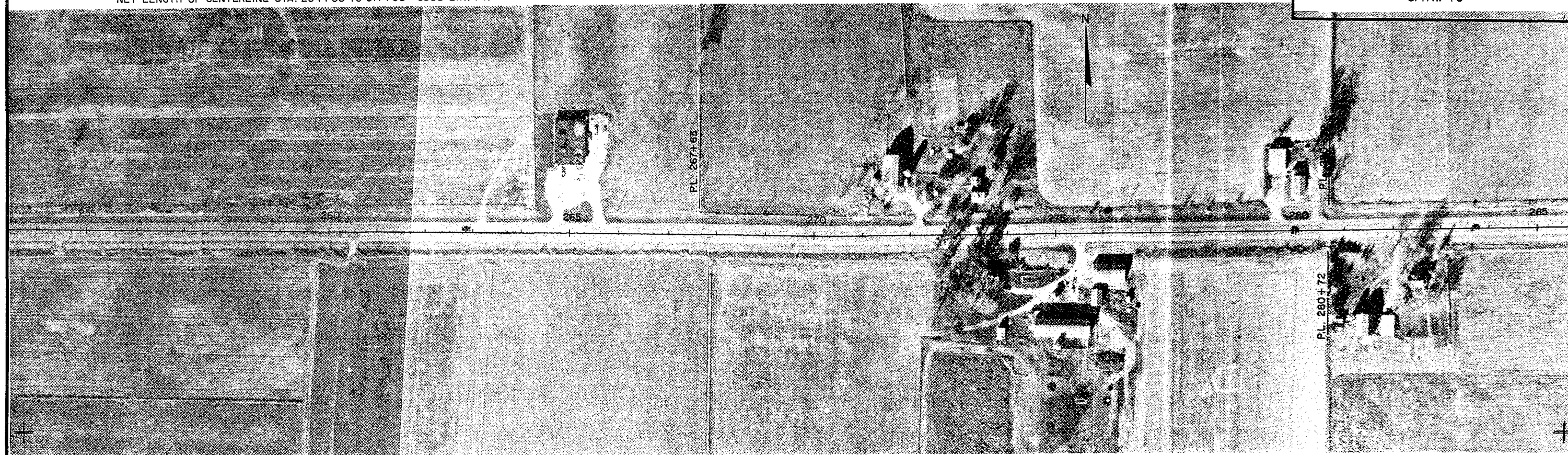
STATE PROJECT NUMBER

1521-3-71

SHEET NO.

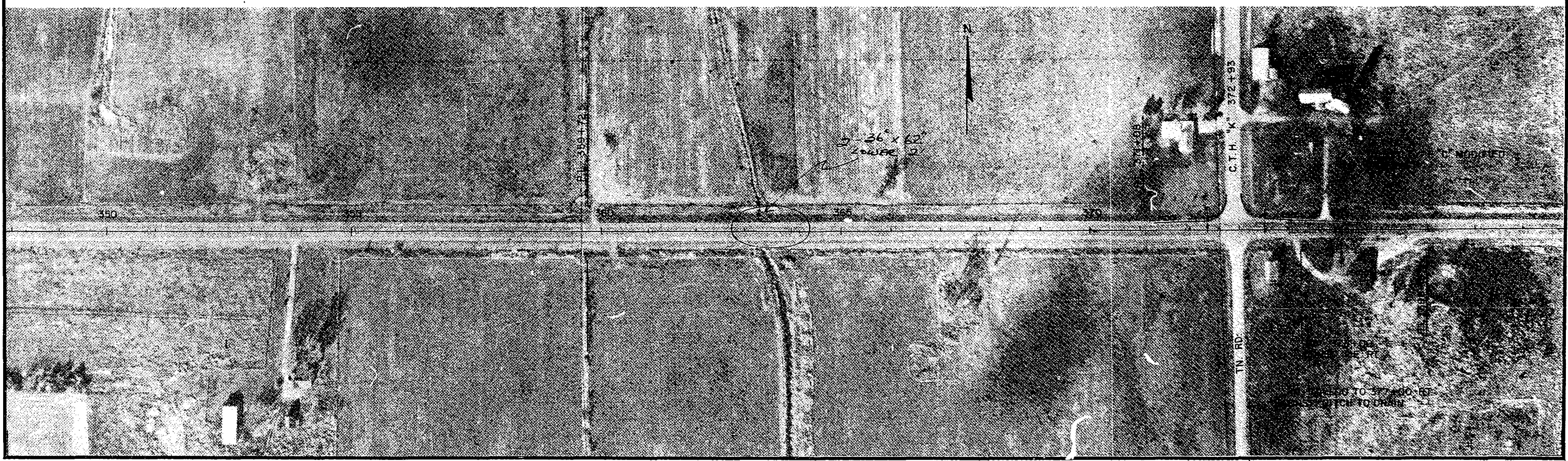
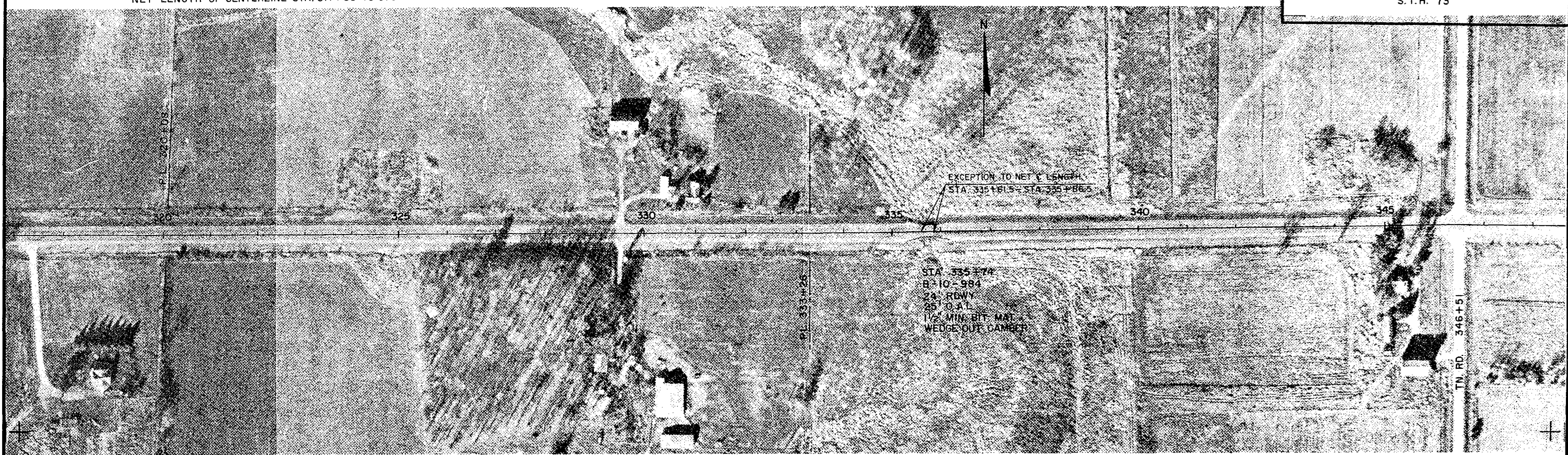
5,4

PLAN FOR
S.T.H. 73



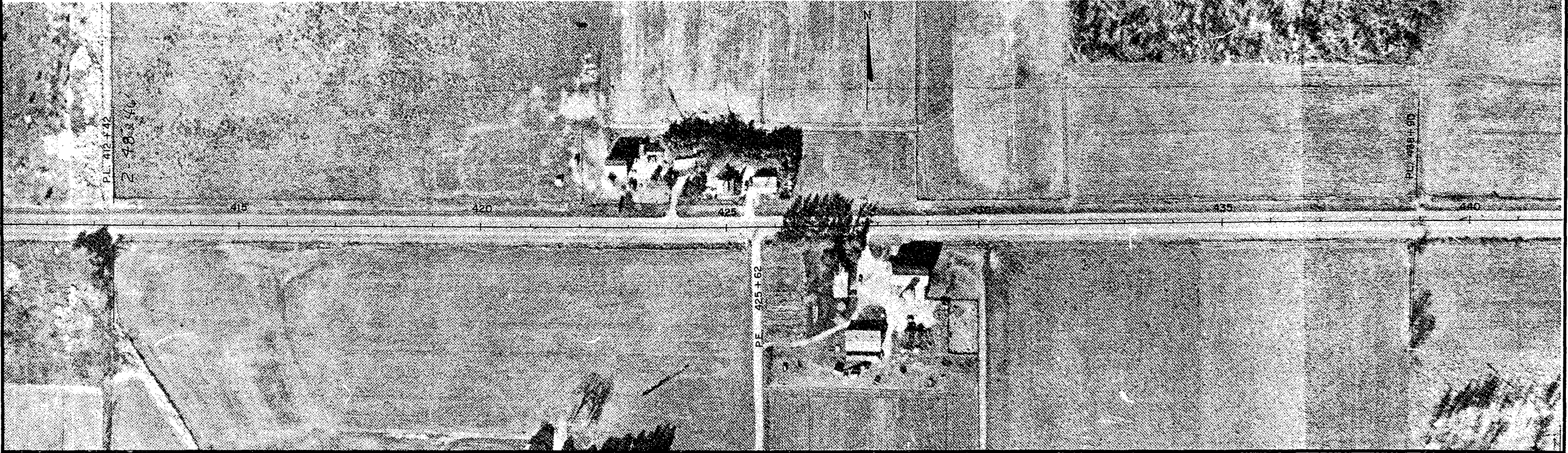
STATE PROJECT NUMBER	SHEET NO.
1521-3-71	5.5
PLAN FOR S.T.H. 73	

NET LENGTH OF CENTERLINE STA. 317+00 TO 379+00 = 6175 LIN. FT.



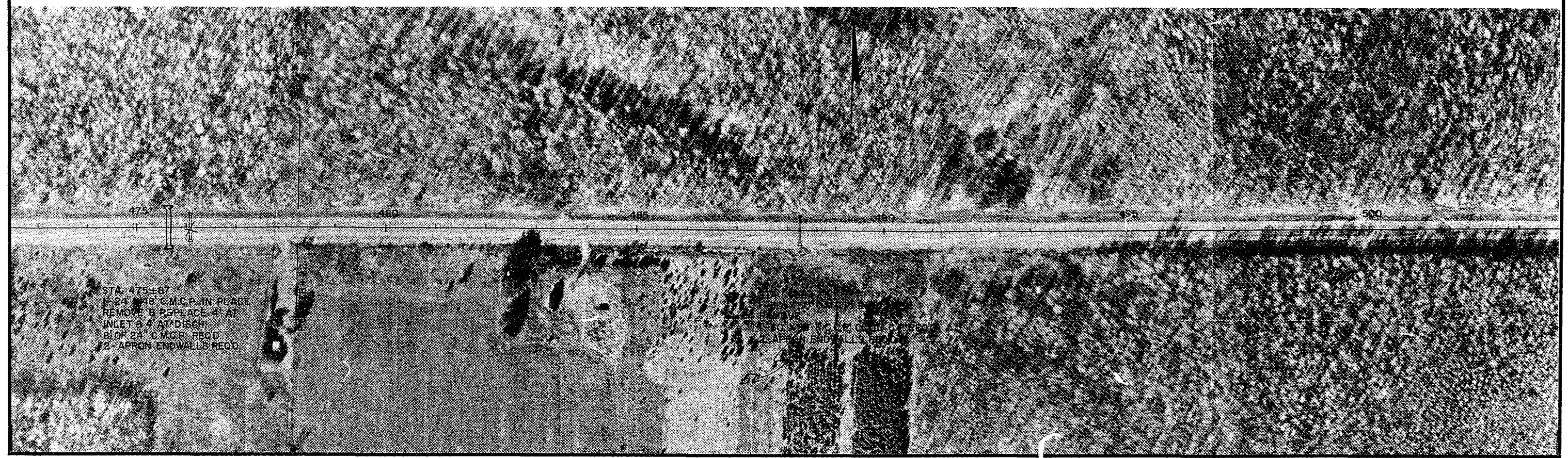
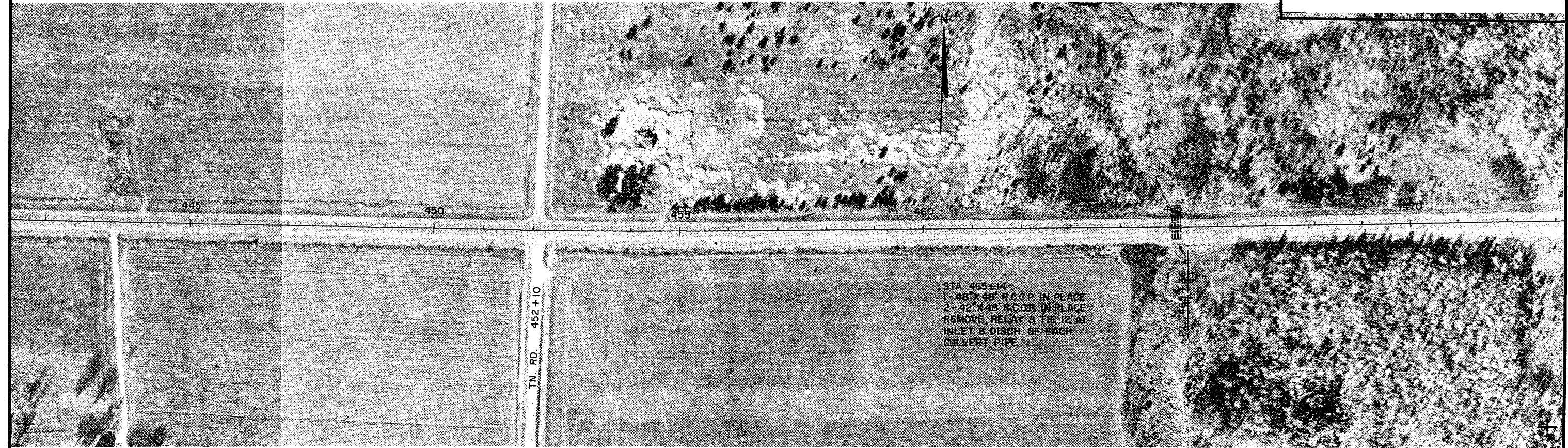
NET LENGTH OF CENTERLINE STA. 379+00 TO 442+00 = 6300 LIN. FT.

STATE PROJECT NUMBER	SHEET NO.
1521-3-71	5.6
PLAN FOR S.T.H. 73	



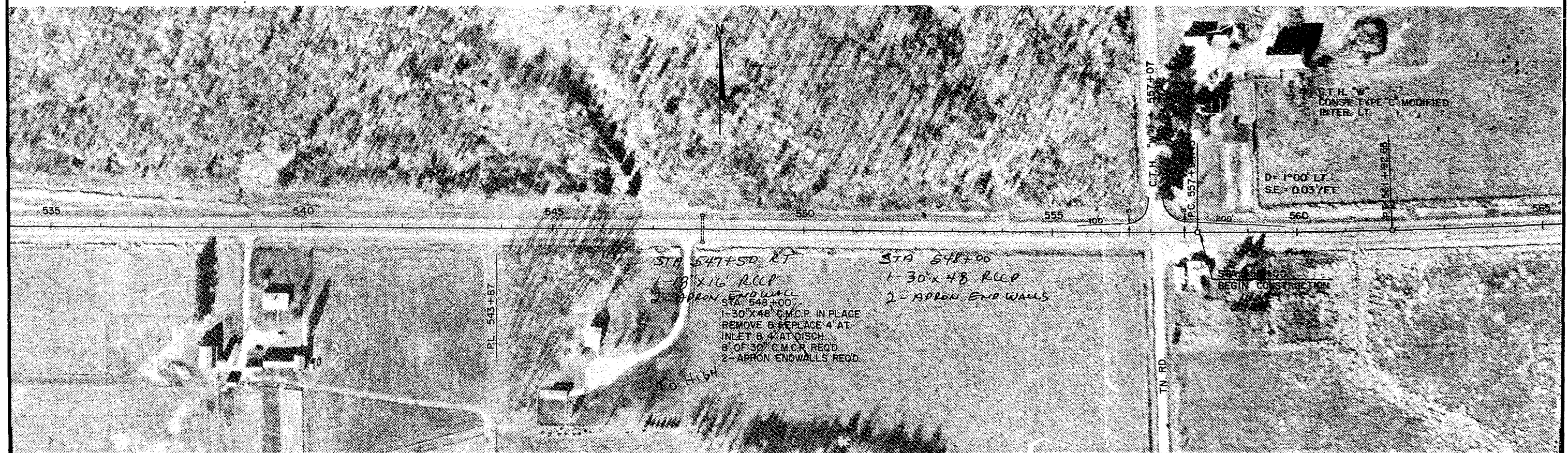
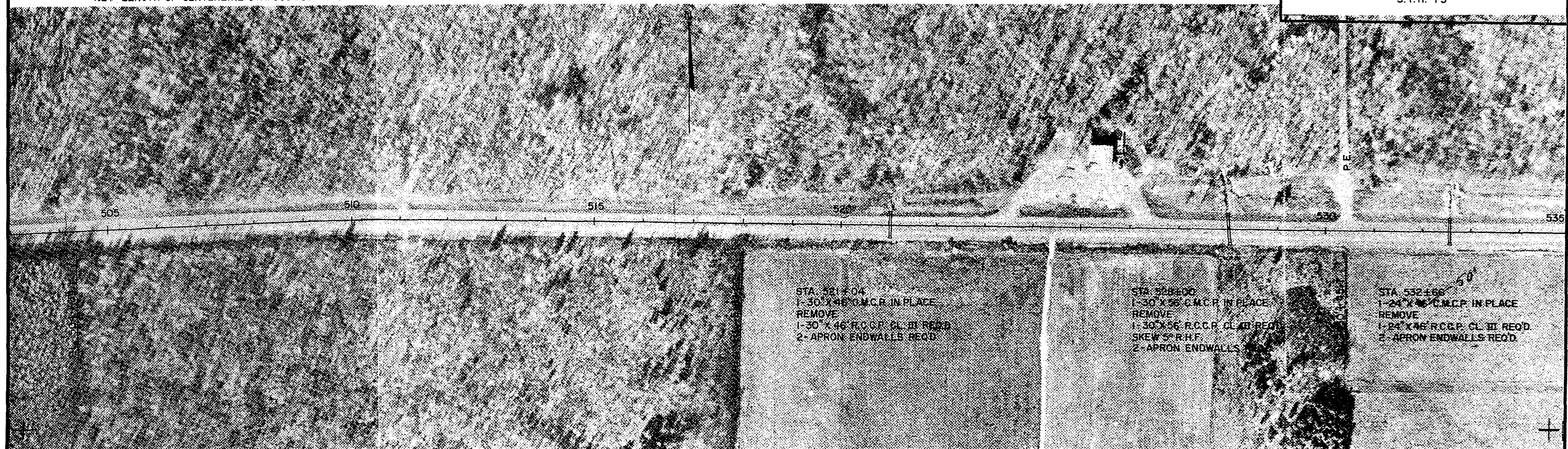
STATE PROJECT NUMBER	SHEET NO.
1521-3-71	5.7
PLAN FOR S.T.H. 73	

NET LENGTH OF CENTERLINE STA. 442+00 TO 503+00 = 6100 LIN. FT.



NET LENGTH OF CENTERLINE STA. 503+00 TO 565+00 = 6200 LIN. FT.

PLAN FOR
S.T.H. 73



P.O.T. STA. 570+61

N

STATE PROJECT NUMBER

SHEET NO.

