MINNESOTA DEPARTMENT OF TRANSPORTATION

HENNEPIN COUNTY

US EPA RECORDS CENTER REGION 5
514093

931292

CONSTRUCTION PLAN FOR GRADING, SURFACING, DRAINAGE & UTILITIES

LOCATED ON T.H. 7 BETWEEN TEXAS AVENUE AND DAKOTA AVENUE (Geographic Description)

LOCATED ON LOUISIANA AVENUE BETWEEN OXFORD STREET AND WALKER STREET (Geographic Description)

FROM ..... TO ..... (Legal Description)

STATE PROJ. NO. 2706-166 STATE AID PROJ. NO. 163-276-24

CITY IMPROVEMENT PROJ. NO. 89-27/28

GROSS LENGTH	5150 FEET	0.975 MILES	1895.02 FEET	0.359 MILES
BRIDGES LENGTH	0 FEET	0 MILES	0 FEET	0 MILES
EXCEPTIONS LENGTH	750 FEET	0.142 MILES	625 FEET	0.118 MILES
NET LENGTH	4400 FEET	0.833 MILES	1270.02 FEET	0.241 MILES
REFERENCE POINT	TO REFERENCE POINT		TO REFERENCE POINT	

PROJECT LENGTH IS BASED ON TH 7 ALIGNMENT STATIONING WITH NO EQUATIONS.

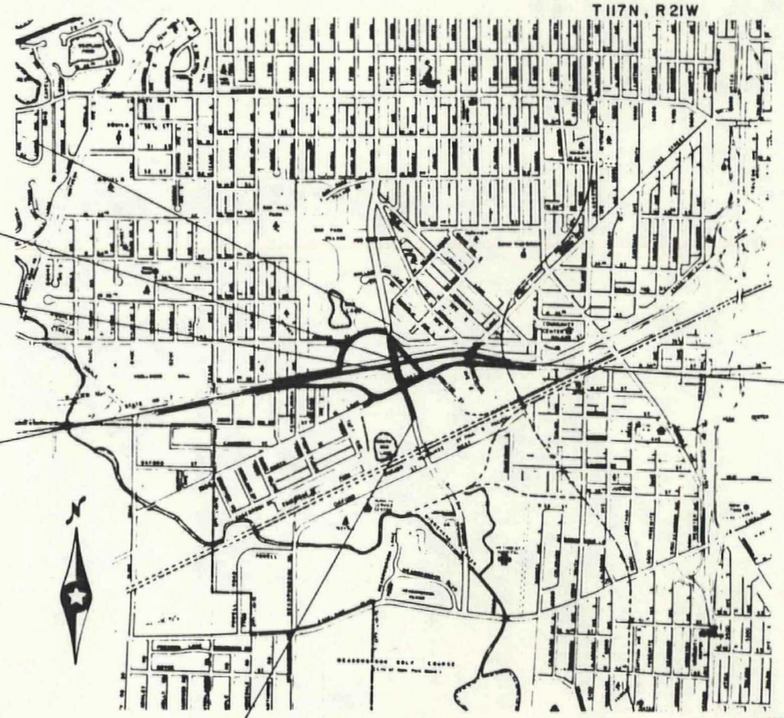
PROJECT LENGTH IS BASED ON LOUISIANA AVE. ALIGNMENT STATIONING WITH NO EQUATIONS.

ROADWAY 0.241 MILES
BRIDGE 0 MILES

T117N, R21W

END S.A.P. 163-276-24
LOUISIANA AVE. STA. 47+75

200.32'
EXCEPTION TO
S.A.P. 163-276-24



END S.P. 2706-166
T.H. 7 W.B. STA. 531+50

BEGIN S.P. 2706-166
T.H. 7 E.B. STA. 487+50

BEGIN S.A.P. 163-276-24
LOUISIANA AVE. STA. 32+00.

DESIGN DESIGNATION
T.H. 7

Functional Classification: ARTERIAL
No. of Traffic Lanes = 4 **No. of Parking Lanes** = 0
ADT (Current Year) 1989 = 35,000 **Design Speed** 60 **MPH**
ADT (Future Year) 2010 = 44,800 **Based on** STOPPING **Sight Distance**
DHV (Design Hr. Vol.) = 2,460 **Height of eye** 3.5 **Height of Object** 0.50
D (Directional Distr.) = 60/40 % **Design Speed not achieved at:**
T (Heavy Commercial) = 7.5 % **STA.** ..... **TO STA** ..... **MPH**
R-Value 70 **NIB Factor** 3,870,000 **To**

SCALES
PLAN 50
PROFILE 50
INDEX MAP
GENERAL LAYOUT 200

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

DESIGN DESIGNATION
LOUISIANA AVENUE
PRESENT ADT (YEAR) 15,680 (1990) PROJ. ADT (YEAR) 20,000 (2010)
FUNCTIONAL CLASSIFICATION ARTERIAL (HIGH DENSITY)
NO. OF TRAFFIC LANES 4 NO. OF PARKING LANES 0
9 TON DESIGN
SOIL FACTOR 50 PROJ. HCADT (YEAR) 7.5%
R-VALUE 35 N 18 FACTOR 1,728,000
DESIGN SPEED 30 MPH
STOPPING SIGHT DISTANCE BASED ON:
3.5' HEIGHT OF EYE
0.5' HEIGHT OF OBJECT

NOT FOR CONSTRUCTION

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR DATE

Right of Way Approval 19
DIRECTOR, OFFICE OF RIGHT OF WAY & SURVEYS

Recommended for Approval 19
DIRECTOR, OFFICE OF TRAFFIC ENGINEERING

Recommended for Approval 19
DISTRICT ENGINEER

Recommended for Approval 19
DESIGN SERVICES DIRECTOR

Recommended for Approval 19
DIRECTOR, OFFICE OF TECHNICAL SUPPORT

Approved 19
DEPUTY DIVISION DIRECTOR TECHNICAL SERVICES DIVISION

PRINTED
MAR 6 1990
BRW, INC.

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJECT NO.	AREA	JOB

PROJECT LOCATION
HENNEPIN COUNTY
GOLDEN VALLEY DISTRICT 5

MINN. PROJ. NO. .....
MINN. PROJ. NO. .....

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

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155-160	TURF ESTABLISHMENT AND EROSION CONTROL
161-162	CROSS SECTION LAYOUT
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THIS PLAN CONTAINS 197 SHEETS

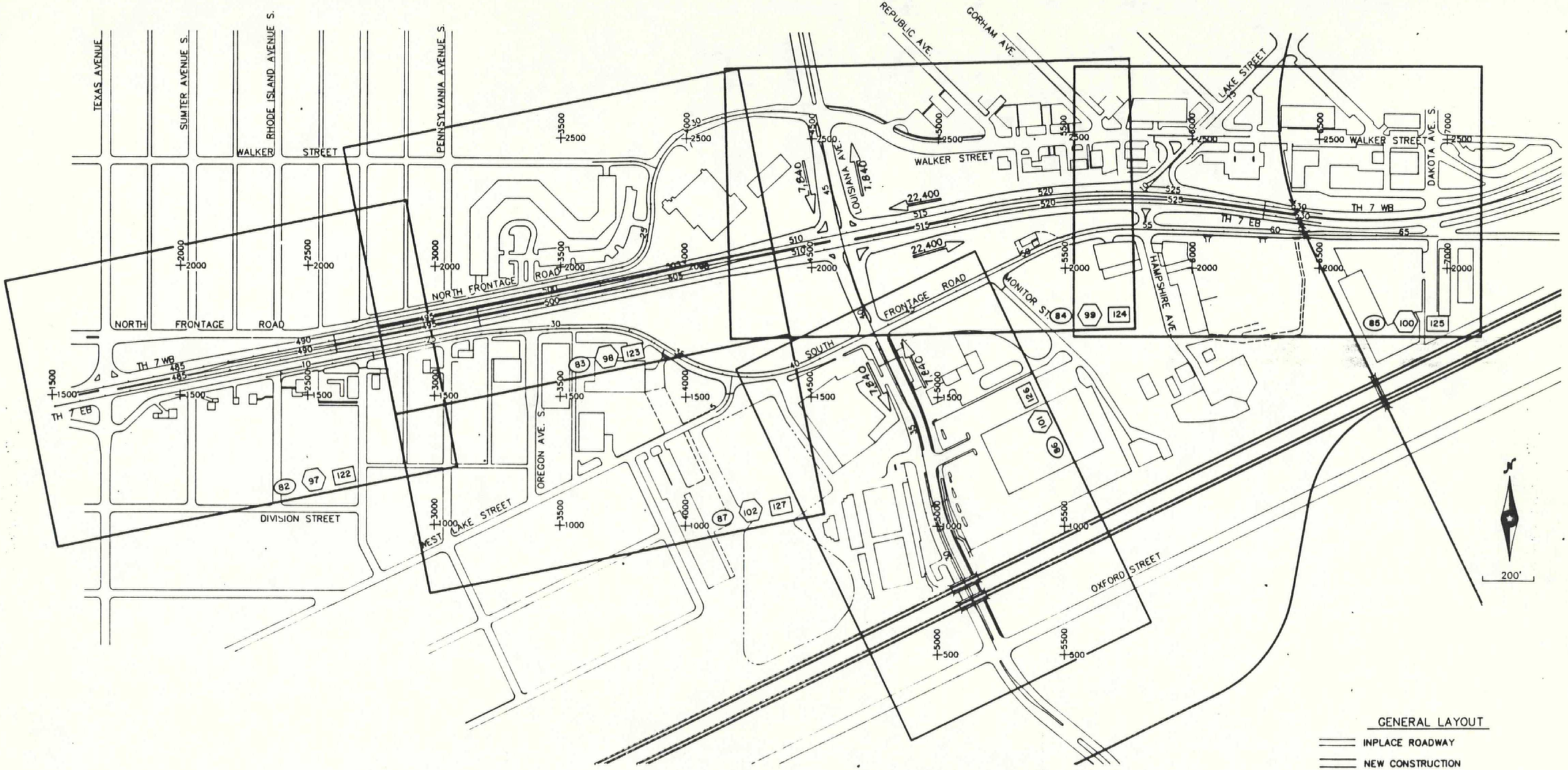
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

BRW, INC.
DATE 11-27-89 REG. NO. 19226 ENGR. James E. Hartley
COUNTY .....
Design Squad K.J. MARKUS, J. DILLINGHAM
Approved ..... 19 .....
Approved 11/30 1989 James N. Gerbe
ST. LOUIS PARK CITY ENGINEER
Recommended For Approval 19
DISTRICT STATE AID ENGINEER
Recommended For Approval 19
STATE AID PLANS AND SPECS ENGINEER
Approved ..... 19 .....
STATE AID ENGINEER

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN WERE MADE 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 ..... REG. NO. .....

STATE AID PROJ. NO. 163-276-24 (T.H. 7)
STATE PROJ. NO. 2706-166 SHEET NO. 1 OF 197



GENERAL LAYOUT

- INPLACE ROADWAY
- NEW CONSTRUCTION
- EXISTING TOPOGRAPHY / REMOVALS
- PLANNED CONSTRUCTION
- DRAINAGE AND UTILITY PLAN
- YEAR 2010 ADT & PEAK HOUR VOLUMES

District State Aid
Comments
12-21-89

GENERAL LAYOUT

S.A.P. No. 163-276-24 (T.H.7) Sheet No. 2 of 197 Sh

STATEMENT OF ESTIMATED QUANTITIES

CHART NO	ITEM NO	ITEM	NOTE	UNIT	TOTAL QUANTITIES EST	TOTAL QUANTITIES FINAL	100% MN/DOT SP 2706-166 QUANTITIES EST	100% MN/DOT SP 2706-166 QUANTITIES FINAL	STATE AID SAP 163-276-24 QUANTITIES EST.	STATE AID SAP 163-276-24 QUANTITIES FINAL	CITY 89-27/28 QUANTITIES EST.	CITY 89-27/28 QUANTITIES FINAL
	2021.501	MOBILIZATION		LUMP SUM	1		0.73		0.15		0.12	
	2031.501	FIELD OFFICE TYPE D		EACH	1		0.73		0.15		0.12	
	2031.503	FIELD LABORATORY TYPE D		EACH	1		0.73		0.15		0.12	
	2051.501	MAINTENANCE AND RESTORATION OF HAUL ROADS		LUMP SUM	1		0.73		0.15		0.12	
S	2101.501	CLEARING		ACRE	0.5	P	0.25		0.25			
S	2101.502	CLEARING		TREE	43		33		4		6	
S	2101.506	GRUBBING		ACRE	0.5	P	0.25		0.25			
S	2101.507	GRUBBING		TREE	43		33		4		6	
W	2102.502	PAVEMENT MARKING REMOVAL		LIN FT	18920		18920					
Z	2104.501	REMOVE SEWER PIPE (STORM)	(1)	LIN FT	2119		1903		136		80	
J	2104.501	REMOVE CURB AND GUTTER		LIN FT	1180		50		1130			
G	2104.501	REMOVE CABLE GUARD RAIL		LIN FT	4185		4185					
J	2104.503	REMOVE CONCRETE SIDEWALK		SQ FT	2400				2400			
F	2104.505	REMOVE BITUMINOUS PAVEMENT	(12)	SQ YD	54176	P	51883		964		1329	
J	2104.505	REMOVE CONC. DRIVEWAY PAVEMENT		SQ YD	270		270					
J	2104.507	REMOVE CONCRETE STRUCTURE		CU YD	20		20					
G	2104.509	REMOVE TWISTED END TREATMENT		EACH	6		6					
X,Z	2104.509	REMOVE CONCRETE APRONS	(1)	EACH	10		9		1			
X,Z	2104.509	REMOVE MANHOLES OR CATCH BASINS		EACH	18		13		3		2	
J	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	12		12					
F	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)		LIN FT	10470		8995		75		1400	
	2104.521	SALVAGE CHAIN LINK FENCE	(2)	LIN FT	200		200					
G	2104.521	SALVAGE GUARD RAIL - PLATE BEAM		LIN FT	955		955					
G	2104.523	SALVAGE TWISTED END TREATMENT		EACH	1		1					
	2104.523	SALVAGE LIGHT STANDARD & LUMINARE		EACH	5		2		1		2	
Z,BB	2104.523	SALVAGE CASTING		EACH	23		18		3		2	
T	2104.523	SALVAGE SIGNS TYPE C		EACH	146		107		19		20	
T	2104.523	SALVAGE SIGNS TYPE D		EACH	6		4		1		1	
X,Z	2104.523	SALVAGE APRON		EACH	2		2					
B	2105.501	COMMON EXCAVATION		CU YD	137954	P	80402		38450		19102	
B	2105.505	MUCK EXCAVATION		CU YD	5628		4263				1365	
B	2105.507	SUBGRADE EXCAVATION		CU YD	69832	P	60855		4788		4189	
B	2105.521	GRANULAR BORROW (CV)		CU YD	27134	P	21478		4192		1464	
B	2105.522	SELECT GRANULAR BORROW (CV)		CU YD	14322	P	14263		59			
B	2105.522	SELECT GRANULAR BORROW MOD. 1 (CV)		CU YD	4656	P	2244		1624		788	
B	2105.522	SELECT GRANULAR BORROW MOD. 7%		CU YD	7885	P	7885					
B	2105.525	TOPSOIL BORROW		CU YD	2214	P	1064		549		601	
	0105.602	PIEZOMETER		EACH	2				2			
	0105.602	SETTELMENT PLATES		EACH	7				7			
A	0105.609	GEOTEXTILE FABRIC TYPE IV		SQ YD	11245	P	11245					
A	0105.609	GEOTEXTILE FABRIC TYPE V		SQ YD	1850	P			1850			
	2130.501	WATER		M GAL	200		200					
	2131.502	CALCIUM CHLORIDE SOLUTION	(3)	GAL	10000		10000					
E	2211.503	AGGREGATE BASE PLACED CLASS 5		CU YD	5273	P	3368		504		1401	
E	2221.503	AGGREGATE SHOULDERING PLACED CLASS 3		CU YD	194	P	194					
E	2221.503	AGGREGATE SHOULDERING PLACED CLASS 5		CU YD	171	P	171					
I	2232.501	MILL BITUMINOUS SURFACE		SQ YD	4331	P	4267		64			
E	2331.510	~~BINDER COURSE MIXTURE~~	~~(4)~~	~~TON~~	~~1589~~		~~659~~		~~442~~		~~468~~	
E	2331.512	LEVELING COURSE MIXTURE		TON	924		924				0	
E	2331.514	BASE COURSE MIXTURE		TON	19055		13590		4529		936	
E	2331.516	SHOULDER MIXTURE		TON	437		437					
L	0331.601	3" THICK TEMPORARY BITUMINOUS PAVEMENT		SQ YD	11299		11299					
	0331.602	CONTRACTOR TESTING		TON	34401		25317		7004		2080	
E	2341.508	WEARING COURSE MIXTURE	(4)	TON	2407		1665		66		676	
E	2341.510	BINDER COURSE MIXTURE	(4)	TON	7100		5748		1352			
E	2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	8943		6531		1765		647	
E	2361.508	~~WEARING COURSE MIXTURE~~	~~(4)~~	~~TON~~	~~2909~~		~~2294~~		~~615~~			
	0411.603	PRECAST CONCRETE WALL		SQ FT	4004						4004	
	2442.501	REMOVE OLD BRIDGE		LUMP SUM	1		1					
B	2451.507	GRANULAR BEDDING (CV)		CU YD	434	P					434	

ESTIMATED QUANTITY NOTES

(1) INCLUDES REMOVAL OF TEMPORARY APRONS/STORM SEWER. SEE CHART X,Z.

(2) TO BE USED FOR ENLARGING THE FENCE ENCLOSURE, TH 7 E.B. STA.509+50,RT FOR STORAGE OF CONTAMINATED SOILS. (SEE SPECIAL PROVISIONS.)

(3) USE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.

(4) SEE NOTE 3 AND/OR NOTE 5 UNDER TEMPORARY BIT. PAVEMENT CHART L.

(5) FOR INSULATION OF 12" WATERMAIN AT TH 7 W.B. STA. 524+30, LT. & RT.

(6) INCLUDES 2 CU. YDS. FOR PLACEMENT AT CURB CUTS, SEE TEMPORARY CONSTRUCTION

(7) INCLUDES LIGHT BASES FOR THREE RELOCATED LIGHTING UNITS, REFER TO REMOVAL PLANS.

(8) REFER TO LIGHTING PLANS, SHEET 154.

(9) FOR USE AS DIRECTED BY THE ENGINEER.

(10) INCLUDES BOTH C-35 AND C-36 SIGNS, SEE CHART DD. REFER TO THE "MINNESOTA TRAFFIC ENGINEERING MANUAL."

(11) REFER TO TURF ESTABLISHMENT PLANS. INCLUDED PLACEMENT OF SILT FENCE AT ALL APRONS AND AROUND FENCED ENCLOSURE FOR CREOSOTE IMPACTED SOILS.

(12) INCLUDES 11299 SQ. YDS. OF TEMPORARY BIT. PAVEMENT REMOVAL. (SEE CHART L)

District State Aid
[illegible] 12-21-89

STATEMENT OF ESTIMATED QUANTITIES (CONT.)

CHART NO	ITEM NO	ITEM	NOTE	UNIT	TOTAL QUANTITIES EST	TOTAL QUANTITIES FINAL	100% MN/DOT SP 2706-166 QUANTITIES EST	100% MN/DOT SP 2706-166 QUANTITIES FINAL	STATE AID SAP 163-276-24 QUANTITIES EST	STATE AID SAP 163-276-24 QUANTITIES FINAL	CITY 89-27/28 QUANTITIES EST	CITY 89-27/28 QUANTITIES FINAL
	0451.601	TRENCH STABILIZATION MATERIAL (CV)		CU YD	80		50		20		10	
CC	2452.503	TREATED TIMBER PILING, DELIVERED		LIN FT	224						224	
CC	2452.504	TREATED TIMBER PILING, DRIVEN		LIN FT	224						224	
CC	2452.517	TREATED TIMBER TEST PILE 40 FT LONG		EACH	1						1	
CC	0452.602	CONCRETE AND TIMBER SADDLE		EACH	4						4	
X	2501.515	12" RC PIPE APRON		EACH	4		4					
X	2501.515	15" RC PIPE APRON		EACH	3				3			
X	2501.515	18" RC PIPE APRON		EACH	6		6					
X	2501.515	30" RC PIPE APRON		EACH	1		1					
X	2501.515	38" RC PIPE APRON		EACH	2		2					
X	2501.573	INSTALL CONCRETE APRON		EACH	2		2					
X	2503.541	12" RC PIPE SEWER DESIGN 3006 CLASS II		LIN FT	592		298		294			
X	2503.541	12" RC PIPE SEWER DESIGN 3006 CLASS III		LIN FT	794		613		15		166	
X	2503.541	12" RC PIPE SEWER DESIGN 3006 CLASS IV		LIN FT	218		158		60			
X	2503.541	15" RC PIPE SEWER DESIGN 3006 CLASS II		LIN FT	642		95		368		179	
X	2503.541	15" RC PIPE SEWER DESIGN 3006 CLASS III		LIN FT	208		105		38		65	
X	2503.541	18" RC PIPE SEWER DESIGN 3006 CLASS II		LIN FT	408		362		46			
X	2503.541	18" RC PIPE SEWER DESIGN 3006 CLASS III		LIN FT	368		368					
X	2503.541	18" RC PIPE SEWER DESIGN 3006 CLASS IV		LIN FT	150		150					
X	2503.541	21" RC PIPE SEWER DESIGN 3006 CLASS II		LIN FT	250		250					
X	2503.541	27" RC PIPE SEWER DESIGN 3006 CLASS II		LIN FT	115		115					
X	2503.541	30" RC PIPE SEWER DESIGN 3006 CLASS II		LIN FT	59		59					
X	2503.541	36" RC PIPE SEWER DESIGN 3006 CLASS II		LIN FT	68		68					
CC	0503.603	4" FORCE MAIN DUCTILE IRON PIPE CL 52		LIN FT	1108						1108	
CC	0503.603	16" STEEL CASING PIPE		LIN FT	170						170	
CC	0503.603	24" SPLIT STEEL CASING PIPE		LIN FT	84						84	
CC	0503.605	4" INSULATION		SQ YD	120						120	
CC	0503.620	DUCTILE IRON FITTINGS		POUND	250						250	
CC	0504.602	CONNECT TO EXISTING WATERMAIN		EACH	2						2	
CC	0504.602	12" GATE VALVE WITH MH		EACH	2						2	
AA	0504.602	RELOCATE HYDRANT AND VALVE		EACH	4						4	
AA	0504.602	ADJUST HYDRANT		EACH	1				1			
AA	0504.602	ADJUST VALVE BOX		EACH	9		1		6		2	
AA	0504.602	ADJUST WATER MANHOLES		EACH	3		1		2			
CC	0504.603	12" WATERMAIN - DUCT - IRON CL 52		LIN FT	682						682	
CC	0504.603	24" STEEL CASING PIPE		LIN FT	165						165	
CC	0504.605	4" POLYSTYRENE INSULATION	(6)	SQ YD	70		70					
CC	0504.620	DUCTILE IRON FITTINGS		POUND	1495						1495	
X	2506.506	CONSTRUCT MANHOLES DESIGN A OR F		LIN FT	146.3		146.3					
X	2506.507	CONST CATCH BASINS DESIGN SPECIAL 1		LIN FT	51.9		19.9		23.3		8.7	
X	2506.507	CONST CATCH BASINS DESIGN SPECIAL 2		LIN FT	41.7		6.4		24.2		11.1	
X	2506.507	CONSTRUCT MANHOLES DESIGN SPECIAL 3		LIN FT	25.4		6.1		11.5		7.8	
X	2506.507	CONSTRUCT CATCH BASINS DESIGN C OR G		LIN FT	32.0		32.0					
X	2506.507	CONSTRUCT CATCH BASIN DESIGN 4020-60		LIN FT	29.7		29.7					
X,BB	2506.511	RECONSTRUCT MANHOLES		LIN FT	28.4		22.8		5.6			
X	2506.516	CASTING ASSEMBLIES		EACH	64		41		10		13	
X,BB	2506.521	INSTALL CASTINGS		EACH	4		3				1	
X,BB	2506.522	ADJUST FRAME & RING CASTINGS		EACH	32		14		9		9	
X	0506.602	CONNECT TO EXISTING MH OR CB		EACH	19		13		3		3	
X	2511.501	RANDOM RIPRAP CL II	(6)	CU YD	7.6	P	7.6					
K	2521.501	3" CONCRETE WALK		SQ FT	39046	P	33148		5898			
K	2521.501	4" CONCRETE WALK		SQ FT	7700	P	2143		5557			
K	2521.501	6" CONCRETE WALK		SQ FT	258	P			258			
M	2521.511	2" BITUMINOUS WALK		SQ FT	4294	P	4294					
K	2531.501	CONCRETE C & G DESIGN B618		LIN FT	7857		4531				3326	
K	2531.501	CONCRETE C & G DESIGN B624		LIN FT	15618		11293		4325			
K	2531.507	6" CONCRETE DRIVEWAY PAVEMENT		SQ YD	282		153				129	
	0531.602	PEDESTRIAN CURB RAMP		EACH	19				17		2	
M	2535.501	7" BITUMINOUS CURB		LIN FT	7400		7110				290	
	2545.511	LIGHTING STANDARD AND LUMINAIRE-TYP SLP	(6)	EACH	11				11			
	2545.511	LIGHT BASE, DESIGN SLP	(7)(8)	EACH	14				14			
	2545.521	3" RIGID STEEL CONDUIT (LIGHTING)	(6)	LIN FT	680				680			
	2545.545	CONTROL CABINET AND EQUIPMENT	(6)	EACH	1				1			
	2545.553	HANDHOLE (PULLBOX)-TYPE CARLON SDR-35	(6)	EACH	10				10			
	0545.642	INSTALL LIGHTING UNIT		EACH	3				3			
	2554.501	TRAFFIC BARRIER DESIGN B 8307		LIN FT	100		100					
	2554.523	TWISTED END TREATMENT		EACH	1		1					
	0554.602	INSTALL TWISTED END TREATMENT		EACH	1		1					
R	0554.602	IMPACT ATTENUATOR BARRELS		EACH	38		38					
R	0554.602	RELOCATE IMPACT ATTENUATOR BARRELS		EACH	45		45					
R	0554.603	TPPC MED BARRIER DES 8333		LIN FT	4440		4440					

STATEMENT OF ESTIMATED QUANTITIES

CHART NO	ITEM NO	ITEM	NOTE	UNIT	TOTAL QUANTITIES EST	TOTAL QUANTITIES FINAL	100% MN/DOT SP 2706-166 QUANTITIES EST	100% MN/DOT SP 2706-166 QUANTITIES FINAL	STATE AID SAP 163-276-24 QUANTITIES EST	STATE AID SAP 163-276-24 QUANTITIES FINAL	CITY 89-27/28 QUANTITIES EST.	CITY 89-27/28 QUANTITIES FINAL
R	0554.603	RELOCATE TPPC BARRIER		LIN FT	4940		4940					
	2557.501	WIRE FENCE DESIGN SPECIAL		LIN FT	300		300					
	2557.603	TEMPORARY FENCE		LIN FT	500		500					
	0557.603	INSTALL CHAIN LINK FENCE		LIN FT	200		200					
	0563.601	TRAFFIC CONTROL, STAGE 1		LUMP SUM	1		0.73		0.15		0.12	
	0563.601	TRAFFIC CONTROL, STAGE 2		LUMP SUM	1		0.73		0.15		0.12	
	0563.601	TRAFFIC CONTROL, STAGE 3		LUMP SUM	1		0.73		0.15		0.12	
	0563.601	TRAFFIC CONTROL, STAGE 4		LUMP SUM	1		0.73		0.15		0.12	
	0563.601	TRAFFIC CONTROL, STAGE 5		LUMP SUM	1		0.73		0.15		0.12	
	0563.601	TRAFFIC CONTROL, STAGE 6		LUMP SUM	1		0.73		0.15		0.12	
	0563.602	TYPE I BARRICADES WITH STEADY BURN LIGHT	(9)	UNIT DAY	1000		1000					
	0563.602	TYPE III BARRICADES	(9)	UNIT DAY	1000		1000					
	0563.602	FLASHER TYPE A (LOW INTENSITY)	(9)	UNIT DAY	1000		1000					
	0563.602	FLASHER TYPE B (HIGH INTENSITY)	(9)	UNIT DAY	1000		1000					
	0563.602	FLASHER TYPE C (STEADY BURN)	(9)	UNIT DAY	1000		1000					
	0563.602	TUBE DELINEATORS (YELLOW)	(9)	UNIT DAY	1000		1000					
	0563.602	REFLECTORIZED PLASTIC SAFETY DRUM	(9)	UNIT DAY	1000		1000					
	0563.602	REFLECT PLAST SAFE DRUM W/DOWN ARROW	(9)	UNIT DAY	1000		1000					
	0563.602	PORTABLE CHANGEABLE MESSAGE SIGN	(9)	UNIT DAY	1000		1000					
	0563.602	48X48 INCH STD SIGN	(9)	UNIT DAY	1000		1000					
	0563.602	48X48 INCH STD. SIGN WITH SUPPORTS	(9)	UNIT DAY	1000		1000					
U,V	0563.605	RAISED PAVEMENT MARKERS (TEMP.)		EACH	3615		3615					
DD	2564.531	F & I SIGN PANELS TYPE C		SQ FT	620		216		133		271	
EE	2564.541	F & I SIGN PANELS TYPE D		SQ FT	118		118					
DD	2564.541	DELINEATORS TYPE (X4-4) (RT)		EACH	2		1				1	
DD	2564.541	DELINEATORS TYPE VIAG(X4-6)	(9)	EACH	26		26					
DD	2564.531	DELINEATORS TYPE X4-11		EACH	6		6					
R	0564.602	MICRO PRISM BARRIER REFLECTORS		EACH	148		148					
N	0564.602	PAVT MESSAGE (LT ARROW) EPOXY		EACH	13		4		9			
N	0564.602	PAVT MESSAGE (RT ARROW) EPOXY		EACH	6		5		1			
N	0564.602	PAVT MESSAGE (ONLY) EPOXY		EACH	19		9		10			
N,U	0564.603	4" SOLID LINE WHITE - PAINT		LIN FT	31768		28450		3212		106	
O,U	0564.603	8" SOLID LINE WHITE - PAINT		LIN FT	1187		1187					
O,U	0564.603	12" SOLID LINE WHITE - PAINT		LIN FT	218		94		124			
O	0564.603	24" SOLID LINE WHITE - PAINT		LIN FT	332		332					
N,U	0564.603	4" BROKEN LINE WHITE - PAINT (10-40)		LIN FT	5520		5200		320			
N,U	0564.603	4" SOLID LINE YELLOW - PAINT		LIN FT	28198		26347		1851			
O,U	0564.603	8" SOLID LINE YELLOW - PAINT		LIN FT	1443		1443					
N,U	0564.603	4" BROKEN LINE YELLOW - PAINT (10-40)		LIN FT	2187		1990				197	
N,U	0564.603	4" DOUBLE SOLID LINE YELLOW - PAINT		LIN FT	2597		2282		80		235	
O	0564.604	CROSSWALK MARKING - PAINT		SQ FT	1494		1224		270			
	0564.604	CONSTRUCTION SIGN-SPECIAL	(9)	SQ FT	100		100					
	2568.511	FULL T ACT T CONTROL SIG SYS		SIG SYS	1		0.50				0.50	
	0568.601	SALVAGE SIGNAL SYSTEM A		LUMP SUM	1		1					
	0568.601	SALVAGE SIGNAL SYSTEM B		LUMP SUM	1		1					
	0571.541	TRANSPLANT TREES (64" DIAMETER SPADE)		TREE	13				13			
	0571.544	TRANSPLANT SHRUBS		SHRUB	50				50			
	2573.501	BALE CHECK		EACH	190		190					
	2573.502	SILT FENCE, HEAVY DUTY	(11)	LIN FT	4008		3308				700	
P,Q	2575.501	ROADSIDE SEEDING		ACRE	15.3	P	13.21		1.98		0.11	
P,Q	2575.502	SEED MIXTURE 500		POUND	1077		930		139		8	
P	2575.505	SODDING TYPE LAWN		SQ YD	6868		1464		2414		2990	
P	2575.505	SODDING TYPE EROSION		SQ YD	17089		11443		1659		3987	
P,Q	2575.511	MULCH MATERIAL TYPE 1		TON	23.98		22.11		1.65		0.22	
P,Q	2575.511	MULCH MATERIAL TYPE 5		TON	2.48		1.61		0.87			
P,Q	2575.519	DISC ANCHORING		ACRE	12	P	11.06		0.83		0.11	
P,Q	2575.532	COMMERCIAL FERT ANALYSIS 10-20-20		POUND	9341	P	7272		1307		762	
V	2581.501	REMOVABLE PREFORMED PLASTIC MARKINGS		LIN FT	8530		8530					

District State Aid Comments 12-21-89

NOTES

1. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER
2. ALL DISTANCES ARE APPROXIMATE
3. DIAMOND WARNING SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED
4. BARRICADES ARE 8' TYPE III UNLESS OTHERWISE INDICATED
5. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS
6. REMOVE OR COVER ANY CONFLICTING SIGNING (INCIDENTAL)
7. TRPM'S, POLYMER LANE TAPE AND MN/DOT PAINTING ARE INTERCHANGEABLE ACCORDING TO ACTUAL CONDITIONS ENCOUNTERED AS DIRECTED BY THE ENGINEER
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER
9. AN ANNUAL FALL REVIEW OF ALL TRAFFIC CONDITIONS WILL BE MADE TO PREPARE FOR WINTER MAINTENANCE OF THE PROJECT THIS MAY INCLUDE ADJUSTMENTS OR EXCHANGE OF ONE TRAFFIC CONTROL DEVICE FOR ANOTHER READJUSTMENTS MAY AGAIN BE REQUIRED IN THE SPRING
10. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MMUTCD
11. THE CONTRACTOR SHALL COORDINATE WITH THE FINAL SIGNING PROJECT SO THAT THE INSTALLATION OF THE PERMANENT SIGNS IS COMPLETED BEFORE THE PERMANENT ROADWAYS ARE OPEN TO TRAFFIC
12. WHEN CONSTRUCTION OCCURS ON OR ADJACENT TO TRAVELLED ROADWAYS, TEMPORARY TRAFFIC CONTROL SHALL BE ESTABLISHED AND MAINTAINED IN ACCORDANCE WITH APPENDIX B OF THE MMUTCD
13. UNLESS OTHERWISE NOTED TRAFFIC SIGNS, MARKINGS AND DELINEATION, AND TRAFFIC SIGNALS SHALL BE IN ACCORDANCE WITH THE MINN TRAFFIC ENGINEER'S MANUAL
14. THE CONSTRUCTION SEQUENCE PLANS INDICATE THE GENERAL SEQUENCE OF CONSTRUCTION ONLY REFER TO DETAILED PLANS FOR ADDITONAL INFORMATION
15. ALL PAVEMENT MARKINGS NOT SHOWN SHALL BE IN ACCORDANCE WITH THE PERMANENT STRIPING PLAN
16. THIS PROJECT WILL INCLUDE CONSTRUCTION OF PROPOSED UTILITIES AND RECONSTRUCTION OR ADJUSTEMENT OF EXISTING UTILITIES THE AFFECTED UTILITIES INCLUDE BUT ARE NOT LIMITED TO WATERMAINS SANITARY SEWERS STORM SEWERS, TELEPHONE, GAS, ELECTRIC, LIGHTING AND TRAFFIC SIGNALS THE CONTRACTOR SHALL THOROUGHLY REVIEW ALL PROPOSED UTILITY WORK CONSTRUCTION, RECONSTRUCTION AND ADJUSTMENT OF UTILITIES SHALL BE ACCOMPLISHED IN A TIMELY MANNER AND WITH MINIMAL DISRUPTION OF TRAFFIC AND OTHER CONSTRUCTION
17. IF THE CONTRACTOR DESIRES TO PERFORM THE WORK IN A SEQUENCE OTHER THAN THAT INDICATED ON THE PLANS, THE CONTRACTOR SHALL SUBMIT THE PROPOSED CHANGES, IN WRITING, TO THE ENGINEER FOR APPROVAL AT LEAST 30 DAYS PRIOR TO COMMENCEMENT OF THE WORK IF THE SEQUENCE OF CONSTRUCTION CHANGES ARE APPROVED AND THE CHANGES RESULT IN CHANGES TO THE TRAFFIC CONTROL, THE CONTRACTOR SHALL SUBMIT, IN WRITING, REVISED TRAFFIC CONTROL PLANS TO THE ENGINEER FOR APPROVAL AT LEAST 14 DAYS PRIOR TO IMPLEMENTING THE TRAFFIC CONTROL
18. BARRICADE OR STAND MOUNTED SIGNS WILL BE REQUIRED TO BE POST MOUNTED AT A HEIGHT OF 7' FROM THE BOTTOM OF THE SIGN TO THE EDGE OF THE ROADWAY

TEMPORARY REFLECTORS

MICROPRISM BARRIER REFLECTORS "REFLEXITE BARRIER MOUNT DELINEATOR" 7 7/8" x 4 1/2" AN APPROVED EQUAL OR A SUBSTITUTE AT A CLOSER SPACING AS DIRECTED BY THE ENGINEER

TRPM'S TEMPORARY RAISED PAVEMENT MARKERS (STIMSONITE #66 WITH BUTYL PAD OR AN APPROVED EQUAL)

FLASHER

STEADYBURN TYPE B

INDEX

DESCRIPTION

TITLE & NOTES

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STAGE 4 CONSTRUCTION SEQUENCE

STAGE 5 CONSTRUCTION SEQUENCE

STAGE 6 CONSTRUCTION SEQUENCE

TRAFFIC CONTROL TABULATION

SPECIAL SIGN DETAILS

ADVANCED WARNING LAYOUT

TRAFFIC CONTROL LAYOUT STAGE 1

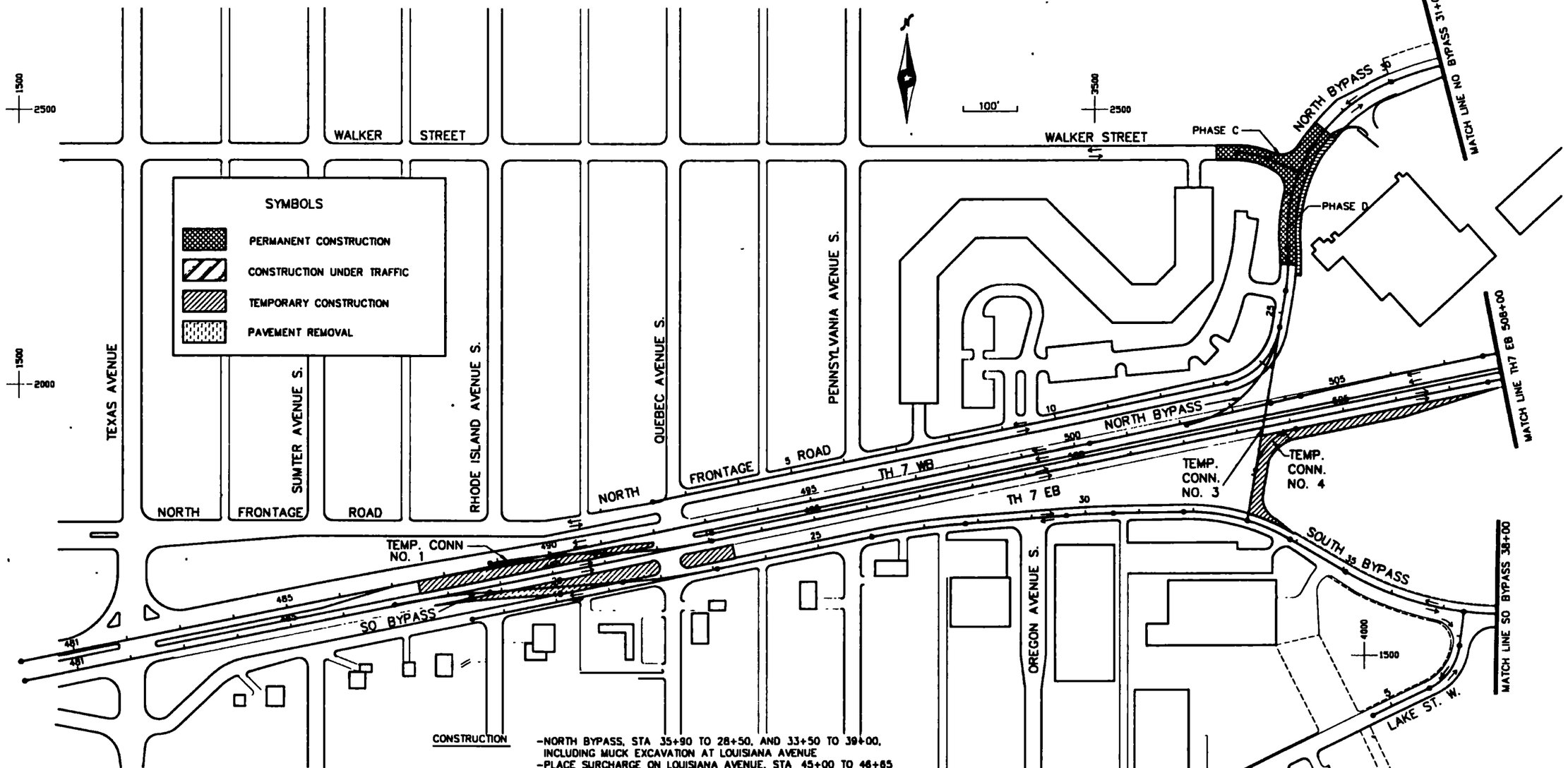
TRAFFIC CONTROL LAYOUT STAGE 2

TRAFFIC CONTROL LAYOUT STAGE 3

TRAFFIC CONTROL LAYOUT STAGE 4

TRAFFIC CONTROL LAYOUT STAGE 5

CONSTRUCTION SEQUENCE AND TRAFFIC CONTROL PLAN SHEETS



STAGE I SUMMARY

TRAFFIC

- EASTBOUND AND WESTBOUND TH 7 TRAFFIC REMAINS ON EXISTING TH 7 DURING CONSTRUCTION OF BYPASS CONNECTIONS CONSTRUCTION ADJACENT TO TRAVEL LANES SHALL BE PROTECTED BY TEMPORARY LANE CLOSURES.
- TRAFFIC ON LOUISIANA AVENUE BETWEEN OXFORD STREET AND SOUTH FRONTAGE ROAD SHALL BE TWO-LANE TWO-WAY ON THE EXISTING NOTHBOUND OR SOUTHBOUND ROADWAY DURING PHASES A AND B
- MONITOR STREET UNDER THE TH 7 RR TRESTLE IS CLOSED
- SOUTH FRONTAGE ROAD CLOSED STA 57+00 TO STA 65+50
- WALKER CLOSED AT NORTH BYPASS, PHASE C
- NORTH BYPASS (FRONTAGE ROAD) CLOSED STA 26+00 TO WALKER STREET, PHASE D
- CROSS TRAFFIC SHUT DOWN AT QUEBEC AVENUE AND TH 7
- SIGNALS AT QUEBEC AVENUE ARE SHUT DOWN.
- PHASE C MAY BEGIN BEFORE STAGE 1 IS COMPLETE WITH ENGINEER APPROVAL

CONSTRUCTION

- NORTH BYPASS, STA 35+90 TO 28+50, AND 33+50 TO 39+00, INCLUDING MUCK EXCAVATION AT LOUISIANA AVENUE
- PLACE SURCHARGE ON LOUISIANA AVENUE, STA 45+00 TO 46+85 AFTER NORTH BYPASS MUCK EXCAVATION IS COMPLETE
- TEMPORARY CONNECTIONS NO 1, NO 2, AND NO 4
- TEMPORARY CONNECTION NO 3 SOUTH OF TH 7
- SOUTH BYPASS CONNECTIONS STA 18+00 TO 23+00, AND STA 58+00 TO 61+00
- RECONSTRUCT LOUISIANA AVENUE AND SO FRONTAGE RD INTERSECTION
- REBUILD LOUISIANA AVENUE STA 32 + 00 TO 35 + 00
- RECONSTRUCT WALKER FROM NORTH BYPASS TO 200' WEST
- TEMPORARY TURN LANE, SOUTH BYPASS, STA 52+00 TO 54+00 LT
- TEMPORARY WIDENING ON NORTH BYPASS STA 25+80 TO 29+00 RT
- SOUTH FRONTAGE ROAD FROM STA 59+50 TO 65+50

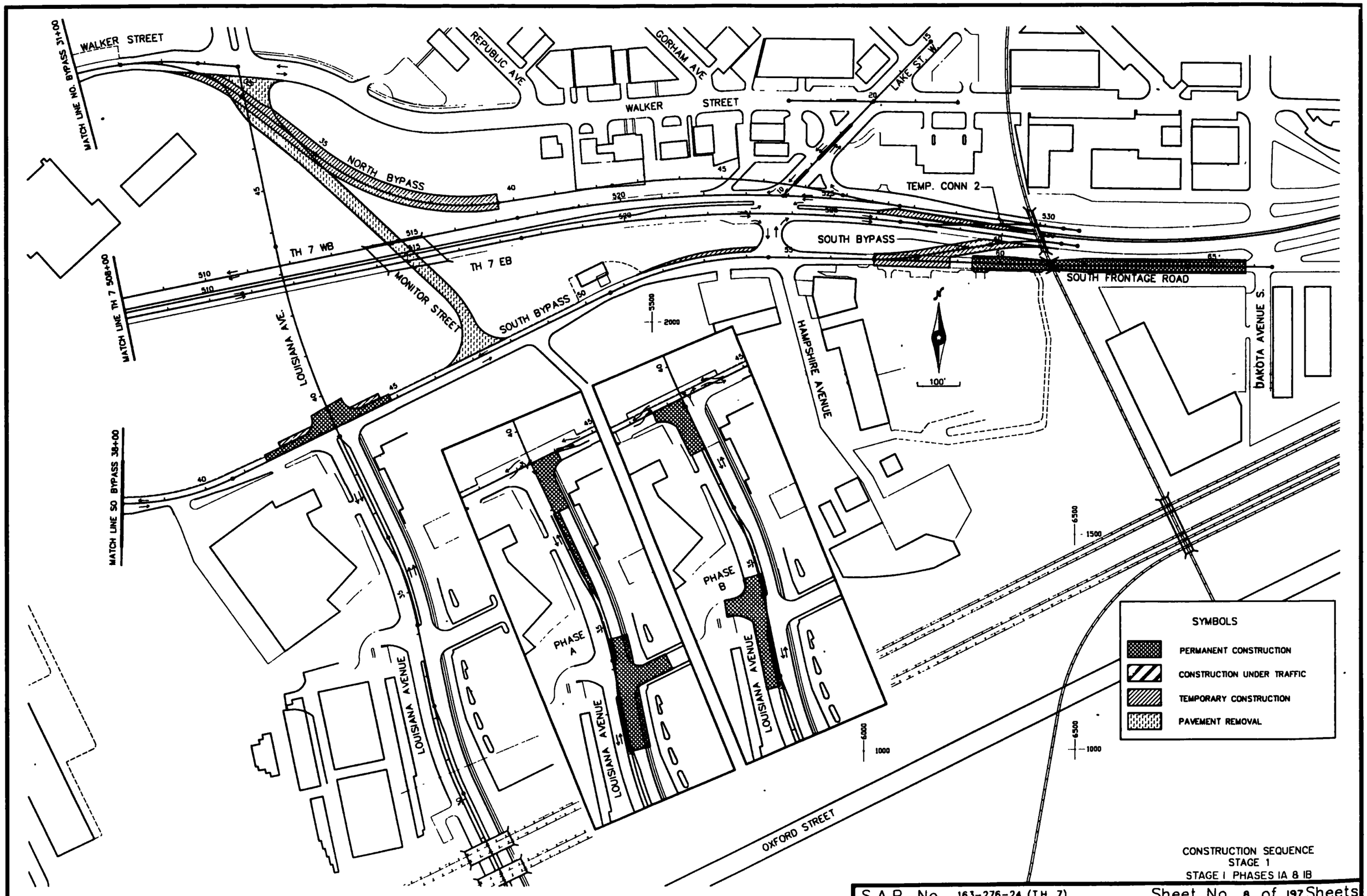
UTILITY CONSTRUCTION:

POWER, GAS & PHONE
- RELOCATE OVERHEAD POWER AT SOUTH FRONTAGE ROAD AND LOUISIANA AVENUE
- PROTECT GAS MAIN AT SOUTH FRONTAGE ROAD AND LOUISIANA AVENUE DURING SUBCUT & BACKFILLING.
- PROTECT BURIED TELEPHONE CABLE AT SOUTH FRONTAGE ROAD AND LOUISIANA AVENUE DURING SUBCUT & BACKFILLING.

STORM SEWER
- BUILD NEW CATCH BASINS & PIPE AT WALKER STREET WEST OF NORTH BYPASS, NORTH BYPASS STA 26+00, AND SOUTH FRONTAGE ROAD AND LOUISIANA AVENUE INTERSECTION
- BUILD STUBS INTO EXISTING CATCH BASINS AT NORTH SIDE OF SOUTH BYPASS AT PENNSYLVANIA AVE AND OREGON AVE

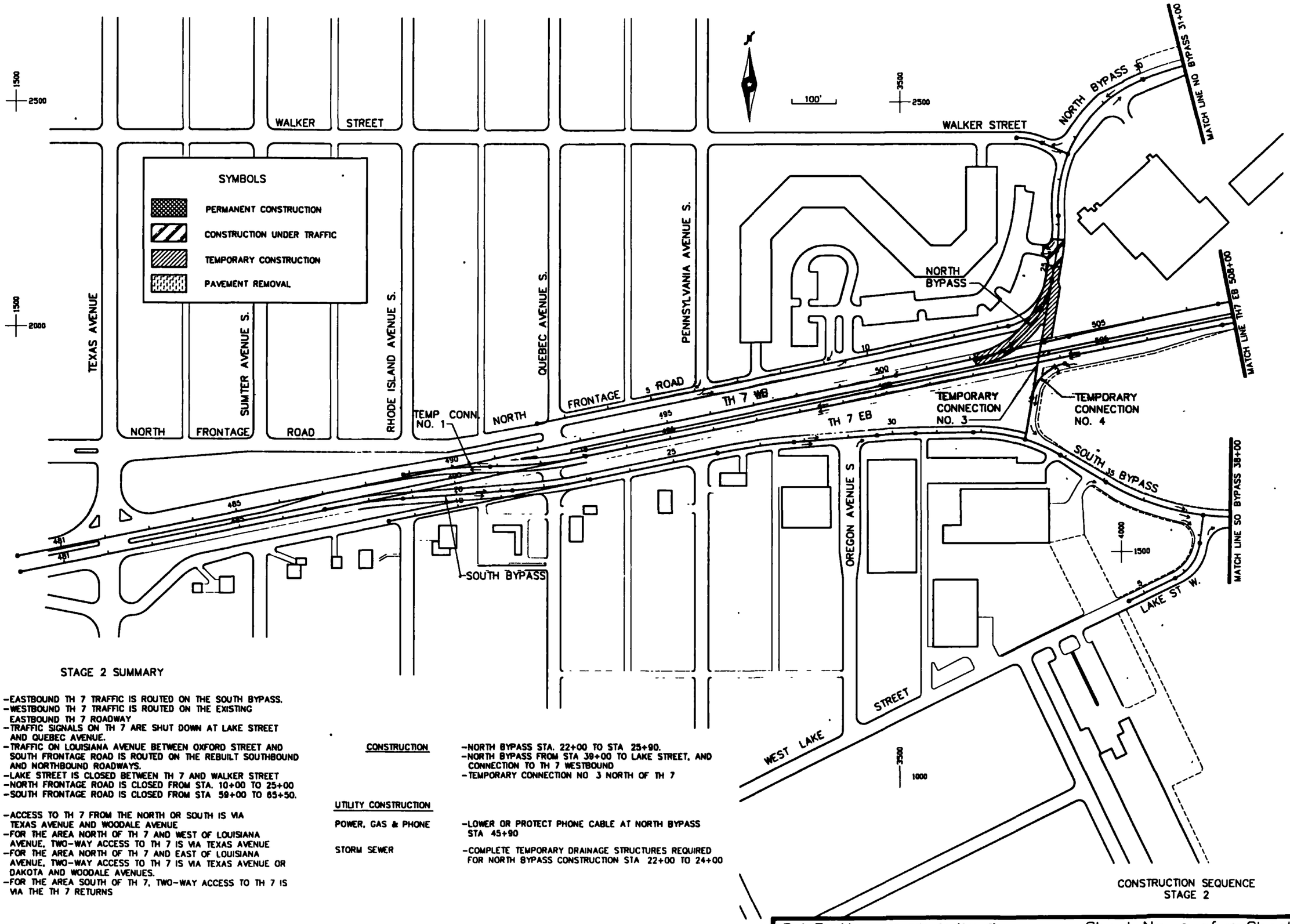
4" FORCEMAIN AND 12" WATERMAIN
- MAKE WATERMAIN CONNECTIONS AT WALKER STREET AND SOUTH FRONTAGE ROAD AND EXTEND FOR FUTURE CONNECTION DURING STAGE 3
- CONSTRUCT 4" FORCEMAIN NORTH OF TH 7 TO EXTEND BEYOND NORTH BYPASS EMBANKMENT FOR FUTURE CONNECTION DURING STAGE 3

CONSTRUCTION SEQUENCE
STAGE 1
STAGE I PHASES IC & ID



S.A.P. No. 163-276-24 (TH 7)

Sheet No. 8 of 197 Sheets



STAGE 2 SUMMARY

TRAFFIC:

- EASTBOUND TH 7 TRAFFIC IS ROUTED ON THE SOUTH BYPASS.
- WESTBOUND TH 7 TRAFFIC IS ROUTED ON THE EXISTING EASTBOUND TH 7 ROADWAY
- TRAFFIC SIGNALS ON TH 7 ARE SHUT DOWN AT LAKE STREET AND QUEBEC AVENUE.
- TRAFFIC ON LOUISIANA AVENUE BETWEEN OXFORD STREET AND SOUTH FRONTAGE ROAD IS ROUTED ON THE REBUILT SOUTHBOUND AND NORTHBOUND ROADWAYS.
- LAKE STREET IS CLOSED BETWEEN TH 7 AND WALKER STREET
- NORTH FRONTAGE ROAD IS CLOSED FROM STA. 10+00 TO 25+00
- SOUTH FRONTAGE ROAD IS CLOSED FROM STA 59+00 TO 65+50.

- ACCESS TO TH 7 FROM THE NORTH OR SOUTH IS VIA TEXAS AVENUE AND WOODALE AVENUE
- FOR THE AREA NORTH OF TH 7 AND WEST OF LOUISIANA AVENUE, TWO-WAY ACCESS TO TH 7 IS VIA TEXAS AVENUE
- FOR THE AREA NORTH OF TH 7 AND EAST OF LOUISIANA AVENUE, TWO-WAY ACCESS TO TH 7 IS VIA TEXAS AVENUE OR DAKOTA AND WOODALE AVENUES.
- FOR THE AREA SOUTH OF TH 7, TWO-WAY ACCESS TO TH 7 IS VIA THE TH 7 RETURNS

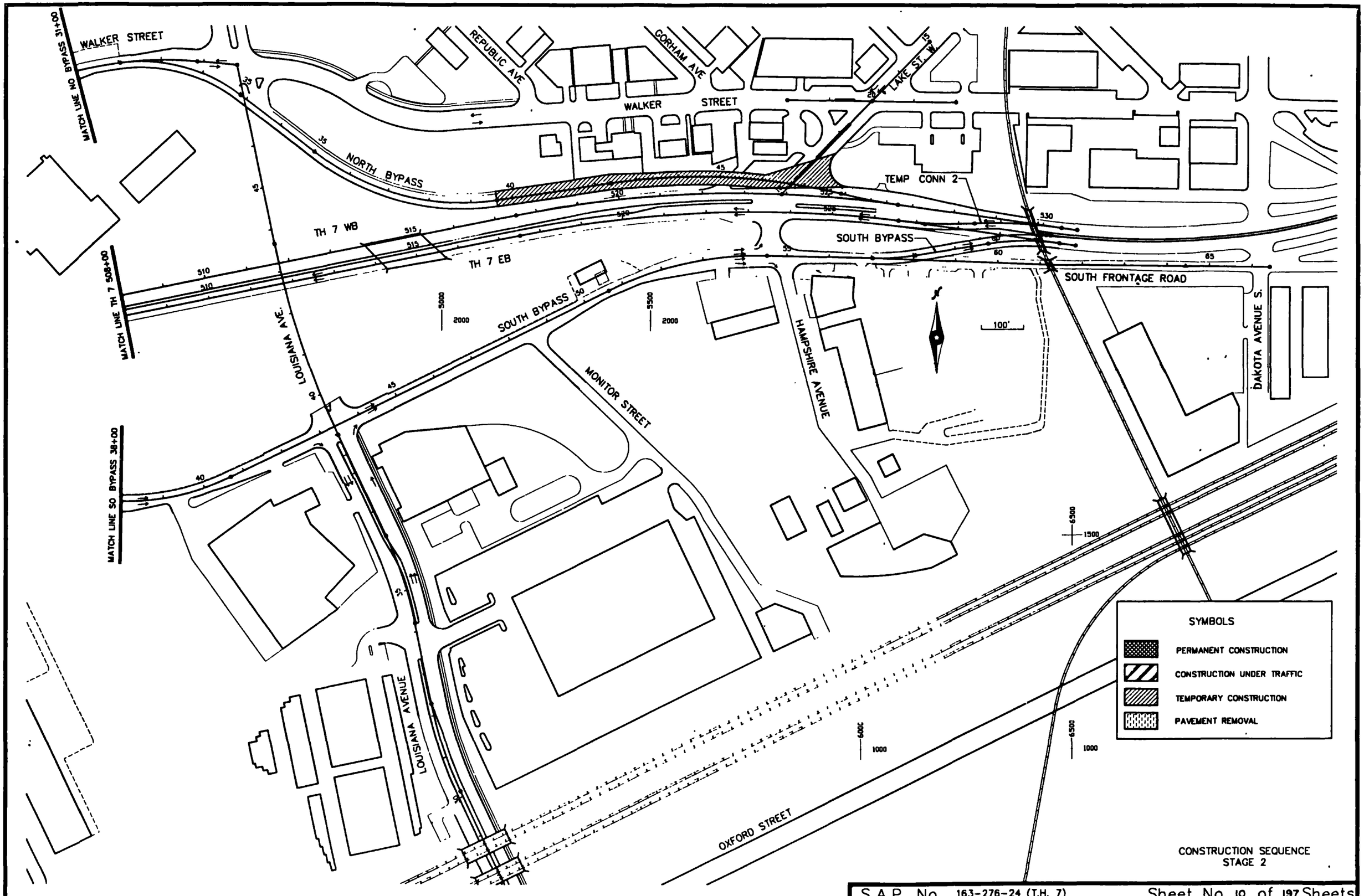
CONSTRUCTION

- NORTH BYPASS STA. 22+00 TO STA 25+90.
- NORTH BYPASS FROM STA 39+00 TO LAKE STREET, AND CONNECTION TO TH 7 WESTBOUND
- TEMPORARY CONNECTION NO 3 NORTH OF TH 7

UTILITY CONSTRUCTION

POWER, GAS & PHONE	-LOWER OR PROTECT PHONE CABLE AT NORTH BYPASS STA 45+90
STORM SEWER	-COMPLETE TEMPORARY DRAINAGE STRUCTURES REQUIRED FOR NORTH BYPASS CONSTRUCTION STA 22+00 TO 24+00

CONSTRUCTION SEQUENCE
STAGE 2



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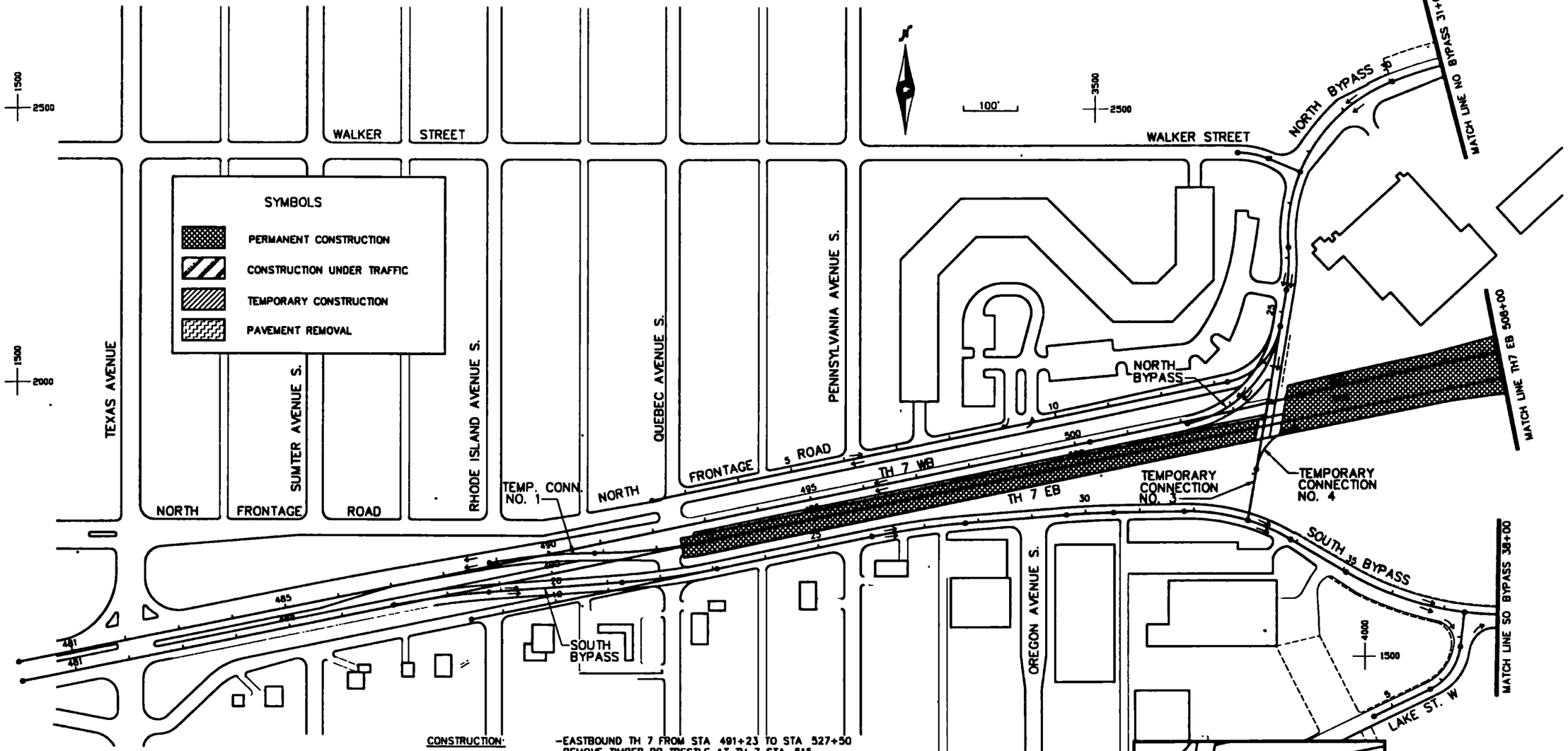


STAGE 3 SUMMARY

TRAFFIC.

- -EASTBOUND TH 7 TRAFFIC IS ROUTED ON THE SOUTH BYPASS
- -WESTBOUND TH 7 TRAFFIC IS ROUTED ON THE NORTH BYPASS
- -WALKER STREET IS CLOSED WEST OF LOUISIANA AVENUE
- -TRAFFIC SIGNALS ON TH 7 ARE SHUT DOWN AT LAKE STREET AND QUEBEC AVENUE.
- -INTERSECTION OF TH 7 W B. AND LAKE STREET IS "RIGHT-IN RIGHT-OUT" ONLY.
- -ACCESS TO AND FROM NORTH AND SOUTH OF TH 7 IS VIA TEXAS AVENUE OR WOODALE AVENUE.
- -ACCESS FROM NORTH TO SOUTH OF TH 7 IS VIA THE TEMPORARY CROSSING AT TH 7 STA. 504+00
- -TWO-WAY ACCESS TO TH 7 FROM NORTH OF TH 7 AND WEST OF LOUISIANA AVENUE IS VIA TEXAS AVENUE.
- -TWO-WAY ACCESS TO TH 7 FROM NORTH OF TH 7 AND EAST OF LOUISIANA AVENUE IS VIA DAKOTA AVENUE, WOODALE AVENUE AND TH 7 RETURNS
- -TWO-WAY ACCESS TO TH 7 FROM SOUTH OF TH 7 AND WEST OF LOUISIANA AVENUE IS VIA TEXAS AVENUE
- -TWO-WAY ACCESS TO TH 7 FROM SOUTH OF TH 7 AND EAST OF LOUISIANA AVENUE IS VIA WOODALE AVENUE AND TH 7 RETURNS
- -TEMPORARY CONN NO 3 IS CLOSED 3 DAYS (PHASE 3A) TO CONSTRUCT E B TH 7 PERMANENT ROADWAY SECTION CROSSING TEMP CONN NO 3, AND TO RECONSTRUCT TEMP CONN NO 4
- -WALKER AVENUE IS CLOSED AT NORTH BYPASS
- -NORTH FRONTAGE ROAD IS CLOSED AT STA 10+00 TO THE EAST
- -SOUTH FRONTAGE ROAD IS CLOSED, STA 59+00 TO 65+50

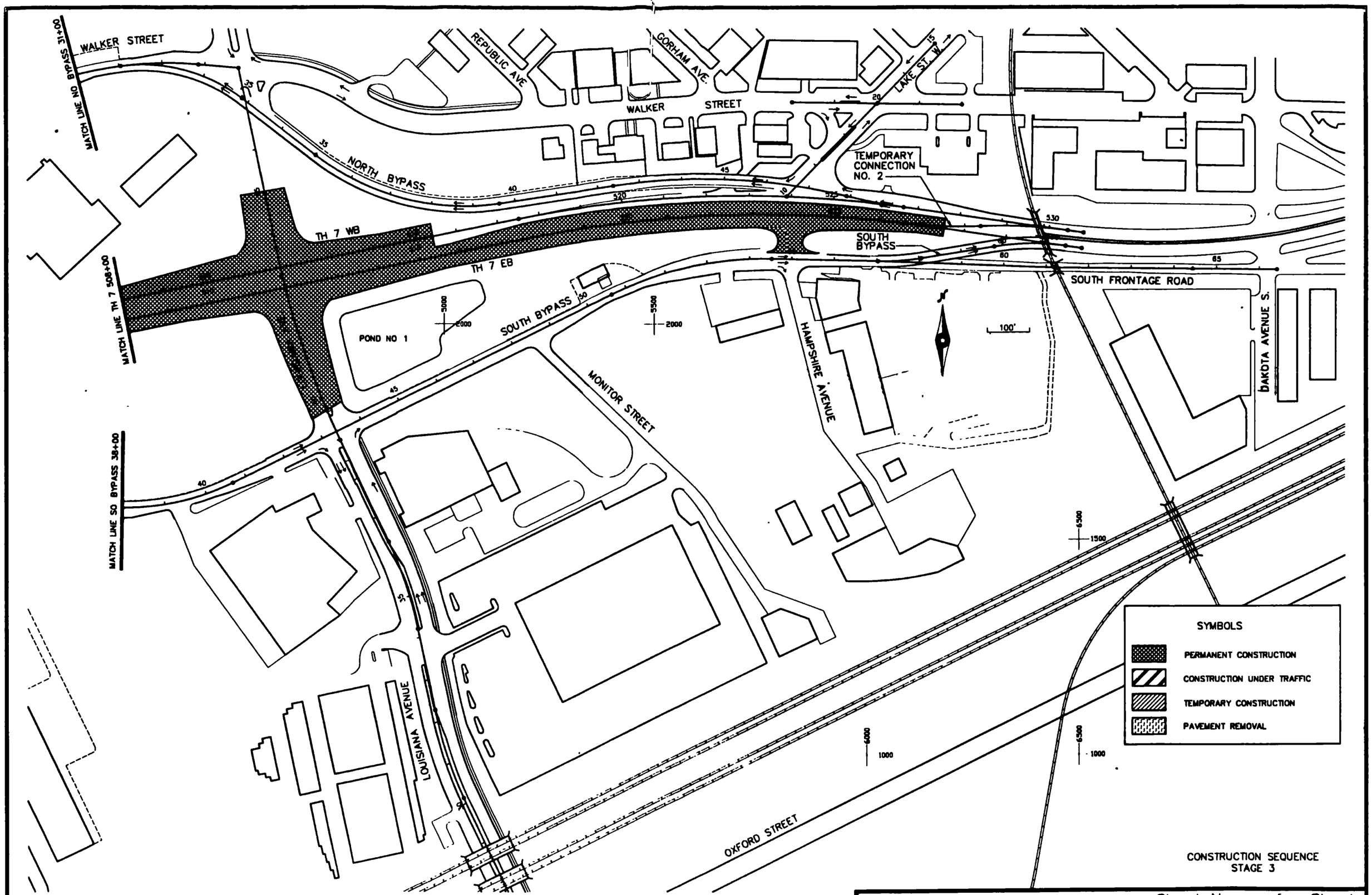
CONSTRUCTION:

- -EASTBOUND TH 7 FROM STA 491+23 TO STA 527+50
- -REMOVE TIMBER RR TRESTLE AT TH 7 STA 515
- -CONSTRUCT TH 7 E B AT TEMPORARY CONNECTION NO 3 IN PHASE 3A WITH NO TRAFFIC
- -WESTBOUND TH 7 FROM STA 504+00 TO STA 515+30, INCLUDING STORM SEWER
- -LOUISIANA AVENUE FROM SOUTH FRONTAGE ROAD TO STA 45+00
- -CONSTRUCT SLIP RAMP OFF TH7 E B ONTO SOUTH FRONTAGE ROAD AT HAMPSHIRE AVENUE
- -RECONSTRUCT TEMPORARY CONNECTION NO. 4 IN PHASE 3A

UTILITY CONSTRUCTION.

POWER, GAS & PHONE	-LOWER NSP POWER FEEDER AT TH 7 STA. 524+50 IF NECESSARY -REPLACE OR LOWER 4" GAS MAIN AT TH 7 STA 524+00. -LOWER OR REROUTE PHONE CABLE AT TH 7 STA 522+00
STORM SEWER	-CONSTRUCT IN CONJUCTION WITH ROADWAY CONSTRUCTION, SEE DRAINAGE AND UTILITY PLANS. -GRADE POND NO 1, SOUTH OF TH 7 EAST OF LOUISIANA AVENUE.
SANITARY SEWER WATER MAIN & FORCE MAIN	-FURNISH & INSTALL ADDITIONAL PILING UNDER EXISTING 12" SANITARY CASING, TH 7 STA 515+00 LT AND RT -CONSTRUCT 4" FORCE MAIN WITH CASING, TH 7 STA 514+50 LT AND RT CONNECT TO STUB ON NORTH SIDE OF TH 7 -CONSTRUCT 12" WATER MAIN WITH CASING, TH 7 STA 514+50 LT AND RT CONNECT TO STUBOUT CONNECTIONS MADE UNDER STAGE 1

CONSTRUCTION SEQUENCE
STAGE 3
STAGE 3 PHASE 3A



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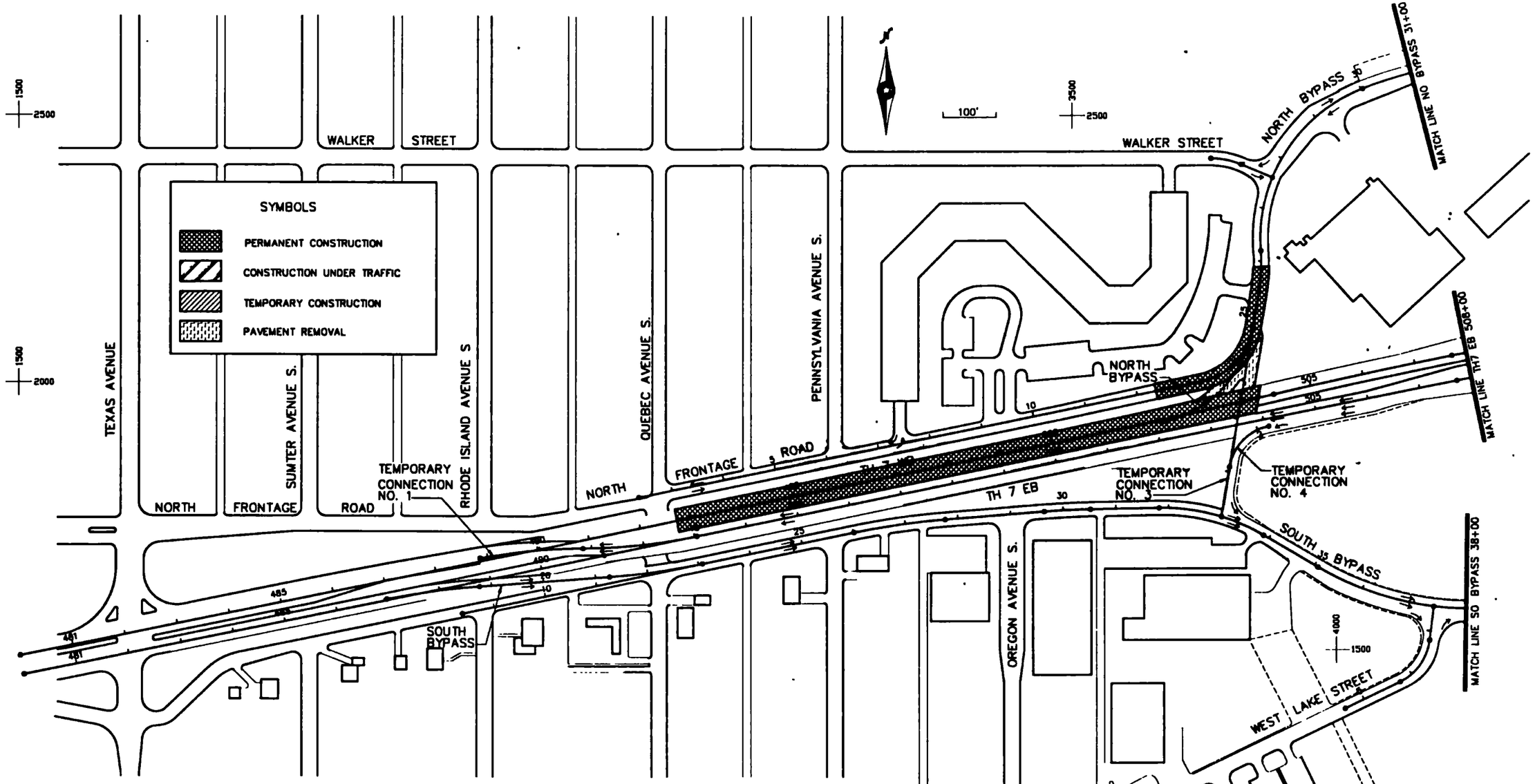


STAGE 4 SUMMARY

TRAFFIC:

- -EASTBOUND TH 7 TRAFFIC IS ROUTED ON THE SOUTH BYPASS
- -WESTBOUND TH 7 TRAFFIC IS ROUTED ONTO EASTBOUND TH 7 ROADWAY CONSTRUCTED IN STAGE 3
- -E.B. TRAFFIC (ON SOUTH BYPASS) ACCESS TO W.B DIRECTION VIA LOUISIANA AVENUE.
- -TRAFFIC SIGNALS ARE SHUT DOWN ON TH 7 AT LAKE STREET AND QUEBEC AVENUE.
- -ACCESS TO TH 7 FROM THE NORTH OR SOUTH VIA TEXAS AVENUE OR WOODALE AVENUE.
- -FOR THE AREA NORTH OF TH 7 AND WEST OF LOUISIANA AVENUE, TWO-WAY ACCESS TO TH 7 IS VIA TEXAS AVENUE.
- -FOR THE AREA NORTH OF TH 7 AND EAST OF LOUISIANA AVENUE, TWO-WAY ACCESS TO TH 7 IS VIA TEXAS AVENUE, OR DAKOTA AND WOODALE AVENUES
- -NORTH FRONTAGE ROAD IS CLOSED, STA. 10+00 TO 25+90
- -SOUTH FRONTAGE ROAD IS CLOSED, STA 59+00 TO 65+50
- -LAKE STREET IS CLOSED FROM TH 7 TO WALKER STREET.

CONSTRUCTION

- -TH 7 WESTBOUND, STA. 492+73 TO STA 504+00 AND STA 515+30 TO STA 527+50
- -REMOVE TEMPORARY SECTION OF THE NORTH BYPASS FROM LOUISIANA AVENUE TO WEST LAKE STREET AND PLACE 3' GRANULAR SURCHARGE AT LOUISIANA AVENUE NORTH OF EXISTING SURCHARGE PLACED IN STAGE 1.
- -COMPLETE SIGNAL SYSTEM AT TH 7 AND LOUISIANA AVENUE AND MAKE OPERATIONAL
- -RECONSTRUCT NORTH FRONTAGE ROAD STA 12+40 TO 24+74.

UTILITY CONSTRUCTION

POWER, GAS & PHONE

- -ANY RELOCATIONS OR ADJUSTMENT SHALL BE COORDINATED WITH PRIVATE UTILITY OWNERS

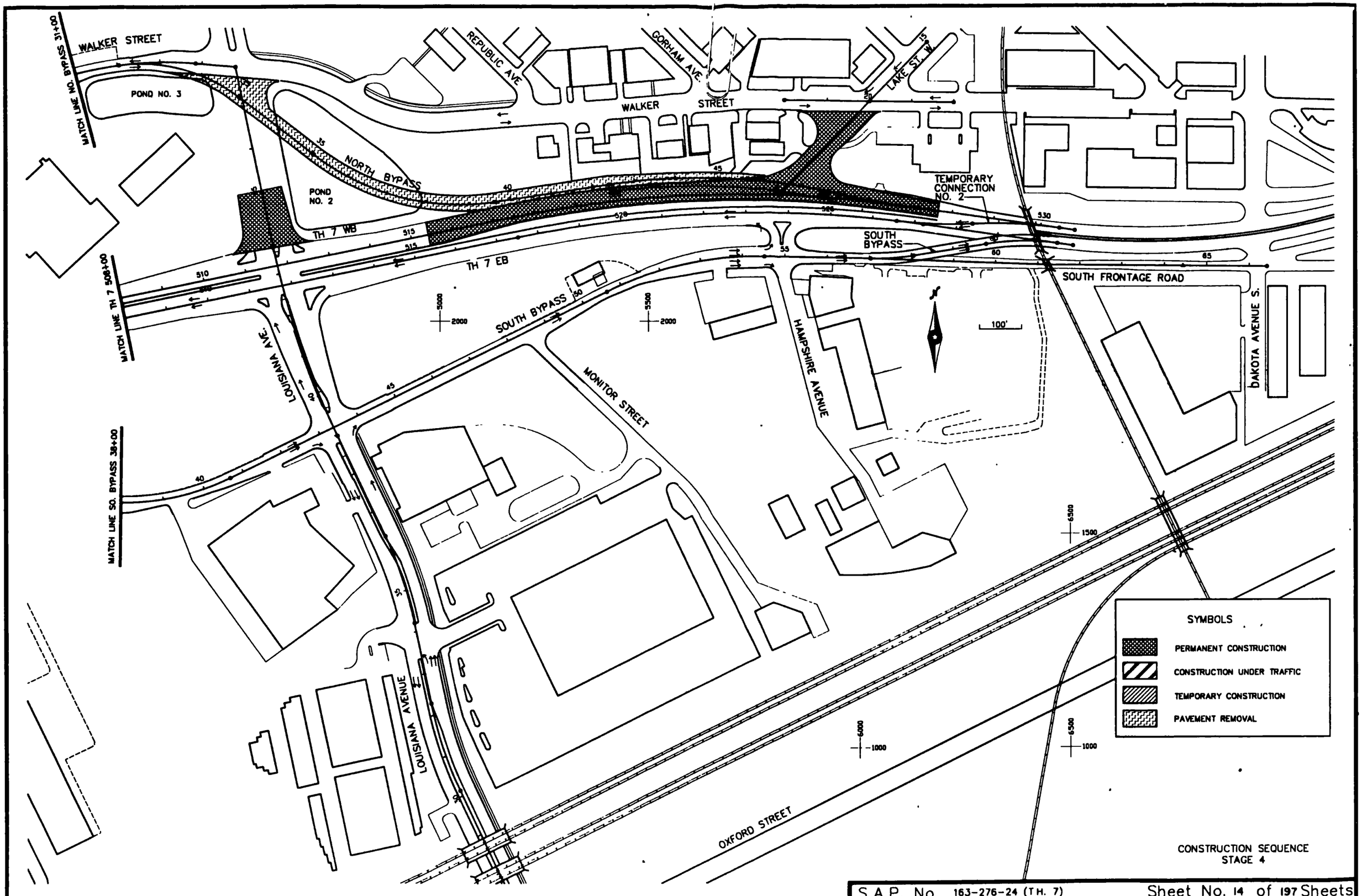
STORM SEWER

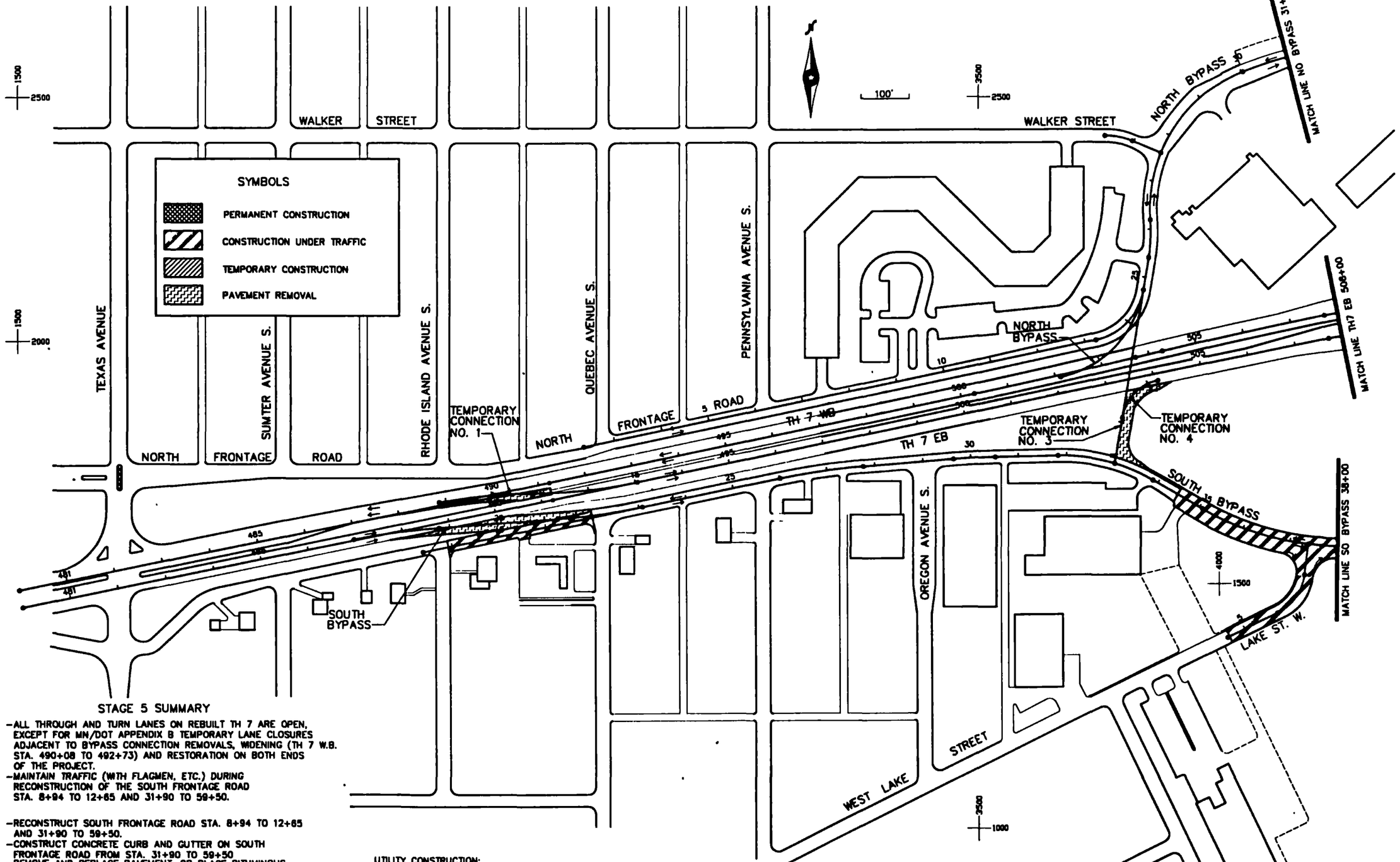
- -CONSTRUCT IN CONJUNCTION WITH ROADWAY CONSTRUCTION, SEE DRAINAGE AND UTILITY PLANS
- -GRADE PONDING AREAS
  - -NO 2, NORTH OF TH 7 AND EAST OF LOUISIANA AVENUE
  - -NO 3, WEST OF LOUISIANA AVENUE AND SOUTH OF NORTH FRONTAGE ROAD

SANITARY SEWER & WATER MAIN

- -MODIFY INPLACE UTILITIES AS REQUIRED IN CONJUCTION WITH ROADWAY CONSTRUCTION, SEE DRAINAGE AND UTILITY PLANS

CONSTRUCTION SEQUENCE
STAGE 4


WALKER STREET
MATCH LINE NO. BYPASS 31+00
POND NO. 3
REPUBLIC AVE.
GORHAM AVE.
WALKER STREET
LAKE ST. W.
NORTH BYPASS
POND NO. 2
TEMPORARY CONNECTION NO. 2
TH 7 WB
TH 7 EB
SOUTH BYPASS
SOUTH FRONTAGE ROAD
MATCH LINE TH 7 508+00
SOUTH BYPASS
LOUISIANA AVE.
MONITOR STREET
HAMPSHIRE AVENUE
DAKOTA AVENUE S.
100'
MATCH LINE SO. BYPASS 38+00
LOUISIANA AVENUE
OXFORD STREET
SYMBOLS
PERMANENT CONSTRUCTION
CONSTRUCTION UNDER TRAFFIC
TEMPORARY CONSTRUCTION
PAVEMENT REMOVAL
CONSTRUCTION SEQUENCE
STAGE 4



STAGE 5 SUMMARY

TRAFFIC:

- ALL THROUGH AND TURN LANES ON REBUILT TH 7 ARE OPEN, EXCEPT FOR MN/DOT APPENDIX B TEMPORARY LANE CLOSURES ADJACENT TO BYPASS CONNECTION REMOVALS, WIDENING (TH 7 W.B. STA. 490+08 TO 492+73) AND RESTORATION ON BOTH ENDS OF THE PROJECT.
- MAINTAIN TRAFFIC (WITH FLAGMEN, ETC.) DURING RECONSTRUCTION OF THE SOUTH FRONTAGE ROAD STA. 8+94 TO 12+65 AND 31+90 TO 59+50.

