MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR PORTLAND CEMENT, BITUMINOUS PAVEMENT & PAVEMENT REPLACEMENT

LOCATED ON C.S.A.H. 22 **BETWEEN** C.S.A.H. 4 **AND** T.H. 52 in Rochester **(GEOGRAPHIC DESCRIPTION)**

FROM APPROX. 1324.85' W. OF THE N.E. COR. SE. 1/4 & 52.50' S. OF SEC. 20 T107N-R14W **TO** APPROX. 683.2' W. OF THE NE. COR. NW. 1/4 OF SEC. 16 T107N-R14W **(LEGAL DESCRIPTION)**

STATE PROJ. NO. .....

GROSS LENGTH	FEET		MILES
BRIDGES-LENGTH	FEET		MILES
EXCEPTIONS-LENGTH	FEET		MILES
NET LENGTH	FEET		MILES

~~**STATE PROJ. NO.**~~ S.A.P. 55-622-21

GROSS LENGTH	10,317.52	FEET 1.954	MILES
BRIDGES-LENGTH	0	FEET 0	MILES
EXCEPTIONS-LENGTH	0	FEET 0	MILES
NET LENGTH	10,317.52	FEET 1.954	MILES

GRADED UNDER S.A.P. 55-622-17 1992

LOCATED ON C.S.A.H. 4 **BETWEEN** C.S.A.H. 3 **AND** C.R. 151 in Rochester

FROM APPROX. 1621.6' N. & 1470.1' W. OF S.1/4 COR. SEC. 13 T107N-R15W **TO** APPROX. 1669.77' NW. OF S. 1/4 COR. SEC. 21 T107N-R14W

S.A.P. 55-604-14

GROSS LENGTH	19,292.3	FEET 3.654	MILES
BRIDGES-LENGTH	0	FEET 0	MILES
EXCEPTIONS-LENGTH	0	FEET 0	MILES
NET LENGTH	19,292.3	FEET 3.654	MILES

GRADED UNDER S.A.P. 55-604-09 1973
SURFACED UNDER S.A.P. 55-604-10 1976
REGRADED STA. 352+00 TO STA. 369+00
UNDER S.A.P. 55-622-17

END: S.A.P. 55-622-21
STA. 501+89.50

EQUA. STA. 489+04.49 = STA. 486+22.51

BEGIN: S.A.P. 55-622-21
STA. 395+90.00

BEGIN: S.A.P. 55-604-14
STA. 205+00

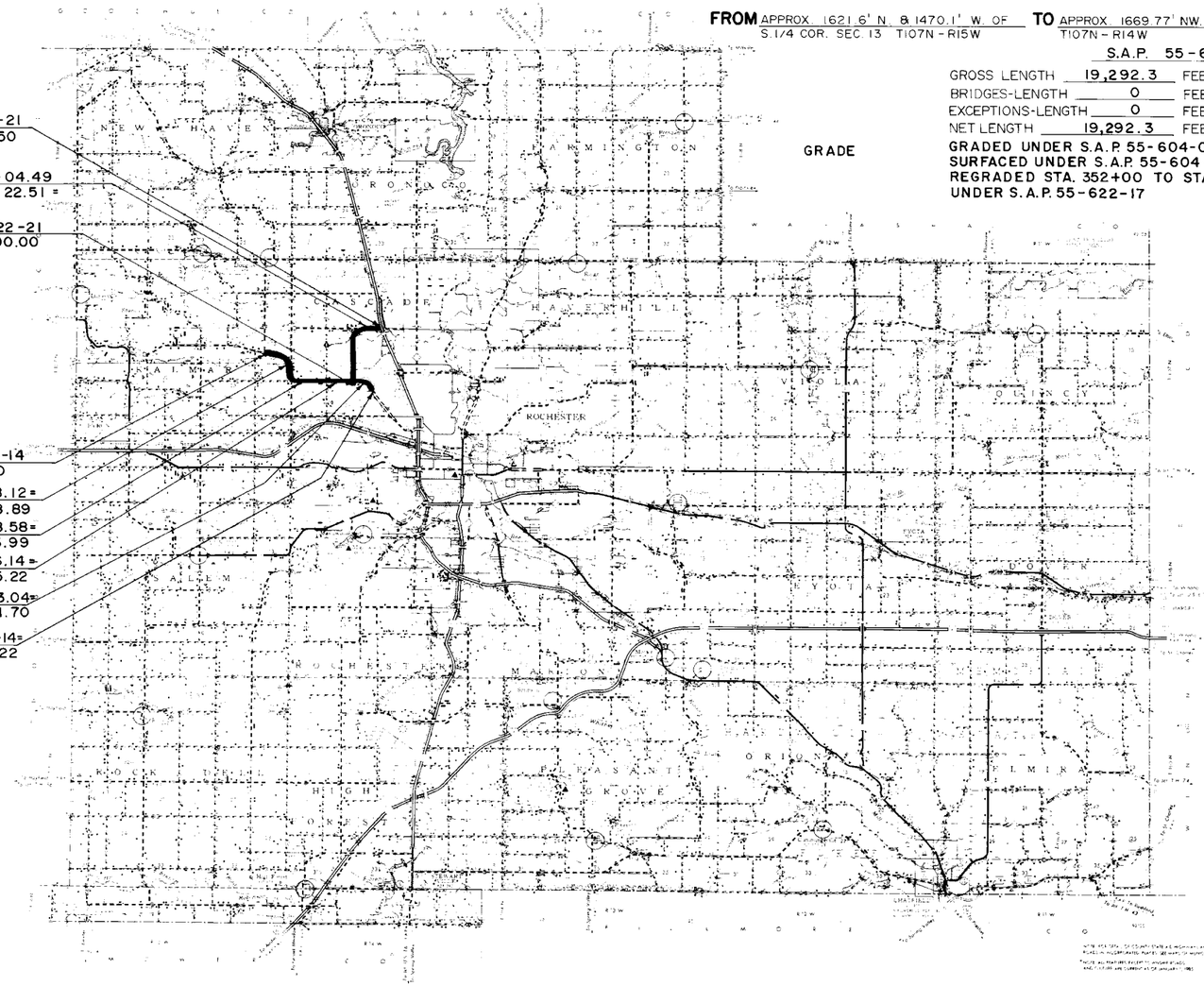
EQUA. STA. 251+08.12 = STA. 251+68.89

EQUA. STA. 279+68.58 = STA. 280+13.99

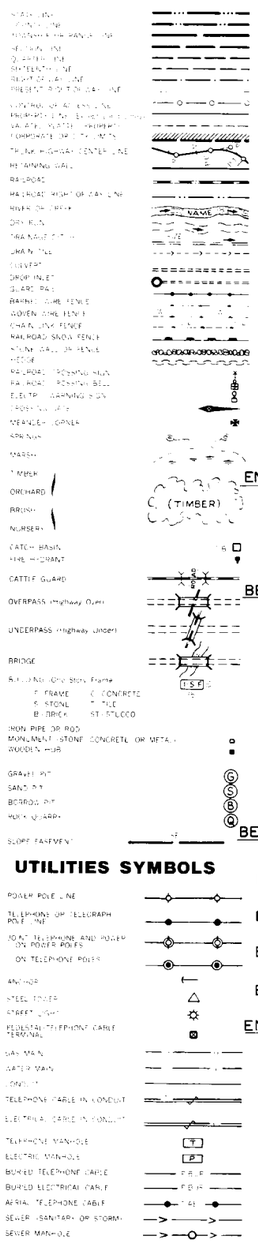
EQUA. STA. 324+06.14 = STA. 324+05.22

EQUA. STA. 363+43.04 = STA. 363+41.70

END: S.A.P. 55-604-14 = STA. 398+96.22



PLANS SYMBOLS



UTILITIES SYMBOLS

MINN. PROJ. NO. .....

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR CONSTRUCTION" AS AMENDED BY THE JANUARY 2, 1991, SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN.

INDEX

SHEET NO. 1 TITLE SHEET
SHEET NO. 2 ESTIMATE OF QUANTITIES
SHEET NO. 3-7 DETAILS AND TYPICAL SECTIONS
SHEET NO. 8-11 TRAFFIC CONTROL PLANS
SHEET NO. 12-20 PLAN AND PROFILE (S.A.P. 55-622-21)
SHEET NO. 21-29 PLAN AND PROFILE (S.A.P. 55-604-21)

S.A.P. 55-604-14 DESIGN DESIGNATION

R .....
ADT (Current Year) = 3215 (1993)
ADT (Future Year) = 5466 (2013)
DHV (Design Hr. Vol.) = ...
D (Directional Distr.) = ... %
T (Heavy Commercial) = ... %
SOIL FACTOR 130
9 TON DESIGN SHLD. WIDTH 8'
NO. OF TRAFFIC LANES 2
NO. OF PARKING LANES NONE

ΣN18(20) .....
Design Speed 45 MPH
Based on STOPPING Sight Distance
Height of eye 3.5' Height of object .0.5'
Design Speed not achieved at: .....

STOP CONDITIONS
CSAH 4 at CSAH 22

APPROVED 4-6 19 93 Roger E. Olmsted
DIRECTOR OF PUBLIC SERVICES
CITY OF ROCHESTER

* TRAFFIC PROJECTION YEAR 2000 A.D.T. 9500 (FROM PROJECT DEVELOPMENT PROGRAM)

DESIGN DESIGNATION

K = 150
R .....
ADT (Current Year) = *
ADT (Future Year) = 14858
DHV (Design Hr. Vol.) = ...
D (Directional Distr.) = ... %
T (Heavy Commercial) = EST. 6 %
SOIL FACTOR 130
10 TON DESIGN SHLD. WIDTH 8'
NO. OF TRAFFIC LANES 4
NO. OF PARKING LANES NONE

PROJ. TST HCADT 350
ΣN18(20) .....
Design Speed 55 MPH
Based on STOPPING Sight Distance
Height of eye 3.5' Height of object 0.5
Design Speed not achieved at:
STA. ..... TO STA. ..... MPH
STA. ..... TO STA. ..... MPH
STA. ..... TO STA. ..... MPH

STOP CONDITIONS
CSAH 22 AT T.H. 52

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 4-1-93 REG. NO. 16397 ENGR. Michael J. Hudson

COUNTY Olmsted

Recommended for Approval ..... 19..
DISTRICT STATE AID ENGINEER

Recommended for Approval ..... 19..
STATE AID PLANS AND SPECS ENGINEER

Approved 4/19 19 93 Dennis P. Carlson
STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR DATE

STATE AID PROJ. NO. 55-604-14 & 55-622-21
~~**STATE PROJ. NO.**~~

SHEET NO. 1 **OF** 29 **SHEETS**

ALUMINUM VITAL BOARD
73065

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	SAP 55-622-21 PARTICIPATING MUNICIPAL	SAP 55-622-21 NON-PARTICIPATING MUNICIPAL	SAP 55-622-21 PARTICIPATING RURAL	SAP 55-622-21 NON-PARTICIPATING RURAL	SAP 55-604-14 PARTICIPATING URBAN	SAP 55-604-14 PARTICIPATING RURAL	TOTAL ESTIMATED QUANTITIES
	0502.601	4' PRECAST CONCRETE HEADWALL	EACH	29		25				54
	0545.602	P.V.C. HANDHOLE WITH CONCRETE COVER	EACH			8			1	9
	0563.601	TRAFFIC CONTROL	LUMP SUM	0.45		0.35		0.09	0.11	1.0
①	2104.505	REMOVE CONCRETE PAVEMENT	SQ. YD.	39						39
②	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ. YD.	5,647		8		1,412	267	7,334
③	2104.513	SAW BITUMINOUS PAVEMENT	LIN FT.	24		24		108	68	224
④	2105.525	TOPSOIL BORROW (LV)	CU. YD.	1,030		982		200	252	2,464
	2112.501	SUBGRADE PREPARATION	ROAD STA.	79		63			17	159
⑤	2130.501	WATER	M-GAL.	13		14			2	29
⑥	2211.501	AGGREGATE BASE CL. 5	TON	3,720		4,185			519	8,424
⑦	2221.501	AGGREGATE SHOULDER CL. 2	TON	3,214		3,650			841	7,705
⑧	2301.501	CONCRETE PAVEMENT (TYPE D-1)	SQ. YD.					2,027	1,147	3,174
	2301.502	CONCRETE PAVEMENT STANDARD WIDTH 9'	SQ. YD.	19,959		18,594				38,555 (P)
	2301.502	CONCRETE PAVEMENT STANDARD WIDTH 7'	SQ. YD.						4,462	4,462 (P)
	2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH 9'	SQ. YD.	7,438		2,367				9,805 (P)
	2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH 7'	SQ. YD.						520	520 (P)
	2301.511	STRUCTURAL CONCRETE	CU. YD.	6,850		5,181			947	12,978
⑨	2301.513	STRUCTURAL CONCRETE HE (HIGH EARLY STRENGTH)	CU. YD.			60				60
	2301.538	DOWEL BAR	EACH	14,998		11,344			3,166	29,508
⑩	2331.508	TYPE 31B WEARING COURSE MIXTURE	TON	327	382	436	49			1,194
⑪	2331.514	TYPE 31B BASE COURSE MIXTURE	TON	494		851				1,345
	2331.516	TYPE 31B SHOULDER MIXTURE	TON	756		1,074		150	352	2,332
⑫	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	221		380				601
	2451.507	GRANULAR BEDDING (LV)	CU. YD.		64		26			90
	2502.521	4' NON PERFORATED (TP) PIPE DRAIN	LIN. FT.	278		308				586
	2502.541	4' PERF. P.E. PIPE DRAIN/GEOTEXTILE KNIT SOCK	LIN. FT.	14,260		12,600				26,860
	2506.521	INSTALL CASTING	EACH	4						4
	2521.501	3' CONCRETE WALK	SQ. FT.		10,162		4,125			14,287
	2531.501	CONCRETE CURB AND GUTTER DESIGN B624	LIN. FT.	2,228		277		1,059		3,564
	2545.521	4" RIGID STEEL CONDUIT	LIN. FT.			817			50	867
	2557.501	WIRE FENCE, DESIGN 60V-9322	LIN. FT.	130						130
	2557.523	METAL BRACE ASSEMBLY (CHAIN LINE FENCE)	EACH	6						6
	2575.501	SEEDING	ACRE	0.9		1.2			0.3	2.4 (P)
⑬	2575.502	SEED MIXTURE 1100	POUND	90		120			30	240
⑭	2575.502	SEED MIXTURE 500	POUND	45		60			15	120
⑮	2575.505	SODDING Type Lawn	SQ. YD.	300		100		706		1,106
⑯	2575.511	MULCH MATERIAL TYPE 1	TON	1.8		2.4			0.6	4.8
⑰	2575.519	DISC ANCHORING	ACRE	0.9		1.2			0.3	2.4(P)
⑱	2575.532	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	POUND	180		240			60	480

① INCLUDE CONCRETE PAVEMENT HEADERS, S.B.L. STA. 501+72.5 TO STA. 501+76.2 AND N.B.L. STA. 501+86 TO STA. 501+89.5

② INCLUDES TEMPORARY BITUMINOUS PAVEMENT REMOVAL FROM 1992 CONSTRUCTION, FROM STA. 492+00 TO STA. 501+86, RESIDENTIAL DRIVE LT. STA. 9+00 55TH ST. N.W. AND BITUMINOUS SHOULDERS ON C.S.A.H. 4

③ INCLUDES SAWING OF 55TH ST. N.W. AND C.S.A.H. 4 BITUMINOUS SHOULDERS AT REPAIR LOCATIONS.

④ INCLUDES 2,264 CU. YDS. ALONG INSLOPES AND 200 CU. YDS. BEHIND CURB SECTIONS ON C.S.A.H. 4

⑤ TO BE USED FOR DUST CONTROL WITHIN THE PROJECT LIMITS AS DIRECTED BY THE ENGINEER.

⑥ TO BE USED IN CONJUCTION WITH THE SUBGRADE PREPARATION. INCLUDES 1,171 TONS 55TH ST. N.W., 400 TONS FOR DRIVE ENT. LT. STA. 446+00, 450 TONS FOR 9 APPROCHES AND 1,000 TONS FOR TEMPORARY BYPASS N.B.L. FROM STA 446+00 TO STA. 466+00 AS DIRECTED BY THE ENGINEER.

⑦ INCLUDES ALL SHOULDERING CL. 2 AND RESTORING AGGREGATE BASE CL. 2 FOR SHOULDER AT PANEL REPAIR LOCATIONS AND CURB & GUTTER ON C.S.A.H. 4

⑧ SEE PLAN SHEET NO. 5 FOR INCIDENTAL ITEMS, CONSTRUCTION DETAIL AND CONSTRUCTION NOTES.

⑨ TO BE USED FOR INTERSECTION OF 55TH ST. N.W. & C.S.A.H. 22 SOUTH BOUND LANES.

⑩ INCLUDES 497 TON FOR 55TH ST. N.W., 130 TON FOR APPROACHES, 54 TON FOR TURN LANE FROM STA. 446+12 TO STA. 451+40, AND 82 TON BETWEEN N.B.L. AND S.B.L. AT TRANSITION STA. 459+18 TO STA. 461+00, AND 431 TON FOR BITUMINOUS PATHWAY STA. 455+00 TO STA. 501+89.

⑪ INCLUDES 899 TON FOR 55TH ST. N.W., 337 TON FOR APPROACHES, AND 109 TON FOR TURN LANE FROM STA. 446+12 TO STA. 451+40.

⑫ TACK BETWEEN ALL LAYERS OF BITUMINOUS.

⑬ APPLICATION RATE 100 POUNDS PER ACRE IN CONJUCTION WITH SEED MIX 500.

⑭ APPLICATION RATE 50 POUNDS PER ACRE, APPLY TO ALL INSLOPES WHERE TOPSOIL BORROW HAS BEEN PLACED.