1521-03-71

5.9

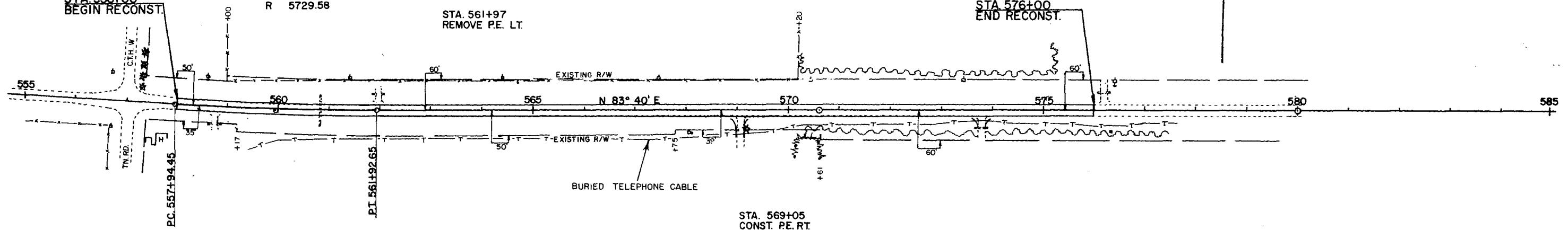
P.O.T. STA. 580+00

PI. 559+93.2
Δ 3° 59'
D 1° 0'
T 199.25
L 398.2
R 5729.58

STA. 558+00
BEGIN RECONST.

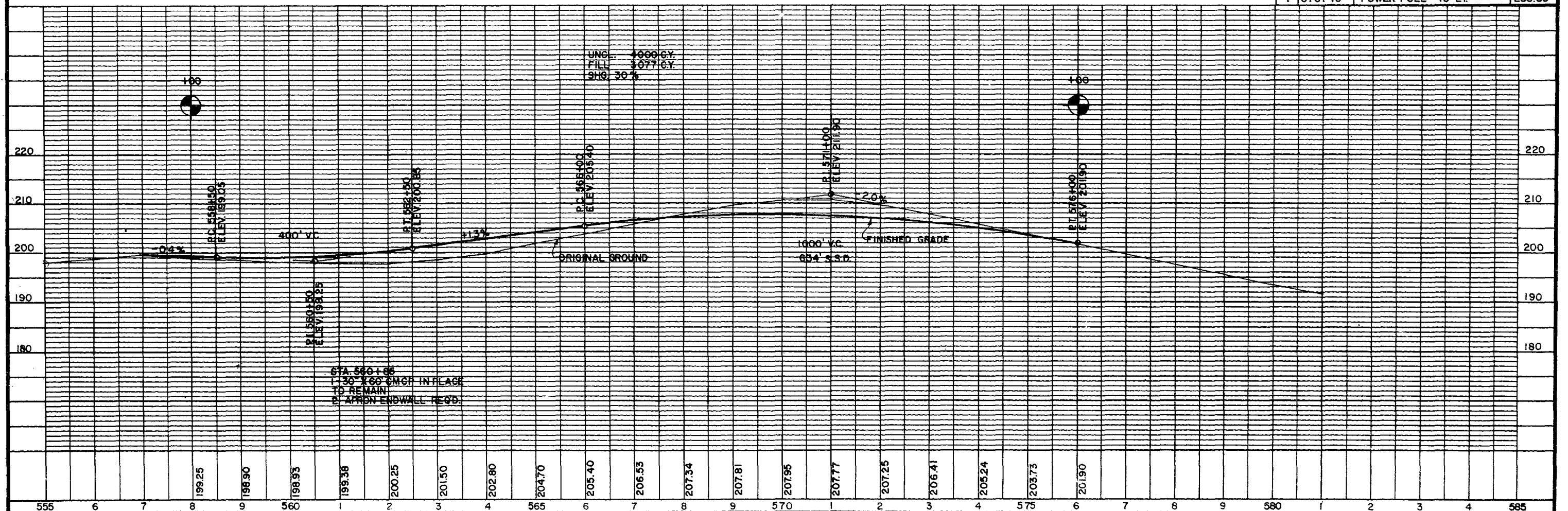
STA. 561+97
REMOVE P.E. LT.

STA. 576+00
END RECONST.



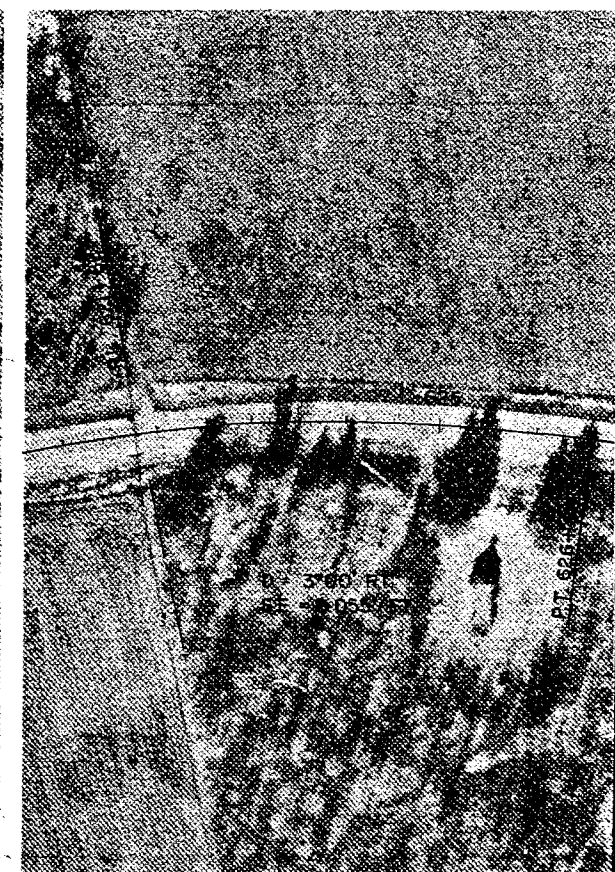
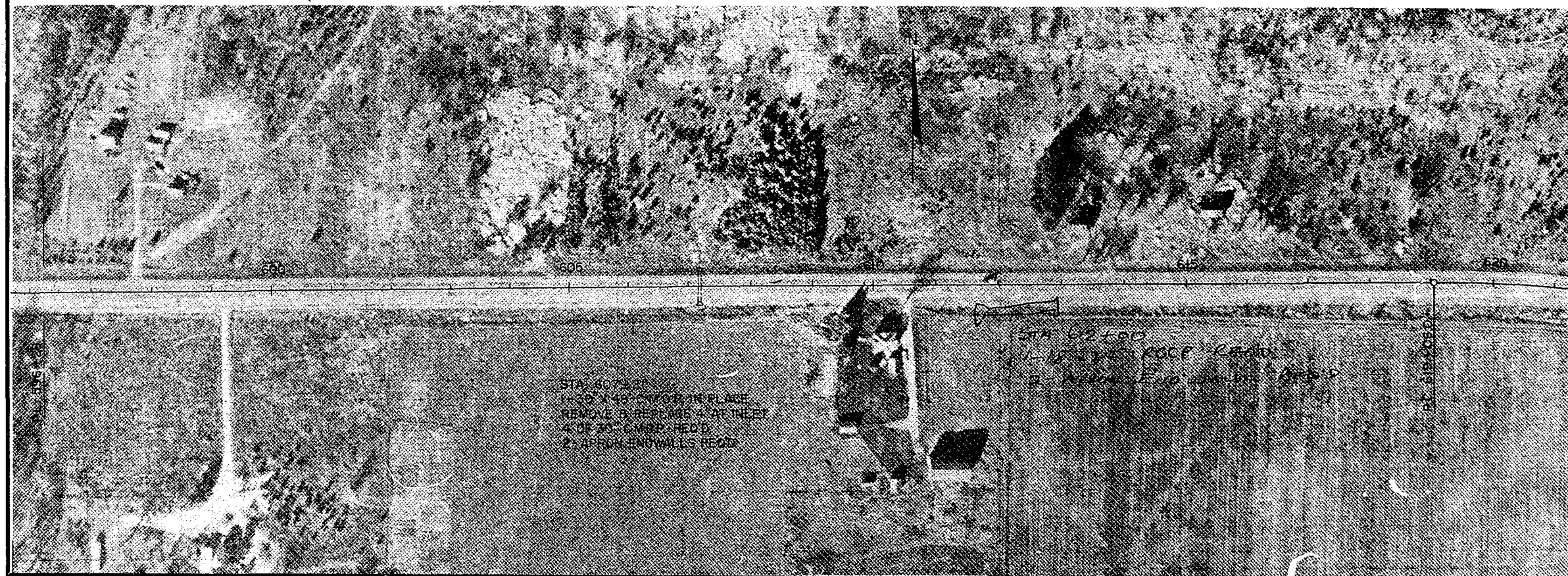
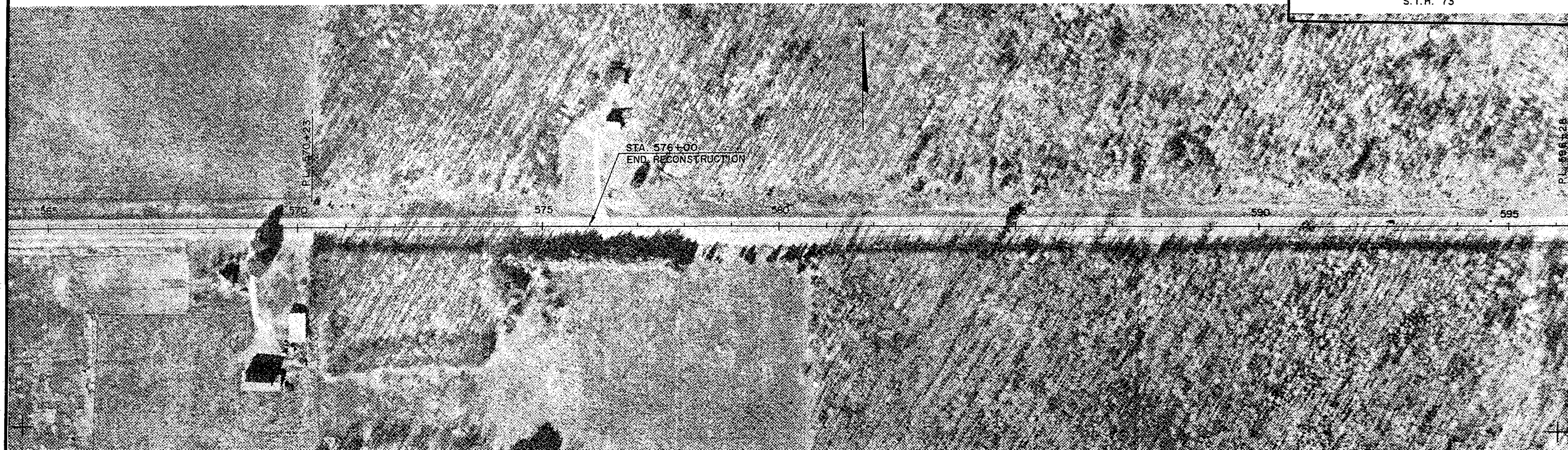
BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
3	556+71	POWER POLE 54' LT.	200.00
4	576+43	POWER POLE 43' LT.	200.06



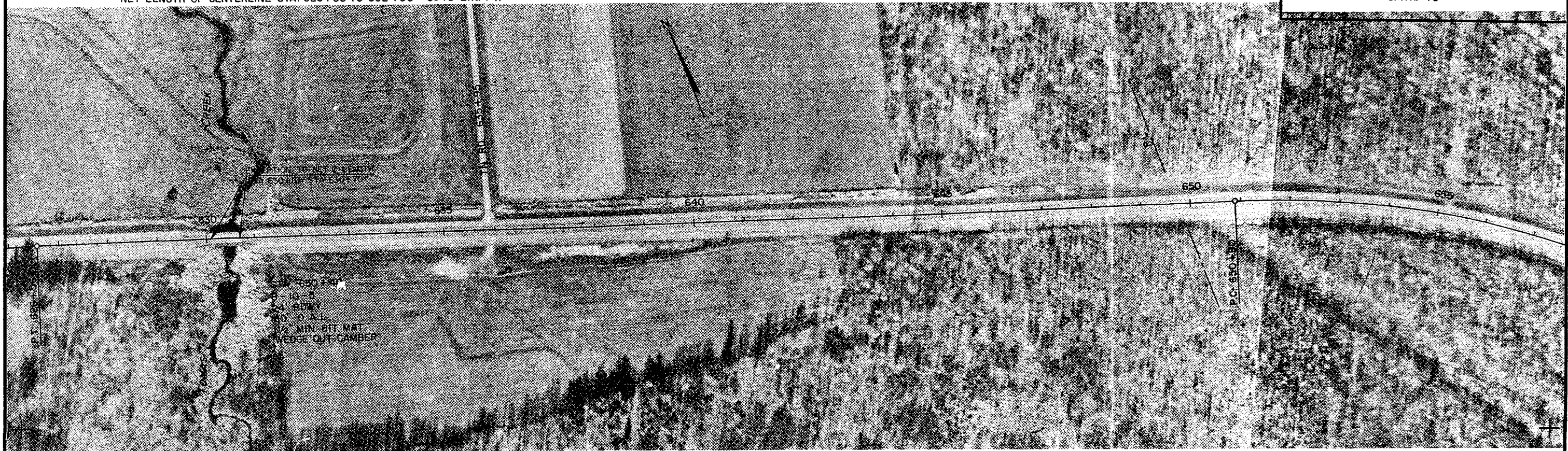
NET LENGTH OF CENTERLINE STA. 565+00 TO 626+00 = 6100 LIN. FT.

STATE PROJECT NUMBER	SHEET NO.
1521-3-71	5.10
PLAN FOR S.T.H. 73	



STATE PROJECT NUMBER	SHEET NO.
1521-3-71	5.11
PLAN FOR S.T.H. 73	

NET LENGTH OF CENTERLINE STA. 626+00 TO 682+00 = 5540 LIN. FT.



STATE PROJECT NUMBER	SHEET NO.
1521-3-71	5.12
PLAN FOR S.T.H. 73	

NET LENGTH OF CENTERLINE STA. 682+00 TO 742+00 = 5930 LIN. FT.

2

CREEK

EXCEPTION TO NET C LENGTH
STA 697+80 - STA 698+50

685

690

695

700

705

710

STA 698+15
B-10-6
24' RDWY.
70' O.A.L.
1 1/2" MIN. B.I.
MAT WEDGE
OUT CAMBER

TOMAS

P.L.

TN RD 724+96

D = 4°30' LT
SE = 0.067/FT

715

720

725

730

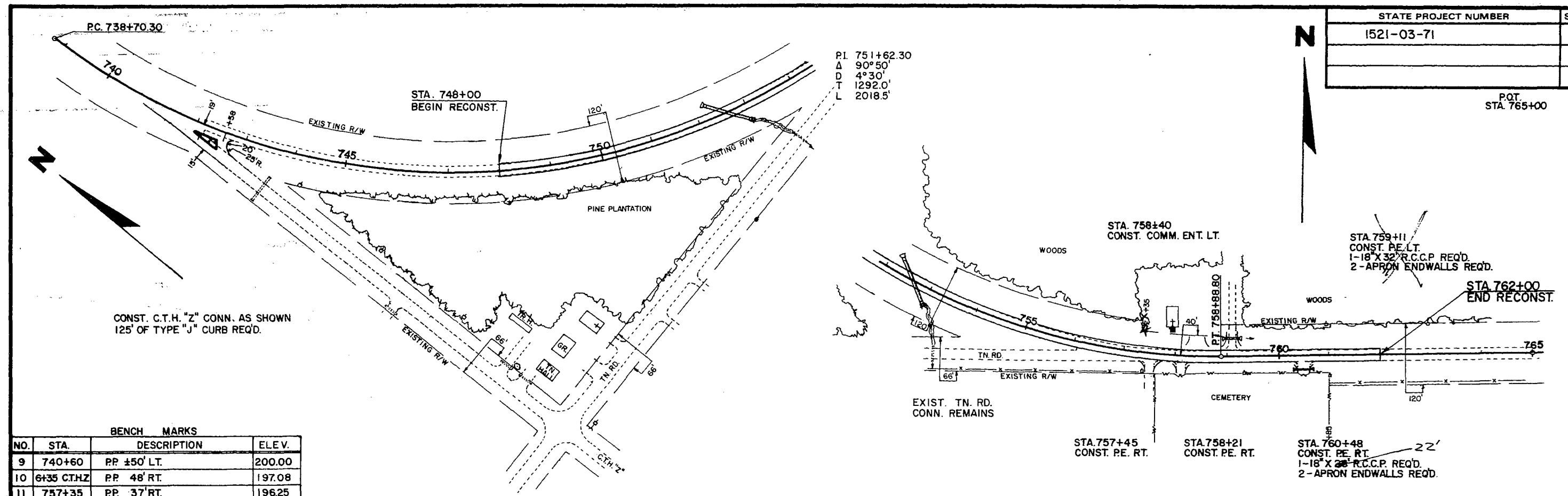
735

740

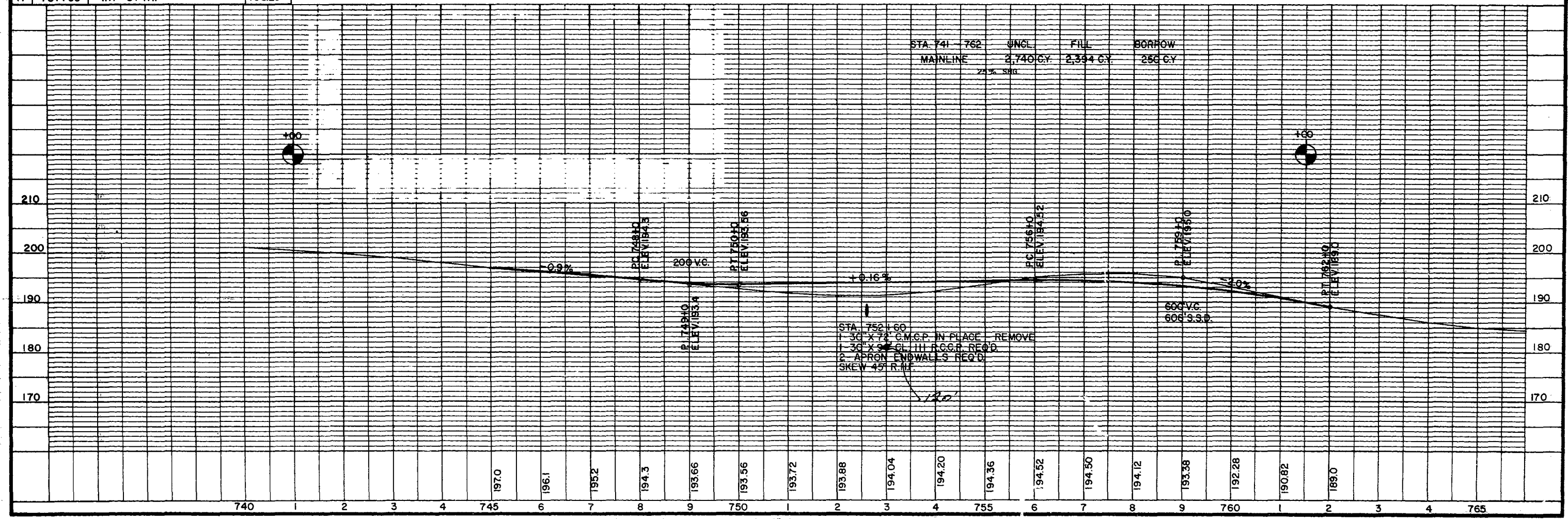
C.T.H. "Z"