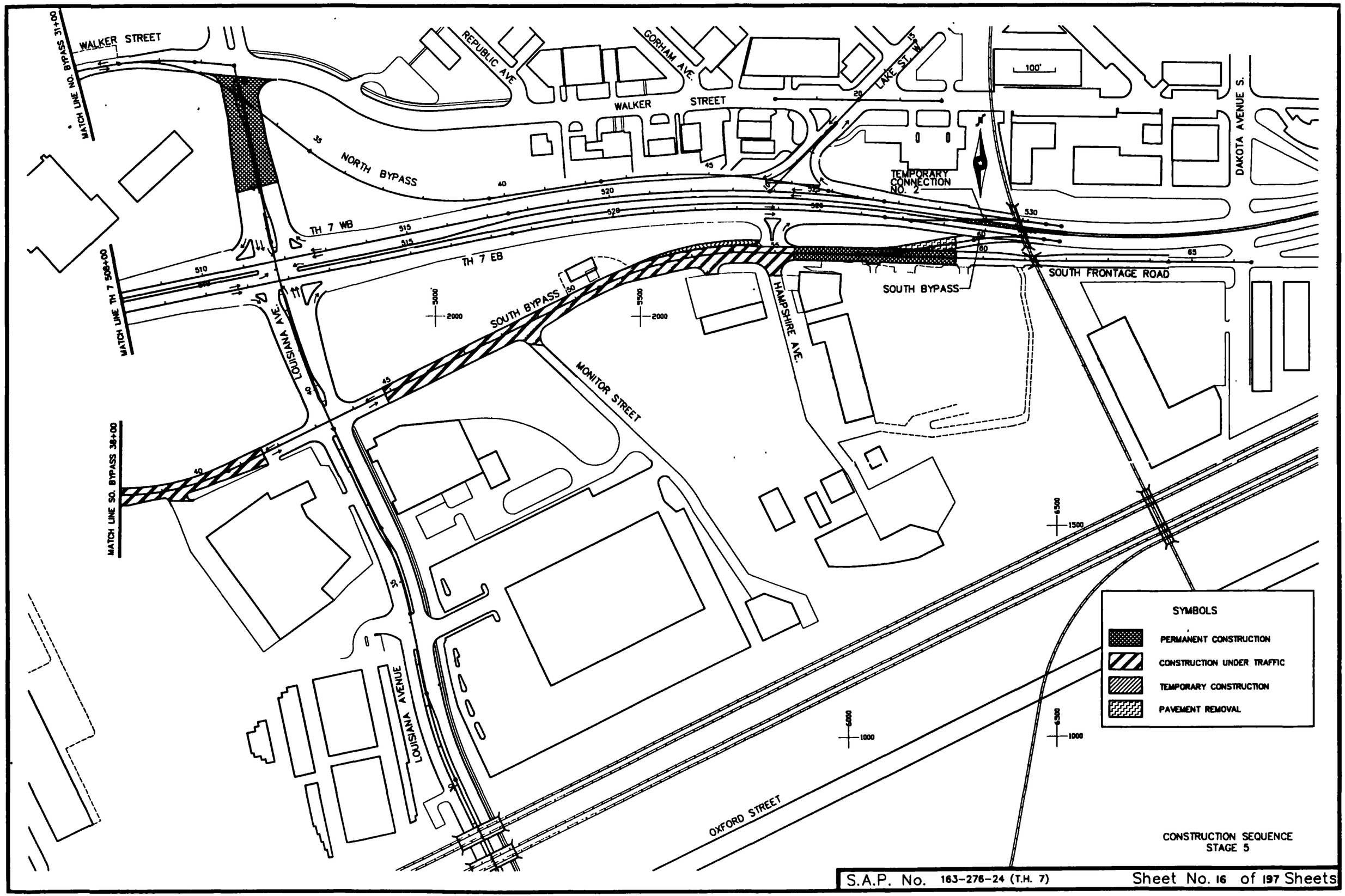
CONSTRUCTION:

- RECONSTRUCT SOUTH FRONTAGE ROAD STA. 8+94 TO 12+65 AND 31+90 TO 59+50.
- CONSTRUCT CONCRETE CURB AND GUTTER ON SOUTH FRONTAGE ROAD FROM STA. 31+90 TO 59+50
- REMOVE AND REPLACE PAVEMENT, OR PLACE BITUMINOUS LEVELING COURSE AS NEEDED TO FIT REVISED GRADE AND NEW CURB AND GUTTER.
- REMOVE BYPASS CONNECTIONS ON BOTH ENDS OF THE PROJECT AND RESTORE PER PLAN.
- CONSTRUCT TH 7 WIDENING W.B. STA 490+08 TO STA 492+73
- REMOVE SURCHARGE AND CONSTRUCT LOUISIANA AVENUE CONNECTION, STA 45+00 TO STA 47+75
- CONSTRUCT MEDIAN AT TEXAS AVENUE AND NORTH FRONTAGE ROAD.
- RECONSTRUCT WEST LAKE STREET (SOUTH) STA 4+65 TO STA. 7+00.
- TURF ESTABLISHMENT, CLEANUP AND MISCELLANEOUS PROJECTS.

UTILITY CONSTRUCTION:

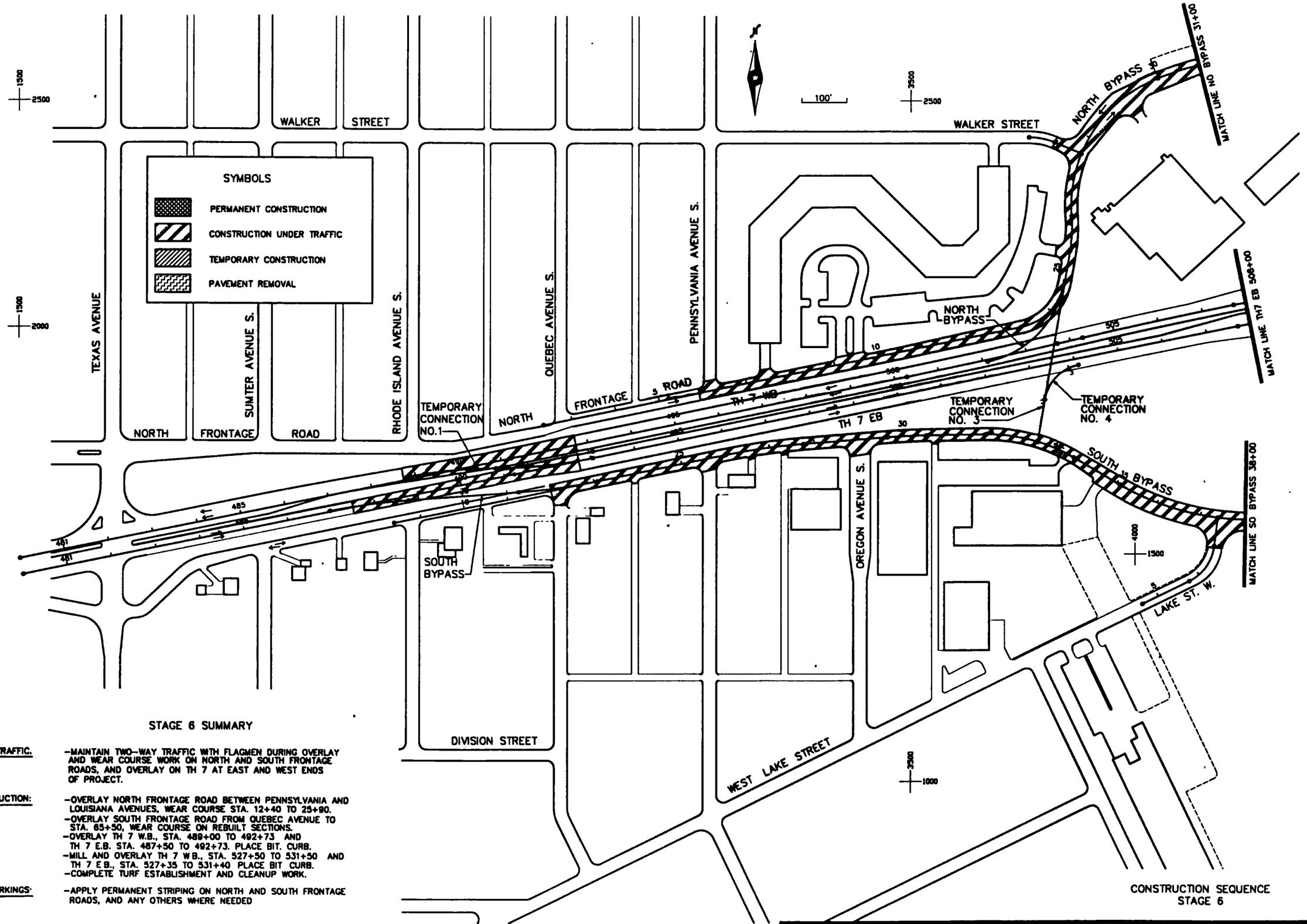
POWER, GAS & PHONE	-ADJUST CASTINGS FOR POWER MANHOLES, SOUTH FRONTAGE ROAD EAST OF LAKE STREET (BY OTHERS).
STORM SEWER	-EXTEND STORM LEADS AS NEEDED AND RELOCATE CATCH BASINS TO NEW CURB LINE SOUTH FRONTAGE ROAD, STA 31+90 TO 59+50 ADJUST MANHOLE CASTINGS.
SANITARY SEWER & WATER MAIN	-ADJUST MANHOLE CASTINGS AND GATE VALVE COVERS, SOUTH FRONTAGE ROAD, STA 31+90 TO 59+50 (SEE DRAINAGE AND UTILITY PLANS.)

CONSTRUCTION SEQUENCE
STAGE 5



S.A.P. No. 163-276-24 (T.H. 7)

Sheet No. 16 of 197 Sheets



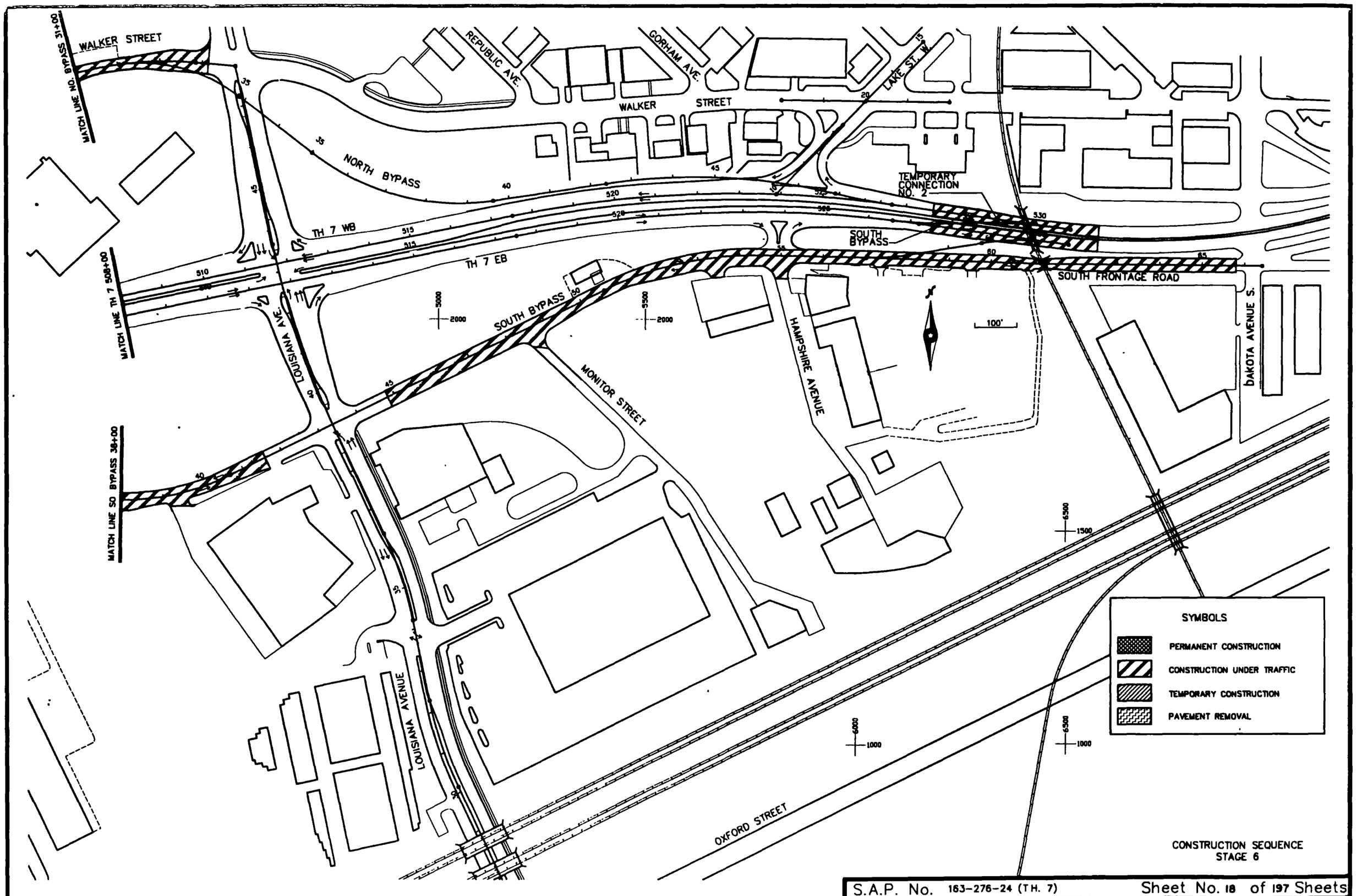
STAGE 6 SUMMARY

TRAFFIC. -MAINTAIN TWO-WAY TRAFFIC WITH FLAGMEN DURING OVERLAY AND WEAR COURSE WORK ON NORTH AND SOUTH FRONTAGE ROADS, AND OVERLAY ON TH 7 AT EAST AND WEST ENDS OF PROJECT.

CONSTRUCTION:
- -OVERLAY NORTH FRONTAGE ROAD BETWEEN PENNSYLVANIA AND LOUISIANA AVENUES, WEAR COURSE STA. 12+40 TO 25+90.
- -OVERLAY SOUTH FRONTAGE ROAD FROM QUEBEC AVENUE TO STA. 85+50, WEAR COURSE ON REBUILT SECTIONS.
- -OVERLAY TH 7 W.B., STA. 489+00 TO 492+73 AND TH 7 E.B. STA. 487+50 TO 492+73. PLACE BIT. CURB.
- -MILL AND OVERLAY TH 7 W.B., STA. 527+50 TO 531+50 AND TH 7 E.B., STA. 527+35 TO 531+40 PLACE BIT CURB.
- -COMPLETE TURF ESTABLISHMENT AND CLEANUP WORK.

PAVEMENT MARKINGS: -APPLY PERMANENT STRIPING ON NORTH AND SOUTH FRONTAGE ROADS, AND ANY OTHERS WHERE NEEDED

CONSTRUCTION SEQUENCE
STAGE 6



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SIGNS	SIGN NO.	SIZE & COLOR	QUANTITY PER STAGE 1	2	3	4	5	6
STOP	R1-1	36"x 30" WHITE ON RED	8	8	11	8		
YIELD	R1-2	36"x 36" RED ON WHITE			2	2		
ALL WAY	R1-4	18"x 6" WHITE ON RED	4					
	R3-1	30"x 30" BLACK ON WHITE	7	6	7	5		
	R3-2	24"x 24" BLACK & RED ON WHITE	2	4	6	7		
ALL TRAFFIC MUST TURN RIGHT	R3-7(R)	30"x 30" BLACK ON WHITE		2	3	2		
ONLY ONLY	R3-8E	36"x 30" BLACK ON WHITE				2		
RIGHT TURN LANE	R3-X1	30"x 30" BLACK ON WHITE	1	4	5	3		
LEFT TURN LANE	R3-X2	30"x 30" BLACK ON WHITE		2		1		
	R4-7	30"x 36" BLACK ON WHITE	3					
	R5-1	30"x 30" WHITE ON RED	2	13	17	13		
	R5-2	24"x 24" BLACK & RED ON WHITE		4	4	4		
	R6-1(R)	36"x 12" BLACK ON WHITE		10	13	13		
	R6-1(L)	36"x 12" BLACK ON WHITE		6	4	2		

SIGNS	SIGN NO	SIZE & COLOR	QUANTITY PER STAGE 1	2	3	4	5	6
ROAD CLOSED	R11-2	48"x 30" BLACK ON WHITE	16	19	21	22	3	
ROAD CLOSED TO THRU TRAFFIC	R11-4	60"x 30" BLACK ON WHITE	3	5	5	5		
TRUCK ROUTE	R14-1	24"x 18" BLACK ON WHITE		6	4	4		
	W1-1(R)	30"x 30" BLACK ON ORANGE	2	1	4	1		
	W1-1(L)	30"x 30" BLACK ON ORANGE	1		2			
	W1-3(R)	30"x 30" BLACK ON ORANGE	1					
	W1-4(R)	30"x 30" BLACK ON ORANGE	1					

SIGNS	SIGN NO.	SIZE & COLOR	QUANTITY PER STAGE 1	2	3	4	5	6
	W1-6	48"X 24" BLACK ON ORANGE	4	4	6	7		
	W1-7	48"X 24" BLACK ON ORANGE	5	4	2	4		
STOP AHEAD	W3-1A	36"x 36" BLACK & RED ON YELLOW	2	2	3	2		
	W6-3	36"x 36" BLACK ON YELLOW	3					
XX MPH.	W13-1	24"x 24" BLACK ON ORANGE	2	11	14	15		
	W14-X7 (R)	18"x 18" BLACK ON ORANGE	125	48	135	102	124	
ROAD CONSTRUCTION AHEAD	W20-1	36"x 36" BLACK ON ORANGE	30	27	27	28		
ROAD CLOSED AHEAD	W20-3	36"x 36" BLACK ON ORANGE	8	5	4	5	1	
BYPASS AHEAD	W20-X6	36"x 36" BLACK ON ORANGE		3	5	2		
	W20-X7 (L)	36"x 36" BLACK ON ORANGE		4	2	2		
	W20-X7 (R)	36"x 36" BLACK ON ORANGE		4	1	8		
LEFT LANE CLOSED	W21-X5 (L)	36"x 36" BLACK ON ORANGE	2	1	1	1		
RIGHT LANE CLOSED	W21-X5 (R)	36"x 36" BLACK ON ORANGE	2					

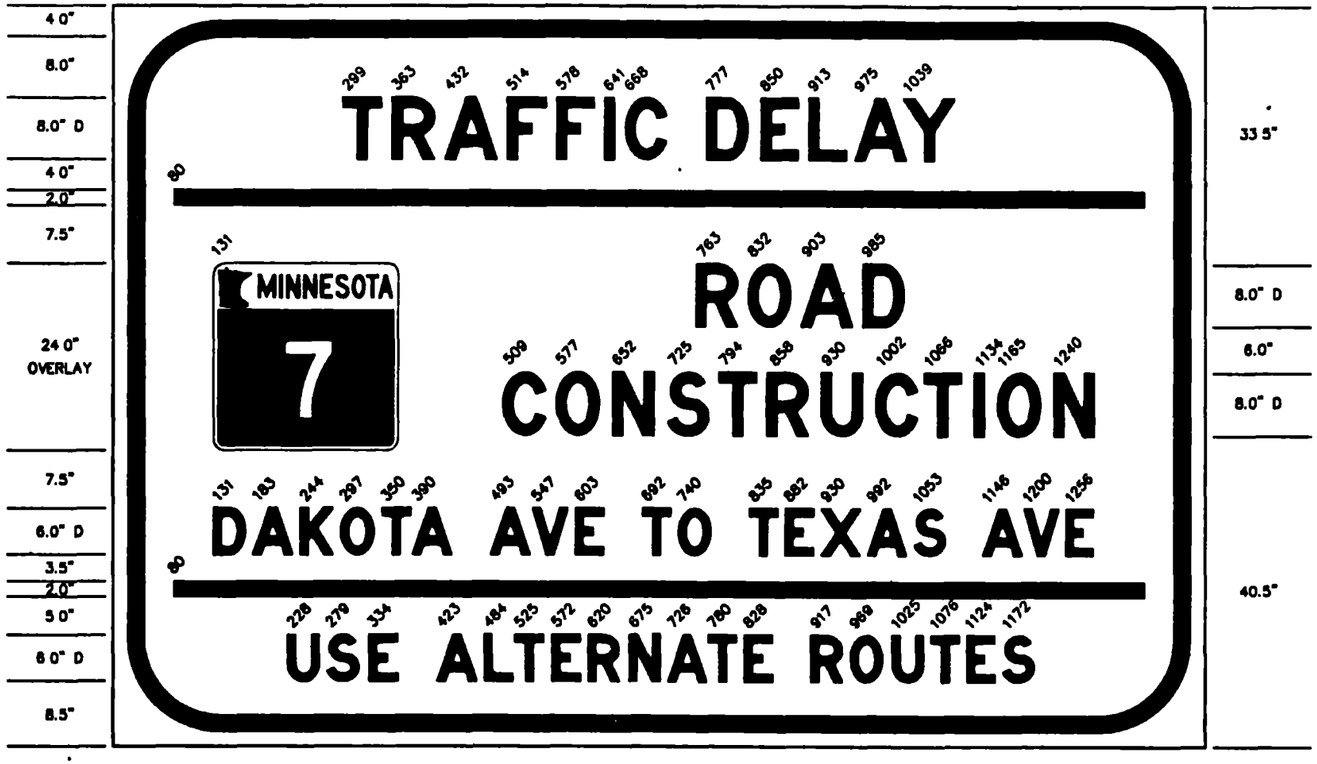
TRAFFIC CONTROL TABULATION

SIGNS	SIGN NO.	SIZE & COLOR	QUANTITY PER STAGE 1	2	3	4	5	6
MINNESOTA 7	M1-5A	24"x 24" WHITE & GOLD ON BLUE	7	34	30	29		
EAST	M3-2	24"x 12" BLACK ON WHITE	2	12	13	13		
WEST	M3-4	24"x 12" BLACK ON WHITE	2	14	13	13		
TO	M4-5	24"x 12" BLACK ON WHITE	7	31	19	20		
	M5-1 (L)	21"x 15" BLACK ON WHITE		5	1	2		
	M6-1	21"x 15" BLACK ON WHITE	7	27	24	28		
	M6-3	21"x 15" BLACK ON WHITE			7	3		
END CONSTRUCTION	G20-2	60"x 24" BLACK ON ORANGE	7	8	7	7	7	7
	X4-2	18"x 18" YELLOW ON YELLOW	3	1	1	3		
	X4-4	18"x 36" YELLOW ON BLACK		1				

SIGNS	SIGN NO.	SIZE & COLOR	QUANTITY PER STAGE 1	2	3	4	5	6
	TYPE I BARRI-CADE	2'x 3' ORANGE ON WHITE	9		16	4	21	
	TYPE III BARRI-CADE (LEFT)	4'x 8' ORANGE ON WHITE	56	66	65	64	10	
	TYPE III BARRI-CADE (RIGHT)	4'x 8' ORANGE ON WHITE	42	65	50	53	7	
	PLASTIC DRUM	ORANGE ON WHITE	128	63	155	117	124	
	TYPE A3 LOW INTENSITY WARNING LIGHT		87	79	95	87	54	28
				0	0	0	0	0

SIGNS	SIGN NO.	SIZE & COLOR	QUANTITY PER STAGE 1	2	3	4	5	6
	SPECIAL	12'x 8' BLACK ON ORANGE	1	1	1	1	1	1
	SPECIAL	12'x 8' BLACK ON ORANGE	1	1	1	1	1	1
	SPECIAL	102"x10" BLACK ON ORANGE	2					
TO EAST LEFT LANE	SPECIAL	7'x 4.5' BLACK ON ORANGE				2		
TO WEST LEFT LANE	SPECIAL	7'x 4.5' BLACK ON ORANGE		2	2	2		
THIS ROAD WILL BE CLOSED DATE	SPECIAL	4'X 4' BLACK ON ORANGE	1	7	1			
	SPECIAL	36"x 36" BLACK ON ORANGE				3	2	
	SPECIAL	36"x 36" BLACK ON ORANGE		4	4	4		

TRAFFIC CONTROL TABULATION

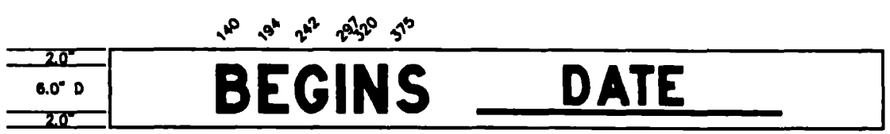


144" x 96" 12" RADIUS 2" BORDER

84" x 54" 9" RADIUS 1.5" BORDER

84" x 54" 9" RADIUS 1.5" BORDER

NOTE: A SIMILAR SIGN SHALL ALSO BE FABRICATED WITH THE LEGEND BEING. TEXAS AVE TO DAKOTA AVE

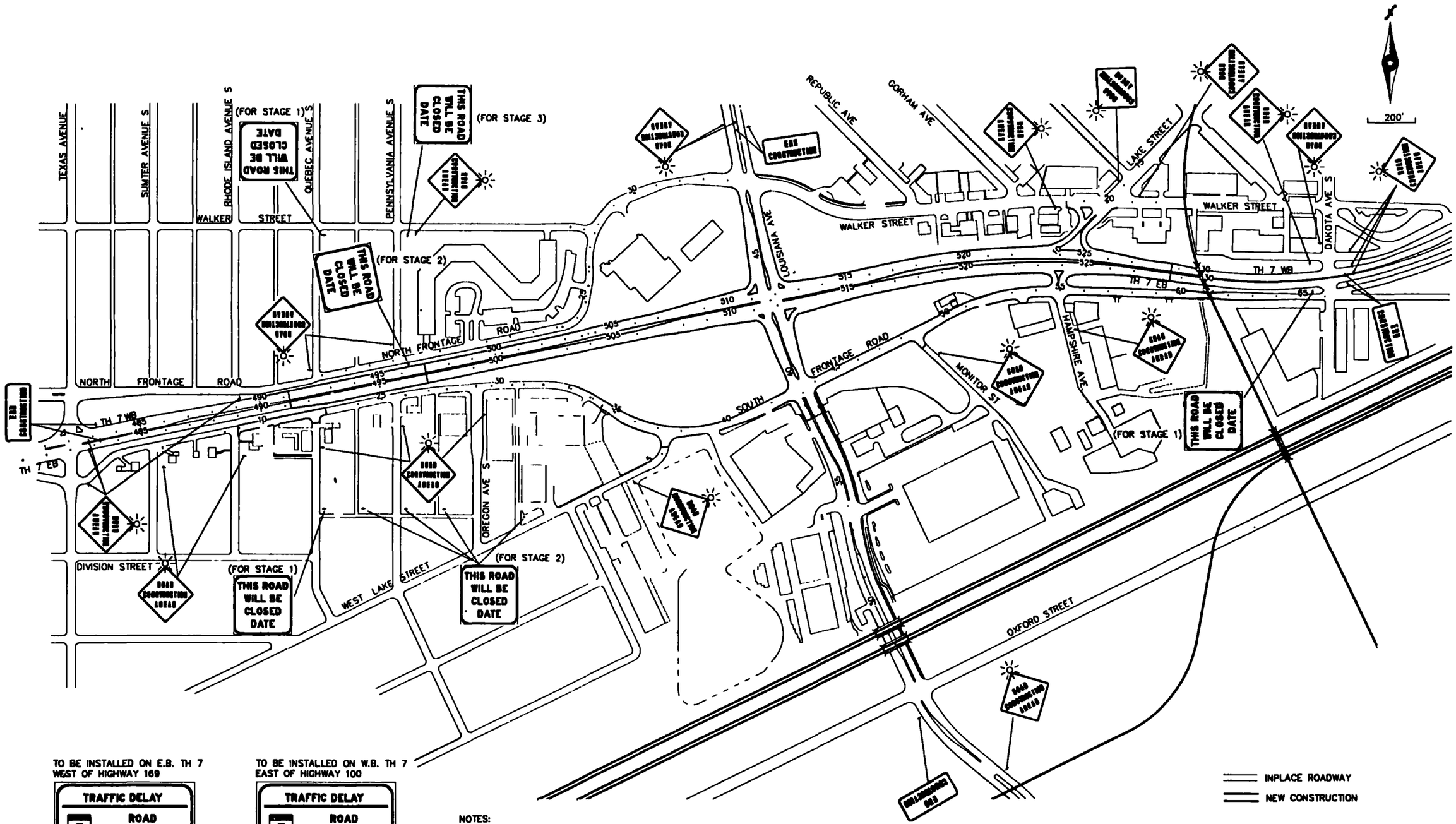


102" x 10"

NOTE: DATE PLATE SHALL BE FABRICATED TO COVER THE LEGEND "USE ALTERNATE ROUTES"

48" x 48" 6" RADIUS 1.25" BORDER

SPECIAL SIGN DETAILS



TO BE INSTALLED ON E.B. TH 7
WEST OF HIGHWAY 169

TRAFFIC DELAY
7 **ROAD CONSTRUCTION**
TEXAS AVE TO DAKOTA AVE
USE ALTERNATE ROUTES
BEGINS ___ DATE ___ ③③

TO BE INSTALLED ON W.B. TH 7
EAST OF HIGHWAY 100

TRAFFIC DELAY
7 **ROAD CONSTRUCTION**
DAKOTA AVE TO TEXAS AVE
USE ALTERNATE ROUTES
BEGINS ___ DATE ___ ③③

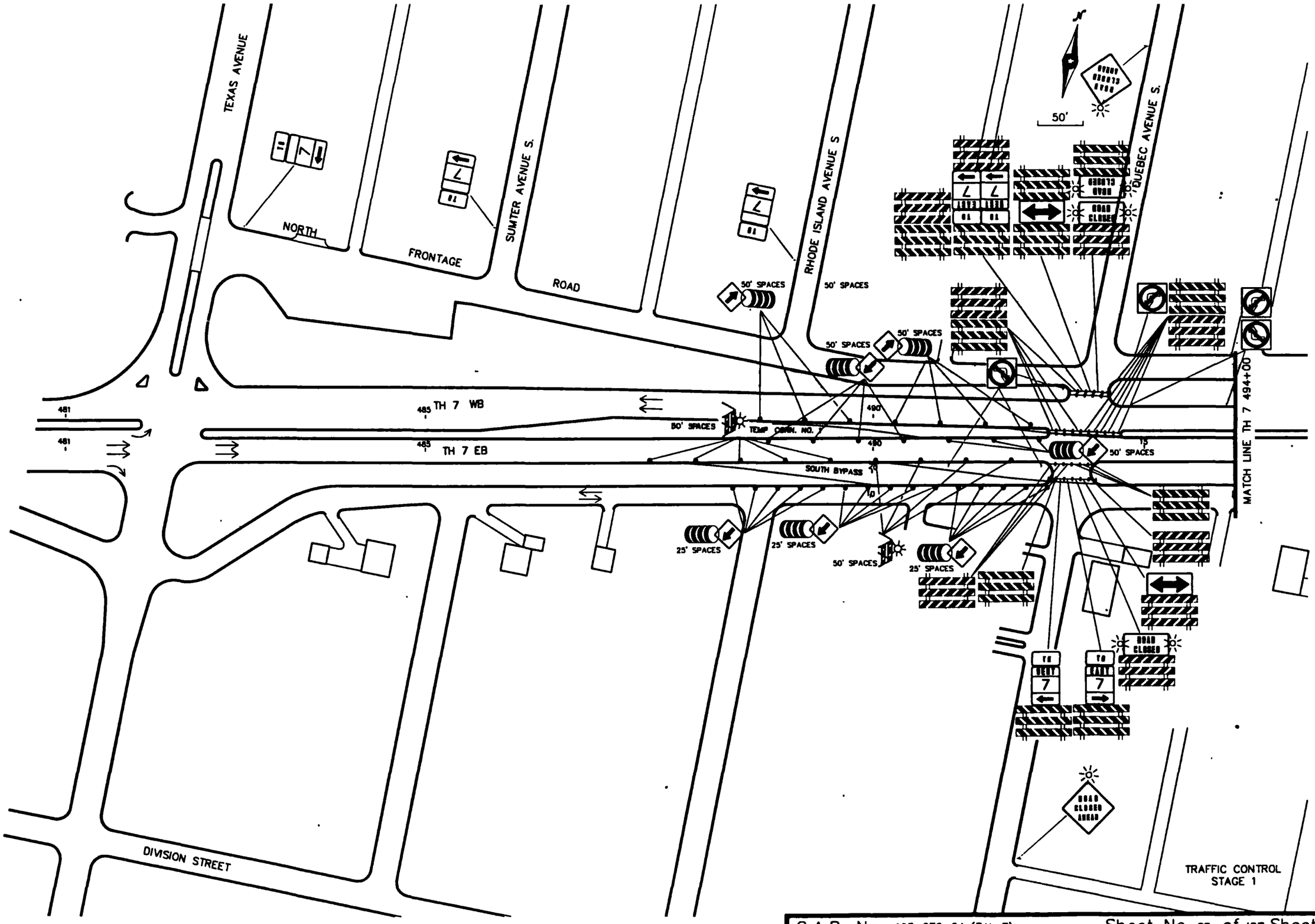
NOTES:

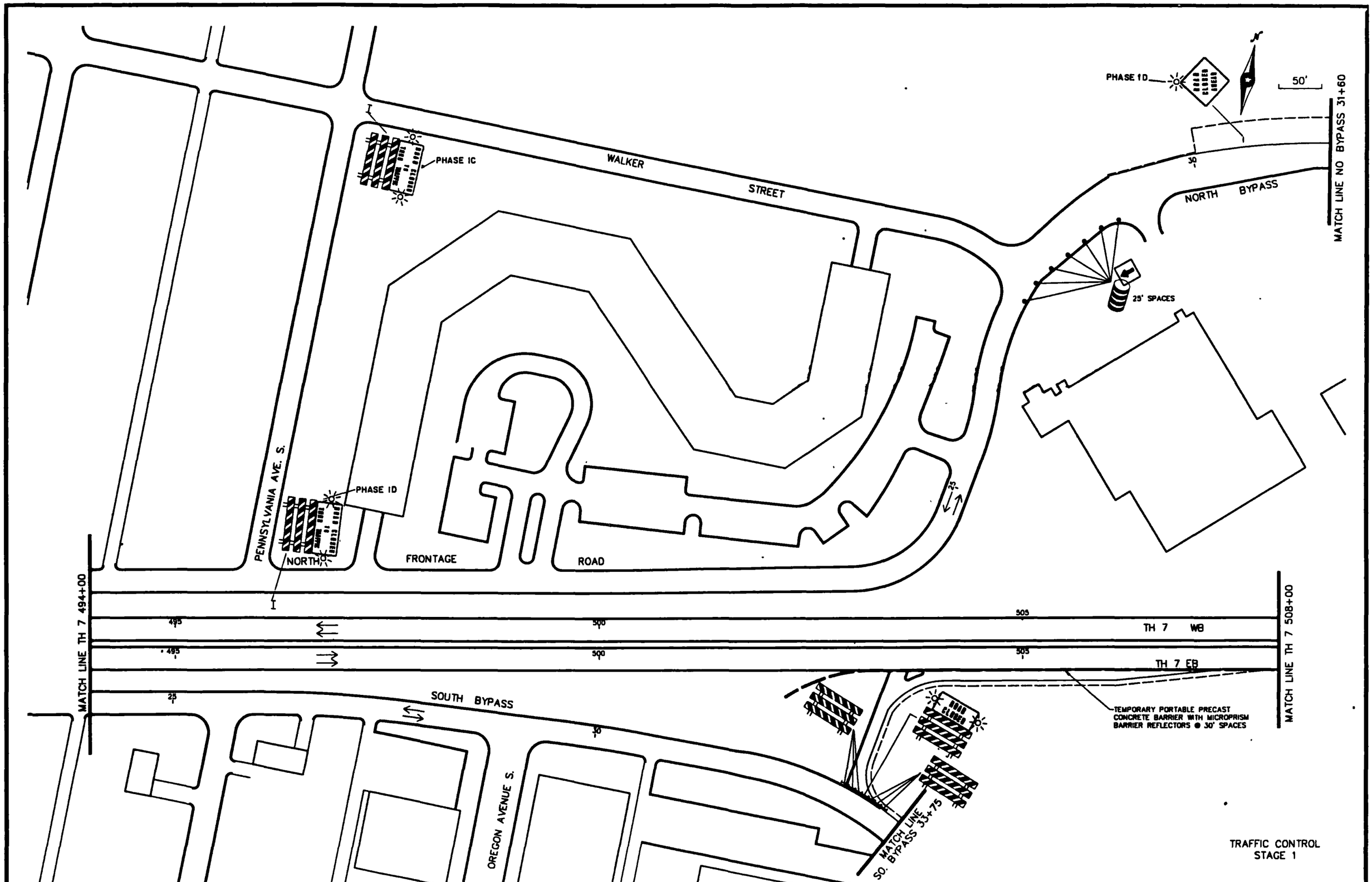
① ADVANCE WARNING SIGNS MAY BE ADJUSTED AT THE REQUEST OF THE ENGINEER FOR EACH STAGE 1 THROUGH 6.

② SIGN WITH DATE PLATE TO BE INSTALLED 7 DAYS BEFORE CONSTRUCTION BEGINS

③ WHEN THERE ARE NO DELAYS, DATE PLATES ARE TO BE REMOVED. WHEN ADDITIONAL DELAYS ARE EXPECTED THE DATE PLATES WILL AGAIN BE DISPLAYED 7 DAYS IN ADVANCE

ADVANCE WARNING
STAGES 1 THRU 6


TEXAS AVENUE
NORTH
FRONTAGE
SUMTER AVENUE S.
ROAD
RHODE ISLAND AVENUE S
QUEBEC AVENUE S.
50'
ROAD CLOSED
50' SPACES
50' SPACES
50' SPACES
50' SPACES
481
481
485 TH 7 WB
485 TH 7 EB
490
490
50' SPACES
TEMP CONN. NO. 2
50' SPACES
SOUTH BYPASS
MATCH LINE TH 7 494+00
25' SPACES
25' SPACES
50' SPACES
25' SPACES
ROAD CLOSED
ROAD CLOSED AHEAD
DIVISION STREET
TRAFFIC CONTROL
STAGE 1



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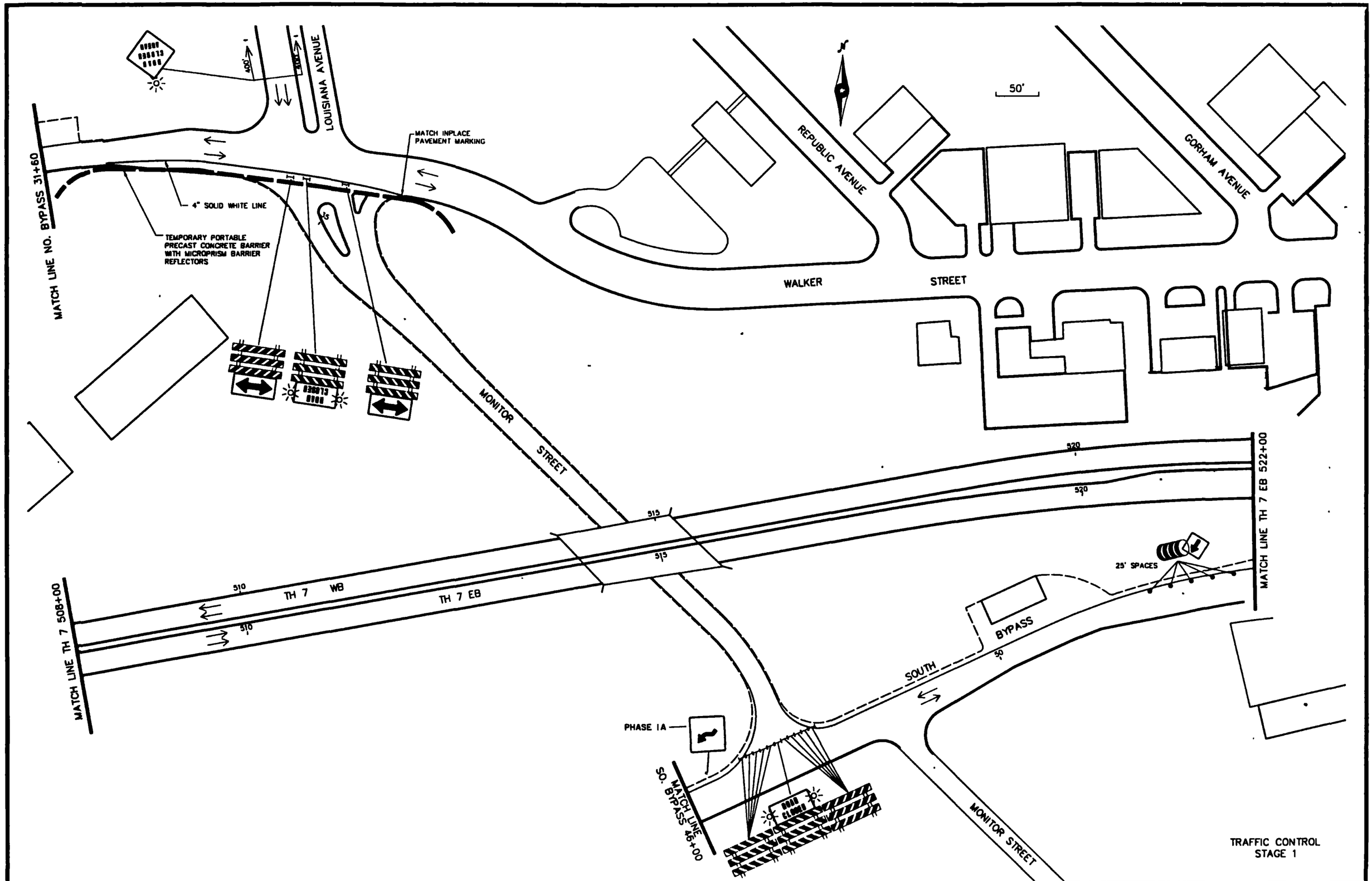
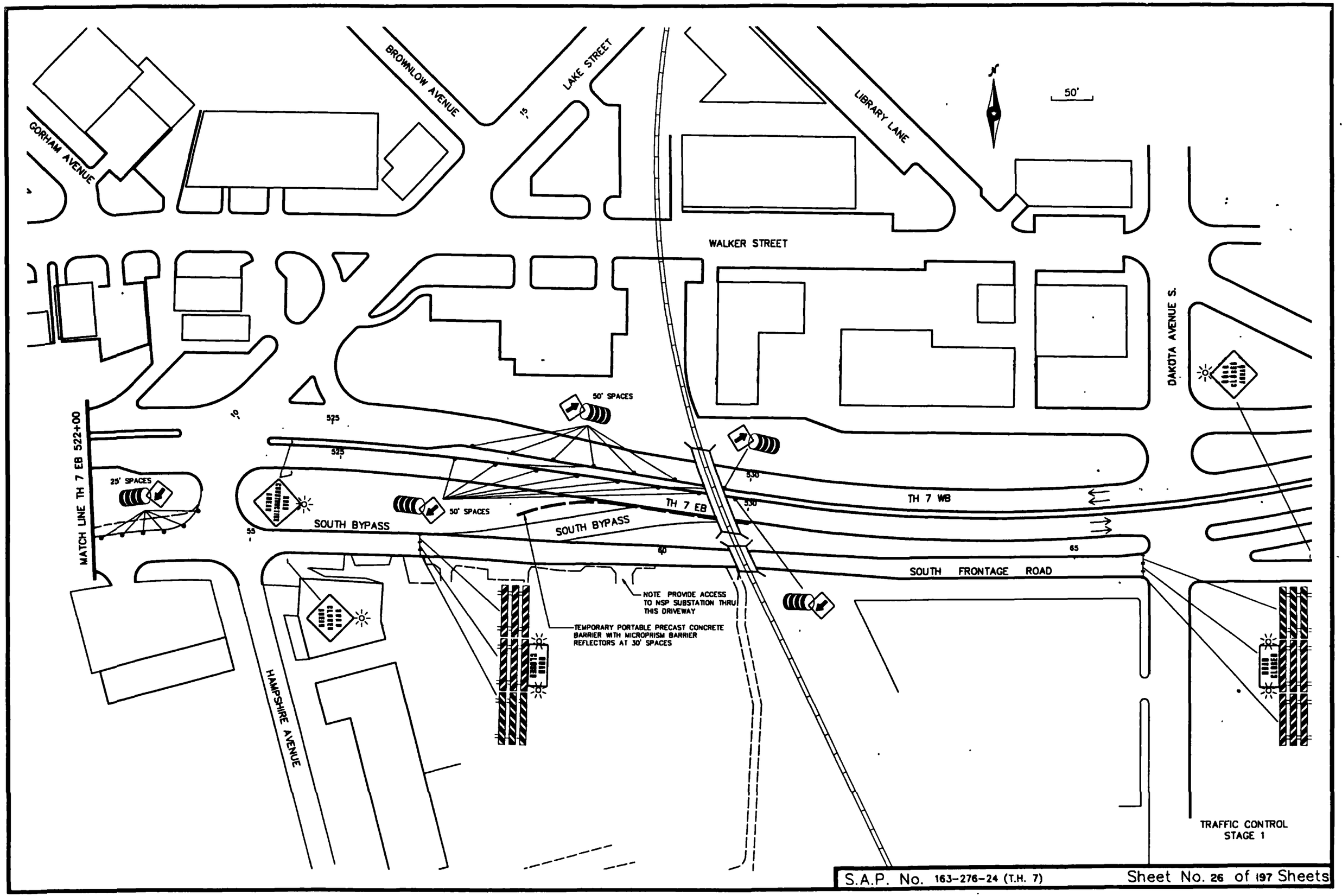
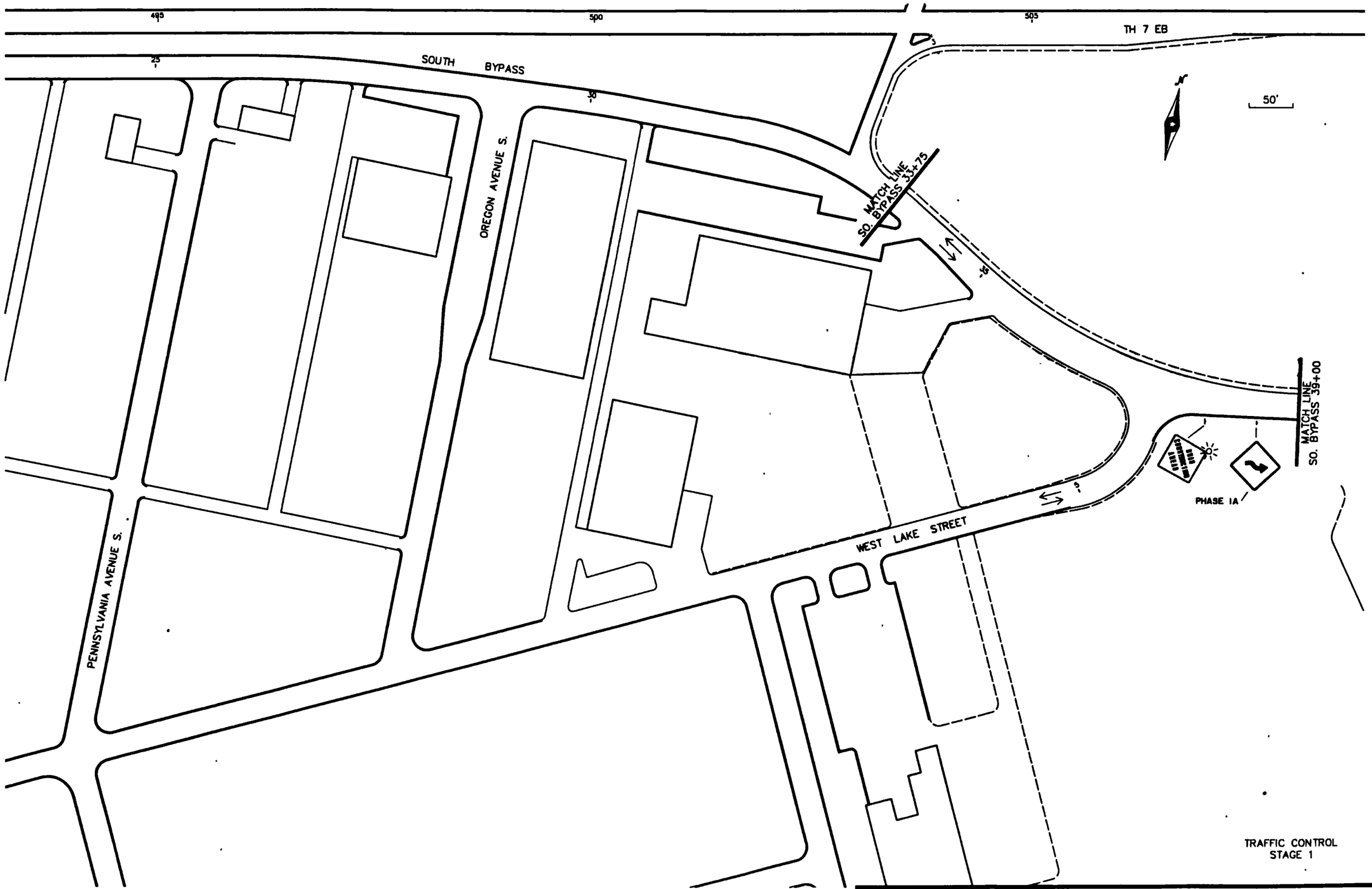

LOUISIANA AVENUE
400'
400'
MATCH INPLACE PAVEMENT MARKING
MATCH LINE NO. BYPASS 31+60
4" SOLID WHITE LINE
TEMPORARY PORTABLE PRECAST CONCRETE BARRIER WITH MICROPRISM BARRIER REFLECTORS
REPUBLIC AVENUE
50'
GORHAM AVENUE
WALKER
STREET
MONITOR
STREET
520
520
MATCH LINE TH 7 EB 522+00
515
515
510
510
TH 7 WB
TH 7 EB
MATCH LINE TH 7 508+00
25' SPACES
BYPASS
SOUTH
50
PHASE 1A
MATCH LINE SO. BYPASS 46+00
ROAD CLOSED
MONITOR STREET
TRAFFIC CONTROL
STAGE 1



S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 26 of 197 Sheets



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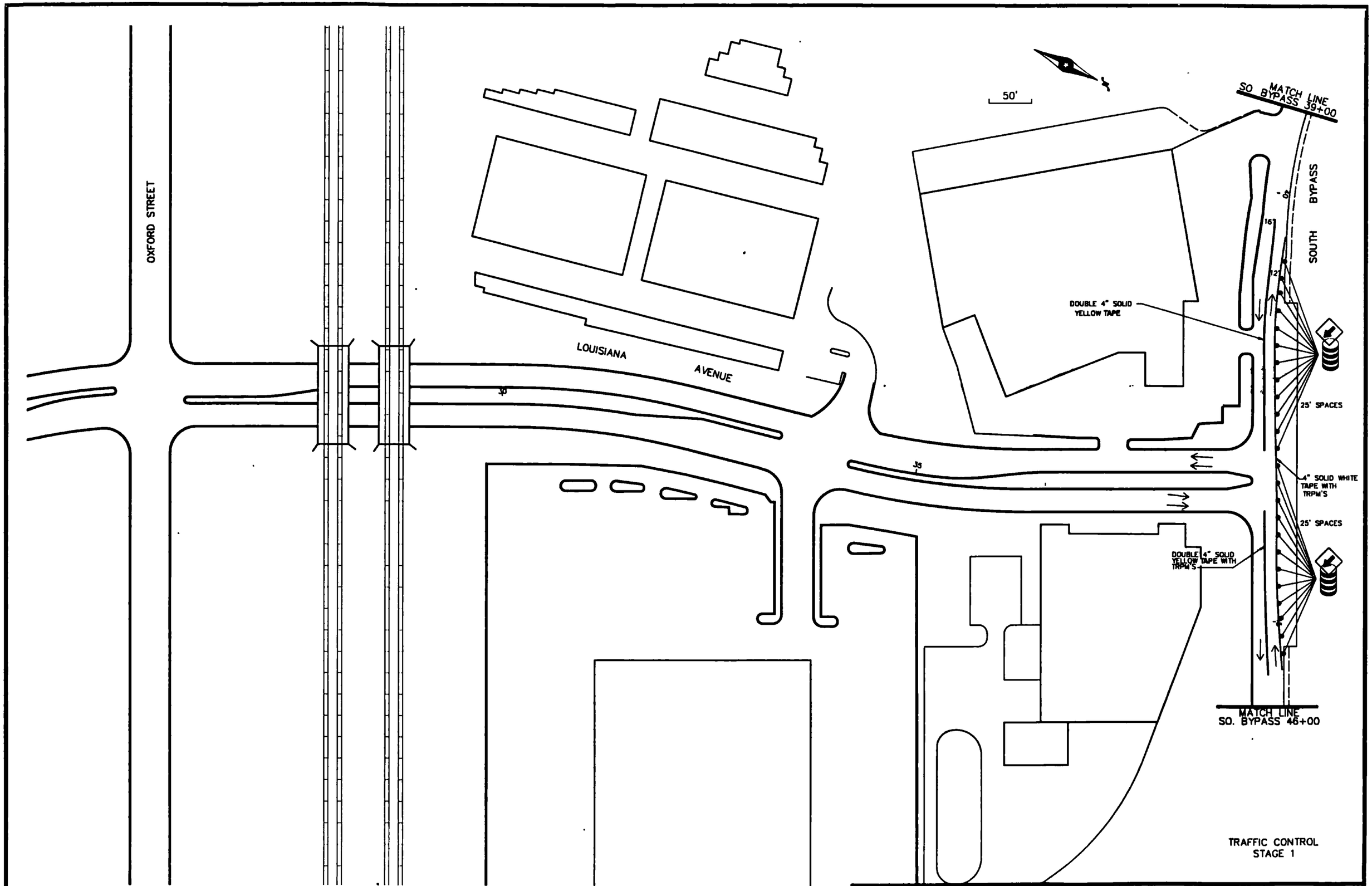
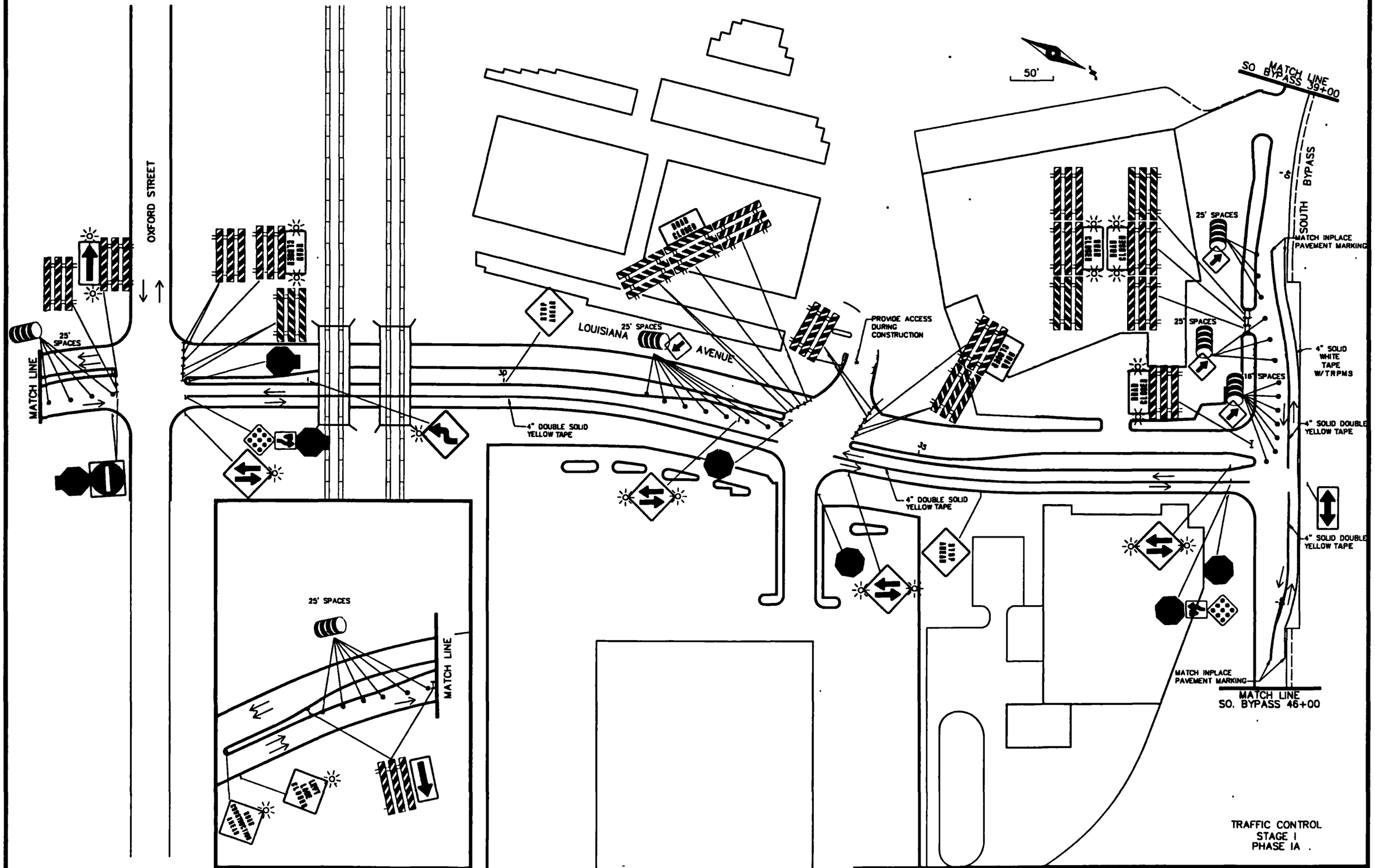

OXFORD STREET
LOUISIANA AVENUE
50'
SO BYPASS MATCH LINE 39+00
SOUTH BYPASS
DOUBLE 4" SOLID YELLOW TAPE
25' SPACES
4" SOLID WHITE TAPE WITH TRPM'S
25' SPACES
DOUBLE 4" SOLID YELLOW TAPE WITH TRPM'S
MATCH LINE SO. BYPASS 46+00
TRAFFIC CONTROL STAGE 1



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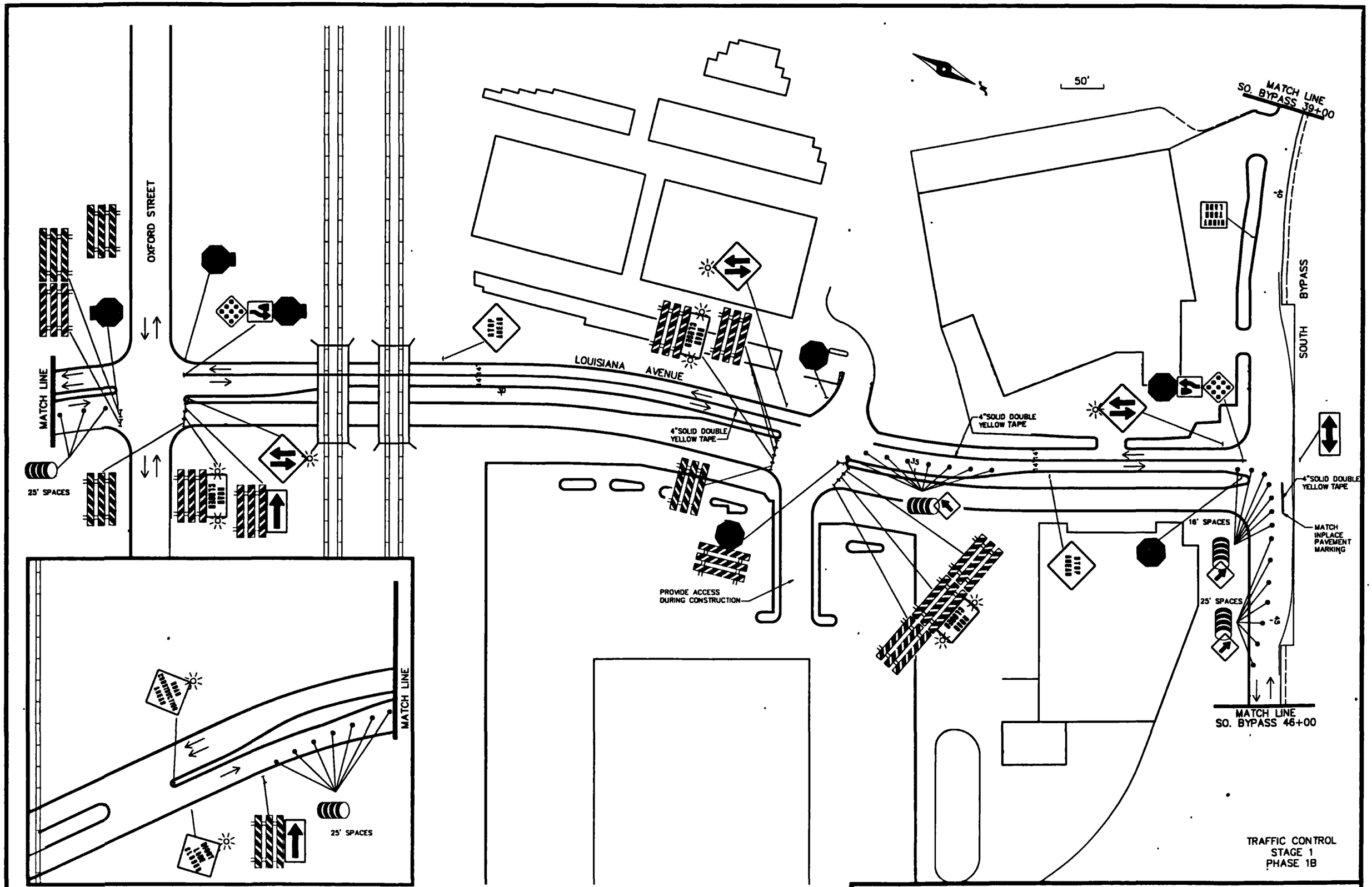
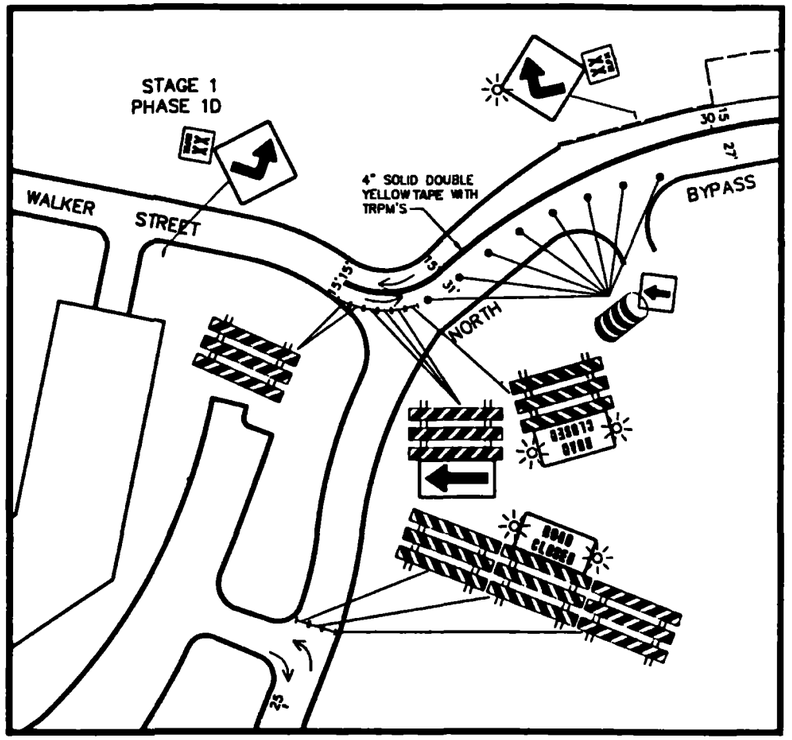
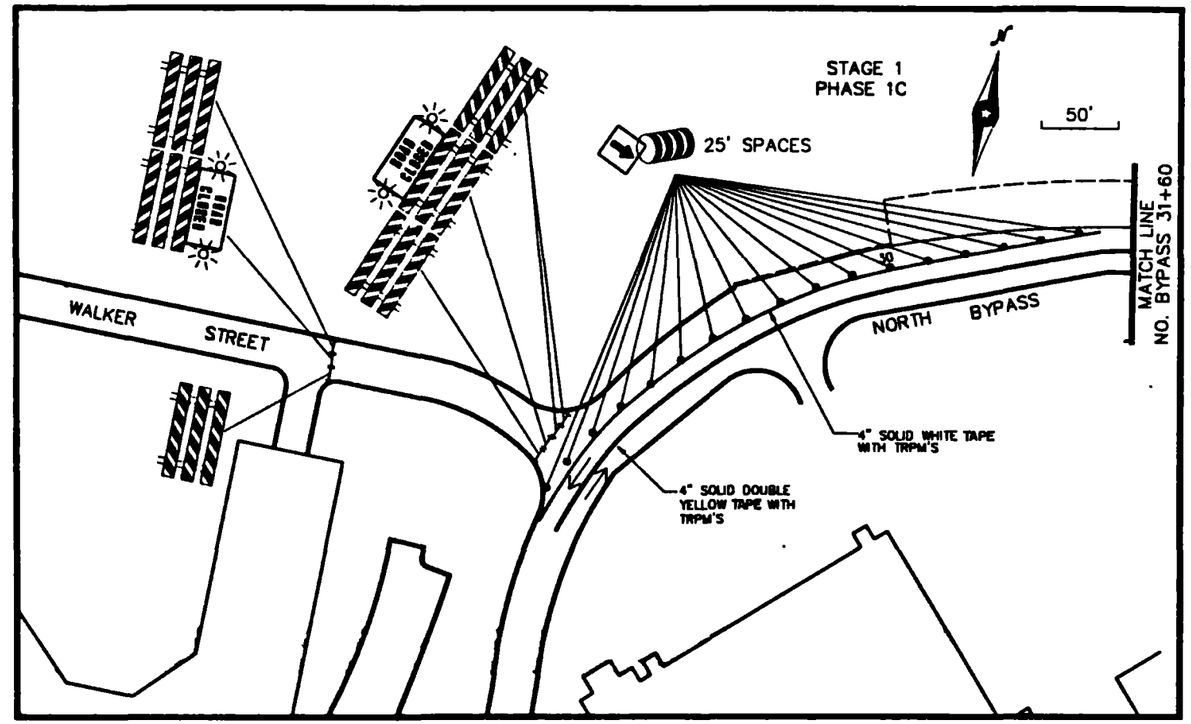
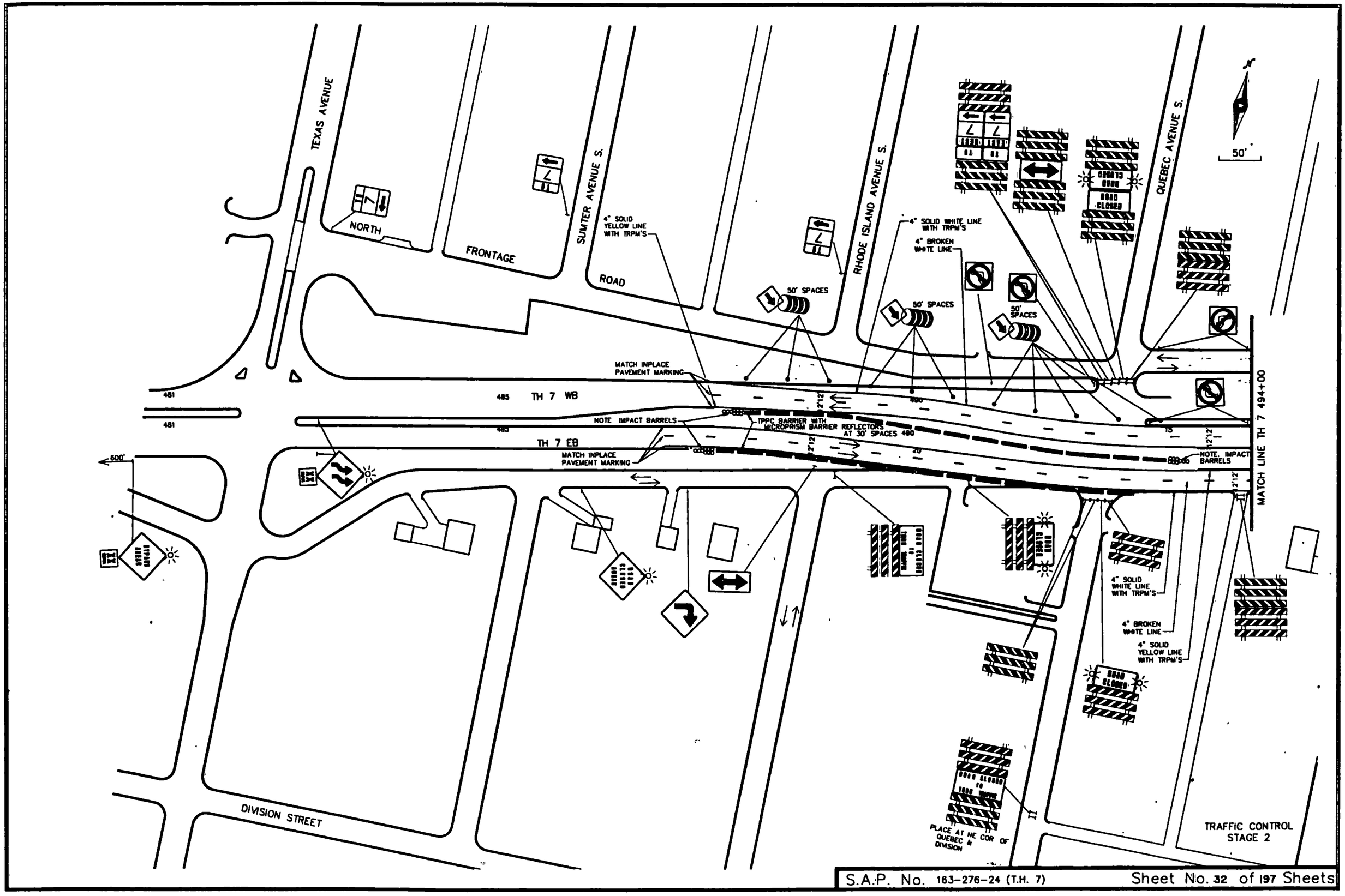

50'
MATCH LINE
SO. BYPASS 39+00
OXFORD STREET
MATCH LINE
25' SPACES
LOUISIANA AVENUE
4"SOLID DOUBLE YELLOW TAPE
4"SOLID DOUBLE YELLOW TAPE
PROVIDE ACCESS DURING CONSTRUCTION
4"SOLID DOUBLE YELLOW TAPE
16' SPACES
25' SPACES
MATCH INPLACE PAVEMENT MARKING
SOUTH BYPASS
MATCH LINE
SO. BYPASS 46+00
MATCH LINE
25' SPACES
TRAFFIC CONTROL
STAGE 1
PHASE 1B

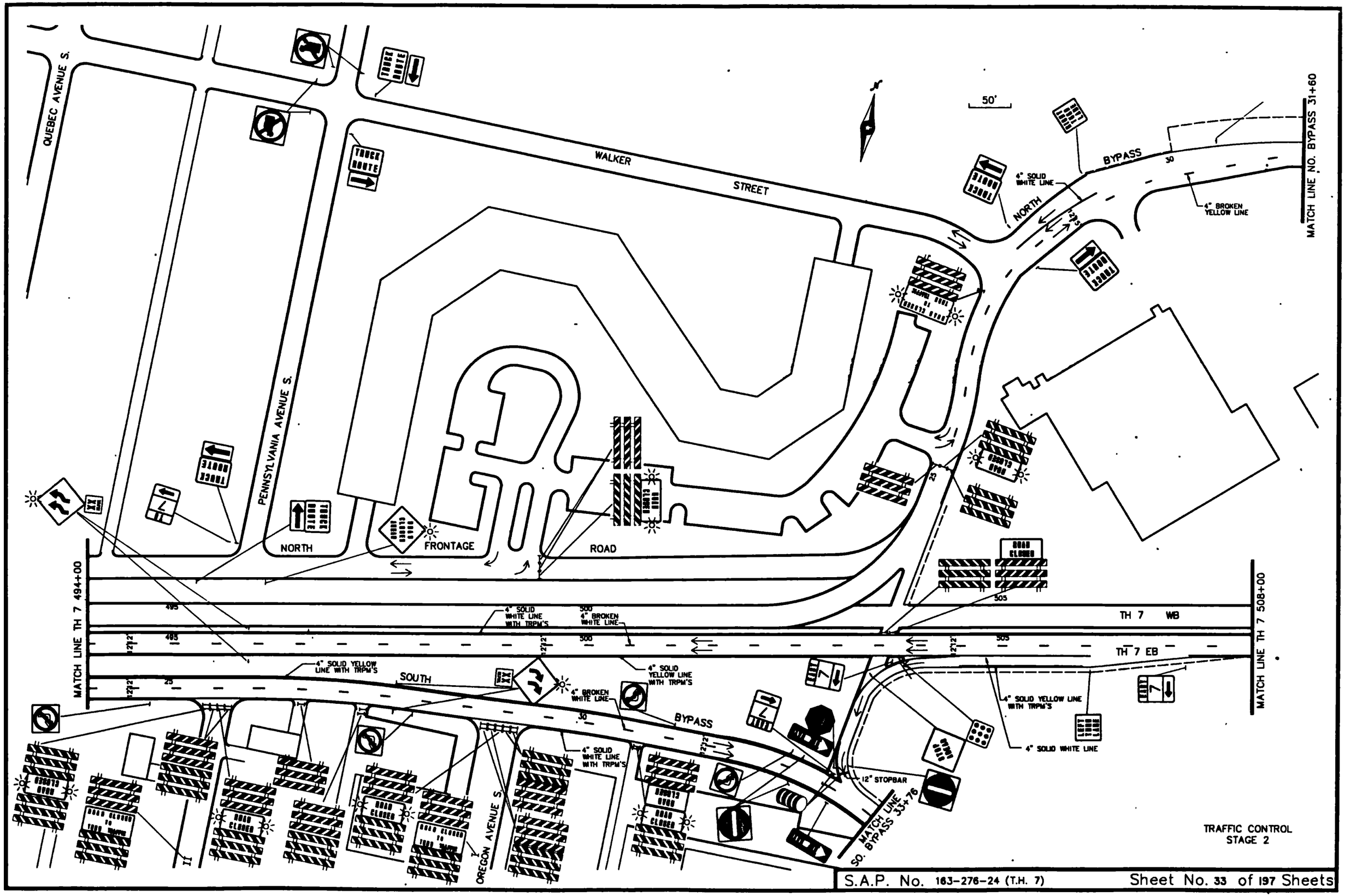




TRAFFIC CONTROL
STAGE 1
PHASE C & D



S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 32 of 197 Sheets



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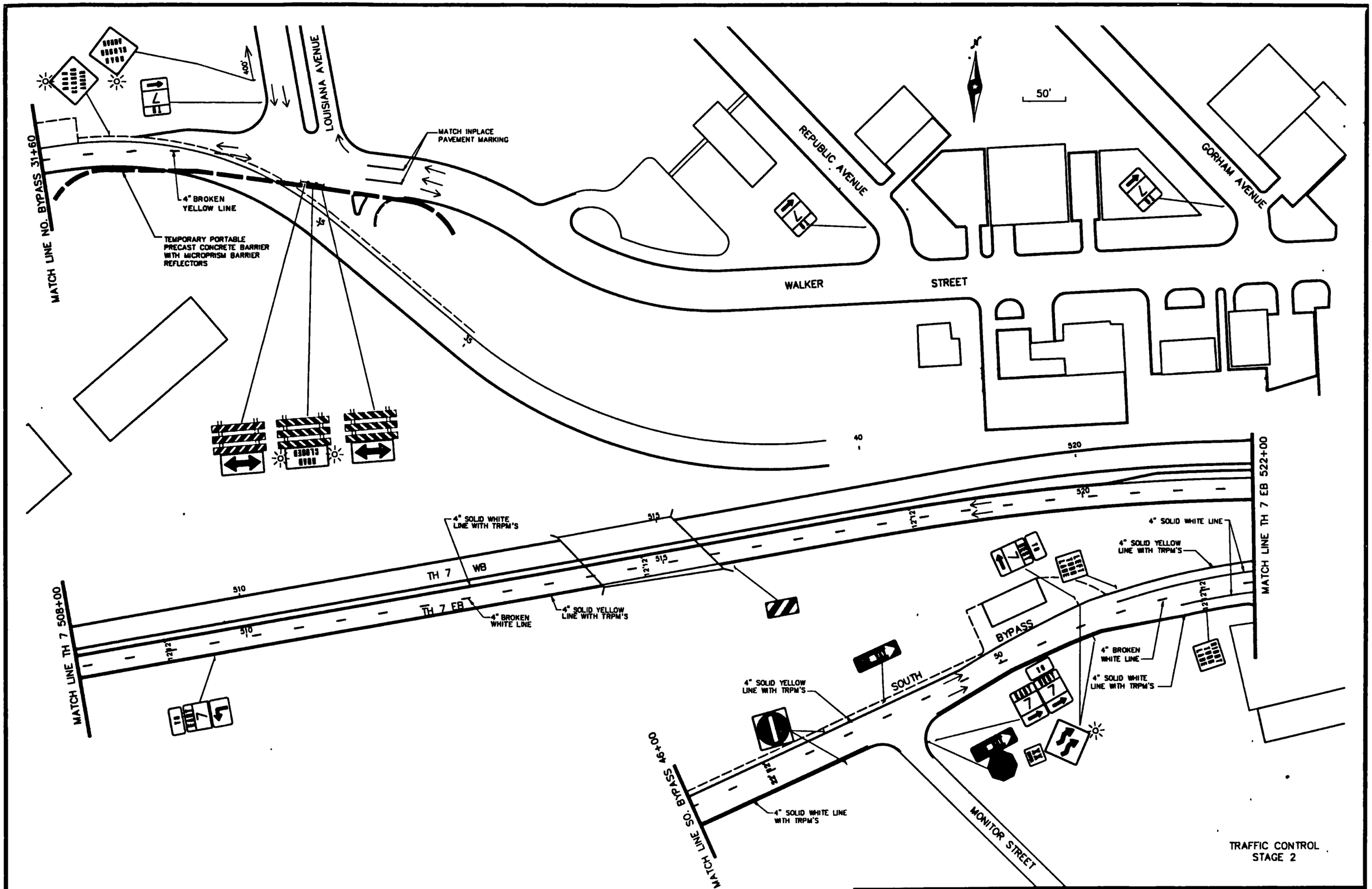
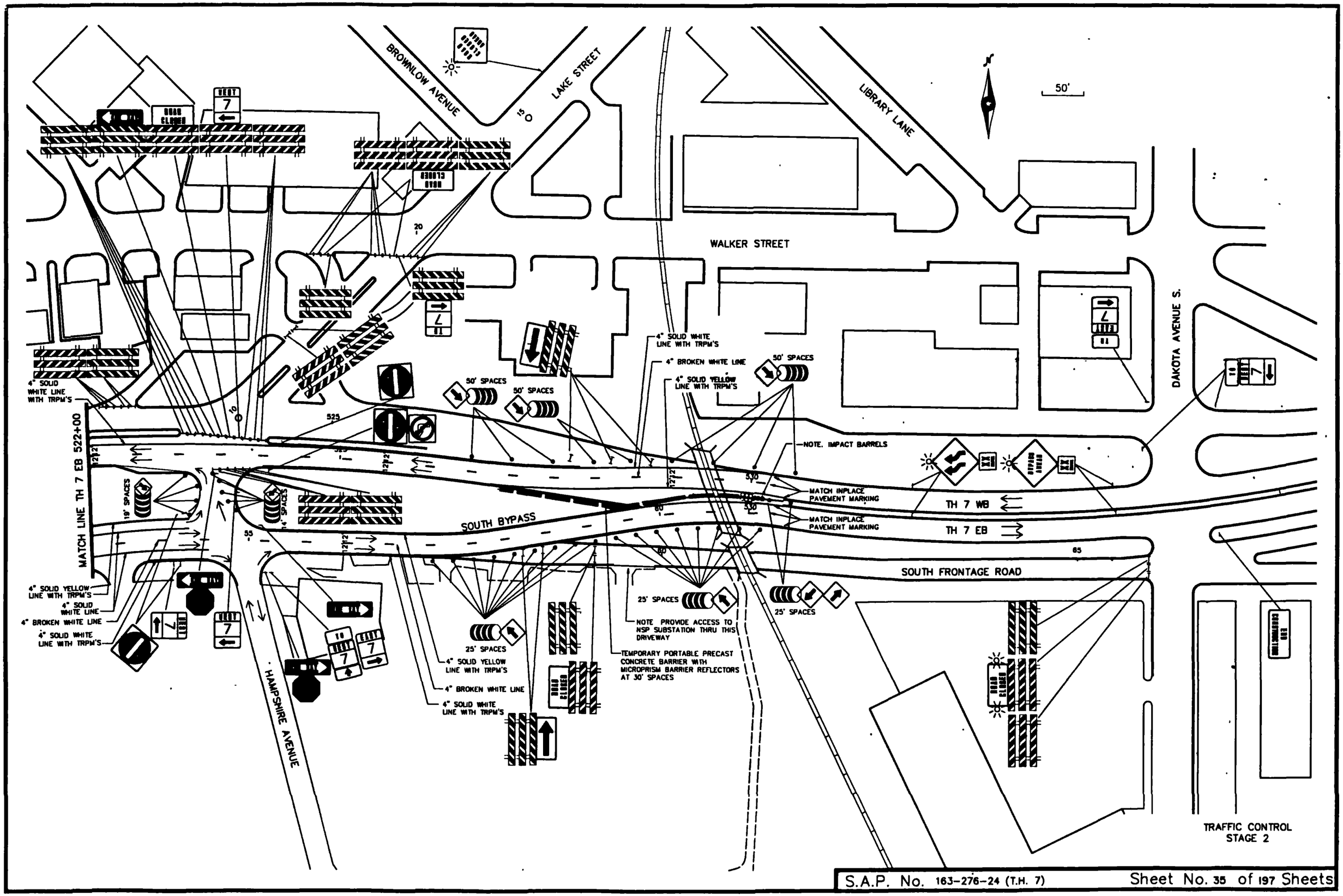

MATCH LINE NO. BYPASS 31+60
400'
LOUISIANA AVENUE
MATCH INPLACE PAVEMENT MARKING
4" BROKEN YELLOW LINE
TEMPORARY PORTABLE PRECAST CONCRETE BARRIER WITH MICROPRISM BARRIER REFLECTORS
REPUBLIC AVENUE
50'
GORHAM AVENUE
WALKER
STREET
40
520
MATCH LINE TH 7 EB 522+00
4" SOLID WHITE LINE WITH TRPM'S
515
TH 7 WB
510
TH 7 EB
4" BROKEN WHITE LINE
4" SOLID YELLOW LINE WITH TRPM'S
MATCH LINE TH 7 508+00
4" SOLID WHITE LINE
4" SOLID YELLOW LINE WITH TRPM'S
BYPASS
SOUTH
50
4" BROKEN WHITE LINE
4" SOLID WHITE LINE WITH TRPM'S
4" SOLID YELLOW LINE WITH TRPM'S
MATCH LINE SO. BYPASS 49+00
4" SOLID WHITE LINE WITH TRPM'S
MONITOR STREET
TRAFFIC CONTROL
STAGE 2



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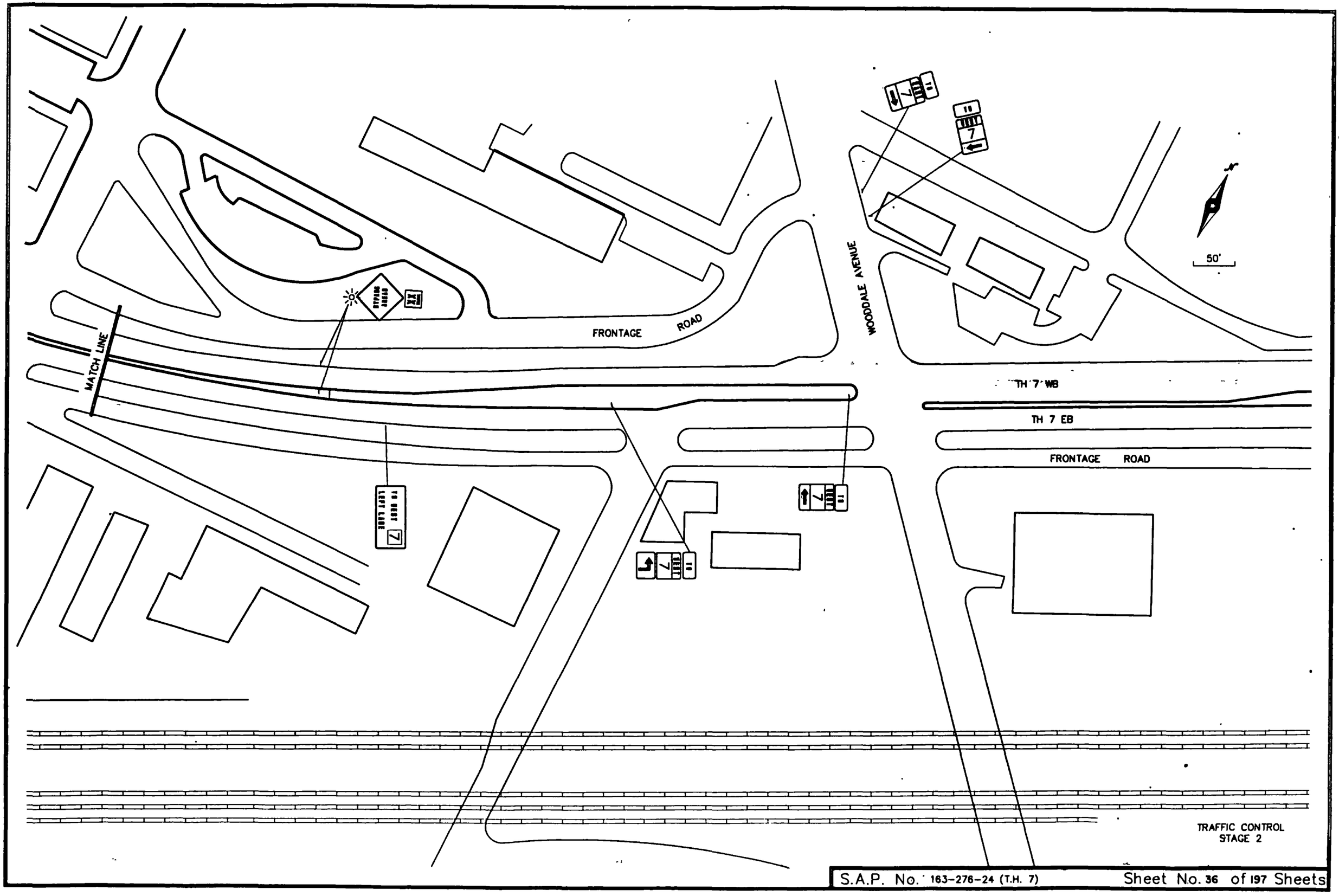