⑮ PLACE 400 SQ. YDS. SOD ON INSLOPE FROM STA. 5+00 TO STA. 9+00 NORTH SIDE OF 55TH ST. N.W., 706 SQ. YDS. BEHIND CURB LT. & RT. STA. 385+80 TO STA. 393+16 C.S.A.H. 4, AS DIRECTED BY THE ENGINEER. SOD IN MEDIAN WILL BE BY OTHERS.

⑯ APPLICATION RATE TWO TON PER ACRE.

⑰ DISC ANCHOR ALL AREA'S THAT ARE MULCHED.

⑱ APPLICATION RATE 200 POUNDS PER ACRE.

JOINT:
ALL CONTRACTION JOINTS, ALL LONGITUDINAL JOINTS, ALL EXPANSION JOINTS WILL BE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

STEEL REINFORCEMENT:
STEEL REINFOREMENT REQUIRED FOR CONCRETE PAVEMENT FROM STA. 395+90 TO STA. 501+89.5 S.A.P. 55-622-21, STA. 352+00 TO STA. 369+00 S.A.P. 55-604-14 AND ALL REPLACEMENT PANELS (TYPE D-1) ON S.A.P. 55-604-14 WILL BE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

CONCRETE PAVEMENT:
CONCRETE PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD DETAIL PLATE NOTED IN THE PLANS, MODIFIED TO THE EXTENT THAT C4E-D CONTRACTION JOINTS WILL BE REQUIRED.

REINFORCED PANELS OVER CULVERTS:
REINFORCED CONCRETE PANELS OF THE LENGTH INDICATED AT LOCATIONS LISTED BELOW SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD DETAIL PLATE. REINFORCED PANELS WILL BE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

S.A.P. 55-622-21

STATION:	410+00	PANEL:	12',15',13',16',12'
	410+35		15',14',17'
	415+06		16',14',17',15'
	435+58		17'
	455+20		14',17',13'
	469+50		17'
STATION:	S.B.L. 472+83.78 TO 473+53.11		13',16',14',17',13',16',14',17',13'
	S.B.L. 492+64		16'
	S.B.L. 498+96 & 499+03		16',13'

S.A.P. 55-622-21

STATION N.B.L:	472+83.78 TO 473+53.11	PANEL:	13',16',14',17',13',16',14',17',13'
N.B.L.	498+96 & 499+03		16',13'

S.A.P. 55-604-14

STATION:	330+88	PANEL:	20'
	353+20		17'
	358+90		16'

STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
1070 J	REINFORCED PANEL OVER CULVERT
1103 I	TYPICAL DOWELL BAR ASSEMBLY
1141 C	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION
3131 B	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
4010 G	CONC. SHORT CONE & ADJUSTING RING
7036 D	PEDESTRIAN CURB RAMP
7100 F	CONCRETE CURB & GUTTER
7110 E	CURB & GUTTER CONSTRUCTION AT CATCH BASIN
7111 G	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTING
8000 I	STANDARD BARRICADES
9322 J	CHAIN LINK FENCE

BRIDGE STANDARDS

DETAIL NO.	DESCRIPTION
B905	FENCE POST ANCHORAGE

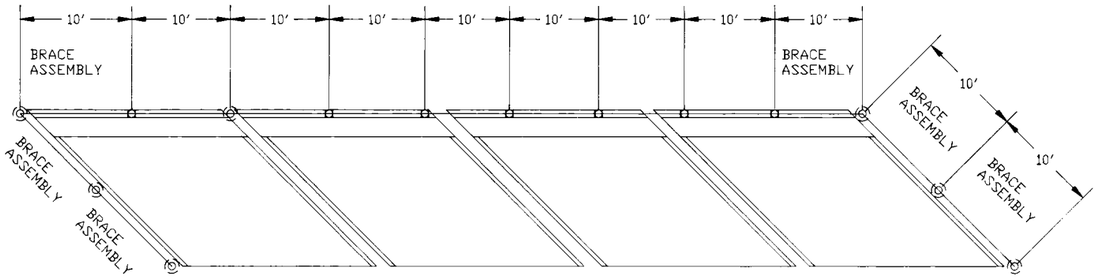
CHAIN LINK FENCE LAYOUT & DETAIL

RT. STA 472+83 TO STA. 473+53
OUTLET END OF BOX CULVERTS

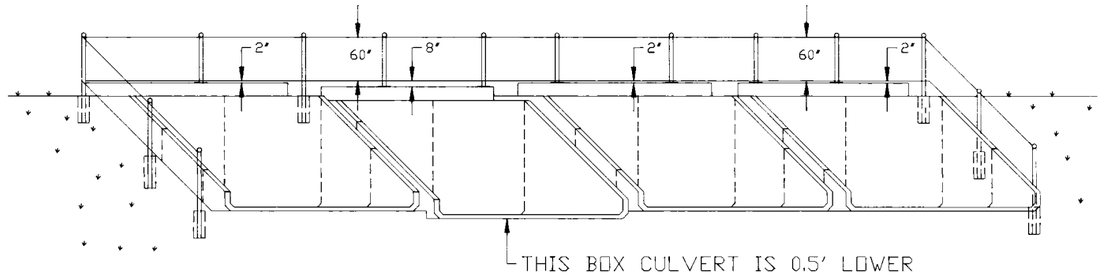
NOTE: 7 POSTS REQUIRE STANDARD PLATE 9322J CONCRETE ANCHORAGE AND
7 POSTS REQUIRE TYPE B STANDARD DETAIL B905 'FENCE POST ANCHORAGE' (ALTERNATE)
ALL ANCHORING OF POSTS ARE INCIDENTAL TO ITEM NO. 2557.501 WIRE FENCE, DESIGN 60V-9322.Z

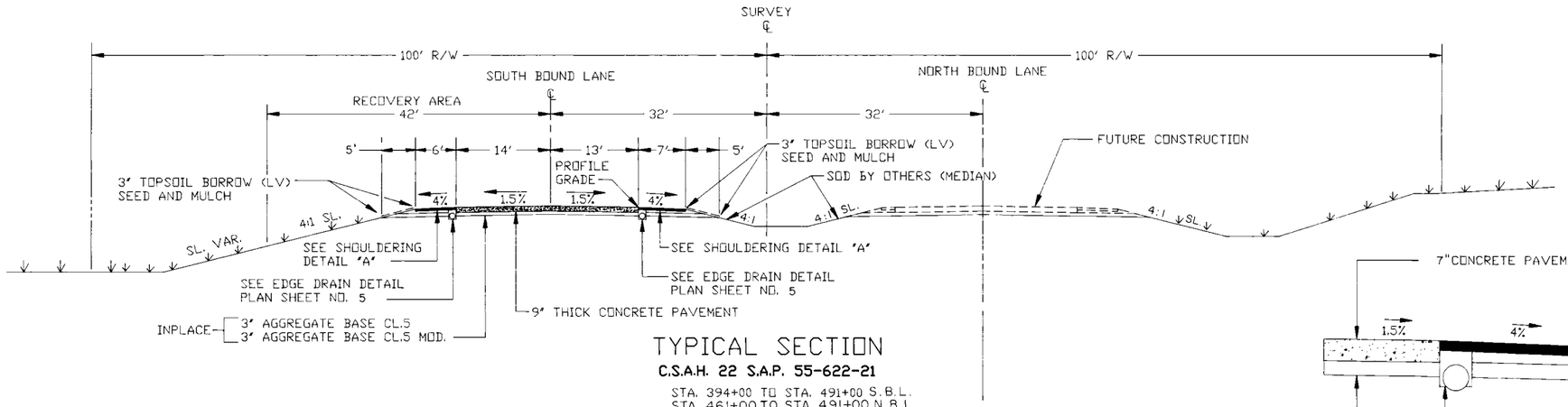
◎ = STD. PLATE 9322J ANCHOR □ = ALTERNATE ANCHOR TYPE B STD. DETAIL B905

TOP VIEW



END VIEW

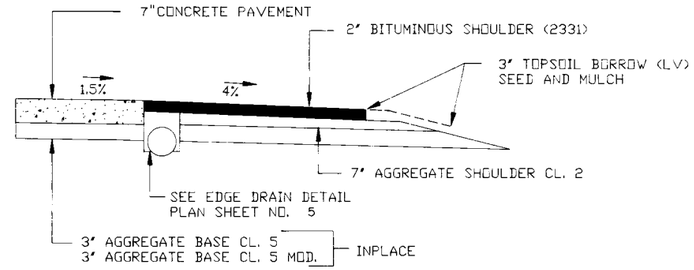




TYPICAL SECTION

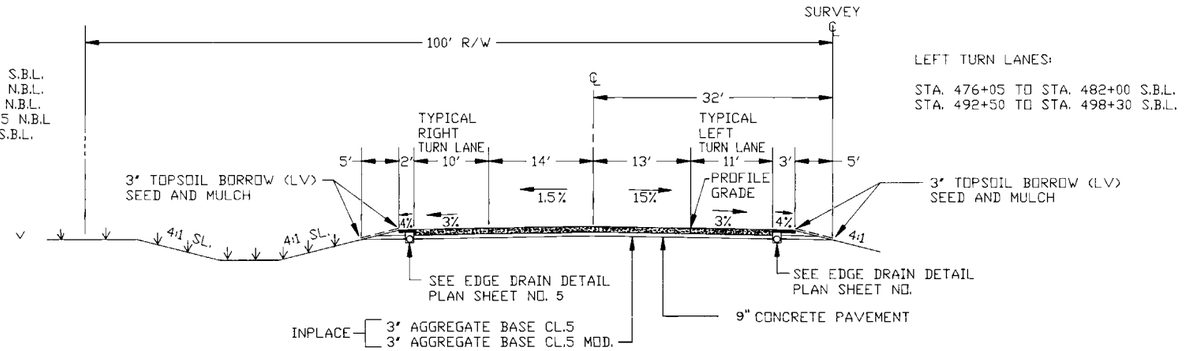
C.S.A.H. 22 S.A.P. 55-622-21

STA. 394+00 TO STA. 491+00 S.B.L.
STA. 461+00 TO STA. 491+00 N.B.L.



SHOULDERING DETAIL "A"

RIGHT TURN LANES:
STA. 396+72 TO STA. 402+00 S.B.L.
STA. 396+72 TO STA. 402+00 N.B.L.
STA. 471+20 TO STA. 477+15 N.B.L.
STA. 484+80 TO STA. 501+98.5 N.B.L
STA. 491+05 TO STA. 46+60 S.B.L.

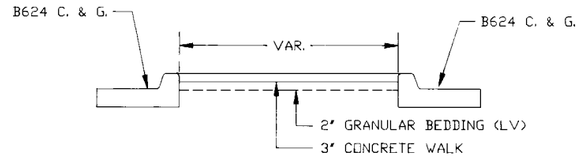


LEFT TURN LANES:

STA. 476+05 TO STA. 482+00 S.B.L.
STA. 492+50 TO STA. 498+30 S.B.L.

TYPICAL TURN LANE & STATIONING

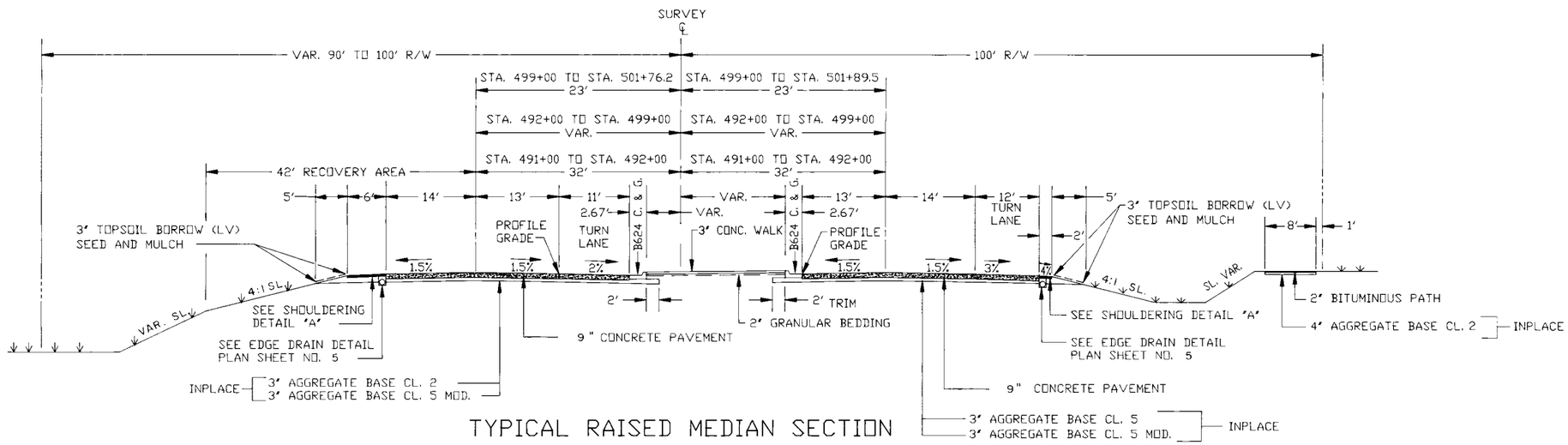
C.S.A.H. 22 S.A.P. 55-622-21



TYPICAL OF CONCRETE RAISED MEDIANS

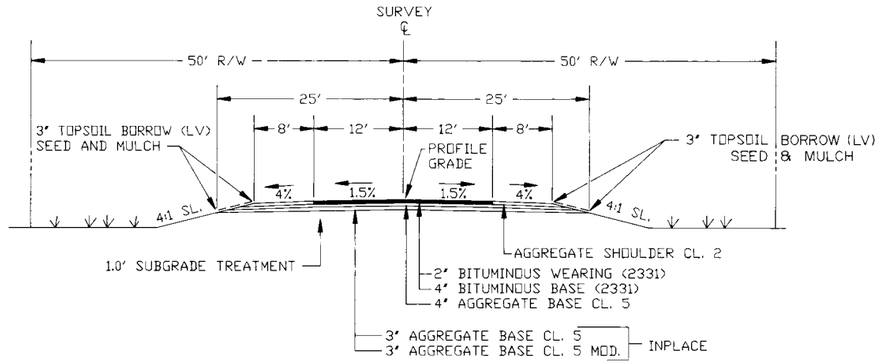
C.S.A.H. 22
STA. 461+00 TO STA. 463+00
STA. 493+00 RT.
STA. 493+45 TO STA. 501+89

55TH ST.
STA. 10+10 TO STA. 10+90



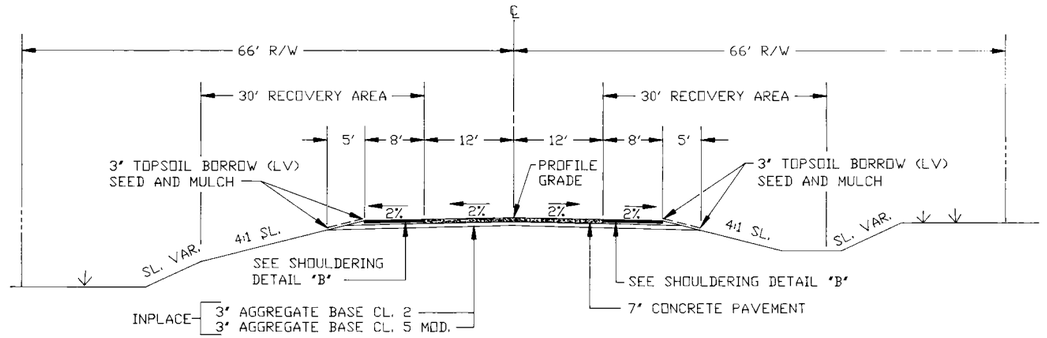
TYPICAL RAISED MEDIAN SECTION

C.S.A.H. 22 S.A.P. 55-622-21
STA. 491+00 TO STA. 501+89



TYPICAL SECTION

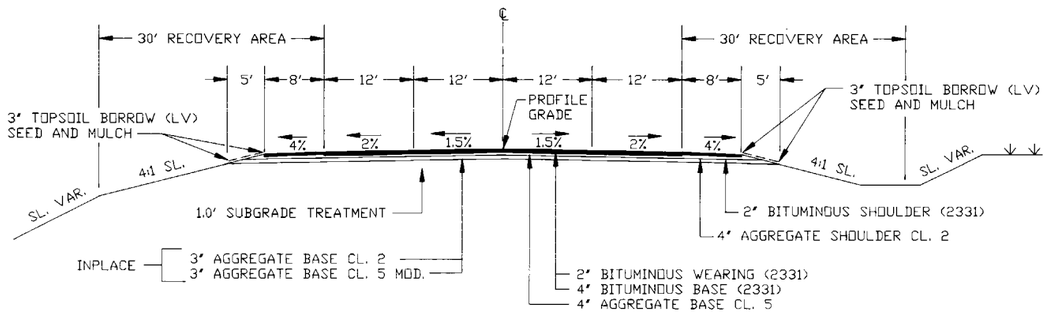
DRIVE LT. STA. 446+00



TYPICAL SECTION

C.S.A.H. 4

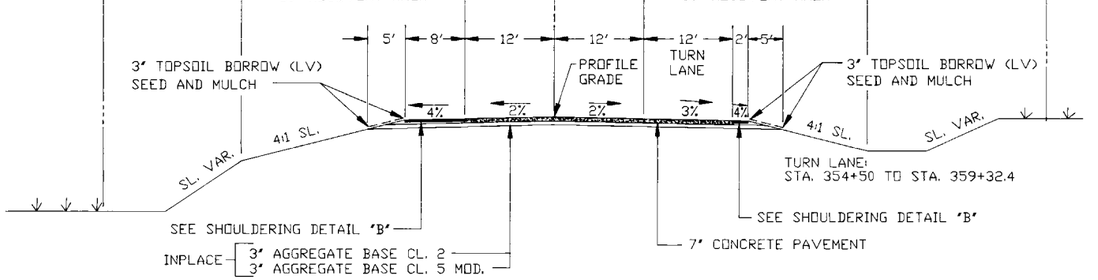
STA. 352+00 TO STA. 356+30
STA 359+57 TO STA. 369+00



TYPICAL SECTION

55TH STREET

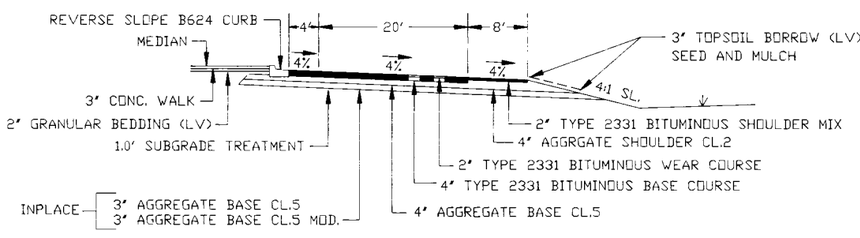
STA. 5+35 TO STA. 11+00 LT. STA. 476+50
SEE PLAN SHEET NO. 20 FOR VAR. WIDTHS.