PL 739+16

STATE PROJECT NUMBER	SHEET NO.
1521-03-71	5.13

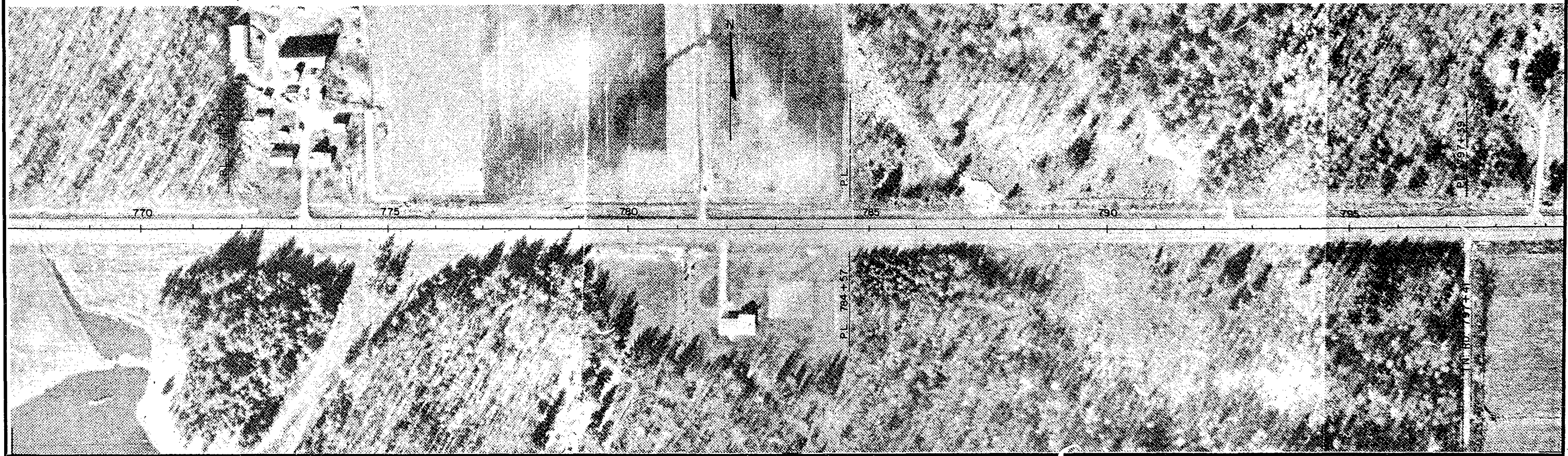
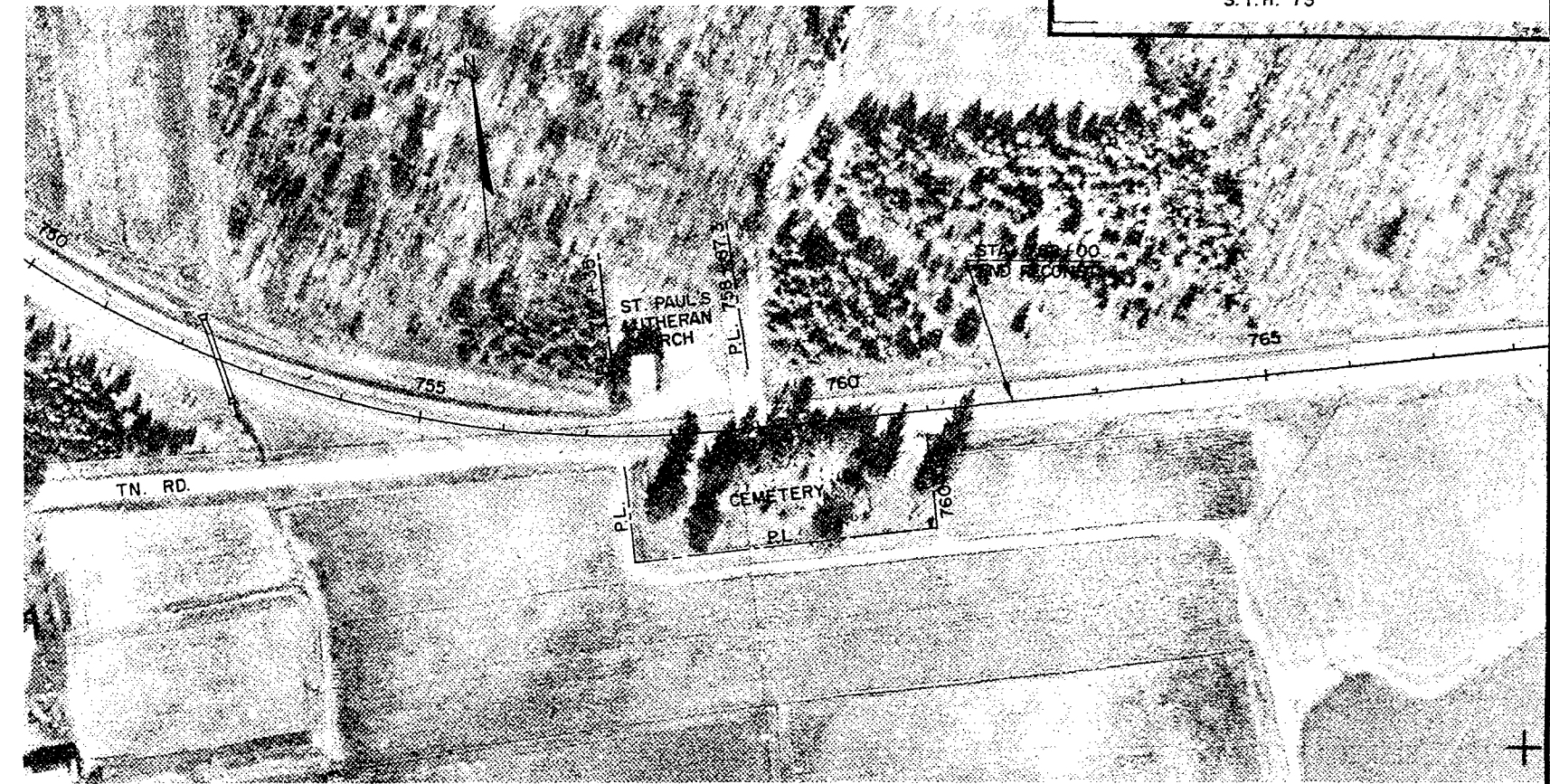
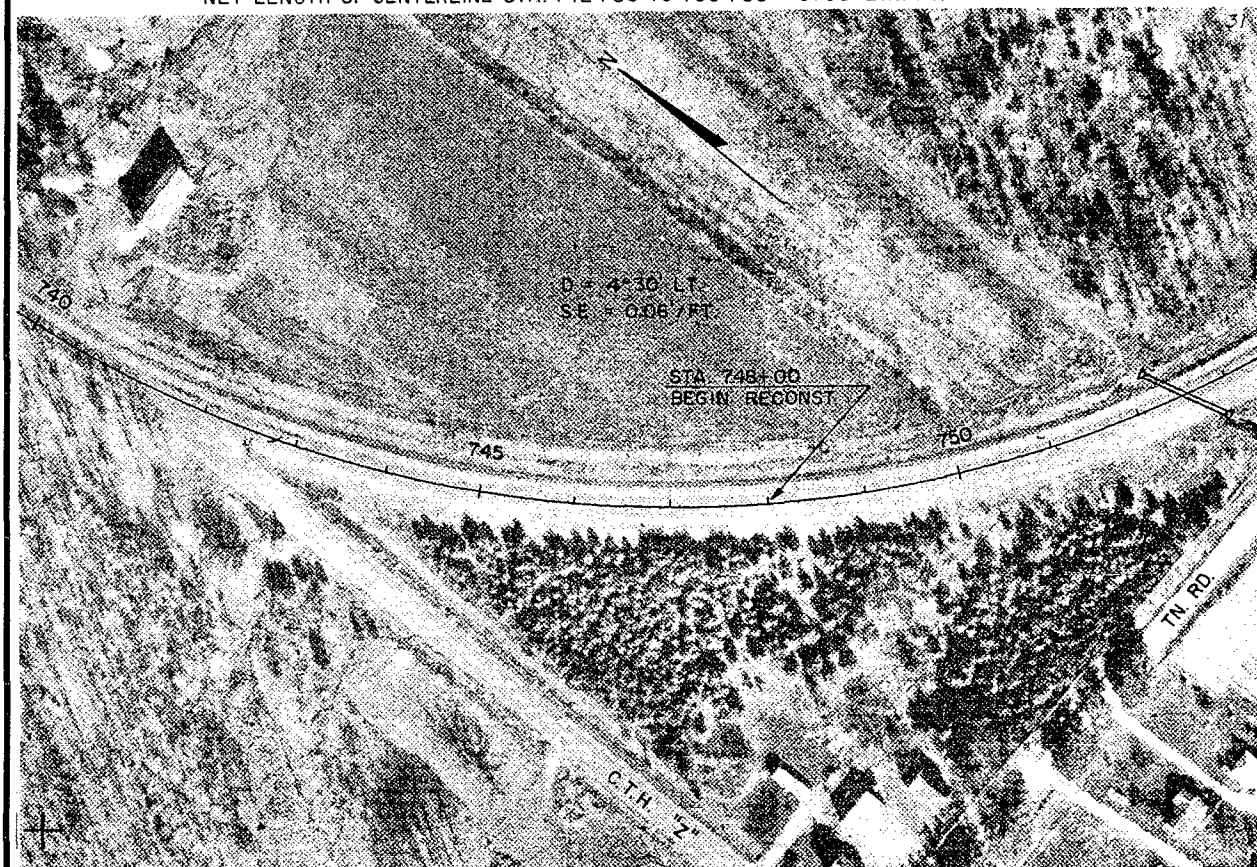


BENCH MARKS			
NO.	STA.	DESCRIPTION	ELEV.
9	740+60	PP ±50' LT.	200.00
10	6+35 CTHZ	PP 48' RT.	197.08
11	757+35	PP 37' RT.	196.25



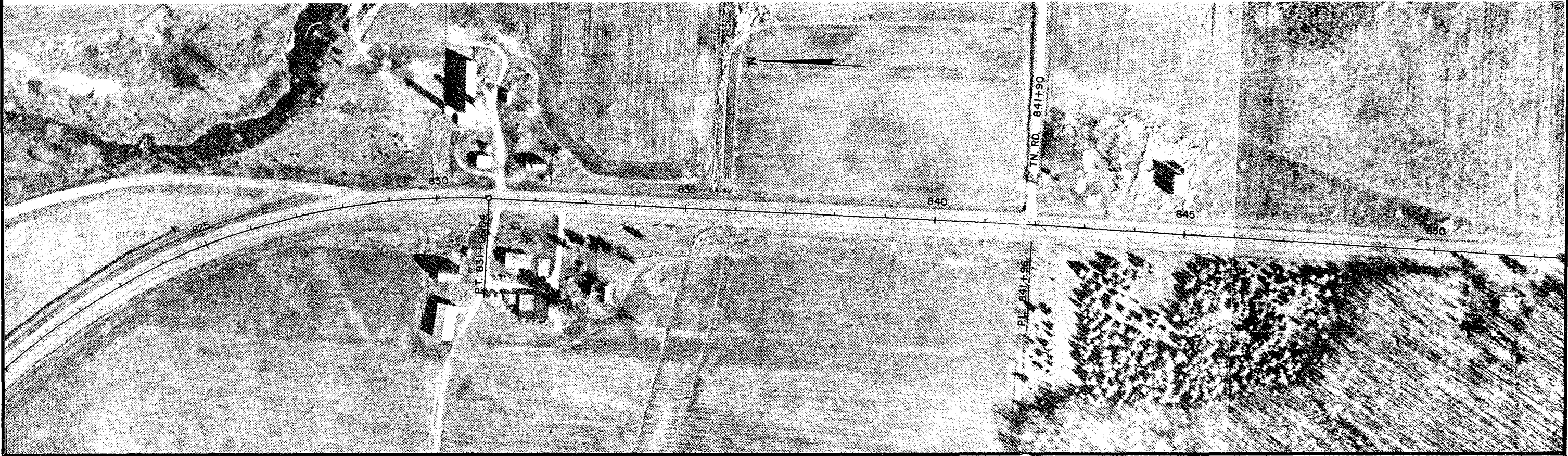
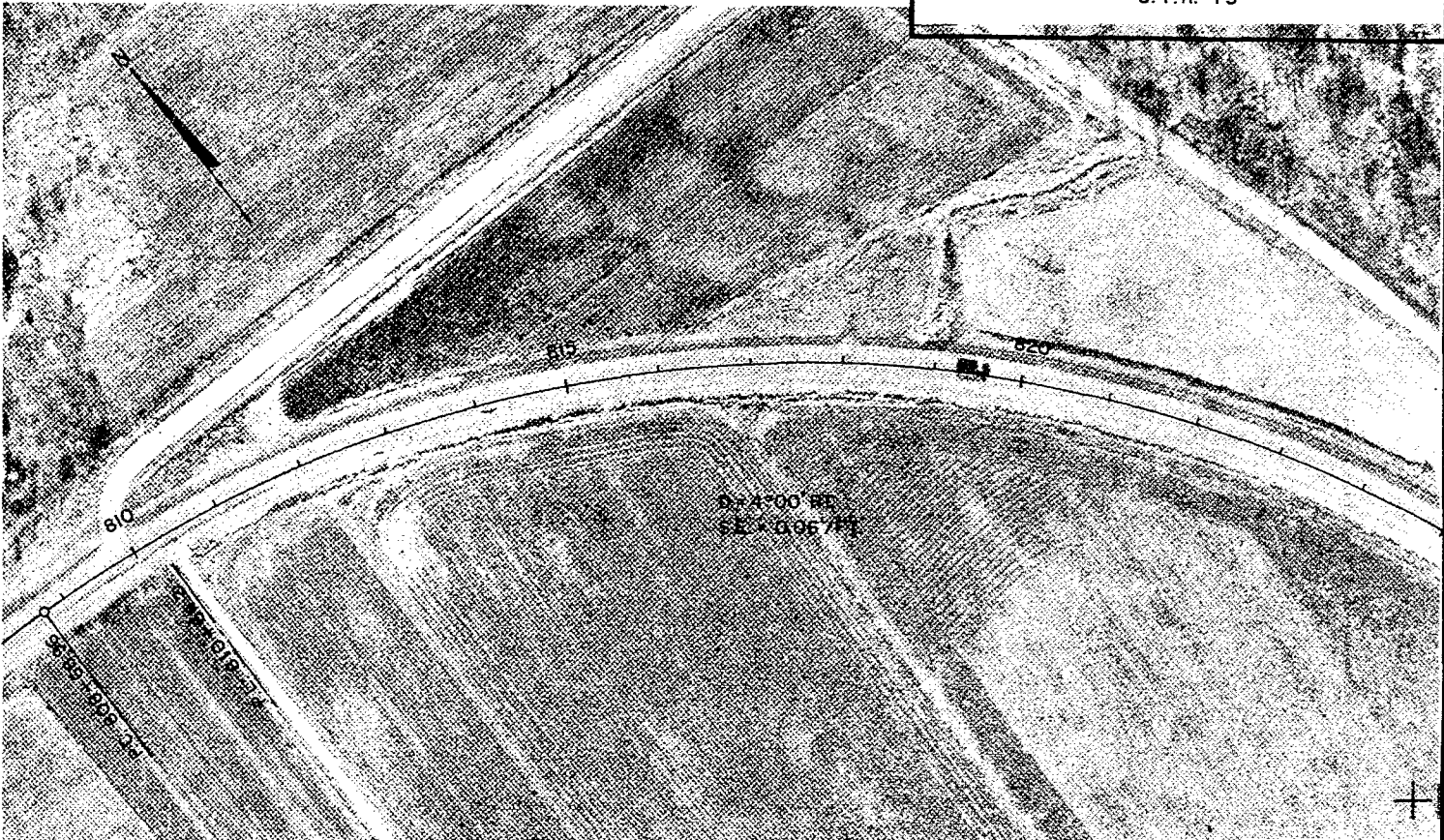
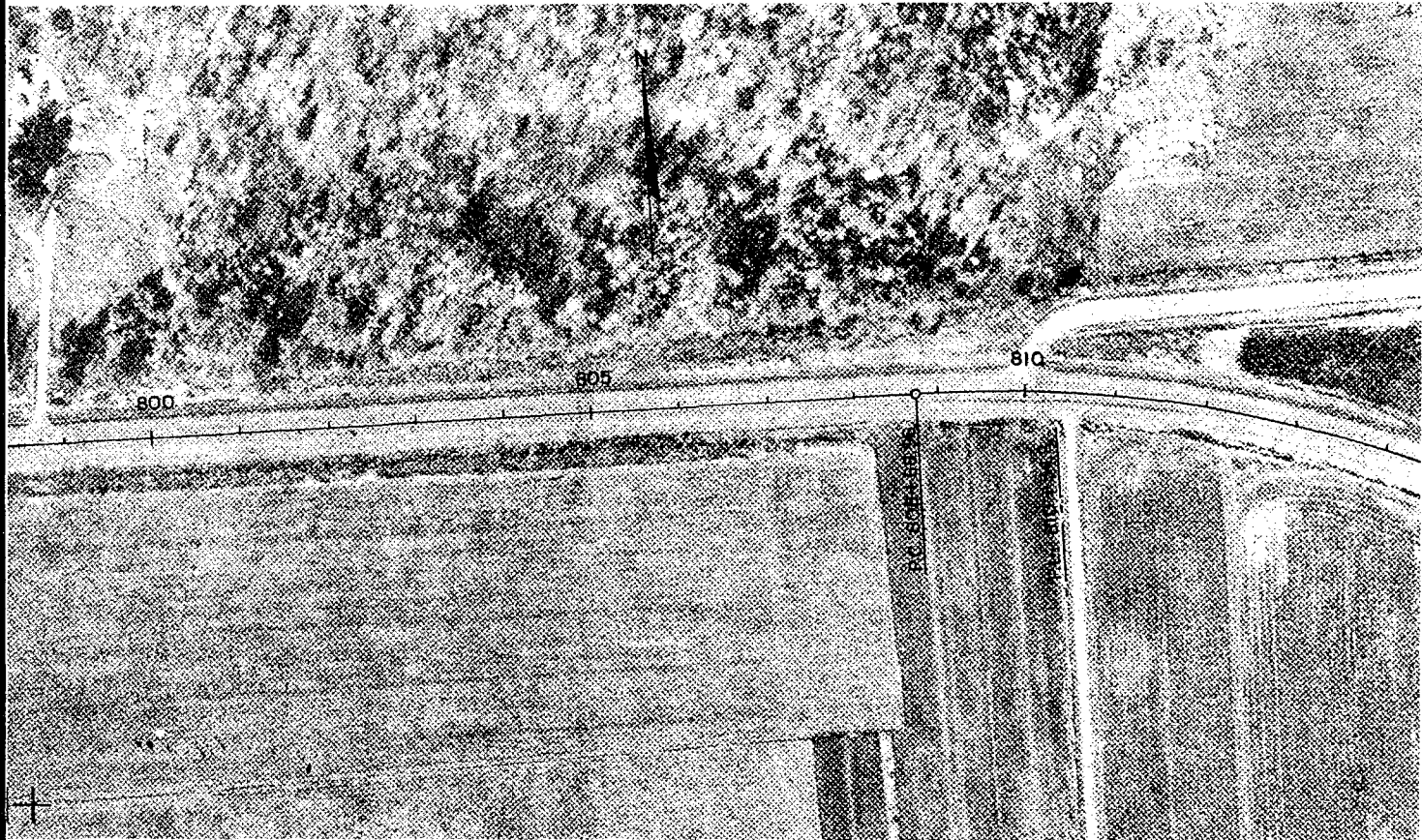
PLAN FOR
S.T.H. 73

NET LENGTH OF CENTERLINE STA. 742+00 TO 799+00 = 5700 LIN. FT.