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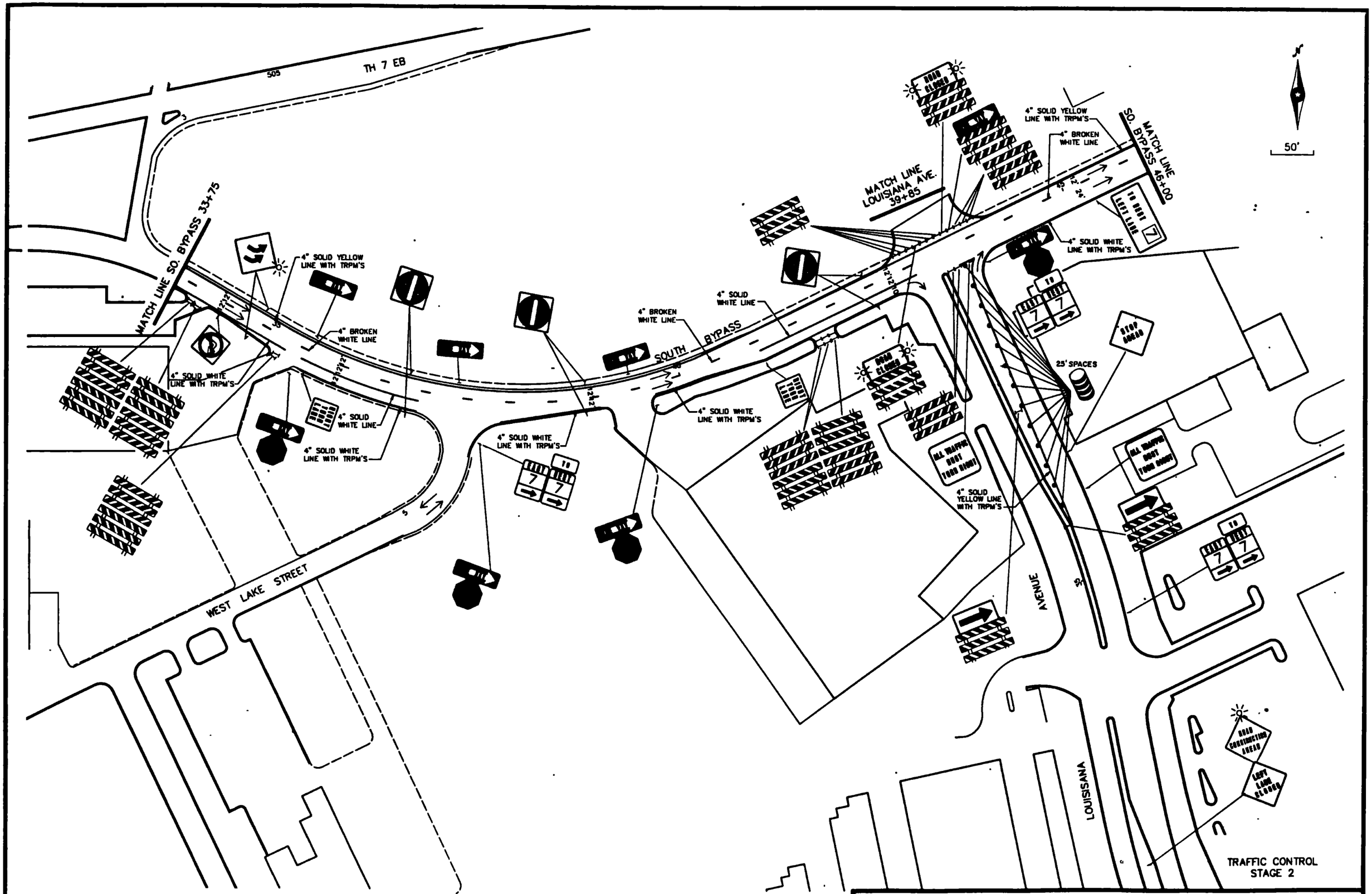
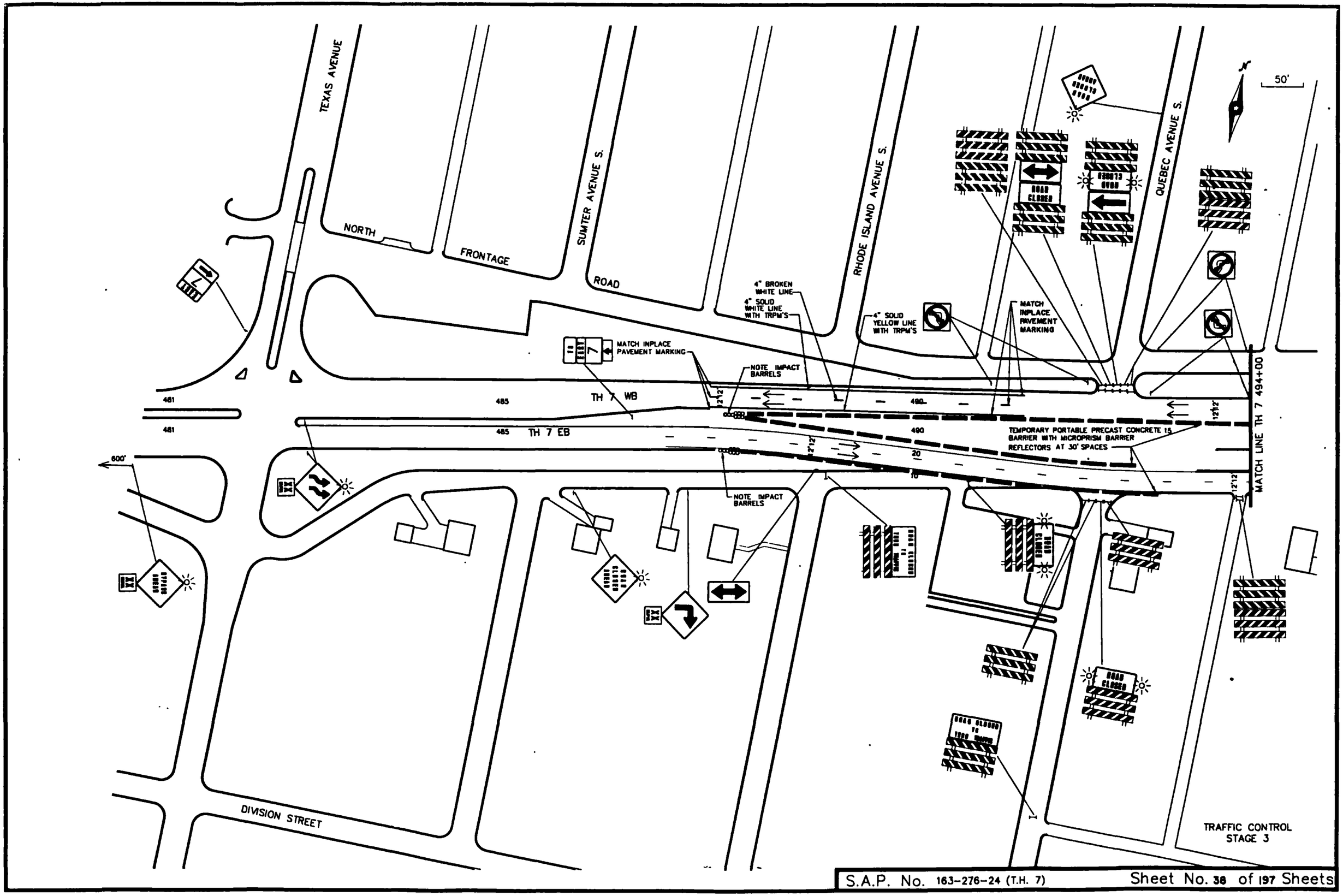
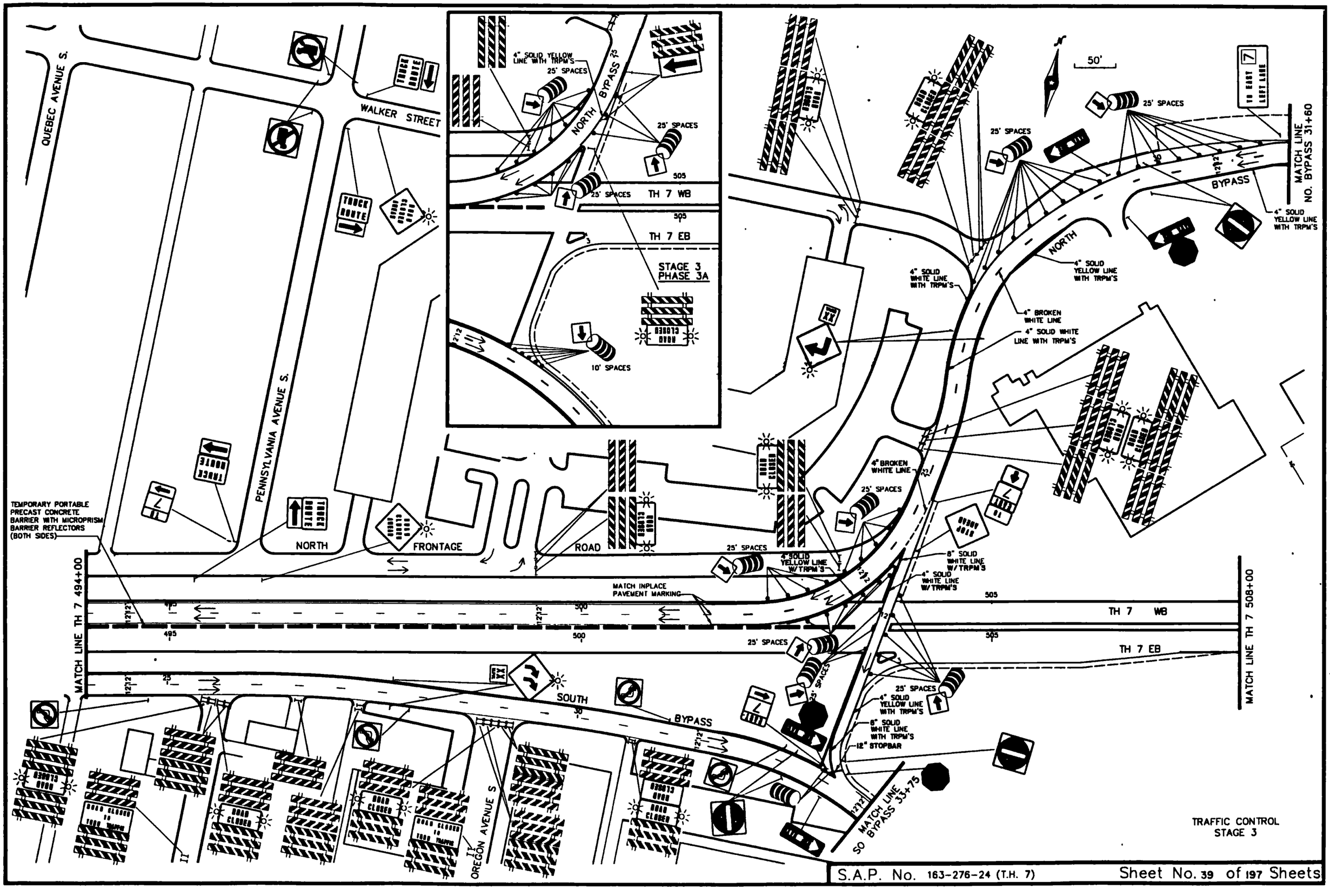


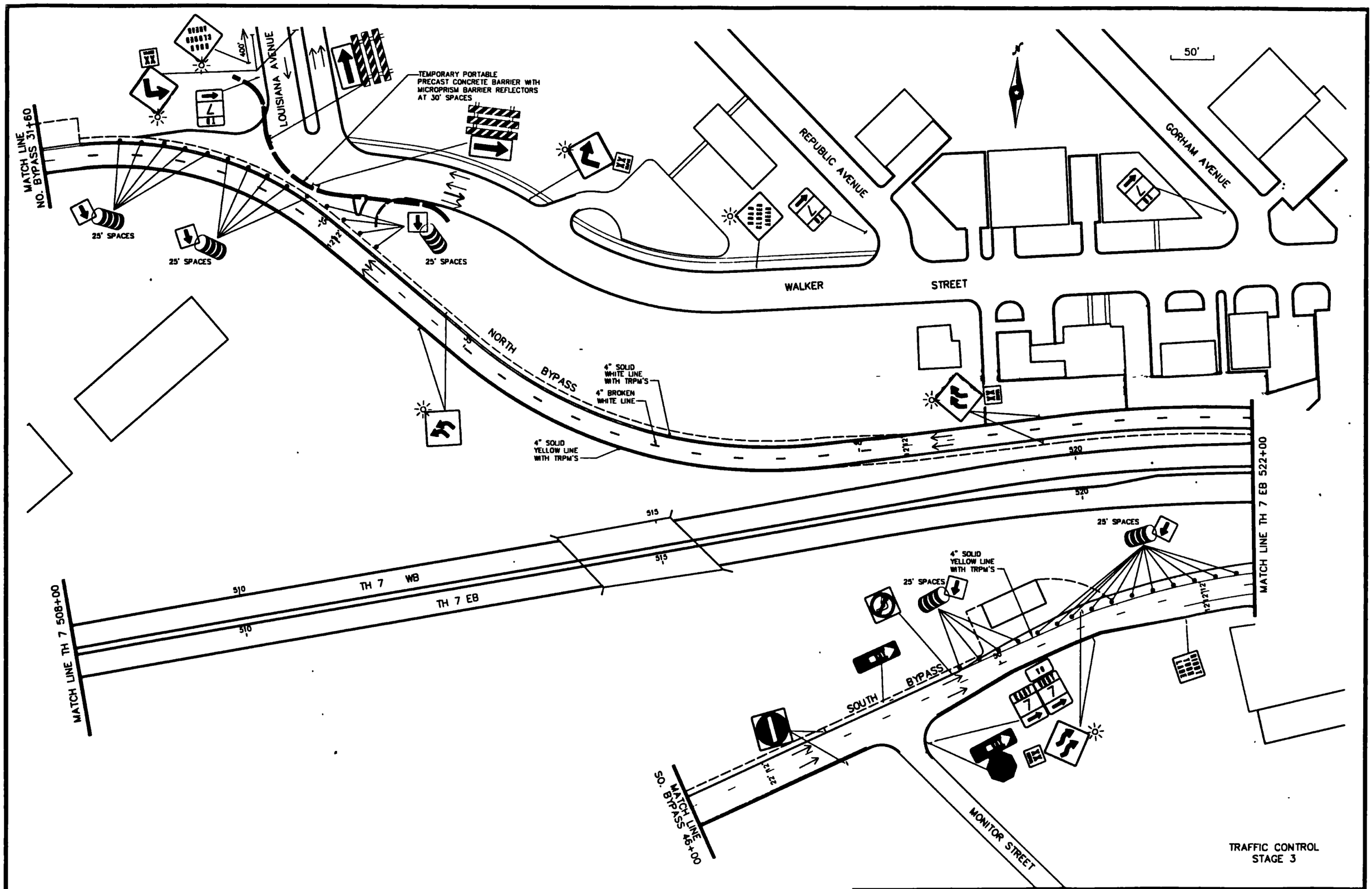
S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 37 of 197 Sheets

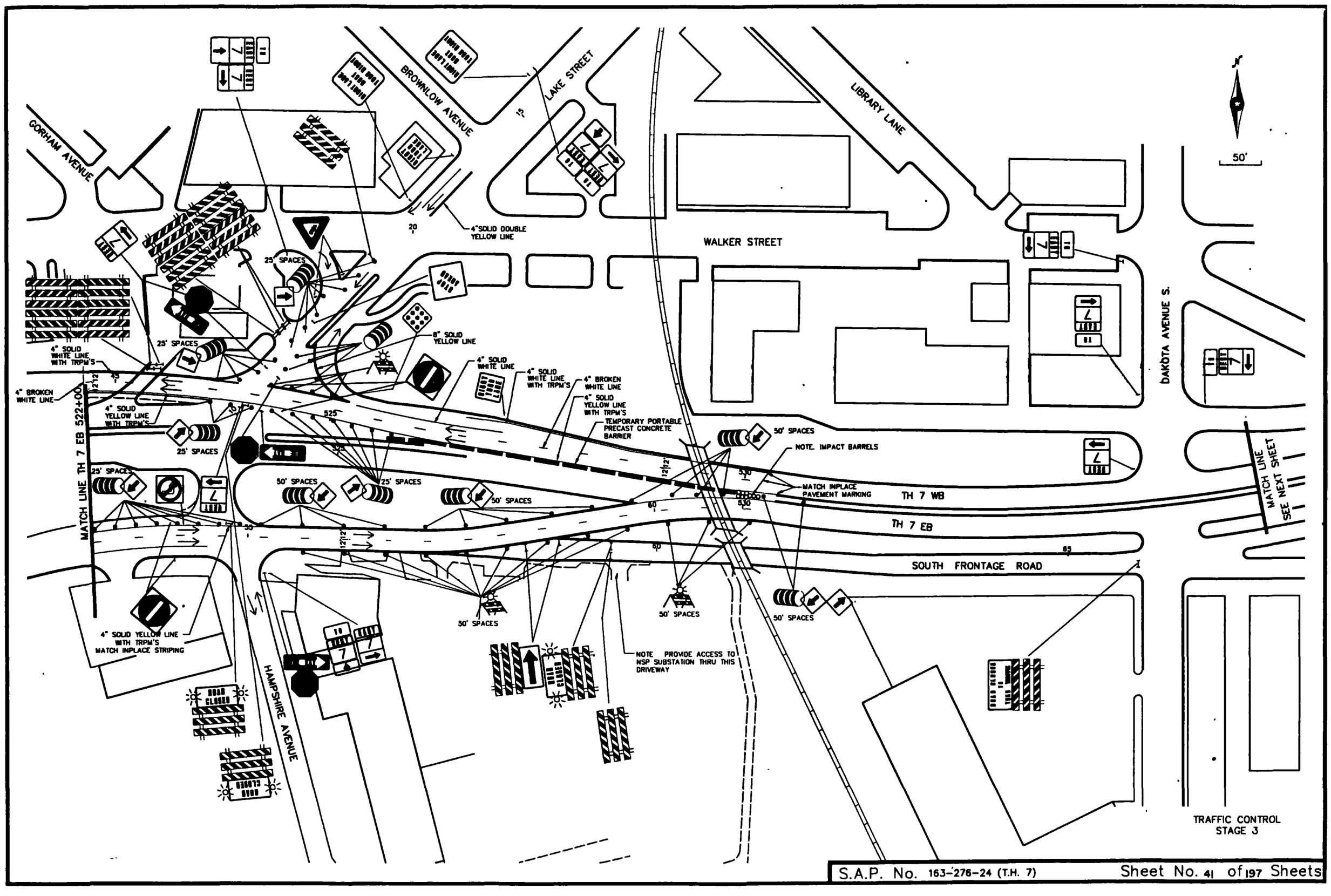


S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 38 of 197 Sheets



TRAFFIC CONTROL
STAGE 3


MATCH LINE NO. BYPASS 31+60
LOUISIANA AVENUE
400'
TEMPORARY PORTABLE PRECAST CONCRETE BARRIER WITH MICROPRISM BARRIER REFLECTORS AT 30' SPACES
25' SPACES
25' SPACES
25' SPACES
REPUBLIC AVENUE
GORHAM AVENUE
50'
WALKER
STREET
NORTH
BYPASS
4" SOLID WHITE LINE WITH TRPM'S
4" BROKEN WHITE LINE
4" SOLID YELLOW LINE WITH TRPM'S
MATCH LINE TH 7 EB 522+00
520
520
515
515
510
510
TH 7 WB
TH 7 EB
MATCH LINE TH 7 508+00
25' SPACES
4" SOLID YELLOW LINE WITH TRPM'S
25' SPACES
SOUTH
BYPASS
MATCH LINE SO. BYPASS 46+00
MONITOR STREET
TRAFFIC CONTROL
STAGE 3



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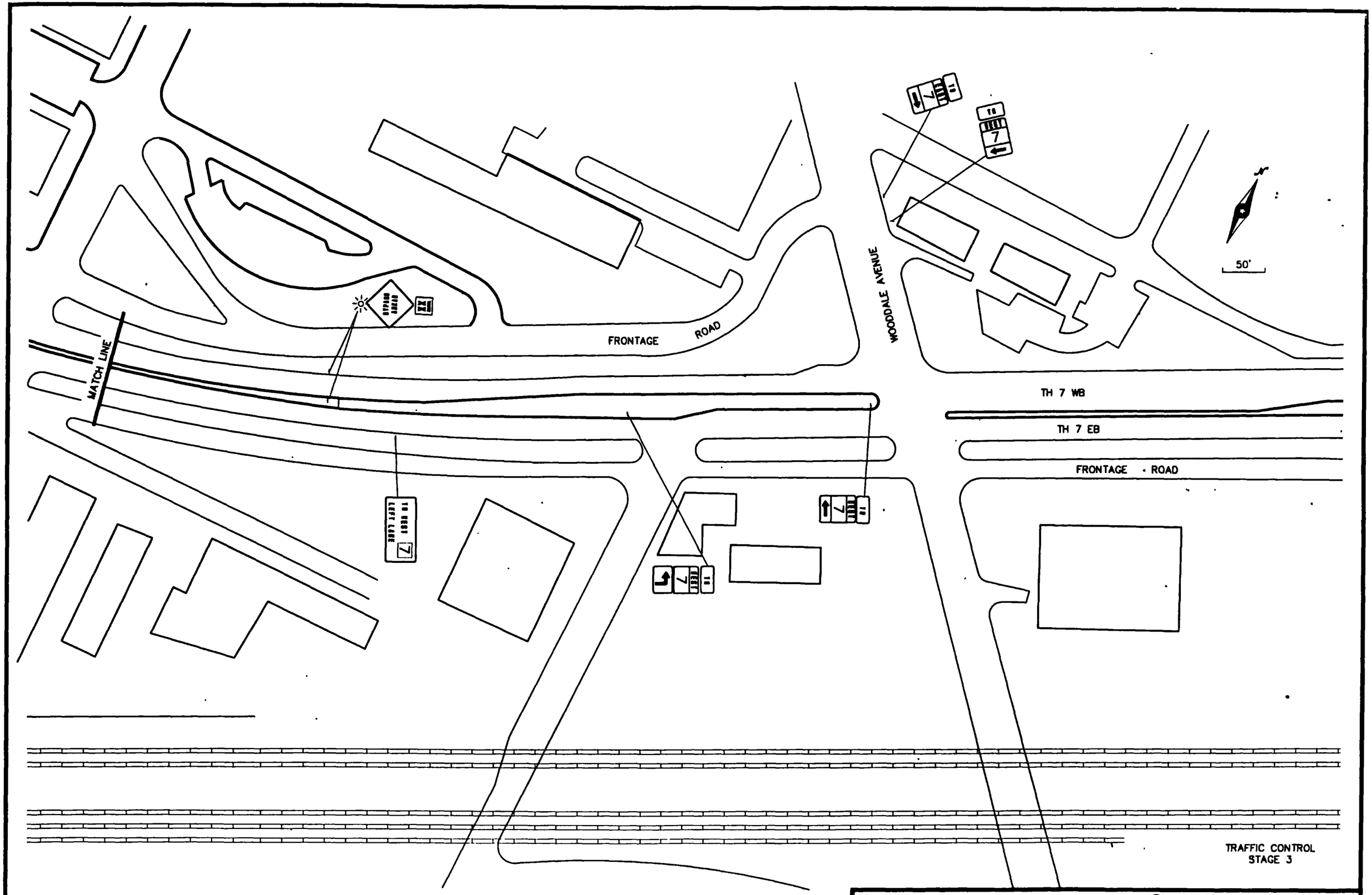

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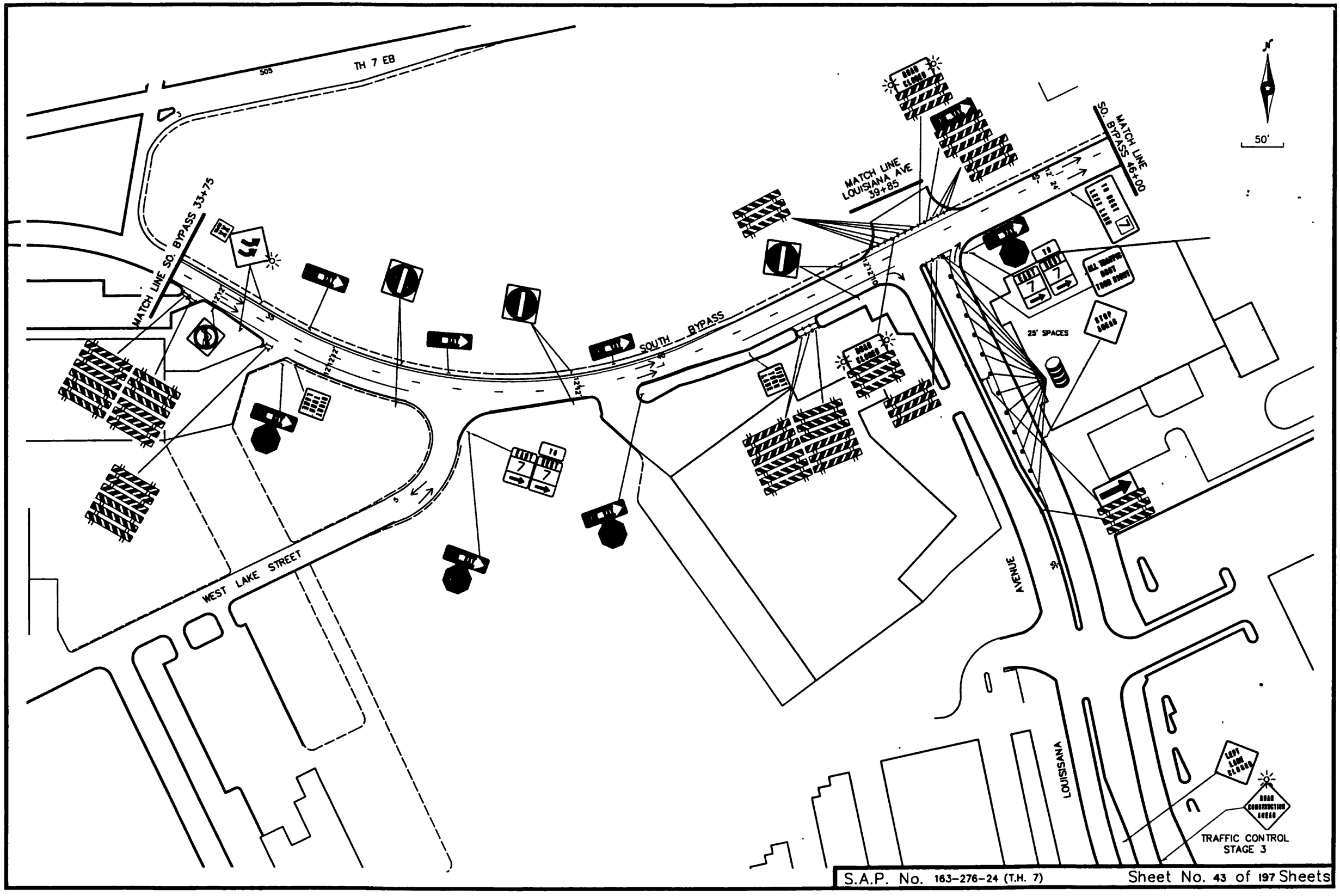
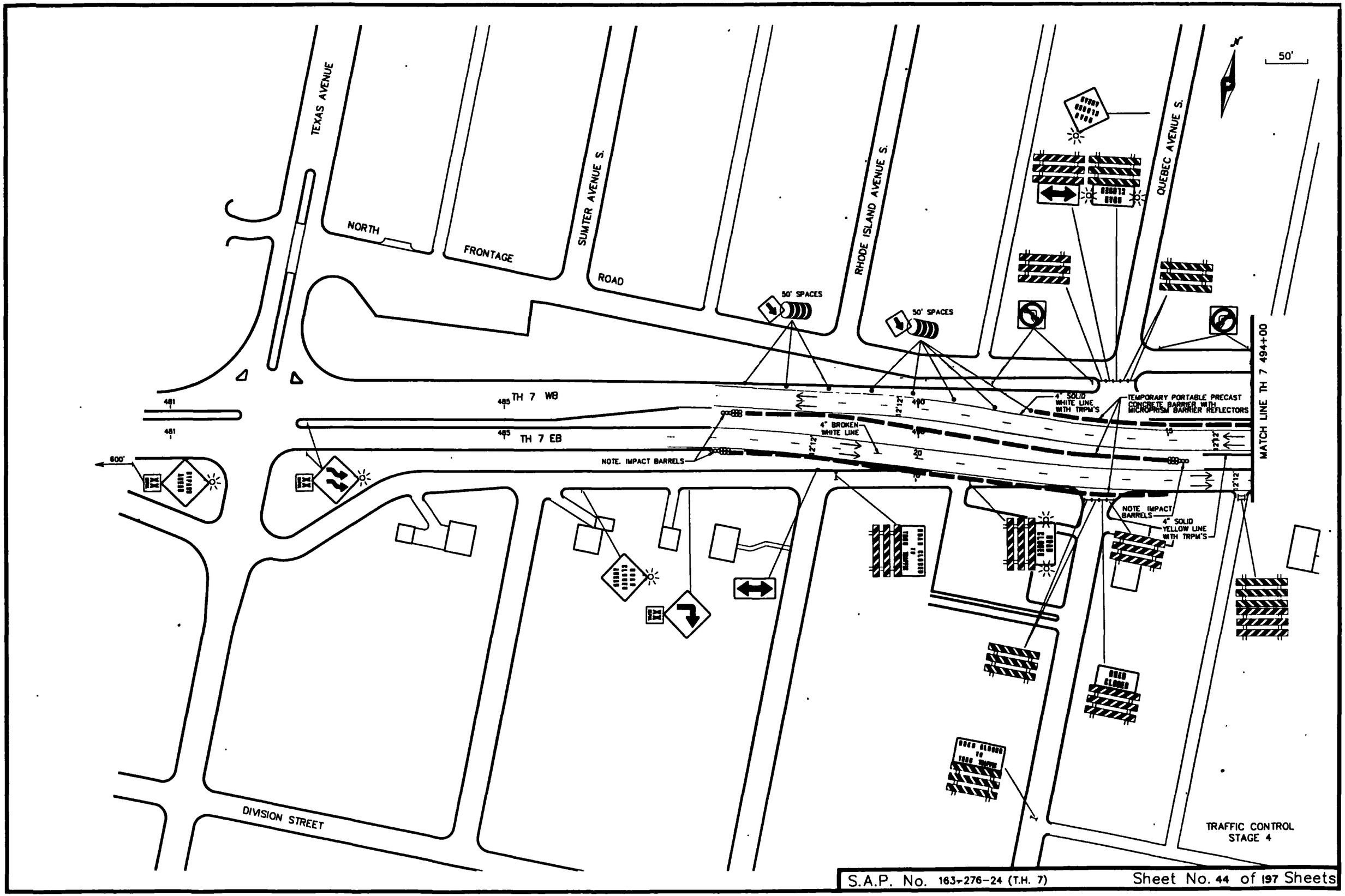


S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 43 of 197 Sheets



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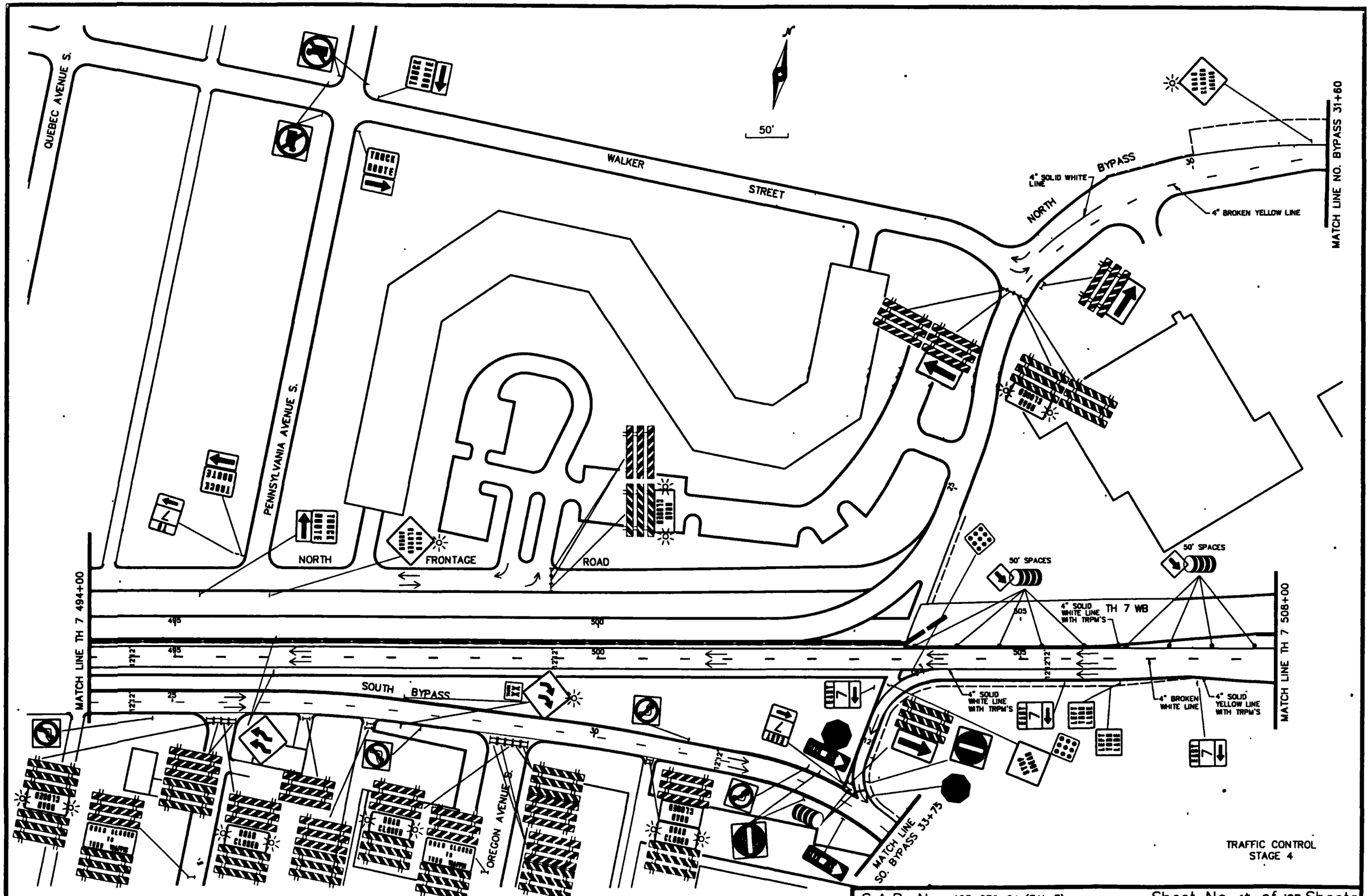

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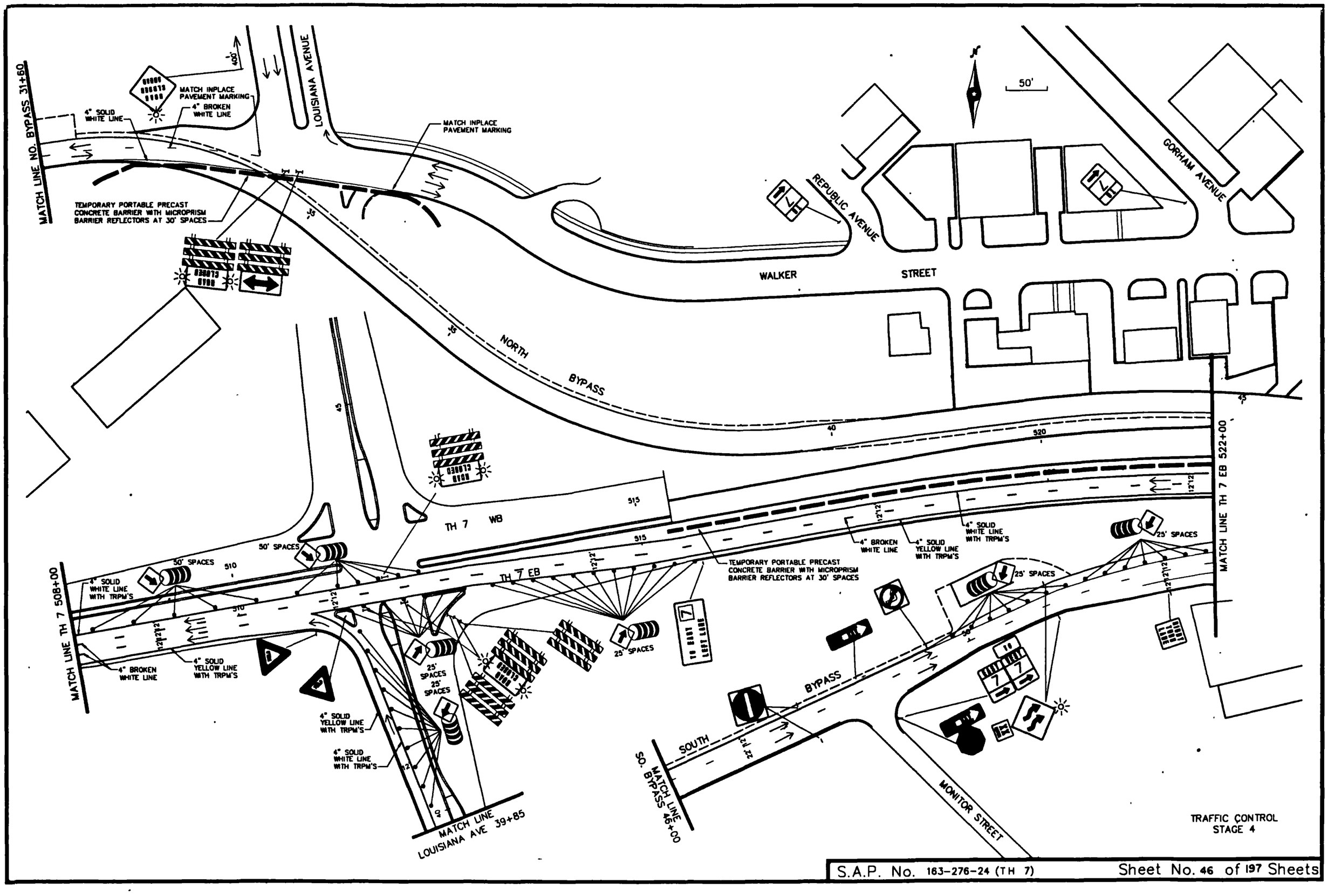
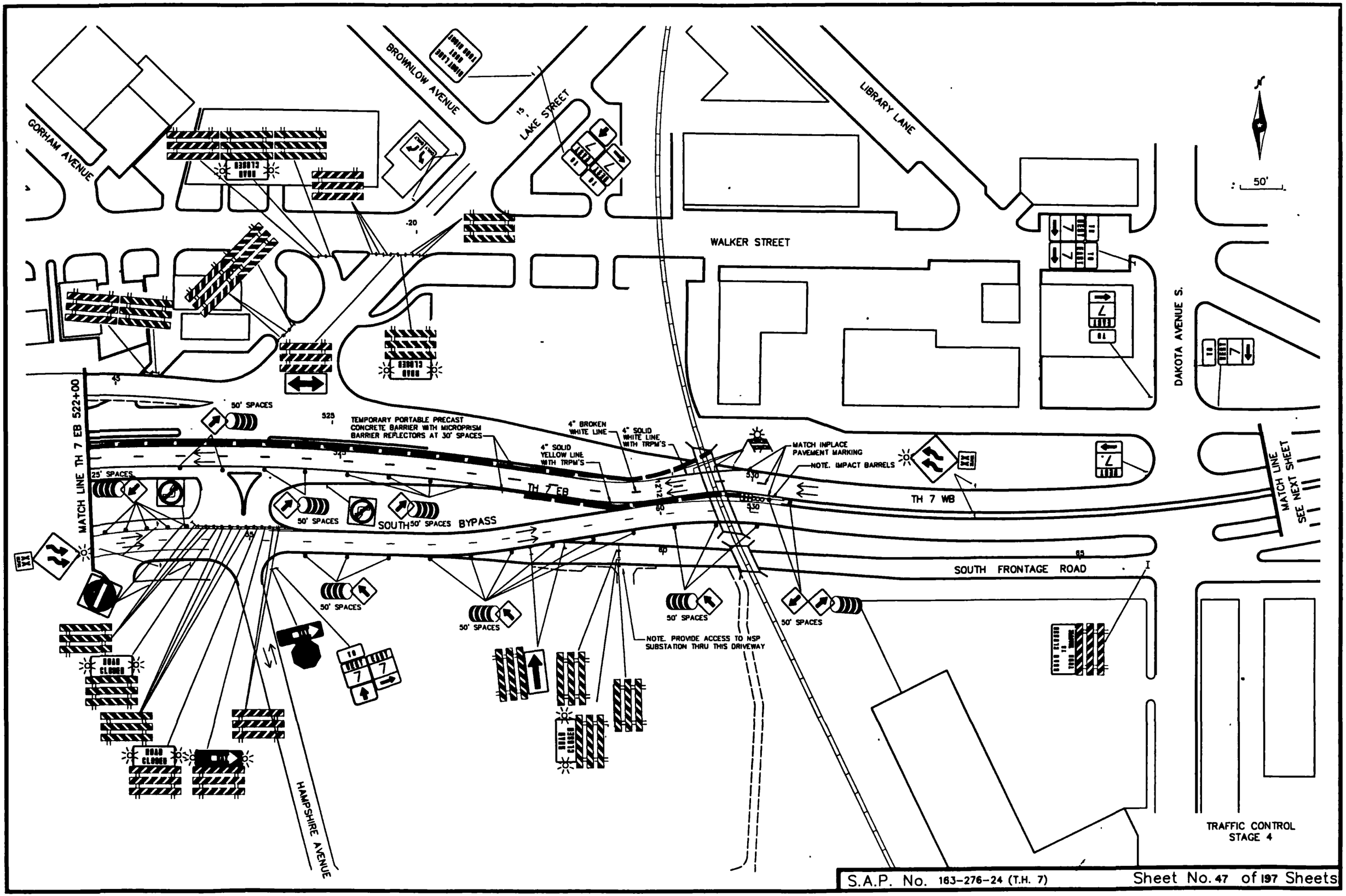
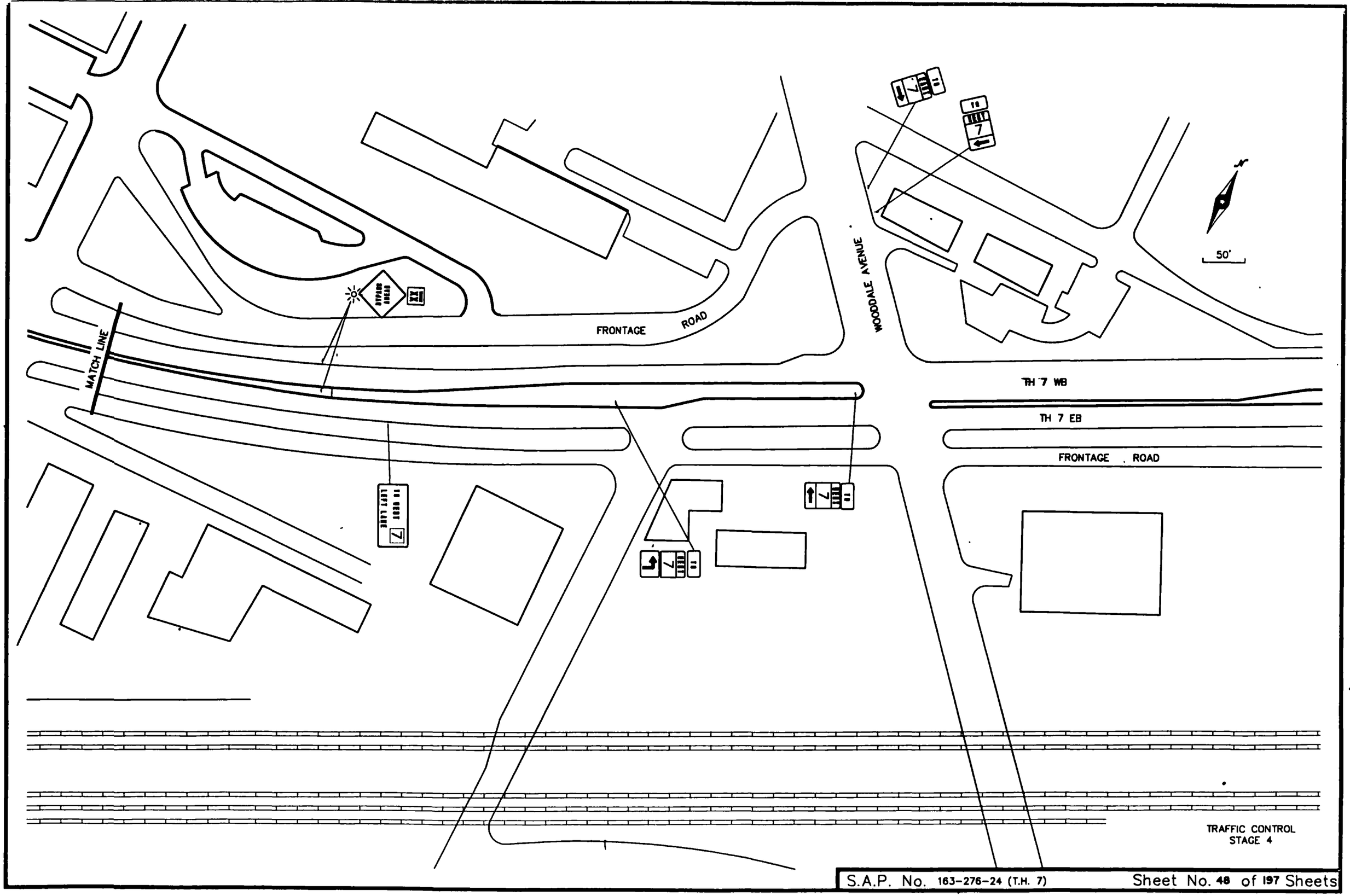
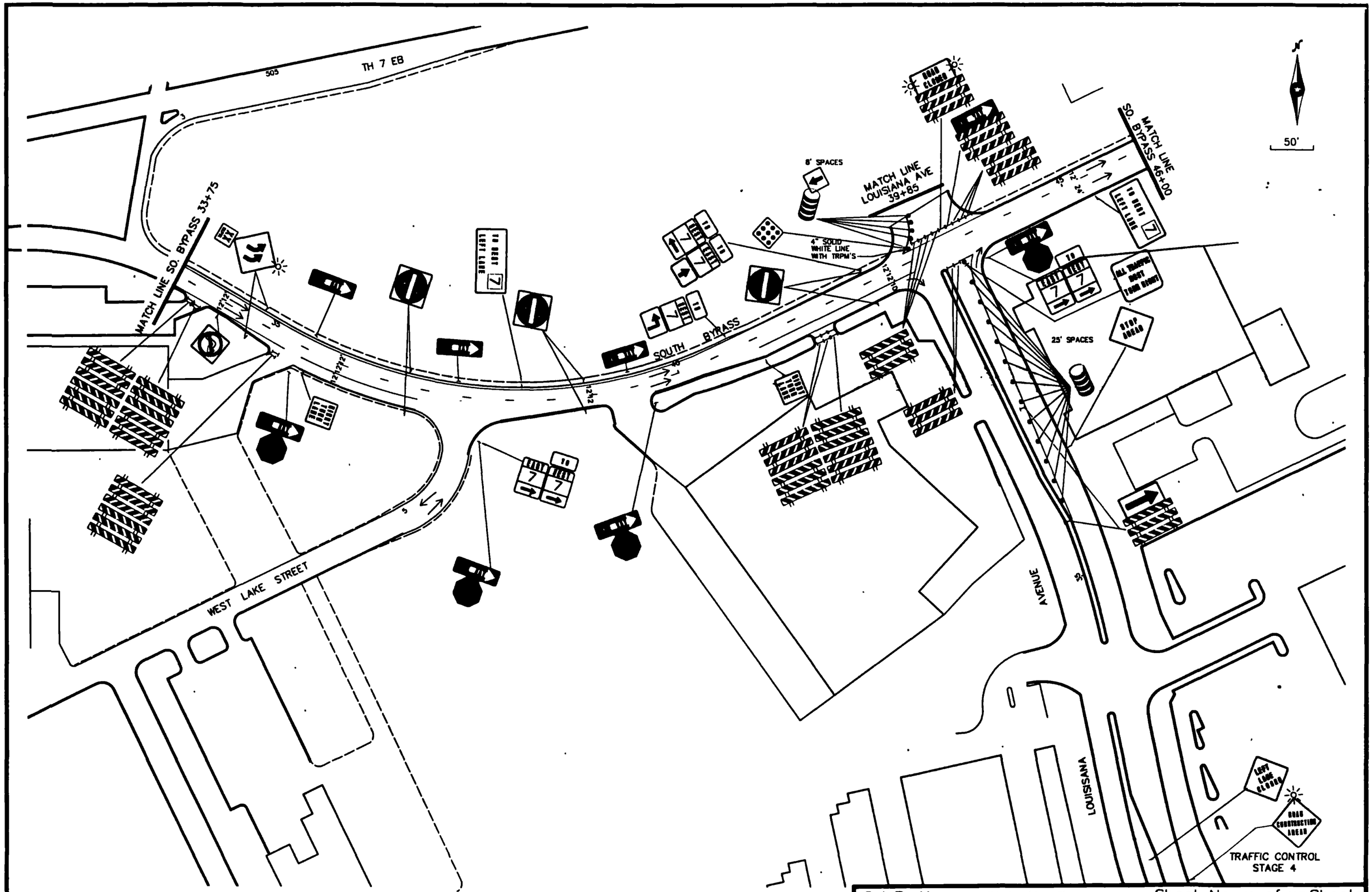

MATCH LINE NO. BYPASS 31+60
400'
MATCH INPLACE PAVEMENT MARKING
4" SOLID WHITE LINE
4" BROKEN WHITE LINE
LOUISIANA AVENUE
MATCH INPLACE PAVEMENT MARKING
TEMPORARY PORTABLE PRECAST CONCRETE BARRIER WITH MICROPRISM BARRIER REFLECTORS AT 30' SPACES
35
35
NORTH BYPASS
REPUBLIC AVENUE
WALKER STREET
GORHAM AVENUE
50'
45
40
520
45
522+00
MATCH LINE TH 7 EB
TH 7 WB
515
515
12'12
12'12
4" BROKEN WHITE LINE
4" SOLID YELLOW LINE WITH TRPM'S
4" SOLID WHITE LINE WITH TRPM'S
25' SPACES
TEMPORARY PORTABLE PRECAST CONCRETE BARRIER WITH MICROPRISM BARRIER REFLECTORS AT 30' SPACES
25' SPACES
50' SPACES
50' SPACES
510
510
4" SOLID WHITE LINE WITH TRPM'S
MATCH LINE TH 7 508+00
TH 7 EB
12'12
12'12
4" BROKEN WHITE LINE
4" SOLID YELLOW LINE WITH TRPM'S
25' SPACES
25' SPACES
25' SPACES
TO ROUT 7 LEFT LANE
4" SOLID YELLOW LINE WITH TRPM'S
4" SOLID WHITE LINE WITH TRPM'S
12
9
6
MATCH LINE LOUISIANA AVE 39+85
BYPASS
SOUTH
22'22
MATCH LINE SO. BYPASS 46+00
MONITOR STREET
TRAFFIC CONTROL STAGE 4

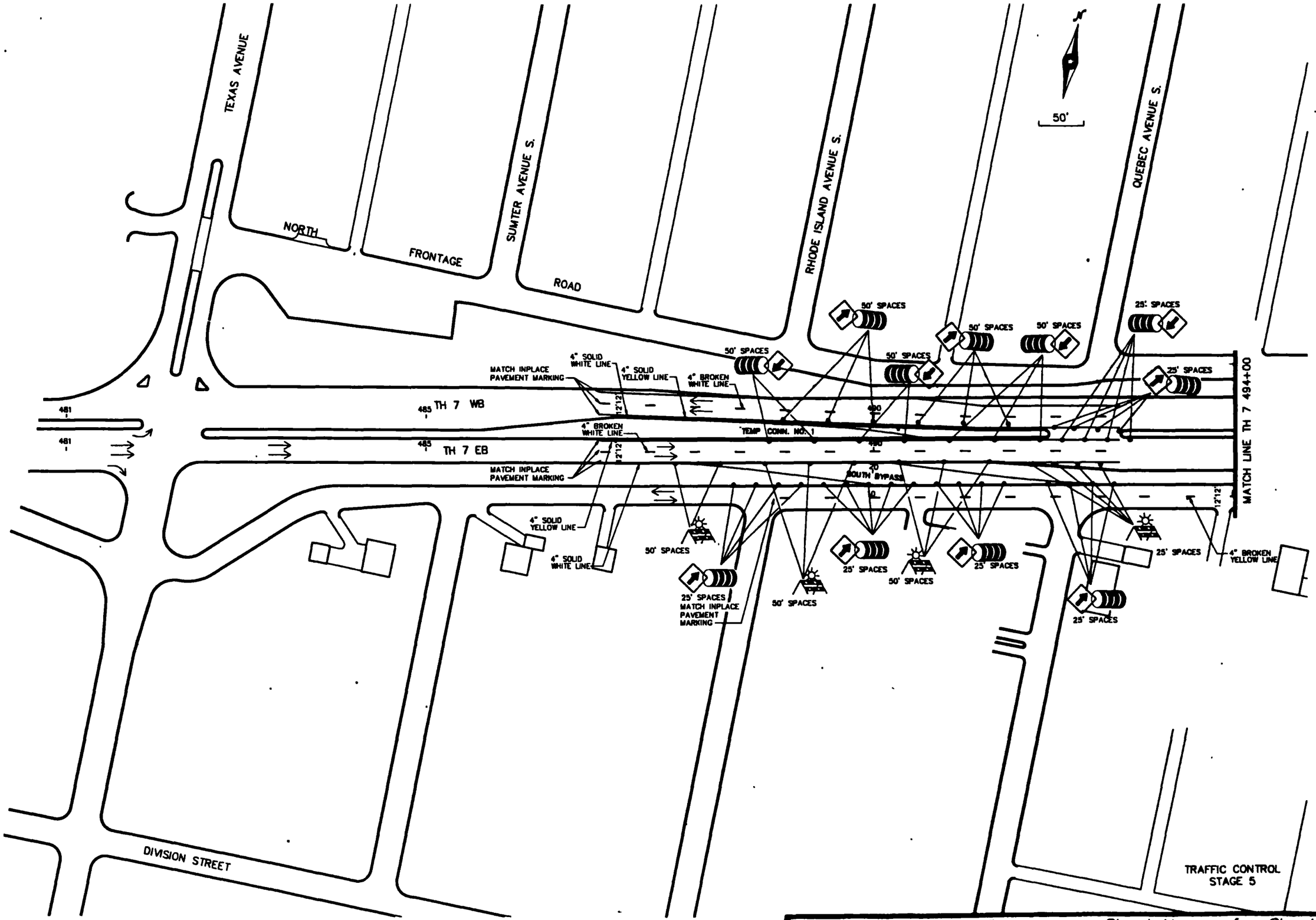


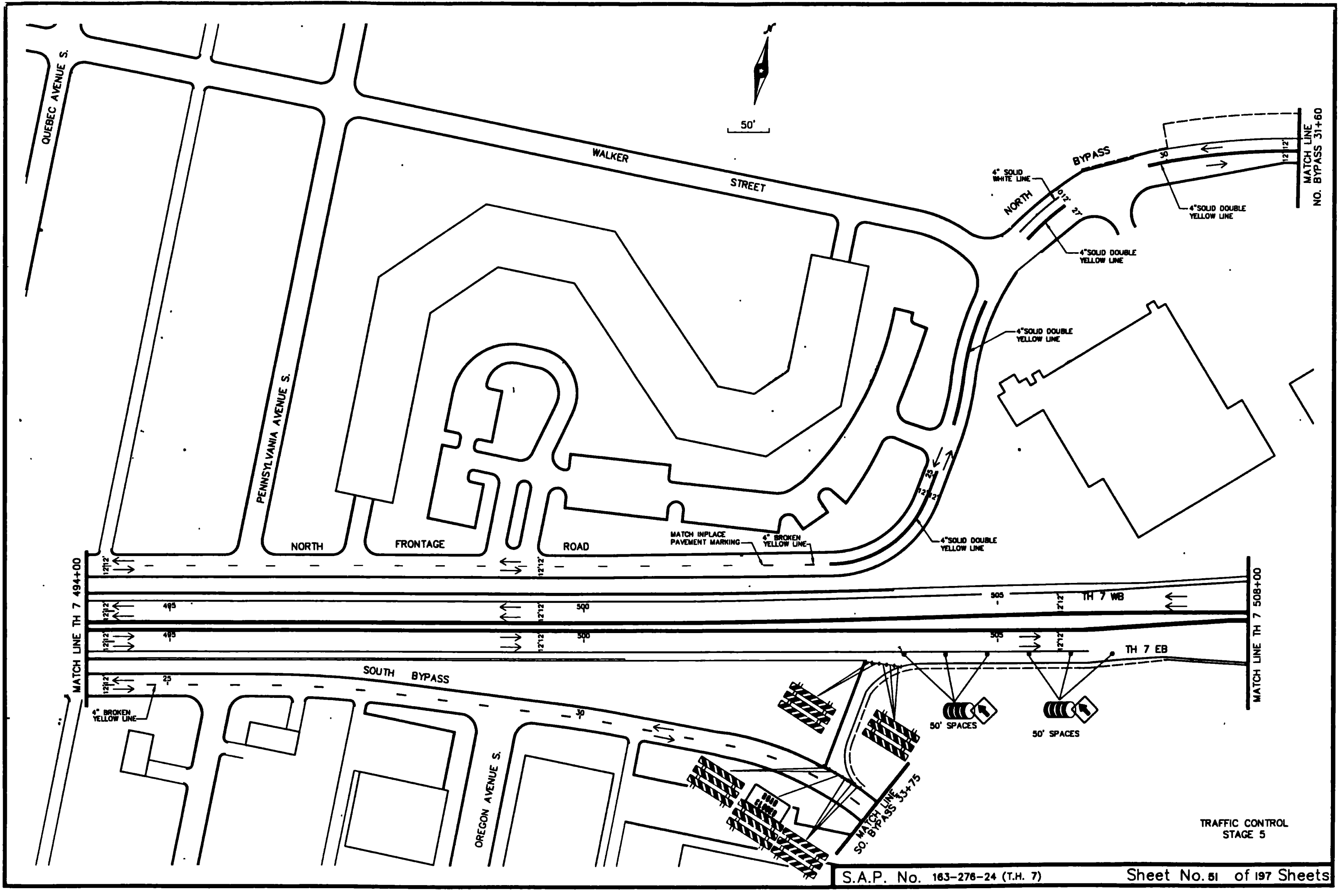
S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 47 of 197 Sheets



S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 48 of 197 Sheets


TH 7 EB
505
MATCH LINE SO. BYPASS 33+75
WEST LAKE STREET
SOUTH BYPASS
8' SPACES
MATCH LINE LOUISIANA AVE 39+85
4" SOLID WHITE LINE WITH TRPM'S
MATCH LINE SO. BYPASS 46+00
25' SPACES
AVENUE
LOUISSANA
50'
TRAFFIC CONTROL
STAGE 4


TEXAS AVENUE
NORTH
FRONTAGE
ROAD
SUMTER AVENUE S.
RHODE ISLAND AVENUE S.
QUEBEC AVENUE S.
50'
481
485
TH 7 WB
TH 7 EB
4" SOLID WHITE LINE
4" SOLID YELLOW LINE
4" BROKEN WHITE LINE
MATCH INPLACE PAVEMENT MARKING
12'12'
TEMP CONN. NO. 1
SOUTH BYPASS
MATCH LINE TH 7 494+00
50' SPACES
25' SPACES
4" BROKEN YELLOW LINE
DIVISION STREET
TRAFFIC CONTROL STAGE 5



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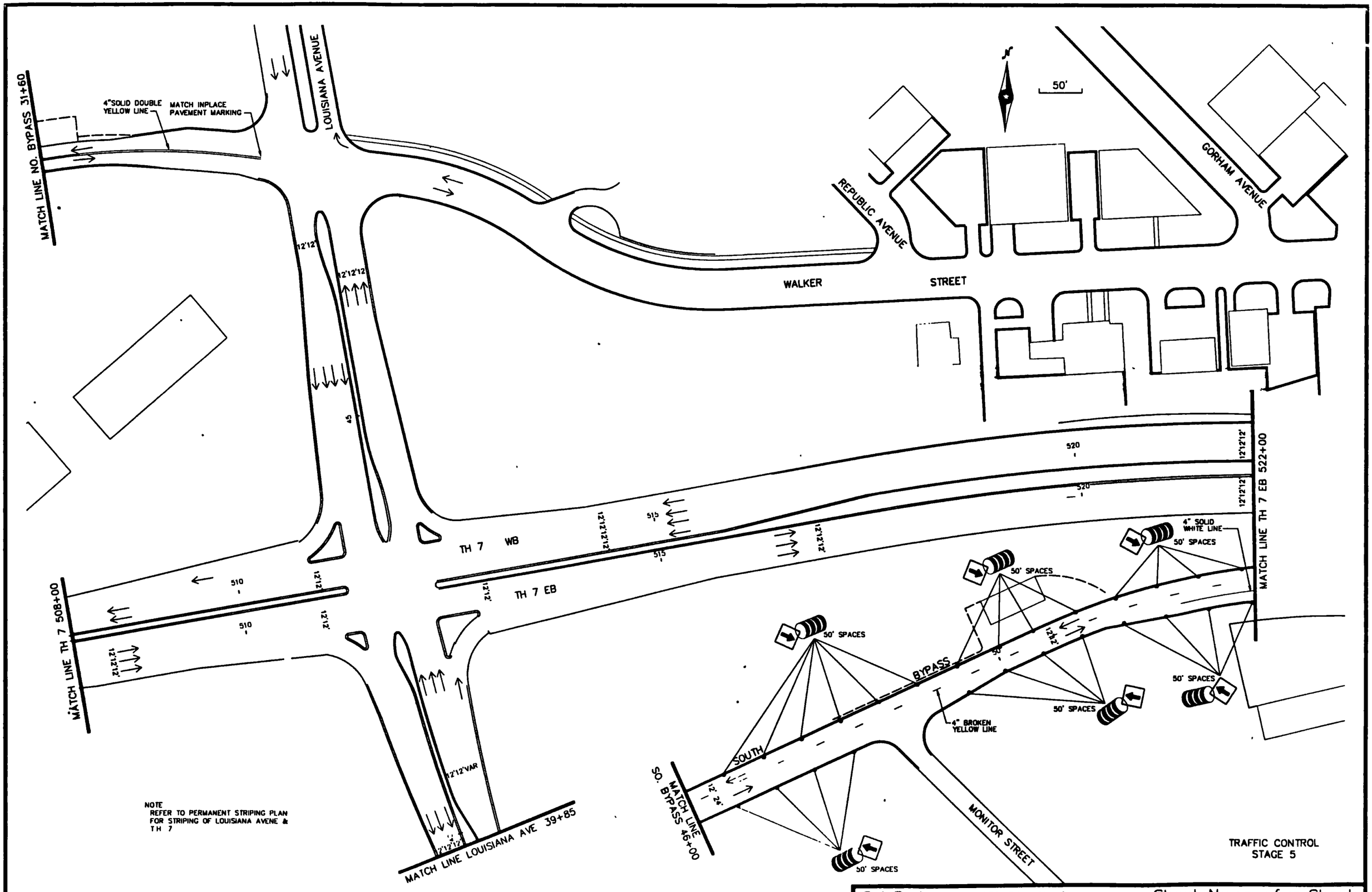
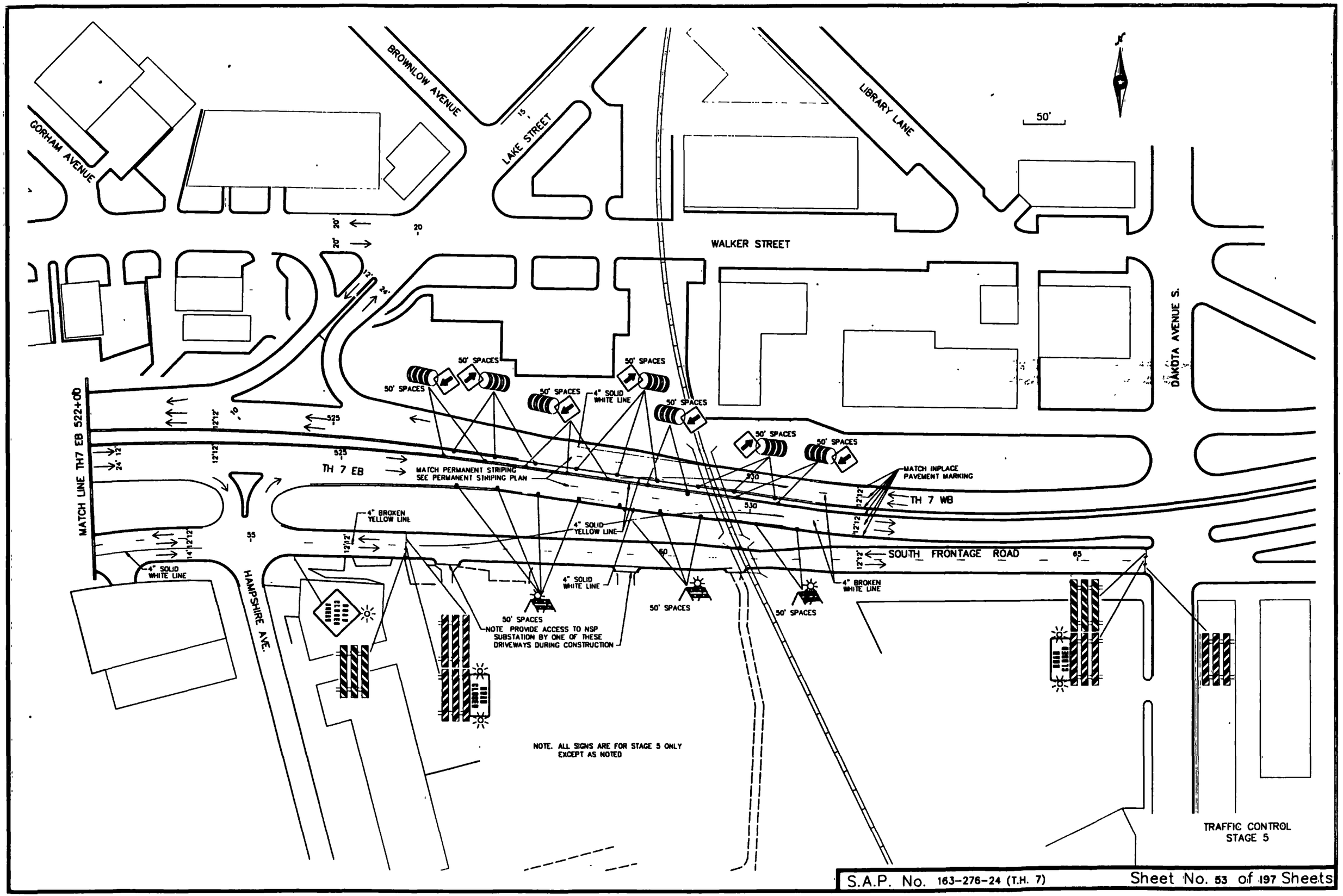

MATCH LINE NO. BYPASS 31+60
4" SOLID DOUBLE YELLOW LINE
MATCH INPLACE PAVEMENT MARKING
LOUISIANA AVENUE
REPUBLIC AVENUE
WALKER STREET
GORHAM AVENUE
50'
12'12'
12'12'12'
45
TH 7 WB
TH 7 EB
515
520
510
12'12'12'
MATCH LINE TH 7 522+00
MATCH LINE TH 7 508+00
12'12'VAR
MATCH LINE LOUISIANA AVE 39+85
SOUTH BYPASS
MATCH LINE SO. BYPASS 48+00
12' 24'
50' SPACES
4" SOLID WHITE LINE
4" BROKEN YELLOW LINE
MONITOR STREET
NOTE
REFER TO PERMANENT STRIPING PLAN FOR STRIPING OF LOUISIANA AVENE & TH 7
TRAFFIC CONTROL
STAGE 5



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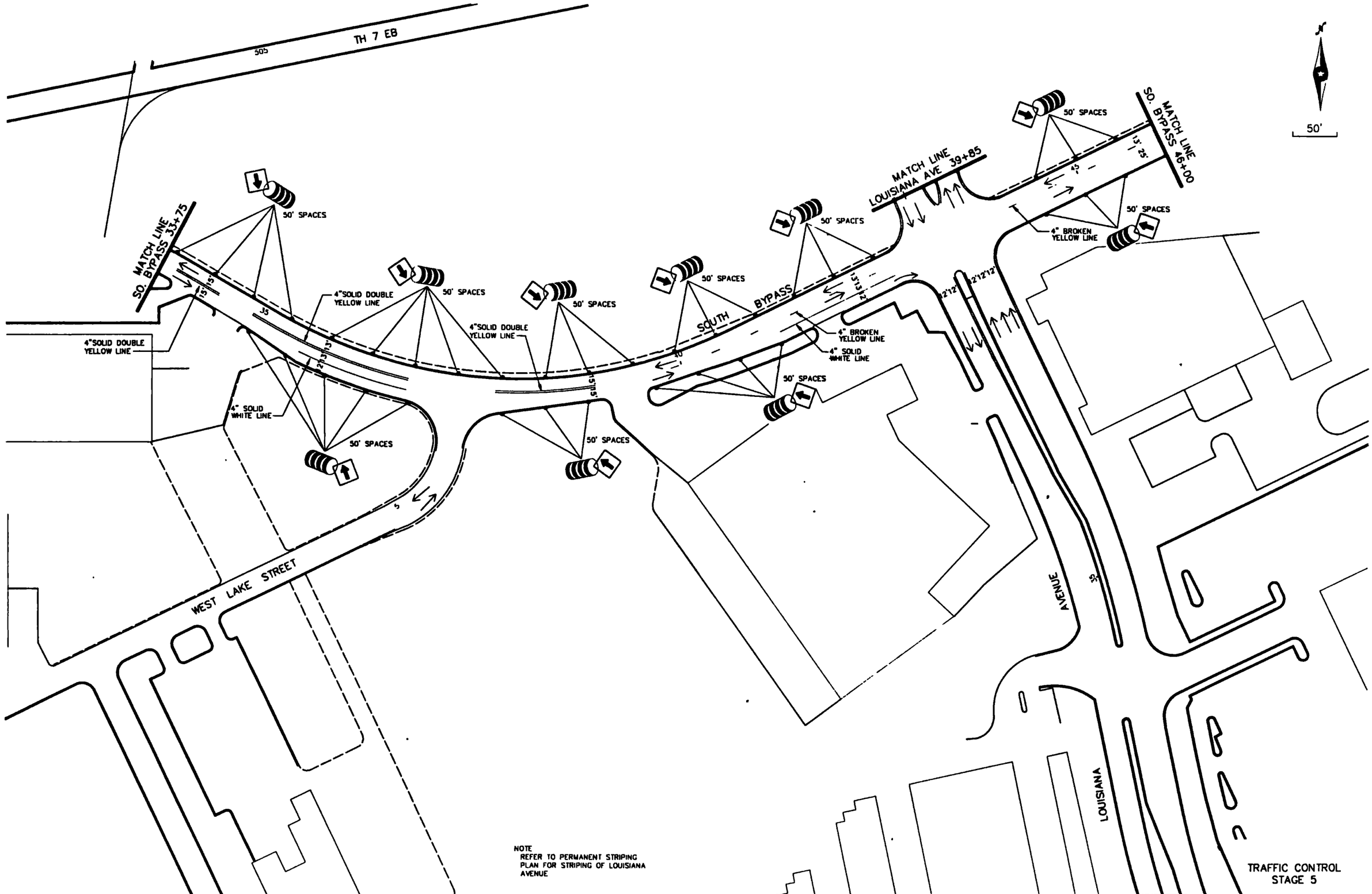
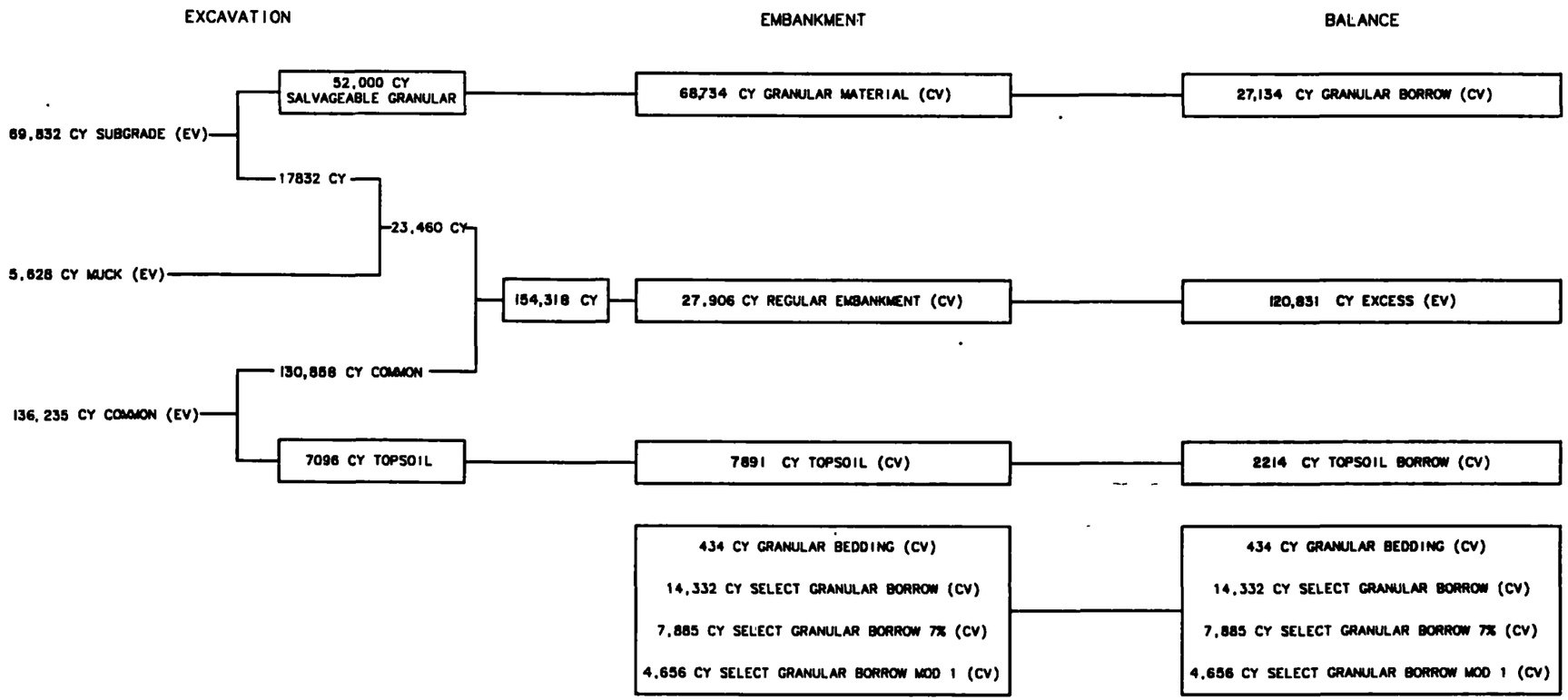

TH 7 EB
505
50'
MATCH LINE
SO. BYPASS 33+75
MATCH LINE
LOUISIANA AVE 39+85
MATCH LINE
SO. BYPASS 46+00
50' SPACES
4"SOLID DOUBLE YELLOW LINE
4" SOLID WHITE LINE
4" BROKEN YELLOW LINE
SOUTH BYPASS
WEST LAKE STREET
LOUISIANA AVENUE
NOTE
REFER TO PERMANENT STRIPING PLAN FOR STRIPING OF LOUISIANA AVENUE
TRAFFIC CONTROL
STAGE 5

EARTHWORK SUMMARY



GEOTEXTILE TABULATION (A)

LOCATION	TYPE IV SQ YD MN/DOT	TYPE V SQ YD ST AID
LOUISIANA AVE. / S. FRONTAGE RD.	5000	
N. FRONTAGE RD. / WALKER ST.	6245	
LOUISIANA AVE.		1850
TOTALS	11245	1850

SOILS NOTES

1. A SHRINKAGE FACTOR OF 20% WAS APPLIED TO ALL EXCAVATIONS USED AS EMBANKMENT.
2. ANY EXCAVATIONS PRODUCING GRANULAR MATERIAL MEETING MN/DOT SPEC. 3149.2A SHALL BE USED AS GRANULAR MATERIAL FOR EMBANKMENT. ALL OTHER EXCAVATIONS SHALL BE USED AS REGULAR EMBANKMENT.
3. REFER TO SPECIAL PROVISIONS FOR DISPOSAL REQUIREMENTS OF ANY CREOSOTE IMPACTED SOIL ENCOUNTERED DURING EXCAVATION
4. UNLESS OTHERWISE RECOMMENDED, SELECTED GRADING MATERIALS SHALL CONSIST OF GRANULAR SOILS, EXCLUDING TOPSOIL. WHETHER OBTAINED LOCALLY OR AS "GRANULAR BORROW" THEY SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2A.
5. SELECTED GRANULAR MATERIAL FOR USE IN THE UPPER 1.0' OF THE SUBGRADE, WHETHER OBTAINED LOCALLY OR AS "SELECT GRANULAR BORROW" SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B
6. UNLESS OTHERWISE RECOMMENDED, IN ANY NEW CONSTRUCTION, THE UPPER 4.0' OF THE SUBGRADE SHALL BE CONSTRUCTED OF SELECTED GRADING MATERIALS (GRANULAR SOILS) THE UPPER 1.0' OF WHICH SHALL BE SELECTED GRANULAR MATERIAL. THE REMAINDER OF THE SUBGRADE, EXCEPT AS RECOMMENDED IN FLOATED SWAMP AREAS, MAY BE CONSTRUCTED OF ALL SOILS ENCOUNTERED EXCEPT HIGHLY ORGANIC SOILS AND OTHER UNSTABLE MATERIALS.
7. STRIP AND REUSE AS SLOPE DRESSING, TOPSOIL AND INPLACE SLOPE DRESSING TO A MINIMUM DEPTH OF 6" FROM AREAS TO BE DISTURBED BY CONSTRUCTION IN ACCORDANCE WITH PLANS. APPROXIMATE DEPTHS OF INPLACE SLOPE DRESSING GENERALLY ENCOUNTERED ON T.H. 7 WERE AS FOLLOWS. 20" MAX, 3" MIN., AND 10" AVERAGE. SLOPE DRESSING ON THIS PROJECT IS DEFINED AS THE TOPSOIL OR OTHER SOIL WHICH HAS BEEN PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF.
8. WHERE CONNECTING NEW SURFACING ADJACENT TO AN INPLACE PAVEMENT, THE SUBCUT SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING THE INPLACE PAVEMENT.
9. CONCRETE AND BITUMINOUS ITEMS DISTURBED BY THIS CONSTRUCTION SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT LIMITS.
10. COMPACTION ON THE GRADING PORTION OF THIS PROJECT MAY BE ACCOMPLISHED IN ACCORDANCE WITH THE "ORDINARY COMPACTION METHOD."
11. COMPACTION ON THE WEARING COURSE MIXTURE, SPEC. 2361, AND THE LEVELING COURSE, SPEC. 2331, MAY BE OBTAINED BY THE "ORDINARY COMPACTION METHOD." COMPACTION ON ALL OF THE REMAINING BITUMINOUS ITEMS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE "SPECIFIED DENSITY METHOD."
12. TEST ROLLING WILL NOT BE REQUIRED.

EARTHWORK SUMMARY
EXCAVATION

(B)

LOCATION	STAGE 1 SUBGRADE (EV) CY	STAGE 1 COMMON (EV) CY	STAGE 1 MUCK (EV) CY	STAGE 2 SUBGRADE (EV) CY	STAGE 2 COMMON (EV) CY	STAGE 3 SUBGRADE (EV) CY	STAGE 3 COMMON (EV) CY	STAGE 3 MUCK (EV) CY	STAGE 4 SUBGRADE (EV) CY	STAGE 4 COMMON (EV) CY	STAGE 5 SUBGRADE (EV) CY	STAGE 5 COMMON (EV) CY
T.H. 7						32814	47526	2045	14002	13740		
LOUISIANA AVENUE	1162	1444				2618	25618				1008	11388
SOUTH FRONTAGE RD	4255	4282									3082	2869
NORTH FRONTAGE RD	4547	2464	2218	2194	11497				589	452		
WEST LAKE STREET									1480	549	531	273
WALKER STREET	377	198										
TEMP. CONN. NO. 1	307	162										
TEMP. CONN. NO. 2	270	68										
TEMP CONN. NO. 3	265	90					52					
TEMP CONN. NO 4	351	28										
POND NO. 1												6582
POND NO. 2												6736
POND NO. 3												1938
UTILITIES								1365				
TOTAL	11534	8736	2218	2194	11497	35432	73196	3410	16071	14741	4601	29784

EMBANKMENT

(B)

LOCATION	STAGE 1 GRANULAR MATERIAL (CV) CY	STAGE 1 SELECT GRANULAR (CV) CY	STAGE 1 SELECT GRANULAR (CV) 7% CY	STAGE 1 SELECT GRANULAR MOD 1 (CV) CY	STAGE 1 TOPSOIL (CV) CY	STAGE 1 REGULAR EMBANKMENT (CV) CY	STAGE 2 GRANULAR MATERIAL (CV) CY	STAGE 2 SELECT GRANULAR (CV) CY	STAGE 2 SELECT GRANULAR MOD 1 (CV) CY	STAGE 2 TOPSOIL (CV) CY	STAGE 2 REGULAR EMBANKMENT (CV) CY	STAGE 3 GRANULAR MATERIAL (CV) CY	STAGE 3 SELECT GRANULAR (CV) CY	STAGE 3 SELECT GRANULAR (CV) 7% CY	STAGE 3 SELECT GRANULAR MOD 1 (CV) CY	STAGE 3 TOPSOIL (CV) CY	STAGE 3 REGULAR EMBANKMENT (CV) CY	STAGE 3 GRANULAR BEDDING (CV) CY
T.H. 7												33843	9656	2653	0	2908	9236	0
LOUISIANA AVENUE	3072	5		1244	412	8893						70	54	0	150	407	1853	0
SOUTH FRONTAGE RD	3089	0		820	405	198												
NORTH FRONTAGE RD	1213	0	5232	840	348	270	2641	0	557	592	327							
WEST LAKE STREET																		
WALKER STREET	0	0		378	40	59												
TEMP CONN. NO. 1	193	16		0	4	0												
TEMP CONN. NO. 2	235	107		0	0	0												
TEMP CONN. NO. 3	573	0		0	25	36												
TEMP. CONN NO. 4	415	0		0	107	607						12	0	0	0	9	60	0
UTILITIES												458	0	0	0	0	0	434
TOTAL	8790	128	5232	3282	1341	9763	2641	0	557	592	327	34383	9710	2653	150	3324	11149	434

EMBANKMENT (CONT.)