TYPICAL TURN LANE DETAIL

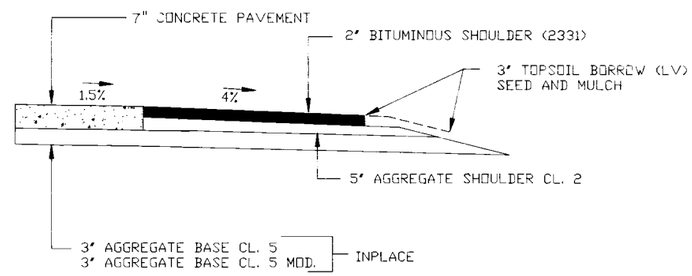
C.S.A.H. 4

STA. 356+30 TO STA. 359+57



TYPICAL RAMP SECTION

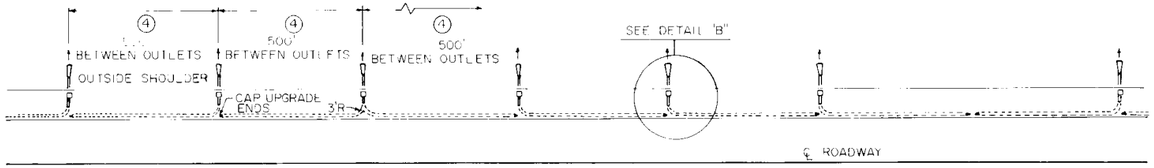
FREE FLOW LANE TO 55TH ST. N.W.



SHOULDERING DETAIL "B"

EDGE DRAIN DETAILS AND CONSTRUCTION NOTES

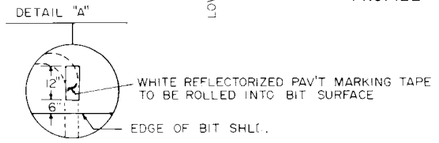
PLAN VIEW



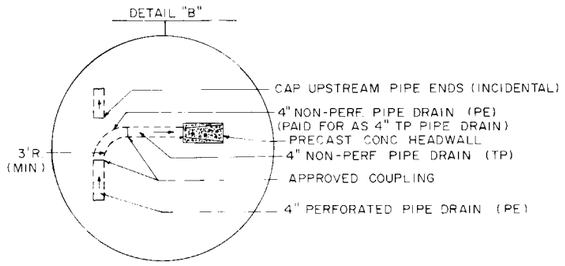
PROFILE VIEW

LEGEND
- 3" PERFORATED PIPE DRAIN
- 4" NON-PERFORATED PIPE DRAIN
- PRECAST CONCRETE HEADWALL
- MARKING TAPE (SPEC.3353)

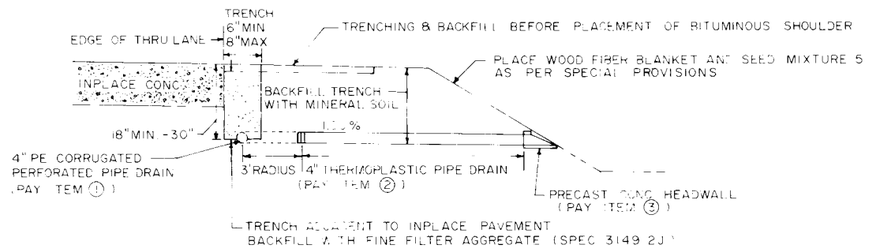
DETAIL "A"



DETAIL "B"



X - SECTION VIEW



CONSTRUCTION NOTES

① PAYMENT FOR 4" PERFORATED PIPE DRAIN SHALL BE FULL COMPENSATION FOR TRENCHING, FABRIC WRAPPED PE PIPE AND INSTALLATION, FILTER AGGREGATE BACKFILL AND COMPACTION, AND ALL OTHER ASSOCIATED WORK

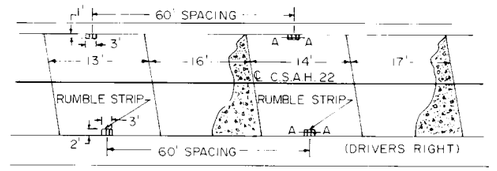
② PAYMENT FOR 4" NON-PERFORATED PIPE DRAIN SHALL BE FULL COMPENSATION FOR TRENCHING, FURNISHING AND PLACING PIPE AND CONNECTIONS, BACKFILL AND COMPACTION, AND ALL OTHER ASSOCIATED WORK

③ PAYMENT FOR PRECAST CONCRETE HEADWALLS SHALL BE FULL COMPENSATION FOR PLACING HEADWALL, WOOD FIBER BLANKET AND SEED, FURNISHING AND PLACING MARKING TAPE, AND ALL OTHER ASSOCIATED WORK

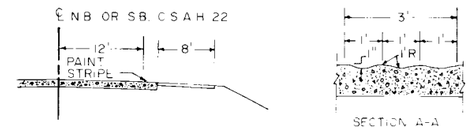
④ IF AN OUTLET HAPPENS TO FALL WITHIN A CROSS-OVER OR DITCH-BLOCK INCREASE THE LENGTH OF THE PERFORATED PIPE TO A POINT WHERE AN OUTLET CAN BE SATISFACTORILY CONSTRUCTED AS DIRECTED BY THE ENGINEER

⑤ EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH MN/DOT SPEC 2104.303

RUMBLE STRIP DETAIL AND CONSTRUCTION NOTES



PLAN VIEW



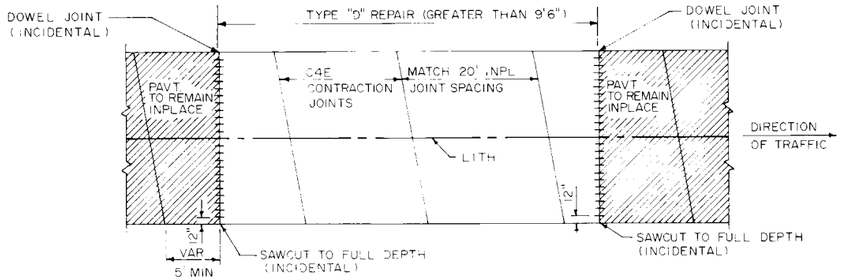
CONSTRUCTION NOTES

NOTE: DO NOT PLACE RUMBLE STRIPS AT ACCEL AND DECEL LANES AND TURN LANES AND TAPERS.

NOTE: RUMBLE STRIPS WILL BE (INCIDENTAL) AND THERE WILL BE NO DIRECT COMPENSATION THEREFORE.

SKEWED PANEL PAVEMENT REPLACEMENT (TYPE D-1) & CONSTRUCTION NOTES

DESCRIPTION: REMOVE CONCRETE, RESTORE BASE, PLACE DOWELS, INSTALL REINFORCEMENT AT PLAN LOCATIONS. FURNISH AND PLACE CONCRETE, SAW AND SEAL JOINTS

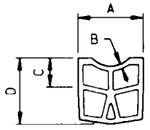


CONSTRUCTION NOTES

1. SAW FULL DEPTH & REMOVE CONCRETE PAVEMENT
2. PLACE GRAVEL CL 5 & RESTORE BASE TO GRADE BY ORDINARY COMPACTION (INCIDENTAL)
3. FURNISH & INSTALL 1" DIAMETER SMOOTH DOWELBAR PARALLEL TO CENTERLINE 8" LONG AT 12" C-C PLACE WITH AN APPROVED NON-SHRINK GROUT (INCIDENTAL)
4. PLACE C4E CONTRACTION JOINTS TO MATCH INPLACE JOINTS
5. CLEAN INPLACE VERTICAL SLAB SURFACE. PLACE REINFORCEMENT FOR LITH. FINISH TO REQUIRED GRADE, SLOPE, AND TEXTURE. APPLY CURE. LITH BARS SHALL BE NO.5 x 3'0" SPACED AT 3'00" FOR REINFORCEMENT OVER CULVERTS SEE STANDARD PLATE 1070. REINFORCEMENT OVER CULVERTS ARE INCIDENTAL TO (TYPE D) PANEL REPLACEMENT
6. RESTORE JOINTS BY GREEN SAWING OR BY OTHER METHODS APPROVED BY THE ENGINEER.
7. FORM EXPANSION JOINT AND SAW C4E CONTRACTION JOINT (INCIDENTAL)
8. SEAL TRANSVERSE JOINTS WITH SILICONE SEALER, LONGITUDINAL JOINTS WITH HOT-POUR SPEC.3723 SEALER (INCIDENTAL)
9. REMOVE BITUMINOUS SHOULDERS AT REPAIR LOCATIONS. (INCIDENTAL TO ITEM 2104.505)
10. RESTORE AND COMPACT AGGREGATE SHOULDERS CL 2 (INCIDENTAL TO ITEM 2221.501)
11. BITUMINOUS PAVEMENT TYPE 31 WEAR FOR SHOULDER, IN REPAIR LOCATIONS ARE (INCIDENTAL TO ITEM 2331.516

REQUIRED DIMENSIONS

JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	13/16" USE IN ALL 3/8" JOINTS
A	0.80" +0.14" -0.05"
B	0.08" ± 0.02"
C	0.60" MIN.
D	0.80" MIN.
WEB AND WALL THICKNESS, UNLESS NOTED	0.03" MIN.



SPEC. REFERENCE 3721

TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

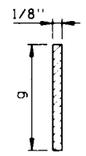
NOTES:

"A" DIMENSION SHALL APPLY AT ANY POINT THROUGHOUT "C" DEPTH. IN ITS FINAL POSITION, THE TOP CORNERS OF THE PREFORMED JOINT SEALER SHALL BE PLACED NOT LESS THAN 1/8 IN., NOR MORE THAN 5/16 IN. BELOW THE PAVEMENT SURFACE.

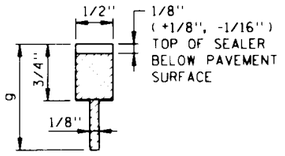
SHARP INTERNAL CORNERS WILL NOT BE PERMITTED. ALL CORNERS SHALL BE PROVIDED WITH SUITABLE FILLET. CURRENTLY APPROVED CONFIGURATIONS ARE ON FILE IN THE MATERIALS ENGINEERING SECTION, MINNESOTA DEPARTMENT OF TRANSPORTATION.

CONTRACTION JOINT SEALER

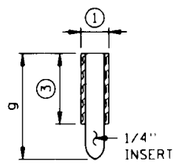
PREFORMED ELASTIC TYPE



DETAIL A
FORMED & SAWED



DETAIL B ②
SAWED



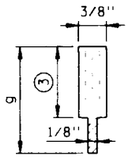
DETAIL C
FORMED
(INSERT TO BE REMOVED)

CONTRACTION JOINT CLASS DESIGNATION, DETAIL & SEALER SPEC. TABLE

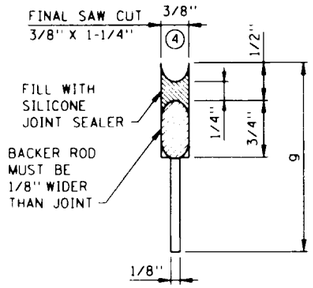
CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITHOUT DOWELS	WITH DOWELS		
C1A	C1A-D	A	UNSEALED
C2B	C2B-D	B	3723
C2X	C2X-D	B OR C	3723
C3D	C3D-D	D	3721
C3X	C3X-D	C OR D	3721
C4E	C4E-D	E	SILICONE

CONTRACTION JOINT DEPTH & DOWEL BAR TABLE

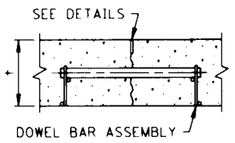
PAVEMENT THICKNESS †	CONCRETE PAVEMENT JOINT DEPTH g ⑤	CONCRETE BASE JOINT DEPTH g	DOWEL BAR DIAMETER
6"	1-1/2"	1-1/4"	3/4"
6-1/2"	1-5/8"	1-1/4"	3/4"
7"	1-3/4"	1-1/2"	1"
7-1/2"	1-7/8"	1-1/2"	1"
8"	2"	1-1/2"	1"
8-1/2"	2-1/8"	1-1/2"	1"
9"	2-1/4"	1-1/2"	1-1/4"
9-1/2"	2-3/8"	2"	1-1/4"
10"	2-1/2"	2"	1-1/4"
10-1/2"	2-5/8"	--	1-1/4"
11"	2-3/4"	—	1-1/2"
11-1/2"	2-7/8"	—	1-1/2"
12"	3"	—	1-1/2"
12-1/2"	3-1/8"	—	1-1/2"
13"	3-1/4"	—	1-3/4"
13-1/2"	3-3/8"	—	1-3/4"
14"	3-1/2"	—	1-3/4"



DETAIL D
SAWED



DETAIL E
SAWED



SECTION AT JOINT

LEGEND — EXAMPLE C2B-D

- C = CONTRACTION JOINT
- NO. = SEALANT TYPE
  - 1 = UNSEALED
  - 2 = 3723
  - 3 = 3721
  - 4 = SILICONE
- LETTER = DETAIL
  - X = MORE THAN 1 DETAIL
  - -D = DOWEL BARS

CONTRACTION JOINT NOTES:

IN CONCRETE BASE CONSTRUCTION THE CONTRACTION JOINTS SHALL BE SPACED AT 30 FT. INTERVALS AND AT RIGHT ANGLES TO THE LONGITUDINAL JOINTS, EXCEPT AS NOTED BELOW. WHERE THE CONCRETE BASE IS CONSTRUCTED ADJACENT TO EXISTING PAVEMENT OR BASE, THE CONTRACTION JOINTS IN THE NEW BASE SHALL MATCH THOSE IN THE EXISTING PAVEMENT OR BASE, EXCEPT THAT THE SPACING SHALL NOT BE LESS THAN 15 FT., NOR MORE THAN 30 FT.

JOINT WIDTH TOLERANCES: + 1/16 IN. AND - 1/32 IN.

GENERAL NOTES:

SEE THE FOLLOWING STANDARD PLATES AND STANDARD PLAN SHEET FOR ADDITIONAL DETAILS: DOWEL BAR ASSEMBLY, 1103; CONSTRUCTION OF HEADER JOINTS, 1150; AND CONCRETE PAVEMENT WITH SKEWED JOINTS, 5-297.215 - .219.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.

NOTES:

① **DESIGN C3X OR C3X-D** - PRIOR TO INSTALLING PREFORMED JOINT SEALER IN THE FORMED JOINT (DETAIL C), THE JOINT SHALL BE WIDENED TO A NOMINAL WIDTH OF 3/8" BY SAWING ALONG THE FULL LENGTH OF THE FORMED JOINT.

DESIGN C2X OR C2X-D - PRIOR TO SEALING FORMED JOINT (DETAIL C), WITH HOT POUR SEALER, THE JOINT SHALL BE WIDENED TO A NOMINAL WIDTH WIDTH OF 1/2" FOR A DEPTH OF 3/4", + 1/8", - 1/16", BY SAWING ALONG THE FULL LENGTH OF THE FORMED JOINT. THE SEALER SHALL BE FILLED TO THE SAME DEPTH AS SHOWN IN DETAIL B.

② **DESIGN C2B OR C2B-D** - PRIOR TO SEALING JOINT (DETAIL B) WITH HOT POUR JOINT SEALER, A STRIP OF PAPER 1/2" WIDE SHALL BE PLACED ON THE BOTTOM OF THE 1/2" WIDE JOINT.

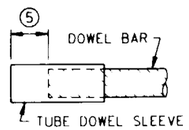
③ WHEN USING PREFORMED JOINT SEALER, THE DEPTH SHALL BE 1/4" MORE THAN THE PREFORMED SEALER, WHEN COMPRESSED, TO FIT THE JOINT DESIGN WIDTH.

④ THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2" BELOW THE SURFACE OF THE PAVEMENT. SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEALANT BEAD THICKNESS OF 1/4".

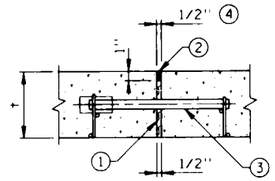
⑤ FOR UNBONDED OVERLAYS, THE JOINT DEPTH "G" SHALL BE T/3.