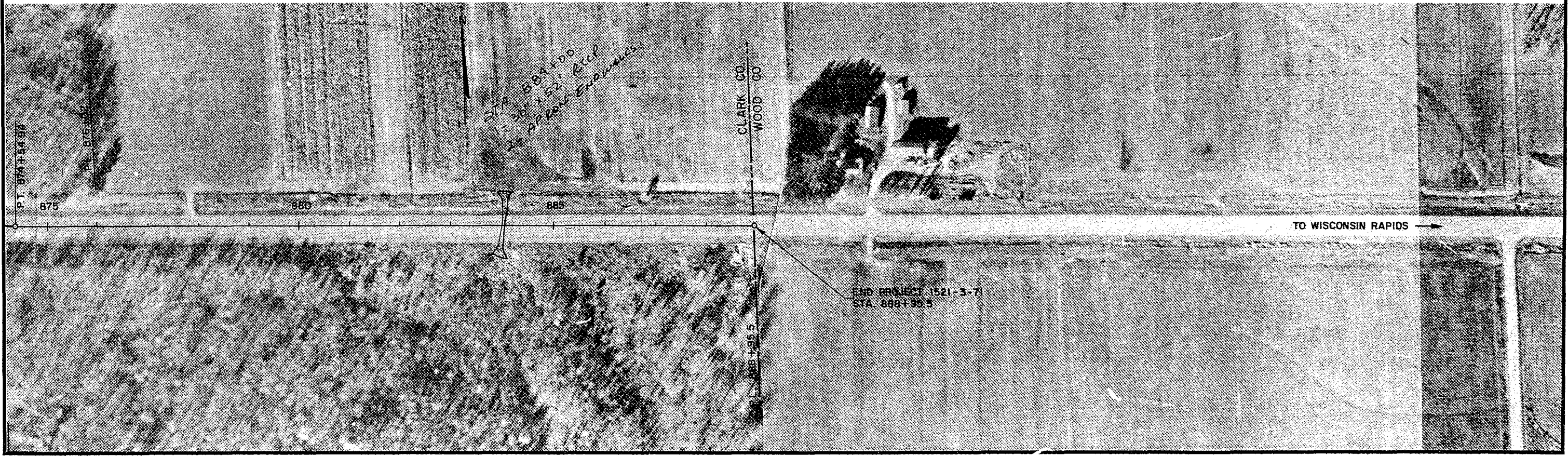
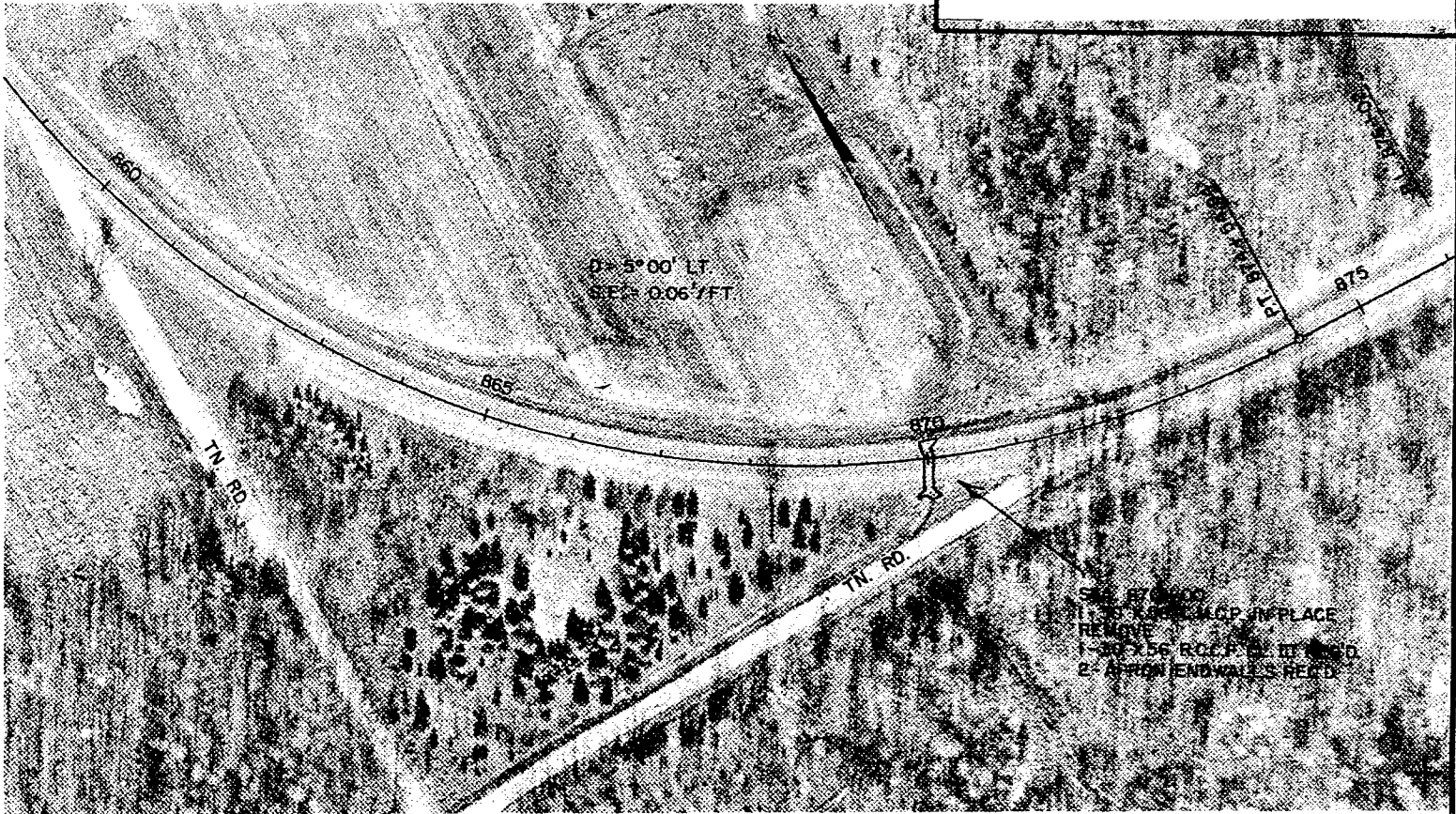
STATE PROJECT NUMBER	SHEET NO.
1521-3-71	5.15
PLAN FOR S.T.H. 73	

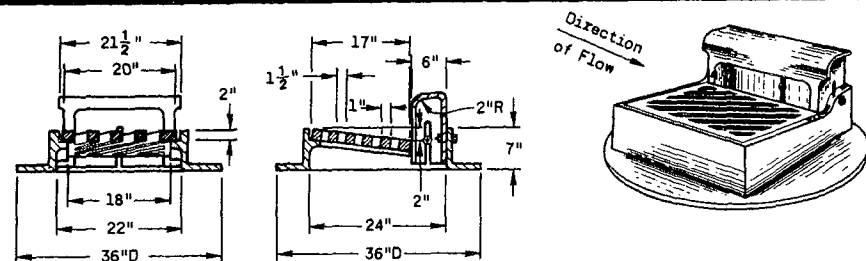
NET LENGTH OF CENTERLINE STA. 799+00 TO 852+00 = 5300 LIN. FT.



STATE PROJECT NUMBER	SHEET NO.
1521-3-71	5.16
PLAN FOR S.T.H. 73	

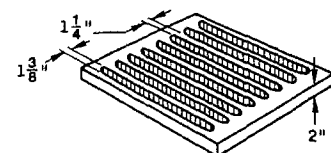
NET LENGTH OF CENTERLINE STA. 852+00 TO 888+95.5 = 3695.5 LIN. FT.



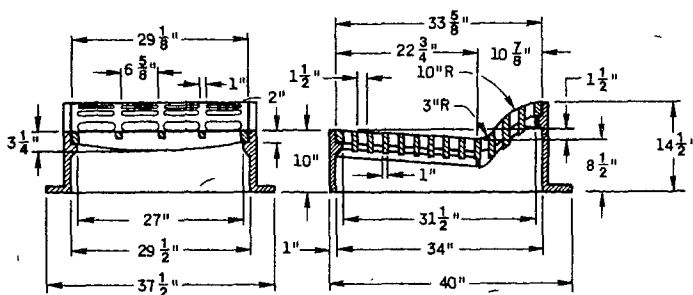


TYPE "A"

(Approximate Weight 405 lbs.)
Frame Weight 250 lbs.
Grate Weight 85 lbs.
Box Weight 70 lbs.

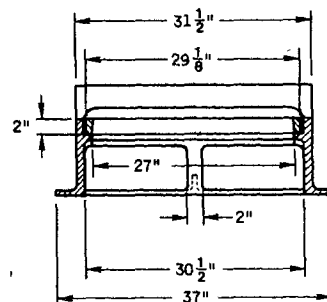
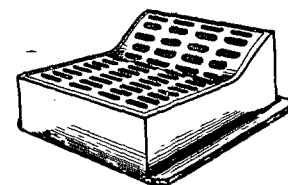


ALTERNATE TYPE GRATE *
(Longitudinal Slots)
Approximate Weight 100 lbs.



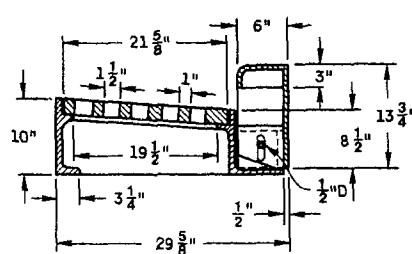
TYPE "F"

(Approximate Weight 850 lbs.)
Frame 515 lbs.
Back grate 160 lbs.
Front grate 175 lbs.



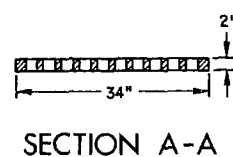
TYPE "WM"

(Approximate Weight 670 lbs.)
Frame Weight 350 lbs.
Grate Weight 185 lbs.
Box Weight 135 lbs.

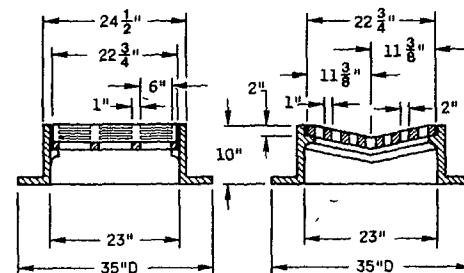


TYPE "MS" *

(Approximate Grate Weight 285 lbs.)

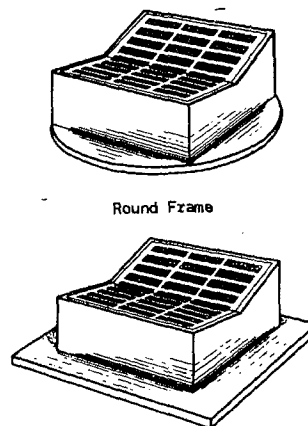


SECTION A-A

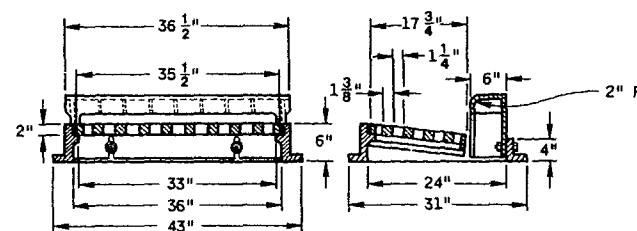


TYPE "B"

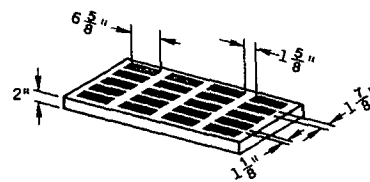
(Approximate Weight 395 lbs.)
Frame Weight 285 lbs.
Grate Weight 110 lbs.



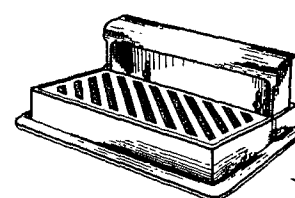
Alternate Frame
(Square type)
35" Square



NOTE: Curb Box height adjustable 6" to 9"



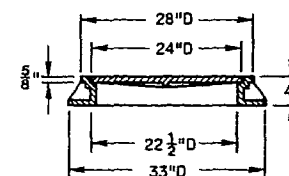
ALTERNATE TYPE GRATE
(Longitudinal Slots)
Approximate Weight 200 lbs.



Direction
of Flow

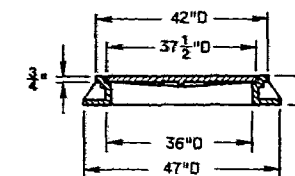
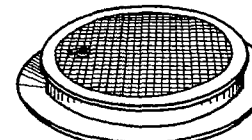
TYPE "H"

(Approximate Weight 510 lbs.)
Frame Weight 220 lbs.
Grate Weight 175 lbs.
Box Weight 115 lbs.



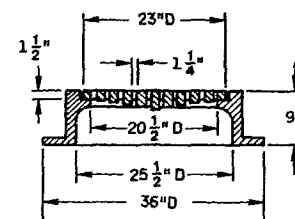
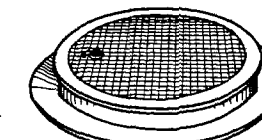
TYPE "L"

(Approximate Weight 220 lbs.)



TYPE "M"

(Approximate Weight 535 lbs.)



TYPE "C"

Slotted Grate *



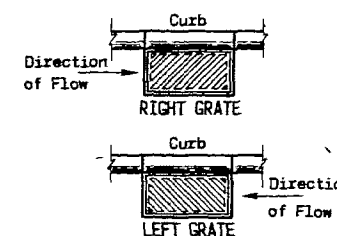
TYPE "J"

Solid Cover

TYPE "C" - TYPE "J"

Frame Weight 250 lbs.
Slotted Grate Weight 125 lbs.
Solid Cover Weight 150 lbs.

Diagonal Slots shall be oriented to the direction of flow as shown hereon. Hence RIGHT and LEFT Grates shall be furnished depending on direction of flow. (See Sketch Below)



* CAUTION: DO NOT USE GRATES WITH LONGITUDINAL SLOTS WHERE BICYCLE TRAFFIC IS PERMITTED.

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Detail drawings for proposed alternate designs for Catch Basin, Manhole and Inlet Covers shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

All Catch Basin, Manhole and Inlet Covers which are placed in vehicular traffic areas shall be "Non-Rocking" type.

Adjustment of the cover to grade may be accomplished by the use of mortar and brick, or by Precast Concrete Grade Rings (AASHTO Designation M-199). Maximum adjustment shall be 8 inches.

Curb box height to be adjusted 4 to 9 inches, unless otherwise noted, after the form is in place.

The actual weight of covers may vary within 5 percent, plus or minus, of the approximate weight.

CATCH BASIN MANHOLE AND INLET COVERS

State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL

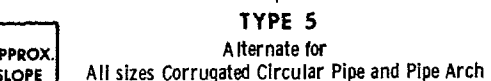
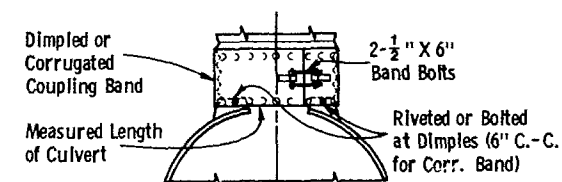
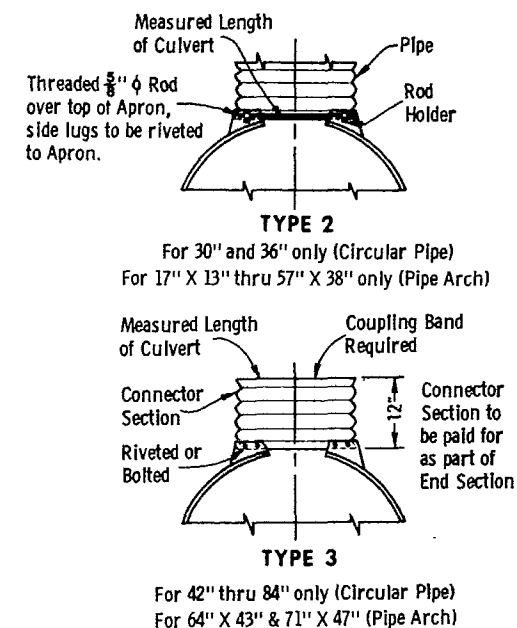
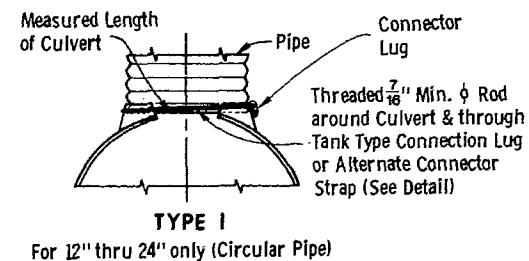
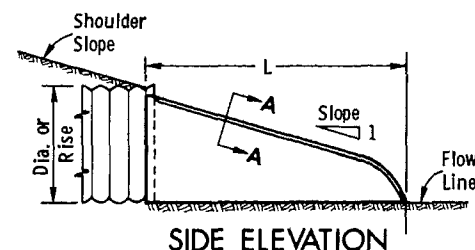
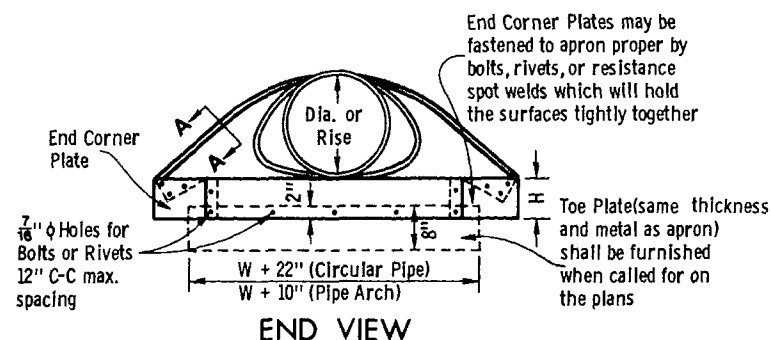
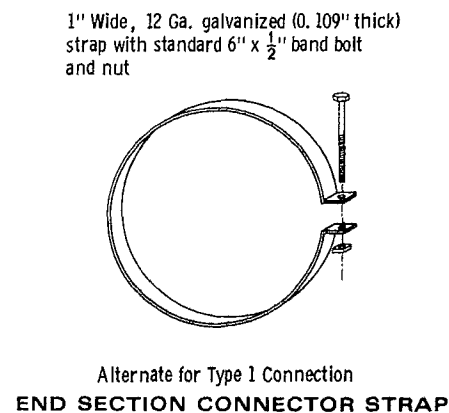
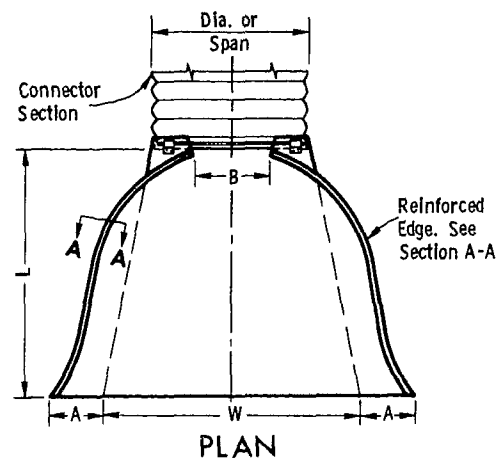
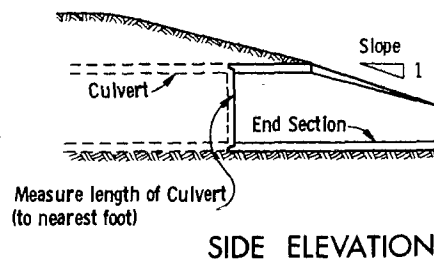
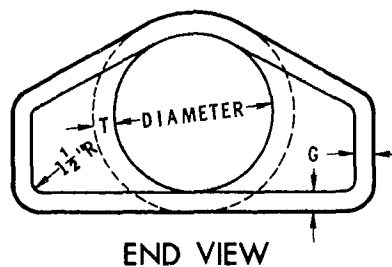
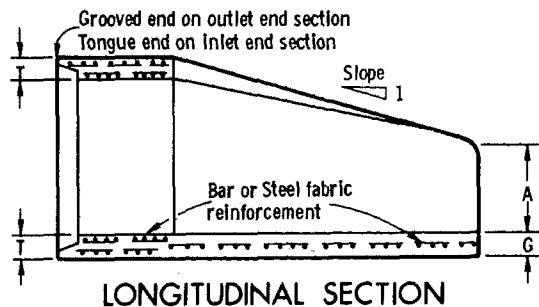
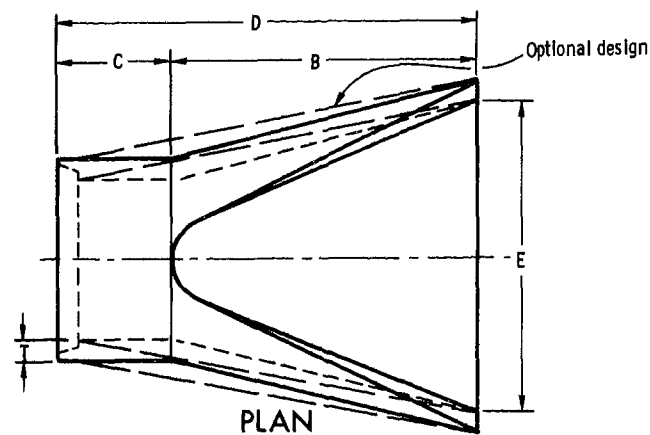
12-3-75
DATE

APPROVED

12-9-75
DATE

J. C. McManis
CHIEF OF FACILITIES DEVELOPMENT

H. J. Sinden
STATE HIGHWAY ENGINEER



NOTE: Dimpled Band fits over Outside of Endwall, and Corr. Band fits Inside Endwall. Dimpled Band may be used with Helically Corrugated Pipe

CONNECTION DETAILS

CIRCULAR PIPE

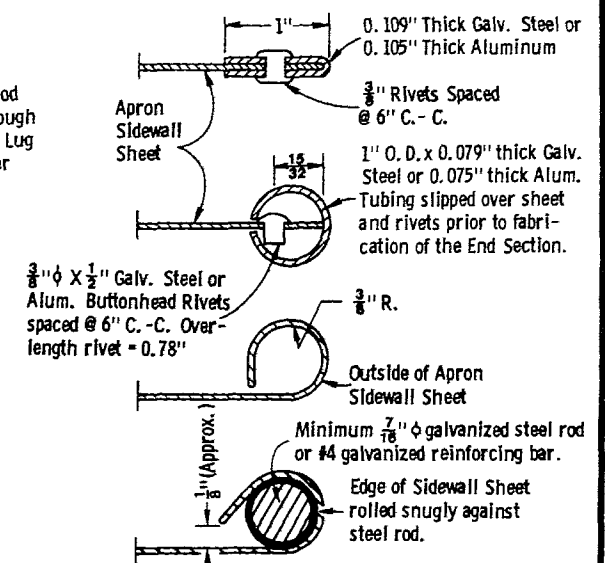
For Circumferentially Corrugated Pipe use Endwall Connection Details 1, 2, 3, or 5 as applicable.