(B)

LOCATION	STAGE 4 GRANULAR MATERIAL (CV) CY	STAGE 4 SELECT GRANULAR (CV) CY	STAGE 4 SELECT GRANULAR MOD 1 (CV) CY	STAGE 4 TOPSOIL (CV) CY	STAGE 4 REGULAR EMBANKMENT (CV) CY	STAGE 5 GRANULAR MATERIAL (CV) CY	STAGE 5 SELECT GRANULAR (CV) CY	STAGE 5 SELECT GRANULAR MOD 1 (CV) CY	STAGE 5 TOPSOIL (CV) CY	STAGE 5 REGULAR EMBANKMENT (CV) CY
T.H. 7	15928	4291	0	1560	4507					
LOUISIANA AVENUE	1877	0	0			57			265	1460
SOUTH FRONTAGE RD						3051	0	0	691	529
NORTH FRONTAGE RD	0	0	667	28	121					
WEST LAKE STREET	1471	203	0	36	12	536	0	0	54	38
WALKER STREET										
TEMP. CONN. NO. 1										
TEMP CONN. NO 2										
TEMP CONN. NO. 3										
TEMP. CONN NO. 4										
UTILITIES										
TOTAL	19276	4494	667	1624	4640	3644	0	0	1010	2027

PRIVATE UTILITIES (C)

LOCATION	OFFSET	INPLACE ITEM	REMARKS	OWNER
NON-RESPONSIVE				
	16'-40' RT	16" GAS MAIN	REMAIN INPLACE	MINNEGASCO
	25'-10' RT	16" GAS MAIN	REMAIN INPLACE	MINNEGASCO
	45'-25' RT	16" GAS MAIN	REMAIN INPLACE	MINNEGASCO
	132'-20' RT	4" GAS MAIN	REMAIN INPLACE	MINNEGASCO
	20'-25' RT	4" GAS MAIN	RELOCATE 42+75-43+50(BY OTHERS)	MINNEGASCO
	23'-33' LT	4" GAS MAIN	REMAIN INPLACE	MINNEGASCO
	33'-12' LT	4" GAS MAIN	REMAIN INPLACE	MINNEGASCO
	12' LT-75' RT	3" GAS MAIN	REMAIN INPLACE	MINNEGASCO
	67' LT-90' RT	4" GAS MAIN	RELOCATE (BY OTHERS)	MINNEGASCO
	25' LT	4" GAS MAIN	RELOCATE (BY OTHERS)	MINNEGASCO
	25'-14' LT	4" GAS MAIN	REMAIN INPLACE	MINNEGASCO
	24' LT	16" GAS MAIN	REMAIN INPLACE	MINNEGASCO
	28' LT	2" GAS MAIN	REMAIN INPLACE	MINNEGASCO
	35'-17' LT.	2" GAS MAIN	RELOCATE (BY OTHERS)	MINNEGASCO
	76' RT-105' LT	OVERHEAD POWER	REMAIN INPLACE	NORTHERN STATES POWER
	105'-78' LT	OVERHEAD POWER	REMAIN INPLACE	NORTHERN STATES POWER
	78'-78' RT	OVERHEAD POWER	REMAIN INPLACE	NORTHERN STATES POWER
	78' RT-110' LT	OVERHEAD POWER	RELOCATE POLES (BY OTHERS)	NORTHERN STATES POWER
	75'-82' RT	OVERHEAD POWER	RELOCATE POLES (BY OTHERS)	NORTHERN STATES POWER
	75'-112' RT	BURIED POWER	RELOCATE POLES (BY OTHERS)	NORTHERN STATES POWER
	30'-59' LT	OVERHEAD POWER	REMAIN INPLACE	NORTHERN STATES POWER
	10'-25' RT	BURIED POWER	ADJUST MANHOLE (BY OTHERS)	NORTHERN STATES POWER
	10'-25' RT	BURIED POWER	REMAIN INPLACE	NORTHERN STATES POWER
	37' RT	BURIED POWER	REMAIN INPLACE	NORTHERN STATES POWER
	37' RT-37' LT	BURIED POWER	RELOCATE (BY OTHERS)	NORTHERN STATES POWER
	0'-25' RT	OVERHEAD POWER	REMAIN INPLACE	NORTHERN STATES POWER
		OVERHEAD POWER	REMAIN INPLACE	NORTHERN STATES POWER
		OVERHEAD POWER	REMAIN INPLACE	NORTHERN STATES POWER
	52'-43' LT	OVERHEAD POWER	REMAIN INPLACE	NORTHERN STATES POWER
	150'-25' RT	BURIED TELEPHONE CABLE	REMAIN INPLACE	U.S. WEST
	25'-20' RT	BURIED TELEPHONE CABLE	RELOCATE (BY OTHERS) 42+75-45+50	U S WEST
	68'-6' RT	BURIED TELEPHONE CABLE	REMAIN INPLACE	U.S. WEST
	37' RT	TELEPHONE JUNCTION BOX	REMAIN INPLACE	U.S. WEST
	55'-3' RT	BURIED TELEPHONE CABLE	RELOCATE (BY OTHERS)	U.S. WEST
				U.S. WEST
	81' RT-67' LT	BURIED TELEPHONE CABLE	REMAIN INPLACE	U.S WEST
	67'-82' LT	BURIED TELEPHONE CABLE	REMAIN INPLACE	U S WEST
	0'-35' RT	BURIED TELEPHONE CABLE	REMAIN INPLACE	U.S. WEST
	60' LT-35' RT	BURIED TELEPHONE CABLE	LOWER IN SHOULDER WIDENING (BY OTHERS)	U S. WEST
	31'-20' LT	BURIED TELEPHONE CABLE	RELOCATE (BY OTHERS)	U.S. WEST
	21'-25' RT	BURIED TELEPHONE CABLE	REMAIN INPLACE	U.S. WEST
	36'-33' LT	BURIED TELEPHONE CABLE	RELOCATE (BY OTHERS)	U.S. WEST
	43' RT	TELEPHONE JUNCTION BOX	ADJUST (BY OTHERS)	U.S. WEST
	39' RT	TELEPHONE JUNCTION BOX	ADJUST (BY OTHERS)	U.S. WEST

NORTEL CABLE
DARRELL JACOBSON
3516 BELT LINE BLVD.
ST. LOUIS PARK, MN. 55416
(612) 925-1071

U.S. WEST
CARY SCHMIDT
5910 SHINGLE CREEK PARKWAY
BROOKLYN CENTER, MN. 55430
(612) 569-2128

NORTHERN STATES POWER CO.
HARLEY HEIGEL
CENTRAL AREA OFFICE
1516 CHESTNUT AVENUE
MINNEAPOLIS, MN. 55403
(612) 347-9532

MINNEGASCO
DAVE HENNINGSGAARD
700 W. LINDEN AVE.
P O. BOX 1165
MINNEAPOLIS, MN. 55440-1165
(612) 342-5424

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61	M	BITUMINOUS CURB/2" BITUMINOUS WALK	121	CC	UTILITY TABULATIONS
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62	O	INTERSECTION PAVEMENT MARKING	135	EE	TYPE D SIGNS PERMANENT
63	P	TURF ESTABLISHMENT			

STANDARD PLATES (D)

PLATE NO.	DESCRIPTION
0004A	SPECIFICATION REFERENCE TO STANDARD PLATES (1988) 2 SHTS
3000K	REINFORCED CONCRETE PIPE
3006F	GASKET JOINT FOR R.C. PIPE
3007B	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3014J	REINFORCED CONCRETE PIPE ARCH DETAIL
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE - ARCH
3128D	SAFTY APRON
3133B	RIPRAP AT RCP OUTLETS
3145E	CONCRETE PIPE TIES
4000I	MANHOLE OR CATCH BASIN (DESIGN A)
4002E	MANHOLE OR CATCH BASIN (DESIGN C)
4005K	MANHOLE OR CATCH BASIN (DESIGN F)
4006K	MANHOLE OR CATCH BASIN (DESIGN G OR DESIGN H)
4010G	CONC. ADJUSTING RING (SECTIONAL CONCRETE)
4011D	PRECAST CONCRETE BASE
4019E	MANHOLE FOR CATCH BASIN (NOT FOR USE UNDER TRAFFIC LOADS)
4020E	MANHOLE OR CATCH BASIN (FOR USE UNDER TRAFFIC LOADS)
4101C	RING CASTING FOR MANHOLE OR CATCH BASIN
4110D	COVER CASTING FOR MANHOLE
4129F	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE)
4132E	CATCH BASIN FRAME CASTING (FOR SQ. GRATE AND TYPE D C&G)
4154B	CATCH BASIN GRATE CASTING
4160D	CURB BOX CASTING FOR CATCH BASIN (NO. 823A)
4180H	MANHOLE OR CATCH BASIN STEP
7036C	PEDESTRIAN CURB RAMP
7065C	BITUMINOUS CURB
7100F	CONCRETE CURB AND GUTTERS (DESIGN B & DESIGN V)
7111G	INSTALLATION AND REINFORCEMENT OF C.B. CASTINGS
	(CONRETE CURB AND CURB & GUTTER)
8000I	STANDARD BARRICADES
8110C	TRAFFIC SIGNAL BRACKETING
8111B	TRAFFIC SIGNAL BRACKETING
8112C	PEDESTAL FOUNDATION
8115C	PEDESTRIAN PUSHBUTTON INSTALLATION
8117F	PRECAST CONCRETE HANHOLE (OR PULLBOX)
	PVC HANDHOLE (OR PULLBOX)
8118C	SERVICE EQUIPMENT & POLE
8119C	GROUND MOUNTED CABINET FOUNDATION
8120H	P-80 & P-90 POLE FOUNDATION
8121B	TRANSFORMER BASE W/POLE BASE PLATE
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8123B	POLE AND MAST ARM
8124D	MAST ARM SIGNAL HEAD MOUNTS
8126C	P-100 POLE FOUNDATION
8130D	SAWCUT LOOP DETECTORS
8140A	ROADWAY LIGHTING SERVICE CABINETS
8150B	INSTALLATION OF CULVERT MARKERS
8307N	STEEL PLATE BEAM GUARDRAIL (DES B)
~~8333A~~	~~TEMPORARY PORTABLE PRECAST CONCRETE BARRIER~~
8333A	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER
	(CONTACTOR OWNED OR RENTED)
9102C	SODDING AT PIPE CULVERT ENDS
9322I	CHAIN LINK FENCE
9500A	WELL POINT TYPE PIEZOMETER (FOR CONSTRUCTION PROJECTS)

District State Aid Comment: 12-21-84

TABULATED QUANTITIES

BITUMINOUS AND AGGREGATE SUMMARY

(E)

STATION TO STATION	FUNDING	2331 BASE (MOD) DEPTH IN	2331 BASE (MOD) AREA SQ FT	2331 BASE (MOD) TON	2331 BINDER (MOD) DEPTH IN	2331 BINDER (MOD) AREA SQ FT	2331 BINDER (MOD) TON	2331 LEVELING (MOD) DEPTH IN	2331 LEVELING (MOD) AREA SQ FT	2331 LEVELING (MOD) TON	2331 SHOULDER (MOD) DEPTH IN	2331 SHOULDER (MOD) AREA SQ FT	2331 SHOULDER (MOD) TON	2341 BINDER (MOD) DEPTH IN	2341 BINDER (MOD) AREA SQ FT	2341 BINDER (MOD) TON	2341 WEARING (MOD) DEPTH IN	2341 WEARING (MOD) AREA SQ FT	2341 WEARING (MOD) TON	2361 WEARING (MOD) DEPTH IN	2361 WEARING (MOD) AREA SQ FT	2361 WEARING (MOD) TON	2357 TACK COAT GAL	AGGREGATE SHOULDERING CLASS 5 CU YD	AGGREGATE SHOULDERING CLASS 3 CU YD	AGGREGATE BASE CLASS 5 CU YD
T.H. 7 W.B.																										
489+00 TO 492+73	MN/DOT	3.0	2136	41										3.0	2136	43				1.0	2136	14	36			13
		3.5	2136	48																1.5	12936	129	72	5		
492+73 TO 497+00	MN/DOT	3.0	6832	131										3.0	6832	137				1.0	6832	46	114			58
		3.5	9394	210										1.5	7259	73				1.0	7259	48	81			
497+00 TO 510+00	MN/DOT	3.0	44743	858							3.0	4786	92	3.0	42873	857				1.0	42873	286	725	36	41	174
		3.5	50863	1133																						
510+00 TO 513+00	MN/DOT	3.0	19700	378							3.0	680	13	3.0	19375	388				1.0	19375	129	325	3	4	133
		3.5	19092	427																						
513+00 TO 527+50	MN/DOT	3.0	65846	1262							3.0	2070	40	3.0	65009	1300				1.0	65009	433	1088	14	17	465
		3.5	73942	1653																						
527+50 TO 531+50	MN/DOT	3.0	1897	36										3.0	1897	38				1.0	1897	13	32			19
		3.5	3046	68										1.5	8929	89				1.0	8929	60	99			
T.H. 7 E.B.																										
487+50 TO 492+73	MN/DOT	3.0	3845	74										3.0	3845	77				1.0	3845	26	64			24
		3.5	3845	86																1.5	12177	122	68			
492+73 TO 497+00	MN/DOT	3.0	5124	98										3.0	5124	102				1.0	5124	34	85			47
		3.5	7686	172																						
497+00 TO 510+00	MN/DOT	3.0	45213	867							3.0	8374	161	3.0	42363	847				1.0	42363	282	722	64	75	337
		3.5	50163	1122																						
510+00 TO 513+00	MN/DOT	3.0	21555	413							3.0	645	12	3.0	21195	424				1.0	21195	141	355	5	6	145
		3.5	23478	525																						
513+00 TO 527+35	MN/DOT	3.0	61979	1188							3.0	6243	120	3.0	58757	1175				1.0	58757	392	997	44	51	420
		3.5	67952	1519																						
527+35 TO 531+40	MN/DOT	3.0	1717	33										3.0	1717	34				1.0	1717	11	29			18
		3.5	2983	67										1.5	9999	100				1.0	9999	67	111			
LOUISIANA AVENUE																										
32+05 TO 34+70	STATE AID	(1)		1449	(1)		327													1.0		149	811			
37+90 TO 41+90	STATE AID	3.0	29710	569										3.0	29710	594				1.0	29710	198	495			208
		3.5	33731	754																						
43+89 TO 47+76	STATE AID	3.0	29438	564										3.0	29438	589				1.0	29438	196	491			211
		3.5	34111	763																						
NORTH FRONTAGE ROAD																										
5+90 TO 12+40	CITY																1.5	18685	.187				104			
12+40 TO 14+74	MN/DOT	3.0	7118	136	1.5	7118	68										1.5	7118	71				79			182
24+74 TO 25+90	MN/DOT	3.0	4092	78	1.5	4092	39										1.5	3757	38				45			104
25+90 TO 28+50	MN/DOT	3.0	9713	186	1.5	9713	93										1.5	9713	97				108			246
25+90 TO 28+50																	1.5	9180	(3) 92				51			
28+50 TO 32+04	MN/DOT																1.5	25354	254				141			
SOUTH FRONTAGE ROAD																										
8+94 TO 12+65	MN/DOT	3.0	11578	222	1.5	11578	111										1.5	11578	116				129			286
12+65 TO 31+90	MN/DOT																1.5	26082	261				145			
31+90 TO 32+90	CITY	3.0	2842	54	1.5	2842	27										1.5	2842	28				32			70
32+90 TO 39+50	MN/DOT	3.0	2088	40	1.5	2088	20	0.5	4503	14							1.5	2088	21				48			116
								5.0	15680	501							1.5	20543	205				201			
39+50 TO 41+90	MN/DOT	3.0	8024	154	1.5	8024	77										1.5	8024	80				89			225
41+90 TO 42+75	STATE AID	3.0	4359	84										3.0	4359	87				1.0	4359	29	73			32
		3.5	5207	116																						
		3.0	2240	43	1.5	2240	21										1.5	2240	22				25			12
43+75 TO 44+75	STATE AID	3.0	4100	79										3.0	4100	82				1.0	4100	27	68			29
		3.5	4825	103																						
		3.0	210	4	1.5	210	2										1.5	210	2				2			12
44+75 TO 46+50	CITY	3.0	6650	127	1.5	6650	64										1.5	6650	67				74			185
46+50 TO 48+95	MN/DOT	3.0	1070	21	1.5	1070	10										1.5	1070	11				12			33
								2.5	9880	158							1.5	9880	99				110			
48+95 TO 51+25	CITY	3.0	7170	137	1.5	7170	69										1.5	7170	72				80			205
51+25 TO 52+40	MN/DOT	3.0	460	9	1.5	460	4										1.5	460	5				5			26
								3.0	3911	75							1.5	3911	37				43			
52+40 TO 52+55	CITY	3.0	570	11	1.5	570	5										1.5	570	6				6			16
52+55 TO 56+02	MN/DOT	3.0	2200	42	1.5	2200	21										1.5	2200	22				24			88
								2.0	13765	176							1.5	13765	132				153			
56+02 TO 65+50	CITY	3.0	24797	475	1.5	24797	238										1.5	24797	248				276			730

TABULATED QUANTITIES

BITUMINOUS AND AGGREGATE SUMMARY (CONT.)

(E)

STATION TO STATION	FUNDING	2331 BASE (MOD)			2331 BINDER (MOD)			2331 LEVELING (MOD)			2331 SHOULDER (MOD)			2341 BINDER (MOD)			2341 WEARING (MOD)			2361 WEARING (MOD)			2357 TACK COAT	AGGREGATE SHOULDERING		AGGREGATE BASE
		DEPTH IN	AREA SQ FT	TON	DEPTH IN	AREA SQ FT	TON	DEPTH IN	AREA SQ FT	TON	DEPTH IN	AREA SQ FT	TON	DEPTH IN	AREA SQ FT	TON	DEPTH IN	AREA SQ FT	TON	DEPTH IN	AREA SQ FT	TON	GAL	CLASS 5 CU YD	CLASS 3 CU YD	CLASS 5 CU YD
WALKER STREET																										
5+80 TO 7+17	MN/DOT	3.0	4168	80	1.5	4168	40										1.5	3868	39				45			106
WEST LAKE STREET																										
5+10 TO 7+00	CITY	3.0	6816	131	1.5	6816	65										1.5	6816	68				76			195
10+00 TO 12+80	MN/DOT	3.0	9093	174	3.0	9093	174													1.0	9093	81	101			103
TOTALS																										
MN/DOT				13590			659			924			437			5684			1578			2294	6531	171	194	3368
STATE AID				4529			350			0			0			1352			25			600	1785	0	0	504
CITY				936			468			0			0			0			676			0	647	0	0	1401
TOTAL				19015			1477			(2) 924			437			7036			2278			2894	8943	171	194	5273

NOTES

(1) DEPTH VARIES, REFER TO TYPICAL SECTIONS

(2) LEVELING COURSE QUANTITIES WERE COMPUTED USING AVERAGE DEPTHS.

(3) ADDITIONAL OVERLAY PLACED DURING STAGE 6

(4) BASIS FOR QUANTITIES:
BITUMINOUS MATERIAL FOR MIXTURE

NON-RESPONSIVE

UNIT WEIGHT OF BITUMINOUS MIX

2331 110 LBS/SQ YD/IN THICK
2341 110 LBS/SQ YD/IN THICK
2361 115 LBS/SQ YD/IN THICK

TABULATED QUANTITIES

BITUMINOUS SAWCUT & REMOVAL (F)

STATION TO STATION	LOCATION	FUNDING	BITUMINOUS SAWCUT FULL DEPTH LIN FT	BITUMINOUS REMOVAL AREA SQ YD
T.H. 7 W.B.				
482+40 (TEXAS AVE.)	LT	MN/DOT	136	60
487+50 TO 497+00	RT	MN/DOT	955	1457
489+00 TO 497+00	LT	MN/DOT	800	387
497+00 TO 514+25	LT & RT	MN/DOT		10809
497+00	LT & RT	MN/DOT	22	
515+20 TO 527+50	LT & RT	MN/DOT		9656
522+80	LT	MN/DOT	38	
527+50 TO 529+80	LT	MN/DOT		98
527+50	LT & RT	MN/DOT	26	
527+50 TO 529+90	LT	MN/DOT	242	
527+50 TO 530+58	RT	MN/DOT	312	
527+50 TO 530+85	RT	MN/DOT		360
T.H. 7 E.B.				
487+50 TO 497+00	RT	MN/DOT	1000	278
487+50	LT	MN/DOT	22	
487+50 TO 497+00	LT	MN/DOT	955	
497+00	LT & RT	MN/DOT	22	
527+35	LT & RT	MN/DOT	26	
527+35 TO 529+95	RT	MN/DOT		58
527+35 TO 530+45	LT	MN/DOT	315	
527+35 TO 529+95	RT	MN/DOT	262	
LOUISIANA AVE				
37+90	LT & RT	STATE AID	75	
37+90 TO 38+95	LT & RT	STATE AID		964
SOUTH FRONTAGE ROAD				
8+95	LT & RT	MN/DOT	46	
8+95 TO 12+65	LT & RT	MN/DOT		1276
10+40 TO 10+60	RT	MN/DOT	20	
12+00 TO 12+32	RT	MN/DOT	32	
12+65	LT & RT	MN/DOT	28	
31+90	LT & RT	MN/DOT	28	
31+90 TO 32+90	LT & RT	MN/DOT		311
32+90	LT & RT	MN/DOT	26	
32+90 TO 39+50	LT & RT	MN/DOT	660	183
34+50 TO 39+10	RT	CITY	460	164
34+55 TO 34+80	RT	CITY	25	
39+50	LT & RT	MN/DOT	40	
39+50 TO 46+50	LT & RT	MN/DOT		2907
41+50 TO 41+85	RT	CITY	35	
46+50	LT & RT	MN/DOT	32	
46+50 TO 48+95	LT	MN/DOT	245	68
46+50 TO 48+95	RT	CITY		83
46+50 TO 48+50	RT	CITY	245	
48+95	LT & RT	MN/DOT	90	
48+95 TO 51+25	LT & RT	MN/DOT		838
51+25	LT & RT	MN/DOT	26	
51+25 TO 56+02	LT	MN/DOT	477	133
51+25 TO 56+02	RT	CITY	465	237
52+40	LT & RT	MN/DOT	33	
52+40 TO 52+55	LT & RT	MN/DOT		44
52+55	LT & RT	MN/DOT	33	
53+30 TO 53+65	RT	CITY	35	
56+02	LT & RT	MN/DOT	26	
56+02 TO 65+50	LT & RT	MN/DOT		2528
65+50	LT & RT	MN/DOT	24	

BITUMINOUS SAWCUT & REMOVAL (CONT.) (F)

STATION TO STATION	LOCATION	FUNDING	BITUMINOUS SAWCUT FULL DEPTH LIN FT	BITUMINOUS REMOVAL AREA SQ YD
NORTH FRONTAGE ROAD				
2+25 TO 3+00	RT	MN/DOT	75	
12+40	LT & RT	MN/DOT	30	
12+40 TO 28+50 (WALKER ST.)	LT & RT	MN/DOT		2886
25+25 TO 25+50	LT	MN/DOT	25	
28+50	LT & RT	MN/DOT	38	
33+00 TO 35+80	RT	MN/DOT	390	
WALKER STREET				
5+80	LT & RT	MN/DOT	28	
WEST LAKE STREET (NORTH)				
10+40 TO 12+80	LT & RT	MN/DOT		2224
11+00 TO 11+25	LT	MN/DOT	25	
12+60	RT	MN/DOT	12	
12+80	LT & RT	MN/DOT	190	
(SOUTH)				
4+65 TO 7+20	LT & RT	CITY		845
4+65 TO 5+10	LT	CITY	45	
4+65 TO 5+10	RT	CITY	45	
5+10	LT & RT	CITY	25	
MONITOR STREET				
46+50 TO 47+90 (SO FRONTAGE RD.)	LT	MN/DOT		692
512+90 TO 515+80 (T H 7 W B)	LT & RT	MN/DOT		1516
45+00 TO 47+80 (LOUISIANA AVE)	LT & RT	MN/DOT		2015
TOTALS				
MN/DOT			7812	40584
STATE AID			75	964
CITY			1400	1329
TOTAL			9287	42877

MILL BITUMINOUS PAVEMENT (I)

STATION TO STATION	LOCATION	FUNDING	DEPTH INCH	MILL BIT PAVEMENT SQ YD
T.H. 7 W.B.				
492+73 TO 497+00	LT/RT	MN/DOT	2.5	807
527+50 TO 531+50	LT/RT	MN/DOT	2.5	992
T.H. 7 E.B.				
492+73 TO 497+00	LT/RT	MN/DOT	2.5	996
527+50 TO 531+50	LT/RT	MN/DOT	2.5	1111
LOUISIANA AVENUE				
32+00 TO 32+50	LT/RT	ST. AID	0-1	31
34+70 TO 34+75	LT/RT	ST. AID	0-1	33
NORTH BYPASS/FRONTAGE RD.				
24+74 TO 25+90	LT/RT	MN/DOT	1.5-16	361
TOTALS				
MN/DOT				4287
ST. AID				64
TOTAL				4331

SAWCUT (FOR TEMPORARY CONSTRUCTION) (H)

STATION TO STATION	LOCATION	BIT SAWCUT (FULL DEPTH) LIN FT	NOTE NO
T H. 7 W.B			
500+71 TO 503+31	LT	260	
504+60 TO 504+80	LT	20	
SOUTH BYPASS			
34+00 TO 34+60	LT	60	
41+30 TO 42+90	LT	163	
43+90 TO 45+30	LT	147	
56+42	LT/RT	28	
NORTH BYPASS			
46+60	LT	63	1
46+75 TO 47+00	LT	110	2
47+05	LT	45	1
47+07 TO 47+50	LT	82	2
47+50	LT	50	1
47+65 TO 48+60	LT	155	
TOTAL(MN/DOT)		1183	

1 SAWCUT FOR TEMPORARY DRAINAGE CONSTRUCTION
2 SAWCUT TO REMOVE ISLANDS

CONCRETE REMOVAL (J)

STATION TO STATION	LOCATION	FUNDING	CONCRETE C&G REMOVAL LIN FT	CONC D/W PAVEMENT REMOVAL SQ FT	CONCRETE SAWCUT DRIVEWAY LIN FT	CONCRETE SIDEWALK REMOVAL SQ FT	CONCRETE STRUCTURE REMOVAL CU YD
T H 7 (E.B.)							
505+00		MN/DOT					20
NORTH FRONTAGE ROAD							
25+00 TO 25+70		MN/DOT	50				
SOUTH FRONTAGE ROAD							
46+30		MN/DOT		270			
46+30	LT	MN/DOT			12		
LOUISIANA AVENUE							
32+05 TO 34+70		STATE AID	1080				
30+15 TO 33+45	RT	STATE AID				1600	
34+00 TO 34+70	RT	STATE AID				350	
37+90 TO 78+80	RT	STATE AID				450	
48+00		STATE AID	50				
TOTALS							
MN/DOT			50	270	12	0	20
STATE AID			1130	0	0	2400	0
CITY			0	0	0	0	0
TOTAL			1180	270	12	2400	20

GUARD RAIL SALVAGE AND REMOVAL (G)

STATION TO STATION	LOCATION	FUNDING	SALVAGE PLATE BEAM LIN FT	REMOVE CABLE LIN FT	SALVAGE TWISTED END TREATMENT EACH	REMOVE TWISTED END TREATMENT EACH
T.H. 7 W.B.						
497+25 TO 513+00	LT	MN/DOT		1650		
515+20 TO 516+40	LT	MN/DOT	125			1
516+40 TO 521+50	LT	MN/DOT		510		
T.H. 7 E.B.						
498+70 TO 511+30	RT	MN/DOT		1450		
511+30 TO 514+25	RT	MN/DOT	300			1
515+70 TO 521+50	RT	MN/DOT		575		
529+10 TO 529+90	RT	MN/DOT	80			1
MONITOR STREET AT BRIDGE	LT & RT	MN/DOT	450		1	3
TOTAL (MNDOT)			955	4185	1	6

TABULATED QUANTITIES

CONCRETE WALK, CURB AND GUTTER, DRIVEWAY PAVEMENT (K)

STATION TO STATION	LOCATION	FUNDING	6" CONC WALK SQ FT	4" CONC WALK SQ FT	3" CONC WALK SQ FT	B624 C&G LIN FT	B618 C&G LIN FT	6" CONC DRIVEWAY PAVEMENT SQ YD
T.H. 7 E.B.								
492+73 TO 500+50	RT	MN/DOT				777		
492+73 TO 511+78	LT	MN/DOT			12382	1853		
511+78 TO 530+40	LT	MN/DOT			14151	1820		
524+64 TO 528+50	RT	MN/DOT				500		
511+14 TO 511+35	ISLAND	MN/DOT		258		69		
512+23 TO 512+70	ISLAND	MN/DOT		874		152		
523+65 TO 524+08	ISLAND	MN/DOT			567		147	
T.H. 7 W.B.								
482+50 (TEXAS AVE)	LT	MN/DOT						
492+73 TO 503+75	LT	MN/DOT			300	1102	150	
492+73 TO 511+78	RT	MN/DOT				1852		
510+90 TO 511+30	ISLAND	MN/DOT		698		130		
512+20 TO 512+50	ISLAND	MN/DOT		313		87		
516+45 TO 523+45	LT	MN/DOT				700		
525+41 TO 528+67	LT	MN/DOT				326		33
511+78 TO 530+55	RT	MN/DOT				1925		
LOUISIANA AVENUE								
30+15 TO 34+00	RT	STATE AID		1650		230		
32+05 TO 34+00	LT	STATE AID				215		
32+05 TO 34+00	MEDIAN	STATE AID			672	265		
34+00 TO 39+40	RT	STATE AID		815		245		
34+00 TO 39+40	LT	STATE AID				185		
34+00 TO 39+40	MEDIAN	STATE AID	66		2016	255		
39+40 TO 43+00	RT	STATE AID		1190		315		
39+40 TO 43+00	LT	STATE AID				350		
39+40 TO 43+00	MEDIAN	STATE AID	96		1451	595		
43+00 TO 47+95	LT	STATE AID				465		
43+00 TO 47+95	RT	STATE AID		1902		425		
43+00 TO 47+95	MEDIAN	STATE AID	96		1759	780		
SO. BYPASS/FRONTAGE								
32+90 TO 42+62	LT	MN/DOT					972	
34+50 TO 36+80	RT	CITY					230	20
37+86 TO 42+67	RT	CITY					481	40
44+13 TO 54+85	LT	MN/DOT					1098	52
44+04 TO 48+45	RT	CITY					490	
48+45 TO 54+85	RT	CITY					610	20
55+64 TO 65+50	LT	MN/DOT					986	
54+85 TO 65+50	RT	CITY					1050	49
WEST LAKE STREET								
5+10 TO 7+38	LT	CITY					215	
5+10 TO 7+38	RT	CITY					250	
10+00 TO 13+00	LT	MN/DOT					240	37
10+00 TO 13+00	RT	MN/DOT					245	31
10+00 TO 13+00	MEDIAN	MN/DOT			4458		534	
11+85 TO 12+50	ISLAND	MN/DOT			1290		159	
TOTALS								
MN/DOT			0	2143	33148	11293	4531	153
STATE AID			258	5557	5898	4325	0	0
CITY			0	0	0	0	3326	129
TOTAL			258	7700	39046	15618	7857	282

3" TEMPORARY BITUMINOUS PAVEMENT (L)

STATION TO STATION	LOCATION	TEMPORARY BIT PAVEMENT SQ YD	NOTE NO
TEMP CONNECTION 1			
10+85 TO 12+97	LT & RT	321	
SO. BYPASS			
16+97 TO 22+00	LT & RT	978	
STAGE 1			
T C 4 / T C. 3	LT & RT	967	
NORTH BYPASS			
25+80 TO 28+90	RT	337	
STAGE 2			
TEMP CONNECTION 3 &			
NORTH BYPASS	LT & RT	1242	(3)
STAGE 3			
TEMP. CONNECTION 4	LT & RT	584	(4)
NORTH BYPASS			
32+00 TO 48+60	LT & RT	5516	
TEMP. CONNECTION 2			
T.H. 7 E.B.			
526+03 TO 530+65	LT & RT	652	
SOUTH BYPASS			
41+30 TO 41+90	LT	93	(5)
44+75 TO 45+30	LT	86	
49+41 TO 54+30	LT & RT	522	
56+42 TO 61+56	LT & RT	1318	
TOTAL (MNDOT)		11299	

NOTES

(1) 4" BIT CURB SHALL BE INCIDENTAL TO TEMPORARY BIT PAVEMENT FOR WHICH NO DIRECT COMPENSATION SHALL BE MADE.

(2) THE CLASS 5 AGGREGATE BASE (6") SHALL BE INCIDENTAL TO THE TEMPORARY BIT PAVEMENT FOR WHICH NO DIRECT COMPENSATION SHALL BE MADE.

(3) BINDER AND WEAR COURSES USED FOR SUPERELEVATION RUNOUT AND OVERLAY SHALL BE PAID FOR BY THE TON. (MN/DOT FUNDING)

LOCATION	2341 BINDER TON	2341 WEAR TON
T.H. 7 STA 501+11 - 502+11	23	23
N.B.P. STA 24+74 - 25+90	41	31
S.B.P. STA 20+40 - 22+65		33

(4) INCLUDES 153 SQ YD OF T.H. 7 SHOULDER WIDENING INSET H. (SEE TYPICAL SECTIONS)

(5) TEMPORARY WIDENING PAVED WITH INSET A SHALL BE PAID FOR BY THE TON, ACCORDING TO THE FOLLOWING. (ST AID FUNDING)

2361 WEAR	15 TON
2341 WEAR	42 TON
2331 BINDER	92 TON

7" BITUMINOUS CURB/BITUMINOUS WALK TABULATION (M)

STATION TO STATION	LOCATION	FUNDING	7" BIT CURB LIN FT	2" BIT WALK SQ FT
T.H. 7 (E.B.)				
487+50 TO 492+73	RT	MN/DOT	523	
488+75 TO 492+73	LT	MN/DOT	398	
528+50 TO 529+90	RT	MN/DOT	140	
T.H. 7 (W.B.)				
487+50 TO 492+73	RT	MN/DOT	523	4294
489+00 TO 492+73	LT	MN/DOT	373	
500+71 TO 502+11	LT	MN/DOT	(1) 140	
528+66 TO 529+75	LT	MN/DOT	109	
SOUTH FRONTAGE ROAD				
8+94 TO 12+65	RT	MN/DOT	365	
8+96 TO 12+65	LT	MN/DOT	369	
31+90 TO 32+90	RT	CITY	100	
31+90 TO 32+90	LT	CITY	100	
NORTH FRONTAGE ROAD				
2+35 TO 3+00	RT	MN/DOT	65	
12+40 TO 28+50	RT	MN/DOT	1610	
12+40 TO 28+50	LT	MN/DOT	1509	
12+75	LT/RT	MN/DOT	(1) 30	
WALKER STREET				
5+80 TO 7+45	RT	MN/DOT	190	
5+80 TO 7+45	LT	MN/DOT	175	
WEST LAKE STREET				
4+65 TO 5+10	RT	CITY	45	
4+65 TO 5+10	LT	CITY	45	
TEMPORARY CONNECTION 4				
2+60 TO 2+90 (STAGE 1)	LT	MN/DOT	(1) 65	
2+60 TO 2+90 (STAGE 3)	LT	MN/DOT	(1) 65	
NORTH BYPASS				
22+11 TO 25+90	LT	MN/DOT	(1) 379	
24+74 TO 25+90	RT	MN/DOT	(1) 116	
TOTALS				
MN/DOT			7110	4294
STATE AID				
CITY			290	
TOTAL			7400	4294

NOTES

(1) 7" BIT CURB USED FOR TEMPORARY CONSTRUCTION

TABULATED QUANTITIES

ROADWAY STRIPING AND PAVEMENT MESSAGES (N)

STATION TO STATION	LOCATION	FUNDING	4" SOLID LINE WHITE-PAINT LIN FT	4" SOLID LINE YELLOW-PAINT LIN FT	4" BROKEN LINE WHITE-PAINT LIN FT	4" DOUBLE SOLID LINE YELLOW-PAINT LIN FT	4" BROKEN LINE YELLOW-PAINT LIN FT	LEFT ARROW EACH	RIGHT ARROW EACH	ONLY EACH
T.H. 7 (W.B.)										
489+00 TO 531+50	VARIES LT	MN/DOT	3463						2	2
489+00 TO 531+50	CENTER LINE	MN/DOT			840					
489+00 TO 531+50	VARIES RT	MN/DOT		3991				2		2
T.H. 7 (E.B.)										
487+50 TO 531+40	VARIES LT	MN/DOT		4720				2		2
487+50 TO 531+40	CENTER LINE	MN/DOT			840					
487+50 TO 531+40	VARIES RT	MN/DOT	4720						3	3
WALKER STREET										
5+80 TO 6+96	CENTER LINE	MN/DOT				116				
NORTH FRONTAGE ROAD										
5+95 TO 14+74	CENTER LINE	MN/DOT				891	150			
24+74 TO 34+15	VARIES LT	MN/DOT	82							
LOUISIANA AVENUE										
32+05 TO 34+70	VARIES LT	STATE AID	133	174						
32+05 TO 34+70	VARIES RT	STATE AID	269	141						
37+90 TO 47+60	VARIES LT	STATE AID	1474	784	160	40		4		4
37+90 TO 47+60	VARIES RT	STATE AID	1336	752	160	40		5	1	5
SOUTH FRONTAGE ROAD										
8+94 TO 65+50	CENTER LINE	MN/DOT					740			
8+94 TO 65+50	VARIES RT	MN/DOT	845							
WALKER STREET										
18+38 TO 20+35	CENTER LINE	CITY								
18+38 TO 20+35	VARIES RT	CITY	106				197			
WEST LAKE STREET										
	CENTER LINE	CITY								
TOTALS										
MN/DOT			9090	8711	1680	1007	890	4	5	9
STATE AID			3212	1851	320	80		9	1	10
CITY			106			235	197			
TOTALS			12408	10562	2000	1322	1087	13	6	19

INTERSECTION PAVEMENT MARKING (O)

LOCATION	FUNDING	24" STOP BAR WHITE-PAINT LIN FT	12" STOP BAR WHITE-PAINT LIN FT	8" SOLID LINE WHITE-PAINT LIN FT	8" SOLID LINE YELLOW-PAINT LIN FT	CROSSWALK MARKING WHITE-PAINT SQ FT
T.H. 7 & LOUISIANA AVENUE	MN/DOT	332		655	831	1224
T.H. 7 W.B. & LAKE STREET	MN/DOT			310	259	
T.H. 7 & SOUTH FRONTAGE ROAD	MN/DOT			87	153	
WEST LAKE STREET & SOUTH FRONTAGE ROAD	MN/DOT		23			
HAMPSHIRE AVENUE & SOUTH FRONTAGE ROAD	MN/DOT		41			
WALKER STREET & NORTH FRONTAGE ROAD	MN/DOT		15			
LOUISIANA AVENUE & NORTH FRONTAGE ROAD	STATE AID		124			270
TOTALS						
MN/DOT		332	79	1052	1243	1224
STATE AID			124			270
TOTAL		332	203	1052	1243	1494

TURF ESTABLISHMENT (P)

STATION TO STATION	LOCATION	FUNDING	LAWN SQ YD	SODDING EROSION CONTROL SQ YD	ROADSIDE SEEDING ACRE	SEED MIXTURE 500 POUNDS	MULCH TYPE 1 TONS	MULCH MATERIAL TYPE 5 TONS	DISC ANCHORING ACRE	COMMERCIAL FERTILIZER 10-20-20 POUNDS
T.H. 7 W.B										
489+00 TO 503+88	LEFT	MN/DOT		2025						188
492+85 TO 495+85	LEFT	MN/DOT			0.05	4	0.10	0 00	0.05	23
503+13 TO 511+03	LEFT	MN/DOT			0.70	49	1 40	0.00	0.70	315
508+90 TO 510+63	LEFT	MN/DOT		283						26
512+40 TO 522+90	LEFT	MN/DOT			1.35	95	1 30	0.53	0.65	608
516+31 TO 523+53	LEFT	MN/DOT	310	1239						144
525+42 TO 529+74	LEFT	MN/DOT		270						25
525+42 TO 530+36	LEFT	MN/DOT			0.25	18	0.50	0.00	0 25	113
T.H. 7 E.B.										
487+37 TO 500+58	RIGHT	MN/DOT		1775						165
487+37 TO 495+98	RIGHT	MN/DOT			0 20	14	0 40	0.00	0.20	90
498+90 TO 511+11	RIGHT	MN/DOT			1.65	116	3 30	0.00	1.65	743
512+82 TO 523+52	RIGHT	MN/DOT			0.75	53	1.50	0.00	0 75	338
515+93 TO 523+60	RIGHT	MN/DOT		1947						181
524+18 TO 531+52	RIGHT	MN/DOT		475						44
524+30 TO 528+52	RIGHT	MN/DOT			0.20	14	0 40	0.00	0.20	90
SOUTH FRONTAGE ROAD										
8+90 TO 12+75	RIGHT	CITY	474							44
31+80 TO 32+91	RIGHT	CITY		67						6
31+80 TO 32+91	RIGHT	CITY			0.05	4	0.10	0 00	0.05	23
34+35 TO 37+10	RIGHT	CITY		634						60
37+65 TO 39+57	RIGHT	CITY		77						7
39+57 TO 42+90	RIGHT	CITY	333							31
43+86 TO 48+60	RIGHT	CITY	666							62
48+60 TO 53+59	RIGHT	CITY		755						70
53+59 TO 54+87	RIGHT	CITY	202							19
54+87 TO 65+65	RIGHT	CITY		1803						167
8+90 TO 42+90	LEFT	MN/DOT		1213						113
32+90 TO 42+85	LEFT	MN/DOT			0.15	11	0.30	0.00	0 15	68
43+85 TO 49+83	LEFT	MN/DOT		309						29
51+45 TO 54+66	LEFT	MN/DOT		201						19
43+88 TO 49+83	LEFT	MN/DOT			0.30	21	0.20	0.15	0.10	135
51+32 TO 53+68	LEFT	MN/DOT			0.05	4	0 10	0.00	0.05	23
55+24 TO 65+65	LEFT	MN/DOT		710						66
55+30 TO 65+94	LEFT	MN/DOT			0.35	25	0.70	0.00	0 35	158
WEST LAKE STREET										
4+65 TO 7+01	LEFT	CITY		403						37
4+65 TO 7+02	RIGHT	CITY		189						18
4+65 TO 6+98	RIGHT	CITY			0.05	4	0.10	0.00	0.05	23
10+05 TO 11+83	LEFT	MN/DOT	335							31
11+20 TO 13+24	RIGHT	MN/DOT		344						32
11+25 TO 12+74	RIGHT	MN/DOT			0.05	4	0.10	0.00	0.05	23
NORTH FRONTAGE ROAD										
12+28 TO 27+38	LEFT	CITY	1118							104
27+88 TO 28+61	LEFT	CITY	197							18
12+40 TO 28+65	RIGHT	MN/DOT		502						47
13+36 TO 28+65	RIGHT	MN/DOT			0.15	11	0.30	0.00	0.15	68
31+36 TO 34+51	RIGHT	MN/DOT		150						14
31+30 TO 34+46	RIGHT	MN/DOT			0.65	46	0.30	0.38	0.15	293
33+39 TO 34+12	LEFT	CITY		19						2
NE QUAD LOUIS & WALK	LEFT	CITY		20						2
LOUISIANA AVENUE										
28+90 TO 29+97	LEFT	STATE AID		488						45
29+94 TO 34+80	RIGHT	STATE AID	1301							121
31+95 TO 34+80	LEFT	STATE AID	872							81
37+78 TO 38+87	RIGHT	STATE AID	142							13
37+82 TO 38+82	LEFT	STATE AID	99							9
39+50 TO 42+30	LEFT	STATE AID		188						16
39+53 TO 42+27	LEFT	STATE AID			0.40	28	0.80	0.00	0.40	180
39+53 TO 42+10	RIGHT	STATE AID		164						15
39+85 TO 42+15	RIGHT	STATE AID			0.30	21	0 00	0.23	0.00	135
43+88 TO 47+54	LEFT	STATE AID		400						37
44+02 TO 47+49	LEFT	STATE AID			0.16	11	0.32	0.00	0.16	72
43+83 TO 47+32	RIGHT	STATE AID		439						41
43+89 TO 47+41	RIGHT	STATE AID			0.94	66	0.38	0.56	0.19	423
WALKER STREET										
5+80 TO 6+30	LEFT	MN/DOT	374							35
5+80 TO 6+32	RIGHT	MN/DOT	445							41
TOTALS										
MN/DOT			1464	11443	7.54	527	11.99	1.16	6 00	4717
STATE AID			2414	1659	1.98	139	1 65	0.87	0 83	1307
CITY			2990	3967	0.11	8	0.22	0.00	0.11	762
TOTAL			6868	17069	9 63	674	13.86	2 02	6 93	6786

INTERIM SEEDING TABULATION (Q)

STATION TO STATION	LOCATION	FUNDING	ROADSIDE SEEDING ACRE	SEED MIXTURE 500 POUNDS	MULCH TYPE 1 TONS	MATERIAL TYPE 5 TONS	DISC ANCHORING ACRE	COMMERCIAL FERTILIZER 10-20-20 POUNDS
SOUTH BYPASS								
16+97 TO 19+41	RIGHT	MN/DOT	0.10	7	0.20		0.10	45
20+21 TO 21+97	LEFT	MN/DOT	0.05	4	0.10		0.05	23
22+43 TO 23+61	LEFT	MN/DOT	0.05	4	0.10		0.05	23
41+30 TO 45+30	LEFT	MN/DOT	0.20	14	0 40		0.20	90
49+31 TO 54+33	LEFT	MN/DOT	0.15	11	0.30		0.15	68
56+32 TO 59+47	LEFT	MN/DOT	0.15	11	0.30		0.15	68
56+32 TO 61+03	RIGHT	MN/DOT	0.20	14	0.40		0.20	90
TEMPORARY CONNECTION 3								
STAGE 1								
11+16 TO 12+54	RIGHT	MN/DOT	0.10	7	0.20		0.10	45
11+29 TO 12+75	LEFT	MN/DOT	0.05	4	0.10		0.05	23
STAGE 2								
13+43 TO 25+90	RIGHT	MN/DOT	0.10	7	0.20		0.10	45
STAGE 3								
11+29 TO 12+24	LEFT	MN/DOT	0.05	4	0.10		0.05	23
11+18 TO 12+70	RIGHT	MN/DOT	0.05	4	0.10		0.05	23
NORTH BYPASS								
22+11 TO 25+90	LEFT	MN/DOT	0.20	14	0.40		0.20	90
32+00 TO 46+12	RIGHT	MN/DOT	2.30	161	3.50	0.41	1.75	1035
34+33 TO 46+72	LEFT	MN/DOT	0.90	63	1.80		0.90	405
47+63 TO 48+73	LEFT	MN/DOT	0.05	4	0.10		0.05	23
T H. 7 E.B.								
503+66 TO 507+93	RIGHT	MN/DOT	0.35	25	0.70		0.35	158
T H. 7 W.B.								
500+70 TO 502+11	LEFT	MN/DOT	0.05	4	0.10		0.05	23
WEST LAKE STREET								
11+25 TO 11+74	RIGHT	MN/DOT	0.05	4	0.10		0.05	23
TOTALS								
MN/DOT			5.67	403	10.12	0.45	5.06	2555
STATE AID			0.00	0	0.00	0.00	0.00	
CITY			0.00	0	0.00	0.00	0.00	
TOTAL			5.67	403	10 12	0.45	5.06	2555

NOTES

1. SEED MIXTURE WEIGHT BASED ON APPLICATION RATE OF 70#/ACRE
2. MULCH WEIGHT BASED ON APPLICATION RATE OF 2 TONS/ACRE FOR TYPE 1 & 0.75 TONS/ACRE FOR TYPE 5
3. FERTILIZER WEIGHT BASED ON APPLICATION RATE OF 450#/ACRE
4. SEEDING ACREAGE, SEED, FERTILIZER, MULCH, & DISC ANCHORING QUANTITY TOTALS ARE INCREASED BY 10% TO PROVIDE FOR SLOPE DISTANCES

TABULATED QUANTITIES

TPPC BARRIER TABULATION (R)

PHASE	LOCATION	FURNISH AND INSTALL LIN FT	RELOCATE LIN FT	REFLECTORS EACH	IMPACT BARRELS FURNISH AND INSTALL EACH	IMPACT BARRELS RELOCATE EACH
STAGE 1	FROM E.B. TH 7 STA 502+20, RT. TO E.B TH 7 STA 508+00, RT.	580		19		
STAGE 1	FROM WALKER STREET STA. 31+70, RT. TO WALKER STREET STA. 36+70, RT.	500		17		
STAGE 1	FROM E.B. TH 7 STA. 527+10, RT. TO E.B. TH 7 STA. 530+00, RT.	290		10		
STAGE 2	FROM E.B. TH 7 STA. 487+60, RT. TO E.B. SOUTH BYPASS STA. 22+60, RT.		500		9	
STAGE 2	FROM W.B. TH 7 STA. 487+95, RT. TO E.B. TH 7 STA. 493+05, RT.	430	80	14	18	
STAGE 2	FROM W.B. TH 7 STA. 526+95, RT. TO W.B. TH 7 STA. 529+85, RT.		290		9	
STAGE 3	FROM E.B. TH 7 STA. 487+95, LT. TO E.B. TH 7 STA. 492+65, RT.		470			9
STAGE 3	FROM WALKER STREET STA. 33+80, LT. TO WALKER STREET STA. 36+60, RT.		330			
STAGE 3	FROM W.B. TH 7 STA. 486+00, RT. TO W.B. TH 7 STA. 503+35, RT.	1330	210	44		
STAGE 3	FROM W.B. TH 7 STA. 525+25, RT. TO W.B. TH 7 STA. 529+95, RT.	140	290	5		9
STAGE 4	FROM E.B. TH 7 STA. 487+95, LT. TO E.B. TH 7 STA. 492+65, RT.		510			18
STAGE 4	FROM W.B. TH 7 STA. 491+40, RT. TO E.B. TH 7 STA. 504+20, LT		1290			
STAGE 4	FROM WALKER STREET STA. 31+70, RT. TO WALKER STREET STA. 36+70, RT.		450			
STAGE 4	FROM E.B. TH 7 STA. 515+25, LT. TO W.B. TH 7 STA 529+55, LT	910	520	30		
STAGE 4	FROM E.B. TH 7 STA. 527+80, RT. TO W.B. TH 7 STA. 529+90, RT.	260		9		9
TOTAL	(MN/DOT)	4440	4940	148	36	45

CLEARING & GRUBBING (S)

STATION TO STATION	LOCATION	FUNDING	TREE	CLEAR & GRUB ACRE
T.H. 7 W.B.				
510+00 TO 510+60	LT	MN/DOT		0.05
513+60 TO 515+60	LT	MN/DOT		0.15
518+30	LT	MN/DOT	1	
519+00	LT	MN/DOT	2	
520+00	LT	MN/DOT	1	
528+00	LT	MN/DOT	1	
T.H. 7 E.B.				
514+00	RT	MN/DOT	1	
515+00	RT	MN/DOT	2	
SOUTH FRONTAGE ROAD				
34+75 TO 35+00	RT	CITY	3	
36+90 TO 37+15	RT	CITY	3	
44+70 TO 46+10	LT	MN/DOT	15	
46+55	LT	MN/DOT	1	
47+80 TO 48+10	LT	MN/DOT		0.05
56+70	LT	MN/DOT	1	
56+90 TO 61+00	LT	MN/DOT	8	
LOUISIANA AVENUE				
45+50 TO 47+00	LT/RT	STATE AID		
47+35	LT	STATE AID	4	
TOTALS				
MN/DOT			33	0 25
STATE AID			4	0 25
CITY			6	
TOTAL			43	0 50

SALVAGE INPLACE SIGNS (T)

STATION	LOCATION	TYPE	STATION	LOCATION	TYPE	STATION	LOCATION	TYPE
			T H 7 WB(CONT)					
T.H. 7 EB			521+90	RT	C	N. FRONTAGE RD.		
488+30	LT	C	522+80	LT	C	13+15	RT	C
489+00	LT	C	522+80	RT	C	14+00	RT	D
490+90	LT	C	523+15	RT	C	14+10	LT	C
491+95	LT	C	524+80	LT	C	14+30	LT	D
495+55	LT	C	525+10	LT	C	25+00	RT	C
496+60	RT	C	526+60	LT	C	26+45	LT	C
497+05	LT	C	526+60	RT	C	27+45	LT	C
498+55	LT	C	528+10	RT	C	27+55	RT	C
500+05	LT	C	528+20	LT	C	27+65	RT	D
501+55	LT	C	528+52	LT	C	27+85	LT	C
503+05	LT	C	529+95	LT	C			
504+55	LT	C	(MONITOR ST.)			W. LAKE ST.		
506+05	LT	C	514+45	LT	C	(NORTH)		
507+55	LT	C				10+40	CL	C
508+05	RT	C	S. FRONTAGE RD.			10+80	CL	C
508+60	RT	C	10+15	RT	C	10+80	RT	C
514+20	RT	C	10+15	LT	C	11+30	CL	C
517+05	LT	C	11+60	RT	C	11+70	RT	C
518+60	LT	C	12+55	LT	C	11+70	LT	C
520+10	LT	C	12+65	LT	C	11+90	LT	C
521+55	RT	C	13+00	LT	C	11+90	LT	C
521+70	RT	C	13+50	RT	C	12+30	LT	C
522+10	RT	C	34+60	LT	C	(SOUTH)		
522+10	RT	C	35+65	RT	C	6+TO	RT	C
523+25	RT	C	36+00	RT	C	6+60	LT	C
524+20	LT	C	36+55	RT	C			
524+30	LT	C	37+50	LT	C	LOUISIANA AVE.		
525+20	RT	C	37+65	RT	C	33+20	LT	C
526+00	LT	C	37+70	RT	C	33+65	LT	C
526+00	RT	C	38+50	LT	C	34+25	RT	C
526+40	LT	C	38+65	RT	C	37+30	RT	C
527+90	LT	C	38+95	RT	C	37+30	LT	C
529+65	LT	C	39+10	LT	C	38+80	RT	C
529+90	RT	C	39+35	LT	C	39+00	RT	C
530+05	LT	C	39+65	RT	C	39+00	LT	C
			42+50	RT	C	39+40	RT	C
T.H. 7 WB			42+90	RT	C	44+60	RT	D
489+00	RT	C	42+95	RT	C	(MONITOR ST)		
492+95	RT	C	43+40	RT	C	46+00	RT	C
494+05	RT	C	44+80	RT	C	46+65	LT	C
494+20	LT	C	45+00	LT	C	47+05	LT	C
494+20	RT	C	45+65	LT	D	47+35	RT	C
496+00	RT	C	46+50	RT	C	47+40	RT	C
497+20	LT	C	47+15	RT	C	47+40	LT	C
508+65	LT	C	47+15	LT	C	47+55	RT	C
509+05	RT	C	47+95	RT	C	47+55	RT	C
510+55	RT	C	47+95	LT	C	47+70	LT	C
512+05	RT	C	48+80	RT	C			
513+55	RT	C	50+60	RT	C			
515+20	LT	C	52+20	LT	C			
515+55	RT	C	54+20	RT	C			
515+85	RT	C	54+60	RT	C	TOTALS	TYPE C	TYPE D
515+85	LT	C	57+20	RT	C			
517+20	LT	C	59+00	RT	C			
520+10	RT	C	61+05	RT	C	MN/DOT	107	4
520+95	RT	C	64+65	LT	C	STATE AID	19	1
521+48	LT	C	(MONITOR ST)			CITY	20	1
521+90	LT	C	46+90	LT	C			
			47+00	LT	C	TOTAL	146	6

NOTE:
SALVAGING INPLACE SIGNS SHALL BE STAGED AS DIRECTED BY THE ENGINEER.

TABULATED QUANTITIES

TEMPORARY PAVEMENT MARKING (U)

STATION TO STATION	4" SOLID LINE-WHITE PAINT LIN FT	4" BROKEN LINE-WHITE PAINT LIN FT	4" SOLID LINE-YELLOW PAINT LIN FT	4" BROKEN LINE-YELLOW PAINT LIN FT	4" SOLID DOUBLE LINE YELLOW-PAINT LIN FT	12" LINE-WHITE PAINT LIN FT	8" SOLID LINE-WHITE PAINT LIN FT	8" SOLID LINE-YELLOW PAINT LIN FT	TEMP RAISED PAVEMENT MARKERS EACH
STAGE 2									
SOUTH BYPASS STA. 18+90 TO 61+45	4745	900	4311						820
TEMP CONNECTION NO 1 STA. 487+50 TO TEMP CONNECTION NO.2 STA 530+40	4295	900	3955						826
TEMP CONNECTION NO.4	410					15			41
NORTH BYPASS STA. 25+50 TO 33+20	120			200					12
LOUISIANA AVENUE STA. 35+65 TO 38+85			350						35
STAGE 3									
T H. 7 W.B. STA. 487+50 TO 491+30	380	100	380						76
NORTH BYPASS STA. 21+55 TO 53+00	3085	600	3050					200	593
TEMP CONNECTION NO.3	215	20	315				135		46
LAKE STREET STA. 13+40 TO 14+10					80				
SOUTH BYPASS STA. 49+50 TO 55+20			570						57
STAGE 4									
TEMP CONNECTION NO.1 STA. 487+50 TO TEMP CONNECTION NO.2 STA. 530+40	4585	900	4355						895
NORTH BYPASS STA 27+80 TO 34+10	630	100							
LOUISIANA AVENUE STA. 39+45 TO 42+60	360		350						71
STAGE 5									
SOUTH FRONTAGE ROAD STA 18+90 TO 65+80	495			800	375				
NORTH FRONTAGE ROAD STA. 22+50 TO 34+10	60			100	820				
TOTAL (MN/DOT)	19360	3520	17636	1100	1275	15	135	200	3472

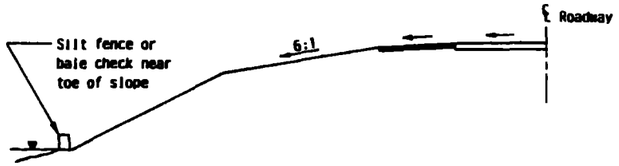
REMOVABLE PREFORMED PLASTIC MARKING (V)

STATION TO STATION	4" SOLID DOUBLE LINE YELLOW TAPE LIN FT	4" SOLID LINE-WHITE TAPE LIN FT	TEMP RAISED PAVEMENT MARKERS EACH
STAGE 1			
SOUTH BYPASS STA. 40+30 TO 45+60	460	505	51
STAGE 1 PHASE A			
LOUISIANA AVENUE	1205		
SOUTH BYPASS STA. 40+90 TO 45+70	450	480	48
STAGE 1 PHASE B			
LOUISIANA AVENUE	1220		
STAGE 1 PHASE C			
NORTH BYPASS	455	435	44
STAGE 1 PHASE D			
WALKER STREET TO NORTH BYPASS	320		
TOTAL (MN/DOT)	4110	1420	143

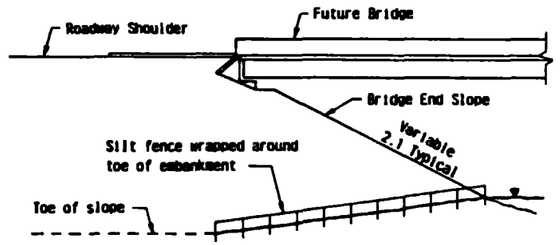
PAVEMENT MARKING REMOVALS (W)

STAGE	BROKEN LINE PAINT LIN FT	EDGE LINE PAINT LIN FT	
STAGE 1	310	520	
STAGE 2	920	525	
STAGE 3	1020	2110	
STAGE 4	4065	9450	
TOTAL (MN/DOT)	6315	12605	

TABULATED QUANTITIES

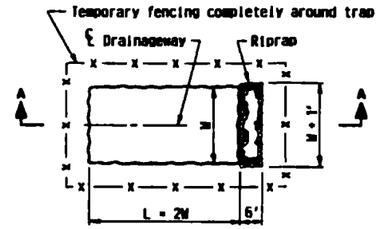


ROADWAY EMBANKMENT

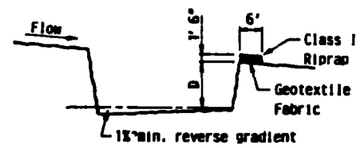


BRIDGE ABUTMENT

SILT FENCE OR BALE CHECK TO PROTECT ADJACENT CRITICAL AREAS



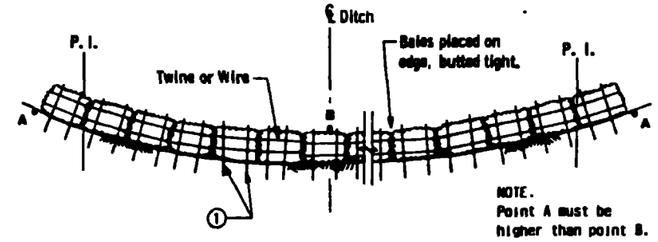
PLAN



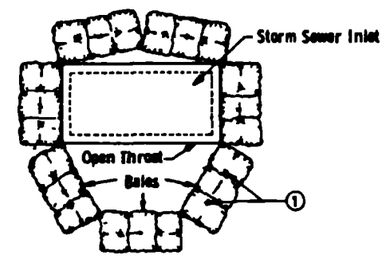
SECTION A-A

NOTE.
D = 3' min., 6' max.
W = 10' min., 20' max.

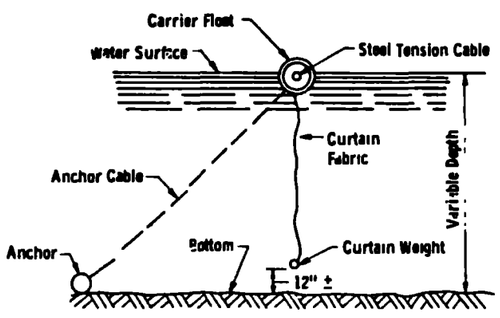
TEMPORARY SEDIMENT TRAP



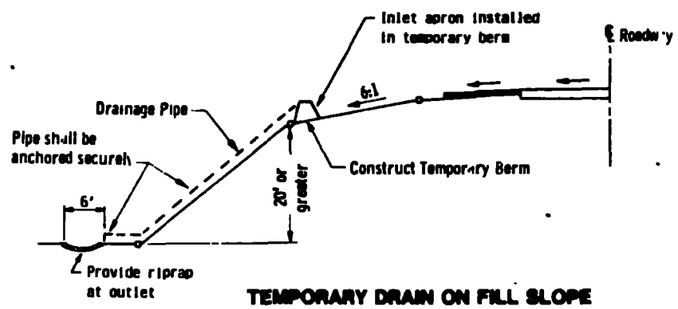
BALE DITCH CHECK



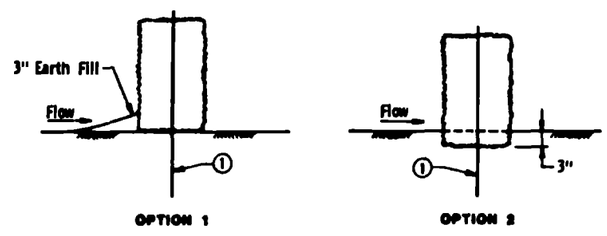
BALE CHECK TO PROTECT STORM SEWER INLETS



FLOATATION SILT CURTAIN

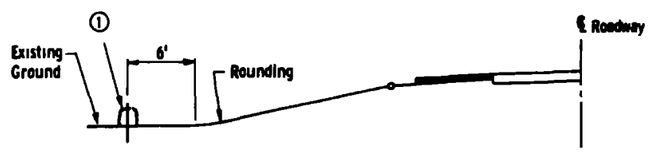


TEMPORARY DRAIN ON FILL SLOPE

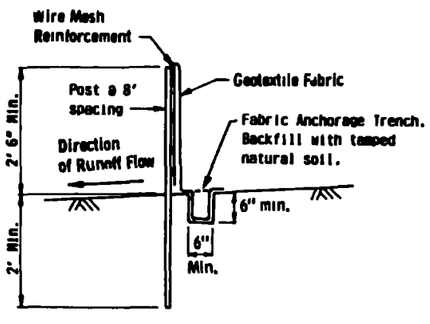


OPTION 1 OPTION 2

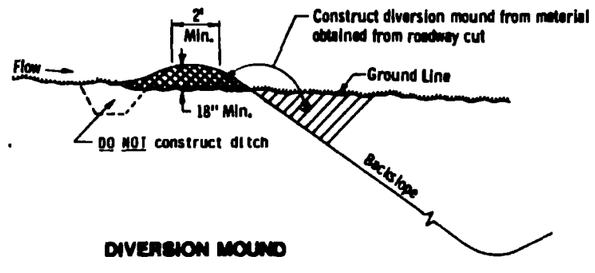
BALE CHECK DETAILS



BALE DIVERSION



SILT FENCE DETAIL



DIVERSION MOUND

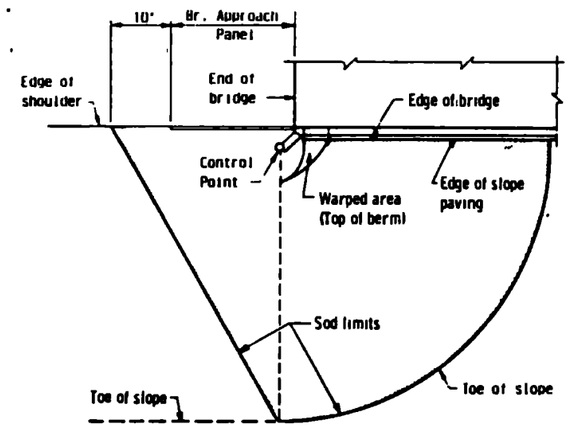
NOTE:

1 Two 2" x 2" Wood Stakes or Reinforcing Bars in each bale and embedded in the ground 10" minimum.

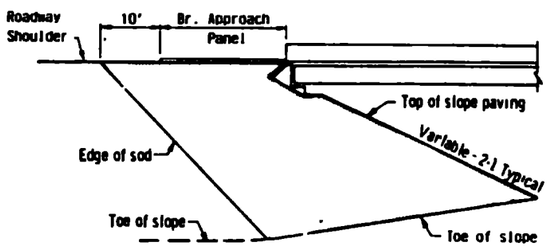
APPROVED January 31, 1985
R.D. Kirk
Director
OFFICE OF ENGINEERING STANDARDS

TEMPORARY EROSION CONTROL

State Proj. No. S.A.P. No. 163-276-24 (T.H.7) Sheet No. 66 of 197 Sheets

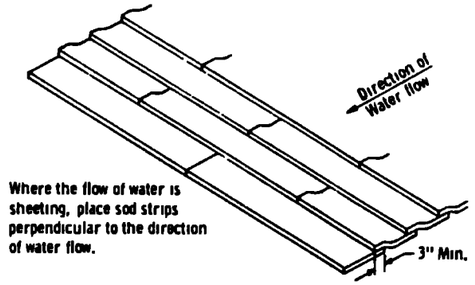


PLAN

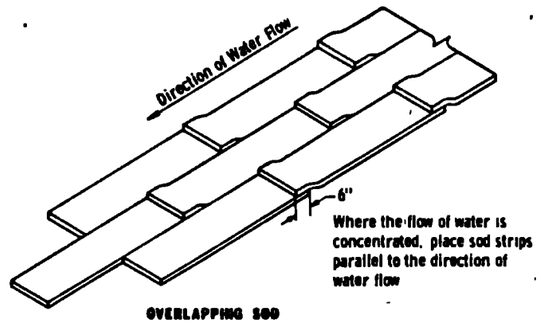


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

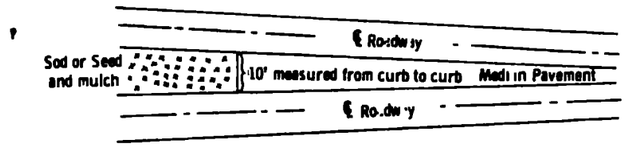


SHINGLING SOD

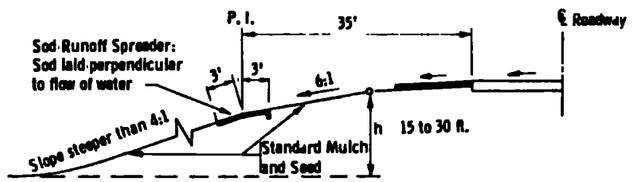


OVERLAPPING SOD

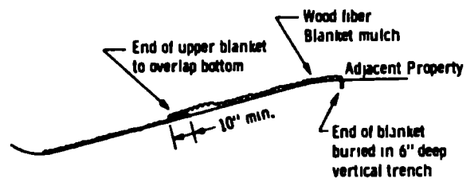
SPECIAL SOD PLACEMENT TECHNIQUES



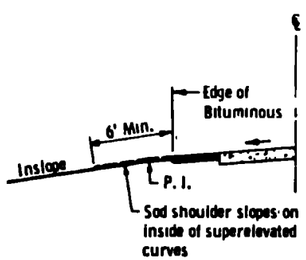
SODDING LIMITS AT GORE AREA



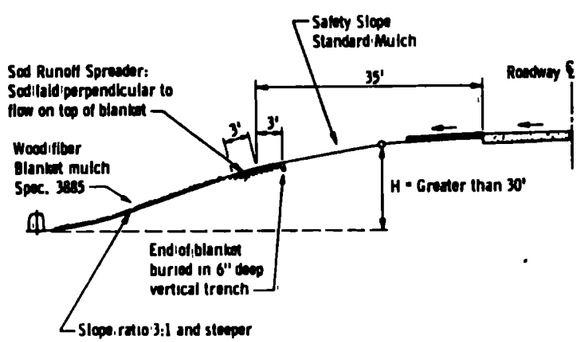
BROKEN - BACK SAFETY FILL SLOPE



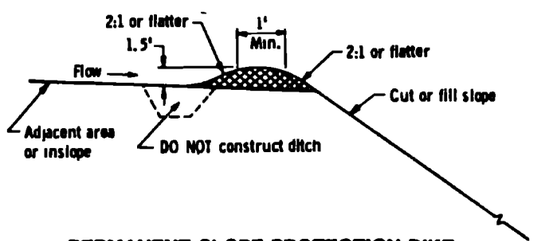
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



SODDING INSLOPES OF SUPERELEVATED CURVES



WOOD FIBER BLANKET INSTALLATION ON A BACKSLOPE (WHEN REQUIRED)

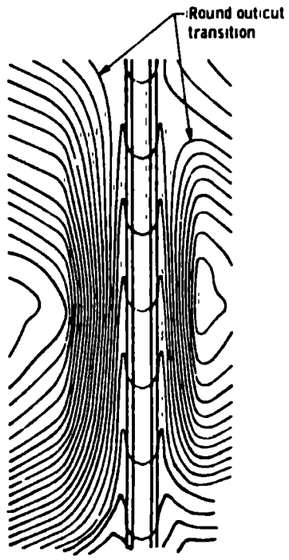


PERMANENT SLOPE PROTECTION DIKE

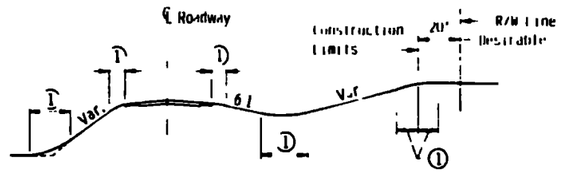
APPROVED January 31, 1985

Director
OFFICE OF ENGINEERING STANDARDS

PERMANENT EROSION CONTROL

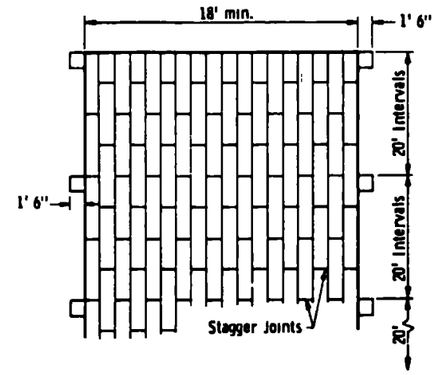


CONTOURING ROAD CUTS

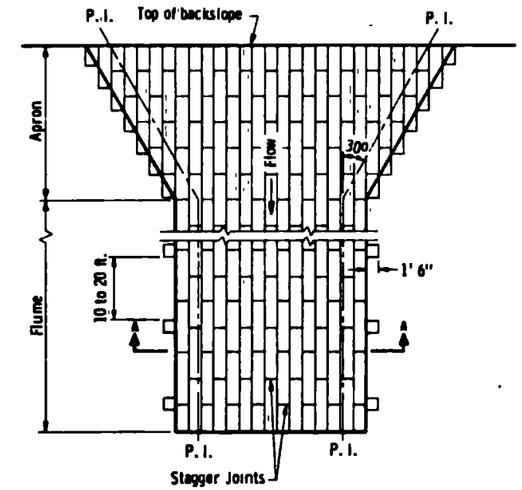


ROUNDING SHOULDERS AND BACKSLOPES

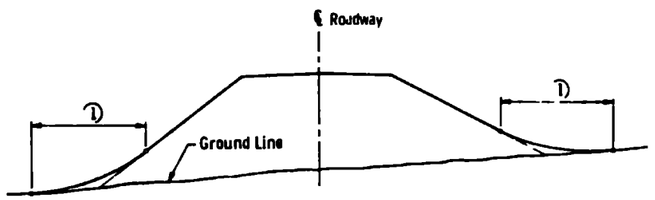
(1) Rounding per typical sections



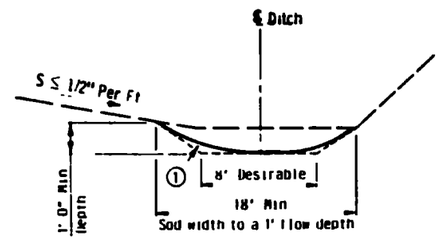
PLAN
(ENLARGED)



PLAN

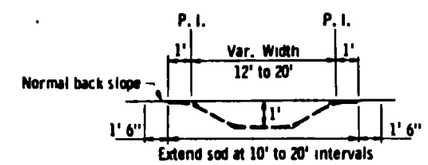


SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES

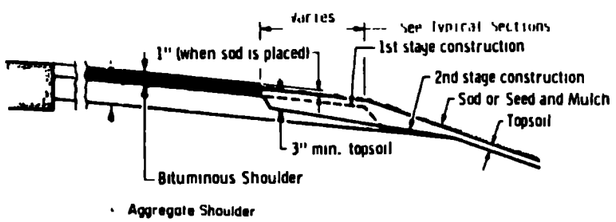


SODDED DITCH CROSS SECTION

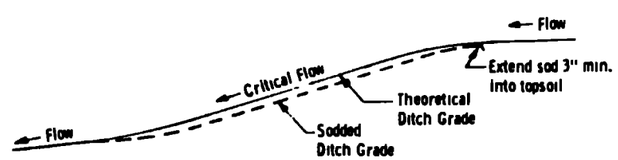
Where front or back slope is flat (less than 1/2"/ft.), first notch ditch and than provide rounding



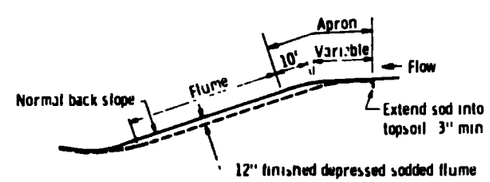
SECTION A-A



SHAPING AND TOPSOILING INSLOPES



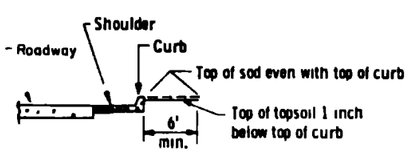
DITCH PROFILE



LONGITUDINAL CROSS SECTION

SODDED FLUME DETAILS

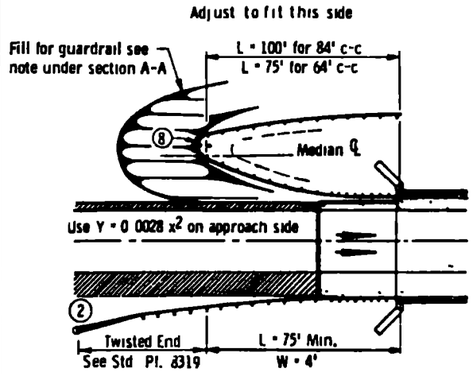
SODDED DITCH DETAILS



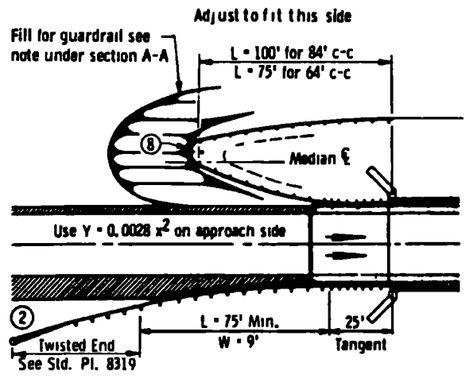
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED

APPROVED January 31 1985
R. A. Kipp
Director
OFFICE OF ENGINEERING STANDARDS

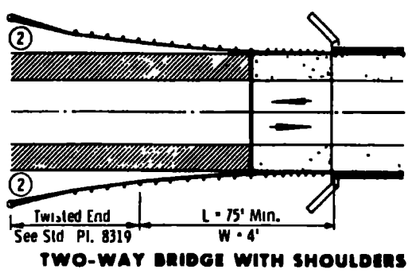
PERMANENT EROSION CONTROL



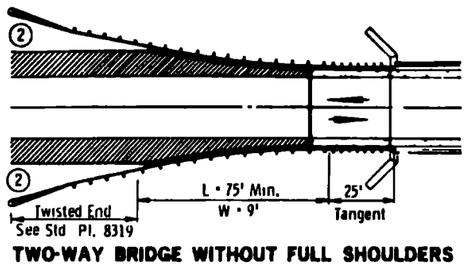
ONE-WAY BRIDGE WITH SHOULDER



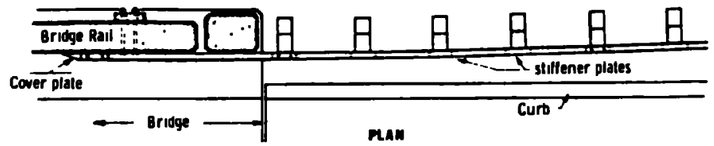
ONE-WAY BRIDGE WITHOUT FULL RIGHT SHOULDER

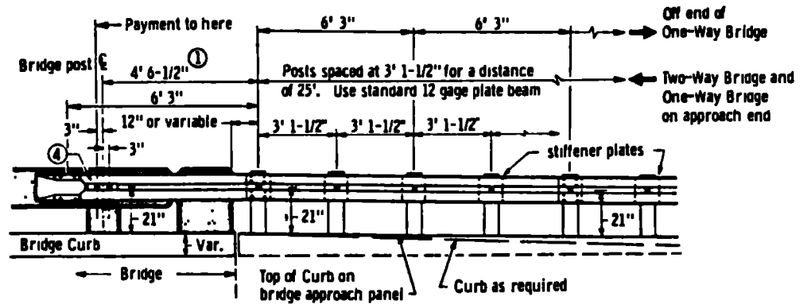


TWO-WAY BRIDGE WITH SHOULDERS

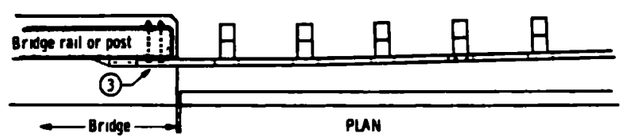


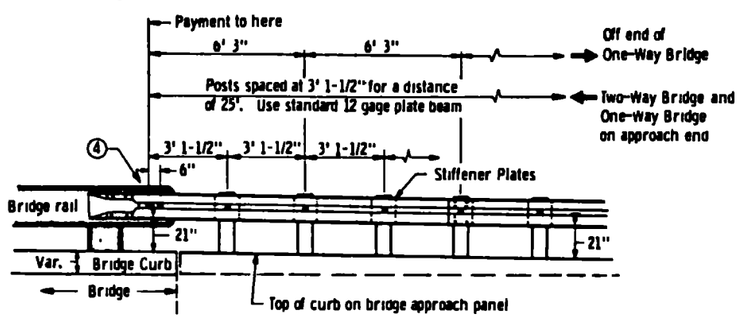
TWO-WAY BRIDGE WITHOUT FULL SHOULDERS





ELEVATION
TYPICAL TREATMENT B

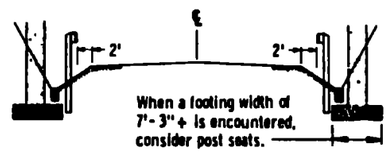




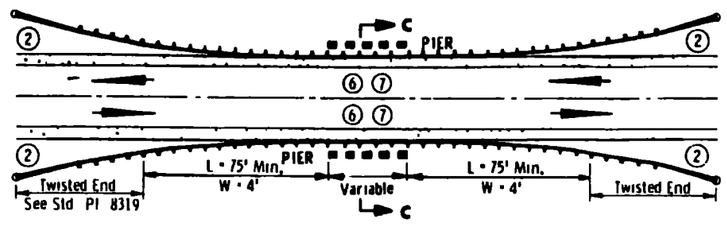
ELEVATION

TYPICAL TREATMENT A

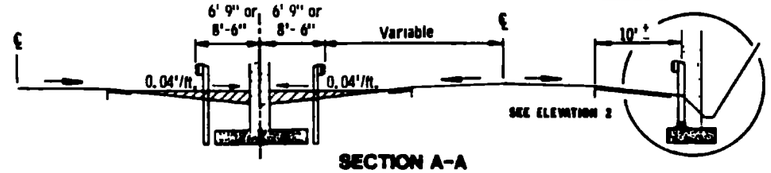
GUARDRAIL CONNECTION TO BRIDGE



SECTION C-C

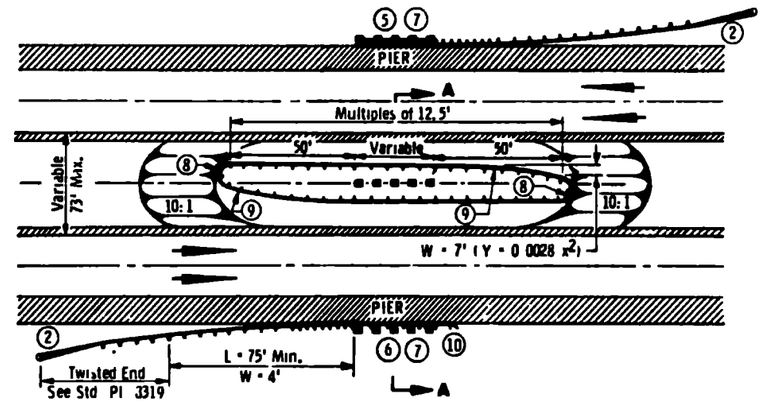


TWO-WAY UNDERPASS

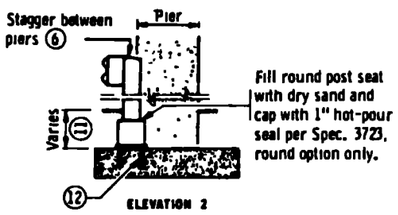


SECTION A-A

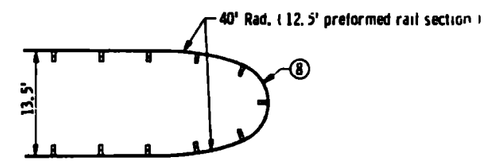
The median ditch shall be filled to provide an elevation of guardrail approximately (within 6" ±) the same as if installed on the shoulder. Extend fill to guardrail nose and taper to median ditch on 10:1 slope.



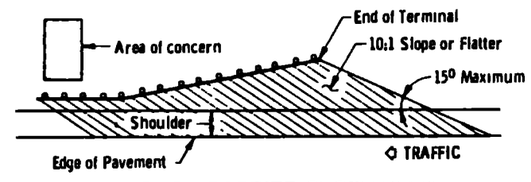
UNDERPASS-DEPRESSED MEDIAN



POST SEAT FOR ANCHORAGE ON FOOTINGS



ALTERNATE GUARDRAIL INSTALLATION ⑦



APPROACH BARRIER SLOPE DETAIL

NOTES:

All guardrail posts shall be 6' 3" c. to c. except where noted.

The required L length and W offset shall be determined in the field by the engineer.

When the approaching flare can be buried in the backslope eliminate the twisted end and add required rail length to reach backslope.

See Road Design Manual 10-7.03 for design parameters.

The latest approved Standard Plates shall apply 8307, 8316, 8317, 8319.

(1) Use the standard 6' 3" section with 4' 6-1/2" dimension wherever feasible. Lengths are tabulated in plans for various types of corner posts and/or railings.

(2) See approach barrier slope detail for suggested slopes in this area.

(3) Drill holes for two 1-1/4" bolts, lock two nuts. Where W exceeds 15", 1-1/4" bolt anchorages, Spec. 3387, may be used. Embed 6 inches minimum in concrete. Allow 1/16" clearance after tightening bolt anchorages.

(4) See Standard Plate 8317 "Guardrail Anchorage Assembly for Bridges" for cover plate and bearing plate details.

(5) Concrete barrier wall between pier columns. See sheet N/A for wall details. Connect guardrail to barrier wall anchorage plate Std. Plate 8318.

(6) Use 3' 1-1/2" post spacing between and at the upstream end of piers when less than 2' from face of rail to face of pier.

(7) Notes (5), (6) and Alternate Guardrail as determined by designer and specified on sheet N/A.

(8) 5 foot radius nose section (12.5' preformed rail section, see Fig. 10-7.02A Road Design Manual).

(9) 25' of field formed, plus 25' of preformed (40' radius) rail sections.

(10) Extend downstream past hazard sufficient length to provide terminal section for anchorage. (see 10-7.06(16) Road Design Manual).

(11) If embedment is greater than 3' 0" or if embedment is 2' 6" to 3' 0" and adjacent posts are embedded 3' 0" or more, post seat is not required.

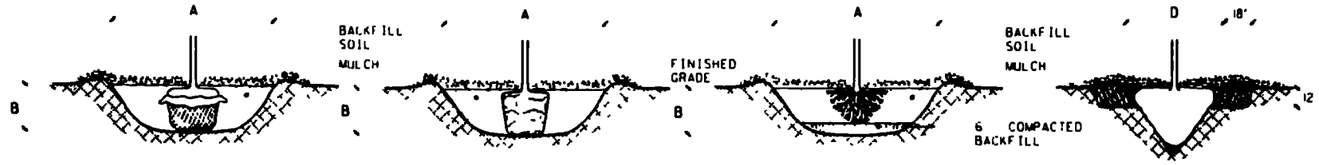
(12) 3/4" bolt anchorages for fastening post seat shall have an ultimate pull out strength of at least 13,500 lbs. and shall be installed in sound concrete to a depth equal to at least six times the bolt diameter.

APPROVED May 8, 1984
R. O. Kipp
Director
OFFICE OF ENGINEERING STANDARDS

GUARDRAIL IMPROVEMENTS FOR BRIDGES AND PIERS

PLANTING HOLE DIMENSIONS

PLANT TYPE	PLANT SIZE (UP TO AND INCLUDING)	MINIMUM HOLE WIDTH (INCHES) A	APPROXIMATE HOLE DEPTH (INCHES) B
EVERGREEN TREES	3' B.B.	42	11
	4' B.B.	51	13
	5' B.B.	60	13
	6' B.B.	66	15
	7' B.B.	72	16
	8' B.B.	81	18
	9' B.B.	90	20
	10' B.B.	102	21
SHADE & FLOWERING TREES	1" B.R.	54	14
	1¼" B.R.	60	14
	1½" B.R.	66	15
	1¾" B.R.	72	16
	2" B.R.	84	19
	2" B.B.	72	16
	2½" B.B.	84	19
	3" B.B.	96	20
	3½" B.B.	114	23
	4" B.B.	126	25
EVERGREEN SHRUBS (UPRIGHT)	2' B.B.	36	9
	3' B.B.	48	12
	4' B.B.	63	14
EVERGREEN SHRUBS (SPREADING)	18" spread B.B.	30	8
	2' spread B.B.	36	9
	2½' spread B.B.	42	11
	3' spread B.B.	48	12
DECIDUOUS SHRUBS	18" B.R.	30	8
	2' B.R.	33	9
	3' B.R.	42	11
	4' B.R.	48	12
	5' B.R.	54	14
	6' B.R.	60	14
	18" B.B.	27	7
	2' B.B.	30	8
	3' B.B.	36	9
	4' B.B.	42	11
	5' B.B.	48	12
	6' B.B.	54	14
CONTAINER GROWN PLANTS	#1 cont.	23	7
	#2 cont.	26	9
	#3 cont.	30	10
	#5 cont.	36	13
	#7 cont.	42	13
	#15 cont.	51	18



BALLED & BURLAPPED STOCK

1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
3. SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH AS IT WAS GROWN IN THE NURSERY.
4. PLANT SHALL BE PLACED IN PLANTING HOLE WITH BURLAP AND WIRE BASKET, IF USED, INTACT. ONCE IN PLACE, THE PLANT SHALL BE BACKFILLED TO WITHIN 12" OF THE TOP OF THE ROOTBALL. THE BURLAP SHALL BE FOLDED OR CUT BACK AND THE WIRE BASKET SHALL BE CUT BACK AND REMOVED TO THIS LEVEL.
5. PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED.
6. BACKFILL VOIDS AND CONSTRUCT 3" DEPTH WATERING BASIN.
7. WATER THOROUGHLY WITHIN 2 HOURS.
8. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING.

CONTAINER STOCK

1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
3. REMOVE CONTAINER AND SCORE OUTSIDE OF SOIL MASS TO REDIRECT CIRCLING FIBROUS ROOTS AS NECESSARY.
4. SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH AS IT WAS GROWN IN THE NURSERY.
5. BACKFILL VOIDS AND CONSTRUCT 3" DEPTH WATERING BASIN.
6. WATER THOROUGHLY WITHIN 2 HOURS.
7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING.