CONTRACTION JOINTS

DESIGN C

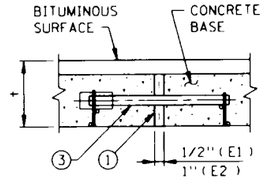


DOWEL BAR SLEEVE DETAIL



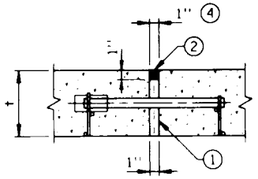
E1D-1 (W/DOWELS) E1-1 (W/O DOWELS)

DETAIL A



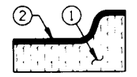
E1DB & E2DB (W/DOWELS) E1B & E2B (W/O DOWELS)

DETAIL B

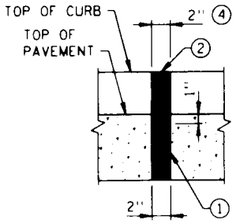


E2D-1 (W/DOWELS) E2-1 (W/O DOWELS)

DETAIL C



SECTION THRU CURB E2-1

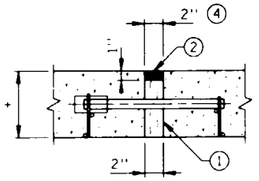


E4-1 (W/O DOWELS)

DETAIL D



SECTION THRU CURB E4-1



E4D-1 (W/DOWELS)

DETAIL E

EXPANSION JOINTS

CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITH DOWELS	WITHOUT DOWELS		
E1D-1	E1-1	A	②
E1DB	E1B	B	UNSEALED
E2D-1	E2-1	C	②
E2DB	E2B	B	UNSEALED
	E4-1	D	②
E4D-1		E	②

LEGEND

- E = EXPANSION JOINT
- NO. = JOINT REFERENCE
- -1 = HOT POURED SEAL ②
- D = DOWEL BARS
- B = CONCRETE BASE
- S = CONCRETE SILL

EXAMPLE

E1D-1
- HOT POURED SEAL ②
- DOWEL BARS
- JOINT REFERENCE
- EXPANSION JOINT

NOTES:

① PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.

② JOINT SEALER SPEC. 3723. TOP OF SEALER, FLUSH TO 1/8 IN. BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION E JOINTS FLUSH WITH SURFACE (0 IN.) ± 1/8 IN.

③ DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.

④ JOINT WIDTH IS EQUAL TO HALF OF THE JOINT NUMBER IN 1/2 IN. INTERVALS (i.e. E1 = 1/2 IN., E2 = 1 IN., E3 = 1-1/2 IN., E4 = 2 IN., E8 = 4 IN.).

⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE TO BE EQUAL TO EXPANSION JOINT WIDTH.

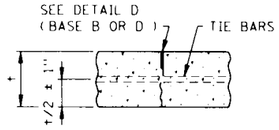
EXPANSION JOINTS

DESIGN E

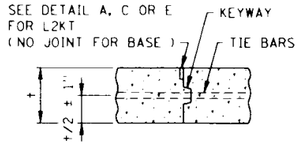
STANDARD SHEET NO. 5-297.221 (1 OF 2)	TITLE: PAVEMENT JOINTS
STANDARD APPROVED: JANUARY 25, 1993	CONTRACTION (DESIGN C) AND EXPANSION (DESIGN E)

~~STATE PROJ. NO.~~ S.A.P. 55-604-14 & S.A.P. 55-622-21 SHEET NO. 6 OF 29 SHEETS

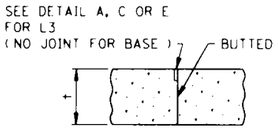
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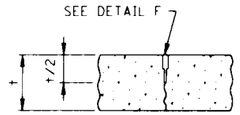
L1, L1T, L1B & L1TB



L2KT & L2KTB



L3 & L3B



L4

LONGITUDINAL JOINT CLASS DESIGNATION, DETAIL & SEALER SPECIFICATION TABLE

CLASS DESIGNATION				JOINT DETAIL	JOINT SEALER SPECIFICATION
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS	BUTTED		
L1H	L1TH			B	3723
L1BU	L1TBU			A OR B	UNSEALED
		L2KTH		D OR E	3723
		L2KTS		C	SILICONE
			L3H	D OR E	3723
			L3S	C	SILICONE
L4S				F	SILICONE

LEGEND

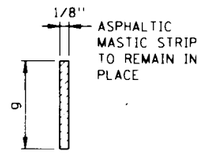
L = LONGITUDINAL JOINT
NO. = JOINT REFERENCE
K = KEYWAY
T = TIE BARS
B = CONCRETE BASE
U = UNSEALED
H = HOT POUR
S = SILICONE

JOINT REFERENCE NUMBERS

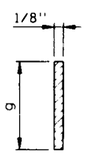
1 = SAWED TO A DEPTH OF t/3
2 = KEYED CONSTRUCTION JOINT
3 = BUTTED CONSTRUCTION JOINT
4 = SAWED TO A DEPTH OF t/2

LONGITUDINAL JOINT DEPTH TABLE

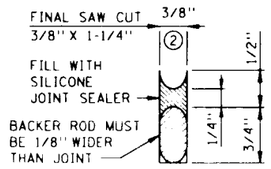
PAVEMENT THICKNESS t	CONCRETE PAVEMENT JOINT DEPTH g	CONCRETE BASE JOINT DEPTH g
6"	2"	2"
6-1/2"	2-1/8"	2"
7"	2-1/4"	2-1/4"
7-1/2"	2-1/2"	2-1/4"
8"	2-5/8"	2-1/2"
8-1/2"	2-7/8"	2-1/2"
9"	3"	2-3/4"
9 1/2"	3-1/4"	3"
10"	3-3/8"	
10-1/2"	3-1/2"	
11"	3-5/8"	
11-1/2"	3-7/8"	
12"	4"	
12-1/2"	4-1/8"	
13"	4-3/8"	
13-1/2"	4-1/2"	
14"	4-5/8"	



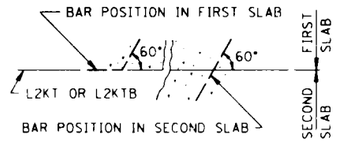
DETAIL A
(FORMED & UNSEALED)



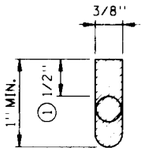
DETAIL B
(SAWED & SEALER, SPEC. 3723)
(BASE JOINTS UNSEALED)



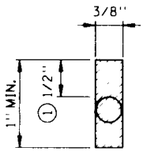
DETAIL C
(SAWED)



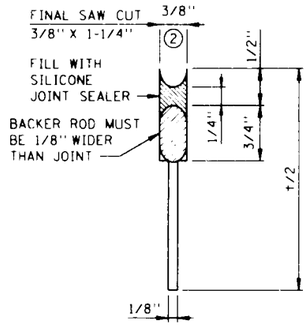
TIE BAR BENDING DETAIL



DETAIL D
(FORMED & SEALED SPEC. 3723)



DETAIL E
(SAWED & SEALER SPEC. 3723)



DETAIL F
(SAWED)

LONGITUDINAL JOINT NOTES:

TIE BARS FOR L1TB JOINTS SHALL BE THE SAME SIZE AND SPACING AS SHOWN ON STANDARD PLAN SHEETS 5-297.216 - .219.

EXCEPT WHEN NOTED OTHERWISE IN THE PLANS, THE TIE BAR SPACING FOR ALL L2KT AND L2KTB JOINTS SHALL BE 2'6" C. TO C. AND BENT 60° AS SHOWN.

TIE BARS IN THE L2KT AND L2KTB JOINTS SHALL BE THE SAME SIZE AND LENGTH AS USED FOR THE L1T OR L1TB JOINTS, WHEN TYING PAVEMENT TO PAVEMENT OR BASE TO BASE. TIE BARS IN THE L2KT OR L2KTB JOINTS SHALL BE NO. 4 X 2'6", WHEN TYING CURB & GUTTER TO PAVEMENT OR BASE.

ALL TIE BARS SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M-31 OR M-53.

NORMALLY, TIED PAVEMENT WIDTHS SHALL NOT EXCEED 30 FEET, EXCEPT BRIDGE APPROACH PANELS AND PAVEMENT TAPERS.

JOINT WIDTH TOLERANCE IS + 1/16 IN. TO - 1/32 IN.

SPEC. 3723 SEALER - TOP OF SEALER FLUSH TO - 3/16 IN. BELOW TOP OF PAVEMENT SURFACE.

(1) THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F, WITH A DIAMETER 1/8 IN. LARGER THAN THE JOINT OPENING, MAY BE PLACED 1/2 IN. BELOW THE TOP OF THE PAVEMENT.

(2) THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A 1/2 IN. DIAMETER CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2 IN. BELOW THE SURFACE OF THE PAVEMENT. SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEALANT BEAD THICKNESS OF 1/4 IN.

GENERAL NOTES:

SEE THE FOLLOWING STANDARD PLATES AND STANDARD PLAN SHEETS FOR ADDITIONAL DETAILS: DOWEL BAR ASSEMBLY 1103, PAVEMENT KEYWAY 1141 AND CONCRETE PAVEMENT WITH SKEWED JOINTS 5-297.216 - .219.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATIONS TO BE USED & SPECIAL REINFORCEMENT REQUIRED.

STANDARD SHEET NO.	TITLE:
5-297.221 (2 OF 2)	PAVEMENT JOINTS
STANDARD APPROVED: JANUARY 25, 1993	LONGITUDINAL (DESIGN L)

~~STATE PROJ. NO.~~ SAP 55-604-14 & SAP55-622-21 SHEET NO. 7 OF 29 SHEETS

SERVER CA64S1:/USR/STANDARDS FILE NAME S2212A93.SPN

Fed. Proj. No.

STA. 395 + 85
3' LT. F. & I. P.V.C. HANDHOLE WITH CONC. COVER
58' LT. F. & I. 55' OF 4" RIGID STEEL CONDUIT
62' RT. F. & I. 65' OF 4" RIGID STEEL CONDUIT
58' LT. & 62' RT. F. & I. PIPE CAPS

C.S.A.H. 4 RT. & LT. STA. 396 + 58.09
SEE PLAN SHEETS NO. 21 & 22 FOR PLAN & PROFILE, AND PLAN SHEET NO. 4 FOR TYPICAL SECTION

NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 17' UNLESS OTHERWISE SHOWN. STATIONING OF JOINTS ARE TO LEFT EDGE OF SLAB

JOINT STA. IS TO LT. EDGE S.B.L.

BEGIN: S.A.P. 55-622-21
STA. 395 + 85

P.O.T. 396 + 58.09 C.S.A.H. 22 =
P.I. 359 + 75.00 C.S.A.H. 4

395 | 400 | 405

C4E-E | C4E-D | LITH | L3S | L2KTS

SEE INSET "C"

FUTURE NORTH BOUND LANE

NOTE: CONST. TERMINAL TEMPORARY HEADER STA. 395 + 90

△ DENOTES TILE OUTLETS

NOTE: CONST. CORRUGATED P.E. PERFORATED PIPE LT. & RT. SEE PLAN SHEET NO. 5 FOR EDGE DRAIN DETAIL

STA. 397 + 30
6' RT. F. & I. P.V.C. HANDHOLE WITH CONC. COVER
62' LT. F. & I. 68' OF 4" RIGID STEEL CONDUIT
58' RT. F. & I. 52' OF 4" RIGID STEEL CONDUIT
62' LT. & 58' RT. F. & I. PIPE CAPS

INSET "C"

PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER IS LESS THAN 6 FEET

APPROACH RT. STA. 404 + 85
CONST. AGGREGATE APPROACH

S.B.L. FINISHED PROFILE

P.I. 389 + 00
ELEV. 1150.02
V.C. 3800'
M = 33.25'
G_1 = +3.9%
G_2 = -3.1%

-3.1%

FINISHED PROFILE S.B.L.

1110 1100 1090 1080 1070 1060

392+00 393+00 394+00 395+00 396+00 397+00 398+00 399+00 400+00 401+00 402+00 403+00 404+00 405+00 406+00

~~State Proj. No.~~ S.A.P. 55-622-21

Sheet No. 12 of 29 Sheets

Copy Equipment Form #21

Fed. Proj. No.

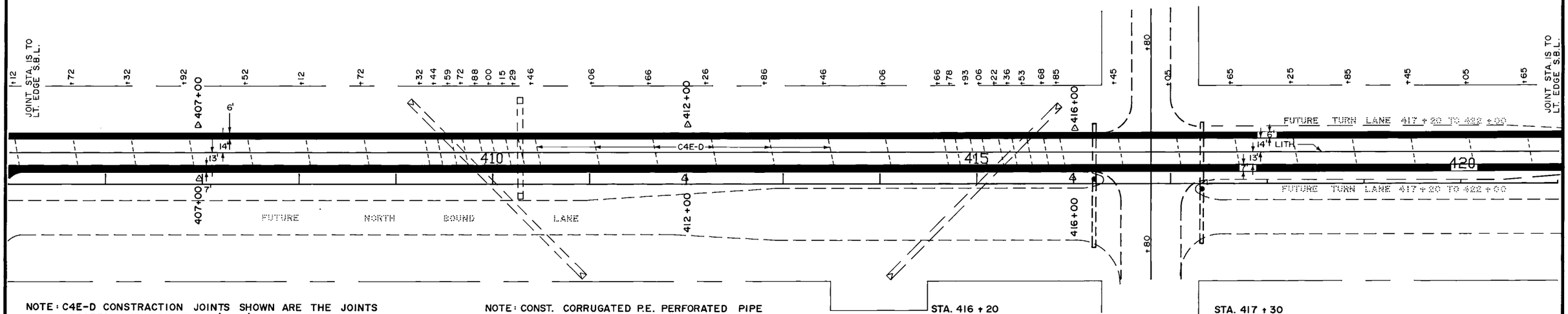
℄ CULV. STA. 410 + 00
CONST. 12', 15', 13', 16' & 12' REINF. PANELS
STA. 409 + 32 TO 410 + 00

℄ CATTLE PASS 410 + 35
CONST. 15', 14' & 17' REINF. PANEL
STA. 410 + 00 TO 410 + 46

℄ CULV. 415 + 05
CONST. 16', 14', 17' & 15' REINF. PANELS
STA. 415 + 05 TO 415 + 68

APPROACH LT. STA. 416 + 80
CONST. AGGREGATE APPROACH

N



NOTE: C4E-D CONSTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN. STATIONING OF JOINTS ARE TO LEFT EDGE OF SLAB

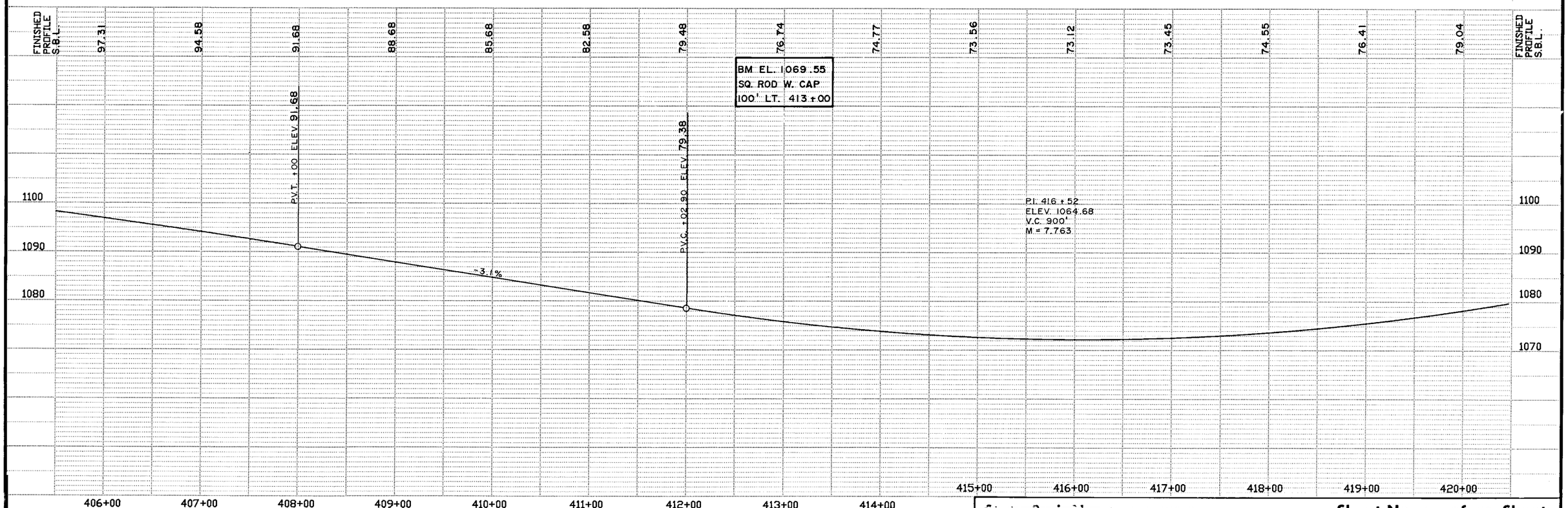
NOTE: CONST. CORRUGATED P.E. PERFORATED PIPE LEFT & RIGHT. SEE PLAN SHEET NO. 5 FOR EDGE DRAIN DETAIL.

STA. 416 + 20
3' LT. F. & I. P.V.C. HANDHOLE WITH CONC. COVER
58' LT. F. & I. 55' OF 4" RIGID STEEL CONDUIT
62' RT. F. & I. 65' OF 4" RIGID STEEL CONDUIT
58' LT. & 62' RT. F. & I. PIPE CAPS

STA. 417 + 30
6' RT. F. & I. P.V.C. HANDHOLE WITH CONC. COVER
62' LT. F. & I. 68' OF 4" RIGID STEEL CONDUIT
58' RT. F. & I. 52' OF 4" RIGID STEEL CONDUIT
62' LT. & 58' RT. F. & I. PIPE CAPS

△ DENOTES TILE OUTLETS

APPROACH RT. 416 + 80
CONST. AGGREGATE APPROACH



~~State Proj. No.~~ S.A.P. 55-622-21

Sheet No. 13 of 29 Sheets

Fed. Proj. No.

RES. DR. RT. STA. 421 + 50
CONST. 2" BITUMINOUS APPROACH

NOTE: L2KTS JOINTS ON N.B.L. & S.B.L. FROM STA. 421 + 10 TO STA. 422 + 00 ARE FOR FUTURE TURN LANES

JOINT STA. IS TO LT. EDGE S.B.L.

+45 +05 +65 +25 P.C. 421 + 36.14 +85 +45 +05 +65 +25 +85 +45 +05 +65 427+00 +25 +85 +45 +05 +65 +25 P.T. 430 + 64.04 +85 P.O.T. 431+01.45 +45 +05 +65 +25 +85 +45

JOINT STA. IS TO LT. EDGE OF S.B.L.