For Helically Corrugated Pipe use Endwall Connection Details 1, 2 or 5.

For Helically Corrugated Pipes with two Circumferential Corrugations at each end use Endwall Connection Details 1, 2, or 3

PIPE ARCH

Use Endwall Connection Details 2, 3, or 5 as applicable.



GENERAL NOTES

Details of construction, materials, and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Variations of the dimensions and designs shown hereon will be permitted providing equivalent capacity and structural integrity are attained, and prior approval of the Engineer is obtained.

Concrete culvert endwalls may not be used with galvanized steel or aluminum culvert pipe or vice versa.

Galvanized steel or aluminum endwalls shall normally be installed on culvert pipe of the same metal. The use of galvanized steel endwalls on aluminum pipes is permitted, provided the two metals at the joint interface are kept separated by a suitable insulating material approximately 1/8" thick or greater. Such material would be an asphalt impregnated fabric, a sheet plastic, a rubber gasket or other nondegradable material of substantial strength.

When two or more pipe arches with apron endwalls are to be laid adjacent to each other, they shall be separated by the following amount.

Pipes: Total width of apron endwall less the diameter of pipe plus 6 inches.

Pipe Arches: Total width of apron endwall less the span dimension of the pipe arch plus 6 inches.

DIA.	APPROX. WEIGHT/SECTION	T	A	B	C	D	E	G	APPROX. SLOPE
12"	530	2"	4"	24"	48 7/8"	72 7/8"	24"	2"	3 to 1
15"	740	2 1/4"	6"	27"	46"	73"	30"	2 1/4"	
18"	990	2 1/2"	9"	27"	46"	73"	36"	2 1/2"	
21"	1,280	2 3/4"	9"	36"	37 1/2"	73 1/2"	42"	2 3/4"	
24"	1,520	3"	9 1/2"	43 1/2"	30"	73 1/2"	48"	3"	
27"	1,930	3 1/4"	10 1/2"	49 1/2"	24"	73 1/2"	54"	3 1/4"	
30"	2,190	3 1/2"	12"	54"	19 3/4"	73 3/4"	60"	3 1/2"	
36"	4,100	4"	15"	63"	34 3/4"	97 3/4"	72"	4"	
42"	5,380	4 1/2"	21"	63"	35"	98"	78"	4 1/2"	
48"	6,550	5"	24"	72"	26"	98"	84"	5"	3 to 1
54"	8,040	5 1/2"	27"	65"	33 1/2" - 35"	98 1/2" - 100"	90"	5"	2 2/5 to 1
60"	8,730	6"	30"	60"	39"	99"	96"	5"	2 to 1
66"	10,630	6 1/2"	34"	72"	72" - 78"	102"	102"	5 1/2"	
72"	12,520	7"	36"	78"	21"	108"	108"	6"	
78"	14,430	7 1/2"	36"	78"	21"	114"	114"	6 1/2"	2 to 1
84"	18,160	8"	36"	90 1/2"	21"	111 1/2"	120"	6 1/2"	1 1/2 to 1

** Minimum
* Maximum

REINFORCED CONCRETE APRON ENDWALLS

D PIPE DIAM.	MIN. METAL THICKNESS	MIN. ALUM. THICKNESS	DIMENSIONS					APPROX. SLOPE
			A $\pm 1"$	B MAX.	H $\pm 1"$	L $\pm 1 1/2"$	W $\pm 2"$	
12"	0.064	0.060	6"	6"	6"	21"	24"	2 1/2 to 1
15"			7"	8"		26"	30"	
18"			8"	10"		31"	36"	
21"		0.060	9"	12"		36"	42"	
24"	0.064	0.075	10"	13"	6"	41"	48"	
30"	0.079	0.075	12"	16"	8"	51"	60"	
36"	0.079	0.105	14"	19"	9"	60"	72"	
42"	0.109		16"	22"	11"	69"	84"	2 1/2 to 1
48"			18"	27"	12"	78"	90"	2 1/4 to 1
54"		0.105	30"			84"	102"	2 to 1
60"		NA	33"			87"	114"	1 3/2 to 1
66"			36"			87"	120"	1 1/2 to 1
72"			39"			87"	126"	1 1/3 to 1
78"			42"			87"	132"	1 1/4 to 1
84"	0.109	NA	45"	12"		87"	138"	1 1/8 to 1

NOTE: All splices to be lap riveted or bolted

METAL OR ALUMINUM APRON ENDWALLS FOR CIRCULAR PIPES

PIPE — ARCH DIMENSIONS		MIN. METAL	DIMENSIONS					APPROX. SLOPE
SPAN	RISE	THICK.	A ± 1"	B MAX.	H ± 1"	L ± 1½"	W ± 2"	
17"	13"	0.064	7"	9"	6"	19"	30"	2½ to 1
21"	15"	↑	7"	10"	↑	23"	36"	↑
24"	18"	↓	8"	12"		28"	42"	
28"	20"	0.064	9"	14"	↓	32"	48"	
35"	24"	0.079	10"	16"	6"	39"	60"	
42"	29"	0.079	12"	18"	8"	46"	75"	
49"	33"	0.109	13"	21"	9"	53"	85"	↓
57"	38"	↑	18"	26"	12"	63"	90"	2½ to 1
64"	43"		18"	30"	12"	70"	102"	2¼ to 1
71"	47"		18"	33"	12"	77"	114"	2¼ to 1
77"	52"	↓	18"	36"	12"	77"	126"	2 to 1
83"	57"	0.109	18"	39"	12"	77"	138"	2 to 1

NOTE: All splices to be lap riveted or bolted

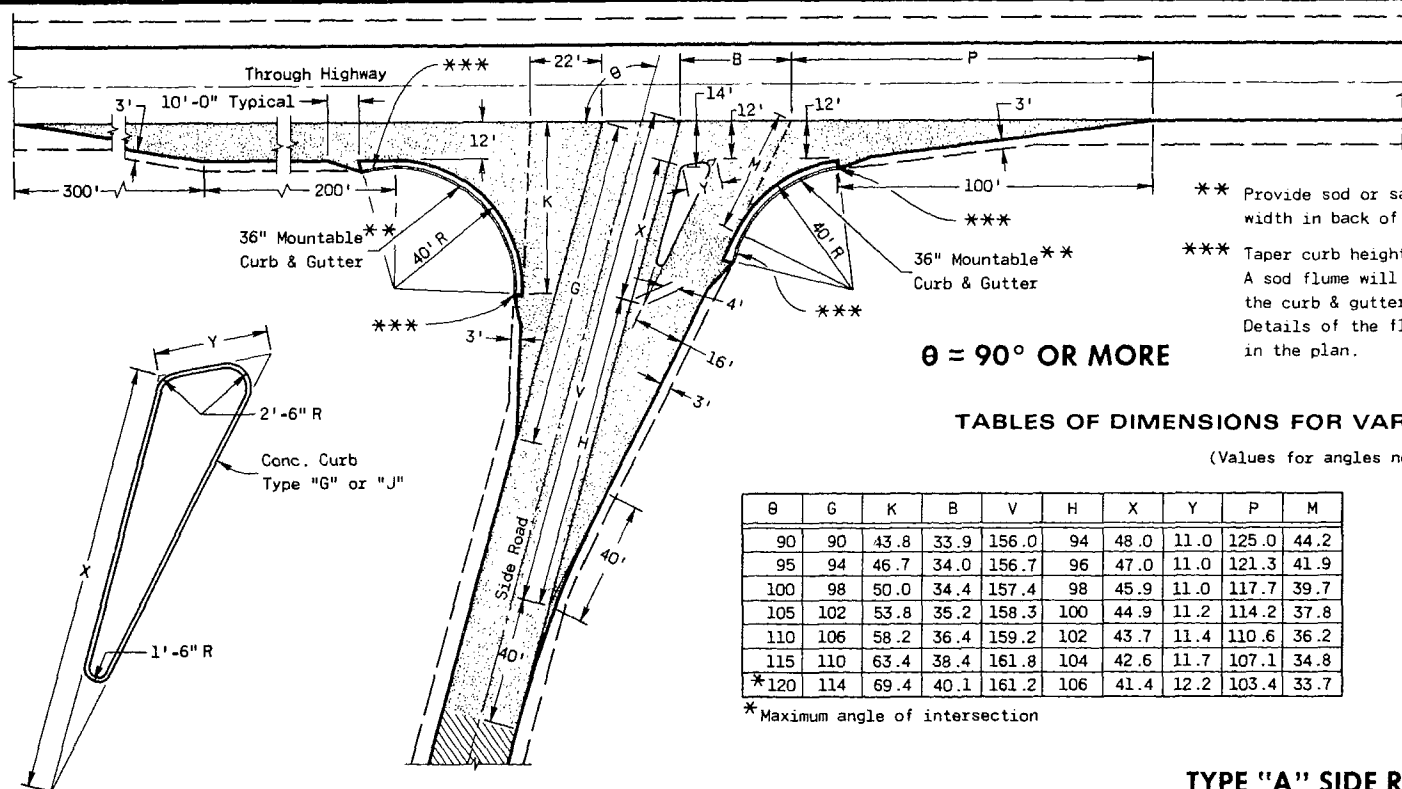
METAL APRON ENDWALLS FOR PIPE ARCHES

APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

State of Wisconsin
Department of Transportation
Division of Highways

APPROVED
3-9-77
DATE
APPROVED
3-9-77
DATE
FHWA

CHIEF OF FACILITIES DEVELOPMENT
STATE HIGHWAY ENGINEER



*** Provide sod or salvaged topsoil & seed to a 3'-0" width in back of curb & gutter sections.

*** Taper curb height 0" to 6" in 10'-0". A sod flume will be required at discharge end of the curb & gutter. Details of the flume(s) will be shown elsewhere in the plan.

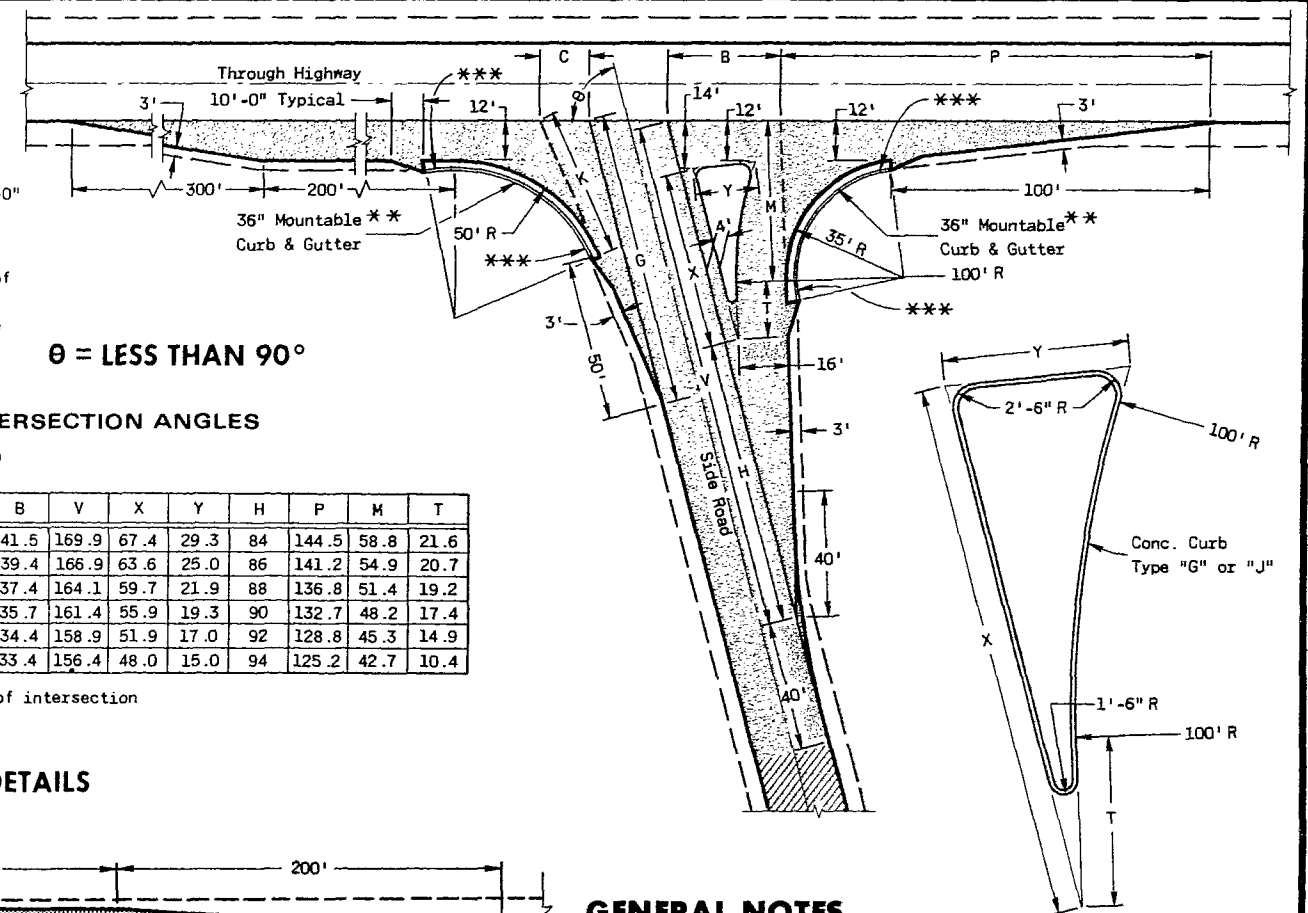
$\theta = 90^\circ$ OR MORE

TABLES OF DIMENSIONS FOR VARIABLE SIDE ROAD INTERSECTION ANGLES

(Values for angles not shown shall be interpolated)

θ	G	K	B	V	H	X	Y	P	M
90	90	43.8	33.9	156.0	94	48.0	11.0	125.0	44.2
95	94	46.7	34.0	156.7	96	47.0	11.0	121.3	41.9
100	98	50.0	34.4	157.4	98	45.9	11.0	117.7	39.7
105	102	53.8	35.2	158.3	100	44.9	11.2	114.2	37.8
110	106	58.2	36.4	159.2	102	43.7	11.4	110.6	36.2
115	110	63.4	38.4	161.8	104	42.6	11.7	107.1	34.8
*120	114	69.4	40.1	161.2	106	41.4	12.2	103.4	33.7

* Maximum angle of intersection

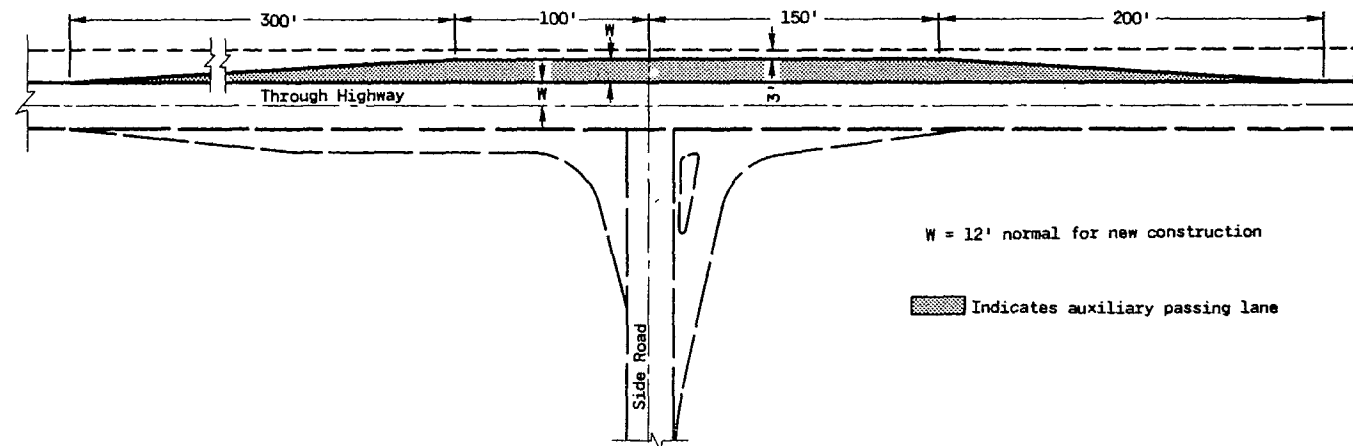


$\theta = \text{LESS THAN } 90^\circ$

θ	C	G	K	B	V	X	Y	H	P	M	T
*60	19.7	76.3	38.6	41.5	169.9	67.4	29.3	84	144.5	58.8	21.6
65	17.8	82.6	40.6	39.4	166.9	63.6	25.0	86	141.2	54.9	20.7
70	15.8	87.2	43.1	37.4	164.1	59.7	21.9	88	136.8	51.4	19.2
75	15.7	90.9	45.6	35.7	161.4	55.9	19.3	90	132.7	48.2	17.4
80	15.9	94.9	48.3	34.4	158.9	51.9	17.0	92	128.8	45.3	14.9
85	16.2	99.3	51.4	33.4	156.4	48.0	15.0	94	125.2	42.7	10.4

* Desirable minimum angle of intersection

TYPE "A" SIDE ROAD INTERSECTION DETAILS



PASSING LANE DETAIL

GENERAL NOTES

Designs may be used interchangeably in combination or separately for any one complete intersection depending upon intersection angle and surfacing of each approach roadway.