BARE ROOT STOCK

1. SOAK ROOTS IN WATER FOR AT LEAST ONE HOUR PRIOR TO PLANTING.
2. SCARIFY SIDES AND BOTTOM OF HOLE.
3. PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
4. TRANSFER PLANT DIRECTLY FROM WATER TO HOLE. SET PLANT AT SAME DEPTH AS IT WAS GROWN IN THE NURSERY. PLUMB AND IMMEDIATELY BACKFILL WITH THE BACKFILL SOIL SPECIFIED.
5. BACKFILL VOIDS AND CONSTRUCT 3" DEPTH WATERING BASIN.
6. WATER THOROUGHLY WITHIN 2 HOURS.
7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING.

MACHINE-TRANSPLANTED STOCK (TREE SPADE)

1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. SET PLANT ON UNDISTURBED NATIVE SOIL AT SAME DEPTH AS IT WAS PREVIOUSLY GROWN.
3. PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED, FILLING ALL VOIDS.
4. AFTER PLANTING, THE SOIL IMMEDIATELY ADJACENT TO THE SPADE MOVED SOIL, FOR A MINIMUM DISTANCE OF 18" SHALL BE TURNED OVER AND/OR ROTOTILLED TO A MINIMUM DEPTH OF 12".
5. CONSTRUCT 3" DEPTH WATERING BASIN.
6. WATER THOROUGHLY WITHIN 2 HOURS.
7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING.

MINIMUM TREE SPADE SIZE REQUIREMENTS

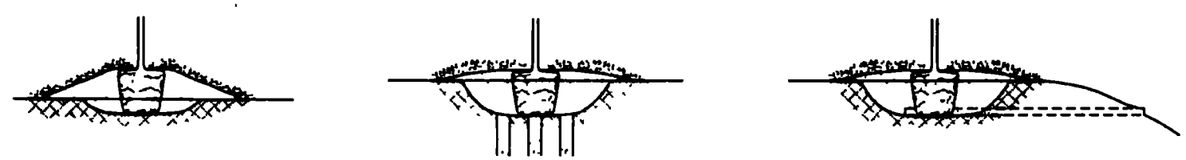
SPADE SIZE (DIAMETER) 'D'	OAK TREES (CALIPER)	DECIDUOUS TREES (CALIPER)	EVERGREEN TREES (HEIGHT)
44"	1.0" to 1.5"	2" to 3"	5' to 7'
60"	1.5" to 2.5"	3" to 4"	7' to 9'
78"	2.5" to 3.5"	4" to 6"	9' to 14'
85"	3.5" to 5.0"	6' to 8"	14' to 18'

SEE SPECIAL PROVISIONS FOR ADDITIONAL MINIMUM REQUIREMENTS APPLICABLE TO MECHANIZED DIGGING EQUIPMENT.

NOTES:

1. THE PLANTING DETAILS REPRESENT ADEQUATELY DRAINED SOIL CONDITIONS. THE CONTRACTOR SHOULD EXERCISE DISCRETION IN SETTING PLANTS 1"-3" HIGHER IN POORLY DRAINED SOILS.
2. ON 2:1 SLOPES OR GREATER, DO NOT CONSTRUCT THE UPHILL HALF OF THE WATERING BASIN.
3. ON WET, POORLY DRAINED SOILS, DO NOT CONSTRUCT WATERING BASIN.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE DRAINAGE IN HEAVY POORLY DRAINED OR IMPERVIOUS SOILS.

SHRUB AND TREE PLANTING DETAILS



INSTALL MINI-BERM

1. EXCAVATE HOLE OR BED ¼ THE DEPTH OF THE ROOT BALL.
2. SET ROOT BALL IN HOLE.
3. CONSTRUCT BERM WITH SANDY LOAM TOPSOIL EXTENDING THE BERM BASE 3 TIMES THE HEIGHT OF THE BERM.
4. COMPLETE PLANTING ACCORDING TO SHRUB AND TREE PLANTING DETAILS ABOVE AS APPLICABLE.

INSTALL GRANULAR FILTER

1. EXCAVATE HOLE OR BED TO ALLOW PLACING TOP OF ROOT BALL 1"-3" HIGHER THAN FINISHED GRADE.
2. AUGER 8" DIAMETER HOLES ENTIRELY THROUGH IMPERVIOUS OR POORLY DRAINED HARD PAN SOIL LAYER TO ADEQUATELY DRAINED SUBSOIL.
3. BACKFILL AUGER HOLES WITH A THOROUGHLY INCORPORATED MIXTURE OF 50% SAND AND 50% HEAVY INPLACE SOIL.
4. COMPLETE PLANTING ACCORDING TO SHRUB AND TREE PLANTING DETAILS ABOVE AS APPLICABLE.

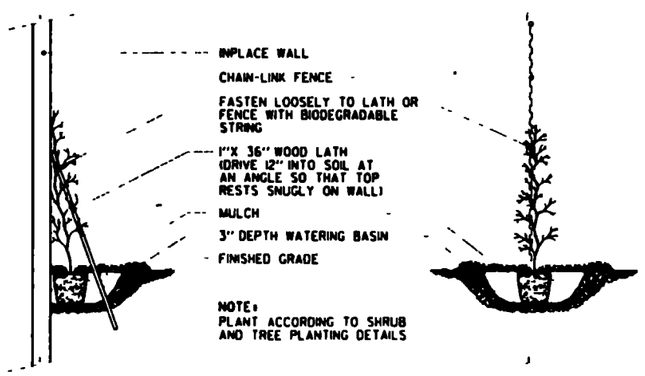
INSTALL TILE DRAINAGE

1. EXCAVATE HOLE OR BED TO ALLOW PLACING TOP OF ROOT BALL 1"-3" HIGHER THAN FINISHED GRADE.
2. INSTALL 4" MINIMUM DIAMETER DRAIN TILE DAYLIGHTING AT A LOWER GRADE AS APPROVED BY THE ENGINEER OR LANDSCAPE ARCHITECT.
3. COMPLETE PLANTING ACCORDING TO SHRUB AND TREE PLANTING DETAILS ABOVE AS APPLICABLE.

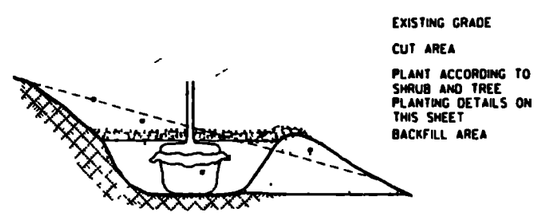
SHRUB AND TREE PLANTING ALTERNATIVE DETAILS IN POORLY DRAINED SOIL

GENERAL NOTES

PLANTING BED PREPARATION:	ALL MASS PLANTING BEDS SHALL BE ROTOTILLED TO A MINIMUM DEPTH OF ___ PER SPECIAL PROVISIONS. AMENDMENTS SHALL BE APPLIED PRIOR TO CULTIVATING.
BACKFILL SOIL:	USE SOIL EXCAVATED FROM PLANTING HOLES REMOVE ALL DEBRIS INCLUDING ROCKS LARGER THAN 3" DIA. MODIFY PER THE SPECIAL PROVISIONS.
FERTILIZER:	___ NONE ___ MN/DOT 3881, SEE THE SPECIAL PROVISIONS
COMPOST:	___ NONE ___ Mn/DOT 3890, SEE THE SPECIAL PROVISIONS
MULCH MATERIAL:	Mn/DOT 2571.2C4, Mn/DOT 2571.3H, Mn/DOT 3882 TYPE 6. UNLESS OTHERWISE SPECIFIED, MASS MULCH ALL PLANTING BEDS.
TREE STAKING:	Mn/DOT 2571.3J AND ANY EVERGREEN TREES OR DECIDUOUS TREES UNDER 2" CALIPER IF REQUESTED BY THE ENGINEER TO MAINTAIN TREES IN A PLUMB CONDITION WHERE SOIL OR WIND EXTREMES ARE A PROBLEM.
TREE PAINTING:	PAINT OAKS, LINDENS, LOCUSTS, MAPLES, CRABAPPLES, AND MOUNTAIN ASHES. ONLY UNDILUTED EXTERIOR WHITE LATEX BASE PAINT IS ACCEPTABLE.
RODENT PROTECTION:	PROVIDE ON ALL TREES, EXCEPT SPRUCE UNLESS OTHERWISE SPECIFIED.
MASS PLANTINGS:	PLANT SPACING OF ___ OR LESS SHALL BE MASS EXCAVATED AND/OR CULTIVATED BY ROTOTILLING. PLANT IN STAGGERED ROWS ON THE PERIMETER FIRST, THEN UNIFORMLY FILL IN WITH REMAINING QUANTITY USING TIANGULAR SPACING. PROVIDE 5' RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 8' RADIUS AROUND EACH EVERGREEN TREE. NOTIFY ENGINEER OF GROSS PLANT QUANTITY SURPLUS OR DEFICIENCY IMMEDIATELY. PLANT SPACINGS OF ___ OR LESS SHALL BE MASS MULCHED.
PLANTING PLAN:	RESPECT STATED DIMENSIONS. DO NOT SCALE DRAWINGS.

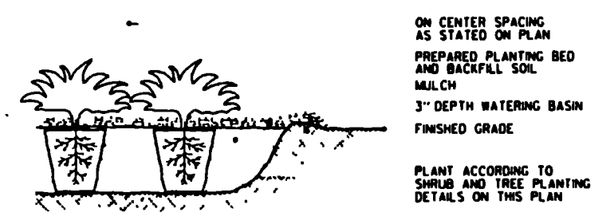


VINE PLANTING DETAIL



NOTE: EXTENDED EXCAVATION AND BACKFILL SOIL TO A POINT DOWNSLOPE EQUAL TO OR LOWER IN ELEVATION THAN THE BOTTOM OF THE HOLE DIRECTLY BENEATH THE PLANT TO INSURE ADEQUATE DRAINAGE IN HEAVY SOILS. GRANULAR SOIL MUST BE ADDED AS BACKFILL IN AREAS OF POOR DRAINAGE.

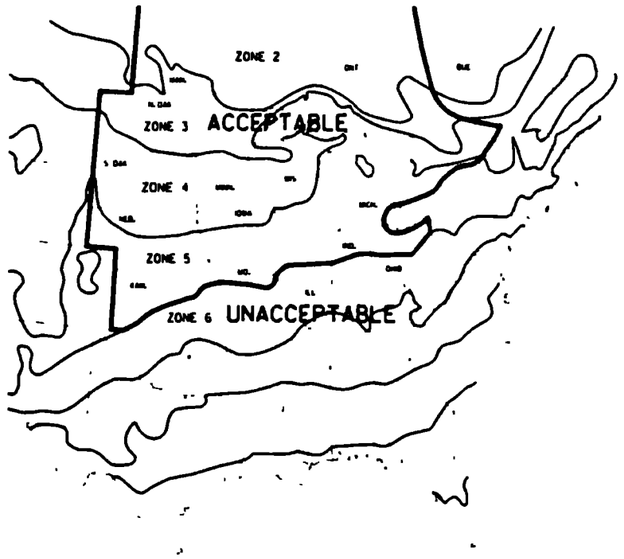
PLANTING ON A SLOPE



NOTE: DEEP TILLING OR ROTOTILLING OF EXCAVATION/BACKFILLING MAY BE REQUIRED IN AREAS OF COMPACTION OR HEAVY SOILS PER THE SPECIAL PROVISIONS.

SHRUB / GROUNDCOVER MASS BED PLANTING DETAIL

PLANTING DETAILS



ZONE 1		BELOW -50 F
ZONE 2		-50 to -40
ZONE 3		-40 to -30
ZONE 4		-30 to -20

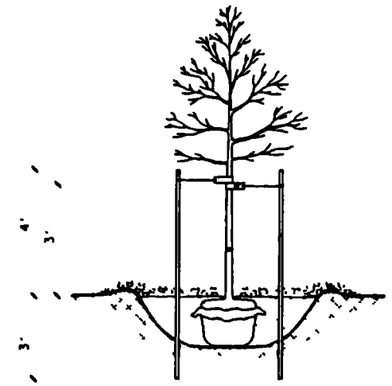
PLANTS WITHIN THESE ZONES FROM THE ACCEPTABLE GROWING RANGE MAY BE USED ON ALL PROJECTS.

ZONE 5		-20 to -10

PLANTS WITHIN THIS ZONE FROM THE ACCEPTABLE GROWING RANGE ARE ALLOWED ONLY ON PROJECTS WITHIN ZONE 4 IN MINNESOTA.

ACCEPTABLE MIDWEST GROWING RANGES FOR PLANT STOCK

SOURCE: U.S.D.A. PLANT HARDINESS ZONE MAP



7' ROLLED STEEL POST (Mn/DOT 3403) OR APPROVED EQUAL

10' 4 LB. FLANGED CHANNEL STEEL SIGN POST (Mn/DOT 3401) OR APPROVED EQUAL

16' LONG POLYPROPYLENE OR POLYETHYLENE (40 MIL) 1 1/2" WIDE STRAPS. SUBSTITUTION REQUESTS FOR STANDARD HOSE AND WIRE GUYING SYSTEMS WILL NOT BE APPROVED.

DOUBLE STRAND 14 GA. WIRE

PAINT TREE FULL CIRCUMFERENCE FROM BOTTOM TO FIRST MAJOR BRANCH WITH APPROVED TREE PAINT

MULCH

FINISHED GRADE

NOTE:
STEEL POSTS TO BE NOTCHED OR DRILLED TO RETAIN GUY WIRES. PLACE OUTSIDE OF ROOT BALL. DRIVE PLUMB REGARDLESS OF GROUND SLOPE.

STANDARD TREE STAKING AND WRAPPING DETAIL

LIMITS OF MULCH

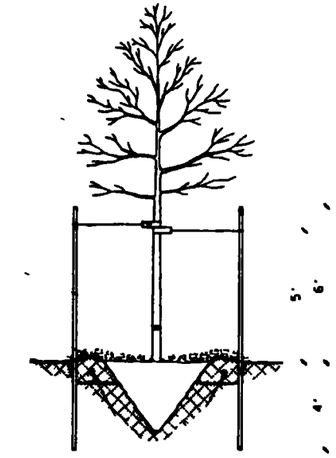
LIMITS OF PLANTING HOLE

LIMITS OF ROOT SYSTEM

GUYING SYSTEM

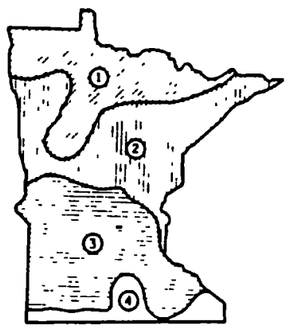
POST

TYPICAL PLAN VIEW



SEE SHRUB AND TREE PLANTING DETAILS ON OTHER PLANTING DETAIL SHEET.

LARGE TREE STAKING AND WRAPPING DETAIL

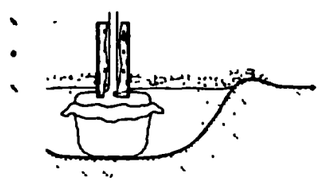


	SPRING		FALL	
	DECIDUOUS	EVERGREEN	DECIDUOUS	EVERGREEN
1	APRIL 21 TO JUNE 1	APRIL 21 TO JUNE 1	OCT. 1 TO NOV. 1	AUG. 25 TO SEPT. 15
2	APRIL 14 TO JUNE 1	APRIL 14 TO MAY 24	OCT. 1 TO NOV. 6	AUG. 25 TO SEPT. 15
3	APRIL 7 TO JUNE 1	APRIL 7 TO MAY 17	OCT. 10 TO NOV. 15	AUG. 25 TO SEPT. 15
4	APRIL 1 TO MAY 25	APRIL 1 TO MAY 15	OCT. 15 TO NOV. 20	SEPT. 5 TO OCT. 1

● - INDICATES PROJECT LOCATION

NOTE:
ACTUAL DATES MAY CHANGE DEPENDING UPON SEASONAL CONDITIONS AS DETERMINED BY THE ENGINEER OR LANDSCAPE ARCHITECT.

OPTIMUM PLANTING DATE ZONES IN MINNESOTA



18" MIN. FOR DECIDUOUS TREES
12 MIN. FOR EVERGREEN TREES

8" MIN. DIAMETER PERFORATED DRAIN TILE CYLINDER. IF CYLINDER IS PROVIDED WITHOUT PERFORATIONS, 3/8" HOLES MUST BE DRILLED AT 6" SPACINGS CONTIUOUS ACROSS LENGTH AND CIRCUMFERENCE OF CYLINDER.

FIRMLY ANCHOR CYLINDER BOTTOM IN SOIL AND MULCH WITHOUT DISTURBING TREE ROOTS.

FINISHED GRADE

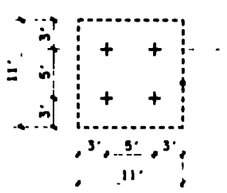
NOTES:
1. DO NOT CUT LOWER BRANCHES TO PERMIT PROTECTION.
2. PLACE MULCH INSIDE CYLINDER TO SAME DEPTH AS OUTSIDE.
3. INSTALLATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR LANDSCAPE ARCHITECT.

RODENT PROTECTION DETAIL

NOTE: REMOVE MULCH PLACED TO A DEPTH GREATER THAN THAT SPECIFIED WHEN DIRECTED BY THE ENGINEER OR LANDSCAPE ARCHITECT.

TYPE OF PLANT	X CENTER OF PLANT TO MULCH LINE	X_1 EDGE OF BRANCHING TO MULCH LINE	Y DEPTH OF MULCH	Z DEPTH OF MULCH
EVERGREEN TREES & SHRUBS	VARIES	3' MIN.	6"	6"
SHADE TREES & SMALL TREES	3' MIN.	N/A	6"	6"
DECIDUOUS SHRUBS	3' MIN.	N/A	3"	6"
VINES	12" MIN.	N/A	3"	3"
GROUNDCOVERS	VARIES	12" MIN.	3"	3"
MACHINE-TRANSPLANTED TREES	12" BEYOND EDGE OF HOLE		6"	6"

MULCH PLACEMENT DETAIL



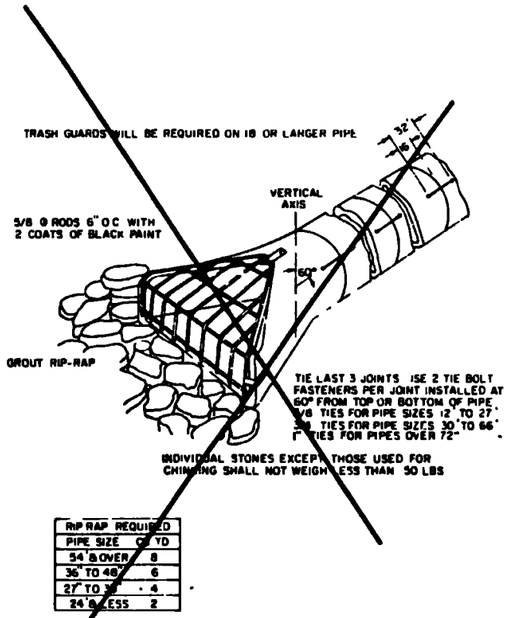
CENTER OF PLANT

EDGE OF MULCH

NOTE: PLANTS SHOWN WITH THIS SYMBOL WILL BE PLANTED IN GROUPS OF FOUR, SPACED AND MULCHED AS SHOWN.

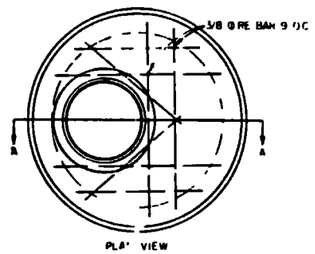
SPREADING SHRUB PLANTING DETAIL

PLANTING DETAILS



RIP RAP REQUIRED	
PIPE SIZE	CU YD
54" & OVER	8
36" TO 48"	6
27" TO 33"	4
24" & LESS	2

STORM SEWER OUTLET OR INLET



NOTES

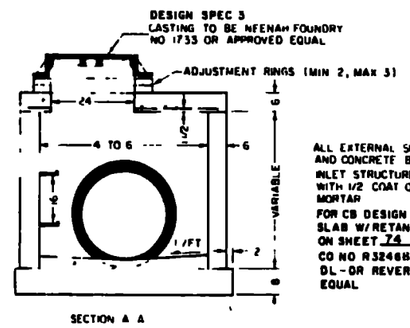
A MANHOLES TO BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478

B STEPS SHALL BE STEEL RIENFORCED COPOLYMER POLYPROPYLENE AND SHALL COMPLY WITH MNDOT PLATE 4180H

C COAT CASTINGS AND STRAPS WITH ASPHALT AT ALL WELDS

D EZ STIK GASKET AND WELDED STEEL STRAPS REQUIRED ONLY ON CASTINGS IN NON PAVED AREAS

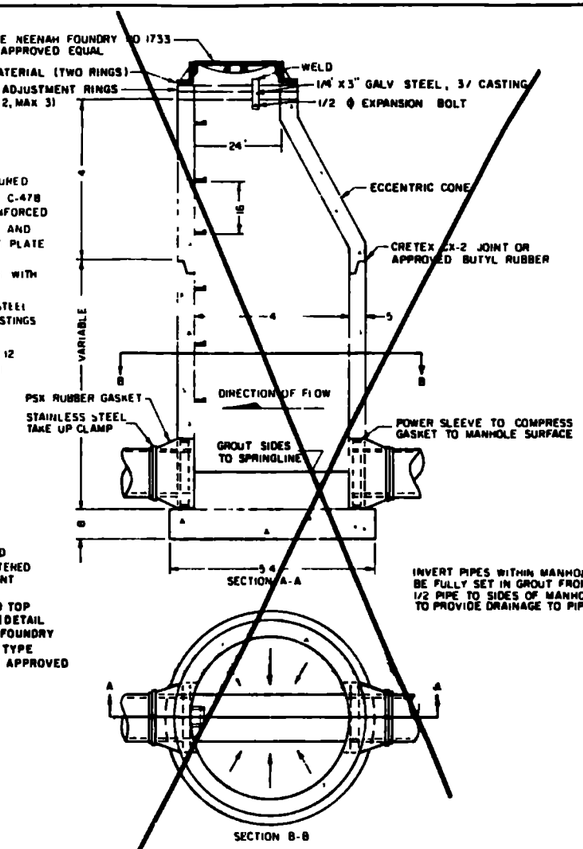
E INCREASE BASE THICKNESS TO 12 FOR MANHOLES 14' OR DEEPER



ALL EXTERNAL SURFACES OF BRICK AND CONCRETE BLOCK MANHOLE AND INLET STRUCTURES SHALL BE PLASTERED WITH 1/2 COAT OF PORTLAND CEMENT MORTAR

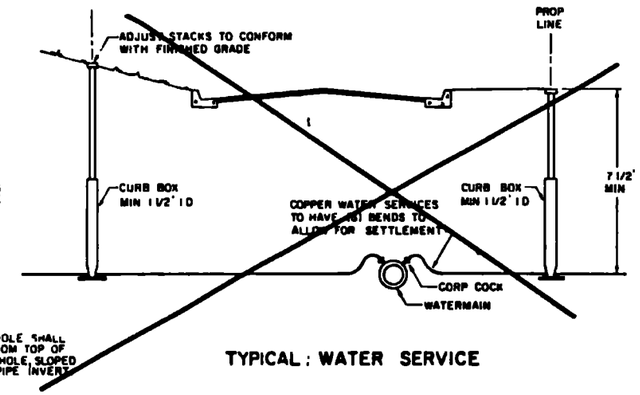
FOR CB DESIGN SPEC 2 USE HS20 TOP SLAB W/RETANGULAR OPENING (DETAIL ON SHEET 74) AND NEENAH FOUNDRY CO NO R3246B WITH DIAGONAL TYPE DL-OR REVERSIBLE GRATE OR APPROVED EQUAL

MANHOLE DESIGN SPECIAL 3
CATCHBASIN DESIGN SPECIAL 2

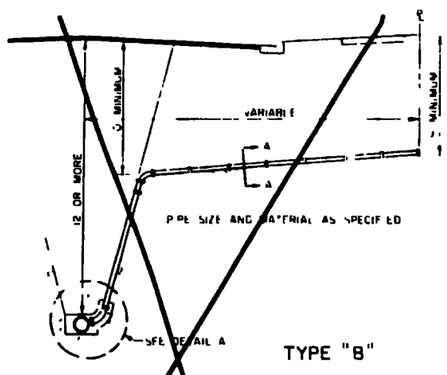


INVERT PIPES WITHIN MANHOLE SHALL BE FULLY SET IN GROUT FROM TOP OF 1/2 PIPE TO SIDES OF MANHOLE, SLOPED TO PROVIDE DRAINAGE TO PIPE INVERT

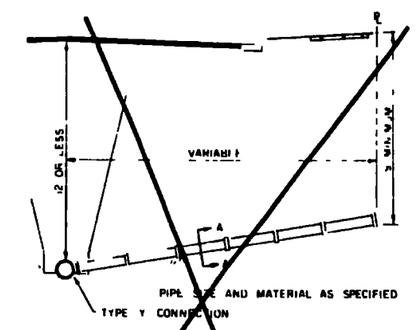
SANITARY SEWER MANHOLE



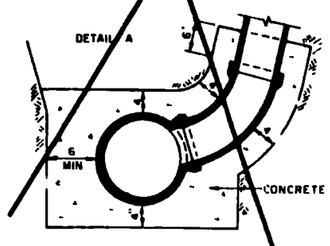
TYPICAL : WATER SERVICE

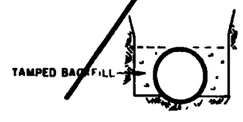


TYPE "B"

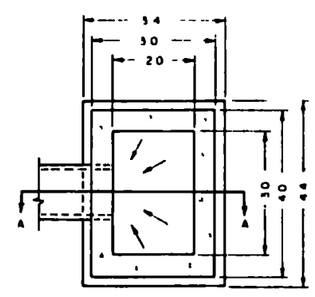


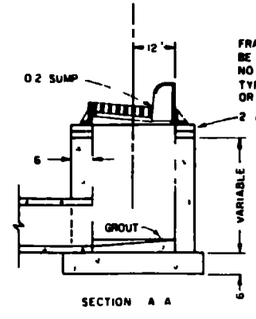
TYPE "A"





SANITARY SEWER SERVICE CONNECTIONS



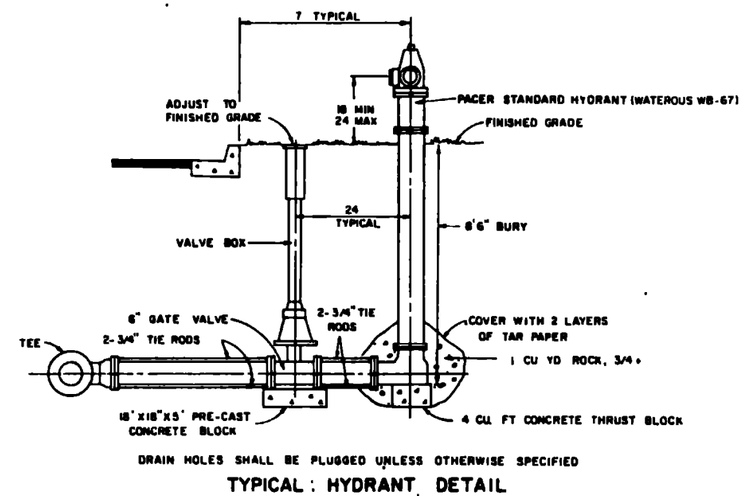


FRAME, GRATE & CURB BOX TO BE NEENAH FOUNDRY COMPANY NO R-3246-B WITH DIAGONAL TYPE DL-OR REVERSIBLE GRATE OR APPROVED EQUAL

2 AJUSTING RINGS (TYPICAL)

STRUCTURE TO BE PRECAST OR SEGMENTAL BLOCK CONSTRUCTION

CATCH BASIN DESIGN SPECIAL 1 .



DRAIN HOLES SHALL BE PLUGGED UNLESS OTHERWISE SPECIFIED

TYPICAL : HYDRANT DETAIL

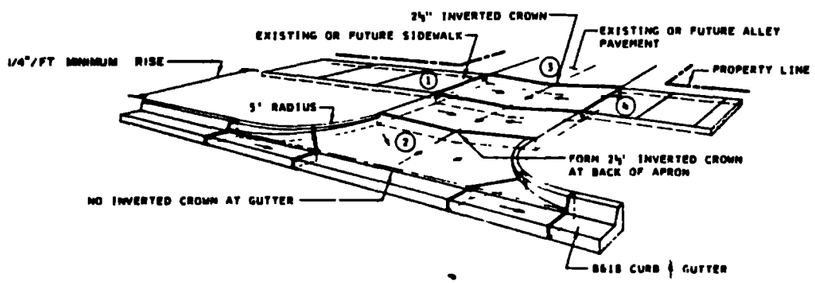
District State Aid Comments 12-21-84

City of St. Louis Park
Minnesota

PLAN BY	PROJECT	CHECKED
PROFILE	STANDARD UTILITY DETAILS	APPROVED
SURVEY		DATE
AS BUILT		CONTRACT
DIRECTOR OF PUBLIC WORKS		CITY ENGINEER

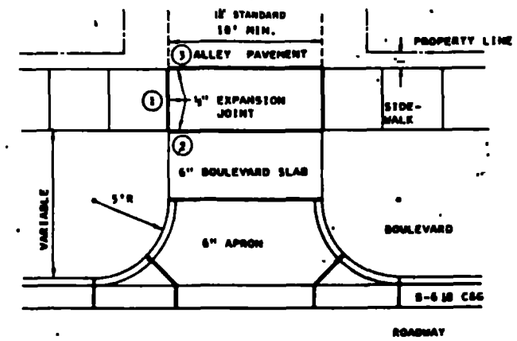
CONSTRUCTION DETAILS

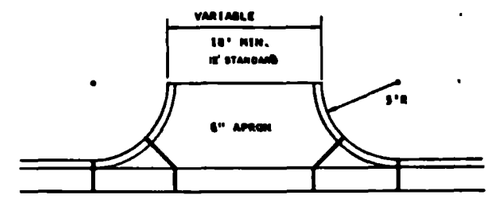
S.A.P. 163-276-24 (T.H.7) SHEET 72 OF 197 SHEETS



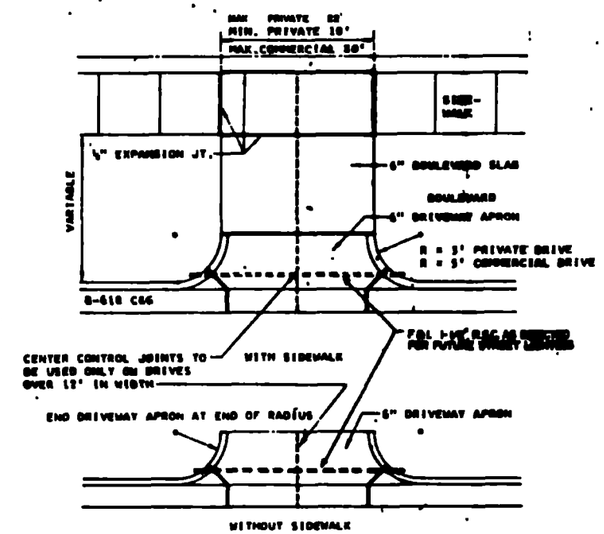
ALLEY APRON DETAIL

1. WHERE SIDEWALK IS IN PLACE AT TIME OF ALLEY ENTRANCE CONSTRUCTION BUT NO CONCRETE ALLEY EXISTS, SIDEWALK SHALL BE REMOVED AND REPLACED TO CONFORM TO FUTURE ALLEY CROSS SECTION WITH INVERTED CROWN.
2. WHERE CONCRETE ALLEY PAVEMENT AND SIDEWALK EXIST AT TIME OF CONSTRUCTION A 6' CONCRETE BOULEVARD SLAB WILL BE CONSTRUCTED FROM BACK OF ENTRANCE SLAB TO EXISTING SIDEWALK. INVERTED CROWN SECTION WILL BE CONSTRUCTED IN 6" SLAB AS MUCH AS POSSIBLE. ALLEY ENTRANCE INVERT MAY BE FLATTENED OR ELIMINATED IF NECESSARY TO MATCH EXISTING SIDEWALK AND ALLEY.
3. WHERE NO SIDEWALK EXISTS AT TIME OF ALLEY ENTRANCE CONSTRUCTION BUT CONCRETE ALLEY PAVEMENT DOES EXIST, A 6' CONCRETE SLAB WILL BE CONSTRUCTED FROM BACK OF ENTRANCE SLAB TO EXISTING ALLEY PAVEMENT SECTIONS TO MATCH AT END SECTION OF ALLEY PAVEMENT.
4. WHERE NO SIDEWALK OR ALLEY PAVEMENT EXISTS AT TIME OF CONSTRUCTION, ALLEY ENTRANCE SHALL END AT BACK OF RADIUS.

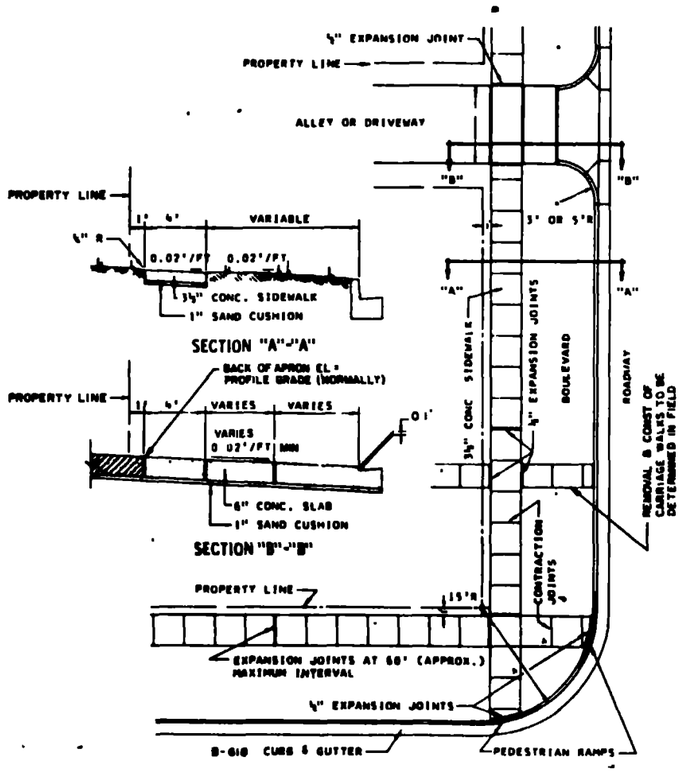




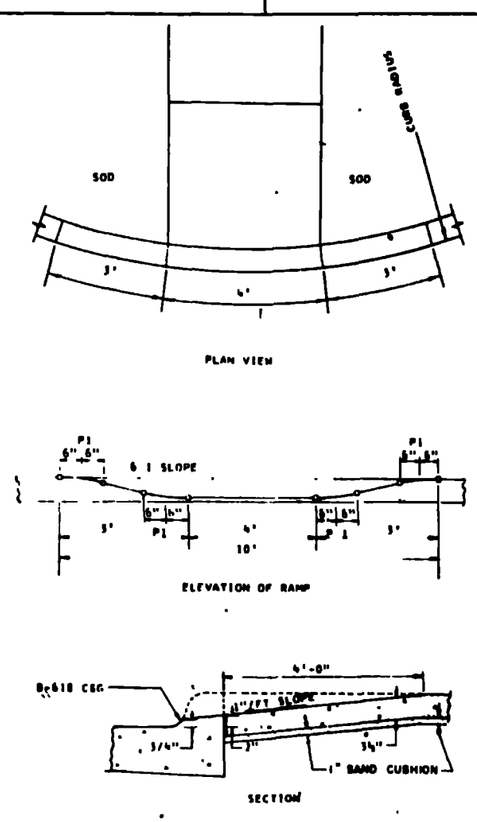
ALLEY OPENING



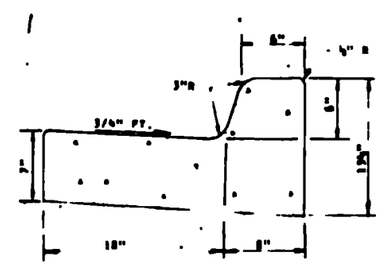
DRIVEWAY OPENINGS



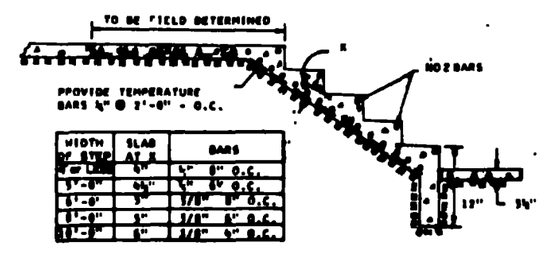
CONCRETE WALK



PEDESTRIAN RAMP DETAIL



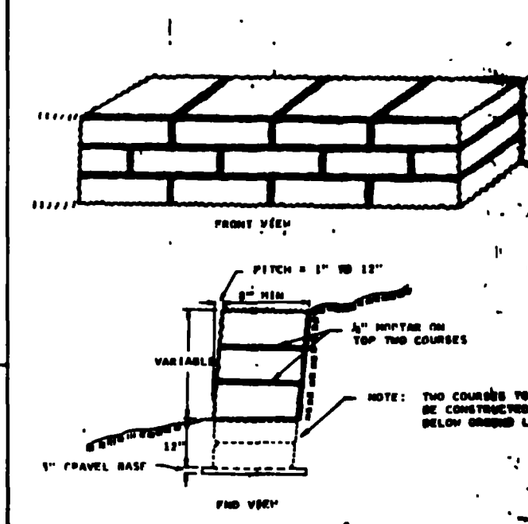
CONCRETE CURB & GUTTER
DESIGN B-618



WIDTH OF STEP	SLAB AT R	BARS
4'-0"	6"	½" 8" O.C.
5'-0"	6½"	½" 8" O.C.
6'-0"	7"	5/8" 8" O.C.
8'-0"	8"	5/8" 8" O.C.
10'-0"	8"	5/8" 6" O.C.

NOTE
1. SIZE OF TREAD AND RISERS TO BE DETERMINED IN FIELD (WIDTH AS SPECIFIED OR FIELD DETERMINED)
2. BOTTOM OF RISER TO BE FLUSH WITH FINISHED GROUND SURFACES UNLESS OTHERWISE SPECIFIED.

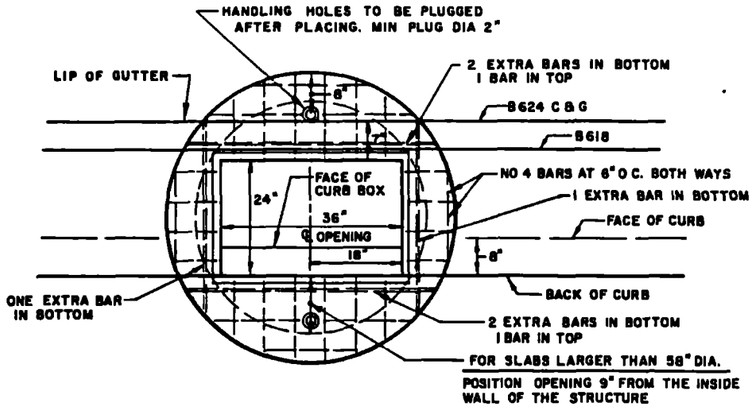
REINFORCED CONCRETE STEPS

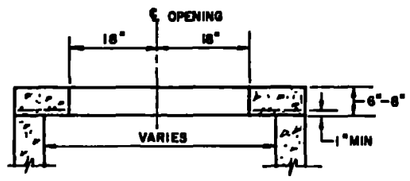


SQUARED STONE MASONARY WALL

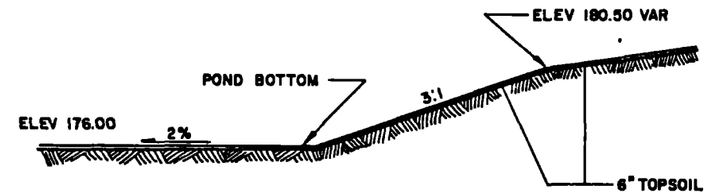
ENGINEERING DEPT.
CITY OF ST. LOUIS PARK, MINN.

PLAN BY	PROJECT	CHECKED
PROFILE BY	TYPICAL DETAILS	APPROVED
SURVEY		DATE
ASBUILT		CONTRACT





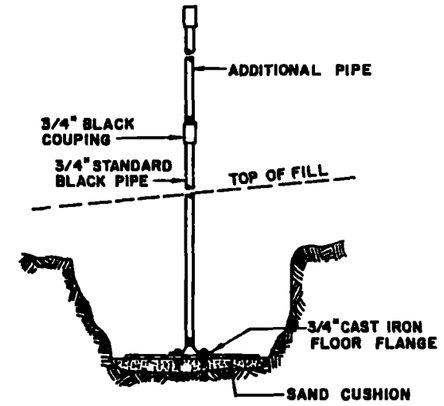
H.S. 20 DESIGN CATCH-BASIN SLAB-TOP (W/ RECTANGULAR OPENING)



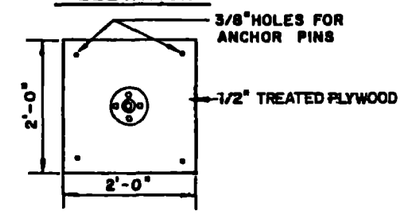
NOTE: REFER TO THE SPECIAL PROVISIONS FOR DISPOSAL REQUIREMENTS FOR ANY CREOSOTE CONTAMINATED SOILS ENCOUNTERED DURING POND CONSTRUCTION

HOLDING POND TYPICAL SECTION

PONDS 1, 2 AND 3

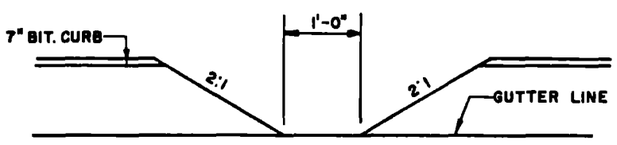


ELEVATION

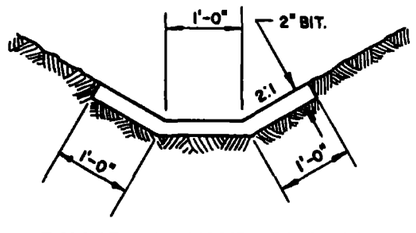


PLAN

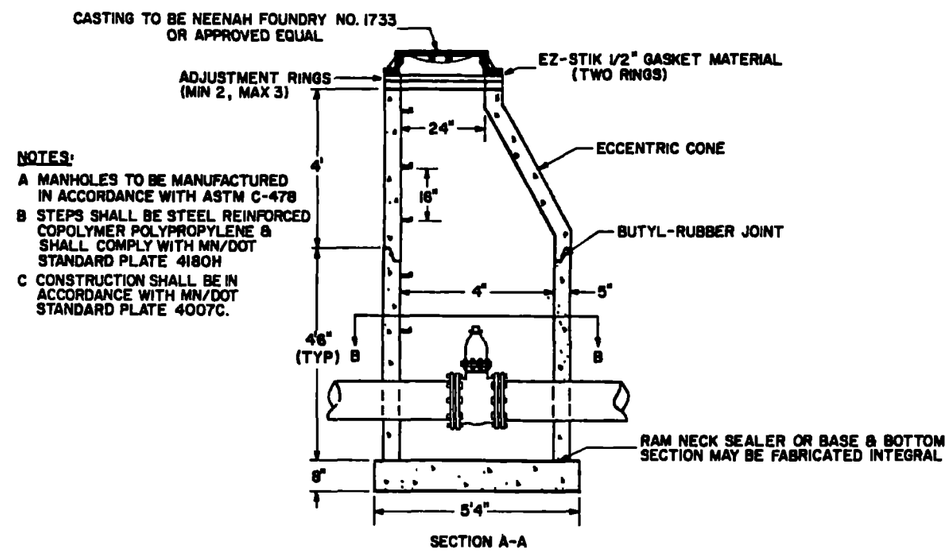
DETAILS FOR SETTLEMENT PLATE CONSTRUCTION & PLACEMENT



CURB CUT DETAIL



PAVED FLUME SECTION

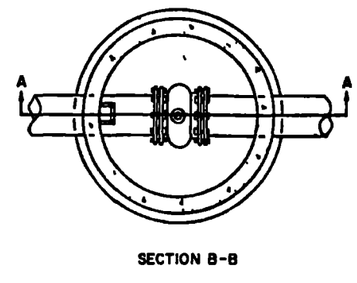


NOTES:

A MANHOLES TO BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478

B STEPS SHALL BE STEEL REINFORCED COPOLYMER POLYPROPYLENE & SHALL COMPLY WITH MN/DOT STANDARD PLATE 4180H

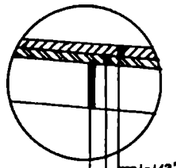
C CONSTRUCTION SHALL BE IN ACCORDANCE WITH MN/DOT STANDARD PLATE 4007C.



WATERMAIN VALVE MANHOLE

CONSTRUCTION DETAILS

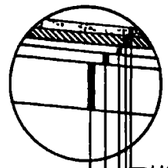
SETTLEMENT PLATE
HOLDING PONDS
WATER MANHOLE
PAVED FLUME
CB DES SPEC 2 TOP SLAB



INSET C

NORTH BY-PASS
SOUTH BY-PASS
TEMPORARY CONNECTIONS 1,2,3,4
(TEMPORARY CONST)

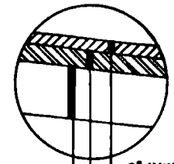
- 1-1/2" 2341 MODIFIED BIT WEARING COURSE
- TACK COAT, SPEC 2357
- 1-1/2" 2331 MODIFIED BINDER COURSE
- 8" 2211 AGGREGATE CLASS-5



INSET F

(OVERLAY)
SOUTH BY PASS/SO FRONTAGE RD
NORTH FRONTAGE ROAD

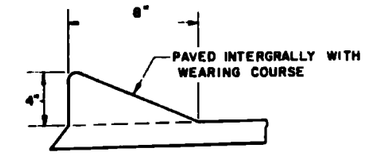
- 1-1/2" MIN THICKNESS, 2341 MODIFIED BIT WEARING COURSE
- TACK COAT, SPEC, 2357
- VAR DEPTH 2331 MOD BIT LEVELING COURSE (4" MAX LIFT)
- TACK COAT SPEC 2357
- 1-1/2" 2341 BIT WEARING COURSE (EXIST)
- 1-1/2" 2331 BIT BINDER COURSE (EXIST)
- 8" 2211 AGGREGATE CLASS-5 (EXIST)



INSET H

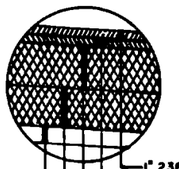
T H 7 (SHOULDERS)

- 2" (MIN) 2331 MODIFIED BIT SHOULDER
- 3" AGGREGRATE SHOULDER CLASS-5
- VAR DEPTH AGGREGATE SHOULDER CLASS-3



SUGGESTED SHOE CURB DETAIL

NOTE: CONTRACTOR MAY MODIFY IF APPROVED BY ENGINEER

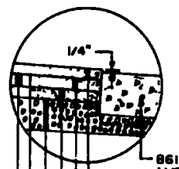


INSET B

LOUISIANA AVE.

- 1" 2361 MODIFIED BIT WEARING COURSE
- TACK COAT, SPEC 2357 (A)
- 0" TO 3" 2331 MODIFIED BIT BINDER COURSE
- TACK COAT, SPEC 2357
- 3" 2331 MODIFIED BIT BASE COURSE
- TACK COAT, SPEC 2357
- 0" TO 19-1/2" 2331 MODIFIED BIT BASE COURSE
- TACK COAT, SPEC. 2357 (B)
- EXISTING BUTUMINOUS ROADWAY

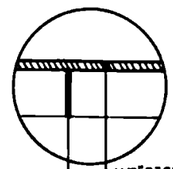
(A) MILL 0" TO 1" OF EXISTING BIT ROADWAY TO TIE 2361 MODIFIED BIT WEARING COURSE TO EXISTING BIT ROADWAY (STA 32+00 TO STA 32+05 AND STA 34+70 TO STA 34+75)
(B) PLACE IN 4" MAX LIFTS WITH 2357 TACK COAT



INSET E

SOUTH BY-PASS / SO FRONTAGE RD

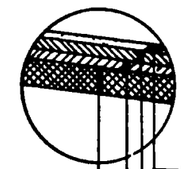
- 8618 CONCRETE CURB & GUTTER
- 1 1/2" 2341 MODIFIED BIT WEARING COURSE
- TACK COAT, SPEC 2357
- 1-1/2" 2331 MODIFIED BIT BINDER COURSE
- TACK COAT, SPEC. 2357
- 3" 2331 MODIFIED BIT BASE COURSE
- 8" 2211 AGGREGATE BASE, CLASS-5
- SAWCUT EXISTING BIT SURFACE
- LEVELING COURSE, INSET F



INSET G-1

(OVERLAY)
T H 7

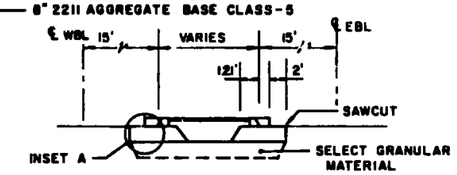
- 1 1/2" 2361 MODIFIED BIT WEARING COURSE
- TACK COAT, SPEC 2357
- EXIST BIT ROADWAY



INSET I

W LAKE ST (SOUTH OF HWY 7)
NORTH BY-PASS
SOUTH FRONTAGE ROAD
WALKER ST
NORTH FRONTAGE ROAD

- 1-1/2" 2341 MODIFIED WEARING COURSE
- TACK COAT, SPEC 2357
- 1-1/2" 2331 MODIFIED BIT BINDER COURSE
- TACK COAT, SPEC 2357
- 3" 2331 MODIFIED BIT BASE COURSE
- 8" 2211 AGGREGATE BASE CLASS-5



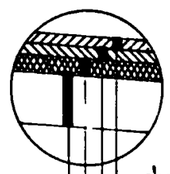
T.H. 7 WIDENING (IN MEDIAN)

STA 527+35 TO STA 530+40, EBL, LT
STA 527+50 TO STA 530+55, WBL, RT

INSET A

T H 7
LOUISIANA AVE.

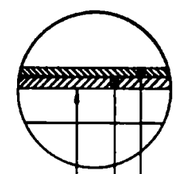
- 1" 2361 MODIFIED BIT WEARING COURSE
- TACK COAT, SPEC 2357
- 3" 2341 MODIFIED BIT BINDER COURSE
- TACK COAT, SPEC 2357
- 3" 2331 MODIFIED BIT BASE COURSE
- TACK COAT, SPEC. 2357
- 3-1/2" 2331 MODIFIED BIT BASE COURSE
- 2" CLASS-5 AGGREGATE BASE



INSET D

W LAKE ST (NORTH OF T H 7)

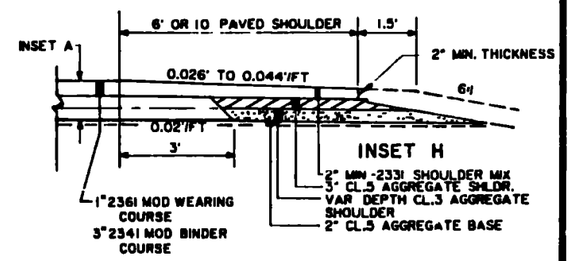
- 1" 2361 MODIFIED WEARING COURSE
- TACK COAT, SPEC 2357
- 3" 2331 MODIFIED BIT BINDER COURSE
- TACK COAT, SPEC 2357
- 3" 2331 MODIFIED BIT BASE COURSE
- 3" CLASS-5 AGGREGATE BASE



INSET G-2

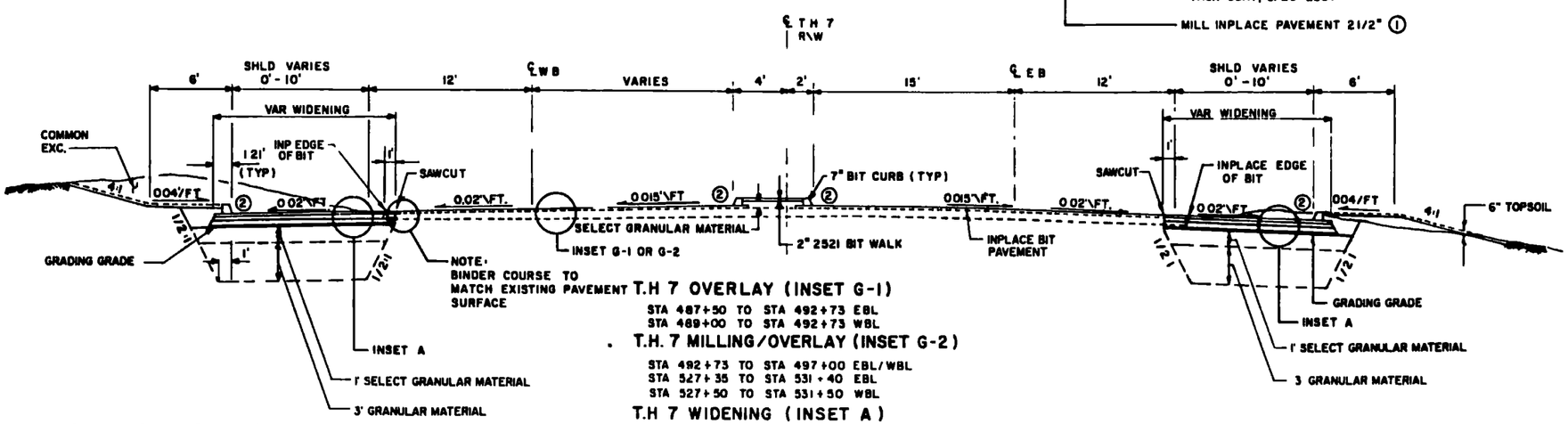
(OVERLAY)
T H 7

- 1" 2361 MODIFIED BIT WEARING COURSE
- TACK COAT, SPEC 2357
- 1 1/2" 2341 MODIFIED BIT BINDER COURSE
- TACK COAT, SPEC 2357
- MILL INPLACE PAVEMENT 2 1/2" (1)



T.H 7 BITUMINOUS SHOULDER DETAIL

STA 500+50 TO STA 503+75 (E.B.L. LT.)
STA 503+75 TO STA 516+45 (E.B.L. RT \ W.B.L.)
STA 516+45 TO STA 523+01 (E.B.L. RT.)



T.H 7 OVERLAY (INSET G-1)

STA 487+50 TO STA 492+73 EBL
STA 489+00 TO STA 492+73 WBL

T.H. 7 MILLING/OVERLAY (INSET G-2)

STA 492+73 TO STA 497+00 EBL/WBL
STA 527+35 TO STA 531+40 EBL
STA 527+50 TO STA 531+50 WBL

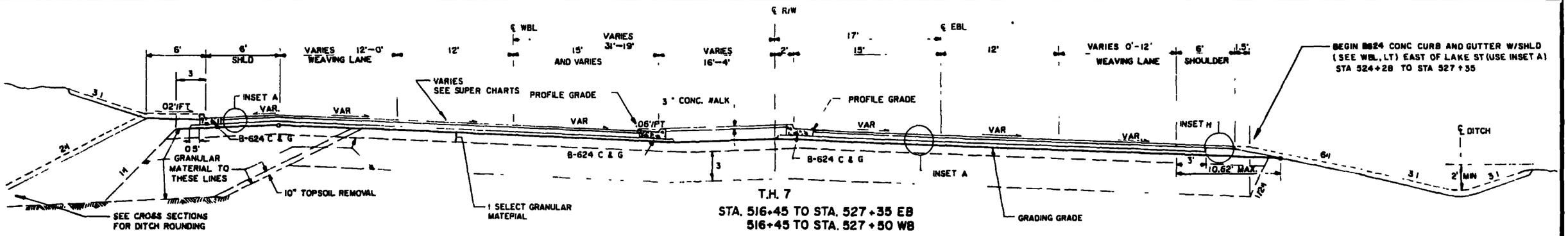
T.H 7 WIDENING (INSET A)

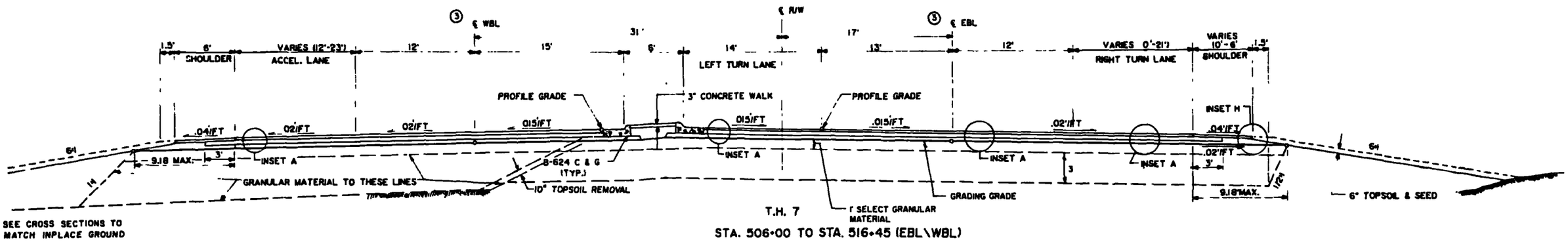
STA 491+23 TO STA 497+00 EBL
STA 490+08 TO STA 497+00 WBL
STA 527+35 TO STA 529+90 EBL, RT
STA 527+50 TO STA 529+75 WBL, LT

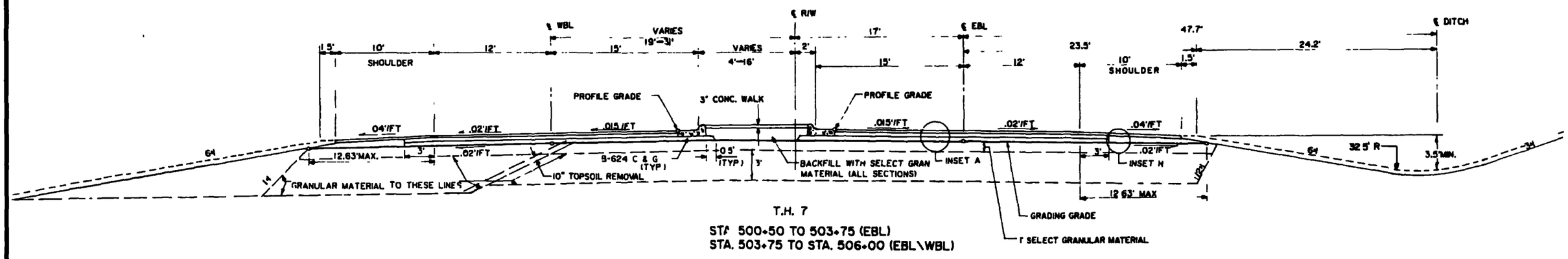
(1) TAPER MILLING FROM 2 1/2" TO 1 1/2" OVER 10' AT EAST AND WEST ENDS OF T H 7 TO MATCH INPLACE 1" OVERLAY

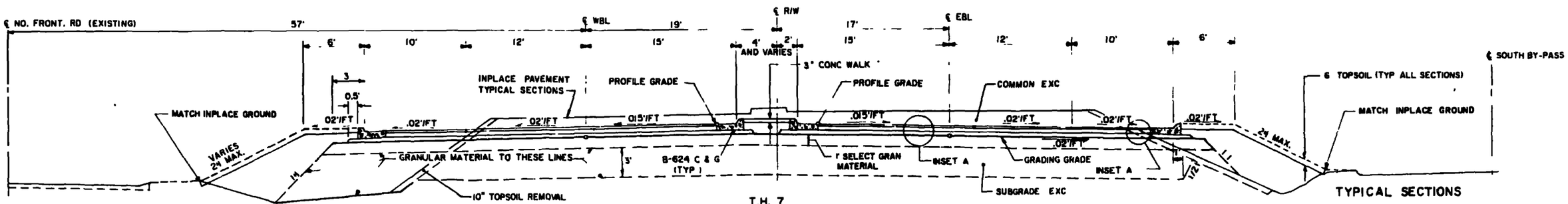
(2) BEGIN B624 C & G ON T H 7 AT STA 492+73

TYPICAL SECTIONS
T.H 7
INSETS
SHOULDER DETAIL





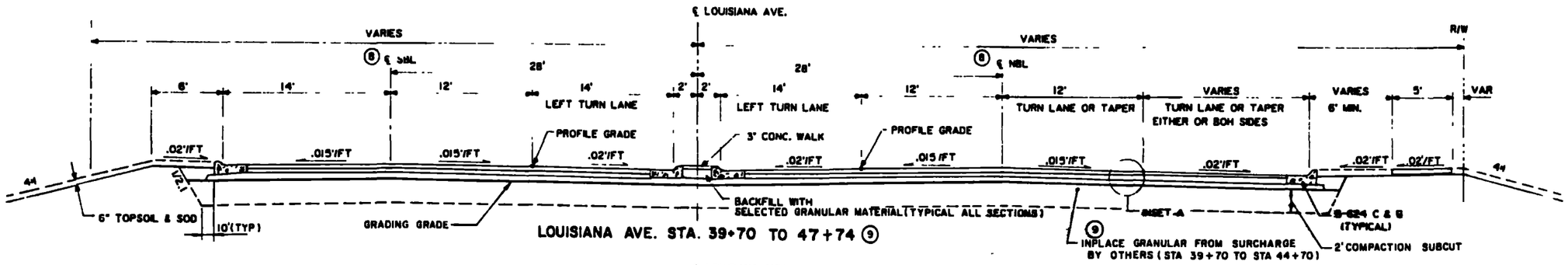




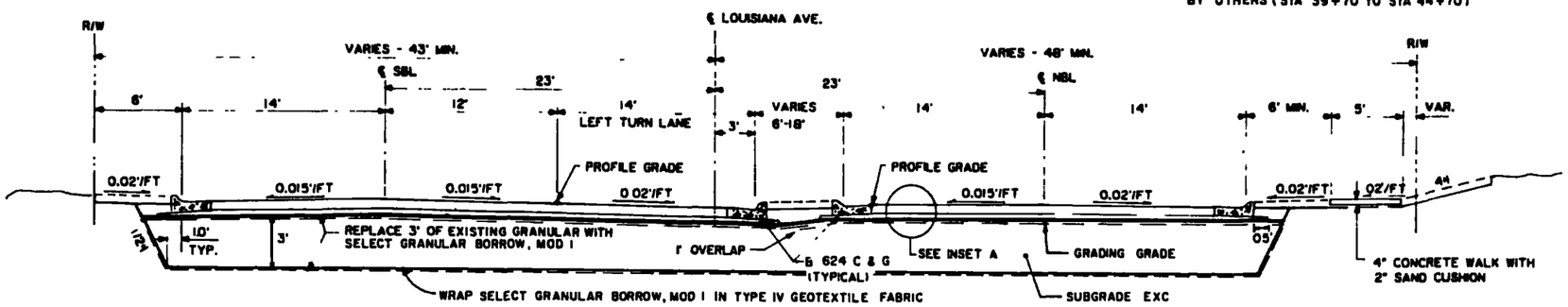
TYPICAL SECTIONS
T H 7

③ T H 7 APPROACHES TO LOUISIANA AVE ARE MIRROR IMAGES REFER TO INTERSECTION LAYOUT ON SHEET 103

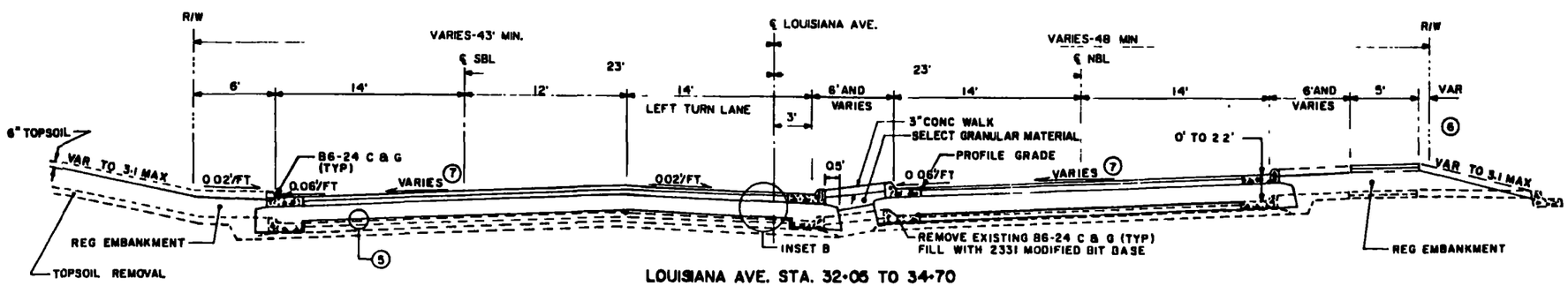
④ NOT USED



LOUISIANA AVE. STA. 39+70 TO 47+74 ⑨



LOUISIANA AVE. STA. 37+90 TO 39+70



LOUISIANA AVE. STA. 32+05 TO 34+70

⑤ MILL EXISTING BIT SURFACE SO THAT MIN OF 1" OF 2361 MODIFIED BIT WEAR IS CONSTRUCTED STA 32+00 TO STA 32+05

⑥ SEE CROSS-SECTIONS 29+86 TO 32+84.5 FOR BERM WORK AND PLANTER RIGHT REFER TO SPECIAL PROVISIONS

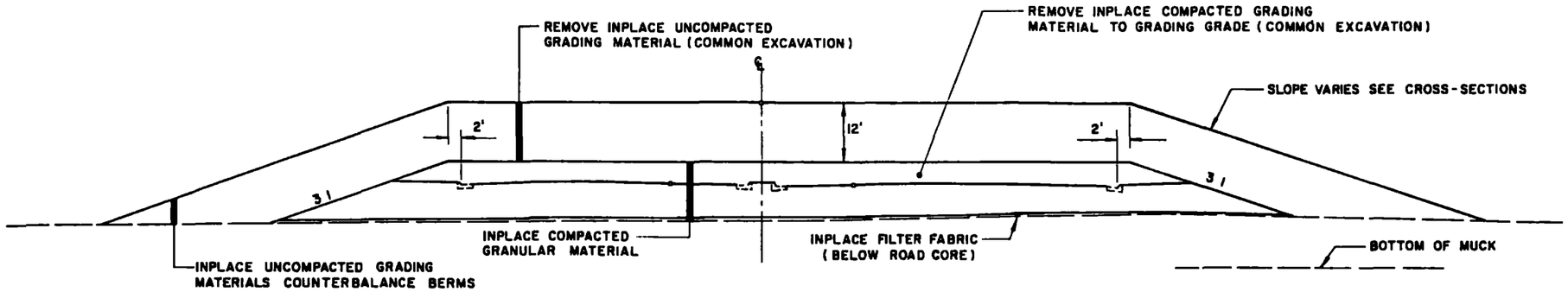
⑦ REFER TO PLANNED CONSTRUCTION SHEET FOR CURB SPOT ELEVATIONS AND CROSS SLOPES

⑧ LOUISIANA APPROACHES TO TH 7 ARE MIRROR IMAGES REFER TO INTERSECTION LAYOUT ON SHEET 103

⑨ REFER TO PROFILES AND CROSS SECTIONS FOR SUBGRADE AND MUCK EXCAVATION LIMITS FOR STA 44+70 TO STA 47+74

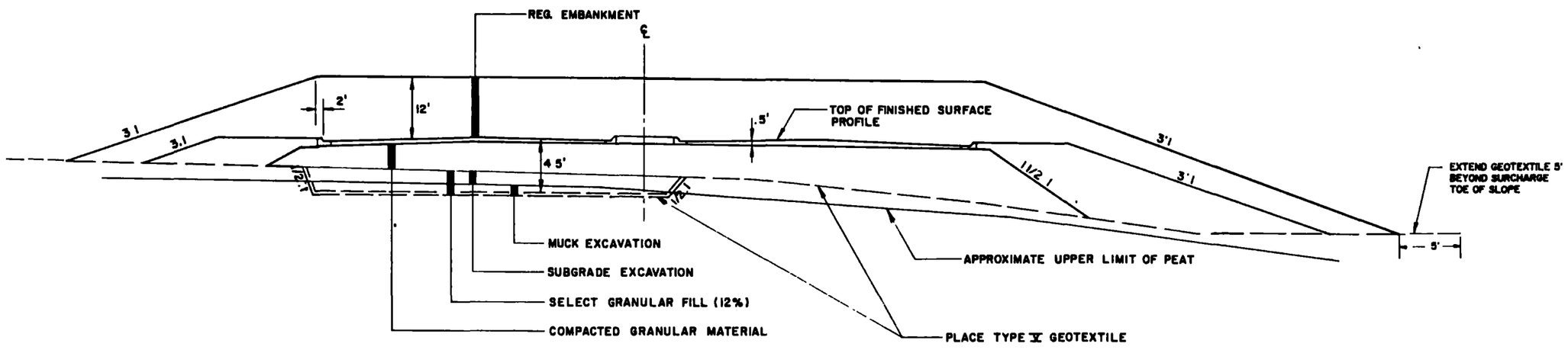
TYPICAL SECTIONS

LOUISIANA AVENUE



INPLACE LOUISIANA AVE. SURCHARGE

STA. 37+70 TO STA. 45+00

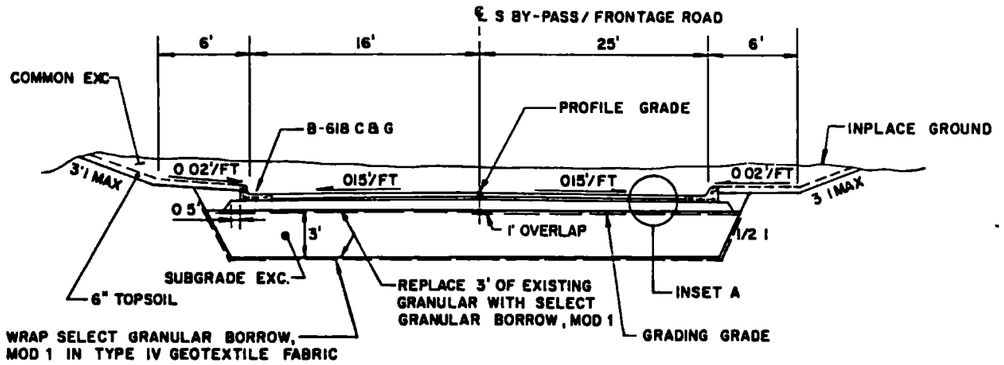


ADDITIONAL LOUISIANA AVE. SURCHARGE AND MUCK EXCAVATION

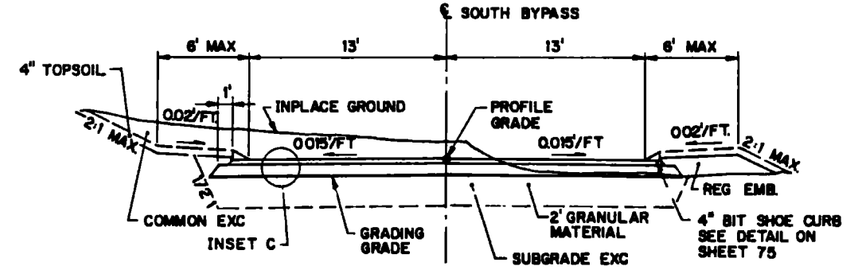
STA. 45+00 TO STA. 46+65

NOTES 1 REFER TO SHEET 74 FOR SETTLEMENT PLATE CONSTRUCTION DETAILS

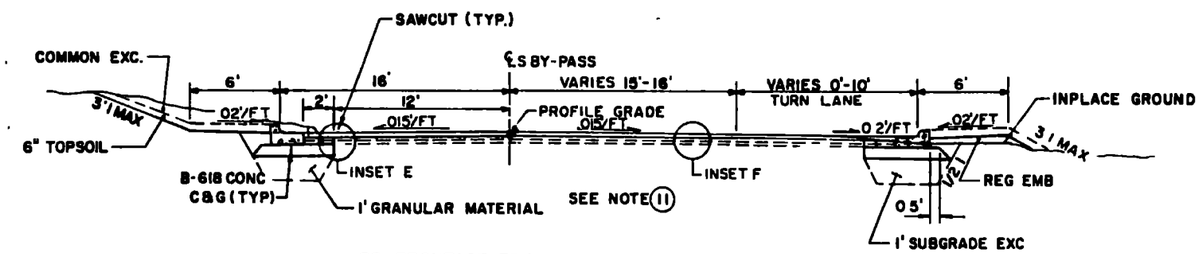
TYPICAL SECTIONS
LOUISIANA AVENUE SURCHARGE
LOUISIANA AVENUE MUCK EXCAVATION



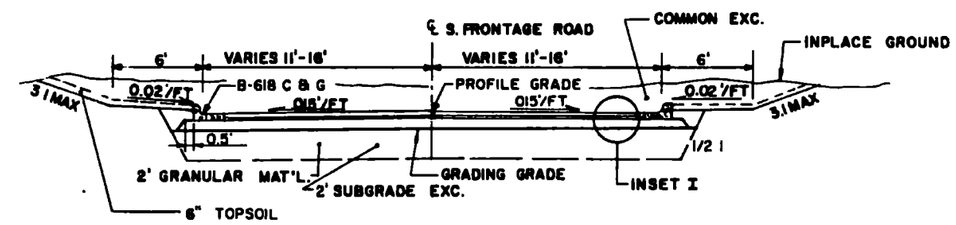
SOUTH FRONTAGE RD/
SOUTH BY-PASS @ LOUISIANA AVE.
STA. 41 + 90 TO 44 + 75



SOUTH BYPASS
(TEMPORARY CONSTRUCTION)
STA. 16+97 TO STA. 23+07
STA. 56+42 TO STA. 61+49

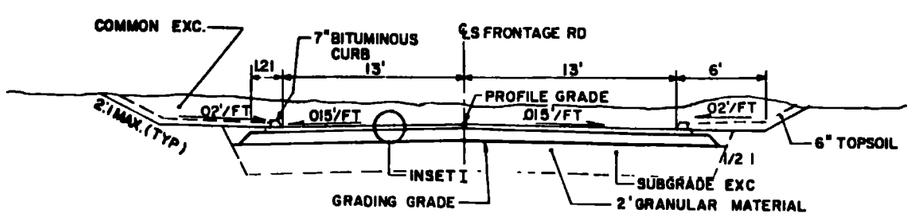


SO. FRONTAGE RD/
SO. BY-PASS 32+90 TO 41+90 & 44+75 TO 56+00 (LT)
34+50 TO 41+90 & 44+75 TO 56+00 (RT)



SO. FRONTAGE RD. STA. 56+00 TO 65+50

CONSTRUCT OVERLAY INSET F
SO. FRONTAGE RD. STA 12+65 TO STA. 13+07
SO. BY-PASS / STA. 23+07 TO STA 31+90
SO FRONTAGE RD



SO. FRONTAGE ROAD STA 8+94 TO 12+65

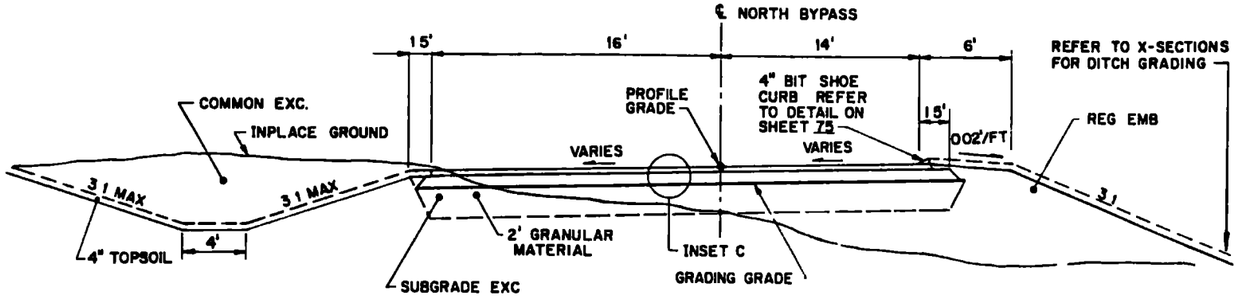
(9) CONSTRUCT OVERLAY (INSET F) BETWEEN SOUTH BYPASS STA 12+65 AND 34+50

(10) TOP OF BINDER COURSE FOR INSET E TO MATCH LEVELING COURSE FOR INSET F

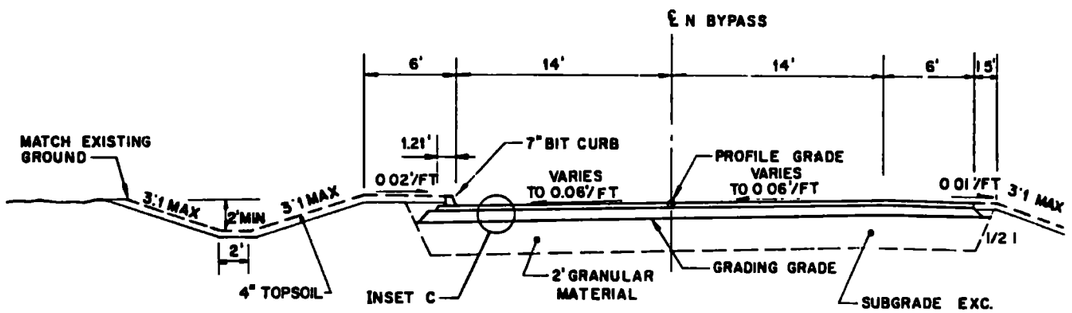
(11) IN AREAS WHERE FULL WIDTH PAVEMENT REMOVAL IS REQUIRED EXTEND 1' GRANULAR UNDER FULL WIDTH AND PAVE WITH INSET I.