FUTURE TURN LANE STA. 417 + 20 TO STA. 422 + 00

+20 +10 +00 422+00

L2KTS
L2KTS
C4E-D

420 425 430

6'
14'
13
7'

LITH

FUTURE TURN LANE STA. 417 + 20 TO STA. 422 + 00

422+00

+50

FUTURE NORTH BOUND LANE

427+00

P.I. 426 + 00.20
Δ RT. 3° 05' 35"
D = 0° 20' 00"
T = 464.06'
L = 927.90'
R = 17,188.73'

NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN. STATIONING OF JOINTS ARE TO LEFT EDGE OF SLAB

NOTE: CONST. CORRUGATED P.E. PERFORATED PIPE LEFT & RIGHT. SEE PLAN SHEET NO. 5 FOR EDGE DRAIN DETAIL.

Δ DENOTES TILE OUTLETS

S.B.L. FINISHED PROFILE

79.04 82.43 86.21 88.29 92.76 95.43 97.70 99.57 01.03 02.09 02.74 02.99 02.84 02.29 01.33

FINISHED PROFILE S.B.L.

P.V.T. 421 + 02.90 ELEV. 82.54
P.V.C. 421 + 69.92 ELEV. 85.09
+3.8%

P.I. 429 + 69.92
ELEV. 1114.93
V.C. 1600'
M = 12.9

1100
1090
1080
1070
1060

420+00 421+00 422+00 423+00 424+00 425+00 426+00 427+00 428+00 429+00 430+00 431+00 432+00 433+00 434+00

Copy Equipment Form #2

State Proj. No. S.A.P. 55-622-21

Sheet No. 14 of 29 Sheets

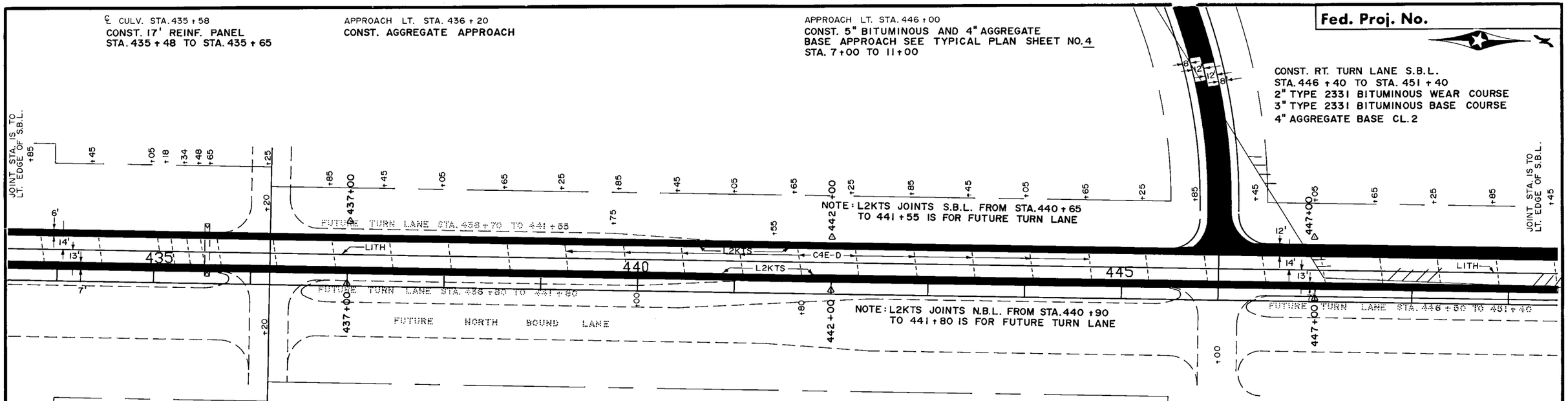
℄ CULV. STA. 435 + 58
CONST. 17' REINF. PANEL
STA. 435 + 48 TO STA. 435 + 65

APPROACH LT. STA. 436 + 20
CONST. AGGREGATE APPROACH

APPROACH LT. STA. 446 + 00
CONST. 5" BITUMINOUS AND 4" AGGREGATE
BASE APPROACH SEE TYPICAL PLAN SHEET NO. 4
STA. 7 + 00 TO 11 + 00

Fed. Proj. No.

CONST. RT. TURN LANE S.B.L.
STA. 446 + 40 TO STA. 451 + 40
2" TYPE 2331 BITUMINOUS WEAR COURSE
3" TYPE 2331 BITUMINOUS BASE COURSE
4" AGGREGATE BASE CL. 2



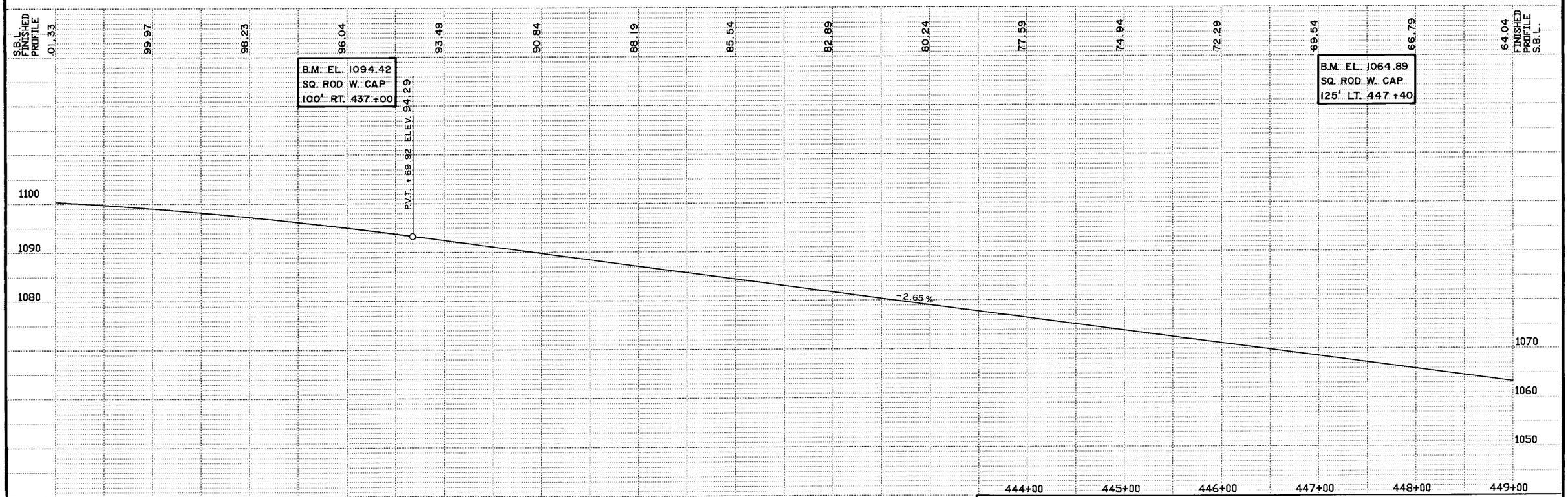
△ DENOTES TILE OUTLETS

APPROACH RT. STA. 436 + 20
CONST. AGGREGATE APPROACH

NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN. STATIONING OF JOINTS ARE TO LEFT EDGE OF SLAB

APPROACH RT. STA. 446 + 00
CONST. AGGREGATE APPROACH

NOTE: CONST. CORRUGATED P.E. PERFORATED PIPE LEFT & RIGHT. SEE PLAN SHEET NO. 5 FOR EDGE DRAIN DETAIL



~~State Proj. No.~~ S.A.P. 55-622-21

Sheet No. 15 **of** 29 **Sheets**

Copy Equipment Form #3

NOTE: CONST. CORRUGATED P.E. PERFORATED PIPE LEFT & RIGHT. SEE PLAN SHEET NO. 5 FOR EDGE DRAIN DETAIL.

℄ CULV. STA. 455 + 20
CONST. 14', 17' & 13' PANELS
FROM STA. 454 + 68 TO
STA. 455 + 14

APPROACH LT. STA. 460 + 39.4
CONST. AGGREGATE APPROACH

SURVEY ℄
P.I. 475 + 36.12
△ RT. 86°19'58"
D = 3°
T = 1791.37'
L = 2877.76'
E = 708.64'
R = 1909.86'
P.C. 457 + 44.75
P.T. 486 + 22.51

Fed. Proj. No.

APPROACH RT. STA. 460 + 39.4
CONST. AGGREGATE APPROACH

CONST. B624 CURB & GUTTER MEDIAN WITH 3" CONCRETE WALK STA. 461+00 TO STA. 463 + 00

JOINT STA. IS TO LT. EDGE OF S.B.L.

JOINT STA. IS TO LT. EDGE OF S.B.L.

BEGIN B624 C.& G.

END B624 C.& G.

JOINT STA. IS TO LT. EDGE OF S.B.L.

CORPORATE LIMITS ROCHESTER

△ 452+00

△ 457+00

△ 462+00

SEE INSET "B"

SEE INSET "A"

C4E-D

L2KTS

LITH

L3S

3" CONC. WALK

B624 C.& G.

450

455

460

6'

14'

13'

7'

16'

FUTURE NORTH BOUND LANE

NOTE: L2KTS JOINTS FOR N.B.L. & S.B.L. FROM STA. 450 + 50 TO STA. 451 + 40 ARE FOR FUTURE TURN LANES.

P.O.T. 455 + 68.86
P.C. 455 + 82.97
BEGIN TRANSITION N.B.L.

8' BITUMINOUS PATHWAY

P.C. 457 + 44.75 ℄ SURVEY

JOINT STA. IS TO LT. EDGE OF N.B.L.

℄ TRANSITION FROM TWO LANE TO FOUR LANE
P.I. 464 + 19.38
△ RT. 43° 10'
D = 2°42'35.6" (2.7099°)
T = 836.41'
L = 1592.92'
E = 159.43'
R = 2114.31'
P.C. 455 + 82.97 (℄ S.B.L.)
P.T. 471 + 75.89 (℄ N.B.L.) =
32' RT. SURVEY ℄ P.O.C. 471 + 83.63

INSET "A"

STA. 456 + 67.33
S.B. LANE

LITH OR L2KTS

L3

4"

3"

1.68'

NO. 4 BARS

NO. 4 x 5' BARS

6"

4"

L2KTS OR LITH

INSET "B"

℄ S.B. LANE

4"

L3S

1.0'±

L2KTS OR LITH

PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER IS LESS THAN 6 FEET.

PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER IS LESS THAN 6 FEET.

NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.
STATIONING OF JOINTS ARE TO LEFT EDGE OF SLAB.

CONST. 2" BITUMINOUS PATHWAY BEGINNING AT THE DOUGLAS TRAIL RT. OF STA. 455 + 00 TO APPROXIMATELY STA. 501 + 89. SEE PLAN SHEET NO. 3 FOR DETAIL.

△ DENOTES TILE OUTLETS

S.B.L. FINISHED PROFILE

64.04 61.39 58.74 56.09 53.44 50.79 48.14 45.51 43.06 40.59 37.99 35.34 33.00 31.09 29.76 28.94

BEGIN N.B.L. FINISHED PROFILE

42.78 40.13 37.48 34.83 32.42 30.30 29.06 28.11

FINISHED PROFILE N.B.L.

B.M. EL. 1027.29
SQ. ROD W. CAP
95' RT. 461 + 00

P.I. 462 + 00
ELEV. 1029.13
V.C. 400'
M = 1.025'
C = 0.2563

-2.65%

P.V.C. +00 ELEV.

P.V.T. +00 ELEV.

1070 1060 1050 1040 1030 1020

449+00 450+00 451+00 452+00 453+00 454+00 455+00 456+00 457+00 458+00 459+00 460+00 461+00 462+00 463+00 464+00

~~State Proj. No.~~ S.A.P. 55-622-21

Sheet No. 16 of 29 Sheets

Copy Equipment Form #2

NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' & 17' UNLESS OTHERWISE SHOWN. STATIONING TO JOINTS ARE TO THE LEFT EDGE OF SLAB.

NOTE: CONST. CORRUGATED P.E. PERFORATED PIPE LEFT & RIGHT. SEE PLAN SHEET NO. 5 FOR EDGE DRAIN DETAIL. 5

STA. 475 + 90
3' LT. F.& I. P.V.C. HANDHOLE W./CONC. COVER
58' LT. F.& I. 55' OF 4" RIGID STEEL CONDUIT
62' RT. F.& I. 65' OF 4" RIGID STEEL CONDUIT
58' LT. & 62' RT. F.& I. PIPE CAPS

Proj. No.

SEE SHEET NO. 4 FOR 55th ST. N.W. DETAIL & SHEET NO. 20 FOR PLAN & PROFILE.

STA. 476 + 90
62' LT. F.& I. P.V.C. HANDHOLE W./CONC. COVER
8' RT. F.& I. P.V.C. HANDHOLE W./CONC. COVER
62' LT. F.& I. 70' OF 4" RIGID STEEL CONDUIT
68' RT. F.& I. 60' OF 4" RIGID STEEL CONDUIT
68' RT. F.& I. PIPE CAP

INSET "D"

PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER IS LESS THAN 6 FEET.

POC. STA. 471 + 83.63 SURVEY ℄

P.T. 471 + 75.89 = N.B.L. TRANSITION
32' RT. POC. STA. 471 + 83.63 SURVEY ℄

℄ CULV. N.B. LANE STA. 469 + 50
CONST. 17' REINF. PANEL FROM STA. 469 + 39 TO STA. 469 + 56

INSET "C"

PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER IS LESS THAN 6 FEET.

CHAIN LINK FENCE DESIGN 60V-9322

CORPORATE LIMITS

℄ BOX CULVERTS
CONST. 13', 16', 14', 17', 13', 16', 14', 17' & 13' REINF. PANELS FROM STA. 472 + 22 TO 473 + 55 S.B. LANES.

CONST. 13', 16', 14', 17', 13', 16', 14', 17' & 13' REINF. PANELS FROM STA. 472 + 85 TO 474 + 18 N.B. LANES.

CONST. CHAIN LINK FENCE DESIGN 60V-9322 ON OUTLET END OF BOX CULVERTS SEE PLAN SHEET NO. 2 FOR DETAIL.

CONST. 2" BITUMINOUS PATHWAY FROM STA. 455 + 00 RT. TO STA. 501 + 89. SEE PLAN SHEET NO. 3 FOR DETAIL.

STA. 476 + 50 O.C.S.A.H. 22 = STA. 11 + 43.3 55th ST. N.W.

APPROACH RT. STA. 476 + 50
CONST. 4" AGGREGATE & 6" BITUMINOUS APPROACH

△ DENOTES TILE OUTLETS

B.M. EL. 1020.62
SQ. ROD W./CAP
115' RT. 473 + 00

P.I. 469 + 50
ELEV. 1025.00
V.C. 200'
M = 0.2875
C = 0.2875

-0.55%

+0.6%

	464+00	465+00	466+00	467+00	468+00	469+00	470+00	471+00	472+00	473+00	474+00	475+00	476+00	477+00	478+00	479+00
S.B.L. FINISHED PROFILE	28.94	28.44	27.84	27.29	26.74	26.46	26.27	26.29	26.52	26.82	27.42	28.02	28.62	29.22	29.82	30.42	31.02	31.62
N.B.L. FINISHED PROFILE	28.11	27.41	25.70	25.99	25.28	25.00	24.65	24.90	25.12	25.42	25.99	26.59	27.19	27.79	28.39	28.99	29.58	30.18
	P.V.T. +00 ELEV.					P.V.C. +50 ELEV.			P.V.T. +50 ELEV.									

~~State Proj. No.~~ S.A.P. 55-622-21

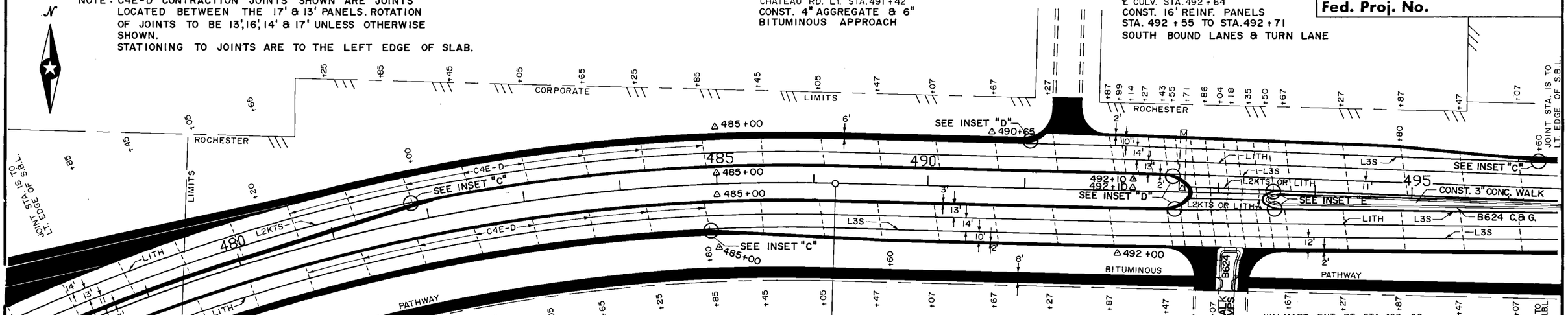
Copy Equipment Form #2

Fed. Proj. No.

NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE 13', 16', 14' & 17' UNLESS OTHERWISE SHOWN.
STATIONING TO JOINTS ARE TO THE LEFT EDGE OF SLAB.

CHATEAU RD. LT. STA. 491+42
CONST. 4" AGGREGATE & 6" BITUMINOUS APPROACH

℄ CULV. STA. 492+64
CONST. 16' REINF. PANELS
STA. 492+55 TO STA. 492+71
SOUTH BOUND LANES & TURN LANE



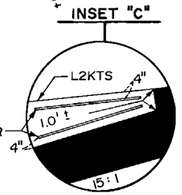
NOTE: CONST. CORRUGATED P.E. PERFORATED PIPE LEFT & RIGHT. SEE PLAN SHEET NO. 5 FOR EDGE DRAIN DETAIL.