Details on this drawing are for minimum design only, and not applicable to special conditions, as shown elsewhere on the plans.

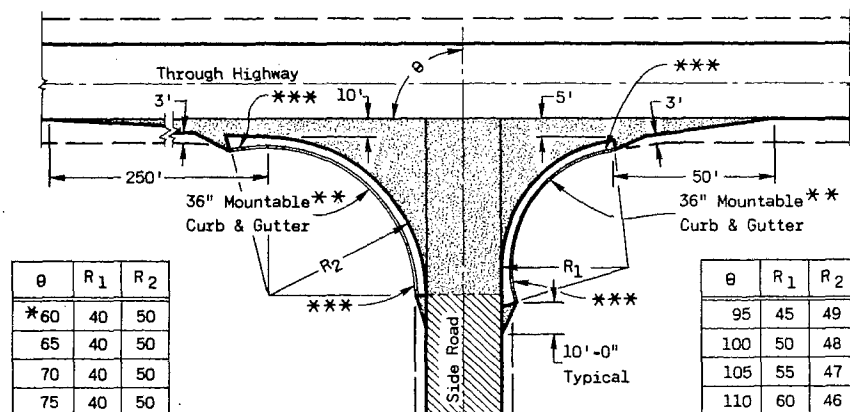
SIDE ROAD SURFACING NOTE

If the side road is not presently paved, pavement shall be placed to the limits shown. In the case where the construction limits are beyond the paving limits, gravel or crushed stone surfacing shall be placed between the paving limits and construction limits.

If the side road is presently paved, new pavement shall be placed to the limits of design as shown and beyond, if necessary, to meet existing pavement.

If the side road is the construction project, the intersection surfacing shall be the same as for the project.

■ New Pavement
 ▨ Existing Surface



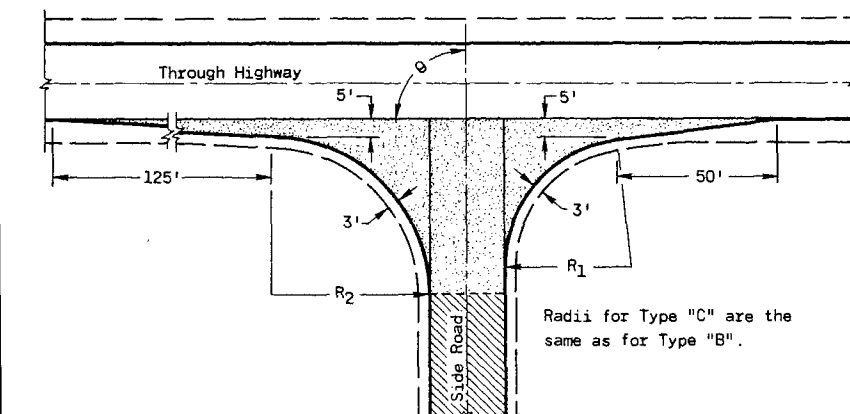
TYPE "B" SIDE ROAD INTERSECTION DETAILS

θ	R ₁	R ₂
*60	40	50
65	40	50
70	40	50
75	40	50
80	40	50
85	40	50
90	40	50

* Min. Angle of Intersection

θ	R ₁	R ₂
95	45	49
100	50	48
105	55	47
110	60	46
115	65	45
*120	70	44

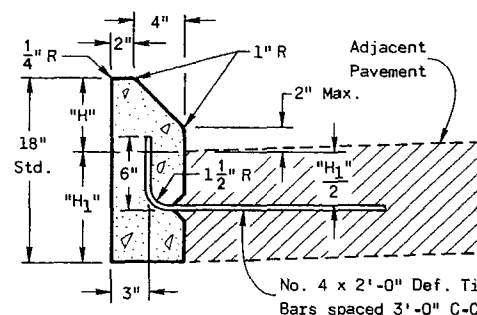
* Max. Angle of Intersection



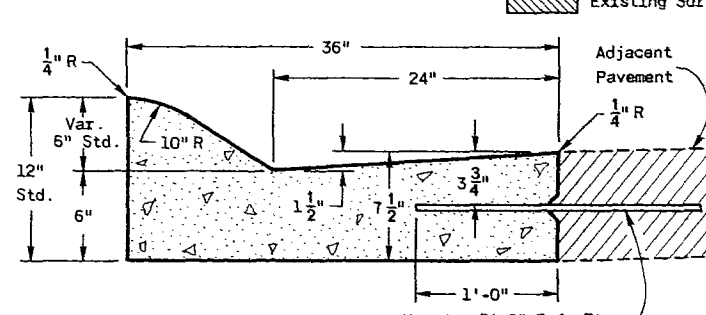
TYPE "C" SIDE ROAD INTERSECTION DETAILS

"H" = 6" Max. and 4" Min. and shall be 6" unless otherwise shown on the plans.

"H₁" = Same as adjacent pavement thickness for rigid pavement and 12" for non-rigid pavement (Tie Bars omitted).



TYPE "G" MOUNTABLE CONCRETE CURB (INCLUDING TIE BARS)



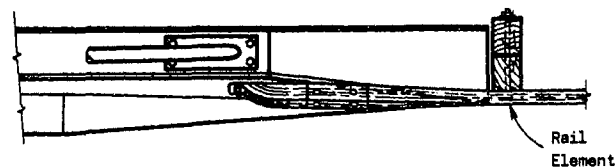
TYPE "J" MOUNTABLE CONCRETE CURB & GUTTER 36" (INCLUDING TIE BARS)

LAYOUT DETAILS FOR AT-GRADE SIDE ROAD INTERSECTIONS

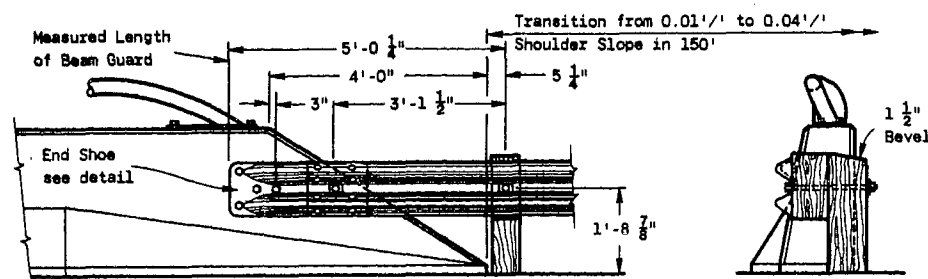
State of Wisconsin
 Department of Transportation
 Division of Highways

RECOMMENDED FOR APPROVAL
 9-10-76
 DATE
 APPROVED
 9-10-76
 DATE

S. D. D. 9A 1-3



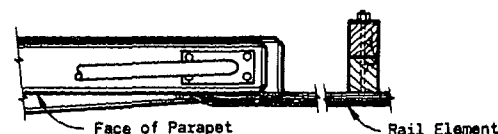
PLAN VIEW



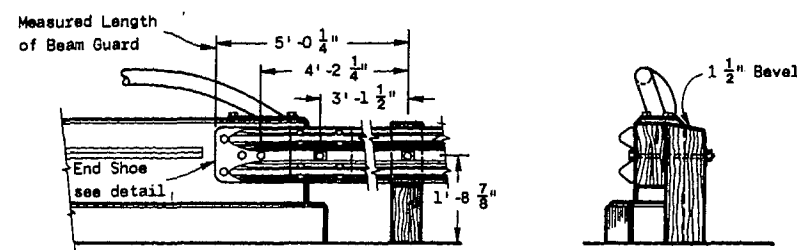
FRONT ELEVATION

END ELEVATION

STRUCTURE MOUNTING DETAIL
SLOPING TYPE PARAPET WALL



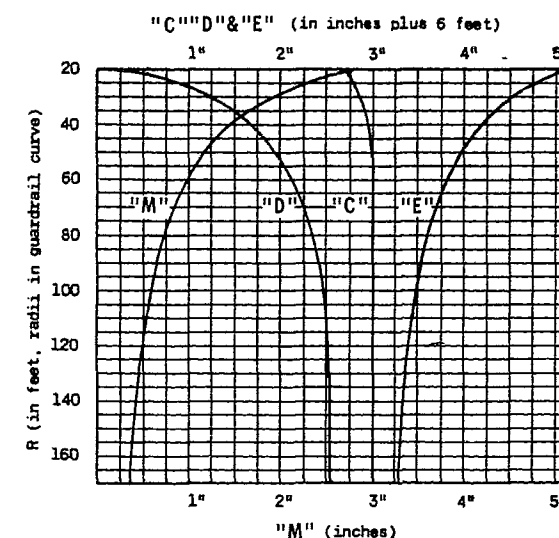
PLAN VIEW



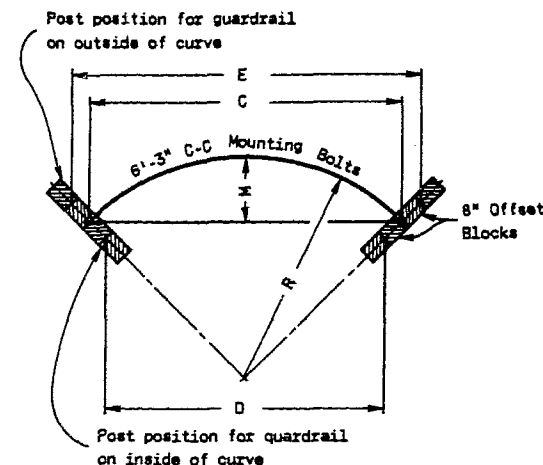
FRONT ELEVATION

END ELEVATION

STRUCTURE MOUNTING DETAIL
VERTICAL TYPE PARAPET WALL



CURVE DATA FOR POST SPACING AND BEAM CURVING



CHORD LENGTHS FOR POST SPACING AND MIDDLE ORDINATES FOR BEAM CURVING

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

The exact location of the beginning and end of each Guardrail installation shall be as shown on the plans or as directed by the Engineer.

Square anchor alternates will be permitted. Square anchors shall be a minimum of 24 inches x 24 inches.

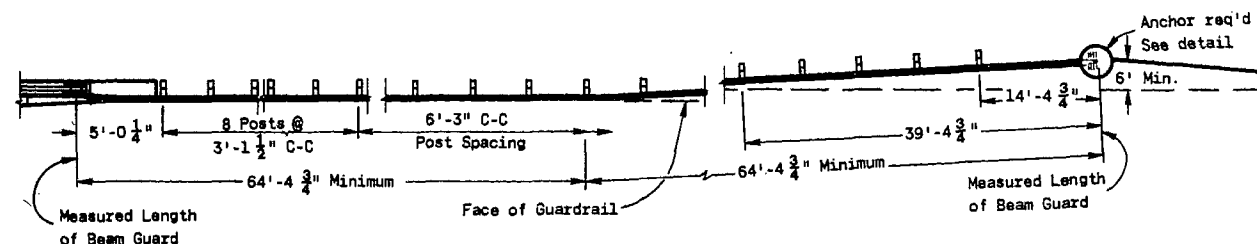
The shoulder widening to accommodate the anchored end of the guardrail shall be accomplished at the rate of widening not to exceed 15 to 1.

Upon approval of the Engineer, the 6 foot anchor offset may be reduced to nothing for replacement installations where existing conditions will not permit the desirable offset. However, when no offset greater than or equal to 3 feet can be provided, the minimum length of guardrail in advance of an obstacle (obstacle to anchor) shall be 150 feet.

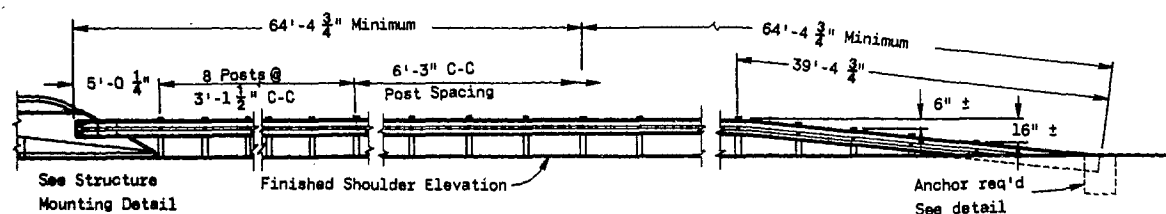
The minimum clearance from the front face of guardrail to obstacle shall be 3 feet unless otherwise shown on contract plans. When clearance is less than 3 feet post spacing shall be reduced to 3 feet - 1 1/2 inches C.C.

The "Post Footing Details At Piers" shall be used when guardrail posts are over structure footings and less than 3 feet - 6 inches of earth is provided over the top of the footing.

NOTE:
THIS STANDARD DETAIL DRAWING CONSISTS OF TWO PLATES. AND BOTH PLATES ARE REQUIRED WHEN THIS STANDARD IS CALLED FOR IN THE PLANS.

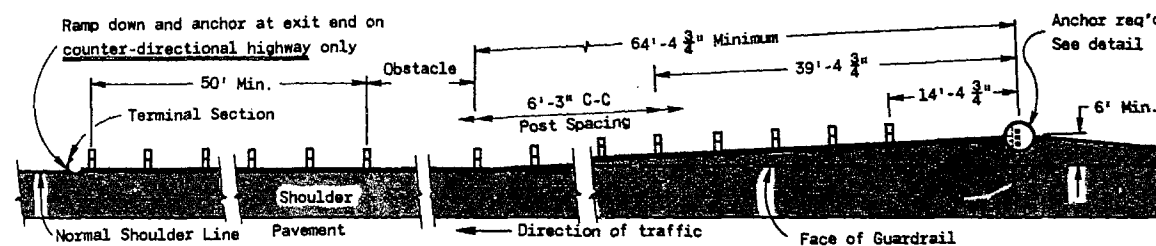


PLAN VIEW



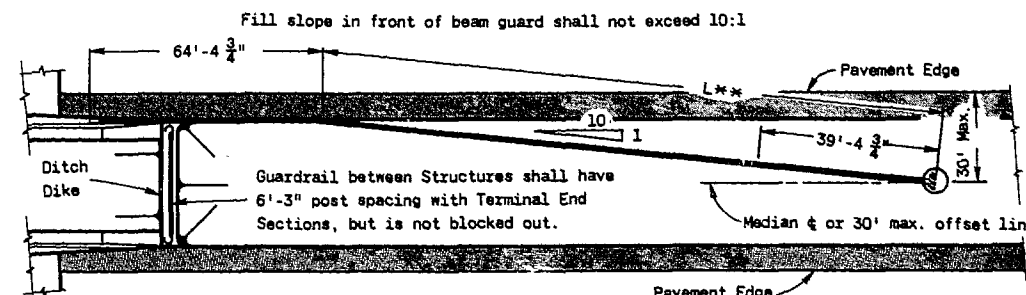
FRONT ELEVATION

TYPICAL INSTALLATION AT STRUCTURES



PLAN VIEW

TYPICAL INSTALLATION AT
LOCATIONS OTHER THAN STRUCTURES



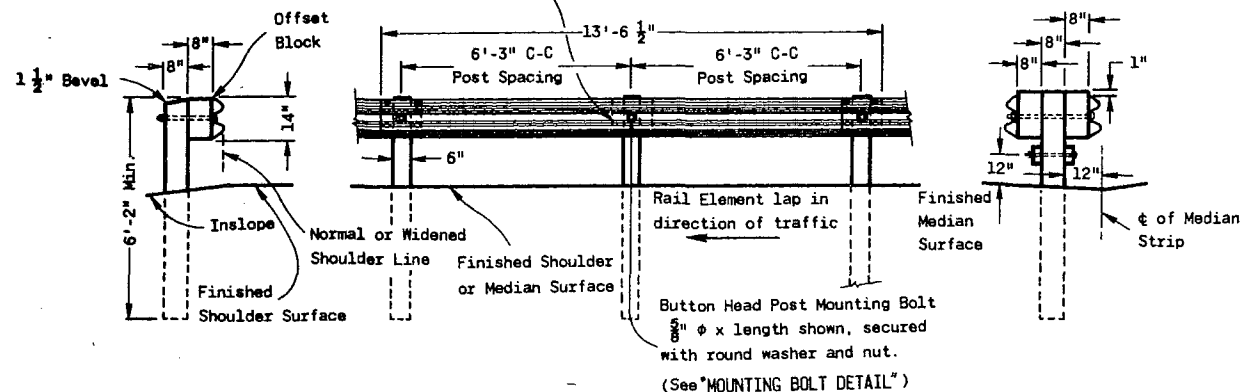
PLAN VIEW

MEDIAN PROTECTION

** Variable based on Median width or 30' max. offset

One foot long section of rail element, with a $\frac{3}{4}$ " slotted hole for mounting, shall be placed behind the continuous rail element at the intermediate posts.

Sawed and treated timber posts and offset blocks shall be furnished and placed in accordance with Standard Specifications. Posts shall be 6" x 8" x 6'-6" and have 6" x 8" x 14" offset blocks.



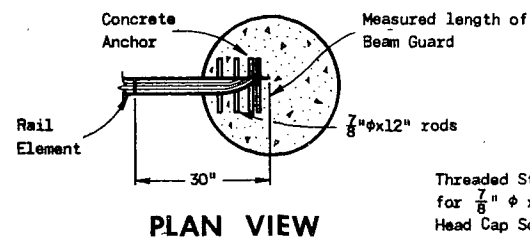
END ELEVATION

FRONT ELEVATION

END ELEVATION

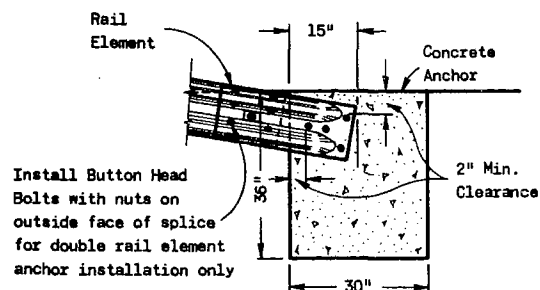
STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD OR STEEL PLATE BEAM MEDIAN GUARD



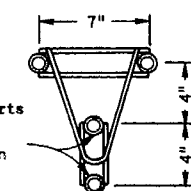
PLAN VIEW

Threaded Steel Inserts for $\frac{7}{8}$ " ϕ x 2" Hex Head Cap Screws with round washers.



SECTION VIEW
ANCHOR DETAIL

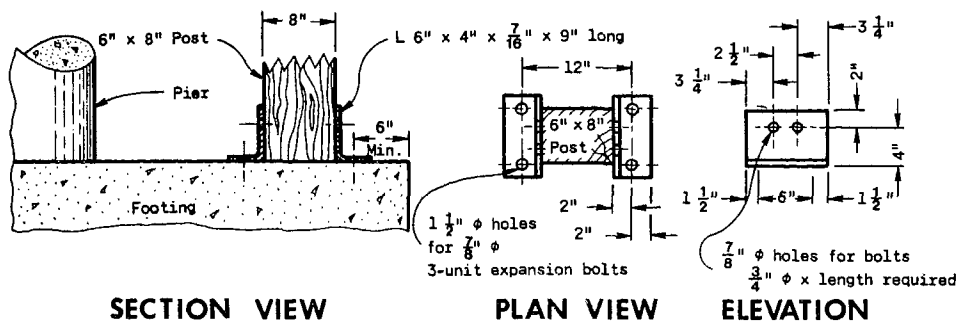
SINGLE RAIL ELEMENT INSTALLATION



PLAN VIEW

ELEVATION
4 BOLT INSERT
ASSEMBLY

NOTE: Installation of 4 Bolt Insert Assembly (with Cap Screws inserted) to be part of Bridge Contract.