TYPICAL SECTIONS

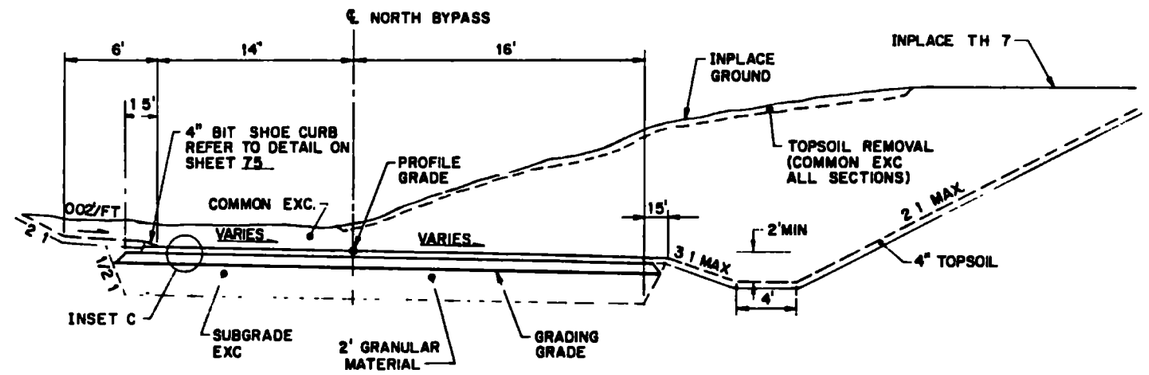
SOUTH BY-PASS
SOUTH FRONTAGE ROAD



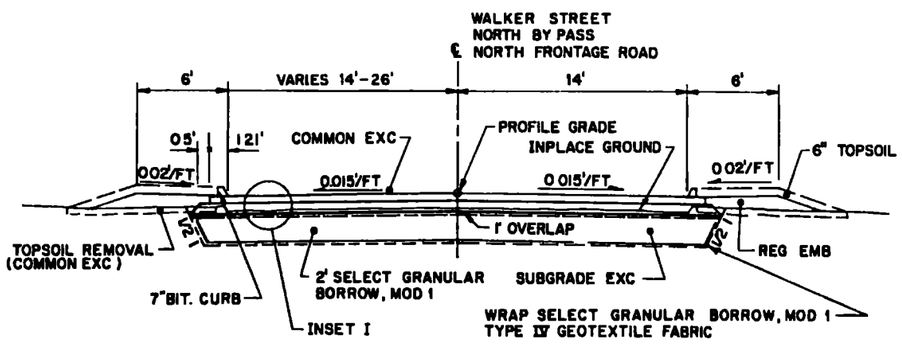
NORTH BYPASS
(TEMPORARY CONSTRUCTION)
STA. 32+03.50 TO STA. 40+50



NORTH BYPASS
(TEMPORARY CONSTRUCTION)
STA. 22+11 TO STA. 24+74



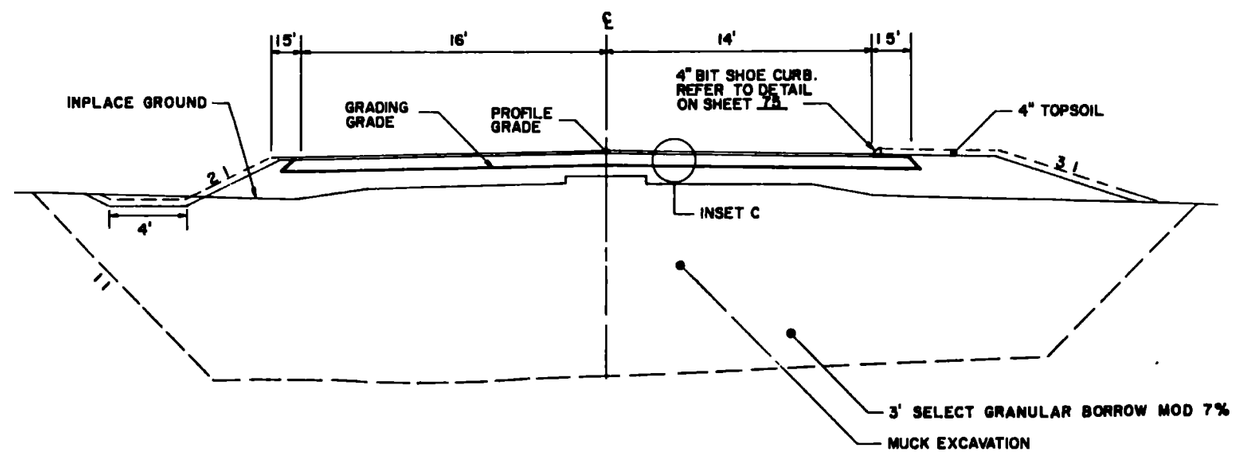
NORTH BYPASS
(TEMPORARY CONSTRUCTION)
STA. 40+50 TO STA. 49+27.31



NORTH FRONTAGE ROAD
STA. 12+40 TO STA. 14+74

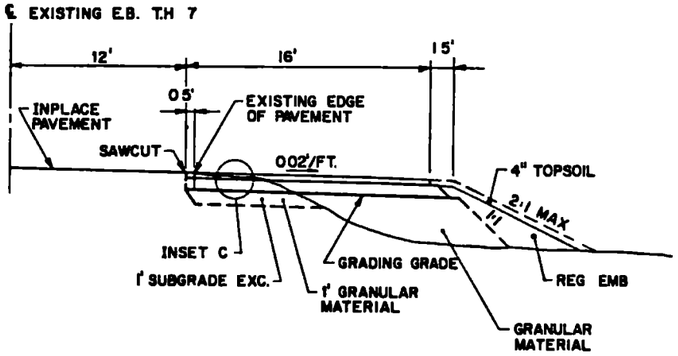
NORTH BYPASS / NO FRONTAGE RD.
STA. 24+74 TO STA. 28+50

WALKER ST.
STA 5+80 TO STA. 7+60

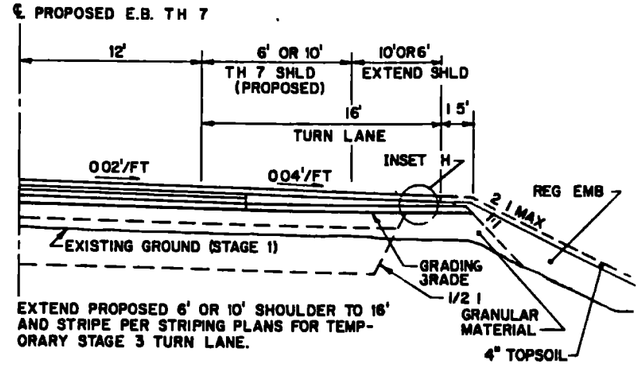


NORTH BYPASS
STA. 33+45 TO STA 34+12

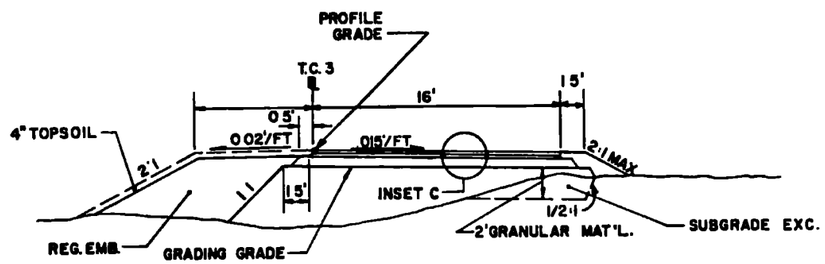
TYPICAL SECTIONS
NORTH BYPASS
NORTH FRONTAGE RD
WALKER STREET



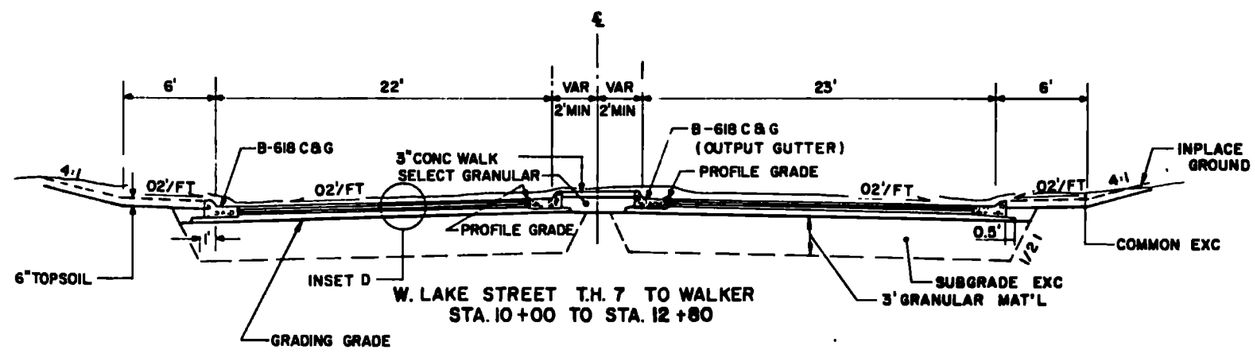
LEFT TURN LANE
TEMPORARY CONNECTION 4
STAGE 1
STA. 504+15 TO STA. 507+73 (T.H.7 EBL, RT)



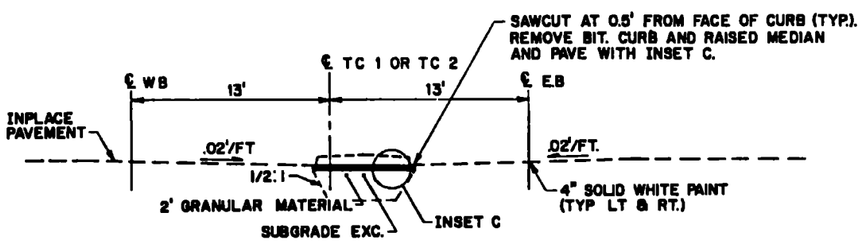
LEFT TURN LANE
TEMPORARY CONNECTION 4
STAGE 3
STA. 504+15 TO STA. 507+73 (T.H.7 EBL, RT)



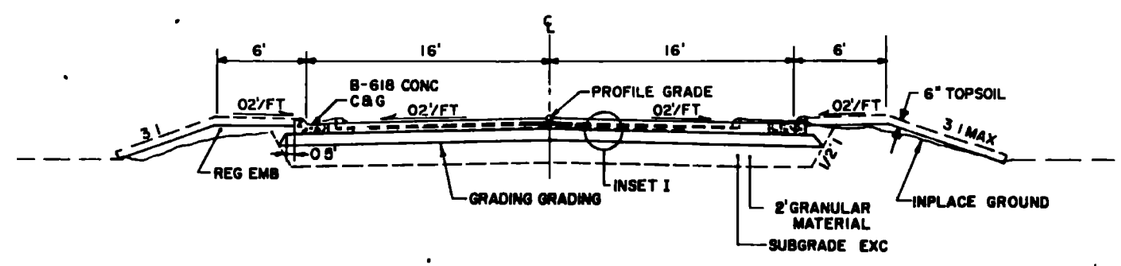
TEMPORARY CONNECTION 3 STA. 11+15 TO 14+74



W. LAKE STREET T.H. 7 TO WALKER
STA. 10+00 TO STA. 12+80



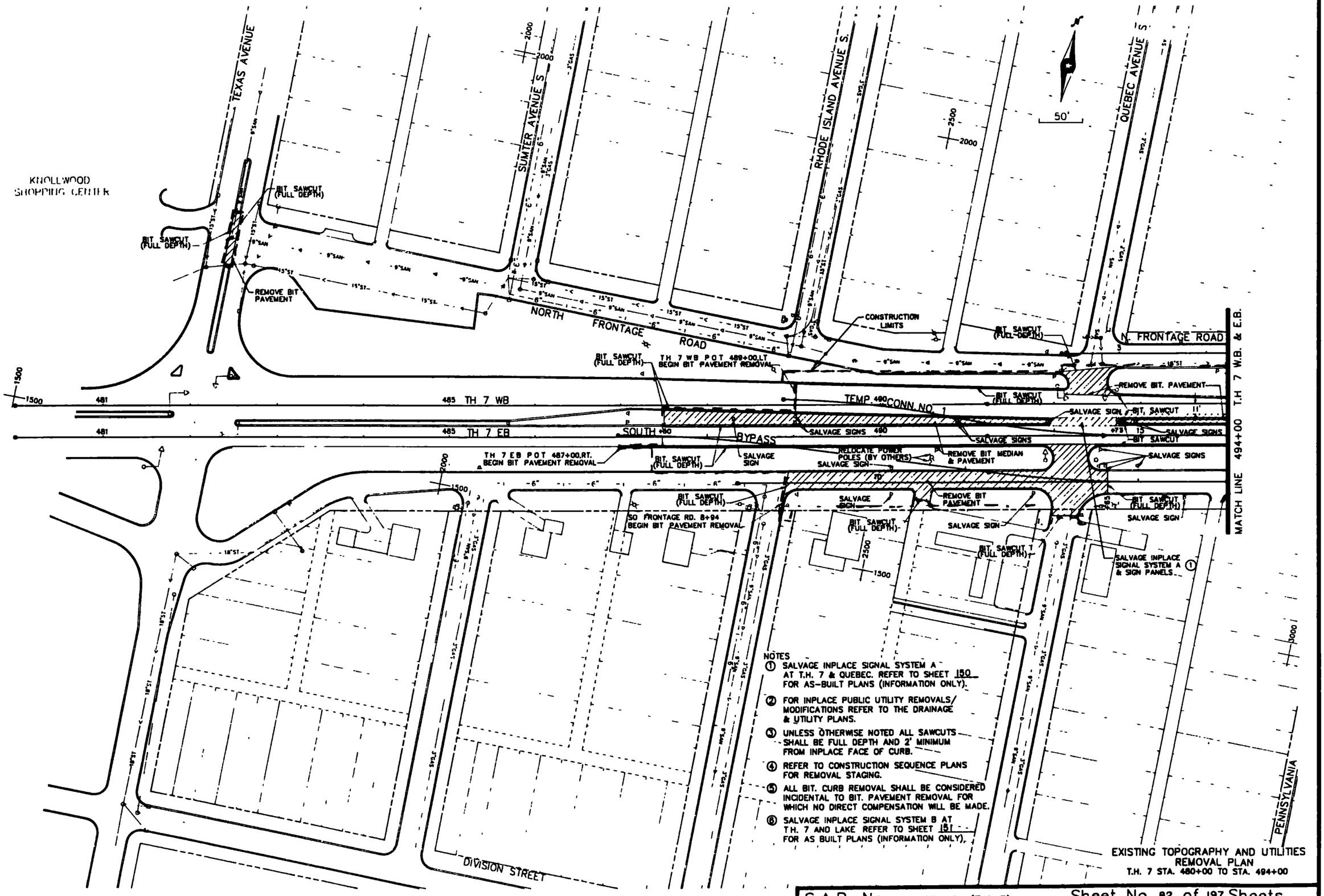
TEMPORARY CONNECTION 1 STA. 8+88 TO 13+07
TEMPORARY CONNECTION 2 STA 26+57 TO 30+44



W. LAKE ST. STA. 5+10 TO 7+38

TYPICAL SECTIONS

W LAKE STREET
TEMPORARY CONNECTIONS 1, 2 AND 3
TEMPORARY CONNECTION 4
STAGES 1 AND 3

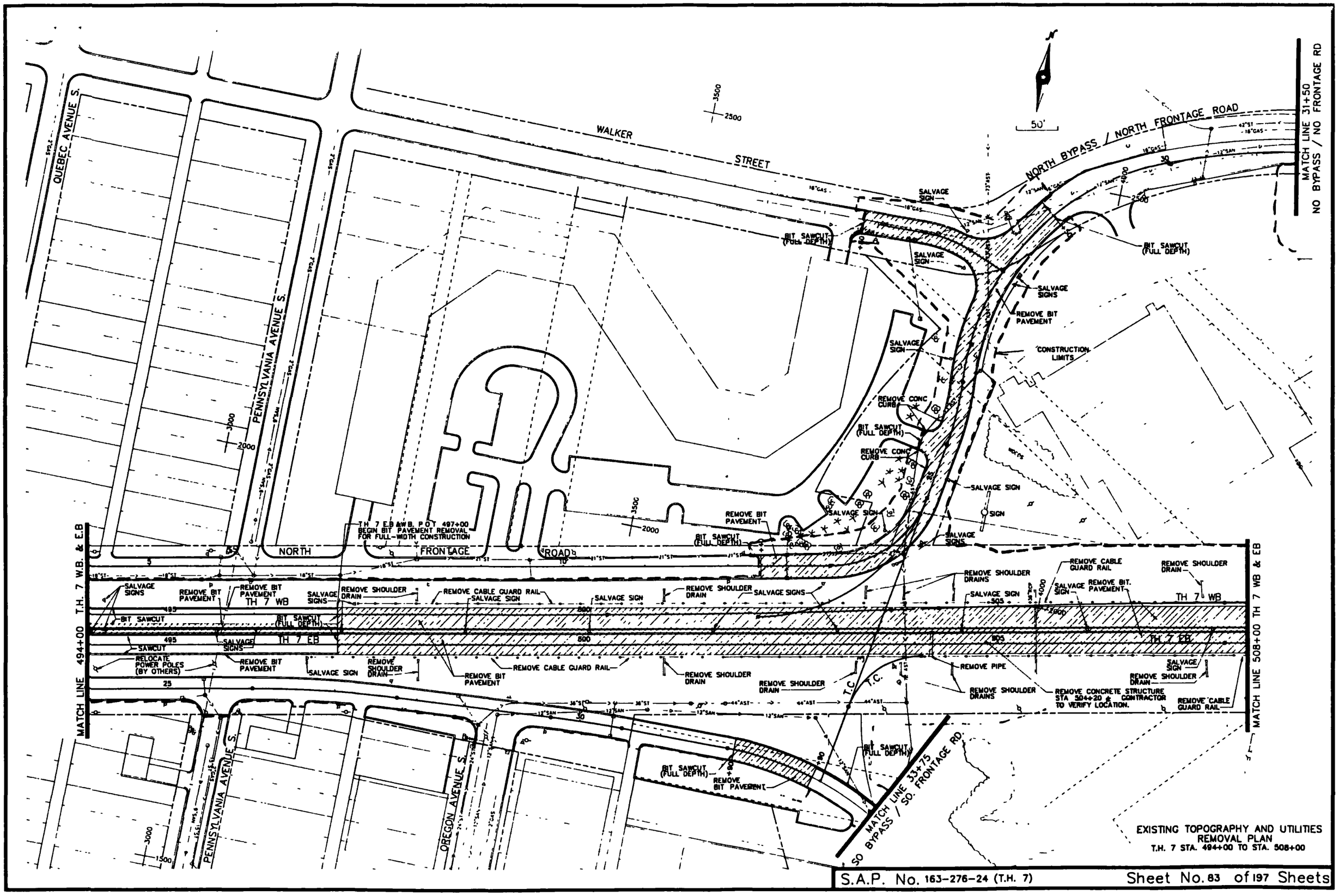


NOTES

1. SALVAGE INPLACE SIGNAL SYSTEM A AT T.H. 7 & QUEBEC. REFER TO SHEET 150 FOR AS-BUILT PLANS (INFORMATION ONLY).
2. FOR INPLACE PUBLIC UTILITY REMOVALS/ MODIFICATIONS REFER TO THE DRAINAGE & UTILITY PLANS.
3. UNLESS OTHERWISE NOTED ALL SAWCUTS SHALL BE FULL DEPTH AND 2' MINIMUM FROM INPLACE FACE OF CURB.
4. REFER TO CONSTRUCTION SEQUENCE PLANS FOR REMOVAL STAGING.
5. ALL BIT. CURB REMOVAL SHALL BE CONSIDERED INCIDENTAL TO BIT. PAVEMENT REMOVAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
6. SALVAGE INPLACE SIGNAL SYSTEM B AT T.H. 7 AND LAKE REFER TO SHEET 151 FOR AS BUILT PLANS (INFORMATION ONLY).

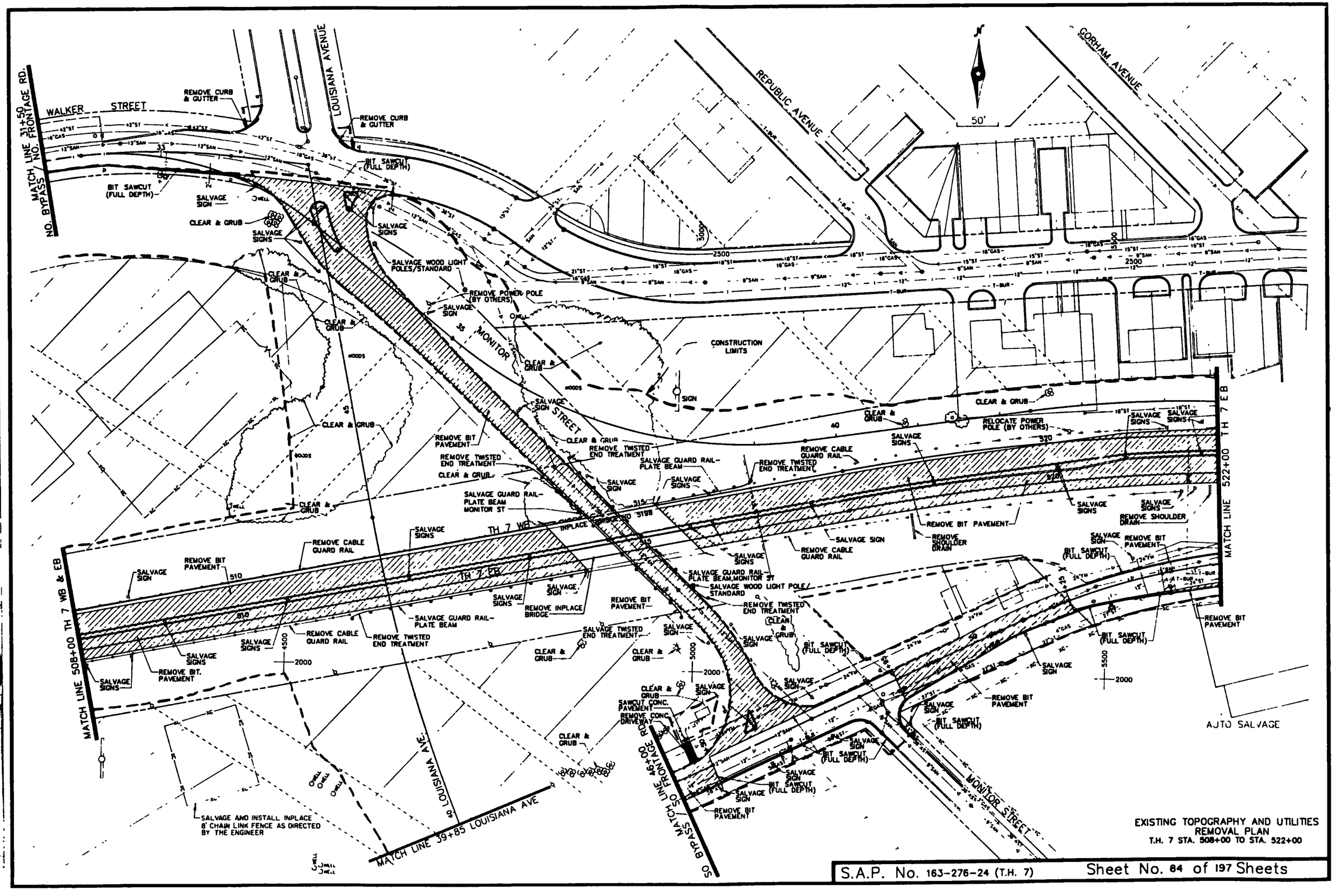
EXISTING TOPOGRAPHY AND UTILITIES REMOVAL PLAN
T.H. 7 STA. 480+00 TO STA. 494+00

S.A.P. No. 163-276-24 (T.H. 7)

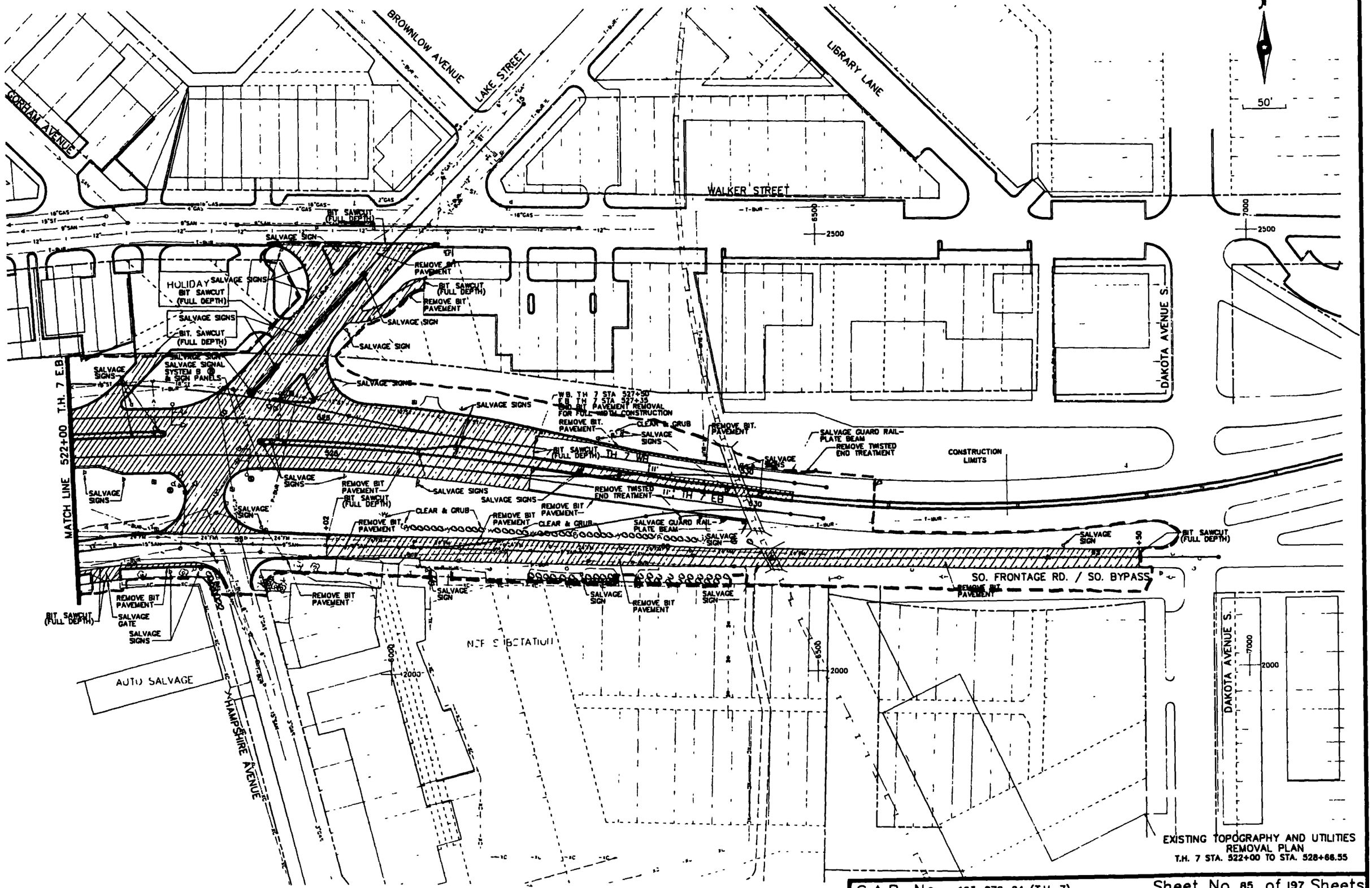


S.A.P. No. 163-276-24 (T.H. 7)

Sheet No. 83 of 197 Sheets



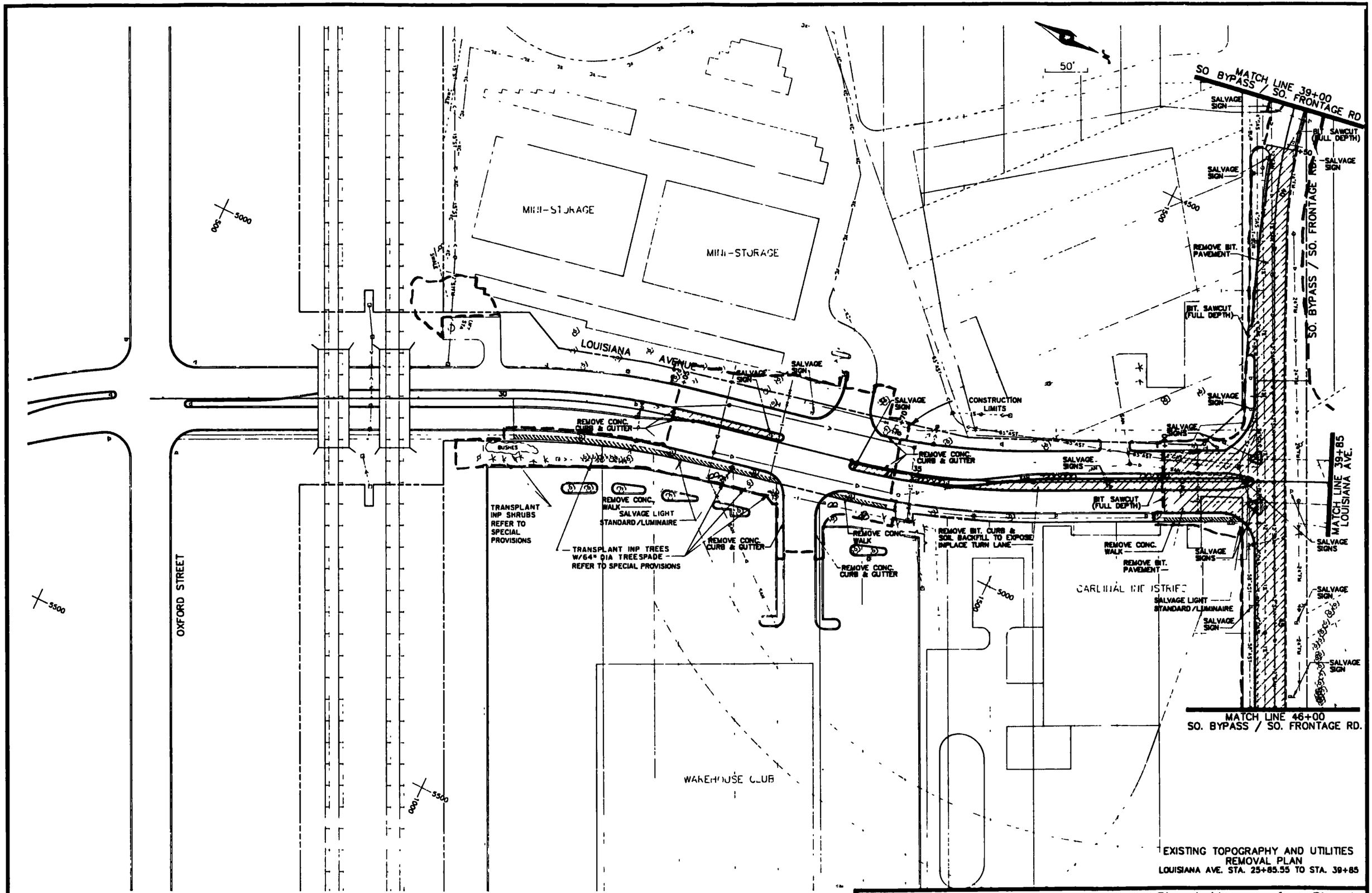
S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 84 of 197 Sheets



EXISTING TOPOGRAPHY AND UTILITIES REMOVAL PLAN
T.H. 7 STA. 522+00 TO STA. 528+66.55

S.A.P. No. 163-276-24 (T.H. 7)

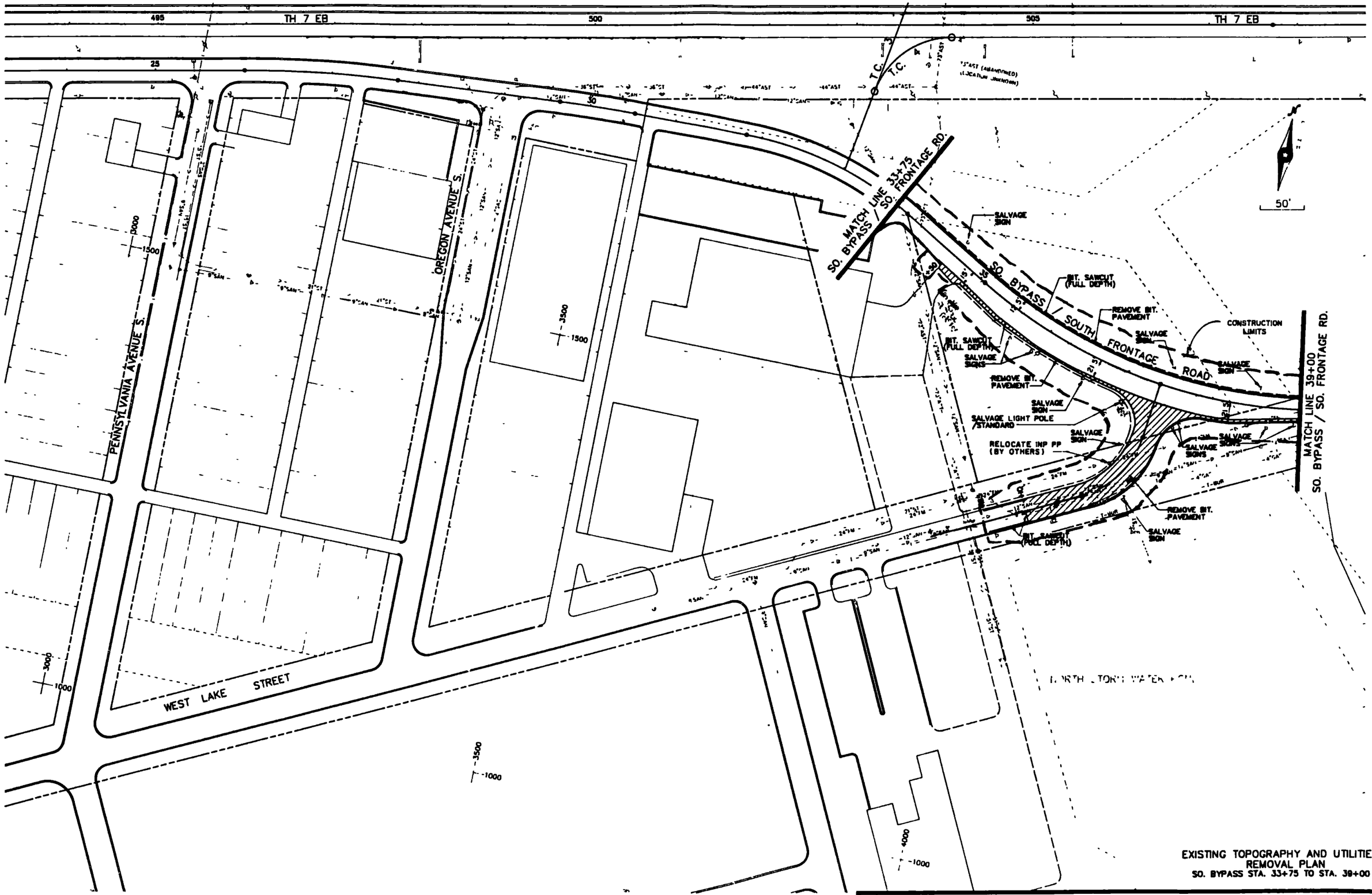
Sheet No. 85 of 197 Sheets



EXISTING TOPOGRAPHY AND UTILITIES
REMOVAL PLAN
LOUISIANA AVE. STA. 25+85.55 TO STA. 39+85

S.A.P. No. 163-276-24 (T.H. 7)

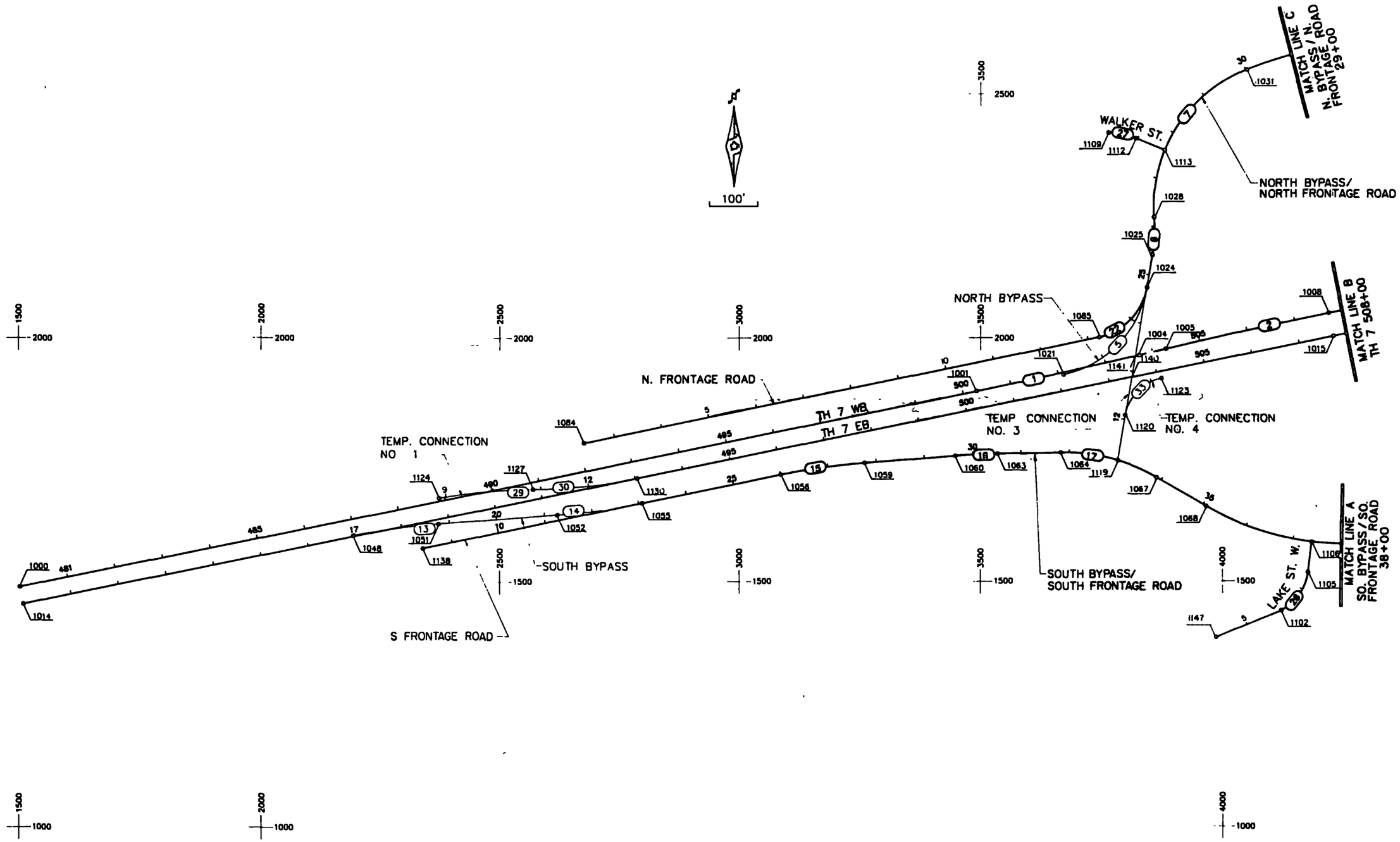
Sheet No. 86 of 197 Sheets



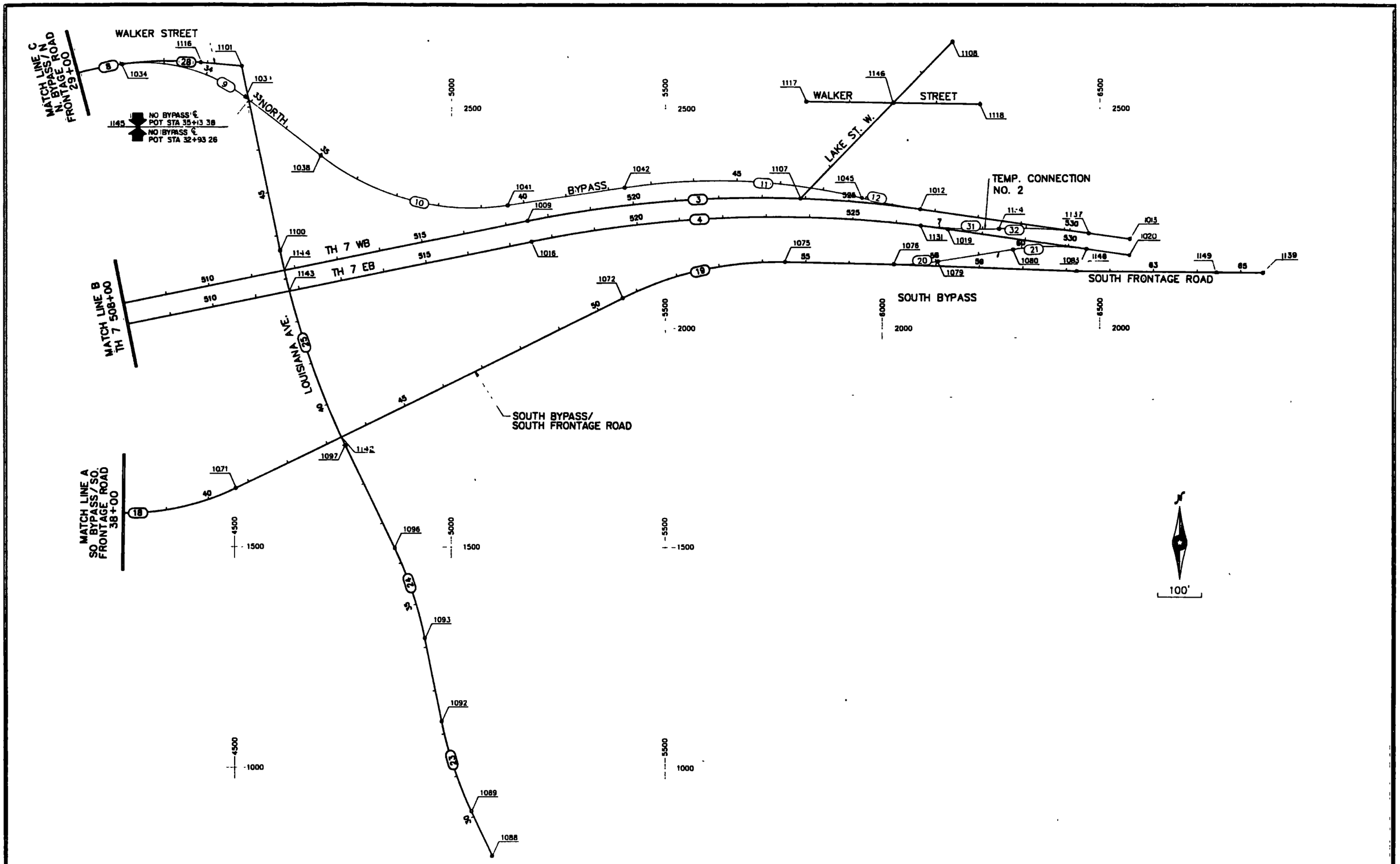
EXISTING TOPOGRAPHY AND UTILITIES
REMOVAL PLAN
SO. BYPASS STA. 33+75 TO STA. 39+00

S.A.P. No. 163-276-24 (T.H. 7)

Sheet No. 87 of 197 Sheets



ALIGNMENT LAYOUT



ALIGNMENT LAYOUT

CURVE NO.	POINT NO.	POINT TYPE	STATION	NOTES	CURVE DATA Δ	D	R	T	L	COORDINATES X	Y	AZIMUTH
T.H. 7 W.B.												
	1000	P.O.T.	480+00.00	BEGIN ALIGNMENT T.H. 7 W.B.						1503.129	1489.905	78° 35'33.33"
(1)	1001	P.C.	500+28.15							3491.214	1891.041	78° 35'33.33"
	1002	P.I.	501+99.90		1° 43'02.36"	0° 30'00.00"	11459.156	171.745	343.464	3659.566	1925.009	
	1003	R.P.								1224.775	13123.-R2b	
	1004	P.T.	503+71.61							3826.825	1964.008	
	1005	P.C.	504+28.54							3882.215	1976.864	76° 52'30.97"
(2)	1006	P.I.	508+00.29		1° 43'02.36"	0° 30'00.00"	11459.156	171.745	343.464	4049.526	2015.933	
	1007	R.P.								6484.317	9182.886	
	1008	P.T.	507+72.00							4217.879	2049.902	78° 35'33.33"
	1009	P.C.	517+50.75							5177.284	2243.483	78° 35'33.33"
(3)	1010	P.I.	522+12.39		19° 30'00.00"	2° 07'57.59"	2686.579	461.639	914.348	5629.813	2334.788	
	1011	R.P.								5708.657	390.025	
	1012	P.T.	526+65.10	= NORTH BYPASS PT STA 49+27.31						6086.855	2269.801	98° 05'33.33"
	1132	P.O.T.	530+56.54	= TEMPORARY CONNECTION 2 PT STA 30+43.78						6474.393	2209.434	98° 05'33.33"
	1013		531+50	END T.H. 7 W.B.						6566.919	2281.541	
T.H. 7 E.B.												
	1014	P.O.T.	480+00.00	BEGIN ALIGNMENT T.H. 7 E.B.						1510.249	1454.616	78° 35'33.33"
	1015	P.O.T.	507+71.88	BACK = 507+72.00 AHEAD						4227.372	2002.850	
	1016	P.C.	517+50.75							5186.788	2196.431	78° 35'33.33"
(4)	1017	P.I.	522+40.09		19° 30'00.00"	2° 00'42.98"	2847.789	489.340	969.214	5666.461	2293.215	
	1018	R.P.								5750.035	595.101	
	1019	P.T.	527+19.96							6150.927	2224.327	98° 05'33.33"
	1083	P.O.T.	530+41.56	= SOUTH BYPASS PT STA 61+48.56						6469.325	2179.056	98° 05'33.33"
	1020		531+90	END T.H. 7 E.B.						6566.5399	2185.2333	
NORTH BYPASS/ NORTH FRONTAGE ROAD												
	1021	P.C.	22+10.94	BEGIN NORTH BYPASS = T.H. 7 WB STA 502+10.94, 4.46 RT.						3671.048	1924.266	78° 35'33.33"
(5)	1022	P.I.	23+61.12		69° 00'00.00"	26° 13'15.18"	218.512	150.179	263.149	3819.676	1962.343	
	1023	R.P.								3827.830	2138.461	
	1024	P.T.	24+74.09	= NO. FRONT. RD PT STA 14+74.09 = TEMP. CONNECT. 3 POT STA 14+74.09					67.420	3843.286	2102.048	9° 35'33.33"
	1025	P.C.	25+41.51							3854.521	2168.525	9° 35'33.33"
(6)	1026	P.I.	25+80.59		14° 00'00.00"	18° 00'00.00"	318.310	39.084	77.778	3861.034	2207.062	
	1027	R.P.								3540.662	2221.568	
	1028	P.R.C.	26+19.29							3858.031	2246.030	355° 35'33.33"
(7)	1029	P.I.	28+42.43		73° 00'00.00"	19° 00'00.00"	301.557	223.140	384.211	3840.823	2468.510	
	1030	R.P.								4158.898	2269.204	
	1031	P.C.C.	30+03.50							4048.628	2549.956	68° 35'33.33"
(8)	1032	P.I.	31+04.00		13° 57'45.58"	6° 58'52.79"	820.700	100.498	200.000	4142.193	2588.638	
	1033	R.P.								4348.181	1785.877	
	1034	P.C.C.	32+03.50	= WALKER ST. PC STA 12+03.50						4241.843	2599.659	82° 33'18.91"
(9)	1035	P.I.	33+61.72		45° 00'00.00"	15° 00'00.00"	381.972	158.218	300.000	4398.728	2620.159	
	1036	R.P.								4291.335	2220.907	
①	1037	P.T.	35+03.50						217.540	4524.157	2523.721	127° 33'18.91"
	1038	P.C.	35+00.93							4686.616	2391.125	127° 33'18.91"
(10)	1039	P.I.	37+44.73		46° 06'00.00"	10° 00'00.00"	572.958	243.797	461.000	4889.889	2242.524	
	1040	R.P.								5045.848	2845.346	
	1041	P.T.	39+61.93						275.363	5130.979	2278.748	81° 27'18.91"
	1042	P.C.	42+37.29							5403.286	2319.682	81° 27'18.91"
(11)	1043	P.I.	45+17.28		22° 07'08.61"	4° 00'00.00"	1432.395	279.974	552.977	5680.152	2361.261	
	1044	R.P.								5616.114	903.167	
	1045	P.R.C.	47+90.27							5952.306	2295.549	103° 34'27.52"
(12)	1046	P.I.	48+58.84		5° 28'54.19"	4° 00'00.00"	1432.395	68.574	137.043	6018.964	2279.455	
	1047	R.P.								6288.498	3687.932	
	1012	P.T.	49+27.31	END NORTH BYPASS = TH 7 WB PT STA 526+65.10						6086.855	2269.801	98° 05'33.33"
SOUTH BYPASS/ SOUTH FRONTAGE ROAD												
	1048	P.C.	16+97.02	BEGIN SOUTH BYPASS = TH 7 EB POT STA 486+97.02, 2.00' RT.						2193.104	1594.436	78° 35'33.33"
(13)	1049	P.I.	17+87.23		7° 12'26.00"	4° 00'00.00"	1432.395	90.209	180.180	2281.531	1612.278	
	1050	R.P.								2478.409	190.338	
	1051	P.T.	18+77.20						250.000	2371.498	1618.885	85° 47'59.33"
	1052	P.C.	21+27.20							2620.827	1637.196	85° 47'59.33"
(14)	1053	P.I.	21+17.41		7° 12'26.00"	4° 00'00.00"	1432.395	90.209	180.186	2710.794	1643.803	
	1054	R.P.								2515.916	3085.743	
	1055	P.T.	23+07.38	= SO. FRONT. RD. POT STA 13+07.38					293.520	2799.221	1661.645	78° 35'33.33"
	1056	P.C.	26+00.90							3086.943	1719.698	78° 35'33.33"
(15)	1057	P.I.	26+88.51		7° 00'00.00"	4° 00'00.00"	1432.395	87.609	175.000	3172.821	1737.026	
	1058	R.P.								3370.248	315.600	
	1059	P.T.	27+75.90						188.280	3260.171	1743.786	85° 35'33.33"
	1060	P.C.	29+64.18							3447.894	1758.227	85° 35'33.33"
(16)	1061	P.I.	30+07.94		3° 30'00.00"	4° 00'00.00"	1432.395	43.764	87.500	3491.528	1761.591	
	1062	R.P.								3557.971	330.089	
	1063	P.T.	30+51.68						130.310	3535.287	1762.284	89° 05'33.33"
	1064	P.C.	31+81.99							3665.580	1764.347	89° 05'33.33"
(17)	1065	P.I.	32+87.92		31° 00'00.00"	15° 00'00.00"	381.972	105.930	206.667	3771.497	1766.025	
	1066	R.P.								3871.830	1382.423	
	1067	P.T.	33+88.66						118.176	3863.149	1712.912	120° 05'33.33"
	1068	P.C.	35+06.84							3965.398	1653.658	120° 05'33.33"
(18)	1069	P.I.	38+11.30		55° 58'17.00"	10° 00'00.00"	572.958	309.464	559.714	4228.825	1501.000	
	1070	R.P.								4252.678	2149.391	64° 07'16.33"
	1071	P.T.	40+66.55						996.150	4502.757	1633.889	64° 07'16.33"
	1072	P.C.	50+62.70							5399.010	2088.677	
(19)	1073	P.I.	52+61.02		27° 14'25.00"	7° 00'00.00"	818.511	198.323	389.147	5577.445	2155.239	
	1074	R.P.								5756.285	1332.247	
	1075	P.T.	54+51.85						250.860	5775.712	2150.527	91° 21'41.33"
	1076	P.C.	57+02.71	= SO. FRONT. RD. POT STA 57+02.71						6026.502	2144.566	91° 21'41.33"
	1077	P.I.	57+53.73		10° 10'38.00"	10° 00'00.00"	572.958	51.020	101.772	6077.508	2143.354	

District Staff
A.J. Lamontagne
12-21-89

① STATION EQUATION AT ℄-℄ LOUISIANA AV /NO BYPASS
NO. BYPASS POT STA 35+13.38= NO. BYPASS POT STA 32+93.26

ALIGNMENT TABULATION

CURVE NO.	POINT NO.	POINT TYPE	STATION	NOTES	CURVE DATA Δ	D	R	T	L	COORDINATES X	Y	AZIMUTH
SOUTH BYPASS (CONT.)												
	1078	R.P								6040.115	2717.362	
	1079	P.T.	58+04.48							6127.925	2151.173	81°11'03.33"
	1080	P.C.	59+79.48							6300.858	2177.993	81°11'03.33"
(21)	1081	P.I.	60+64.64		16°54'30.00"	10°00'00.00"	572.958	85.161	169.083	6385.012	219.0446	
	1082	R.P.								6388.668	1611.804	
	1083	P.T.	61+48.56	END SOUTH BYPASS = TH 7 EB POT STA 530+41.56						6469.325	2179.056	98°05'33.33"
NORTH FRONTAGE ROAD												
	1084	P.O.T.	2+34.07	BEGIN ALIGNMENT, NORTH FRONTAGE ROAD						2676.791	1784.864	78°35'33.33"
	1085	P.C.	13+23.56							3744.757	2000.347	78°35'33.33"
(22)	1086	P.I.	14+09.47		69°00'00.00"	45°50'11.84"	125.000	85.910	150.535	3828.970	2017.339	
	1087	R.P.								3720.034	2122.878	
	1024	P.T.	14+74.09	END NORTH FRONTAGE ROAD, BEGIN NORTH BYPASS PT STA 24+74.09						3843.286	2102.048	9°35'33.33"
LOUISIANA AVENUE												
	1088	P.O.T.	29+00.00	BEGIN ALIGNMENT, LOUISIANA AVENUE						5233.904	517.939	334°06'59.48"
	1089	P.C.	30+13.13							5047.248	902.626	334°06'59.48"
(23)	1090	P.I.	31+21.36		14°00'00.00"	6°30'00.00"	881.474	108.231	215.385	5000.000	1000.000	
	1091	R.P.								5840.295	1287.427	
	1092	P.T.	32+28.52							4977.713	1105.9118	348°06'59.48"
	1093	P.C.	34+20.76							4938.127	1294.030	348°06'59.48"
(24)	1094	P.I.	35+28.99		14°00'00.00"	6°30'00.00"	881.474	108.231	215.385	4915.840	1399.942	
	1095	R.P.								4075.545	1112.515	
	1096	P.T.	36+36.15							4888.592	1497.316	334°06'59.48"
	1097	P.C.	38+98.84							4803.552	1731.854	334°06'59.48"
(25)	1098	P.I.	41+32.77		14°05'04.95"	3°00'00.00"	1909.859	235.934	469.490	4851.795	1944.120	
	1099	R.P.								6473.080	2585.588	
	1100	P.T.	43+66.33							4603.552	2175.070	348 12'04.43"
	1101	P.O.T.	47+95.02	END ALIGNMENT, LOUISANA AVE. – STA. 47+95.02 = WALKER ST. STA. 14+78.34						4515.895	2594.704	
LAKE STREET												
PART 1 (SOUTH OF TH 7)												
	1147	P.O.T.	4+65.00	BEGIN ALIGNMENT, WEST LAKE STREET						4033.316	1399.215	
	1102	P.C.	5+60.68							4119.605	1440.542	64°24'30.48"
(26)	1103	P.I.	6+10.81		57°26'53.86"	57°17'44.80"	100.000	54.803	100.266	4169.032	1464.214	
	1104	R.P.								4076.410	1530.731	
	1105	P.T.	6+60.94							4175.673	1518.613	6°57'36.62"
	1106	P.O.T.	7+38.16	END ALIGNMENT, WEST LAKE STREET – STA. 7+38.16 = S. BYPASS STA. 37+38.16						4183.247	1580.655	
PART 2 (NORTH OF TH 7)												
	1107	P.O.T.	10+00.00	BEGIN ALIGNMENT, WEST LAKE STREET = TH 7 POC STA 523+88.17						5811.158	2294.599	44°24'03.33"
	1108	P.O.T.	15+00.00	END ALIGNMENT, WEST LAKE STREET						6160.995	2651.829	
WALKER STREET												
PART 1 (NORTH BYPASS WEST END)												
	1109	P.C.	6+54.32	BEGIN ALIGNMENT, WALKER STREET						3778.747	2411.665	88°34'00.80
(27)	1110	P.I.	6+85.45		22°20'54.21"	39°48'10.13"	150.000	30.123	62.259	3806.393	2412.455	
	1111	R.P.								3782.499	2261.712	
	1112	P.T.	7+16.57							3839.534	2400.445	112°20'54.21"
	1113	P.O.T.	7+60.11	END ALIGNMENT, WALKER STREET – STA. 7+60.11 = N. BYPASS STA. 27+60.11						3879.790	2383.867	
PART 2 (LOUISIANA AVENUE)												
	1034	P.C.	12+03.50	BEGIN ALIGNMENT, WALKER STREET = NORTH BYPASS PCC STA 32+03.50						4241.843	2599.659	82°33'18.91"
(28)	1114	P.I.	12+94.44		12°38'45.54"	6°58'52.79"	820.700	90.939	181.140	4332.016	[illegible]	
	1115	R.P.								4348.181	1785.877	
	1116	P.T.	13+84.64							4422.581	2603.198	95°12'04.45"
	1101	P.I.	14+78.34	END ALIGNMENT, WALKER ST – STA. 14+78.34 = LOUISIANA AVE. STA. 47+95.02						4515.895	2594.704	
PART 3 (LAKE STREET WEST)												
	1117	P.O.T.	18+00.00	BEGIN ALIGNMENT, WALKER STREET						5824.643	2515.543	90°51'03.33"
	1118	P.I.	22+00.00	END ALIGNMENT, WALKER STREET						6224.599	2509.603	
TEMPORARY CONNECTION NO. 3												
	1119	P.I.	11+14.69	BEGIN TEMPORARY CONNECTION 3 = SOUTH BYPASS POC STA 33+01.46						3783.398	1747.678	9°35'33.33"
	1024	P.I.	14+74.09	END TEMPORARY CONNECTION 3 = NORTH BYPASS PT STA 24+74.09						3843.286	2102.048	
TEMPORARY CONNECTION NO. 4												
	1120	P.C.	2+01.16	BEGIN ALIGNMENT, TEMPORARY CONNECTION NO. 4 = TEMP CONN 3 POT STA 12+01.16						3798.756	1838.674	9°35'33.33"
(29)	1121	P.I.	2+61.37		69°00'00.00"	57°17'44.80"	100.00	68.728	120.428	3825.455	1891.592	
	1122	R.P.								3897.377	1822.010	
	1123	P.T.	2+69.88	END ALIGNMENT, TEMPORARY CONNECTION NO. 4						3877.598	1920.034	78°35'33.33"
TEMPORARY CONNECTION NO. 1												
	1124	P.C.	8+88.24	BEGIN TEMPORARY CONNECTION NO 1 = TH 7 WB STA 488+88.24, 6.24' LT						2372.584	1671.696	79°44'18.08"
(30)	1125	P.I.	9+87.50		9°34'03.29"	5°00'00.00"	1145.916	99.256	198.018	2470.253	1689.378	
	1126	R.P.								2578.722	544.110	
	1127	P.R.C.	10+86.26							2569.507	1690.003	89°38'21.37"
(30)	1128	P.I.	11+97.07		11°02'48.04"	5°00'00.00"	1145.916	110.810	220.934	2680.315	1690.701	
	1129	R.P.								2562.293	2835.896	
	1130	P.T.	13+07.19	END TEMPORARY CONNECTION NO. 1 = TH 7 EB POT STA 493+04.46						2788.9385	1712.6170	78°35'33.33"

ALIGNMENT TABULATION

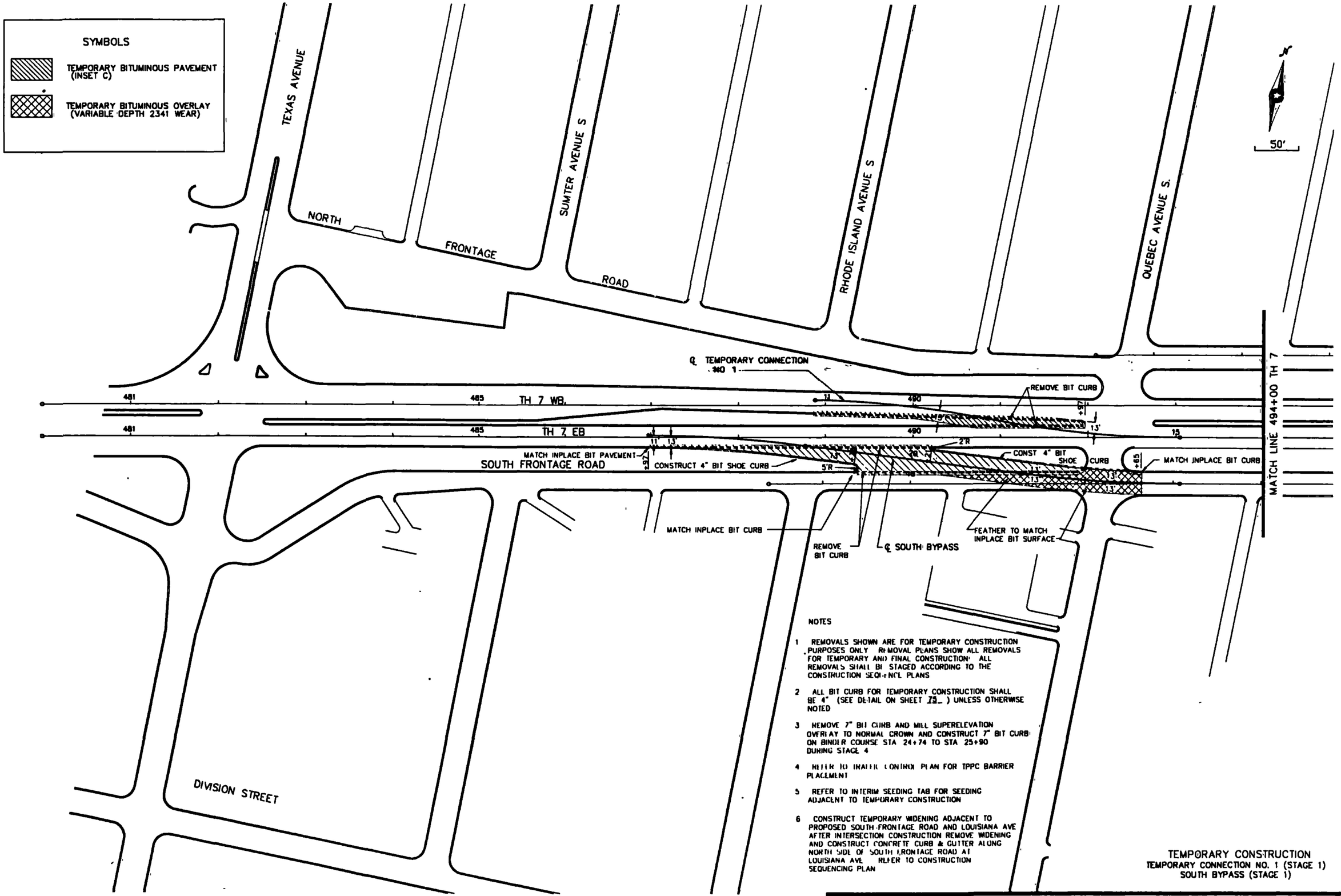
CURVE NO.	POINT NO.	POINT TYPE	STATION	NOTES	CURVE DATA Δ	D	R	T	L	COORDINATES X	Y	AZIMUTH
TEMPORARY CONNECTION NO. 2												
	1131	P.C.	26+56.90	BEGIN ALIGNMENT, TEMPORARY CONNECTION NO. 2 = TH 7 EB POC STA 526+56 90						6088.393	2232.515	96°49'25 21"
(31)	1132	P.I.	27+47 46		9°02'15.33"	5°00'00 00"	1145.916	90.564	180.752	6178.315	2221.755	
	1133	R.P								6224 544	3370.314	
	1134	P.R.C.	28+37.65							6268.811	2225.254	87°47'09.88"
(32)	1135	P.I.	29+40.99		10°18'23 45"	5°00'00.00"	1145.916	103.344	206.130	6372 078	2229.246	
	1136	R.P.								6313.078	1080 193	
	1137	P.T.	30+43.78	END ALIGNMENT, TEMPORARY CONNECTION NO. 2 = TH 7 WB POT STA 530+56.54						6474 393	2214 698	98°05'33.33"

SOUTH FRONTAGE ROAD												
PART 1 (WEST END)												
	1138	POT	8+37 92							2339 034	1568.793	78°35'33 33"
	1055	POT	13+07 38	= SOUTH BYPASS PT STA 23+07 38						2799 221	1661 645	
PART 2 (EAST END)												
	1076	POT	57+02 71	= SOUTH BYPASS PC STA 57+02 71						6026 502	2144 566	92°11' 56 00"
	1148	PI	61 +22 56							6446 053	2128 457	90° 30'25.02"
	1149	PI	64+43 78							6767 260	2125 615	90° 31' 42.68"
	1139	POT	65+50	END ALIGNMENT						6873 473	2124 635	

POINT NO.	STATION	COORDINATES X	Y	REMARKS
INTERSECTION REFERENCE POINTS				
1119	SOUTH BYPASS P O.C. 33+01.48 = TEMPORARY CONNECTION NO. 3 P O.T. 11+14 69	3783 836	1754 212	
1140	T.H. 7 E.B. P O.T. 503+48.51 = TEMPORARY CONNECTION NO. 3 P O.T. 12+88.56	3812.370	1919.115	
1141	T.H 7 W B. P.O.C. 503+64 27 = TEMPORARY CONNECTION NO. 3 P O.T. 13+43.84	3819.676	1962 343	
1142	LOUISIANA AVENUE P O.C. 39+18.69 = SOUTH BYPASS P O.T. 43+36.19	4745.358	1751.5793	
1143	LOUISIANA AVENUE P.O.C. 42+71.84 = T.H.7 E.B. P O.T. 511+77.80	4625 148	2083.109	
1144	LOUISIANA AVENUE P O.C. 43+19.89 = T.H. 7 W B. P O.T 511+75.70	4613.596	2129.746	
(2) 1145	LOUISIANA AVENUE P.O.T 47+18.35 = NORTH BYPASS P O.T. 32+93.26	4531.979	2517.707	
1146	WALKER STREET P O.T. 20+00 00 = LAKE STREET P.O.T. 13+05.09	6024.621	2512.573	

(2) STATION EQUATION NORTH BYPASS STA 35+13 37 = NORTH BYPASS STA 32+93 26

ALIGNMENT TABULATION



NOTES

1 REMOVALS SHOWN ARE FOR TEMPORARY CONSTRUCTION PURPOSES ONLY REMOVAL PLANS SHOW ALL REMOVALS FOR TEMPORARY AND FINAL CONSTRUCTION ALL REMOVALS SHALL BE STAGED ACCORDING TO THE CONSTRUCTION SEQUENCE PLANS

2 ALL BIT CURB FOR TEMPORARY CONSTRUCTION SHALL BE 4" (SEE DETAIL ON SHEET 75) UNLESS OTHERWISE NOTED

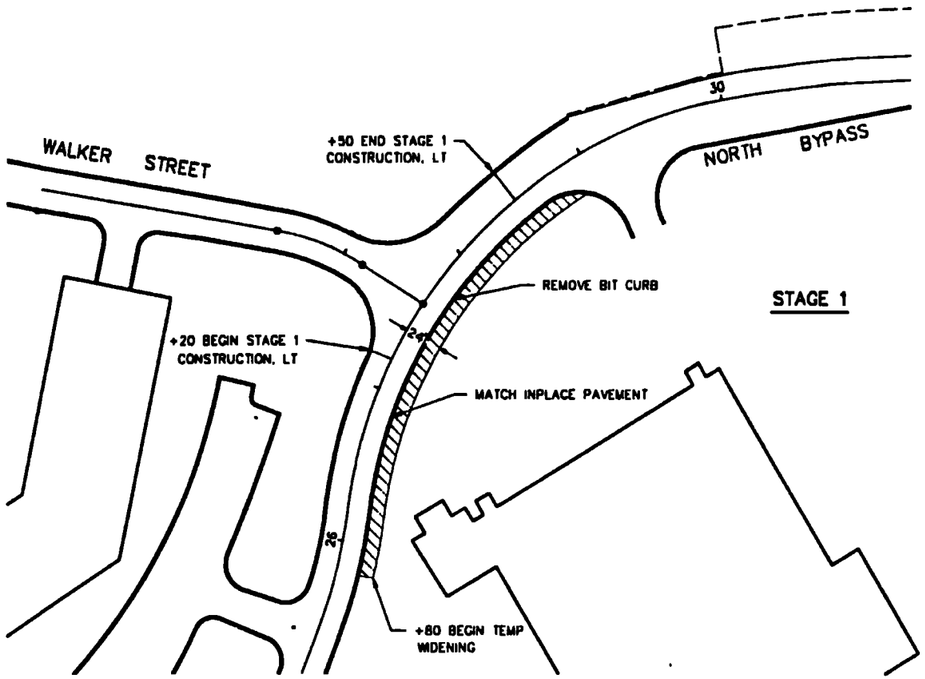
3 REMOVE 7" BIT CURB AND MILL SUPERELEVATION OVERLAY TO NORMAL CROWN AND CONSTRUCT 7" BIT CURB ON BINDER COURSE STA 24+74 TO STA 25+90 DURING STAGE 4

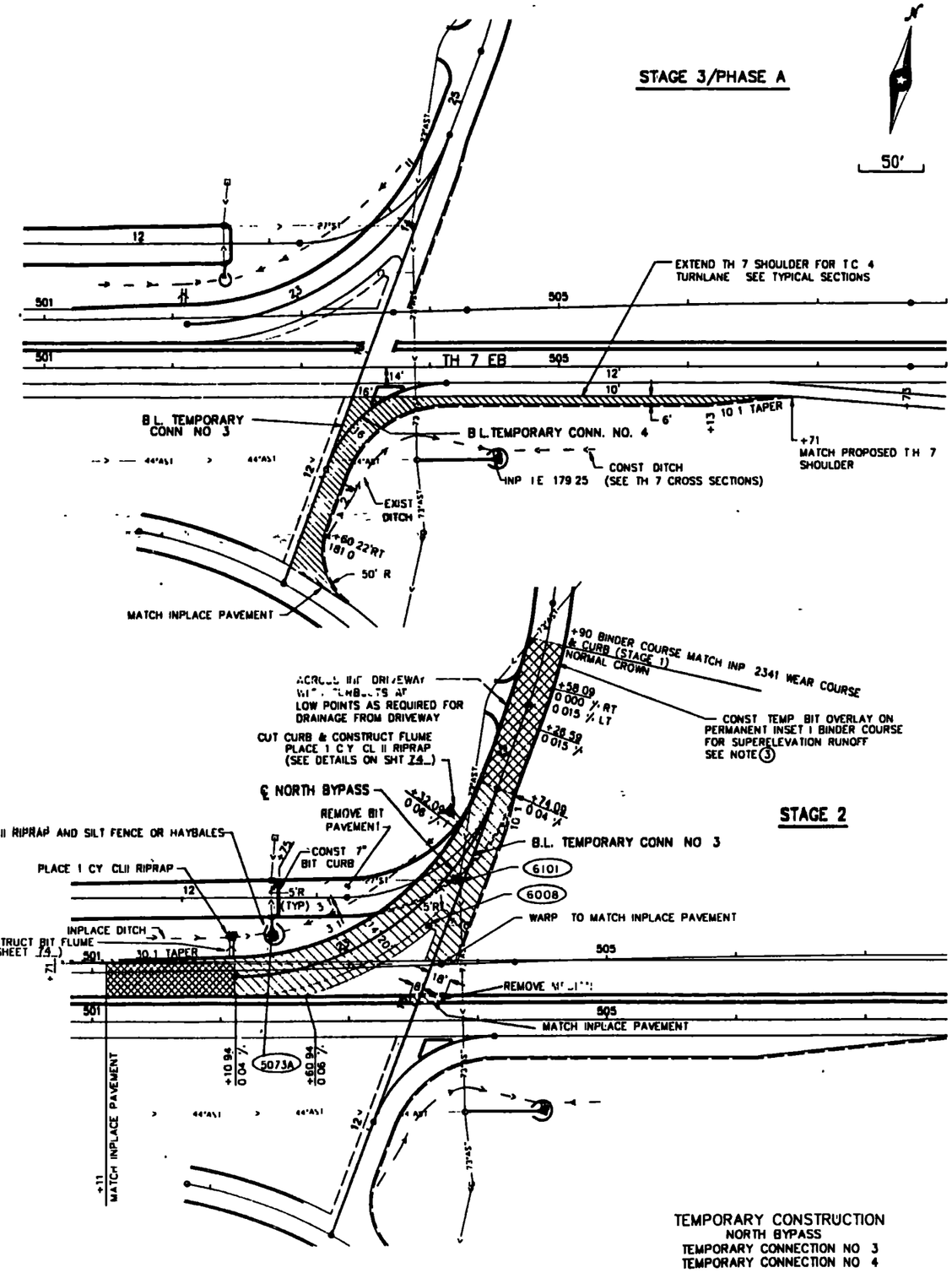
4 REFER TO TRAFFIC CONTROL PLAN FOR TPPC BARRIER PLACEMENT

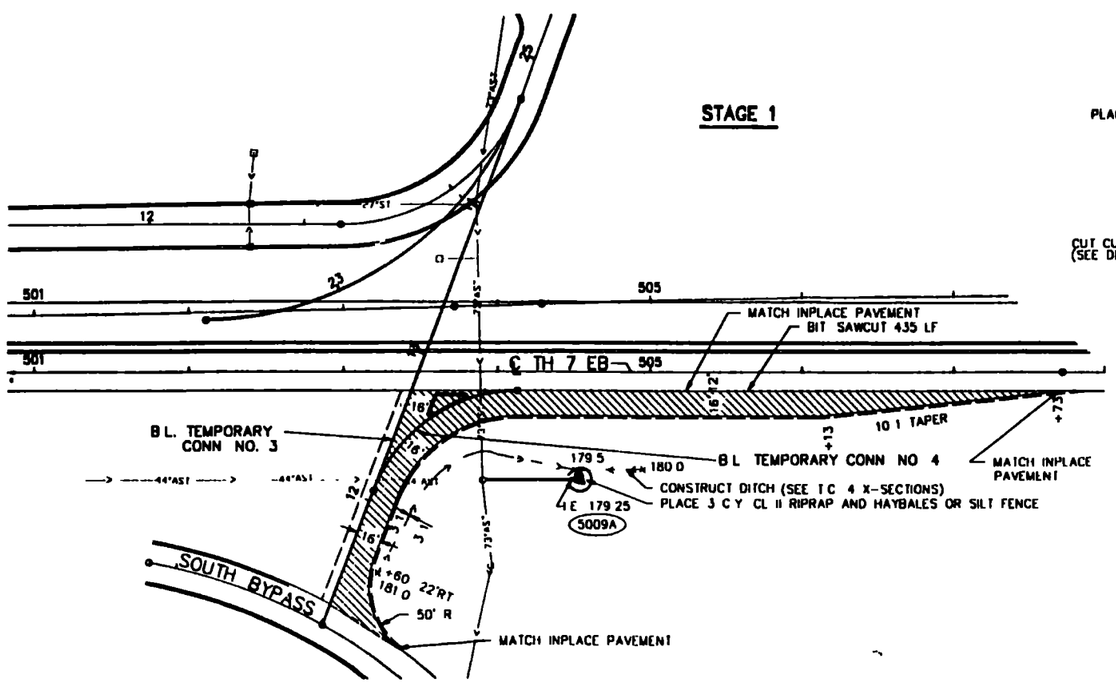
5 REFER TO INTERIM SEEDING TAB FOR SEEDING ADJACENT TO TEMPORARY CONSTRUCTION

6 CONSTRUCT TEMPORARY WIDENING ADJACENT TO PROPOSED SOUTH FRONTAGE ROAD AND LOUISIANA AVE AFTER INTERSECTION CONSTRUCTION REMOVE WIDENING AND CONSTRUCT CONCRETE CURB & GUTTER ALONG NORTH SIDE OF SOUTH FRONTAGE ROAD AT LOUISIANA AVE REFER TO CONSTRUCTION SEQUENCING PLAN

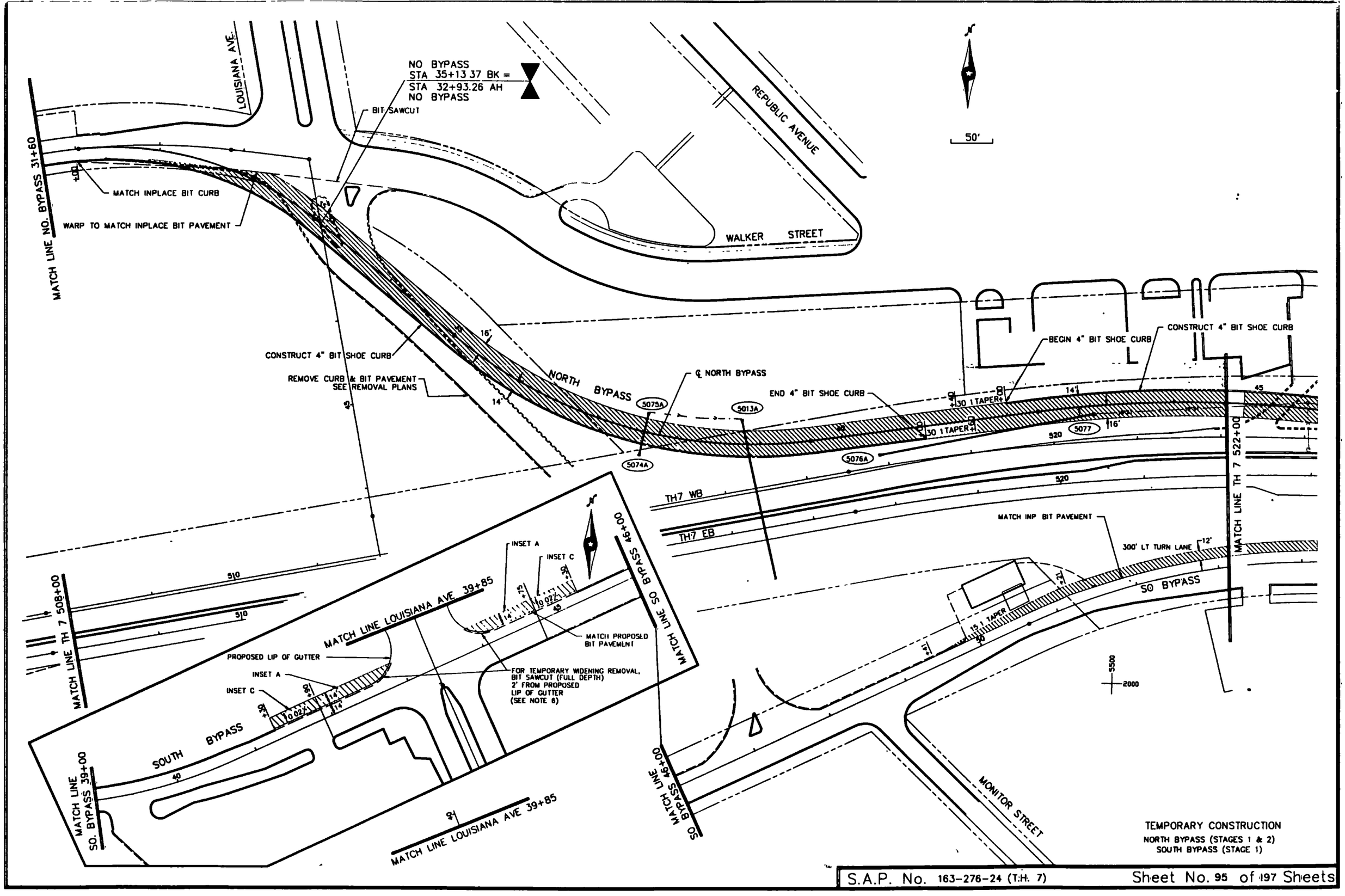
TEMPORARY CONSTRUCTION
TEMPORARY CONNECTION NO. 1 (STAGE 1)
SOUTH BYPASS (STAGE 1)







TEMPORARY CONSTRUCTION
NORTH BYPASS
TEMPORARY CONNECTION NO 3
TEMPORARY CONNECTION NO 4



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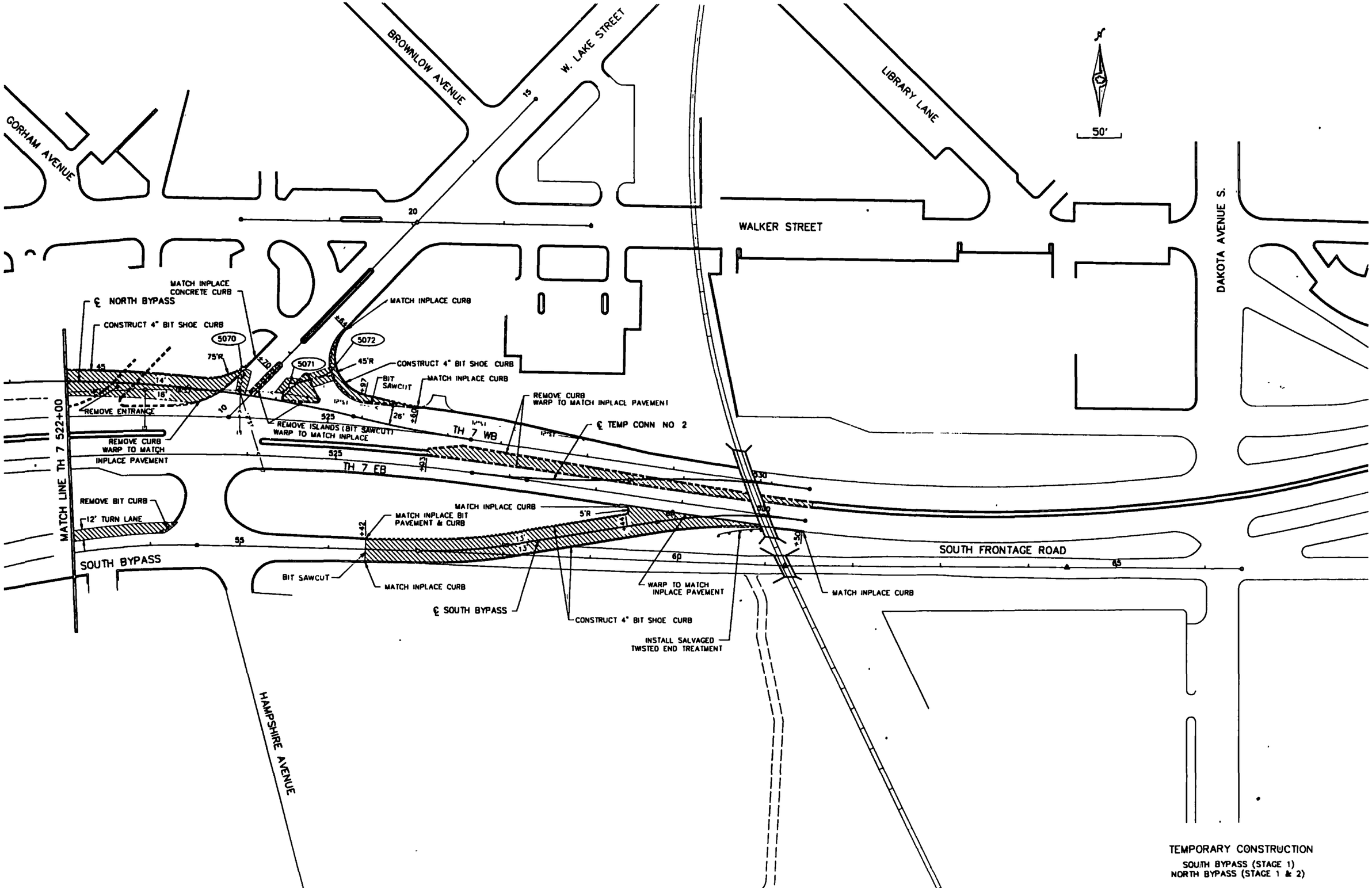

S.A.P. No. 163-276-24 (TH 7)

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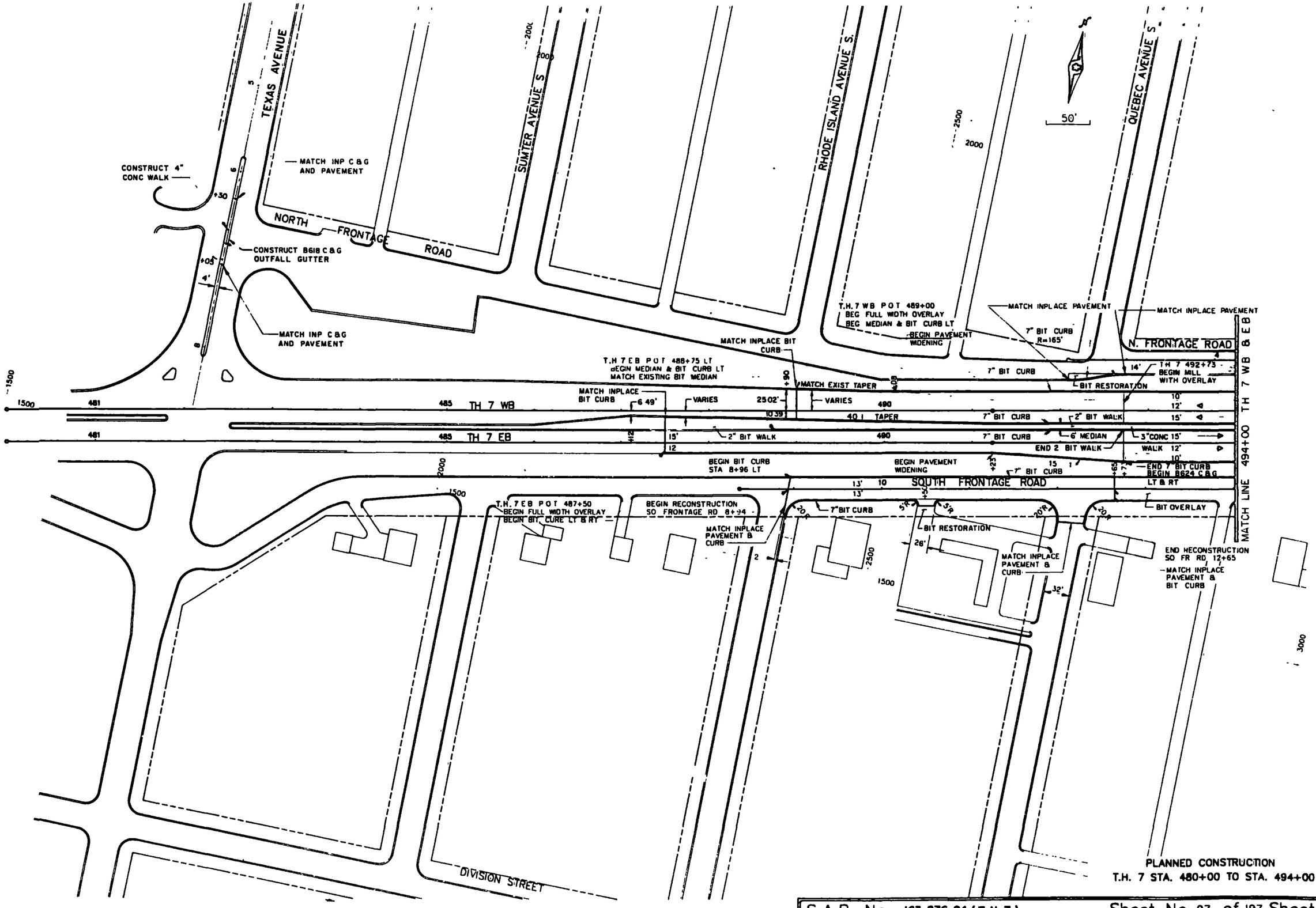

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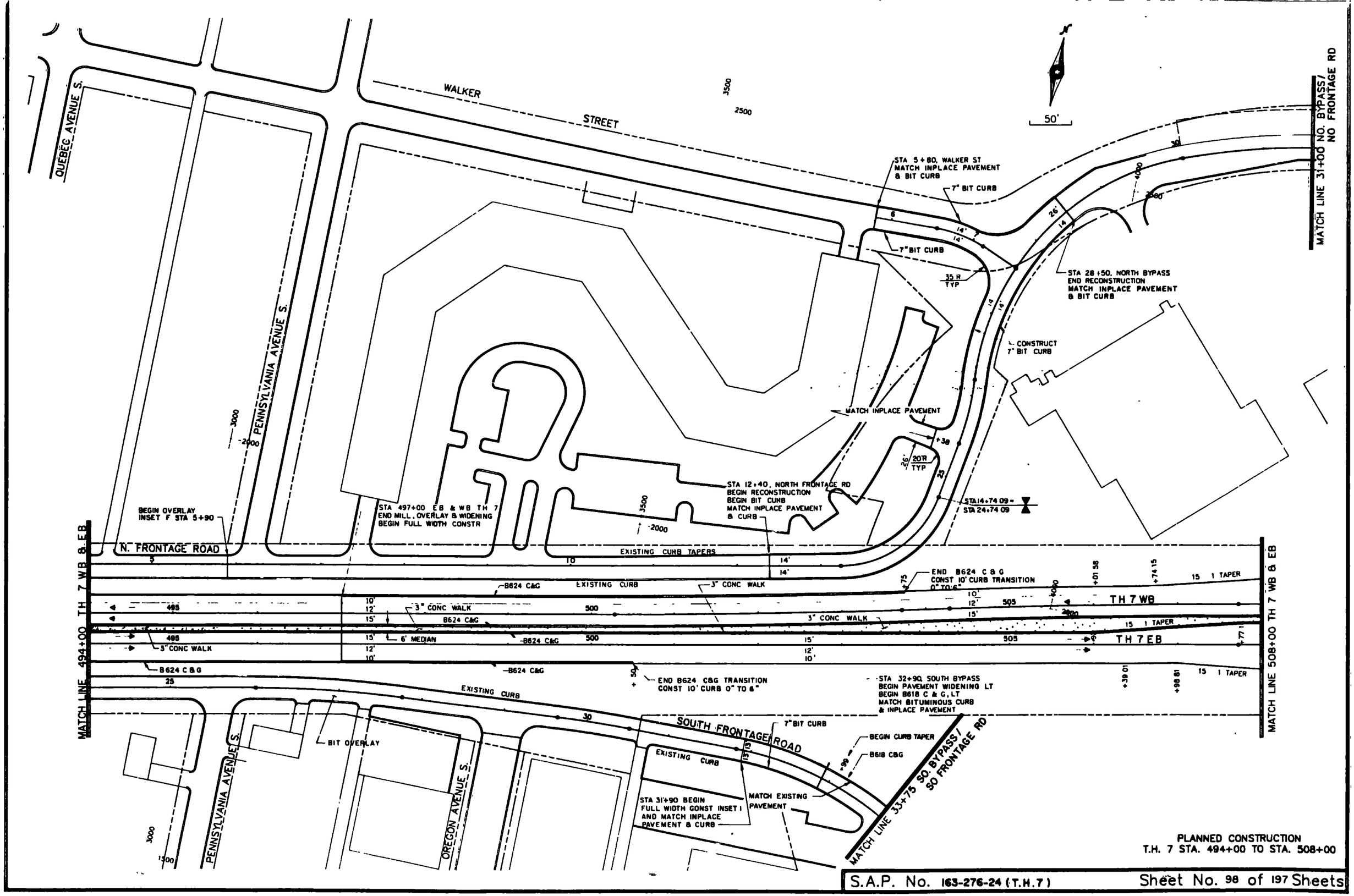
Sheet No. 97 of 197 Sheets



PLANNED CONSTRUCTION
T.H. 7 STA. 494+00 TO STA. 508+00

S.A.P. No. 163-276-24 (T.H.7)

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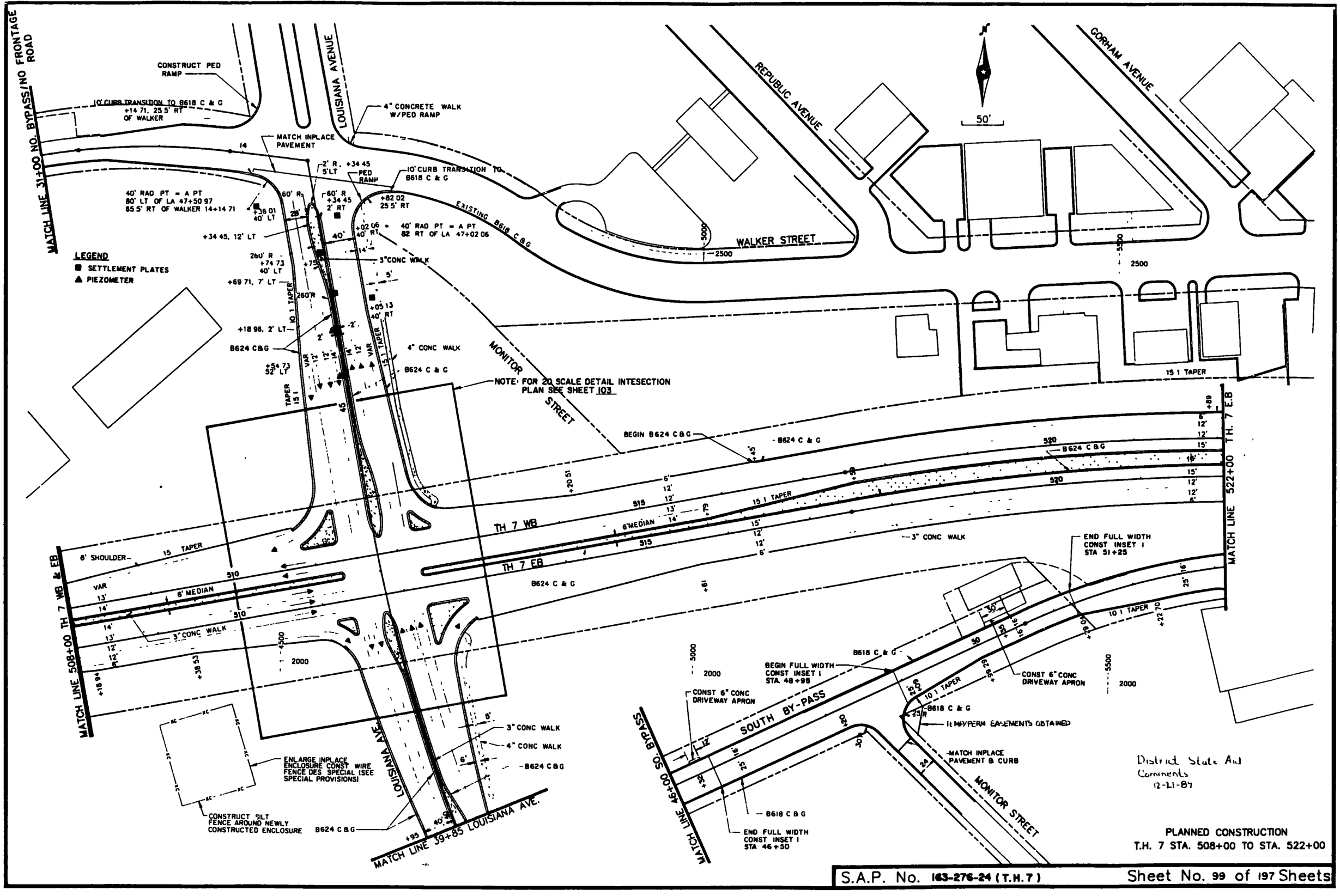