CONST. 2" BITUMINOUS PATHWAY FROM STA. 455+00 TO STA. 501+89
SEE PLAN SHEET NO. 3 FOR DETAIL.

P.I. 475+36.12
△ RT. 86°19'58"
D = 3°00'00"
T = 1791.37'
L = 2877.76'
R = 1909.86'
RATE OF SUPERELEVATION 5.5%

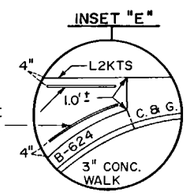
EQUA. P.T. 486+22.51 = P.O.T. 489+04.49

INSET "C"



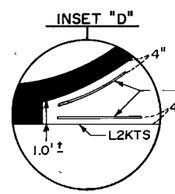
PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER IS LESS THAN 6 FEET.

INSET "E"



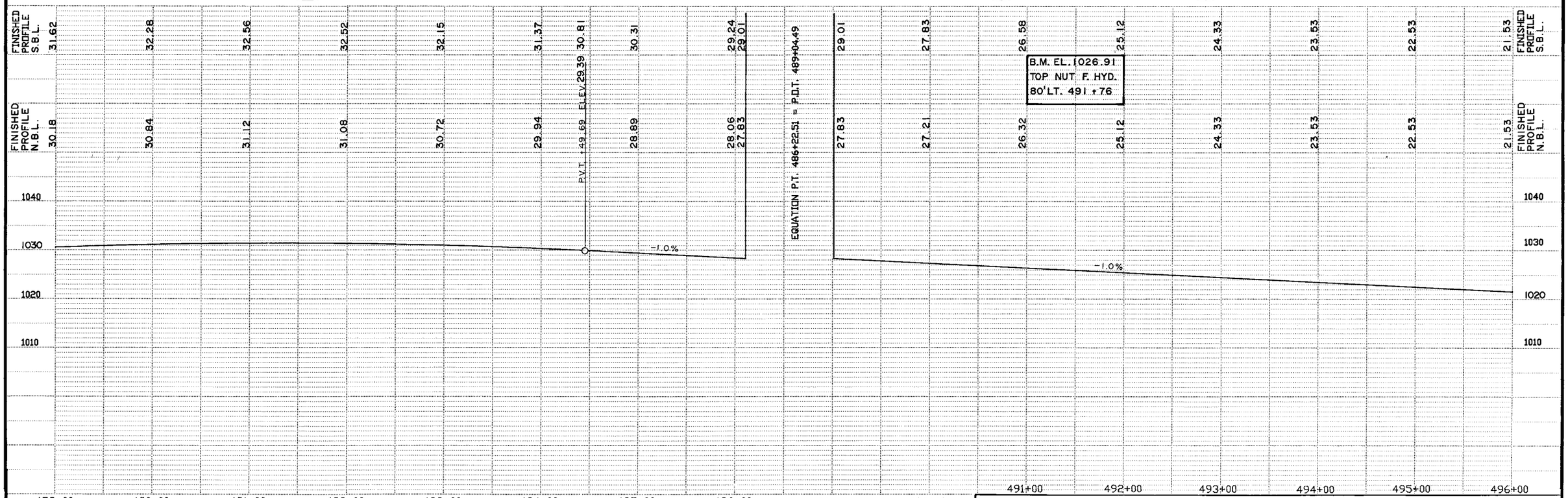
PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER IS LESS THAN 6 FEET.

INSET "D"



PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER IS LESS THAN 6 FEET.

△ DENOTES TILE OUTLETS



~~State Proj. No.~~ S.A.P. 55-622-21

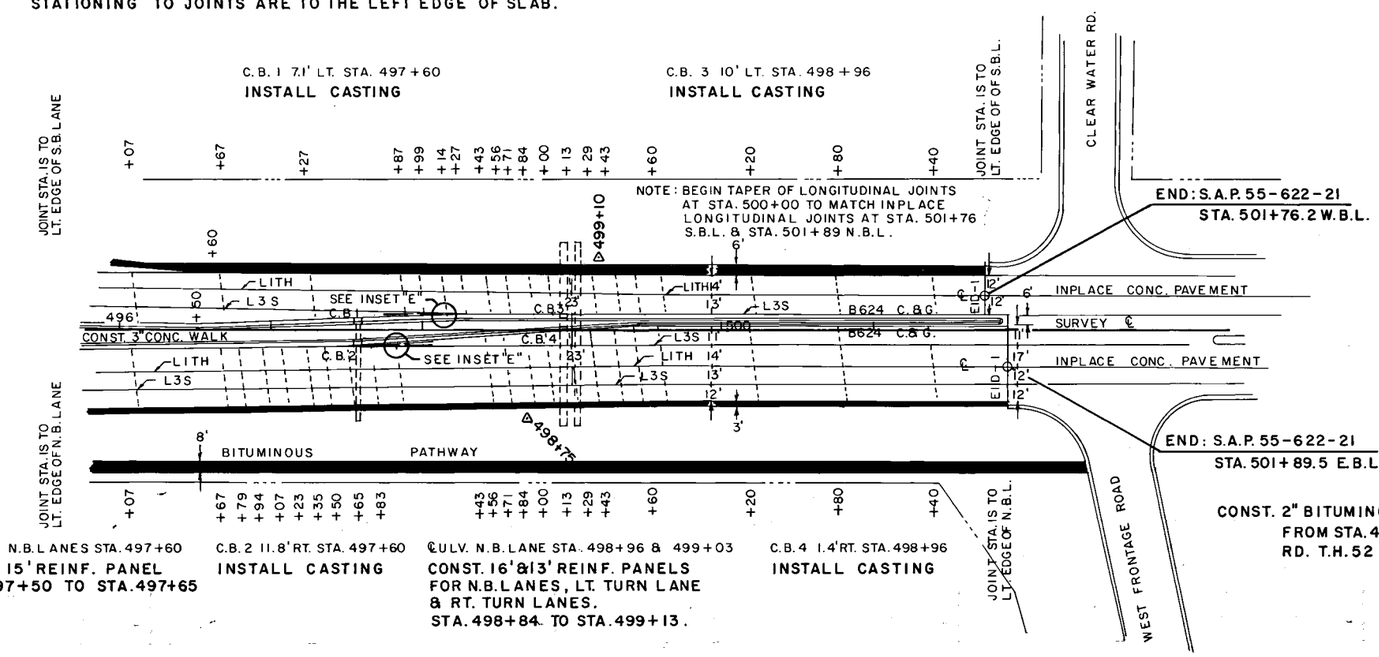
Sheet No. 18 of 29 Sheets

Copy Equipment Form #3

NOTE : C4E-D CONTRACTION JOINTS SHOWN ARE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE 13', 16', 14' & 17' UNLESS OTHER WISE SHOWN. STATIONING TO JOINTS ARE TO THE LEFT EDGE OF SLAB.

℄ CULV. S.B. LANE STA. 498+96 & STA. 499+03
CONST. 16' & 13' REINF. PANELS
STA. 498+84 TO STA. 499+13

NOTE : CONST. CORRUGATED P.E. PERFORATED PIPE LEFT & RIGHT. SEE PLAN SHEET NO. 5 FOR EDGE DRAIN DETAIL.

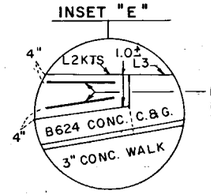


REMOVE 19 SQ. YDS. OF CONC. PAVEMENT TO EXPANSION JOINT 501+76.2 W.B. LANE

REMOVE 20 SQ. YDS. OF CONC. PAVEMENT TO EXPANSION JOINT 501+89.5 E.B. LANE

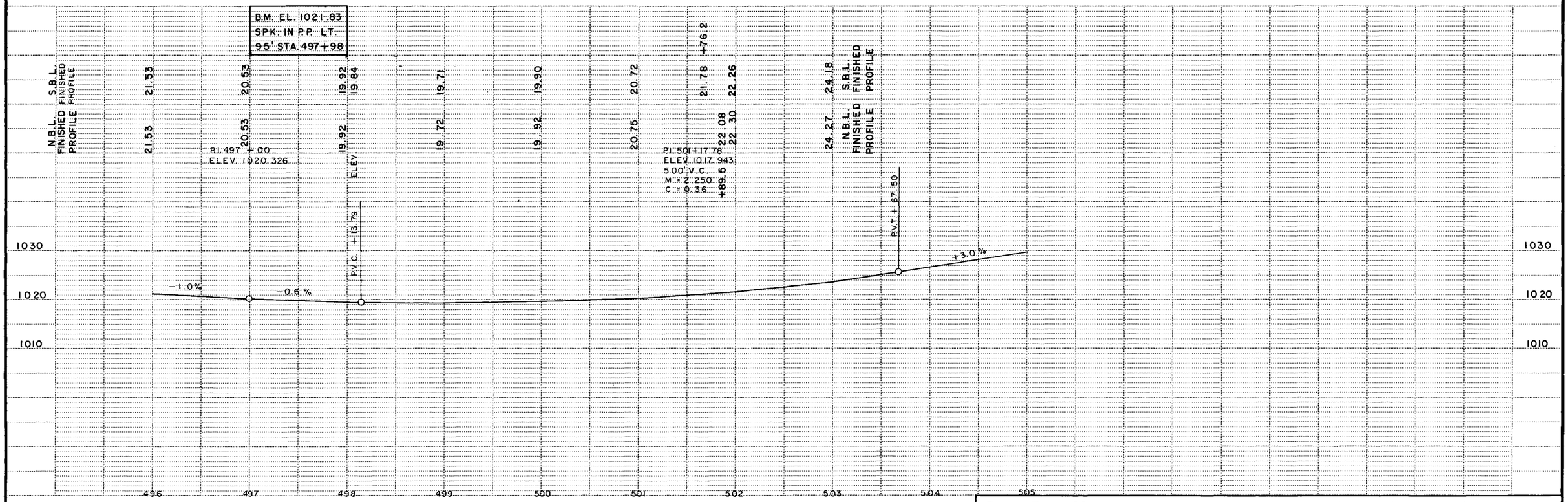
CONST. 2" BITUMINOUS PATHWAY FROM STA. 455+00 TO WEST FRONTAGE RD. T.H. 52 SEE PLAN SHEET NO. 3 FOR DETAIL

INSET "E"



PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 6 FEET.

△ DENOTES TILE OUTLETS



CONST. 4" AGGREGATE BASE &
6" BITUMINOUS SURFACE
55TH ST. NW. SEE PLAN SHEET NO. 4
FOR TYPICAL SECTIONS

RES. DR. LT. 9+00
CONST. 2" BITUMINOUS APPROACH

CONST. CONC. RAISED MEDIAN AND CONC. CURB & GUTTER
WITH PEDESTRIAN CURB RAMPS LT. STA. 10+50
STD. PLATE 7036C

BEGIN: 55TH ST. STA. 5+35

ROCHESTER CORPORATE LIMITS

2 | 3 INPLACE | 4 BITUMINOUS | 5

BEGIN TAPER 3+85 TO FULL WIDTH 6+21

16 | 17 | 18 | 19

8' 12' 12' 12' 8'

P.C. 6+20.94

P.I. 8+62.90
Δ RT. 50°49'28"
D-11°15'00"
T-241.96'
L-451.77'
E-54.56'
R-509.30'
RATE OF SUPERELEVATION 5.0%

CORPORATE LIMITS

ENTRANCE RAMP TO 55TH ST.
Δ 47°00'
T-118.63'
L-223.81'
R-272.84'
D-21°

STA. 10+45
35' LT. F.&I. P.V.C. HANDHOLE W/CONC. COVER
FROM 35' LT. TO 52' RT. F.&I. 87' OF 4" RIGID STEEL CONDUIT
52' RT. F.&I. PIPE CAP

10'R 10'R
CONST. 3" CONC. WALK
30'R B624 C.&G.
4' 20' 8'
2% 2% 2%

480

P.T. 10+72.71

STA. 11+43.30 55TH ST. NW. =
STA. 476+50.00 C.S.A.H. 22

475

CORPORATE LIMITS

B.M. EL. 1020.62
SQ. ROD W/CAP
115' RT. 473+00

FINISHED ℄ PROFILE

32.3 32.65 32.9 32.95 32.8 32.45 32.0 31.42 30.4 30.79 +87.30

P.V.C. +50.0 ELEV.

P.V.T. +50.0 ELEV.

P.I. 10+00
EL. 1030.20

1040
1030
1020

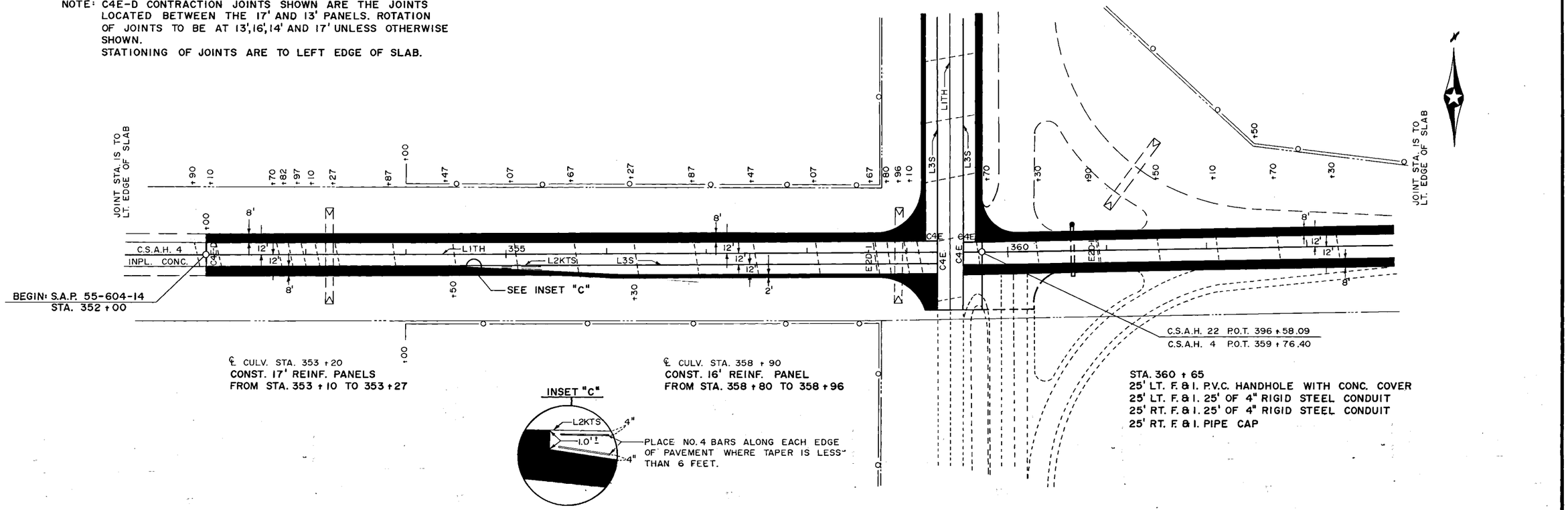
+0.7% -0.9% +0.45%

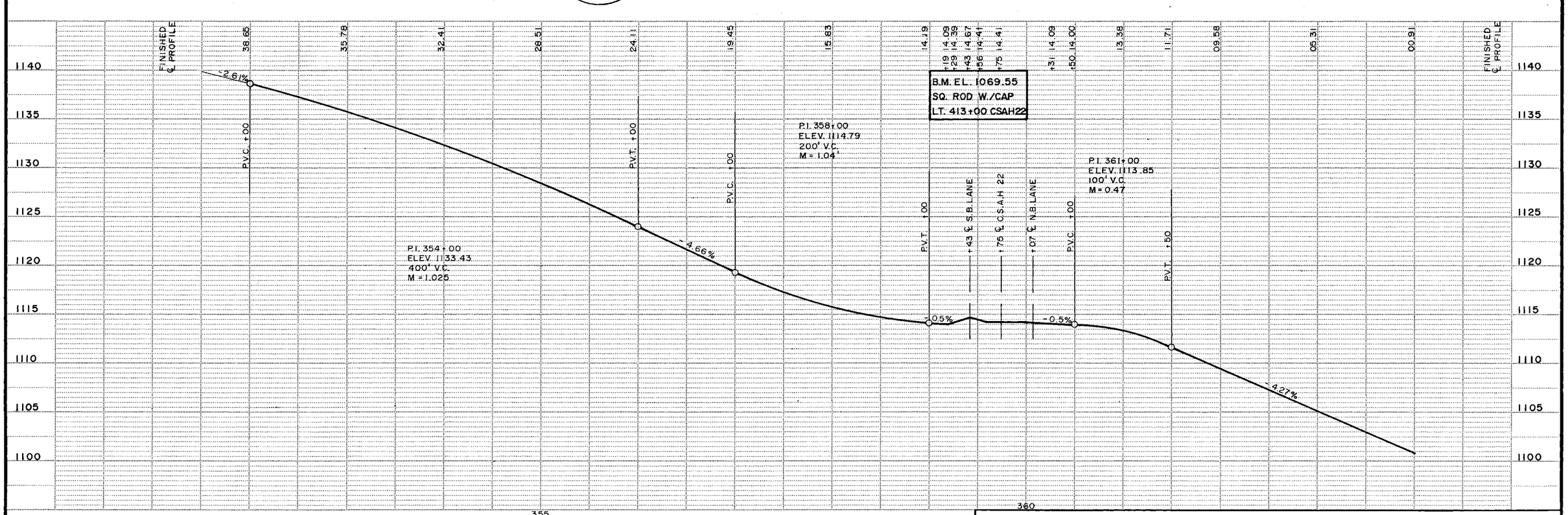
P.I. +50.0
EL. 1033.35
200' V.C.
M = 0.4