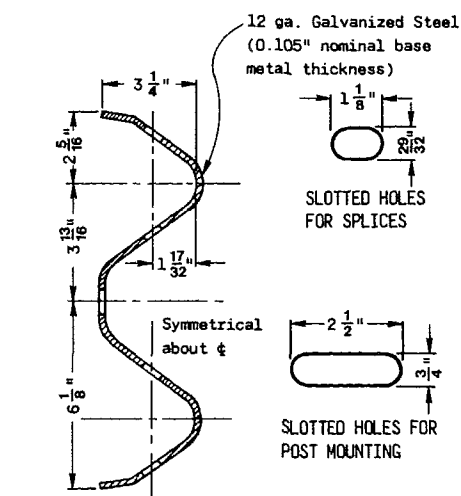


SECTION VIEW

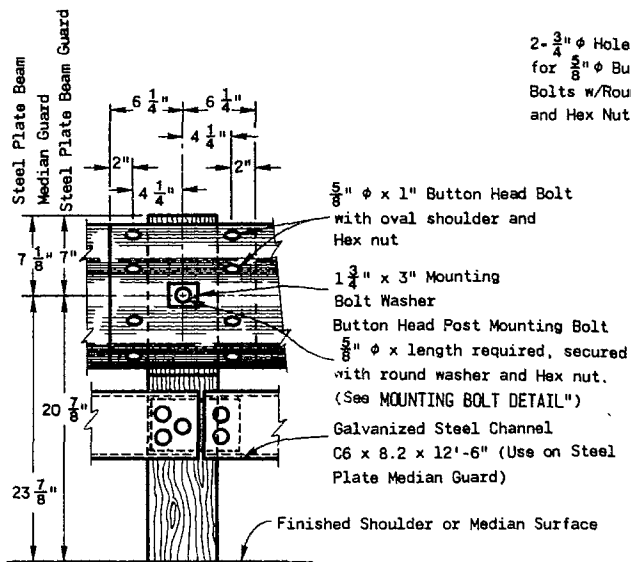
PLAN VIEW

ELEVATION

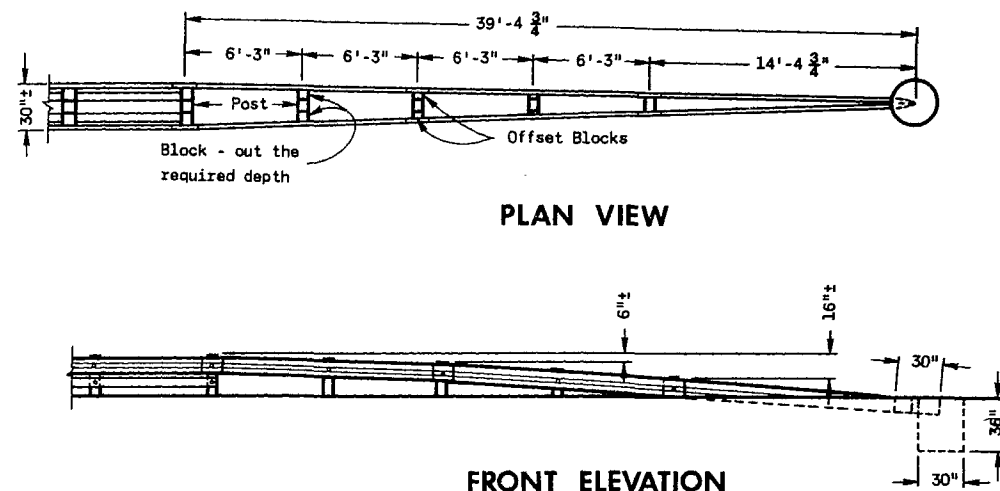
POST FOOTING DETAIL AT PIERS



SECTION THRU RAIL ELEMENT



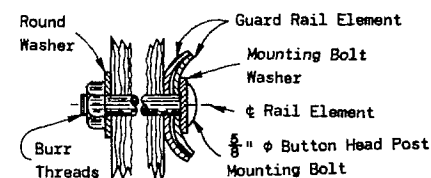
RAIL ELEMENT SPLICING
AND POST MOUNTING DETAIL



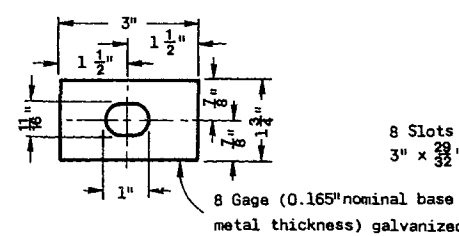
PLAN VIEW

FRONT ELEVATION

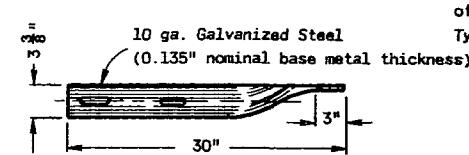
ANCHOR DETAIL FOR DOUBLE RAIL ELEMENT INSTALLATION



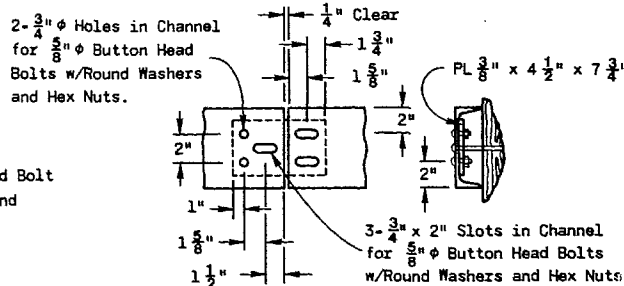
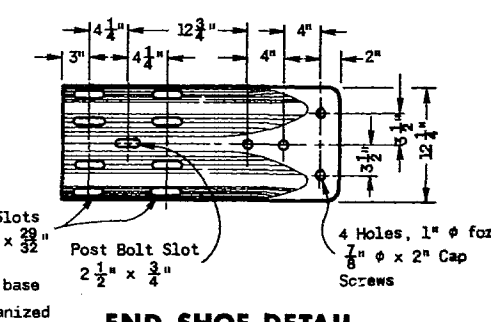
MOUNTING BOLT DETAIL



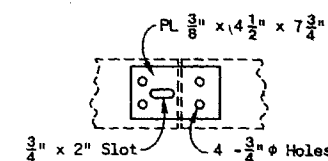
MOUNTING BOLT WASHER



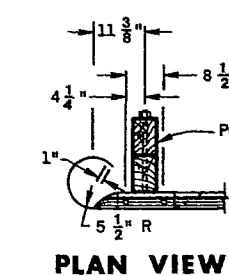
END SHOE DETAIL



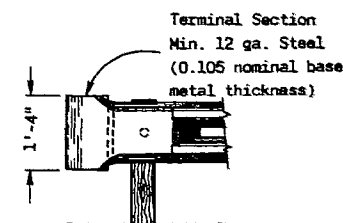
RUB RAIL SPLICE DETAIL



SPLICE PLATE

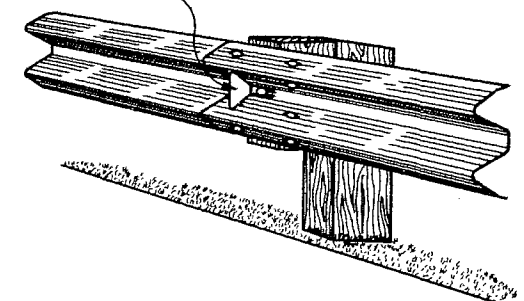


PLAN VIEW

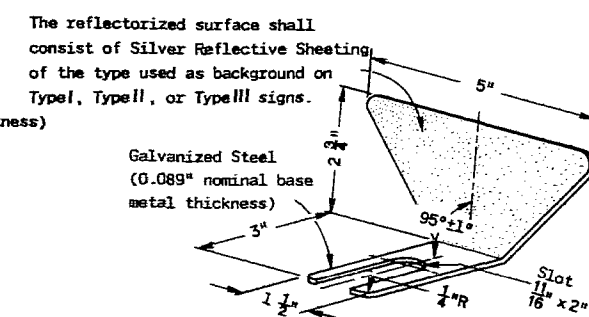


FRONT ELEVATION
TERMINAL SECTION DETAILS

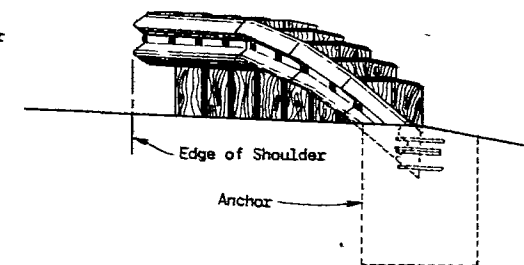
NOTE: (DIVIDED HIGHWAYS) Reflector spacing shall be 50' C-C on installations less than 200' long, with a minimum of 3 reflectors on any installation. For installations 200' or longer, spacing shall be 100' C-C. (COUNTER-DIRECTIONAL HIGHWAYS) Reflector spacing shall be 25' C-C on installations less than 200' long, with a minimum of 6 reflectors on any installation, and every other reflectorized surface shall be reversed. For installations 200' or longer, spacing shall be 50' C-C.



TYPICAL INSTALLATION



REFLECTOR DETAIL



TYPICAL TERMINAL END ELEVATION

NOTE: THIS STANDARD DETAIL DRAWING CONSISTS OF TWO PLATES. AND BOTH PLATES ARE REQUIRED WHEN THIS STANDARD IS CALLED FOR IN THE PLANS.

CLASS "A" STEEL PLATE BEAM GUARD & STEEL PLATE BEAM MEDIAN GUARD

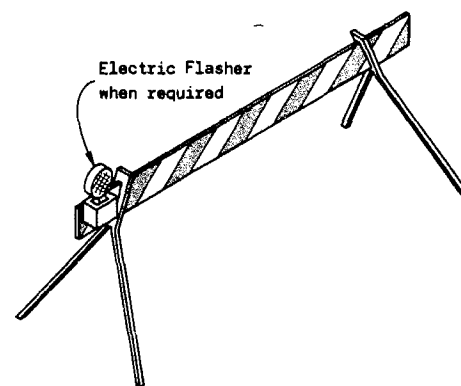
State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL
5-7-76
DATE
APPROVED
5-11-76
DATE
CHIEF OF FACILITIES DEVELOPMENT
STATE HIGHWAY ENGINEER

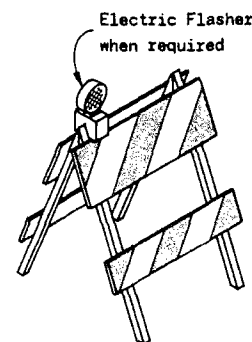
TABLE OF BARRICADE CHARACTERISTICS

BARRICADE TYPE	I	II	III
Height	3' Minimum		5' Minimum
* Rail Width	8" Minimum to 12" Maximum		
Rail Length	2' Minimum to variable Maximum		
** Stripe Width	6" at 45° Angle		
Stripe Colors	Reflectorized Orange & White		

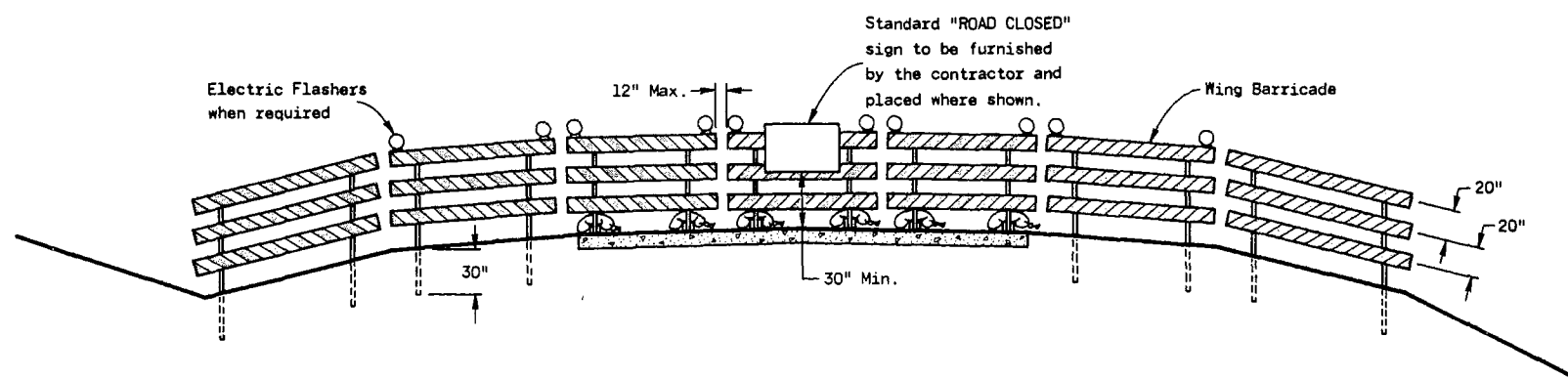
* Nominal dimensions when barricade is constructed of lumber.
 ** May be 4" for rail lengths less than 3'.



TYPICAL TYPE I BARRICADE

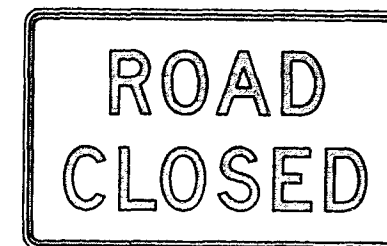


TYPICAL TYPE II BARRICADE



TYPICAL INSTALLATION SHOWING TYPE III BARRICADE

CONSTRUCTION BARRICADES



R11-2
48" x 30"

Black Lettering on Reflective
 White Background
 Letter Series "D"
 Letter height 8"



W20-3
48" x 48"

Black Lettering on Reflective
 Orange Background
 Letter Series "D"
 Letter height 7"

STANDARD SIGNS-TYPE II

GENERAL NOTES

The contractor shall furnish, erect and maintain Barricades and Signs. Details regarding location, spacing, dimensions, fabrication, material, sign lettering, lighting devices and color of Barricades and Signs shall conform to this drawing, the Wisconsin Manual on Uniform Traffic Control Devices, the Standard Specifications, Special Provisions and/or plans.

Type III Barricades and Signs shall be erected at the termini of projects and at other road or street locations where it is necessary to control or eliminate public access to the construction area.

Type I and II Barricades shall be used on projects when traffic is to be maintained through the construction area.

The actual field location of barricade installations and advance signs shall be as directed by the Engineer.

Each barricade shall have the name and telephone number of a person responsible for 24 hour emergency service printed in letters at least 3/4 inch in height.

CONSTRUCTION BARRICADES & STANDARD SIGNS

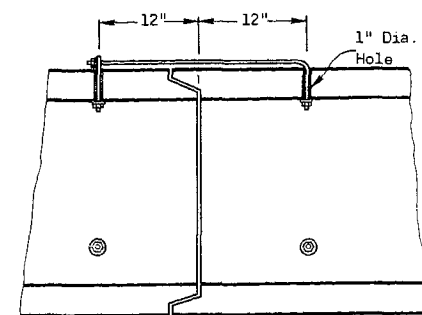
State of Wisconsin
 Department of Transportation
 Division of Highways

APPROVED
 10-1-76
 DATE

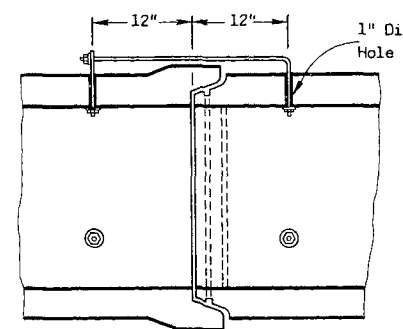
B. J. Stank
 CHIEF OF FACILITIES DEVELOPMENT

APPROVED
 10-1-76
 DATE

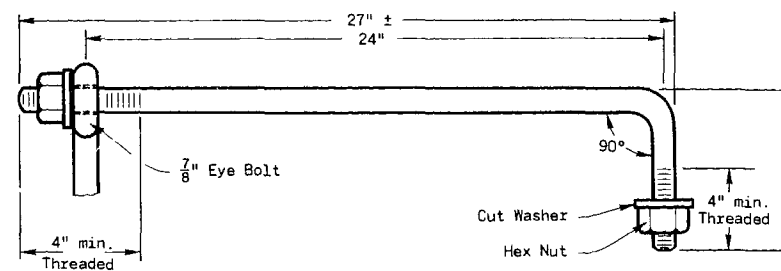
W. J. Sudler
 STATE HIGHWAY ENGINEER



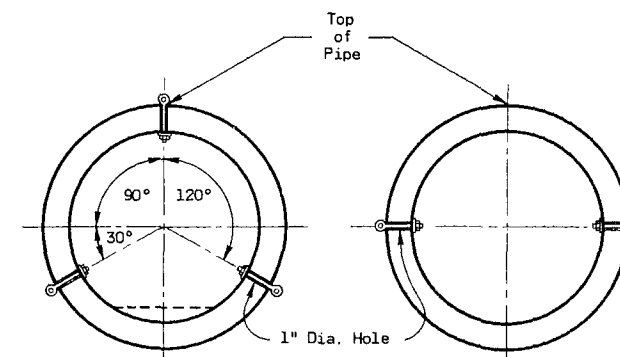
EYE BOLT AND TIE ROD ASSEMBLY ALT. #2
LONGITUDINAL SECTION



MODIFIED BELL
EYE BOLT AND TIE ROD ASSEMBLY ALT. #2
LONGITUDINAL SECTION



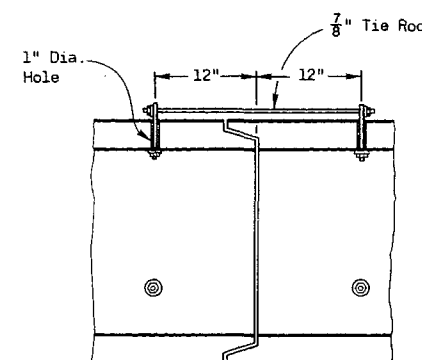
7/8" TIE ROD ALT. #2



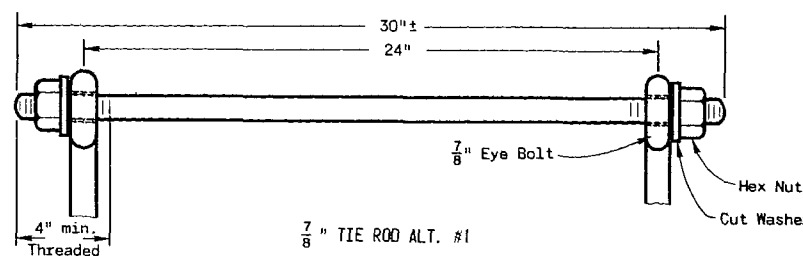
3 CONNECTIONS
FOR
PIPES OVER 36"
OR CATTLE PASS

2 CONNECTIONS
FOR
PIPES 36" AND SMALLER

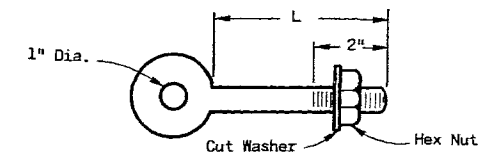
TRANSVERSE SECTION



EYE BOLT AND TIE ROD ASSEMBLY ALT. #1
LONGITUDINAL SECTION



7/8" TIE ROD ALT. #1



7/8" EYE BOLT

EYE BOLT DIMENSION TABLE

Pipe Size	Length	
	Tongue & Groove Pipe	Modified Bell Pipe
18" to 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/4"	
72"	8"	

GENERAL NOTES

Concrete culvert pipe shall be tied together in the manner illustrated by this detail at locations designated on the plan or directed by the Engineer.

Materials, fabrication and work necessary to tie culvert pipe as indicated by this detail will be considered incidental to Culvert pipe or Reinforced Concrete Culvert pipe.

Detailed drawings for proposed alternate designs for Joint Ties shall be submitted to the Engineer for approval.