PLANNED CONSTRUCTION
T.H. 7 STA. 508+00 TO STA. 522+00

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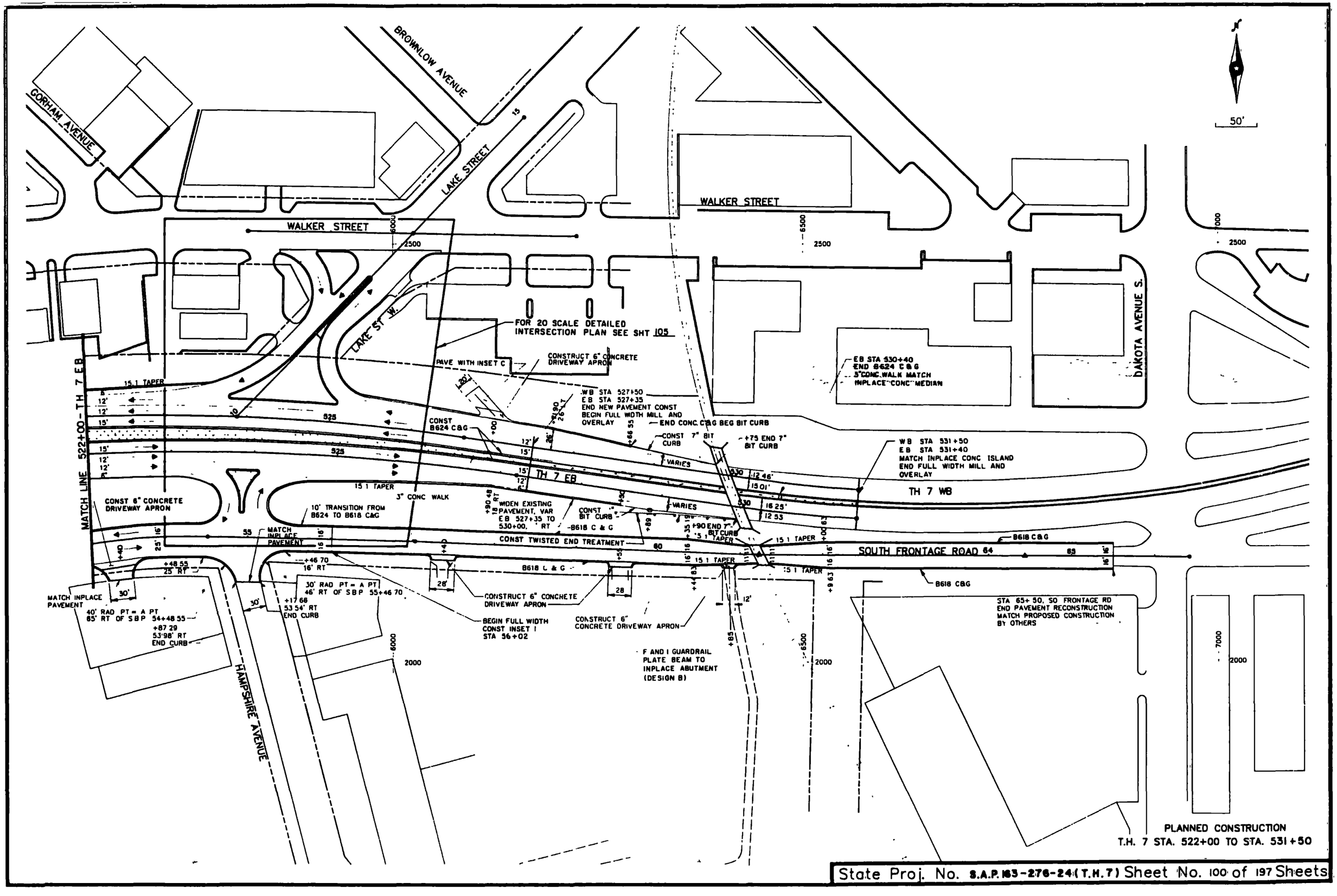

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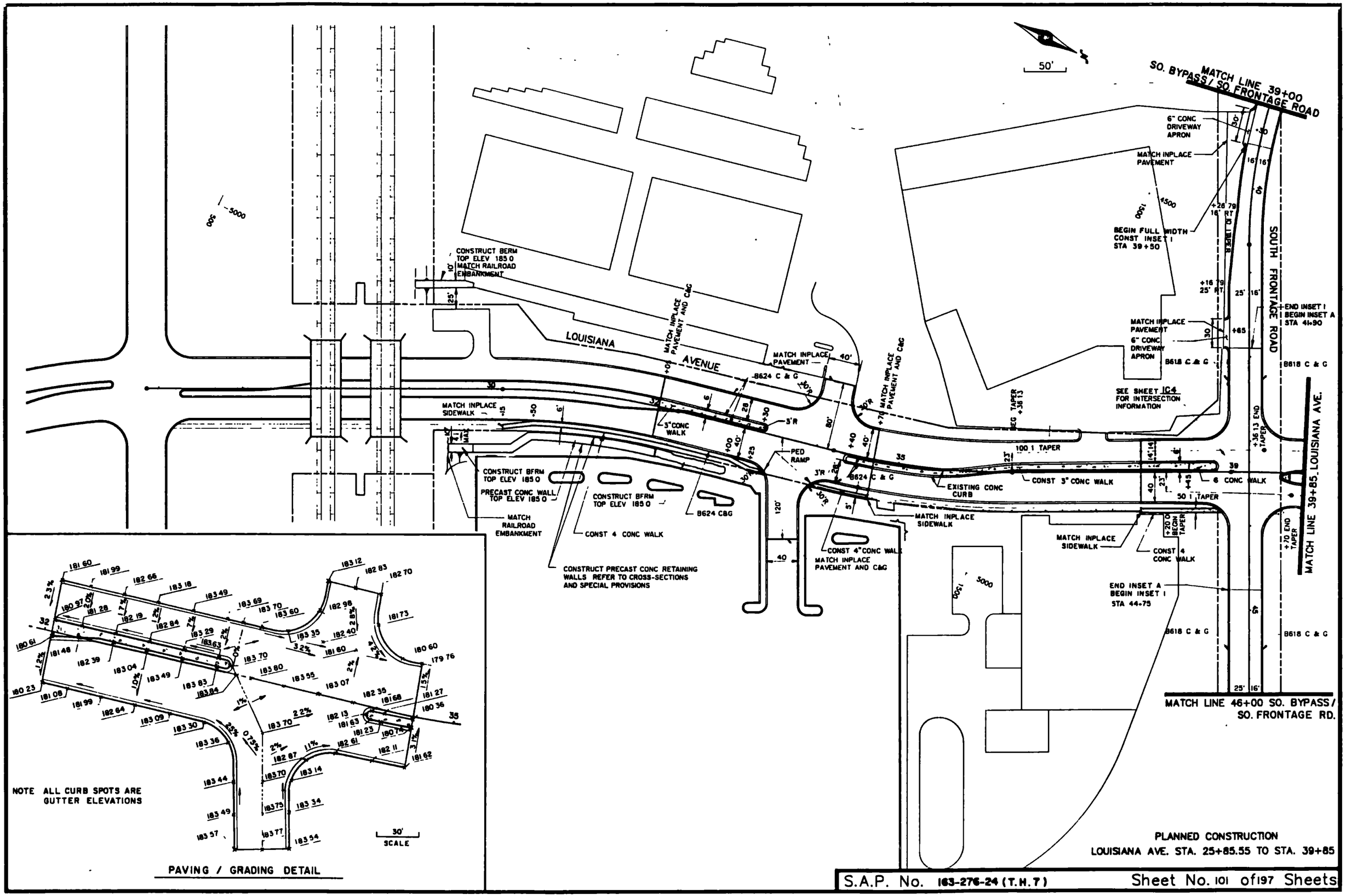

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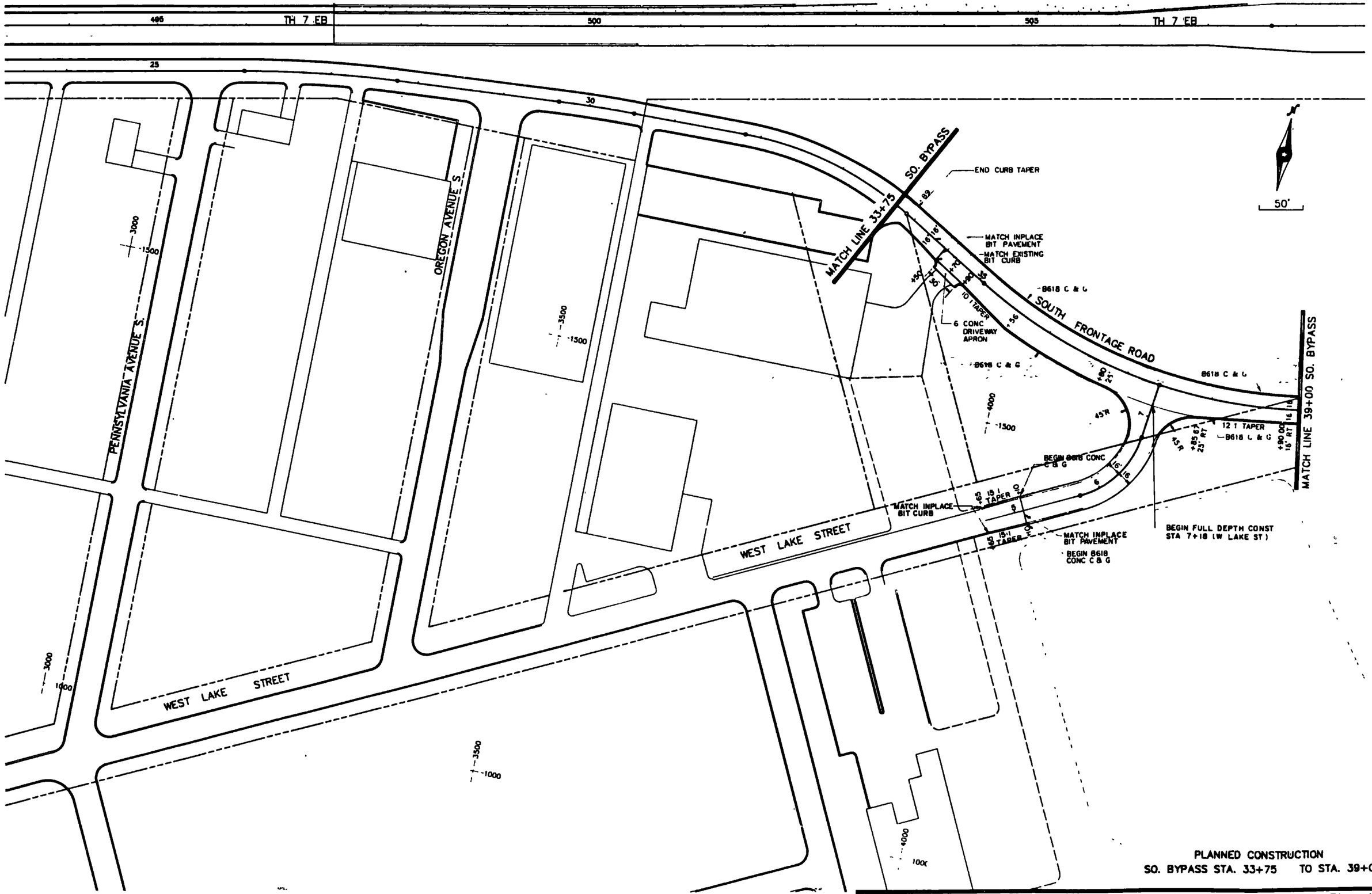

PLANNED CONSTRUCTION
SO. BYPASS STA. 33+75 TO STA. 39+00

S.A.P. No. 163-276-24 (T.H. 7)

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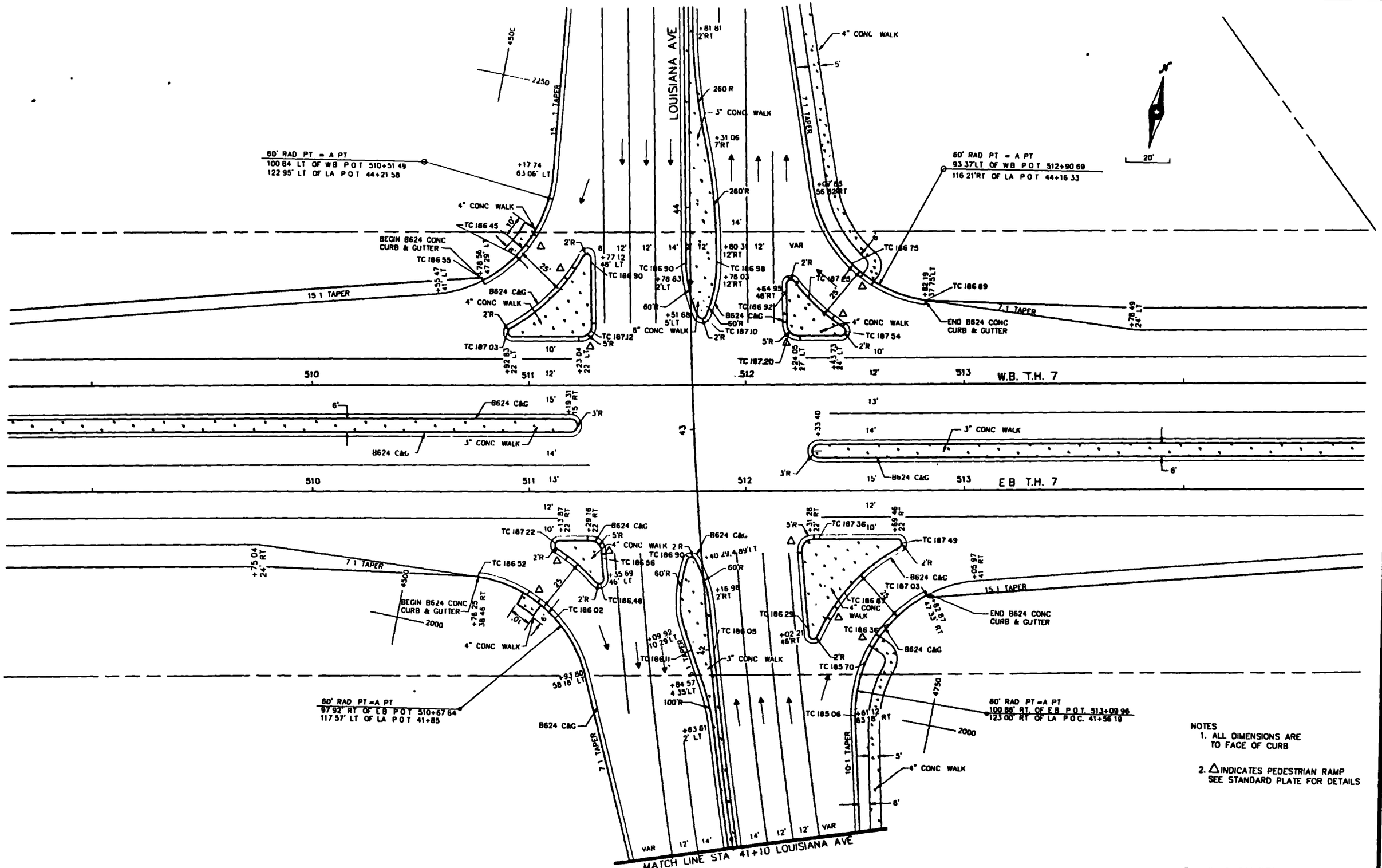
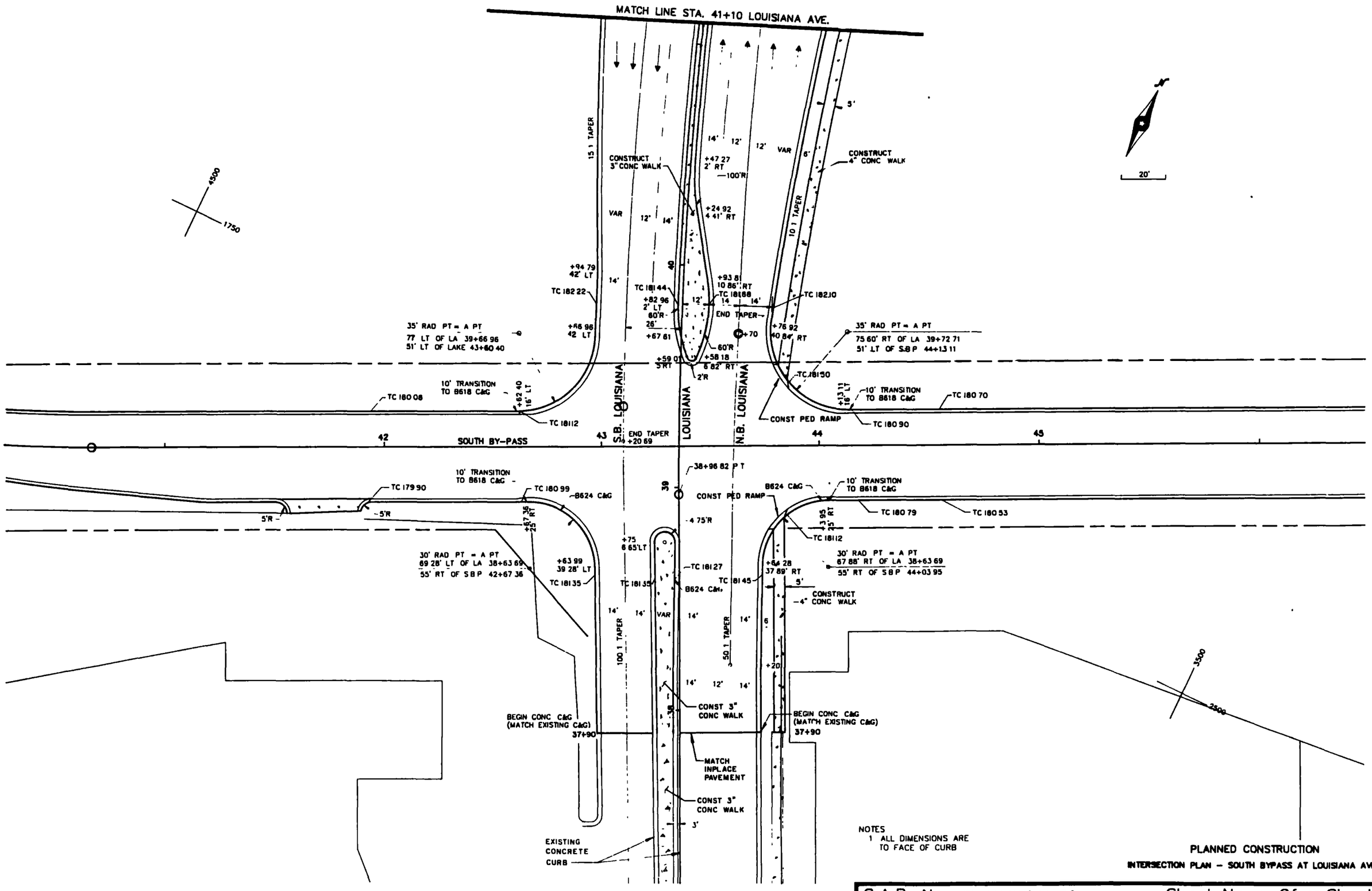


NOTES
1. ALL DIMENSIONS ARE TO FACE OF CURB
2. △ INDICATES PEDESTRIAN RAMP SEE STANDARD PLATE FOR DETAILS

PLANNED CONSTRUCTION
INTERSECTION PLAN – T. H. 7 AT LOUISIANA AVE.



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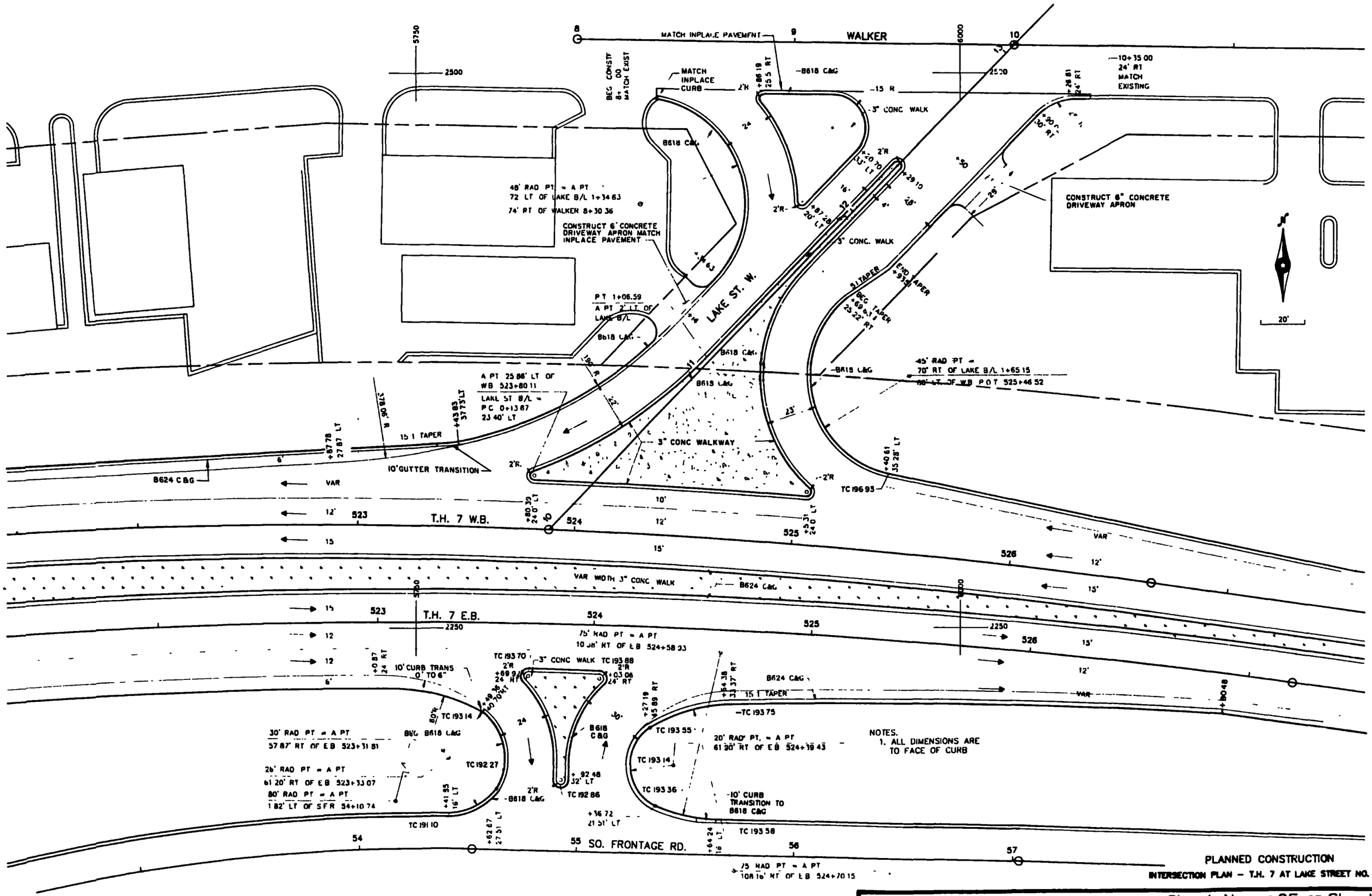

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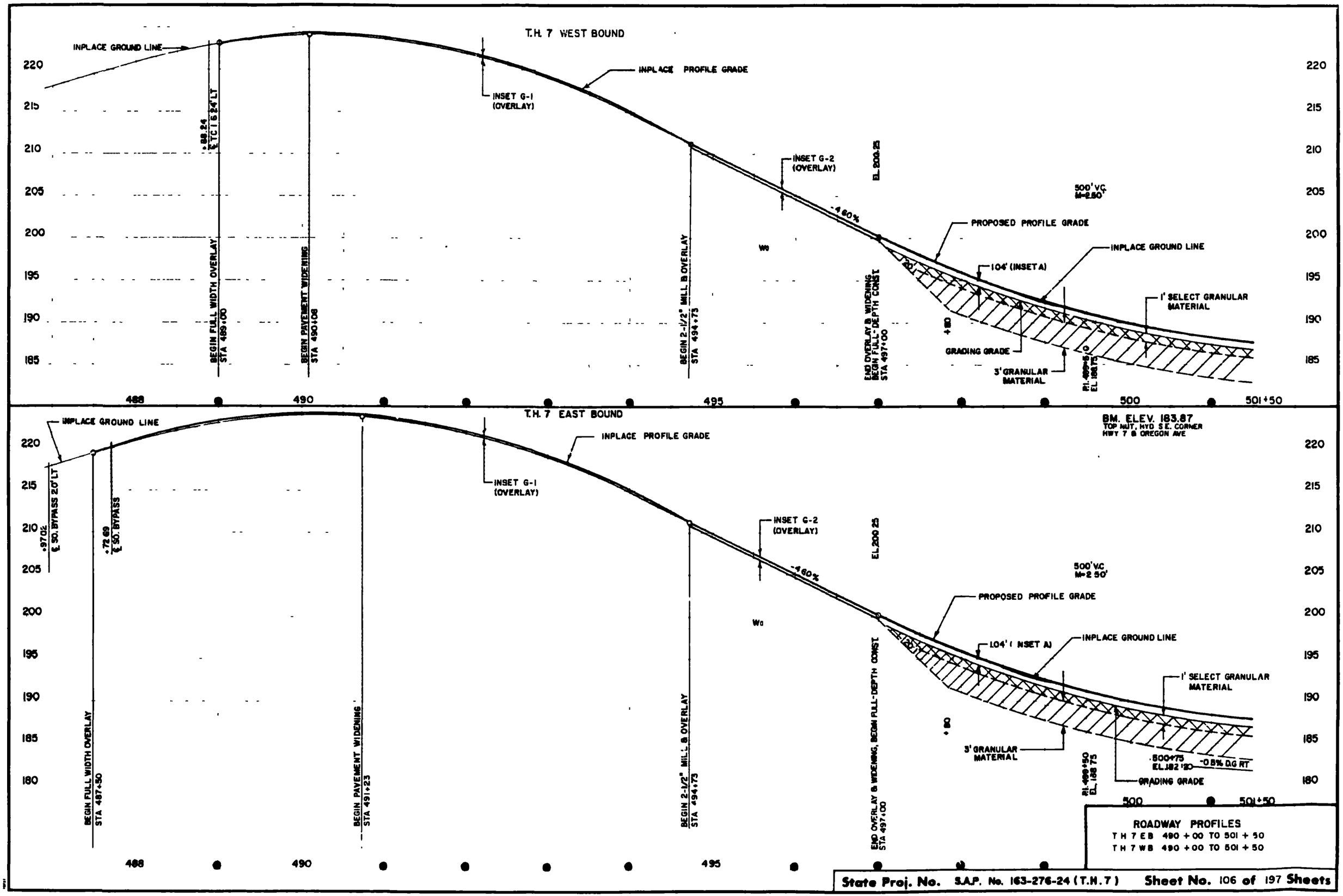

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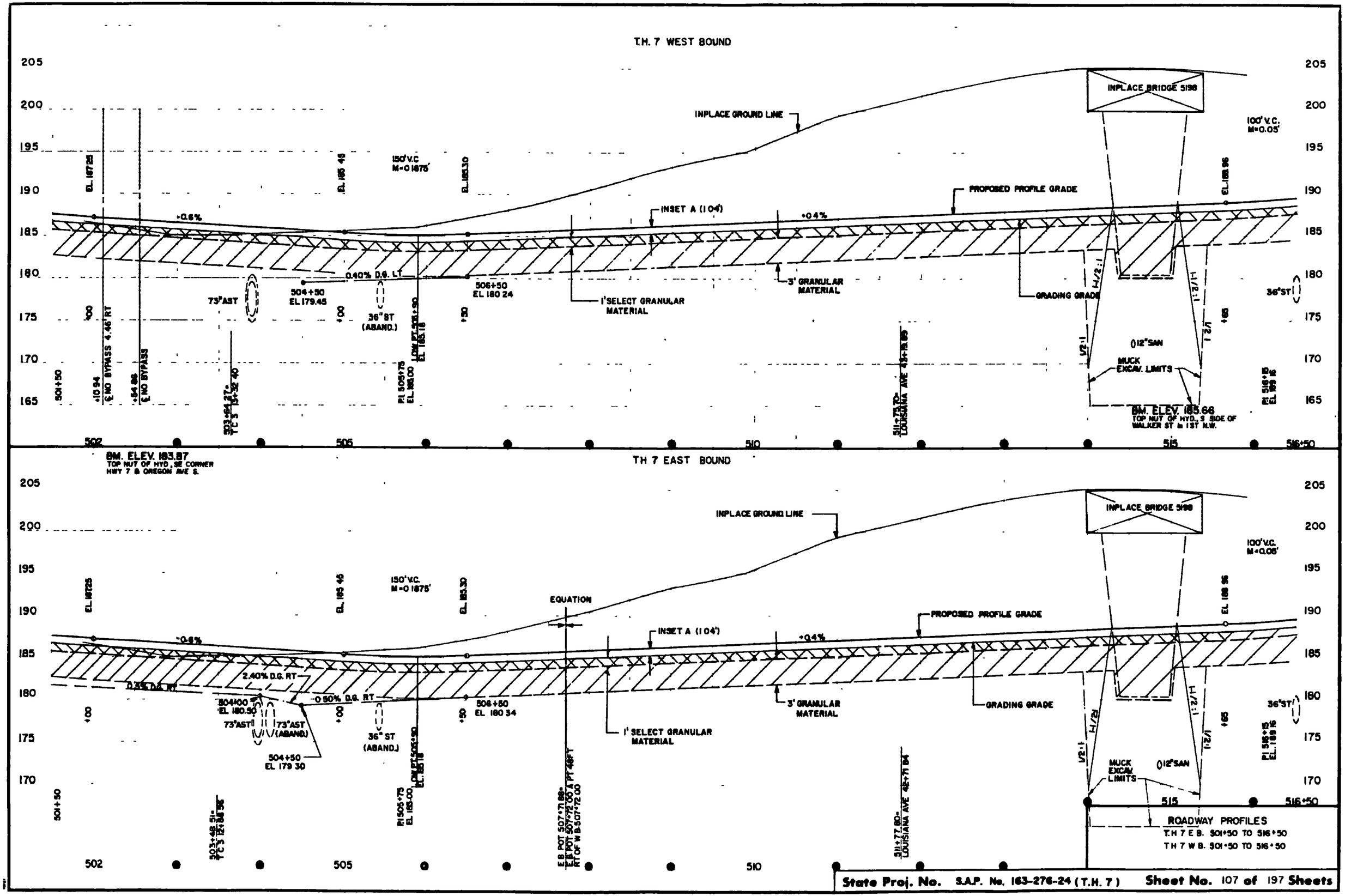

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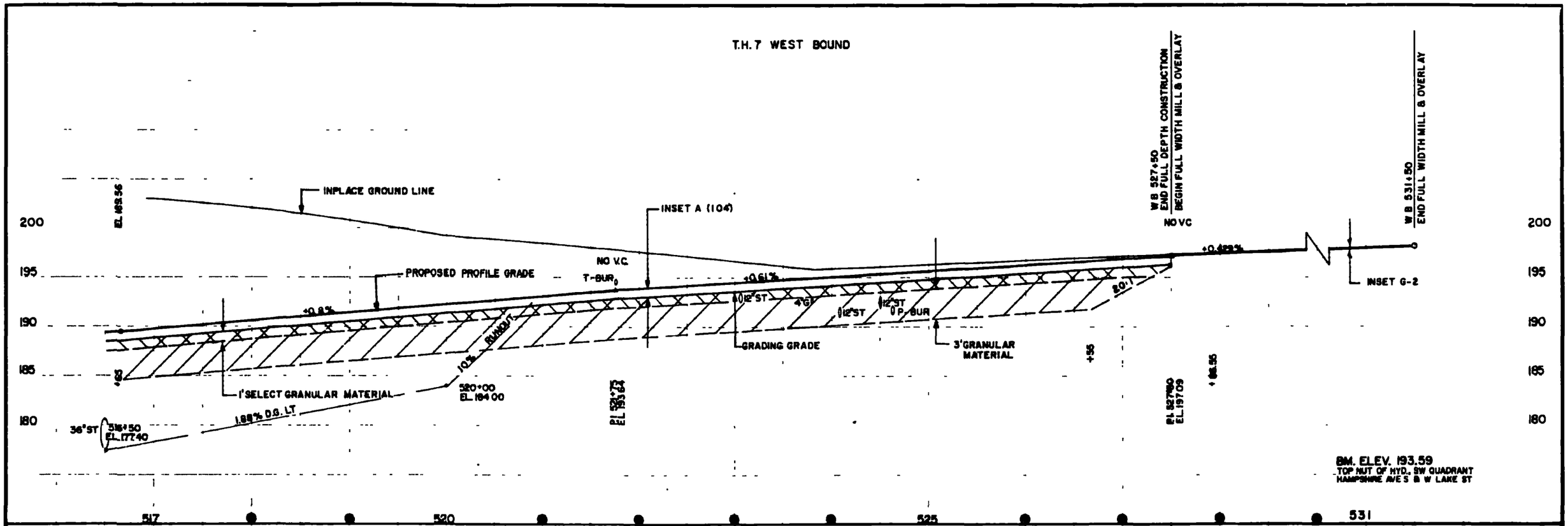

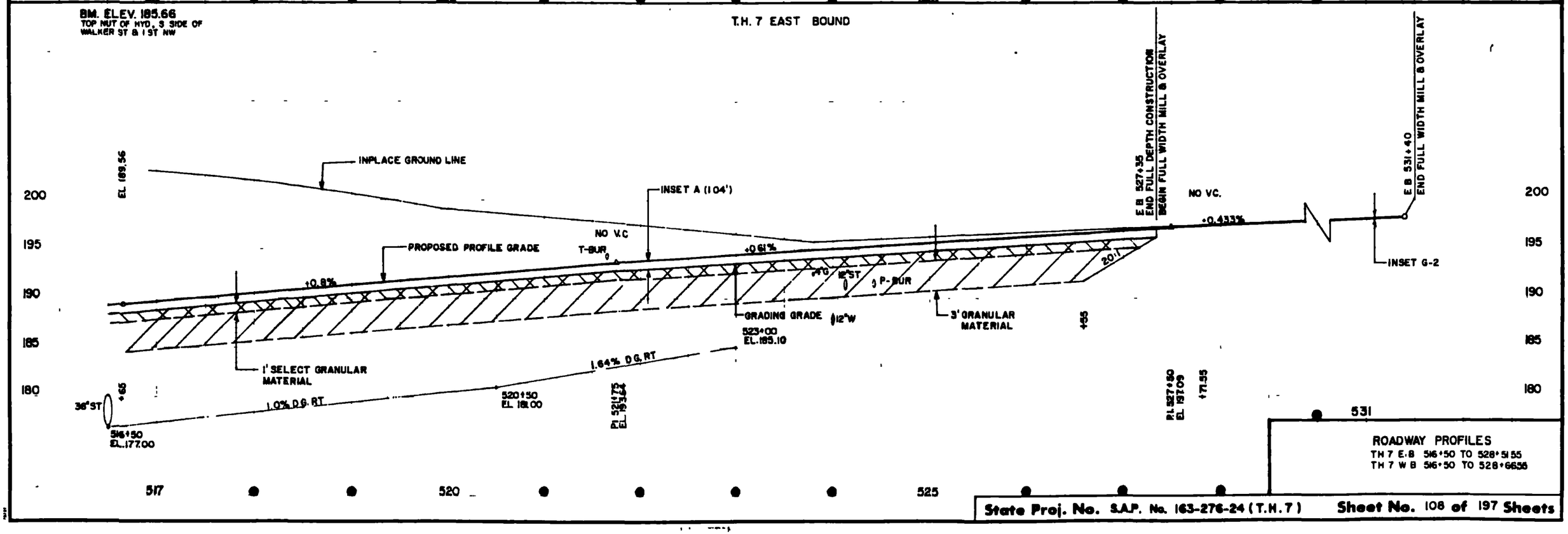

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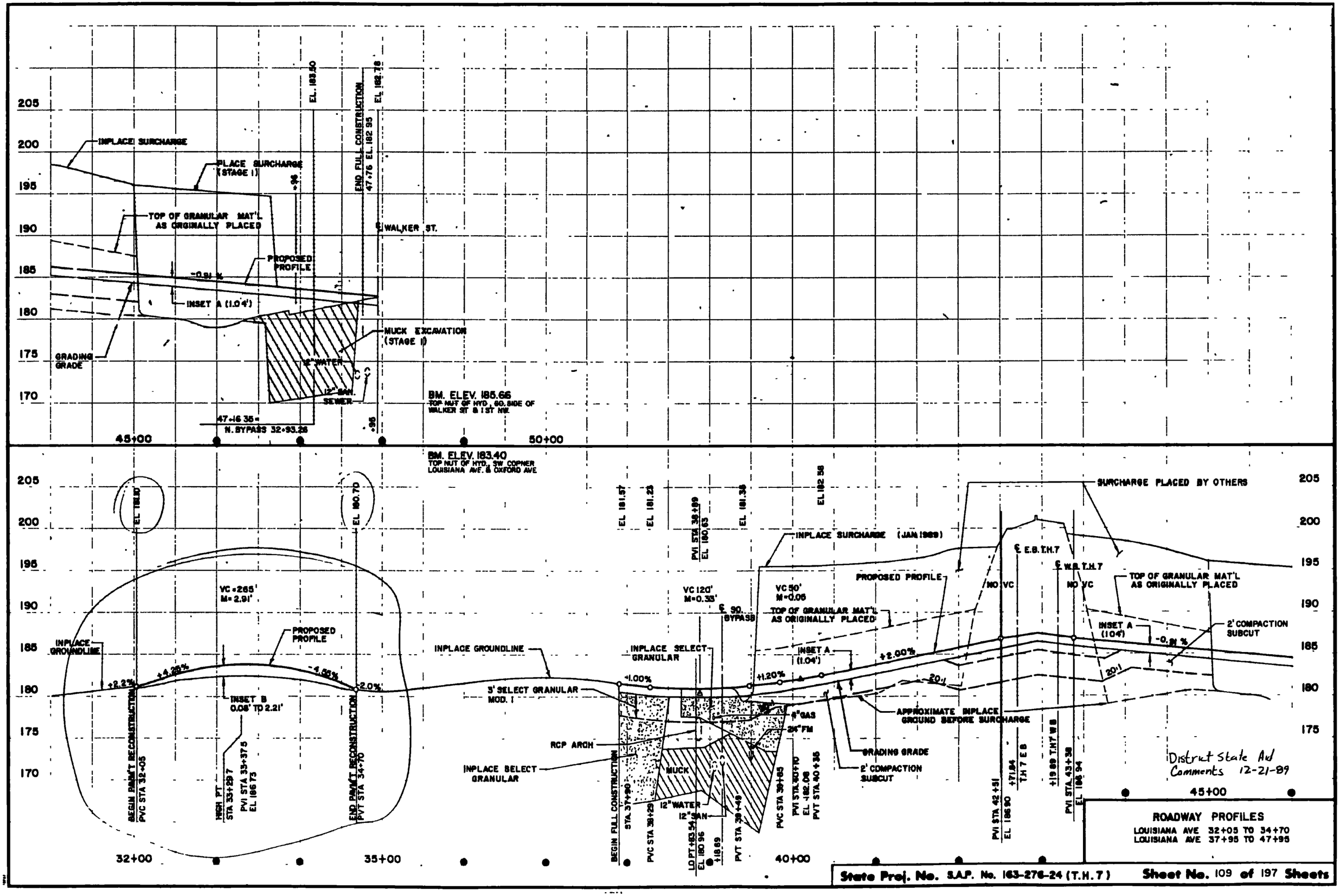
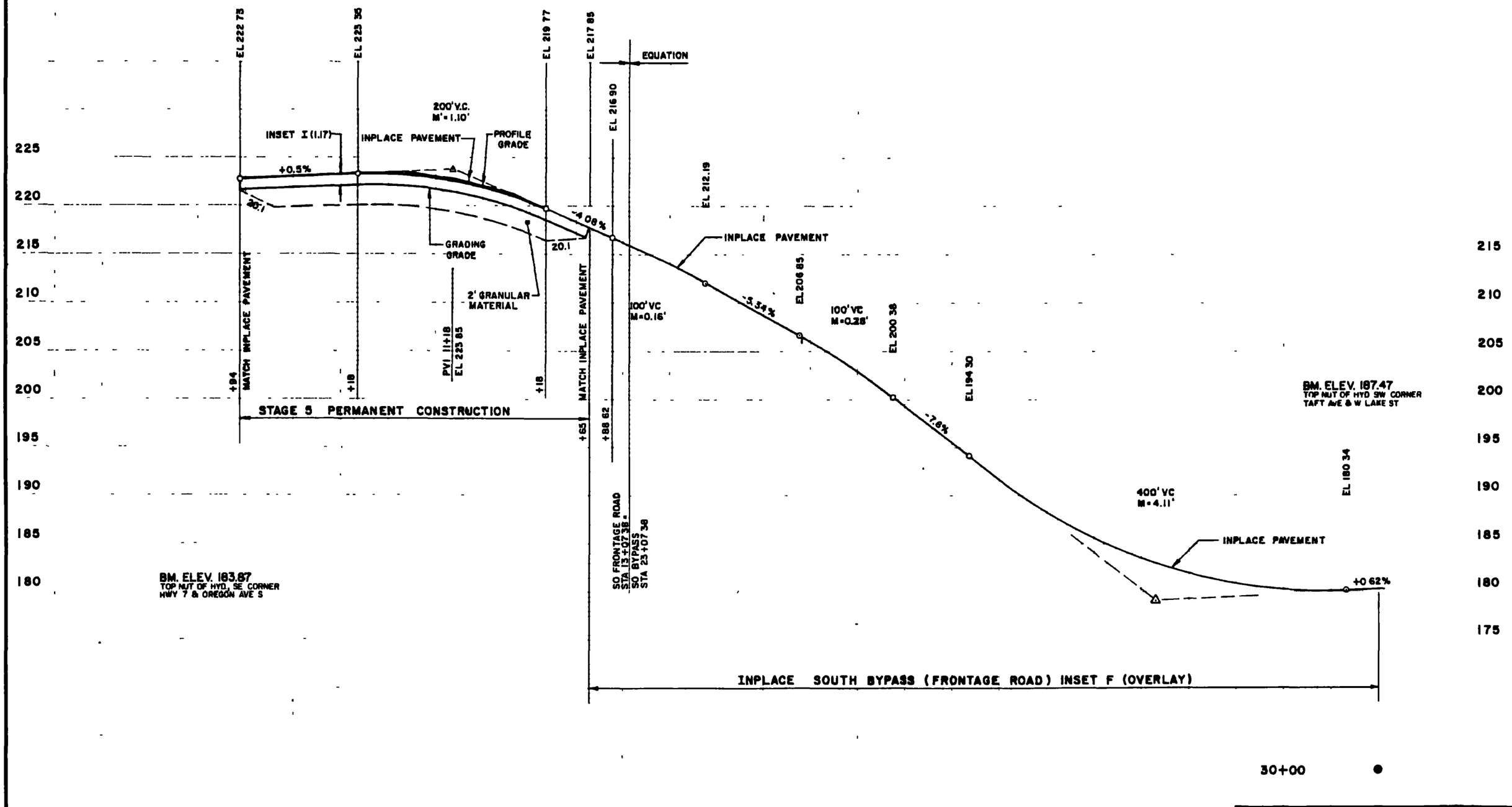


ROADWAY PROFILES

LOUISIANA AVE 32+05 TO 34+70
LOUISIANA AVE 37+95 TO 47+95

State Proj. No. S.A.P. No. 163-276-24 (T.H. 7) **Sheet No.** 109 **of** 197 **Sheets**



ROADWAY PROFILE
(SOUTH FRONTAGE ROAD)
STA 8+94 TO 12+65
(SOUTH BYPASS / SO. FRONTAGE RD)
STA 23+07.38 TO 31+00

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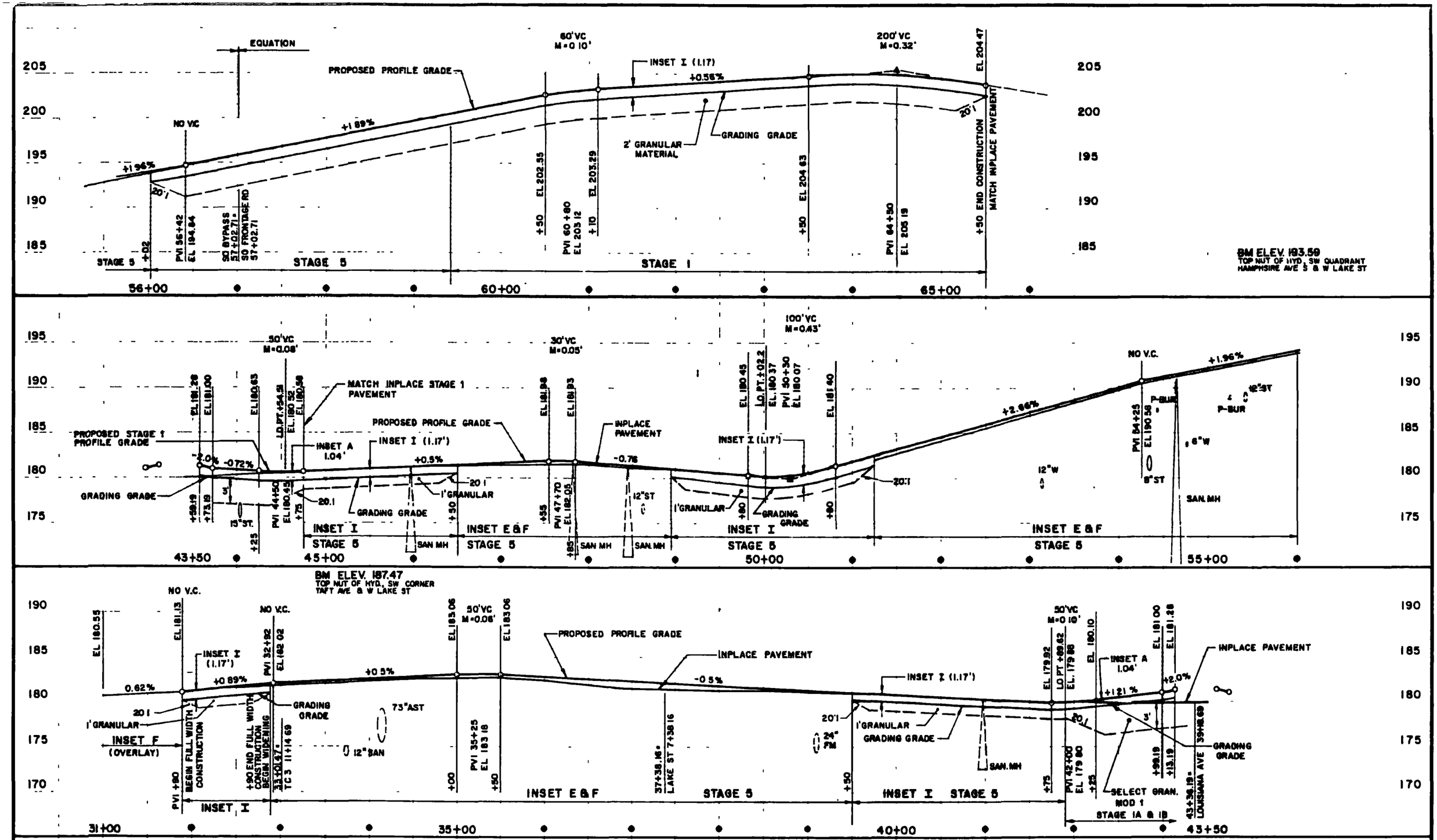
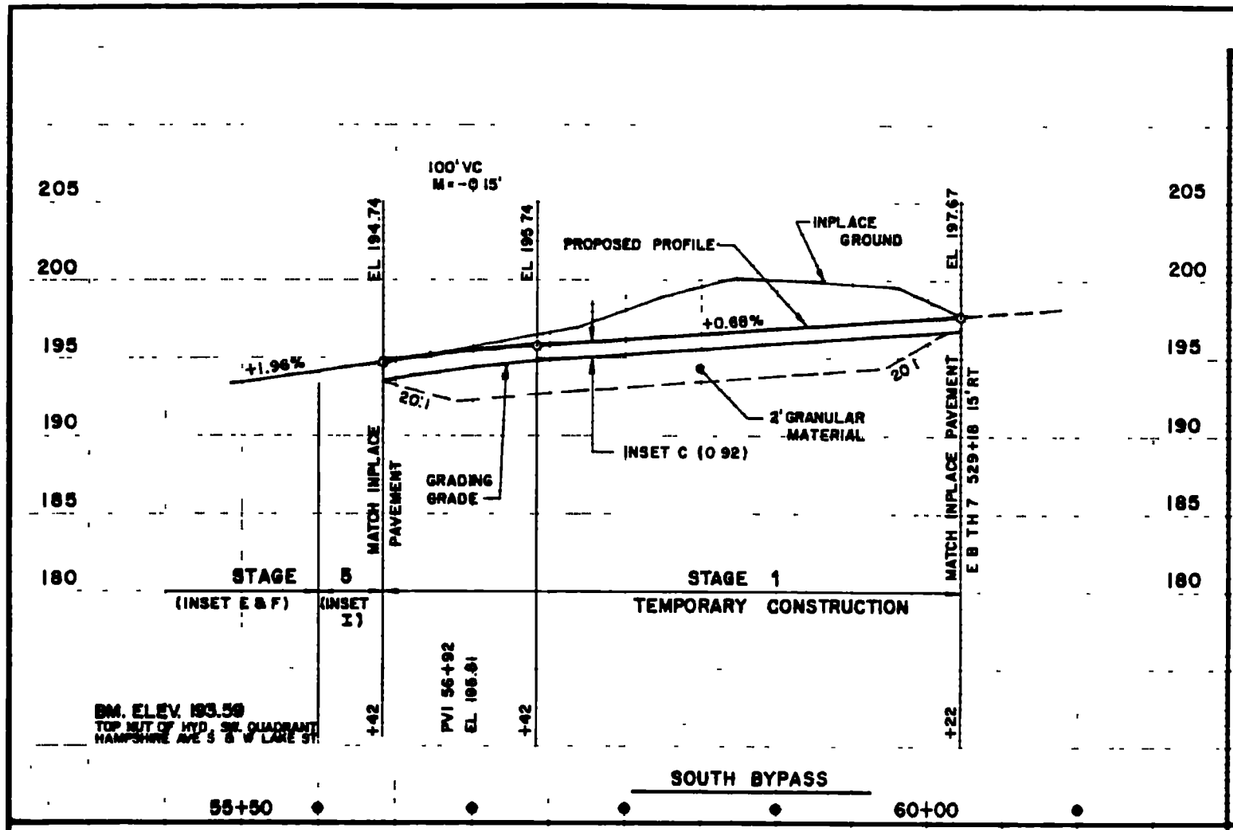
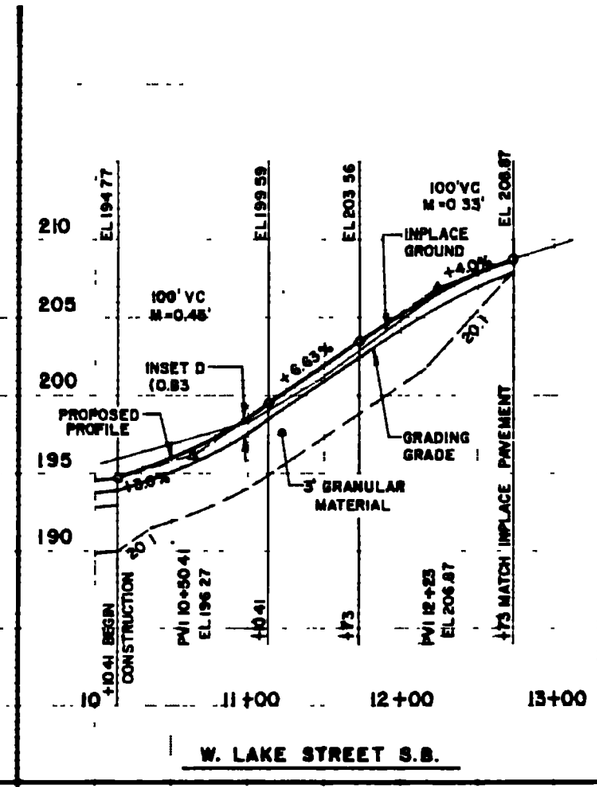
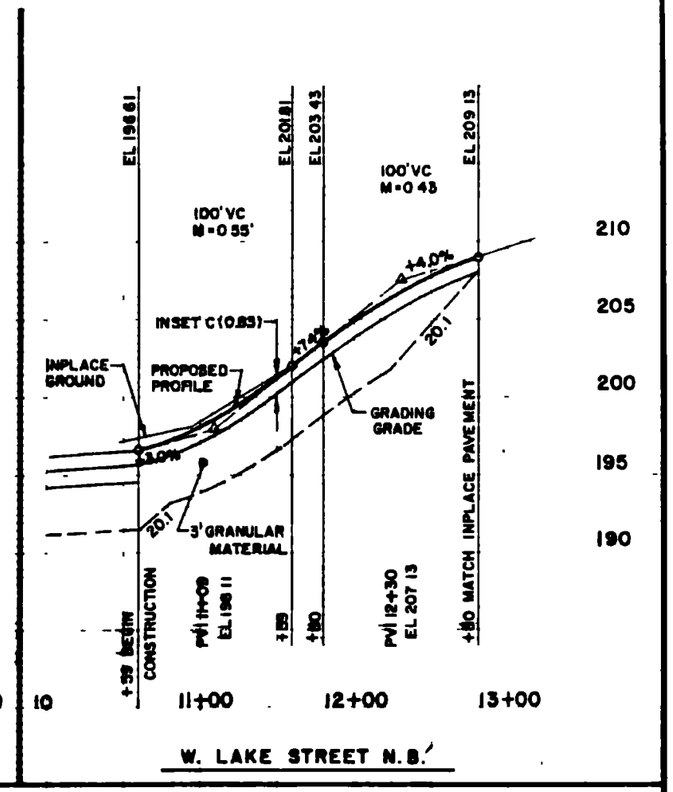
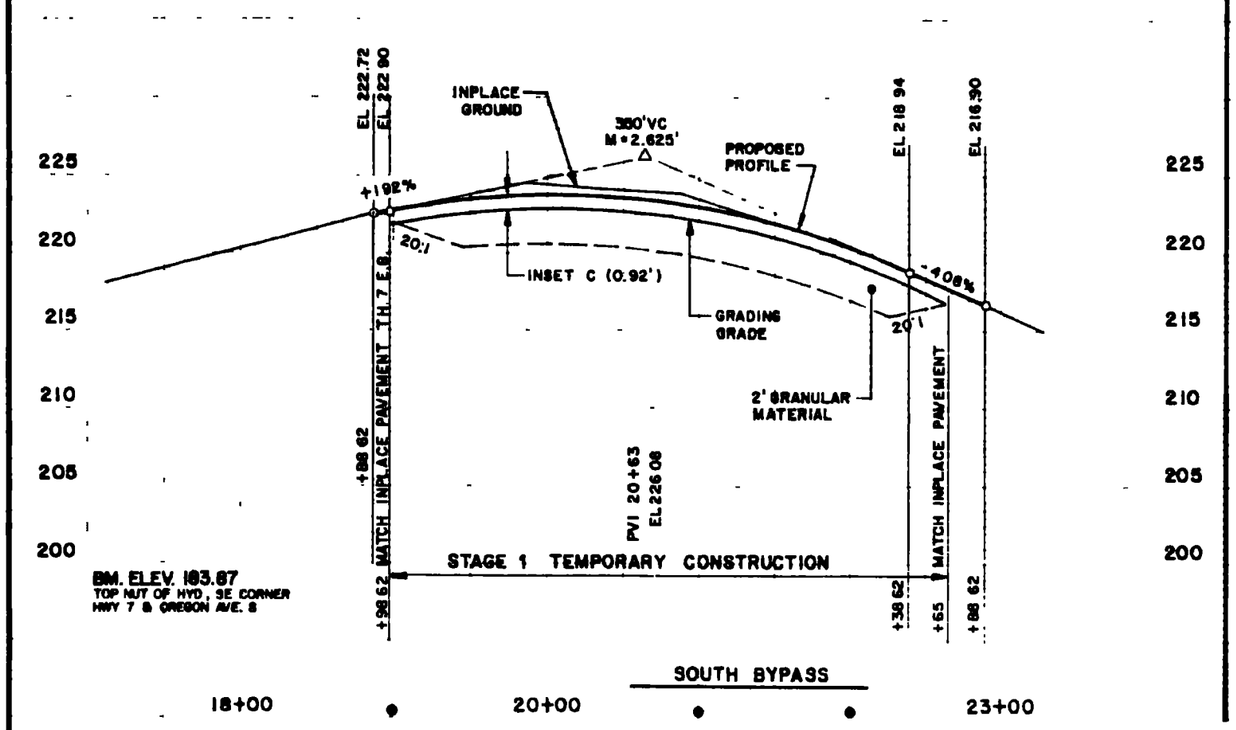


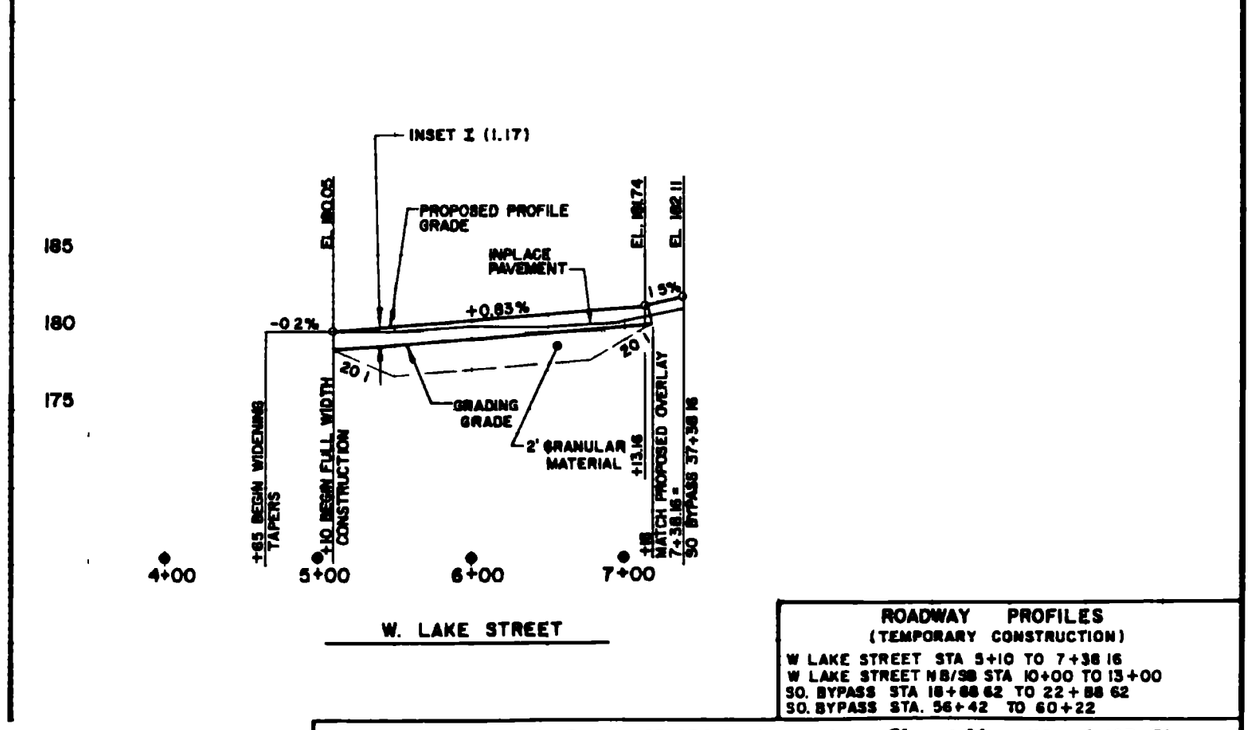
ROADWAY PROFILE
SO FRONTAGE RD / SO BYPASS 31+90 TO 57+02
SO FRONTAGE RD 57+02 TO 65+50





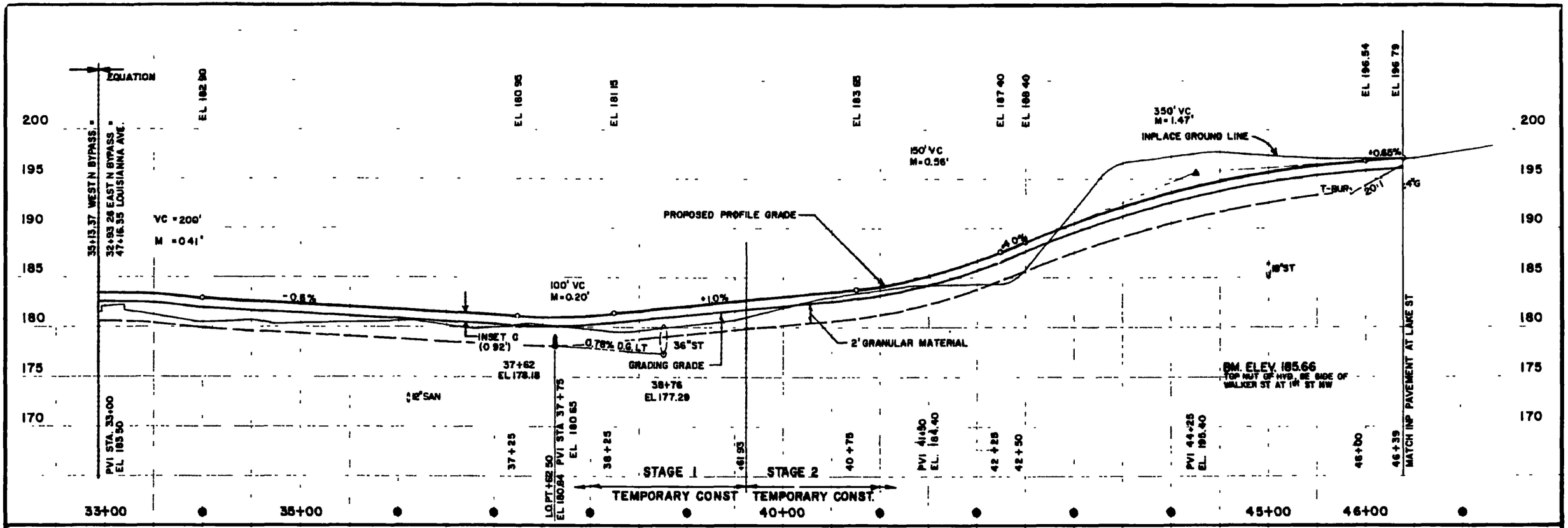


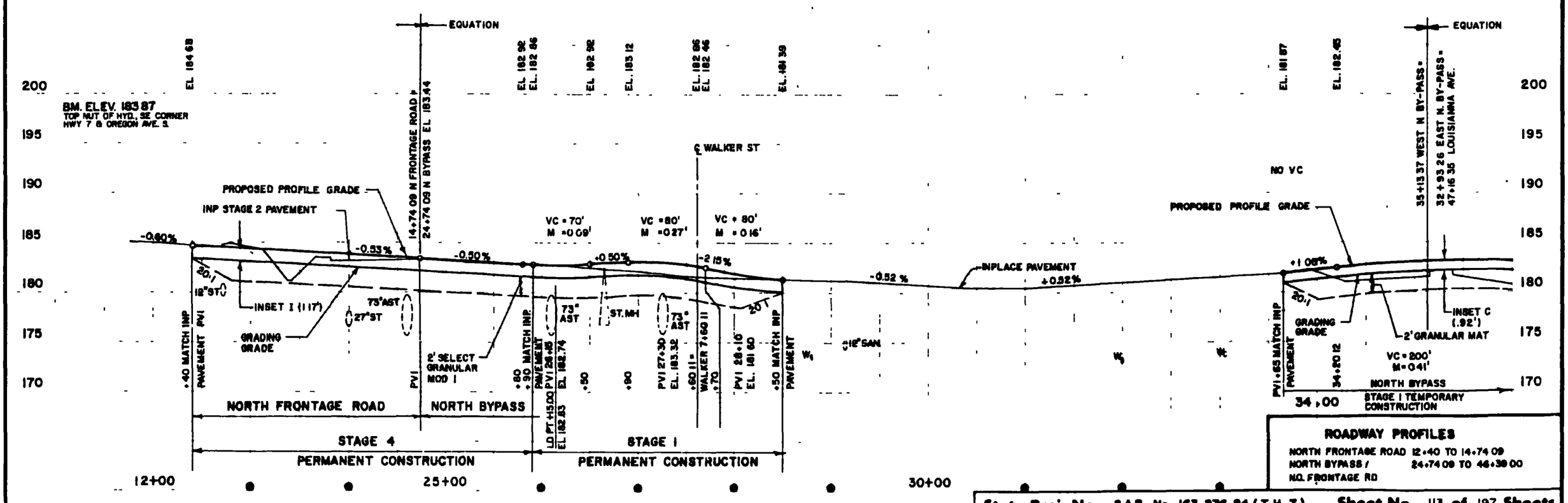




ROADWAY PROFILES
(TEMPORARY CONSTRUCTION)

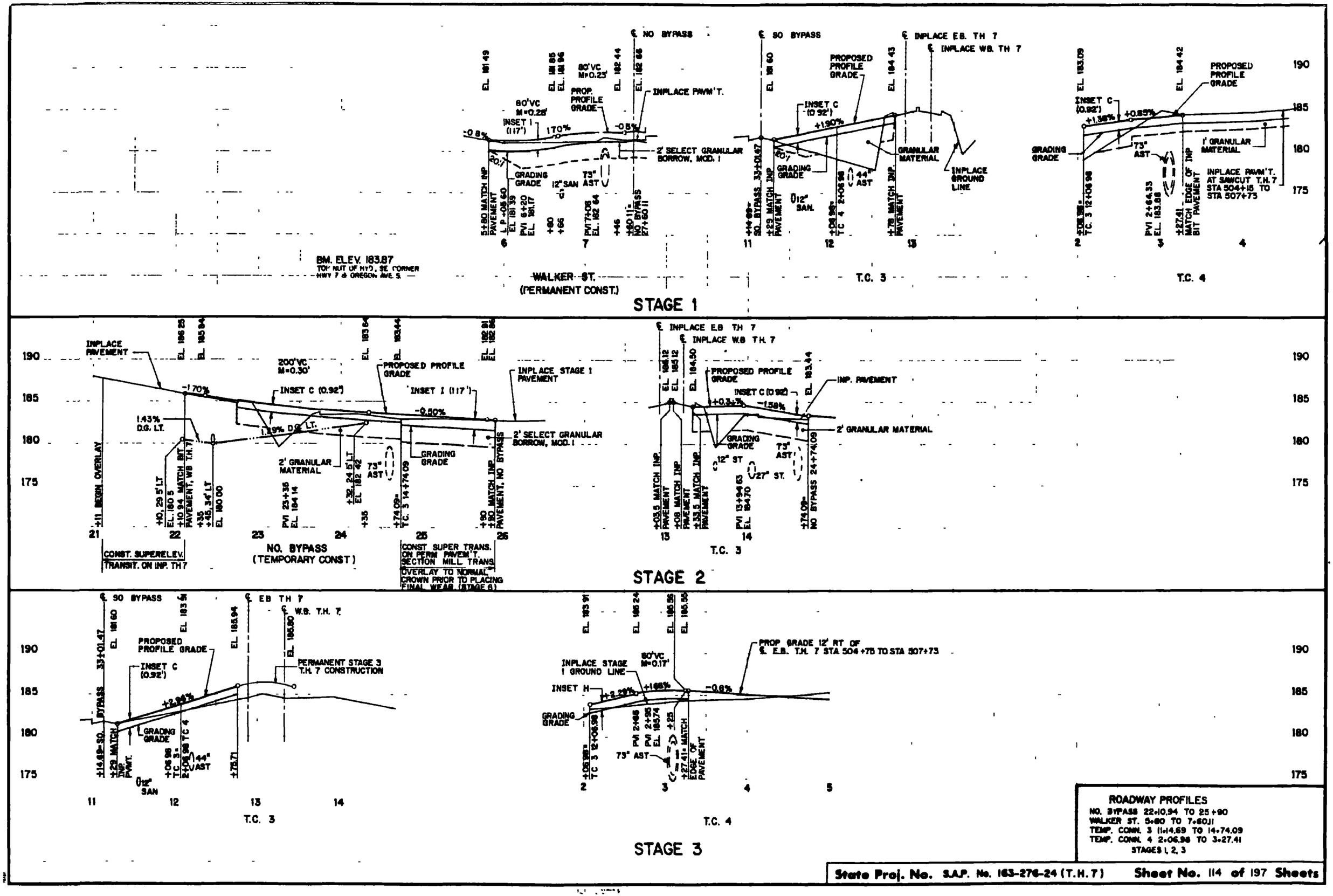
W LAKE STREET STA 5+10 TO 7+38.16
W LAKE STREET NB/SB STA 10+00 TO 13+00
SO. BYPASS STA 18+88.62 TO 22+88.62
SO. BYPASS STA. 56+42 TO 60+22



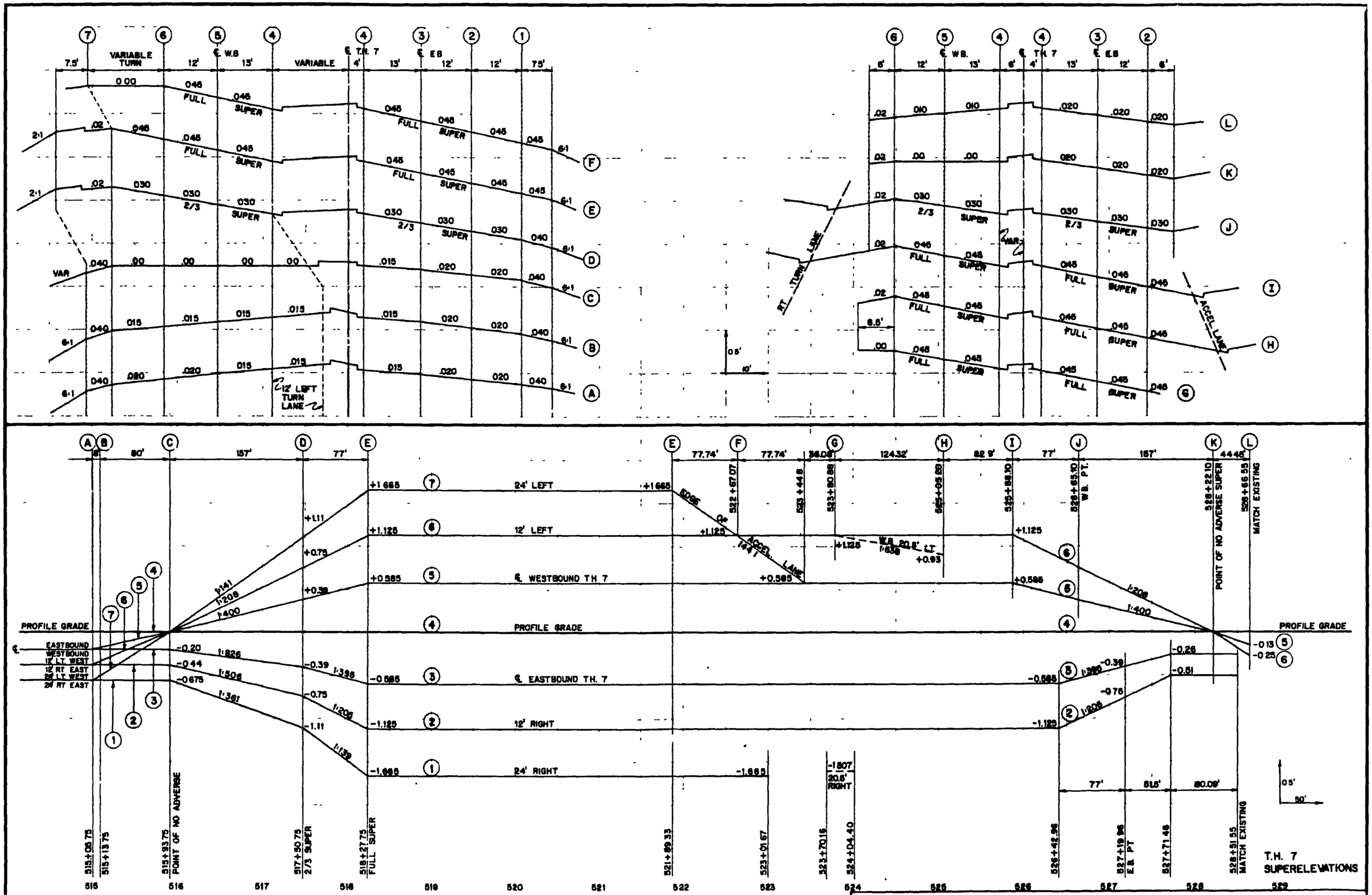


ROADWAY PROFILES

NORTH FRONTAGE ROAD 12+40 TO 14+74.09
NORTH BYPASS / 24+74.09 TO 46+39.00
NO. FRONTAGE RD



ROADWAY PROFILES
NO. BYPASS 22+10.94 TO 25+90
WALKER ST. 5+80 TO 7+60.11
TEMP. CONN. 3 11+14.69 TO 14+74.09
TEMP. CONN. 4 2+06.98 TO 3+27.41
STAGES 1, 2, 3



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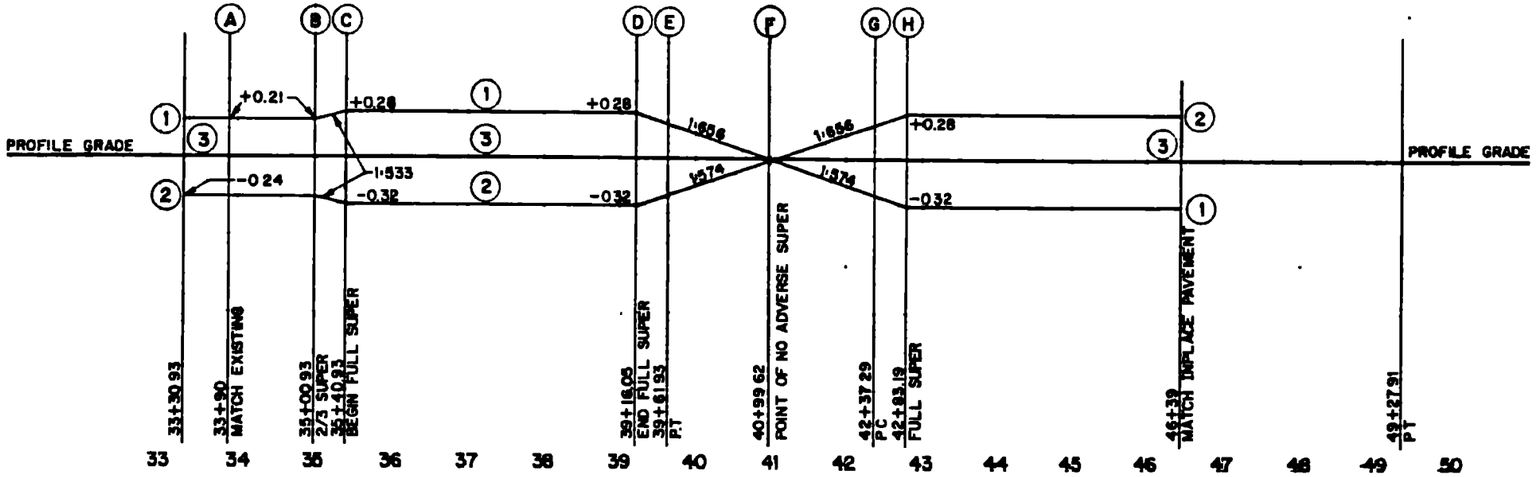
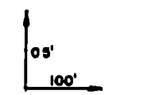
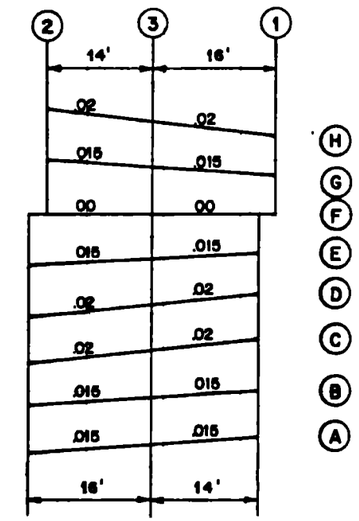




NORTH BYPASS



NORTH BYPASS
SUPERELEVATIONS

PROPOSED STORM SEWER

(X)

STRUCT. NO.	STATION	LOCATION	FUNDING	NOTES	CONSTRUCTION: TOP OF CASTING OR INLET ELEV	OUTLET ELEV	PAY HEIGHT LIN FT	DESIGN M.H	C.B.	F & I CASTING ASSEMBLY TYPE	FURNISH & INSTALL: 12" RCP CL II LIN FT	12" RCP CL III LIN FT	12" RCP CL IV LIN FT	15" RCP CL II LIN FT	15" RCP CL III LIN FT	18" RCP CL II LIN FT	18" RCP CL III LIN FT	18" RCP CL IV LIN FT	21" RCP CL II LIN FT	27" RCP CL II LIN FT	30" RCP CL II LIN FT	36" RCP CL II LIN FT	APRON EACH	DRAINS TO: STRUCT. NO.	PIPE GRADE	INLET ELEV	RANDOM RIPRAP CL. II CU YD
	T.H 7																										
5000	492+50 (W B.)	21 00' LT	MN/DOT		220 30	212.74	7 48		A OR F	B-2					22									6088	2.00	212 30	
5001	495+40 (E.B	21 00' RT.	MN/DOT		208.77	200 10	6.63		A OR F	B-2		42												6081	1.00	199.68	
5002	495+95 (W.B.)	21.00' LT.	MN/DOT		204.24	196.70	7.50		A OR F	B-2					20									6093	2.00	196.30	
5003	498+70 (E.B.)	21.00' RT.	MN/DOT		192.87	182.34	10.29		A OR F	B-2			39											6083	6.00	180.00	
5004	499+36.5 (W B.)	21.00' LT.	MN/DOT		190.69	184 29	6.36		A OR F	B-2		24												6096	5.00	183.09	
5005	500+45 (E.B.)	21.00' RT.	MN/DOT		188 22	182.00	6.18		A OR F	B-2		50												6002	5 00	179.50	
5006	503+70 (W B.)	30.87' LT.	MN/DOT	(3)	184 00	176.31	7.81	A OR F	A OR F	M-7,A-7														INP 73"			
5007	503+70 (W.B.)	21.00' LT.	MN/DOT		185.31	178 00	7.27		A OR F	B-2			11											5026	2.00	177.78	
5008A	504+50 (W.B.)	58.00' LT.	MN/DOT		179 45											54							18"	6101	2.50	177 95	
5009A	504+50 (E.B.)	70.00' RT.	MN/DOT	(1)	179.25											54							18"	6011	2.50	177.76	3.00
5010	510+97 (W B.)	21.00' LT.	MN/DOT		186 16	181 50	4 62		C OR G	B-2		53												5033	0 40	181.29	
5011	512+90 (W.B.)	44 00' LT.	MN/DOT		186.10	176 43	9 79	A OR F		A-7								150						5012	0.18	176.16	
5011A	513+00 (W B.)	80.00' LT.	MN/DOT		176 50												34						18"	5011	0.18	176.43	
5012	512+90 (E.B.)	58.00' RT	MN/DOT		185 54	176 16	9.40	A OR F		A-7							30							5012A	0.18	176.10	
5012A	513+03 (E.B.)	92 00' RT.	MN/DOT			176.10																	18"	POND			
5013	516+36 (W.B.)	29.00' LT.	MN/DOT	(1)	189.27	177 25	11.98		4020-60	B-2														5014	0.12	177.19	
5013A	516+35 (W.B.)	61.00' LT	MN/DOT	(8)	177.29																	8	36"	INP 36"	0.12	177 25	
5014	516+38 (W.B.)	22.07' RT.	MN/DOT	(1)	189 06	177 19	11.84		4020-60	B-2												28		5014A	0.12	177.00	
5014A	516+45 (E.B.)	98 00' RT.	MN/DOT	(10)		177 00																	36"	POND			
5015	520+70 (W B.)	29.00' LT.	MN/DOT		194.08	189 08	4 98		C OR G	B-2		43												5016	3.00	187 79	
5016	520+70 (W.B.)	14 00' RT.	MN/DOT		192.48	184.60	7 84		A OR F	B-2			108											5016A	3.00	181.36	
5016A	520+65 (E.B.)	74.00' RT.	MN/DOT	(11)		181 36																	12"	DITCH			1.30
5017	523+00 (W.B.)	64.00' LT.	MN/DOT		198.80	188 70	8.22		A OR F	M3-7							304							5017A	1.50	184.00	
5017A	520+00 (W B.)	65 00' LT.	MN/DOT			184 00																	18"	DITCH			
5018	523+56 (W.B.)	40 00' LT.	MN/DOT		194 96	189 90	5.02		A OR F	B-2					63									5017	1.50	188.95	
5019	523+84 (W.B.)	21.00' LT.	MN/DOT		195.75	190 49	5 21		C OR G	B-2				34										5016	1.00	190.15	
5020	523+74 (E.B.)	21.00' RT.	MN/DOT		193.03	187 98	5 01		C OR G	B-2		46												5053	1.58	187 25	
5021	524+76 (E.B.)	31.60' RT.	MN/DOT		193.16	187.25	5.87		4020-60	B-2										65				5054	1.00	186.60	
5022	525+07 (W.B.)	14.00' RT.	MN/DOT		195 40	189 84	5 42		A OR F	B-2				61										5021	2.08	188.57	
5023	525+23 (W.B.)	40 60' LT	MN/DOT		196 14	191 30	4 80		A OR F	B-2		58												5022	2.08	190.09	
5024	525+50 (W.B.)	33.20' LT.	MN/DOT		196.32	192.00	4 28		C OR G	B-2	29													5025	2.08	191.40	
5025	527+40 (W.B.)	25 00' LT.	MN/DOT		196.85	193 40	3 41		C OR G	B-2	80													5026	1 58	192 14	
5026	527+25 (E.B.)	17.00' RT.	MN/DOT		195.78	191 38	4.36		A OR F	B-2									250					5021	1.45	187 75	
	LOUISIANA AVE.																										
5027	38+70.5	1.66' LT.	ST. AID		180.51	176.02	4.81		SPEC 1	b		15												6054	1.00	175.07	
5028	39+84	39.67' LT.	ST. AID		181.54	178.08	3 78		SPEC.1	b	37													5029	0.50	177 90	
5029	39+84	2.33' LT.	ST. AID	(2)	181.34	177.80	3.86		SPEC.2-48	b	15													5030	0.50	177 72	
5030	39+82.3	12.33' RT.	ST. AID	(2)	181.52	177 62	4 22		SPEC.2-48	b	29													5031	0.50	177.47	
5031	39+81	40.92' RT.	ST. AID	(2)	181.50	177.22	4 60		SPEC.2-48	b				55										5045	0.50	176.94	
5032	42+06	43.67' RT.	MN/DOT		185.59	181.60	4.51		C OR G	B-2		64												5012	2.00	180.32	
5033	43+75	43.67' LT.	MN/DOT		186.20	181.19	5 33		A OR F	B-2		42												5034	0.40	181.02	
5034	43+75	2 33' LT.	MN/DOT		186.18	180 92	5 58		A OR F	B-2		15												5035	0.40	180.86	
5035	43+75	12.33'RT.	MN/DOT		186.38	180.76	5 94		A OR F	B-2		34												5036	0.40	180.61	
5036	43+61.5	43.67' RT.	MN/DOT		186.32	180.51	6 13		A OR F	B-2		72												5011	0.40	180 23	
5037A	47+10	100.00' LT.	ST. AID		178.00									122									15"	5039	0.16	177.80	
5038A	46+82	90.00' RT.	ST. AID			177.70																	15"	POND			
5039	46+91	26.00' RT.	ST. AID		183.90	177.80	6.22	SPEC.3-72		a				58										5038A	0.16	177.70	
5040	46+98.5	39.67' RT.	ST. AID		183.43	179 50	4 25		SPEC.1	b	16													5039	1 00	179.14	
5041	47+46	39.33' LT.	ST. AID		182.99	179.55	3 81		SPEC.1	b	35													5042	1.00	179.20	
5042	47+42.3	5.00' LT.	ST. AID	(2)	182.91	179.10	4.13		SPEC.2-48	b			60											5039	1.00	178.50	
			ST. AID	(12)							14																
	SOUTH BYPASS																										
5043	41+90	15.67' LT.	ST. AID		179.48	176.58	3.24		SPEC.1	b	40													5044	0 40	176.40	
5044	41+90	24 67' RT	ST. AID		179.30	176 15	3.47		SPEC.2-48	b				133										6054	0 40	175 62	
5045	43+87	8.00' LT	ST. AID		180.80	175 60	5 32	SPEC 3-98		a						46								6055	1 00	175.15	
5045A	44+16	35.00' LT	ST. AID		178 00										36								15"	5045	0 36	175.85	
5046	44+50	24 67' RT.	ST. AID		179.93	176.83	3.42		SPEC 1	b	40													5047	0.50	176 83	
5047	44+50	15 67' LT.	ST AID	(2)	180.10	176 53	3 89		SPEC.2-48	b	68													5045	0 46	176.22	
5048	50+02	15 67' LT	MN/DOT		179 96	177 54	2.74		SPEC 1	b		31												5049	0 50	177 38	
5049	50+02	15 67' RT	CITY	(2)	179 96	177 13	3 15		SPEC 2-48	b				20										5050	0 50	177.03	
5050	50+02	35.00' RT	CITY	(4)	181 00	176 03	5.09	SPEC.3-48		a														6075			
5051	52+48	15.67' LT.	MN/DOT		185 45	181.00	4.77		SPEC 1	b	31													6080	1.60	180.50	
5052	54+35	15.67' LT.	MN/DOT		190.36	187 00	3.68		SPEC 1	b	7													6082	1.00	186.93	
5053	54+74	36.00' LT	MN/DOT		191 89	185 75	6 10	SPEC 3-60		a											59			5053A	1 00	185.10	
5053A	54+10	32.00' LT.	MN/DOT			185 10																	30"	DITCH			
5054	55+24	40.00' LT.	MN/DOT	(2)	192.54	186 50	6 36		SPEC 2-78	b										50				5053	1 00	186.00	
5055	55+69	15.67' LT.	MN/DOT		192 98	188 80	4.50		SPEC.1	b	52													5054	3.46	187.00	
	SOUTH FRONTAGE RD.																										
5056	58+26	15 67' RT.	CITY		197 91	194 70	3 53		SPEC.1	b		31												5057	2.00	194.40	
5057	58+26	15.67' LT.	CITY	(2)	197 91	193 00	5 23		SPEC 2-48	b				51										5026	2.00	191.88	
	NORTH BYPASS																										
5058	26+15	13 67' RT.	MN/DOT		182 52	178 60	4 24		SPEC 1	b	8		8											INP. 73"	0.50	178.55	
	WALKER STREET																										
5059	6+05	13.67' LT	CITY		181.08	178 67	2 73		SPEC 1	b		29												5060	0 60	178.50	
5060	6+05	13.67' RT	CITY	(2)	181 08	178 25	3 15		SPEC.2-48	b					65									5061	0.78	177.44	
5061	6+65	35 00' RT	CITY		180 00	177 44	2 72		SPEC 3-48	M3-7				108										6104	0.78	176.90	
	LAKE STREET																										
5062	5+15	15.67' RT.	CITY		179 57	177 43	2.46		SPEC.1	b		32												5063	0.50	177.27	
5063	5+15	15.67' LT.	CITY	(2)	179.57	177.17	2.72		SPEC.2-48	b		74												6110	0.50	176.80	