5 6 7 8 9 10 11

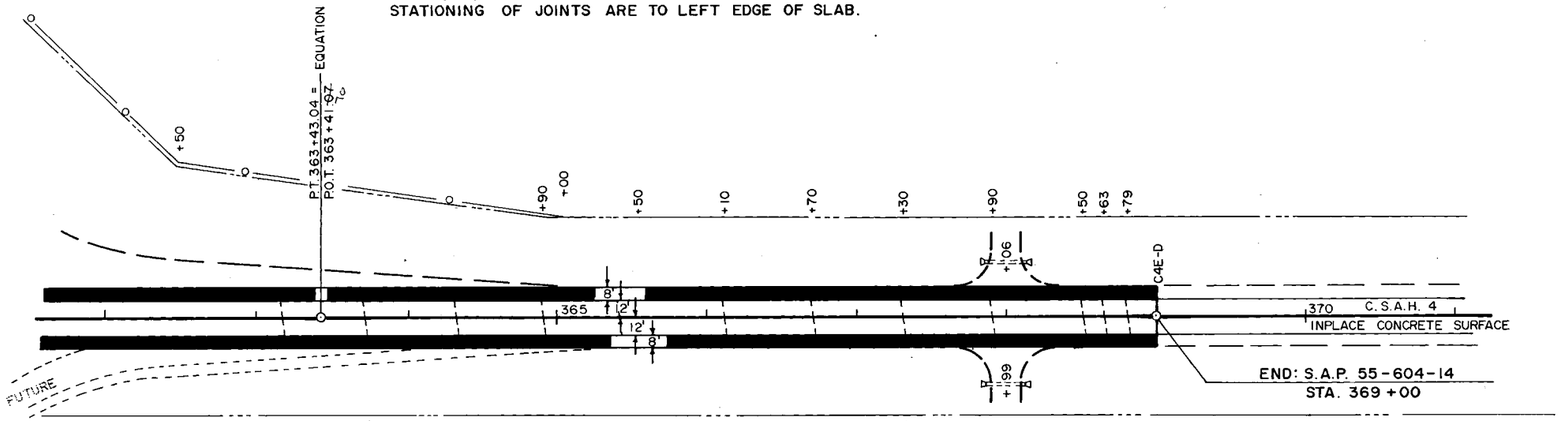
~~State Proj. No.~~ S.A.P. 55-622-21

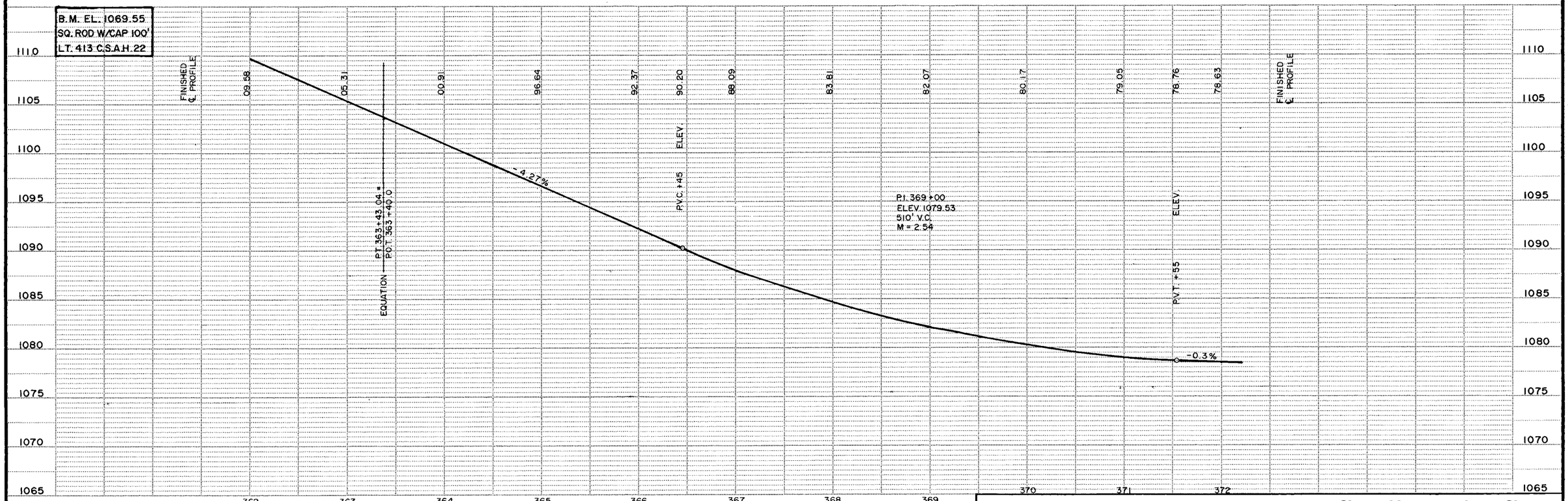
NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.
STATIONING OF JOINTS ARE TO LEFT EDGE OF SLAB.





NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN. STATIONING OF JOINTS ARE TO LEFT EDGE OF SLAB.

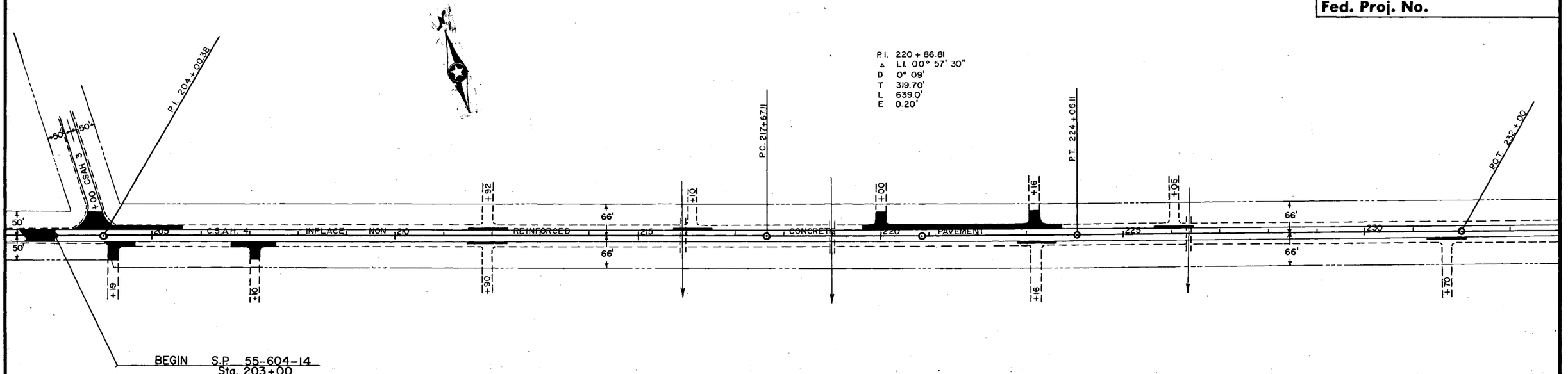


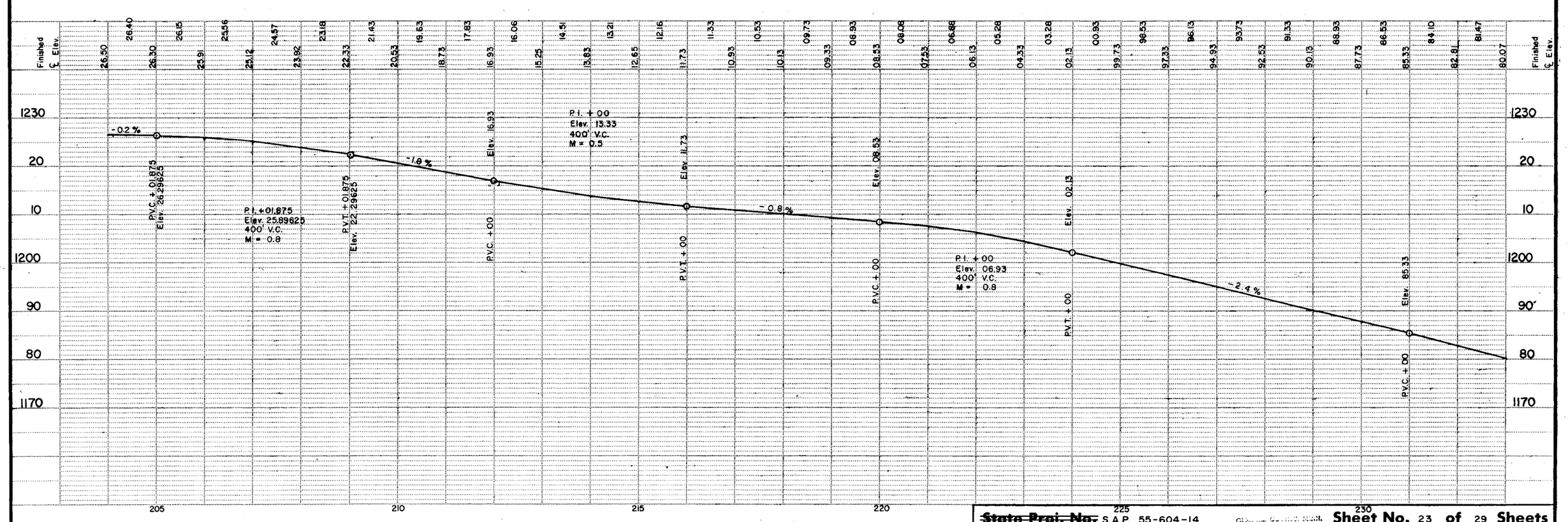


State Proj. No. S.A.P. 55-604-14

Sheet No. 22 of 29 Sheets

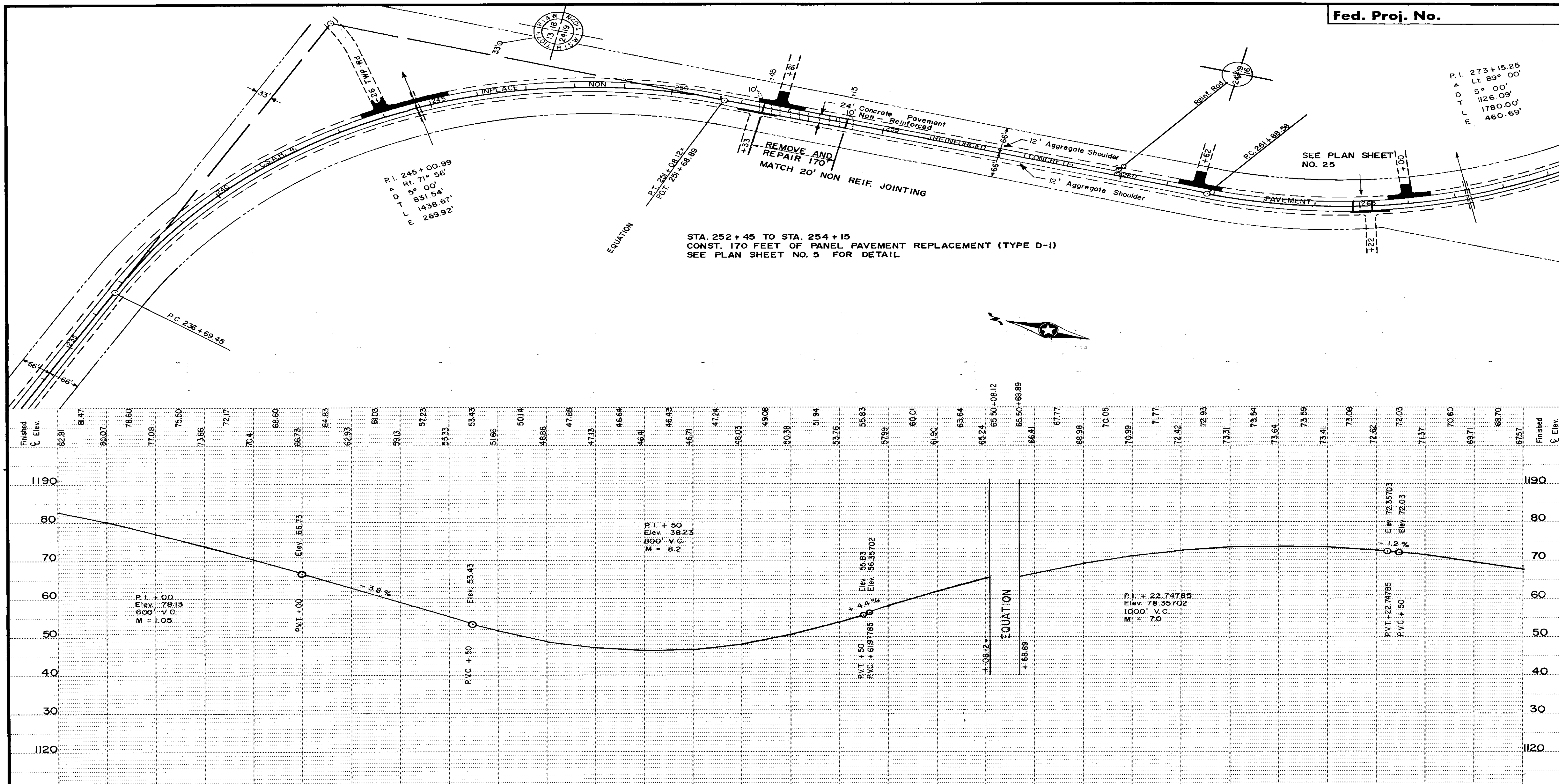
Fed. Proj. No.





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Fed. Proj. No.



~~State Proj. No.~~ S.A.P. 55-604-14 OLMSTED COUNTY, MINN. **Sheet No.** 24 **of** 29 **Sheets**

Fed. Proj. No.

P.C. 261 + 88.58

P.I. 273 + 15.25
△ Lt. 89° 00'
D 5° 00'
T 1126.09'
L 1780.00'
E 460.69'

EQUATION P.O.T. 280+13.99 = P.T. 279+68.58

MATCH LINE

REMOVE AND REPAIR 40'

MATCH 20' NON-REINF. JOINTING

STA. 264 + 80 TO 265 + 20
CONST. 40 FEET OF PANEL PAVEMENT REPLACEMENT (TYPE D-1)
SEE PLAN SHEET NO. 5 FOR DETAIL

24' Concrete Pavement Non-Reinforced

12' Aggregate Shoulder

12' Aggregate Shoulder

C.S.A.H. 4

INPLACE 1270

NON REINF. 1275

CONC. PAVEMENT

C.R. 104 +00

24.19 Cast Iron Monument

P.I. 286 + 50.0
△ Lt. 1° 53.41379'
D 0° 17'
T 333.60'
L 667.15'
E 0.79'

P.T. 279 + 68.58 = P.O.T. 280 + 13.99 EQUATION

P.C. 283 + 16.40

P.T. 289 + 83.55

Bituminous Curb

12' Aggregate Shoulder

24' Concrete Pavement Non-Reinforced

12' Aggregate Shoulder

LINE

MATCH

Finished ℄ Elev.