JOINT TIES FOR CONCRETE PIPE

State of Wisconsin
Department of Transportation
Division of Highways

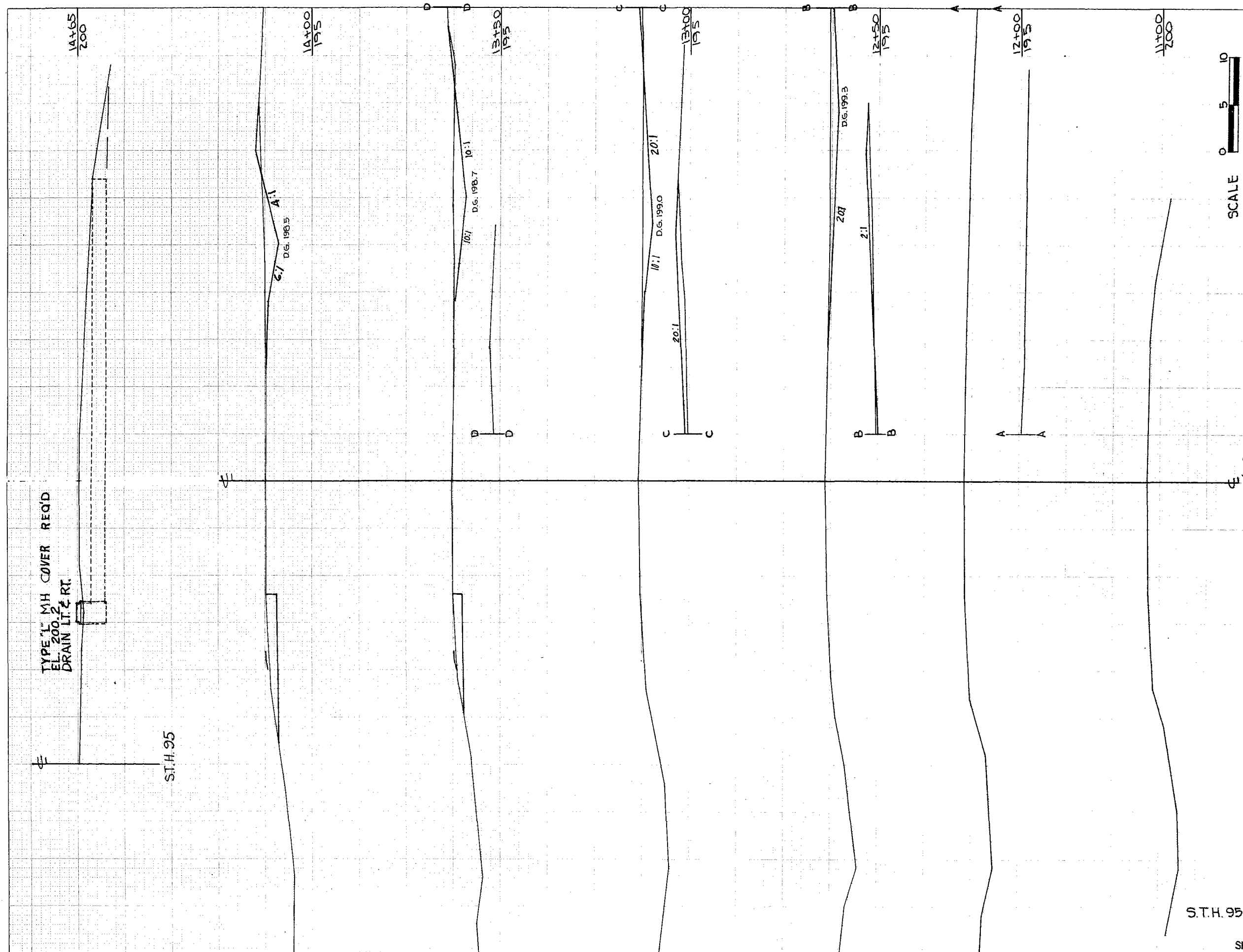
RECOMMENDED FOR APPROVAL:

2-13-74
DATE

L.C. Harnish
CHIEF OF FACILITIES DEVELOPMENT

APPROVED
3-24-74
DATE

H.J. Siedler
STATE HIGHWAY ENGINEER

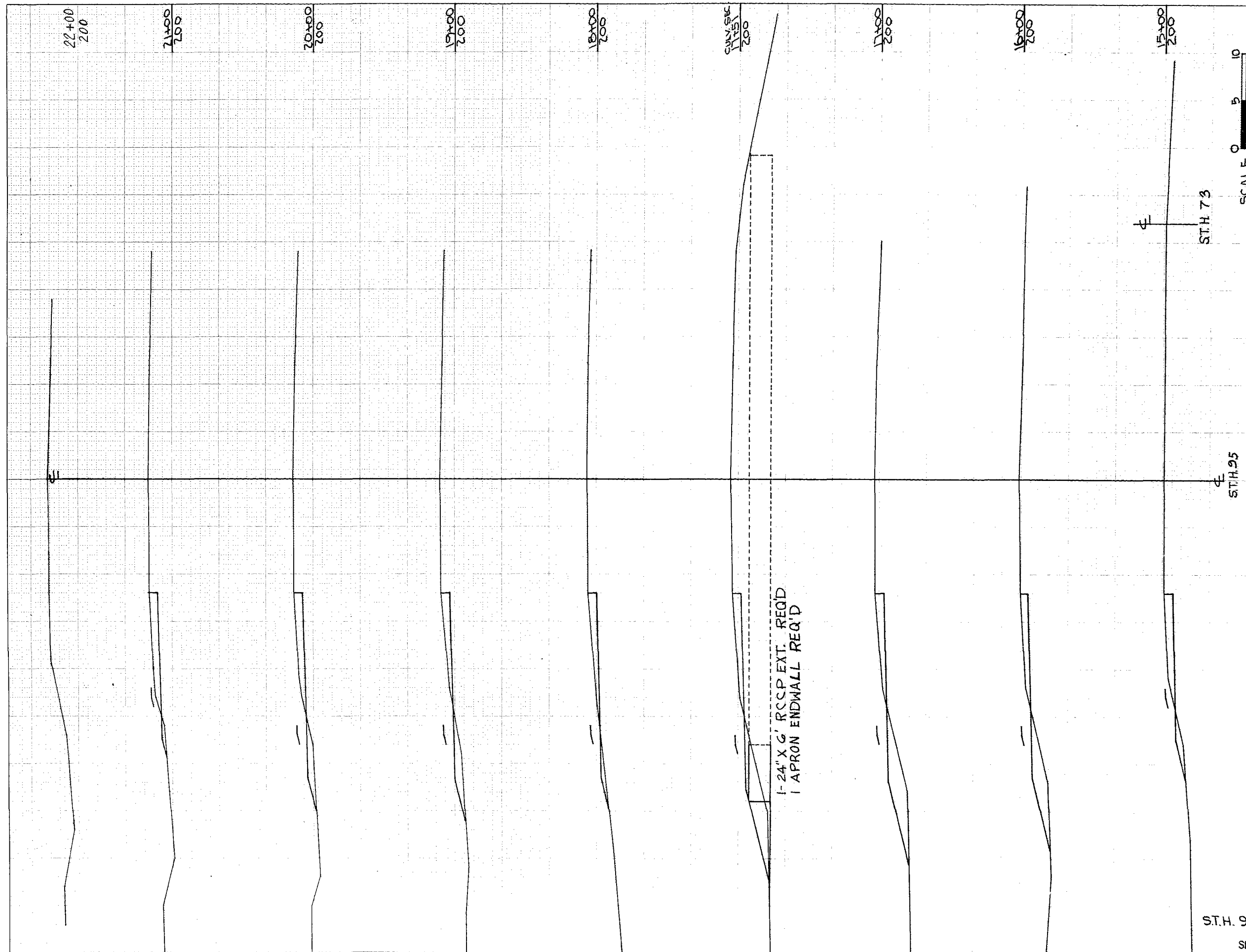


S.T.H. 95

SHEET TOTAL

185

37



SCALE 0 5 10

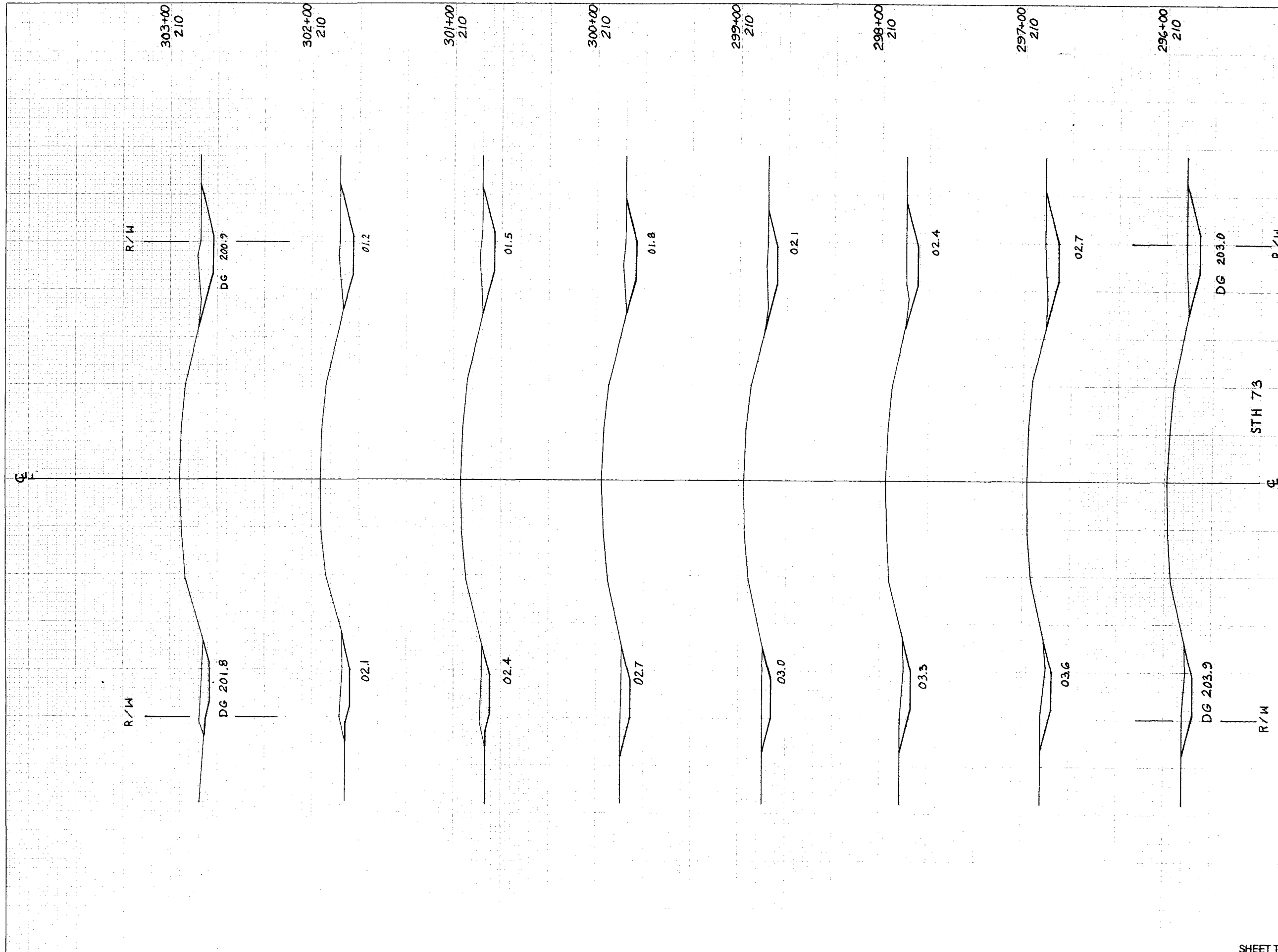
STH 73

STH 95

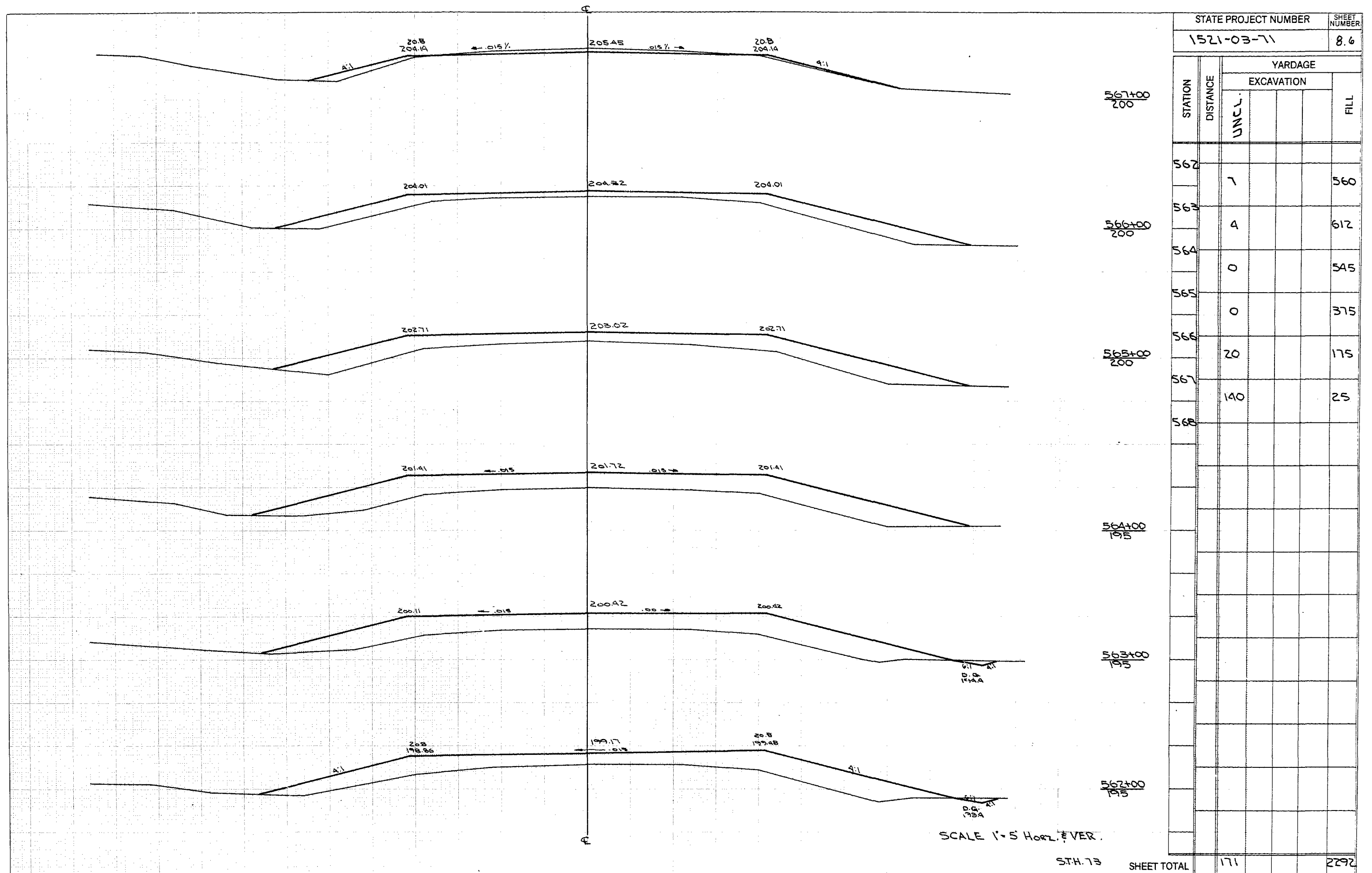
ST.H. 95

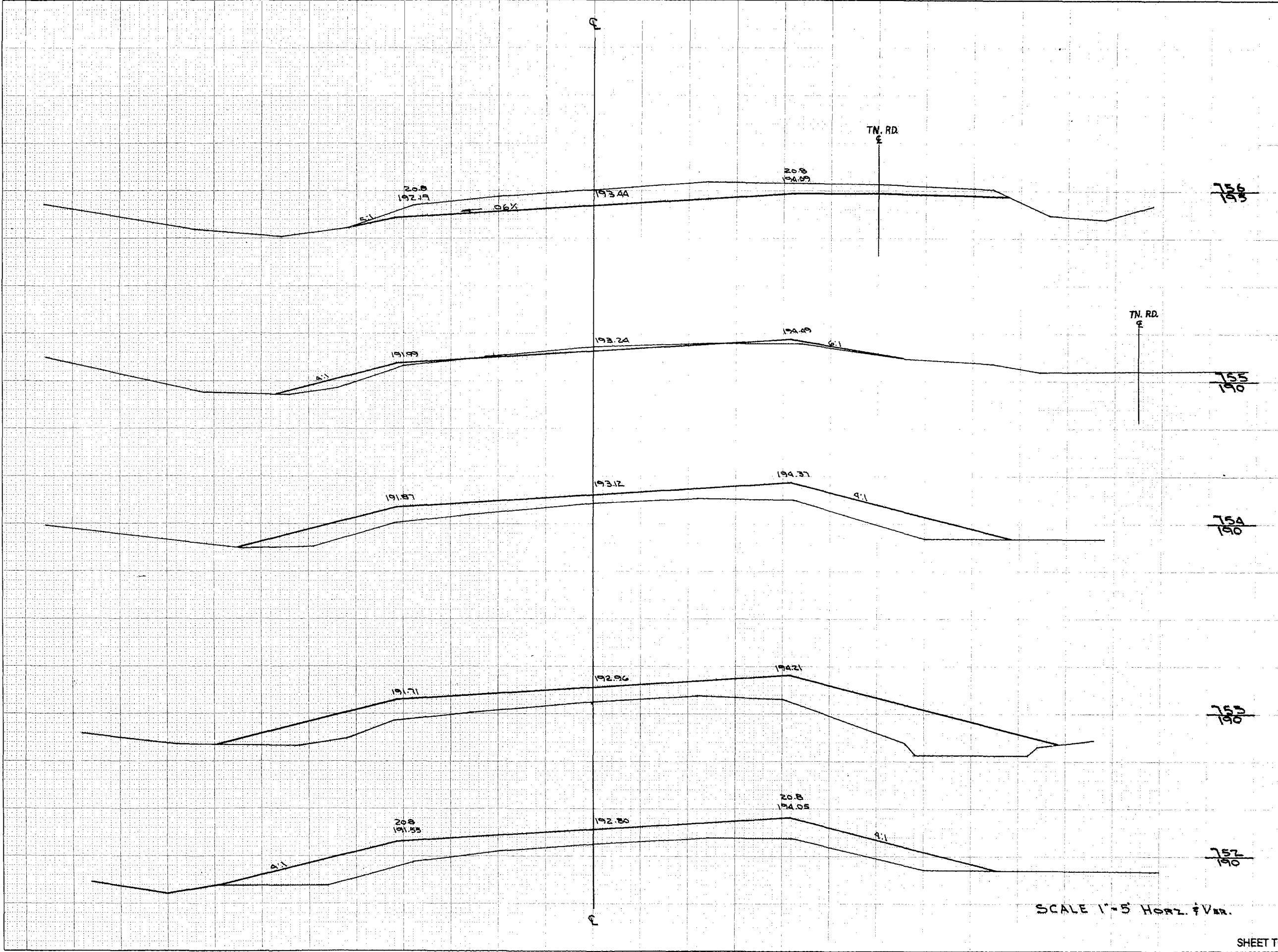
STATE PROJECT NUMBER					SHEET NUMBER
1521-3-00					8.1
STATION	DISTANCE	YARDAGE			
		EXCAVATION			FILL
		UNCL.			
15					
		28			53
16					
		26			110
17					
		15			63
151					
		15			34
18					
		28			31
19					
		28			44
20					
		30			24
21					
		30			4
22					
		15			0
23					





STATE PROJECT NUMBER				SHEET NUMBER
1521-3-71				8.3
STATION	DISTANCE	YARDAGE		
		EXCAVATION		FILL
		UNCL		
295		344		
296		304		
297		293		
298		263		
299		259		
300		291		
301		307		
302		309		
303				





STATION	DISTANCE	YARDAGE			
		EXCAVATION			FILL
		UNCL.			
752		0			656
753		0			585
754		17			235
755		246			24
756		476			0
757					