P.I. + 50
Elev. 68.43
600' V.C.
M = 2.1

P.V.T. + 50
Elev. 56.43

P.V.C. + 95.55555
Elev. 50.60778

-4.0%

P.I. + 45.55555
Elev. 40.60778
500' V.C.
M = 2.8125

P.V.T. + 95.55555
Elev. 41.85777

+0.5%

P.V.C. + 57.93056
Elev. 43.669965

EQUATION

+68.58 = +13.99

P.I. + 03.34056
Elev. 46.16965
1000' V.C.
M = 5.625

P.V.T. + 03.34056
Elev. 22.16966

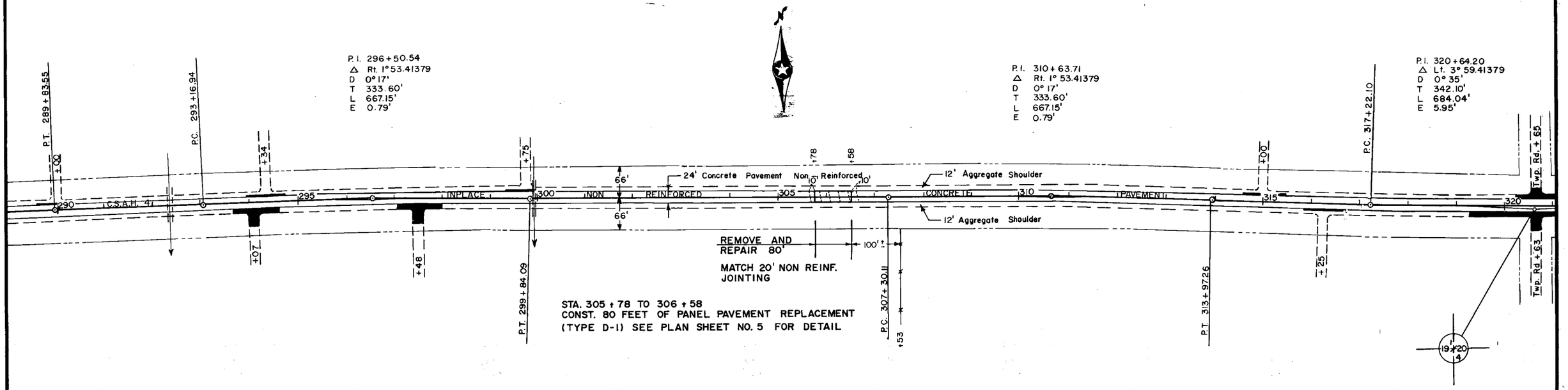
-4.8%

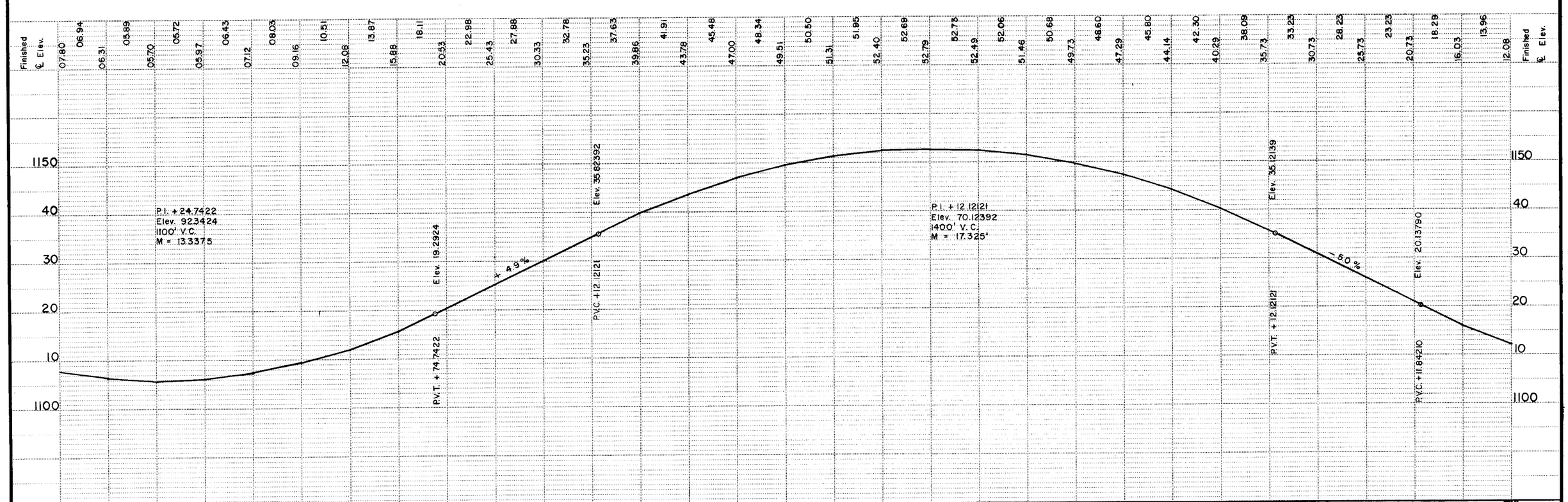
P.V.C. + 74.7422
Elev. 18.7424

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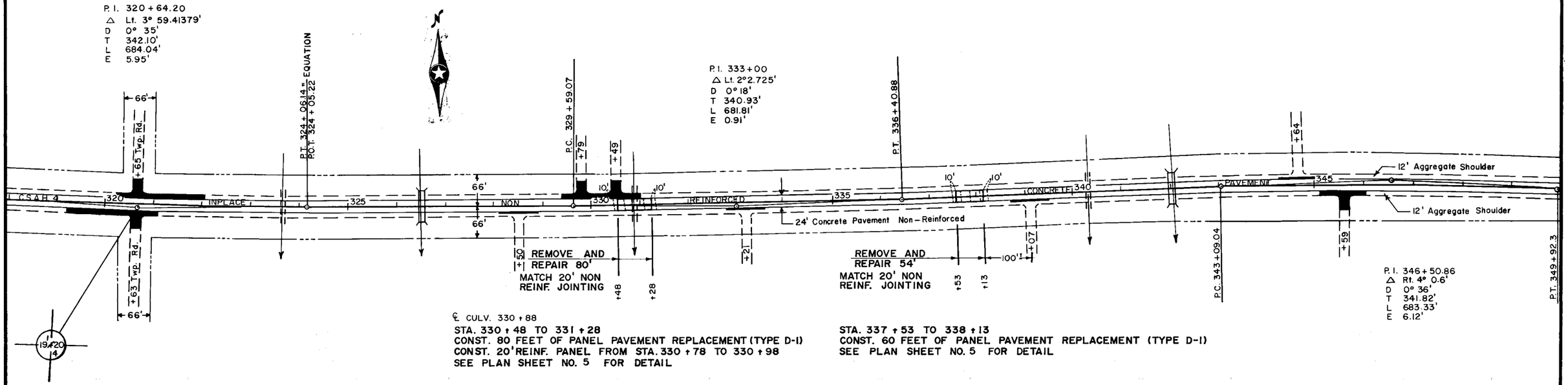
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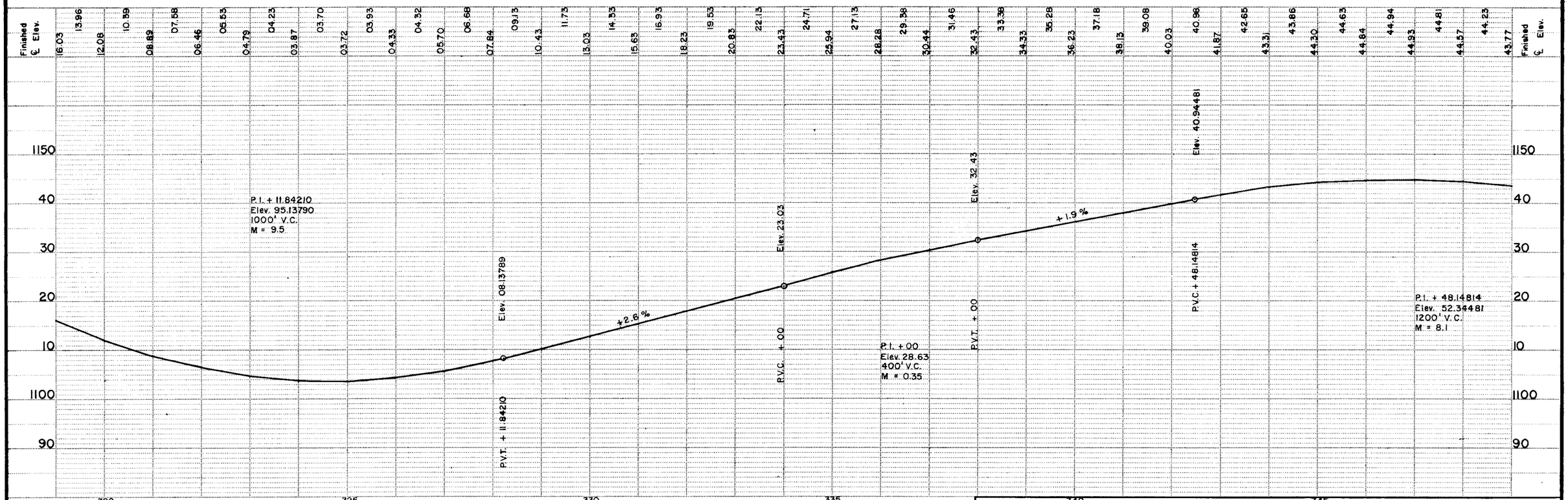
~~State Proj. No.~~ S.A.P. 55-604-14

Fed. Proj. No.



℄ CULV. 330 + 88
STA. 330 + 48 TO 331 + 28
CONST. 80 FEET OF PANEL PAVEMENT REPLACEMENT (TYPE D-1)
CONST. 20' REINF. PANEL FROM STA. 330 + 78 TO 330 + 98
SEE PLAN SHEET NO. 5 FOR DETAIL

STA. 337 + 53 TO 338 + 13
CONST. 60 FEET OF PANEL PAVEMENT REPLACEMENT (TYPE D-1)
SEE PLAN SHEET NO. 5 FOR DETAIL



Fed. Proj. No.

P.I. 360 + 01.41
△ Lt. 2° 03'
D 0° 18'
T 341.70'
L 683.33'
E 3.07'

P.C. 356 + 59.71

66' Twp. Rd.

P.T. 363 + 43.04 = EQUATION
P.O.T. 363 + 41.70

C.S.A.H. 4

IN PLACE NON REINFORCED CONCRETE PAVEMENT

12' Aggregate Shoulder

24' Concrete Pavement Non-Reinforced

12' Aggregate Shoulder

P.T. 349 + 92.3

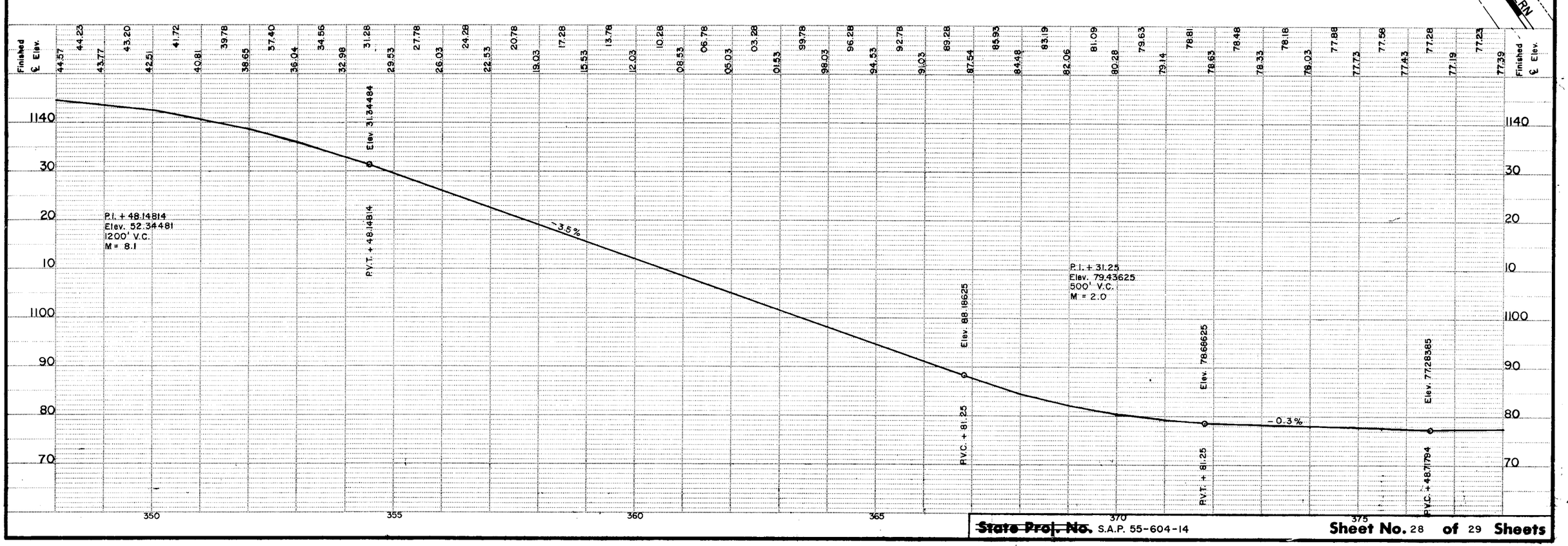
REMOVE AND REPAIR 263'
MATCH 20' NON REINF. JOINTING

P.C. 373 + 76.31

CHICAGO AND GREAT WESTERN RAILROAD

P.I. 380 + 78.74
△ Rt. 72° 40' 30"
D 6° 00'
T 702.43'
L 1211.25'
E 230.52'

STA. 372 + 84 TO 375 + 44
CONST. 260 FEET OF PANEL PAVEMENT REPLACEMENT (TYPE D-I)
SEE PLAN SHEET NO. 5 FOR DETAIL

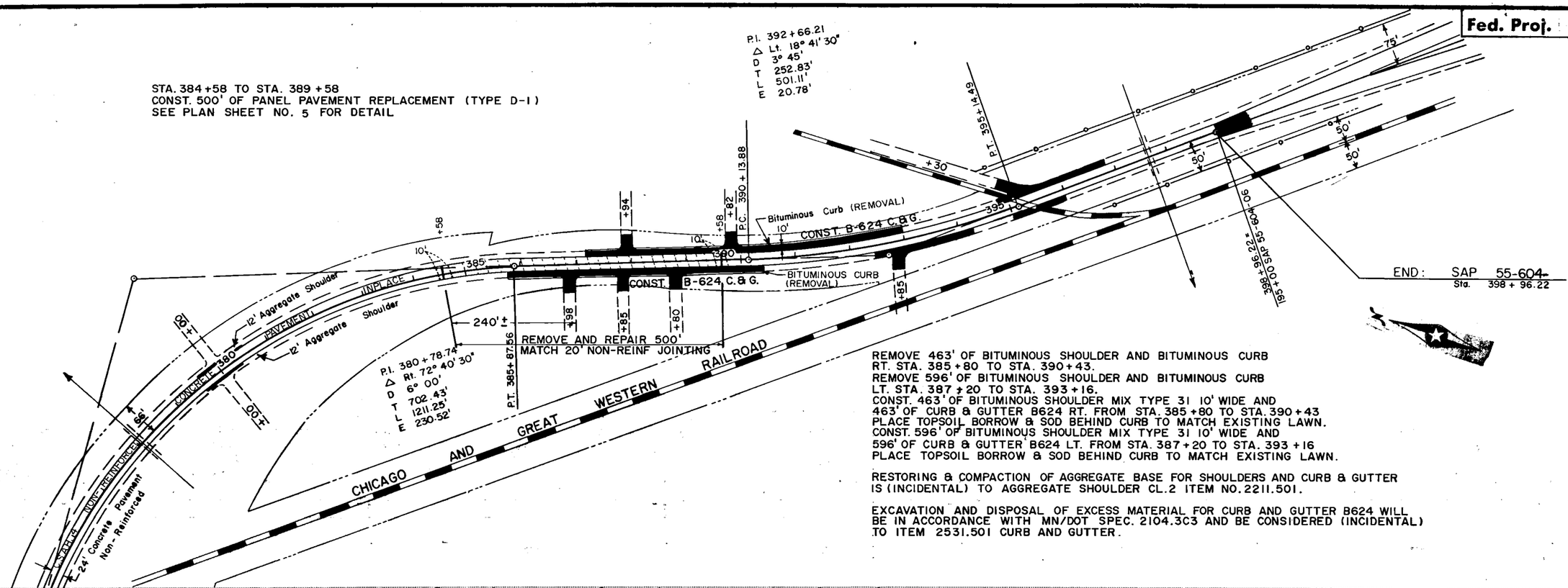


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Fed. Proj.

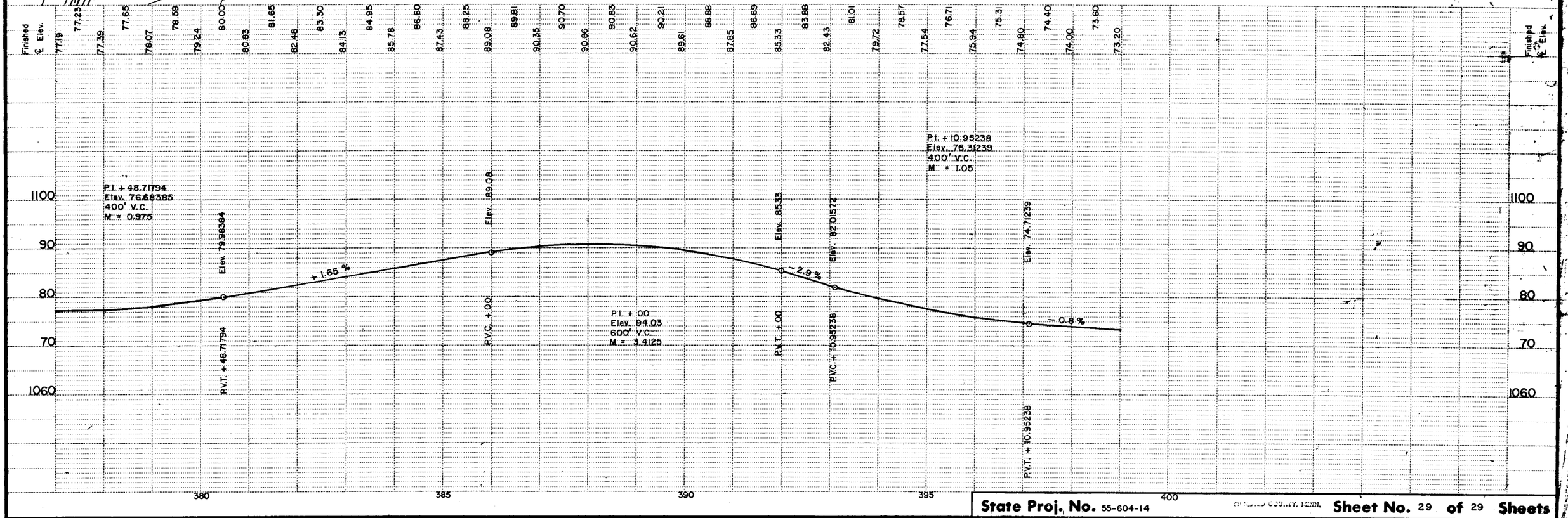
STA. 384+58 TO STA. 389+58
CONST. 500' OF PANEL PAVEMENT REPLACEMENT (TYPE D-1)
SEE PLAN SHEET NO. 5 FOR DETAIL



REMOVE 463' OF BITUMINOUS SHOULDER AND BITUMINOUS CURB
RT. STA. 385+80 TO STA. 390+43.
REMOVE 596' OF BITUMINOUS SHOULDER AND BITUMINOUS CURB
LT. STA. 387+20 TO STA. 393+16.
CONST. 463' OF BITUMINOUS SHOULDER MIX TYPE 31 10' WIDE AND
463' OF CURB & GUTTER B624 RT. FROM STA. 385+80 TO STA. 390+43
PLACE TOPSOIL BORROW & SOD BEHIND CURB TO MATCH EXISTING LAWN.
CONST. 596' OF BITUMINOUS SHOULDER MIX TYPE 31 10' WIDE AND
596' OF CURB & GUTTER B624 LT. FROM STA. 387+20 TO STA. 393+16
PLACE TOPSOIL BORROW & SOD BEHIND CURB TO MATCH EXISTING LAWN.

RESTORING & COMPACTION OF AGGREGATE BASE FOR SHOULDERS AND CURB & GUTTER IS (INCIDENTAL) TO AGGREGATE SHOULDER CL.2 ITEM NO. 2211.501.

EXCAVATION AND DISPOSAL OF EXCESS MATERIAL FOR CURB AND GUTTER B624 WILL BE IN ACCORDANCE WITH MN/DOT SPEC. 2104.3C3 AND BE CONSIDERED (INCIDENTAL) TO ITEM 2531.501 CURB AND GUTTER.



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