DRAINAGE TABULATION

PROPOSED STORM SEWER (CONT.) (X)

STRUCT NO	STATION	LOCATION	FUNDING	NOTES	CONSTRUCTION: TOP OF CASTING OR INLET ELEV	OUTLET ELEV	PAY HEIGHT LIN FT	DESIGN M H	C B	F & I CASTING ASSEMBLY TYPE	FURNISH & INSTALL: 12" RCP CL II LIN FT	12" RCP CL III LIN FT	12" RCP CL IV LIN FT	15" RCP CL II LIN FT	15" RCP CL III LIN FT	18" RCP CL II LIN FT	18" RCP CL III LIN FT	18" RCP CL IV LIN FT	21" RCP CL II LIN FT	27" RCP CL II LIN FT	30" RCP CL III LIN FT	36" RCP CL II LIN FT	APRON EACH	DRAINS TO: STRUCT. NO.	PIPE GRADE	INLET ELEV	RANDOM RIPRAP CL. II CU YD
5064 TO 5069 NOT USED																											
	LAKE STREET TEMPORARY STRUCTURES																										
5070	0+50	24.00' LT.	MN/DOT	(13)	198.80	192.00	4.92		C OR G	B-2	22													6026	0.50	191.89	
5071	0+75	24.00' RT.	MN/DOT	(13)	197.30	192.50	4.92		A OR F	B-2	18													6029	3.40	191.90	
5072	1+15	38.00' RT.	MN/DOT	(13)	198.85	194.05	4.92		C OR G	B-2	43													5071	3.40	192.60	
	NORTH FRONTAGE ROAD TEMPORARY STRUCTURES																										
5073A	12+65	22.00' RT.	MN/DOT	(5) (11)	180.00						8												12"	6099	1.00	179.90	1.30
	NORTH BYPASS TEMPORARY STRUCTURES																										
5074A	37+62	28.00' RT.	MN/DOT	(6)	179.00							39											12"	5075A	1.60	178.18	
5075A	37+62	25.00' LT.	MN/DOT	(6)		178.18																	12"	DITCH			
5076A	40+40	28.00' RT.	MN/DOT	(5)		181.60																	18"	DITCH			
5077	43+05	10.00' RT.	MN/DOT	(13)		182.80	4.00	A OR F								254								5076A	0.46	181.60	
5078A	38+80	30.00' LT.	MN/DOT	(6)	177.28																	32		INP. 36"	0.12	177.25	
TOTALS																											
MN/DOT											290	613	158	95	105	362	368	150	250	115	59	68					
STATE AID											294	15	60	368	36	46	0	0	0	0	0	0					
CITY											0	166	0	179	65	0	0	0	0	0	0	0					
TOTAL											584	794	218	642	206	408	368	150	250	115	59	68					

DRAINAGE CASTING SCHEDULE (Y)

FUNDING MN/DOT NO. REQ'D	ST. AID NO. REQ'D	CITY NO. REQ'D	TYPE	HEIGHT	FRAME	GRATE	COVER	CURB BOX
3	0	0	A-7	0.58	700-7		712	
29	0	0	B-2	0.74	802	811		823
1	1	0	MJ-7	0.58	700-7	730-9		
1	0	0	M-7	0.58	700-7	720		
1	2	1	a	0.58	NEENAH R-1733 FRAME & LID			(14)
6	7	12	b	0.38	NEENAH R-3246 WITH DR OR DL GRATE			(14)
12	3	0	CULVERT	MARKERS				

DRAINAGE TABULATION NOTES

(1) CONSTRUCT OVER INPLACE 36" STORM SEWER
(2) USE TOP SLAB WITH RECTANGULAR OPENING
(3) INSTALL M-7 CASTING IN STAGE 2
REPLACE WITH A-7 CASTING IN STAGE 5
(4) CONSTRUCT OVER INPLACE 27" STORM SEWER
(5) RCP APRON, INSTALL IN STAGE 2, REMOVE IN STAGE 4
(6) RCP APRON, INSTALL IN STAGE 1, REMOVE IN STAGE 4
(7) CONSTRUCT IN STAGE 2, COVER WITH STEEL PLATE (1/4")
REMOVE IN STAGE 4
(8) REMOVE 16 LIN FT OF 36" RCP IN STAGE 4
INSTALL NEW APRON
(9) SALVAGE APRON IN STAGE 1, EXTEND 36" RCP 32 LIN FT
REINSTALL APRON
(10) REMOVE APRON IN STAGE 3, EXTEND 36" RCP 36 LIN FT
CONSTRUCT APRON
(11) GRANULAR OR FABRIC FILTER BLANKET SHALL BE INCIDENTAL
TO RIPRAP PLACEMENT FOR WHICH NO DIRECT COMPENSATION
SHALL BE MADE
(12) INSTALL 14 LIN FT 12" RCP CL II BETWEEN INPLACE PIPE
AND CB 6051
(13) REMOVE STRUCTURES AND TOTAL OF 400 LIN FT OF STORM
SEWER PIPE IN STAGE 4 INSTALL 1/4" STEEL PLATE OVER STRUCTURE

(14) APPROVED EQUALS WILL BE ACCEPTED

INPLACE STORM SEWER REMOVAL AND MODIFICATION

(Z)

STRUCT NO.	STATION	LOCATION	FUNDING	INPLACE ITEM	REMOVE EACH	REMOVE LIN FT	SALVAGE STRUCT EACH	SALVAGE CASTING EACH	ADJUST EACH	RECONST LIN FT	INPLACE TOP OF CASTING ELEV	PROPOSED TOP OF CASTING ELEV	REMARKS
	T.H. 7												
6000	497+98 (W.B.)	16' LT	MN/DOT	12" CMP		16							
6001	497+98 (E.B.)	18' RT	MN/DOT	12" CMP		26							
6002	500+38 (E.B.)	70' RT	MN/DOT	MANHOLE					1				
6003	500+98 (W.B.)	15' LT	MN/DOT	12" CMP		15							
6004	500+98 (E.B.)	16' RT	MN/DOT	12" CMP		20							
6005	501+30 (E.B.)	70' RT	MN/DOT	MANHOLE				1		7.37	180.23	183.60	INSTALL SALVAGED CASTING
6006	503+29 (E.B.)	21' RT	MN/DOT	12" CMP		15							
6007	503+40 (W.B.)	14' LT	MN/DOT	12" CMP		15							
6008	503+63 (W.B.)	30' LT	MN/DOT	CATCH BASIN	1			1					RECONSTRUCT, SEE STRUCT NO. 5006
6009	503+84 (E.B.)	22' RT	MN/DOT	12" CMP		15							
6010	503+85 (W.B.)	12' LT	MN/DOT	12" CMP		16							
6011	503+90 (E.B.)	70' RT		MANHOLE									LEAVE AS IS
6012	504+20 (E.B.)	LT & RT	MN/DOT	73" STORM		30							
6013	504+45 (W.B.)	8' LT	MN/DOT	12" CMP		20							
6014	504+45 (E.B.)	22' RT	MN/DOT	12" CMP		18							
6015	505+45 (E.B.& W.B.)	LT & RT	MN/DOT	36" APRONS	2								ABANDON 36" RCP, BULKHEAD AT EACH END
* 6016	507+45 (W.B.)	6' LT	MN/DOT	CMP		20							
6017	507+50 (E.B.)	21' RT	MN/DOT	CMP		20							
6018	516+40 (E.B.& W.B.)	LT & RT	MN/DOT	36" RCP									EXTEND 36' TO SOUTH, EXTEND 32' TO NORTH STAGE 1, REMOVE 16' STAGE 4
6019	518+25 (E.B.)	16' RT	MN/DOT	12" CMP		30							
6020	520+48 (W.B.)	32' LT	MN/DOT	APRON			1						USE FOR TEMPORARY STRUCTURE NO 5026A (APRON)
6021	521+90 (E.B.)	15' RT	MN/DOT	12" CMP		10							
6022	523+02 (W.B.)	42' LT	MN/DOT	MANHOLE	1	260		1					LEAVE AS IS DURING BYPASS, REMOVE IN STAGE 5
6023	523+05 (W.B.)	14' RT	MN/DOT	CATCH BASIN	1	55		1					LEAVE AS IS DURING BYPASS, REMOVE IN STAGE 5
6024	523+31 (E.B.)	44' RT	MN/DOT	CATCH BASIN	1	37		1					
6025	523+85 (W.B.)	34' LT	MN/DOT	CATCH BASIN	1	10		1					COVER WITH PLATE IN STAGE 2
6026	523+95 (W.B.)	32' LT	MN/DOT	MANHOLE	1	94		1					COVER WITH PLATE DURING BYPASS (STAGE 2)
6027	524+18 (E.B.)	15' RT	MN/DOT	CATCH BASIN	1	98		1					LEAVE AS IS DURING BYPASS, REMOVE IN STAGE 5
6028	524+45 (W.B.)	20' RT	MN/DOT	CATCH BASIN	1	48		1					LEAVE AS IS DURING BYPASS, REMOVE IN STAGE 5
6029	524+50 (W.B.)	50' LT	MN/DOT	CATCH BASIN	1	55		1					COVER WITH PLATE IN STAGE 2
6030	528+60 (W.B.)	8' LT	MN/DOT	CATCH BASIN	1	5		1					LEAVE AS IS DURING BYPASS, REMOVE IN STAGE 5
6031	528+60 (W.B.)	18' LT	MN/DOT	MANHOLE	1	423		1					LEAVE AS IS DURING BYPASS, REMOVE IN STAGE 5
6032	528+42 (E.B.)	45' LT											ABANDON 12" CMP
	LOUISIANA AVENUE												
6033	30+69	68' RT		CATCH BASIN									LEAVE AS IS
6034	31+56	62' RT		CATCH BASIN									LEAVE AS IS
6035	31+65	37' RT		CATCH BASIN									LEAVE AS IS
6036	31+61	10' RT		CATCH BASIN									LEAVE AS IS
6037	31+65	3' LT		CATCH BASIN									LEAVE AS IS
6038	31+65	10' LT		CATCH BASIN									LEAVE AS IS
6039	32+64	28' LT	STATE AID	MANHOLE					1				
6040	34+90	30' LT		MANHOLE									LEAVE AS IS
6041	34+94	6' RT		MANHOLE									LEAVE AS IS
6042	34+98	40' RT		MANHOLE									LEAVE AS IS
6043	35+01	2' RT		CATCH BASIN									LEAVE AS IS
6044	35+01	8' RT		CATCH BASIN									LEAVE AS IS
6045	34+98	55' RT		CATCH BASIN									LEAVE AS IS
6046	35+12	36' LT		CATCH BASIN									LEAVE AS IS
6047	35+12	58' LT		MANHOLE									LEAVE AS IS
6048	38+29	38' LT	STATE AID	CATCH BASIN					1				
6049	38+29	20' LT	STATE AID	MANHOLE					1				
6050	38+29	10' LT	STATE AID	CATCH BASIN					1				
6051	38+29	3' LT	STATE AID	CATCH BASIN					1				
6052	38+29	8' RT	STATE AID	CATCH BASIN	1	10		1					
6053	38+29	35' RT	STATE AID	CATCH BASIN					1				
6054	38+75	15' LT	STATE AID	MANHOLE					1				
6055	38+90	22' RT	STATE AID	MANHOLE					1				
6056	48+18	6' LT		MANHOLE									LEAVE AS IS
6057	48+23	5' RT		MANHOLE									LEAVE AS IS
6058	49+02	5' RT		MANHOLE									LEAVE AS IS
	SOUTH BYPASS												
6059	25+16	14' RT		CATCH BASIN									LEAVE AS IS
6060	25+45	8' RT		MANHOLE									LEAVE AS IS
6061	25+42	11' LT		CATCH BASIN									LEAVE AS IS
6062	28+48	14' RT		CATCH BASIN									LEAVE AS IS
6063	28+50	12' LT		CATCH BASIN									LEAVE AS IS
6064	28+78	20' RT		MANHOLE									LEAVE AS IS
6065	29+74	46' RT		CATCH BASIN									LEAVE AS IS
6066	30+40	12' LT		CATCH BASIN									LEAVE AS IS
6067	30+40	12' RT		CATCH BASIN									LEAVE AS IS
6068	42+64	22' RT	STATE AID	CATCH BASIN	1	60		1					
6069	43+98	30' LT	STATE AID	APRON	1	58							
6070	44+10	25' RT	STATE AID	CATCH BASIN	1	8		1					
6071	44+10	30' RT	STATE AID	MANHOLE					1				
6072	45+98	30' RT		MANHOLE									LEAVE AS IS
6073	48+52	50' RT	CITY	CATCH BASIN					1				
6074	48+80	57' RT	CITY	CATCH BASIN					1				
6075	48+69	32' RT	CITY	MANHOLE					1				
6076	48+69	18' RT	CITY	MANHOLE					1				
6077	48+52	50' LT	MN/DOT	APRON	1	74							
6078	49+28	22' RT	CITY	CATCH BASIN	1	60		1					
6079	52+45	25' RT	CITY	CATCH BASIN					1				
6080	52+45	18' RT	CITY	MANHOLE					1				
6081	54+32	5' RT	CITY	MANHOLE					1				
6082	54+35	22' LT	MN/DOT	MANHOLE					1				
6083	54+74	36' LT	MN/DOT	MANHOLE	1	40		1					RECONSTRUCT, SEE STRUCTURE NO 5053
6084	54+86	46' LT	MN/DOT	CATCH BASIN	1	18		1					
6085	55+32	16' LT	MN/DOT	CATCH BASIN				1	1				REPLACE CB CASTING WITH MH CASTING TYPE a
6086	55+52	15' RT	CITY	CATCH BASIN					1				

TABULATED QUANTITIES

INPLACE STORM SEWER REMOVAL AND MODIFICATION (CONT.)

(Z)

STRUCT NO	STATION	LOCATION	FUNDING	INPLACE ITEM	REMOVE EACH	REMOVE LIN FT	SALVAGE STRUCT EACH	SALVAGE CASTING EACH	ADJUST EACH	RECONST LIN FT	INPLACE TOP OF CASTING ELEV	PROPOSED TOP OF CASTING ELEV	REMARKS
	NORTH FRONTAGE ROAD												
6087	2+34	21' RT		CATCH BASIN									LEAVE AS IS
6088	2+81	11' RT		MANHOLE									LEAVE AS IS
6089	5+84	11' RT		MANHOLE									LEAVE AS IS
6090	5+86	10' LT		CATCH BASIN									LEAVE AS IS
6091	6+03	22' LT		CATCH BASIN									LEAVE AS IS
6092	6+31	24' LT		CATCH BASIN									LEAVE AS IS
6093	6+24	11' RT		MANHOLE									LEAVE AS IS
6094	7+28	11' RT		MANHOLE									LEAVE AS IS
6095	8+22	9' LT		CATCH BASIN									LEAVE AS IS
6096	9+61	15' RT		CATCH BASIN									LEAVE AS IS
6097	9+59	8' LT		MANHOLE									LEAVE AS IS
6098	9+48	24' LT		CATCH BASIN									LEAVE AS IS
6099	12+64	15' RT	MN/DOT	CATCH BASIN					1				
6100	12+84	15' LT	CITY	CATCH BASIN					1				
6101	14+08	18' RT	MN/DOT	MANHOLE				1	1				COVER WITH STEEL PLATE IN STAGE 2 (1/4" STEEL)
	NORTH BYPASS												
6102	28+18	14' LT	MN/DOT	CATCH BASIN					1				
6103	28+35	19' RT	MN/DOT	MANHOLE					1				
6104	28+65	3' RT	MN/DOT	MANHOLE					1				
6105	28+76	67' LT		CATCH BASIN									LEAVE AS IS
6106	30+31	25' RT		CATCH BASIN									LEAVE AS IS
6107	30+41	25' RT		CATCH BASIN									LEAVE AS IS
	WALKER STREET												
6108	6+00	15' RT	CITY	CATCH BASIN	1	20							
	LAKE STREET												
6109	13+07	35' RT		CATCH BASIN									LEAVE AS IS
6110	4+45	33' LT		MANHOLE									LEAVE AS IS
6111 TO 6149 NOT USED													
TOTALS													
MN/DOT					16	1503	1	16	8	7 37			
STATE AID					4	136	0	3	9	0			
CITY					2	80	0	1	9	0			
TOTAL					(1) 22	1719	0	20	28	0			

NOTES:

(1) TOTAL INCLUDES REMOVAL OF 4 APRONS AND 18 CATCH BASINS AND MANHOLES

INPLACE WATERMAIN REMOVAL AND MODIFICATION

(AA)

STRUCT. NO.	STATION	LOCATION	FUNDING	INPLACE ITEM	ADJUST EACH	RELOCATE EACH	REMARKS
	LOUISIANA AVENUE						
6200	33+33	60' LT	STATE AID	GATE VALVE	1		
6201	33+33	45' LT	STATE AID	GATE VALVE	1		
6202	33+36	60' RT	STATE AID	GATE VALVE	1		
6203	33+42	65' RT		HYDRANT			LEAVE AS IS
6204	34+54	50' RT	STATE AID	GATE VALVE	1		
6205	34+64	45' LT	STATE AID	HYDRANT			LEAVE AS IS
6206	38+68	48' RT	STATE AID	HYDRANT	1		PROPOSED FLANGE ELEV. 181 73
6207	47+95	47' LT	STATE AID	MANHOLE	1		
	SOUTH BYPASS						
6208	39+75	20' RT	CITY	MANHOLE	1		
6209	39+80	32' RT		HYDRANT			LEAVE AS IS
6210	42+75	18' RT	STATE AID	GATE VALVE	1		
6211	43+68	11' RT	STATE AID	MANHOLE	1		
6212	43+85	20' RT	STATE AID	GATE VALVE	1		
6213	47+41	10' RT	CITY	GATE VALVE	1		
6214	47+41	35' RT		HYDRANT			LEAVE AS IS
6215	47+50	12' RT	CITY	MANHOLE	1		
6216	48+73	10' RT	CITY	MANHOLE	1		
6217	51+51	10' RT	CITY	MANHOLE	1		
6218	51+67	24' RT	CITY	HYDRANT		1	SEE DETAIL SHEET, PROPOSED FLANGE ELEV. 183.15
6219	54+78	35' RT	CITY	HYDRANT		1	SEE DETAIL SHEET, PROPOSED FLANGE ELEV 190 70
6228	54+70	20' LT	MN/DOT	GATE VALVE	1		
	NORTH BYPASS						
6220	28+12	35' LT		HYDRANT			LEAVE AS IS
	WALKER STREET						
6221	6+00	22' RT	CITY	HYDRANT		1	SEE DETAIL SHEET, PROPOSED FLANGE ELEV 181 58
6222	6+08	3' LT	CITY	GATE VALVE	1		
6223	13+05	30' RT		HYDRANT			LEAVE AS IS
6224	13+55	2' RT	CITY	MANHOLE	1		
	WEST LAKE STREET						
6225	5+38	18' RT	CITY	HYDRANT		1	SEE DETAIL SHEET. PROPOSED FLANGE ELEV 180.17
6226	5+45	4' RT	CITY	MANHOLE	1		
6227	12+63	16' RT	MN/DOT	MANHOLE	1		
TOTALS							
MN/DOT					2	0	
STATE AID					9	0	
CITY					8	4	
TOTAL					(1) 19	4	

NOTES:

(1) TOTAL INCLUDES 9 GATE VALVES, 1 HYDRANT, 9 WATER MANHOLES

TABULATED QUANTITIES

INPLACE SANITARY SEWER REMOVAL AND MODIFICATION

(BB)

STRUCTURE NO.	STATION	LOCATION	FUNDING	INPLACE ITEM	SALVAGE STRUCT EACH	SALVAGE CASTING EACH	ADJUST EACH	RECONST LIN FT	INPLACE TOP OF CASTING ELEV	PROPOSED TOP OF CASTING ELEV	REMARKS
	T H. 7										
6150	514+05 (W B)	68' LT	MN/DOT	MANHOLE			1				
6151	515+30 (E B)	56' RT	MN/DOT	MANHOLE		1		8 00	180 22	184 20	INSTALL SALVAGED CASTING
	LOUISIANA AVENUE										
6152	32+60	30' RT	STATE AID	MANHOLE			1				
6153	32+60	60' RT		MANHOLE							LEAVE AS IS
6154	34+82	28' RT		MANHOLE							LEAVE AS IS
6155	37+50	20' LT		MANHOLE							LEAVE AS IS
6156	47+84	7' RT		MANHOLE							LEAVE AS IS
	SOUTH BYPASS										
6157	29+00	4' RT	CITY	MANHOLE			1				
6158	30+78	27' LT	MN/DOT	MANHOLE		1		7 50	180 04	183.50	INSTALL SALVAGED CASTING
6159	32+67	65' LT		MANHOLE							LEAVE AS IS
6160	33+71	4' LT	MN/DOT	MANHOLE			1				
6161	39+00	29' RT		MANHOLE							LEAVE AS IS
6162	40+49	22' LT		MANHOLE							LEAVE AS IS
6163	40+96	3' RT	CITY	MANHOLE			1				
6164	42+40	26' LT		MANHOLE							LEAVE AS IS
6165	43+35	CENTER LINE	STATE AID	MANHOLE			1				
6166	43+59	29' LT	STATE AID	MANHOLE			1				
6167	45+97	CENTER LINE	CITY	MANHOLE			1				
6168	47+82	CENTER LINE	CITY	MANHOLE			1				
6169	48+46	CENTER LINE	CITY	MANHOLE			1				
6170	51+60	5' LT	MN/DOT	MANHOLE			1				
6171	53+12	9' LT	MN/DOT	MANHOLE			1				
6172	54+65	CENTER LINE	CITY	MANHOLE			1				
6173	57+12	CENTER LINE	CITY	MANHOLE			1				
6174	60+31	1' LT	MN/DOT	MANHOLE			1				
	NORTH BYPASS										
6175	30+06	2' RT	MN/DOT	MANHOLE			1				
6176	34+94	82' LT		MANHOLE							LEAVE AS IS
	WALKER STREET										
6177	6+45	11' RT	CITY	MANHOLE			1				
6178	12+50	11' LT	CITY	MANHOLE			1				
	WEST LAKE STREET										
6179	6+29	12' RT	CITY	MANHOLE		1		5.60	179.14	180 71	INSTALL SALVAGED CASTING
6180 TO 6199 NOT USED											
TOTALS											
MN/DOT						2	6	15.50			
STATE AID								0			
CITY						1		5.60			
TOTAL						3		21 10			

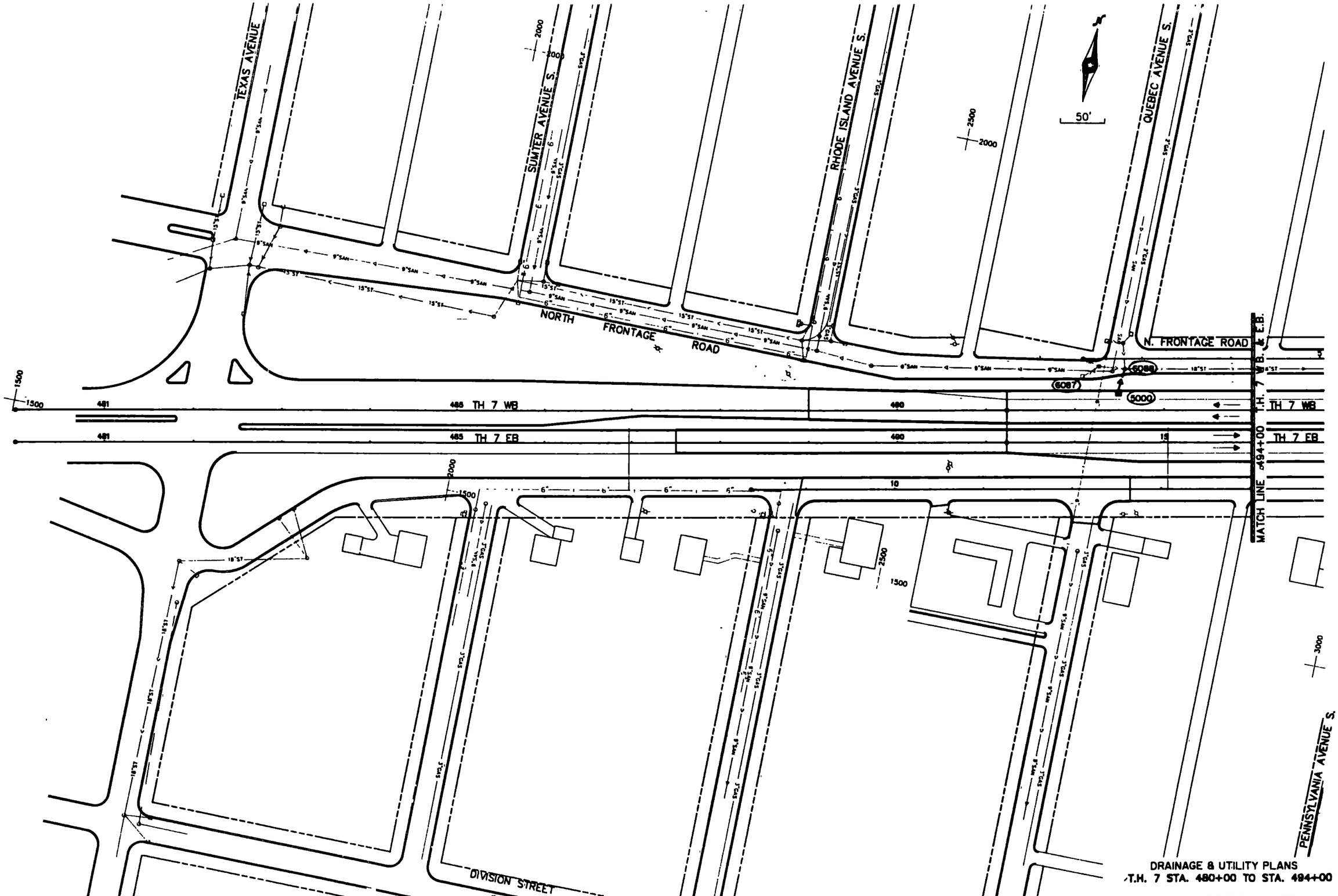
UTILITY TABULATIONS

(CC)

ITEM	UNIT	12" SANITARY T H 7 E.B. STA 514+75 LT & RT	4" FORCEMAIN T H 7 E B STA 514+55 LT & RT	12" WATERMAIN T.H. 7 E.B. STA 514+95 LT & RT		TOTALS (CITY FUNDED)
4" FORCEMAIN DUCTILE IRON PIPE CL 52	LIN FT		1108 ~~[illegible]~~			1108 ~~[illegible]~~
12" WATERMAIN - DUCT IRON CL 52	LIN FT			682		682
16" STEEL CASING	LIN FT		170			170
24" STEEL CASING	LIN FT			165		165
24" SPLIT STEEL CASING PIPE	LIN FT	84				84
DUCTILE IRON FITTINGS	POUND		250 ~~[illegible]~~	1495		1745 ~~[illegible]~~
12" GATE VALVE WITH MH	EACH			2		2
CONNECT TO EXISTING WATERMAIN	EACH			2		2
4" INSULATION	SQ YD	120				120
TREATED TIMBER PILING, DELIVERED (32' LONG)	LIN FT	224				224
TREATED TIMBER PILING, DRIVEN (32' LONG)	LIN FT	224				224
TREATED TIMBER TEST PILE (40' LONG)	EACH	1				1
CONC & TREATED TIMBER SADDLE	EACH	4				4

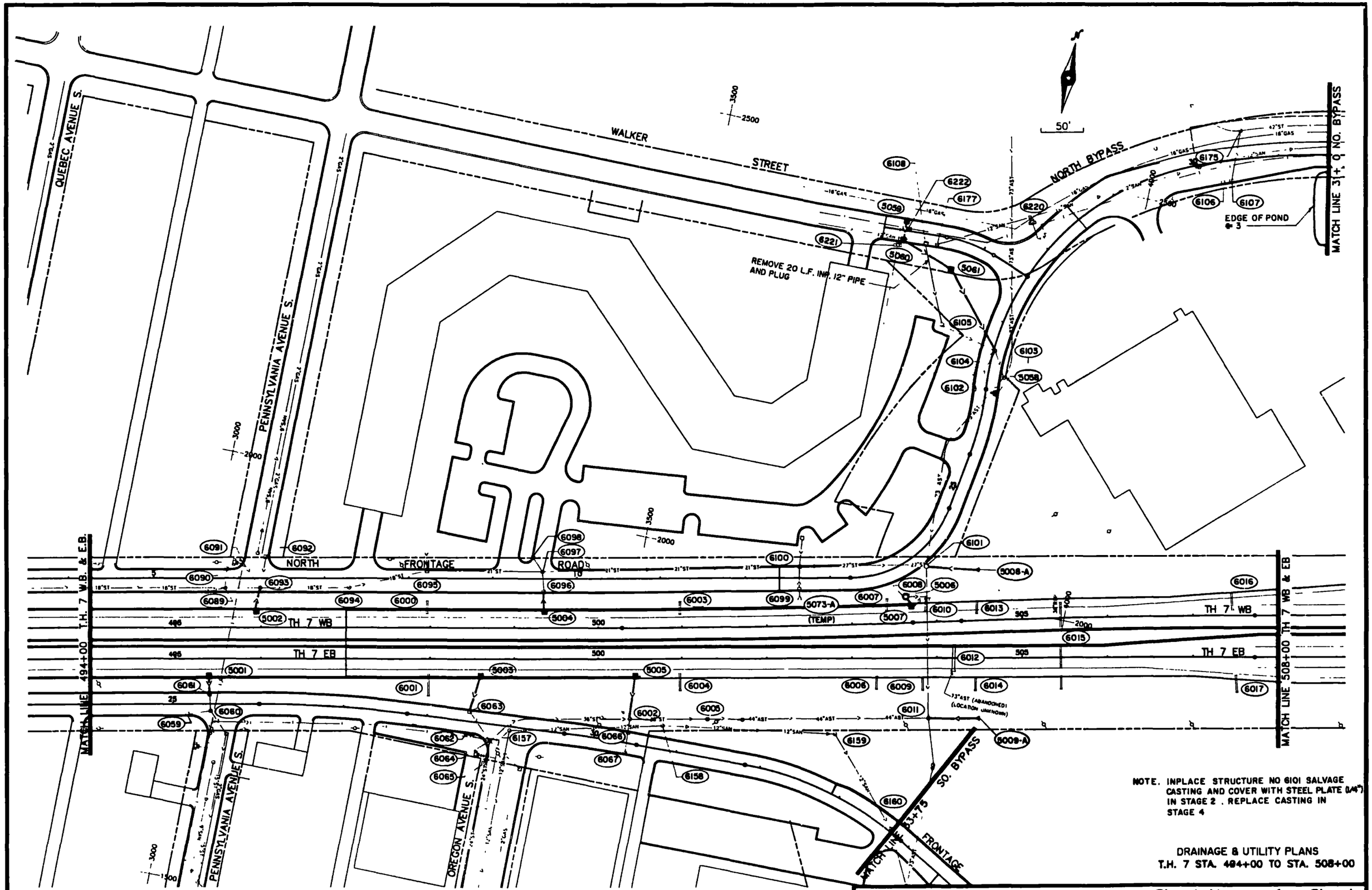
City Revisions 12/22/89

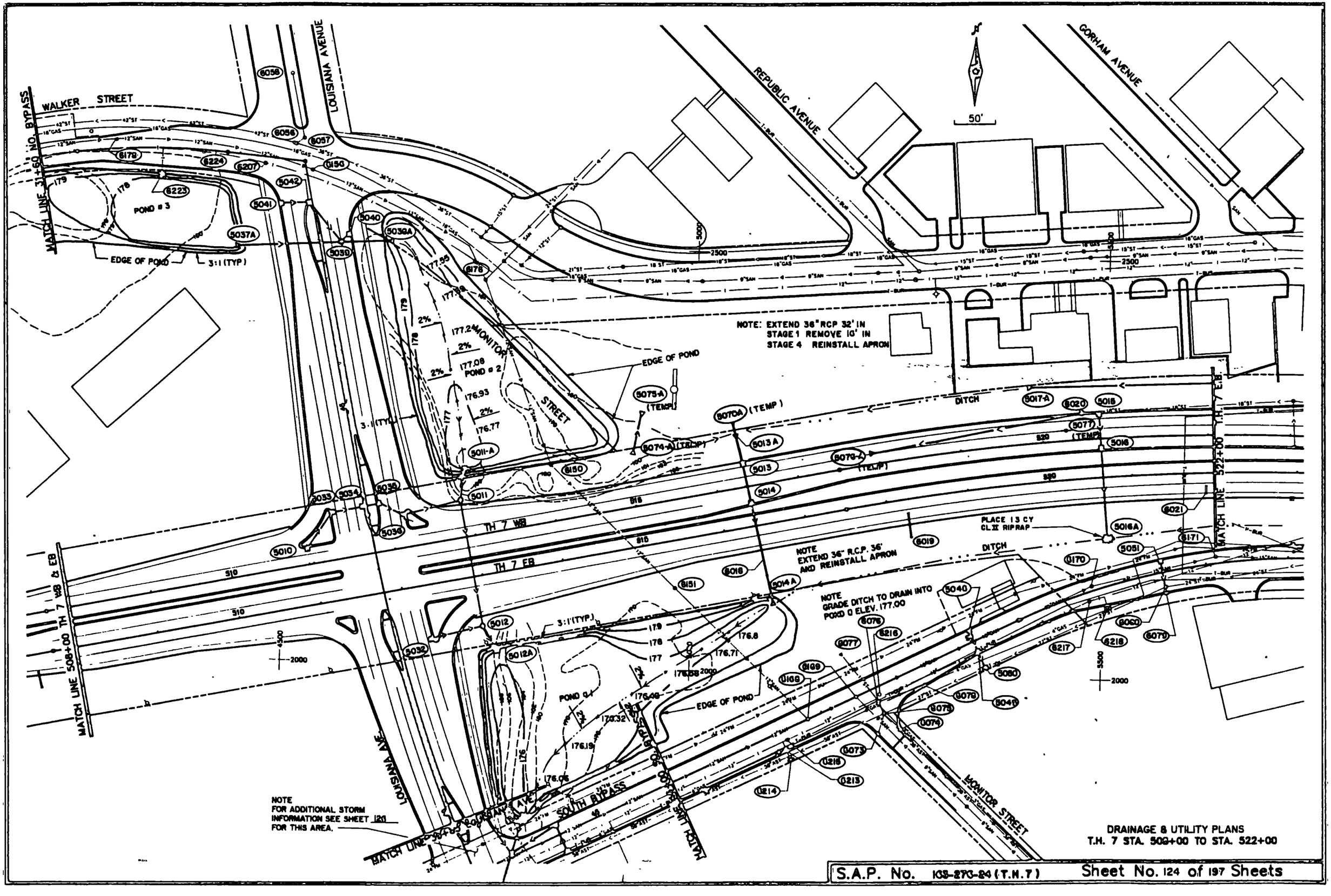
TABULATED QUANTITIES



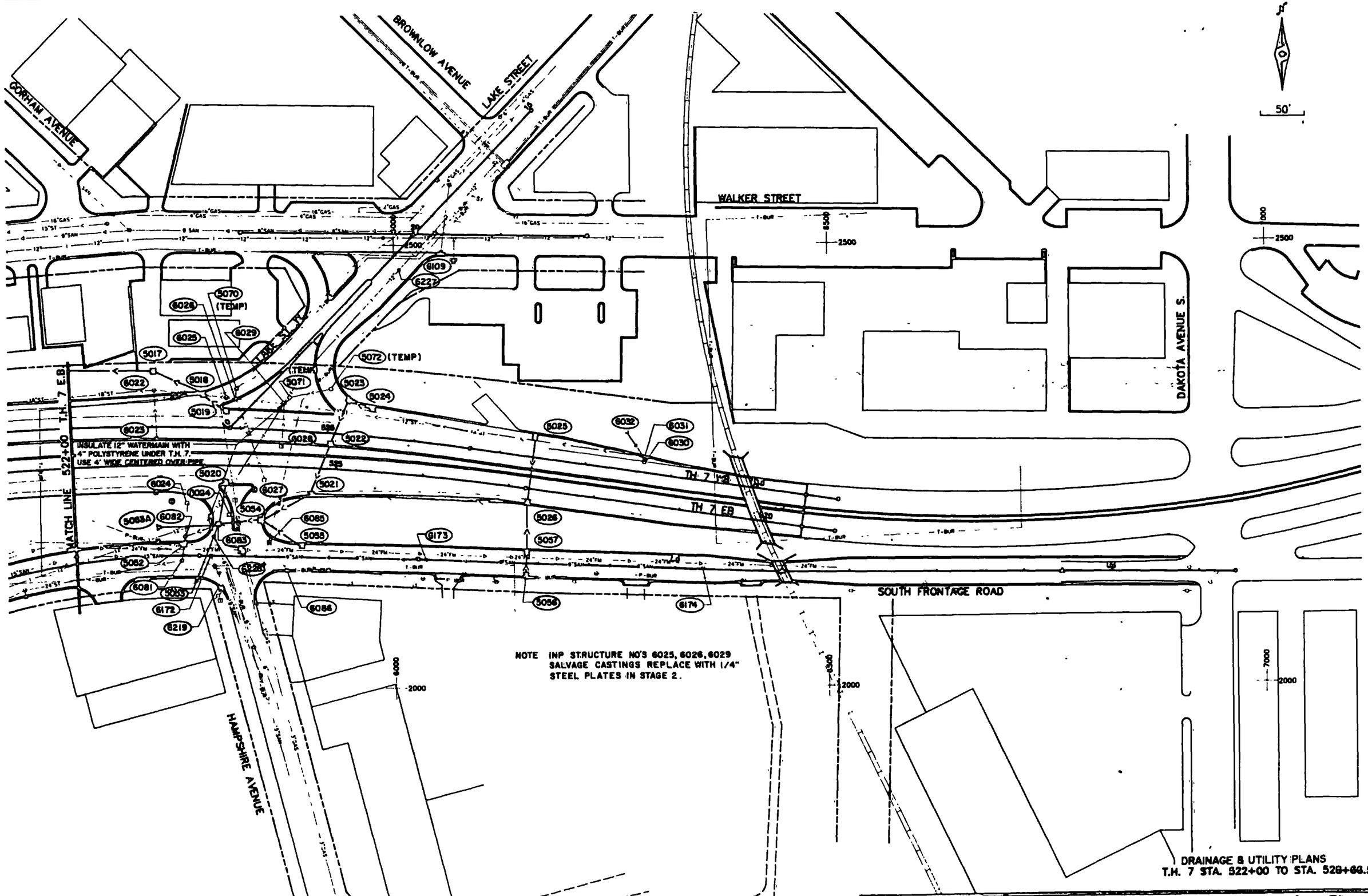
DRAINAGE & UTILITY PLANS
T.H. 7 STA. 480+00 TO STA. 494+00

S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 122 of 197 Sheets


QUEBEC AVENUE S.
PENNSYLVANIA AVENUE S.
WALKER STREET
NORTH BYPASS
NORTH FRONTAGE ROAD
TH 7 WB
TH 7 EB
MATCH LINE 494+00 T.H. 7 W.B. & E.B.
MATCH LINE 508+00 TH 7 WB & EB
MATCH LINE 3+75 SO. BYPASS FRONTAGE
OREGON AVENUE S.
REMOVE 20 L.F. INP. 12" PIPE AND PLUG
EDGE OF POND # 3
MATCH LINE 3+ 0 NO. BYPASS
(TEMP)
73"AST (ABANDONED) (LOCATION UNKNOWN)
50'
NOTE. INPLACE STRUCTURE NO 6101 SALVAGE CASTING AND COVER WITH STEEL PLATE (1/4") IN STAGE 2 . REPLACE CASTING IN STAGE 4
DRAINAGE & UTILITY PLANS
T.H. 7 STA. 494+00 TO STA. 508+00
S.A.P. No. 163-276-24 (T.H.7)
Sheet No. 123 of 197 Sheets



S.A.P. No. 163-273-24 (T.H. 7) Sheet No. 124 of 197 Sheets



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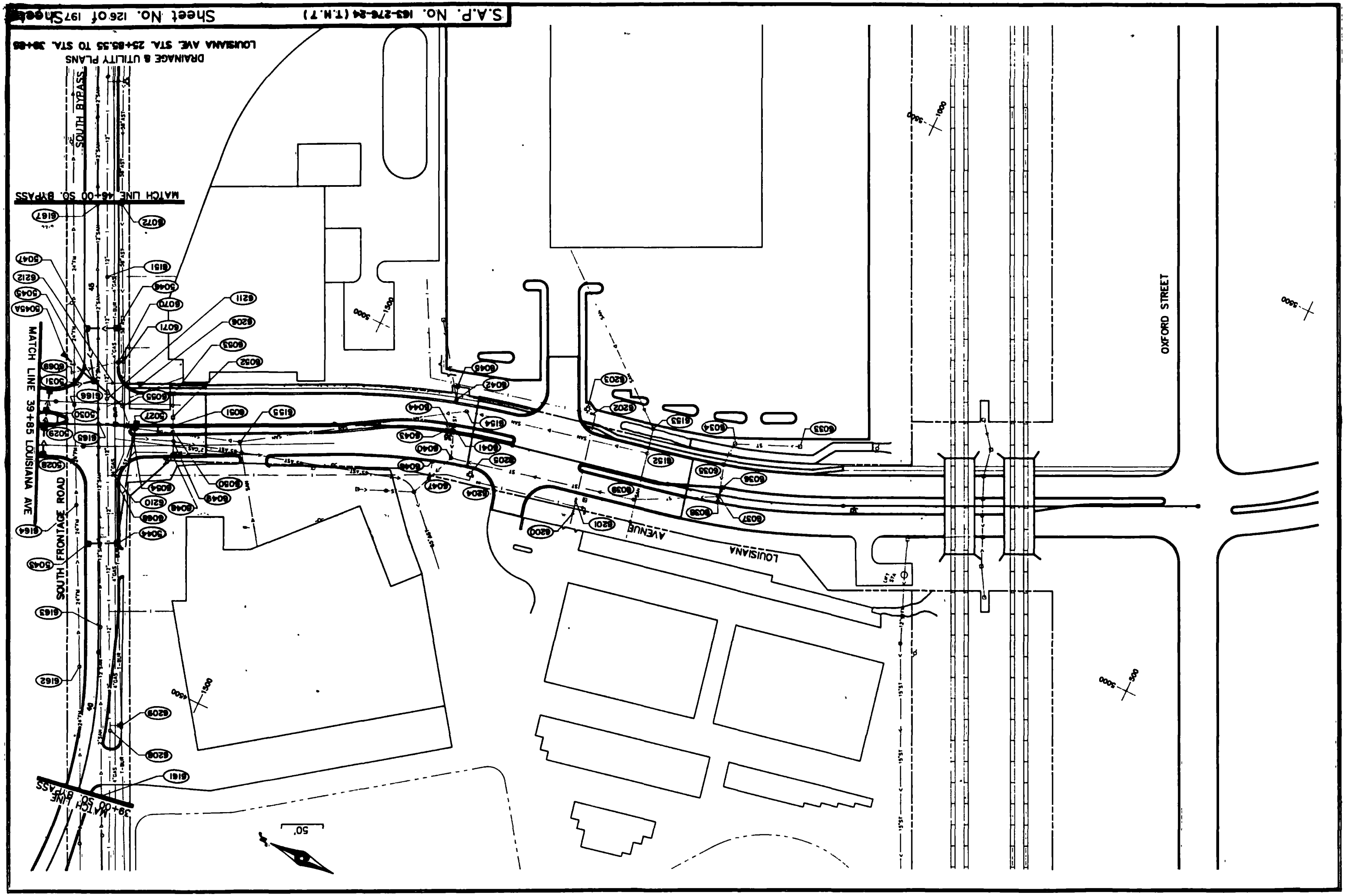
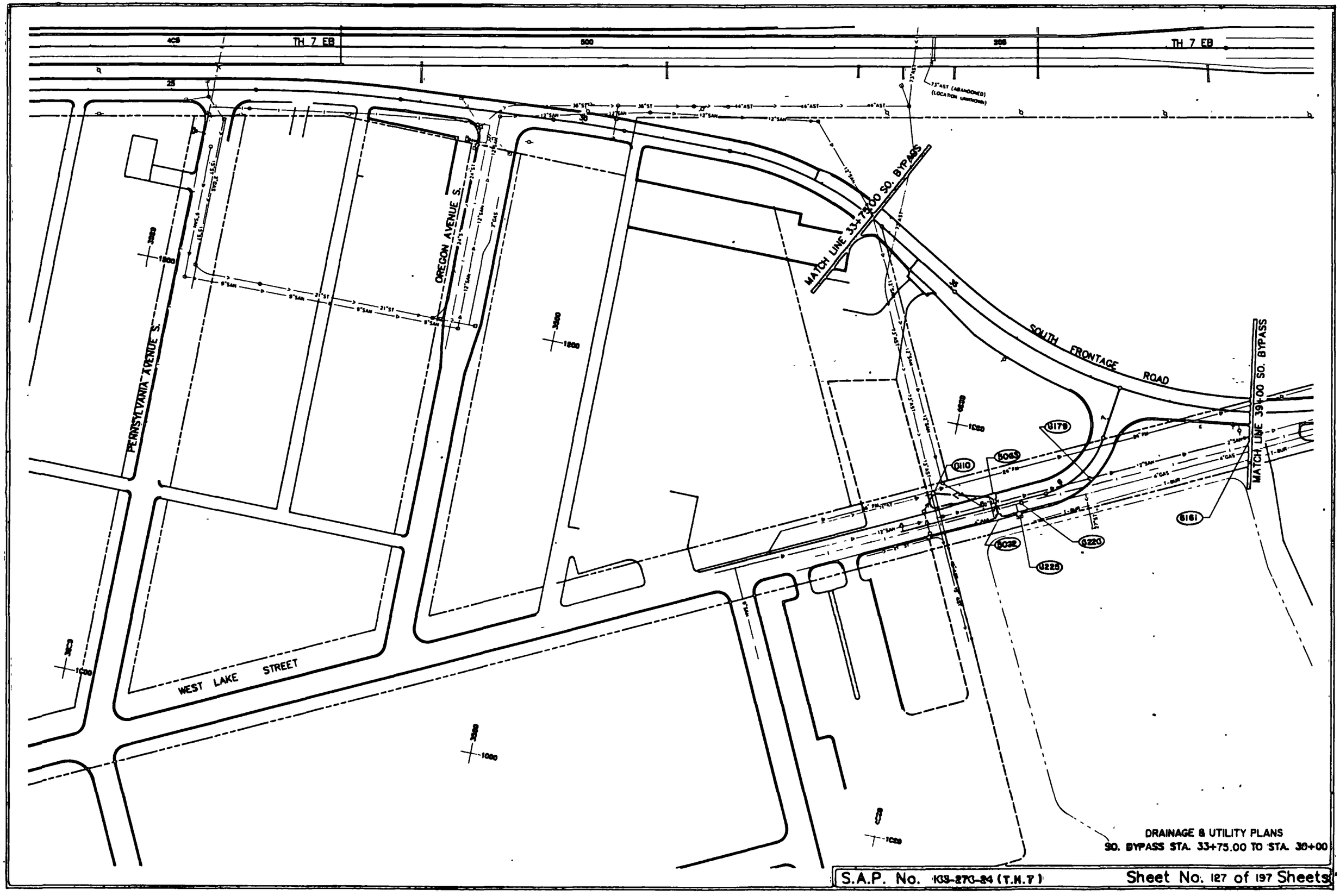
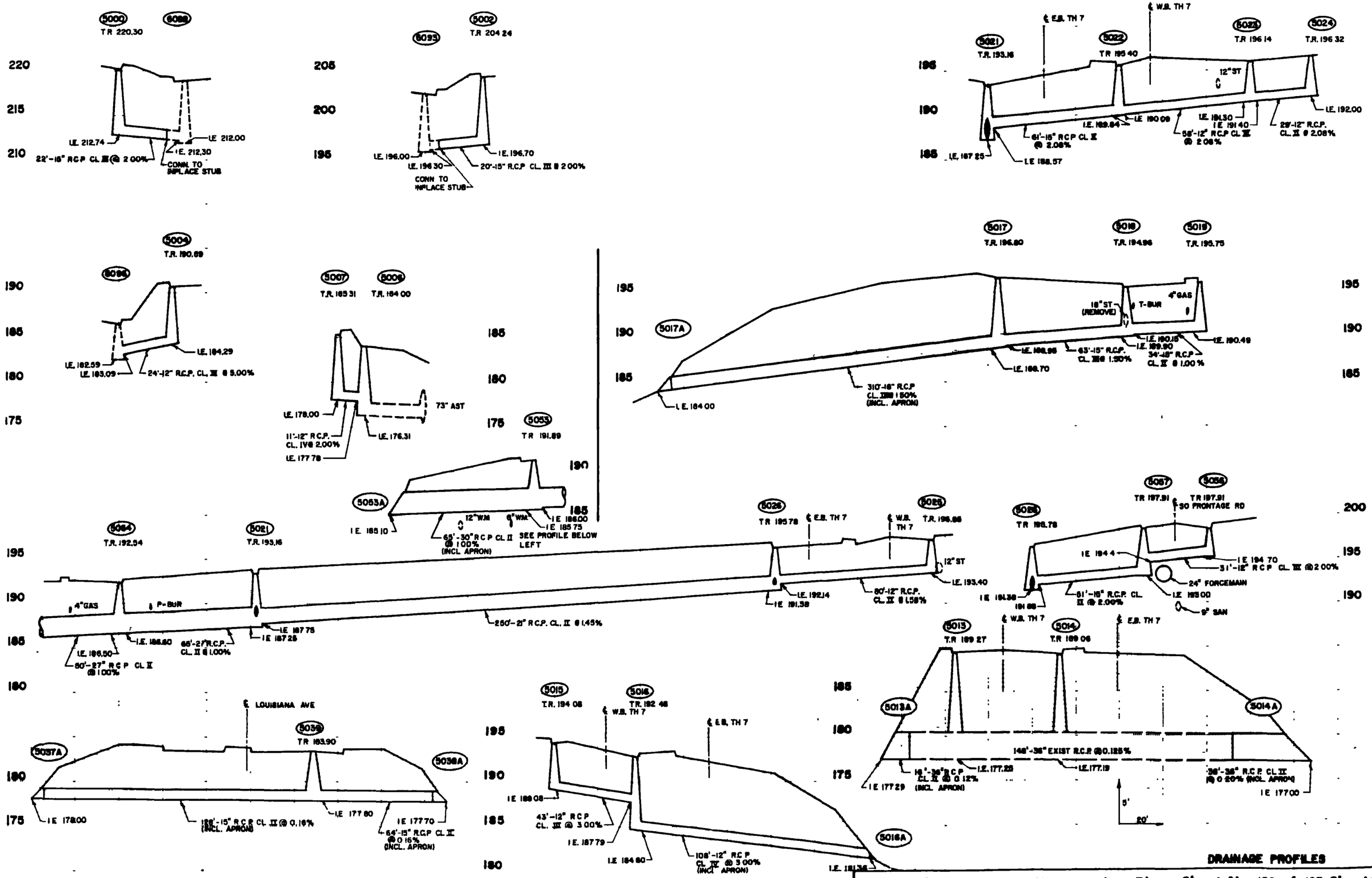
Sheet No. 125 of 197 Sheets

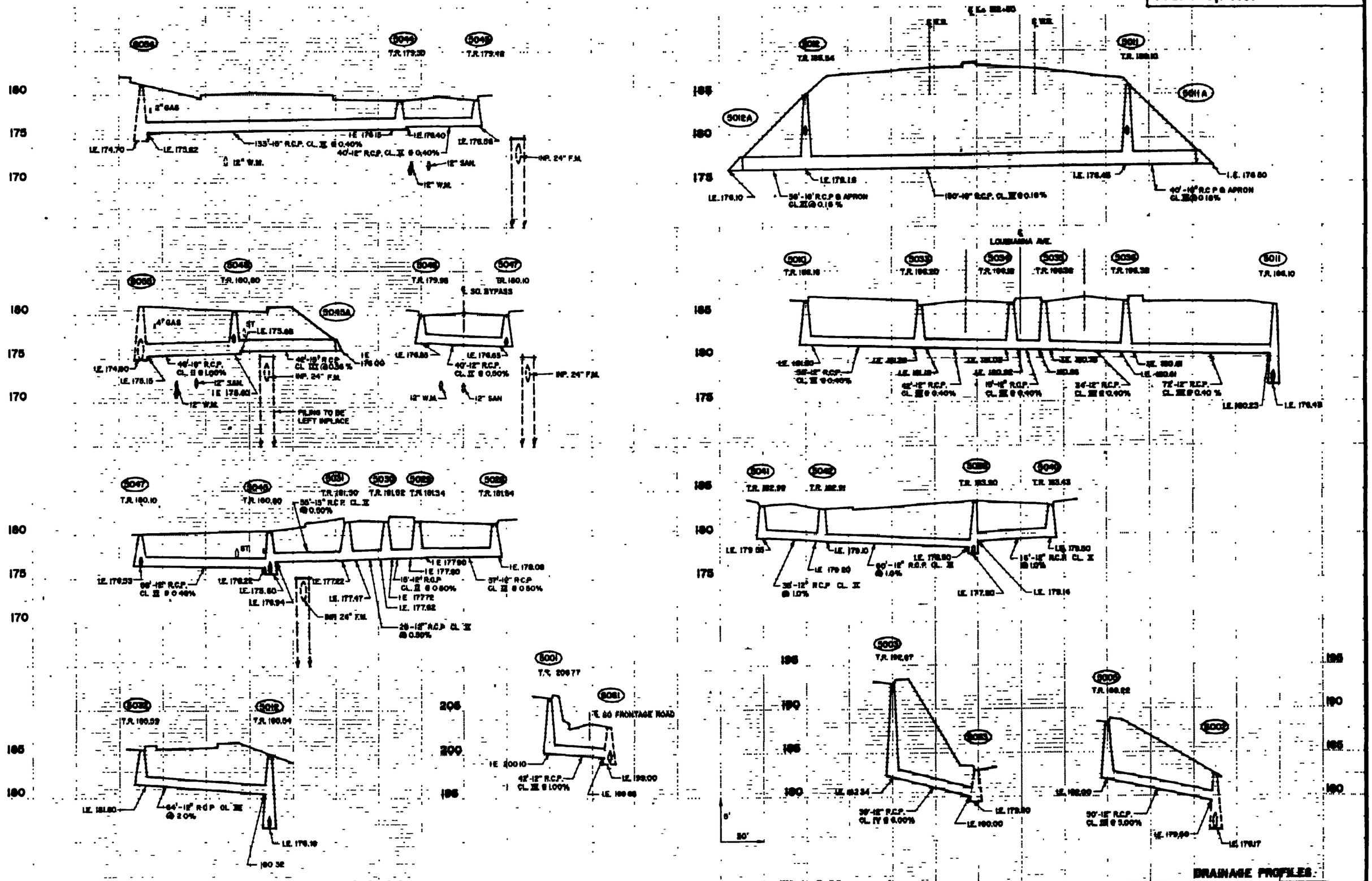

S.A.P. No. 163-276-24 (T.M.T)
Sheet No. 126 of 197 Sheets
DRAINAGE & UTILITY PLANS
LOUISIANA AVE. STA. 25+85.55 TO STA. 39+85
MATCH LINE 46+00 SO. BYPASS
SOUTH BYPASS
MATCH LINE 39+85 LOUISIANA AVE
SOUTH FRONTAGE ROAD
LOUISIANA AVENUE
OXFORD STREET
MATCH LINE 39+00 SO. BYPASS
50'


TH 7 EB
TH 7 EB
PENNSYLVANIA AVENUE S.
OREGON AVENUE S.
WEST LAKE STREET
SOUTH FRONTAGE ROAD
MATCH LINE 33+75.00 SO. BYPASS
MATCH LINE 39+00 SO. BYPASS
7.3" AST (ABANDONED)
(LOCATION UNKNOWN)
DRAINAGE & UTILITY PLANS
90. BYPASS STA. 33+75.00 TO STA. 39+00
S.A.P. No. 163-270-84 (T.H. 7)
Sheet No. 127 of 197 Sheets

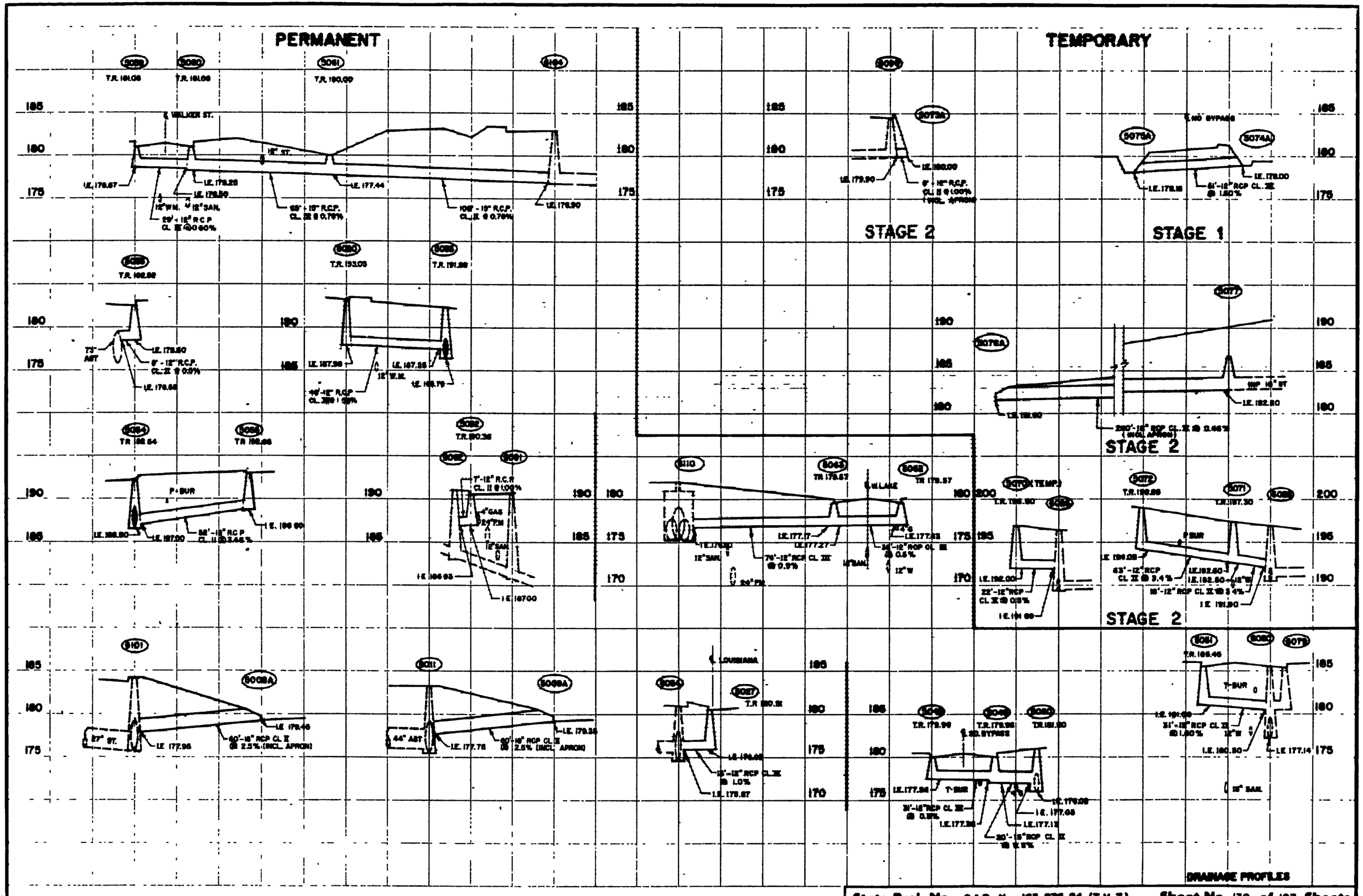
Fed. Proj. No.

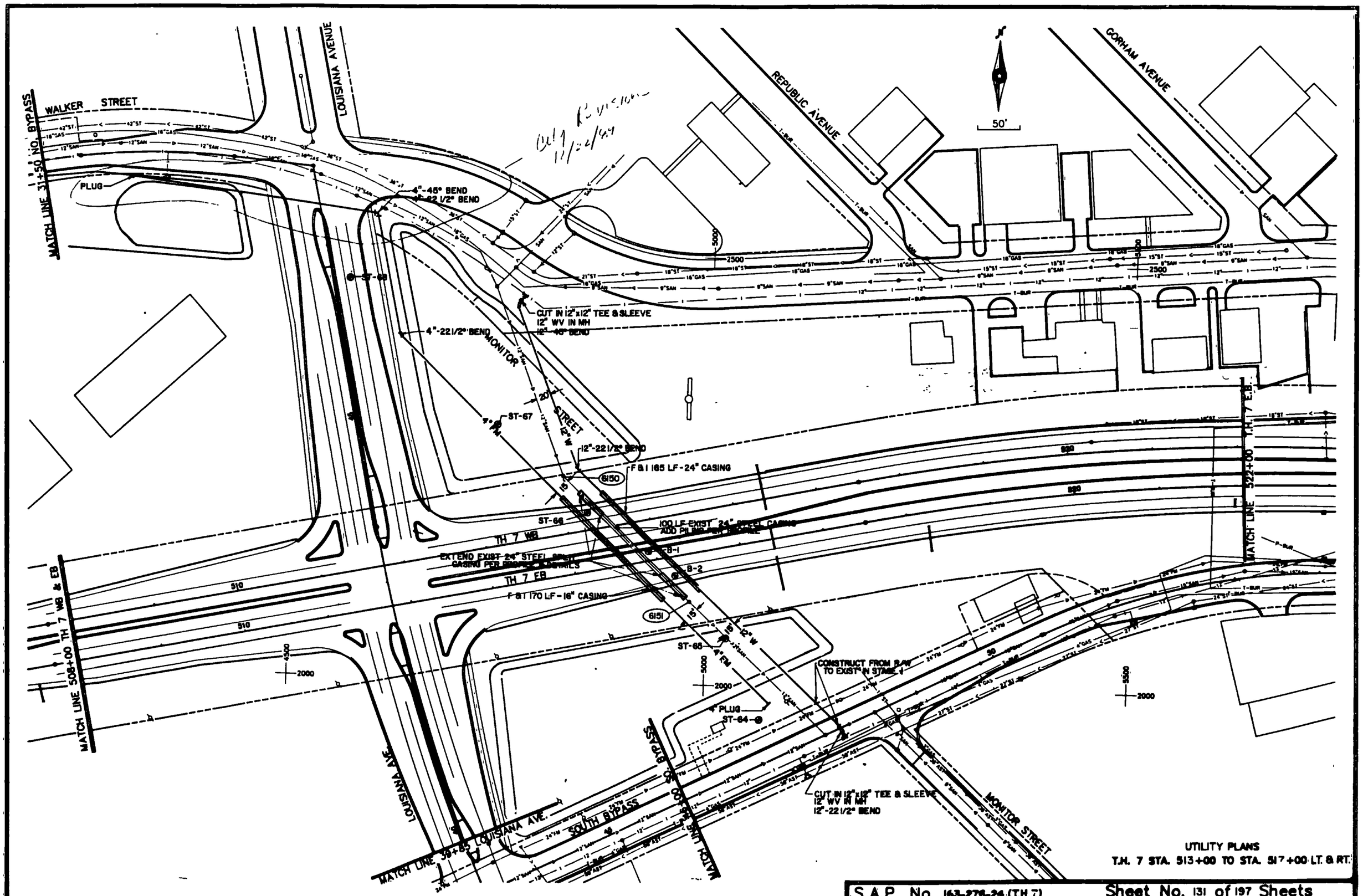


State Proj. No. S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 128 of 197 Sheets



DRAINAGE PROFILES.


PERMANENT
TEMPORARY
STAGE 2
STAGE 1
STAGE 2
STAGE 2
DRAINAGE PROFILES

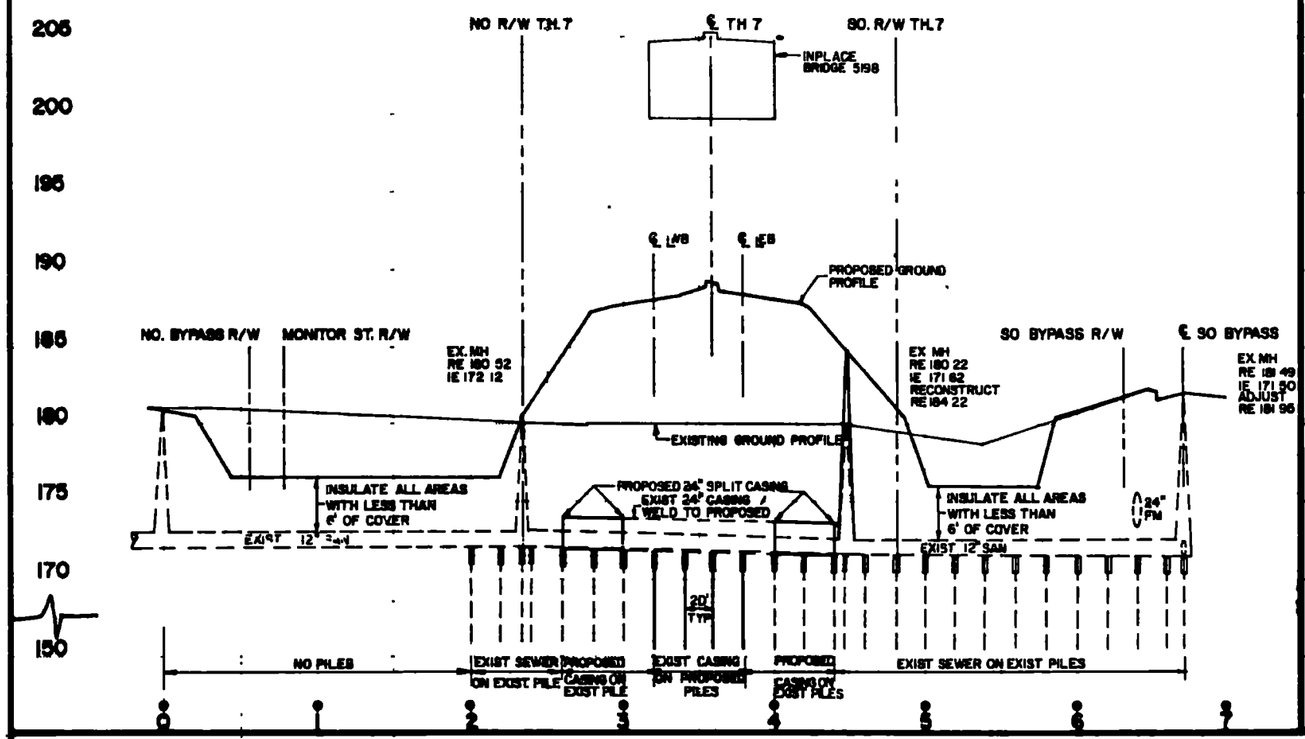


UTILITY PLANS
T.H. 7 STA. 513+00 TO STA. 517+00 LT. & RT.

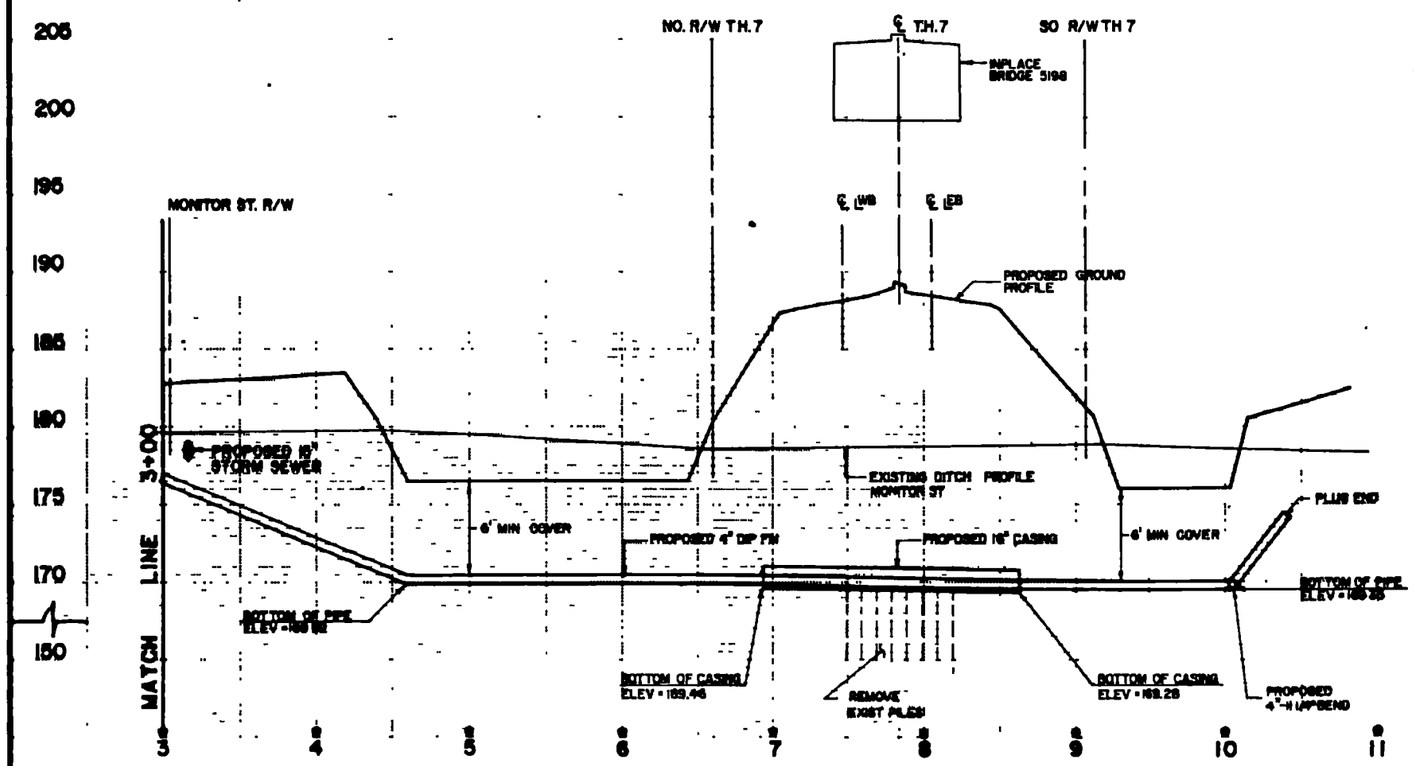
S.A.P. No. 163-276-24 (T.H 7) Sheet No. 131 of 197 Sheets

Fed. Proj. No.

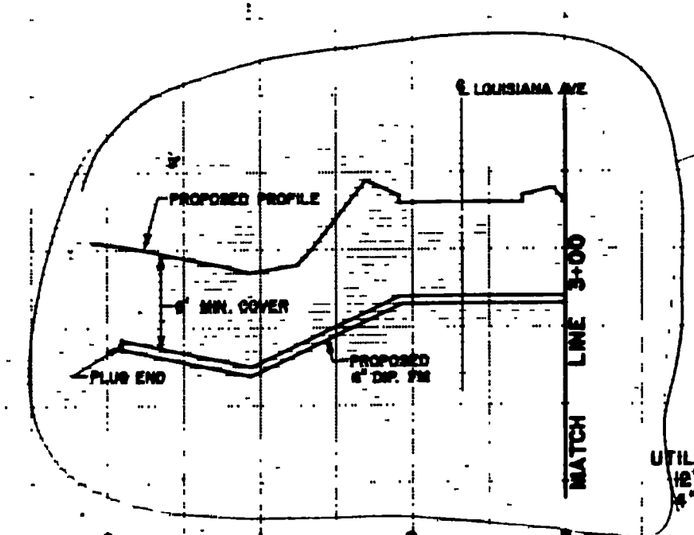
SANITARY PROFILE



FORCEMAIN PROFILE



FORCEMAIN PROFILE

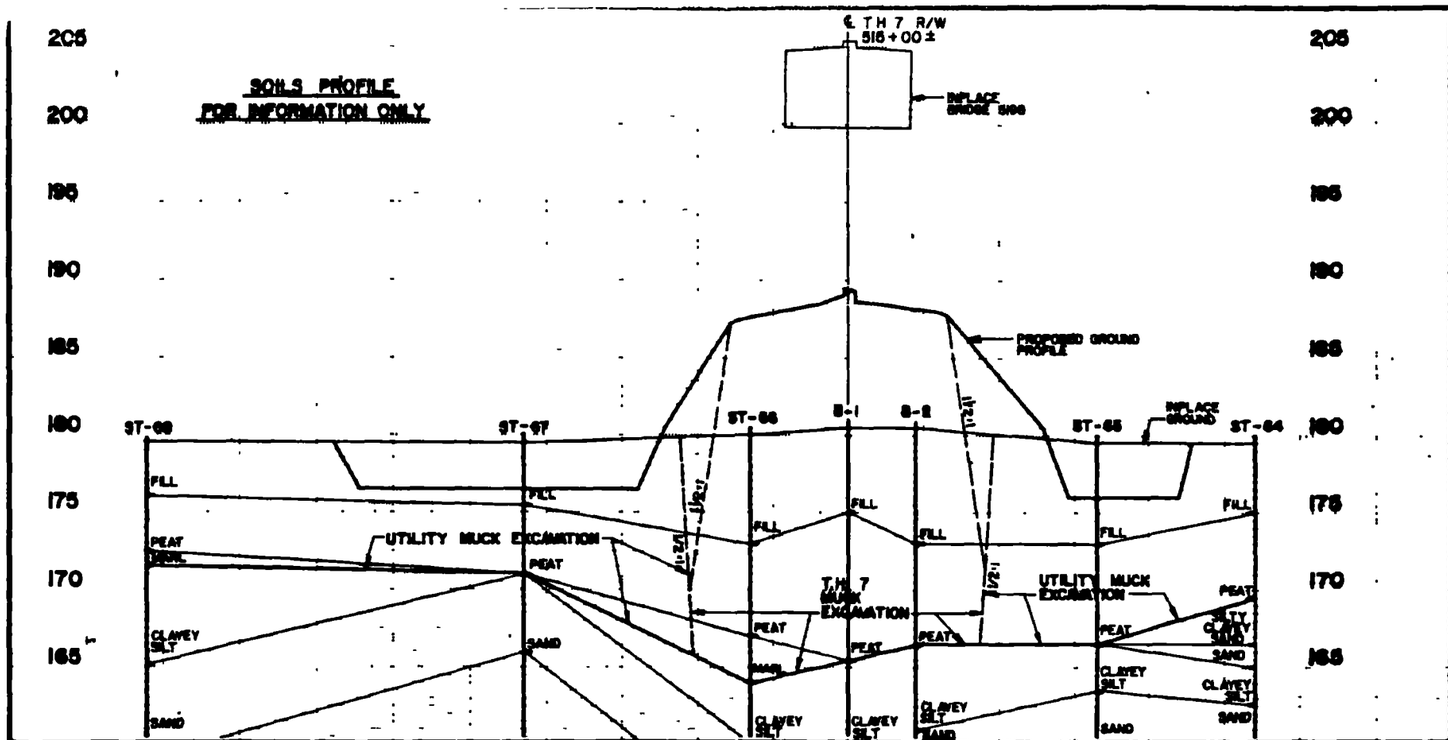


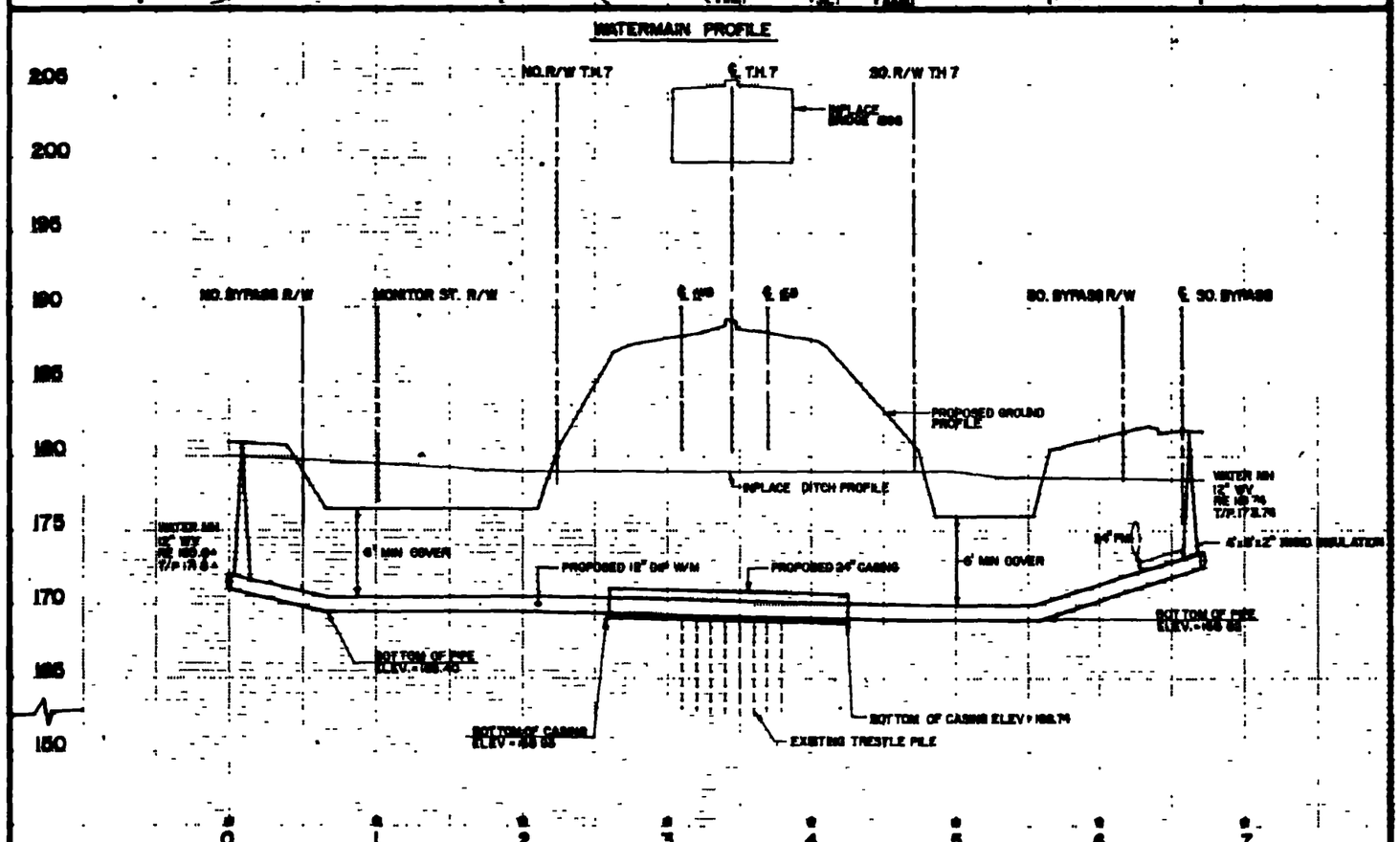
City Revision 12/22/89

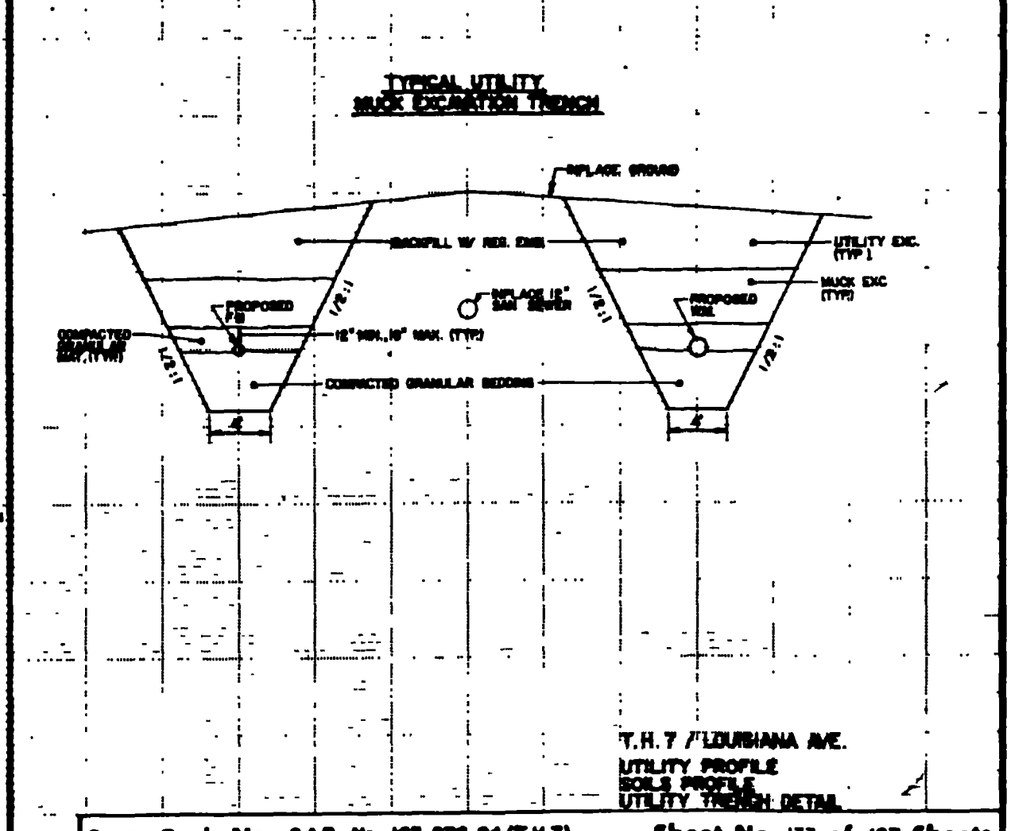
UTILITY PROFILES
12" SANITARY
6" FORCEMAIN

State Proj. No. S.A.P. No. 163-276-24 (T.H.7) Sheet No. 132 of 197 Sheets

Fed. Proj. No.



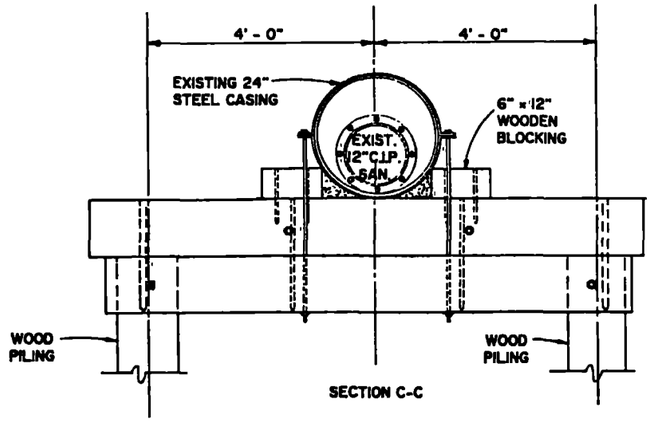




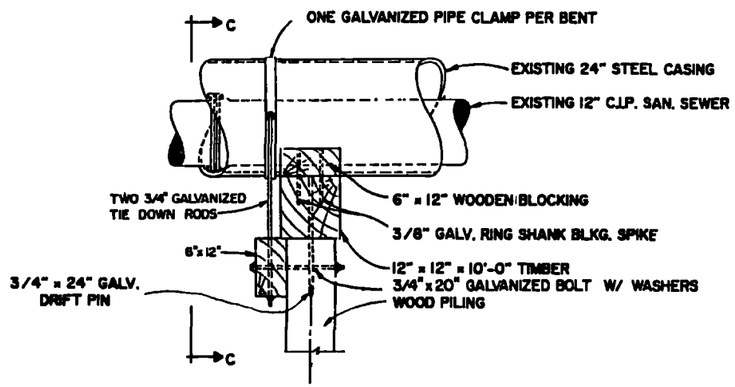
T.H. 7 / LOUISIANA AVE.
UTILITY PROFILE
SOILS PROFILE
UTILITY TRENCH DETAIL

State Proj. No. S.A.P. No. 163-276-24 (T.H.7)

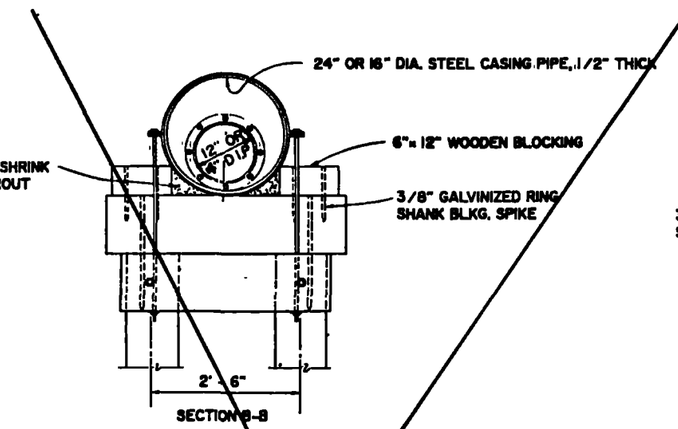
Sheet No. 133 of 197 Sheets



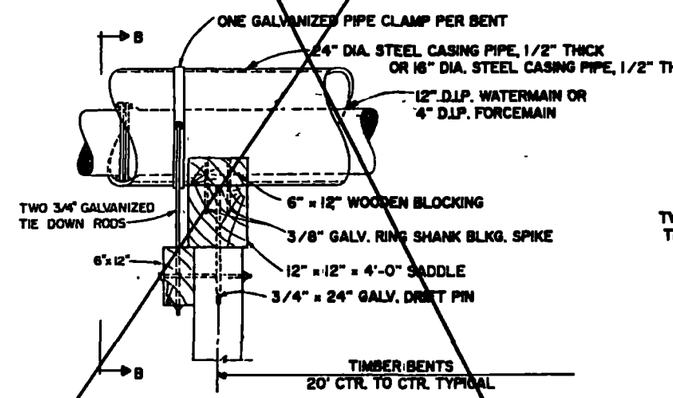
SECTION C-C



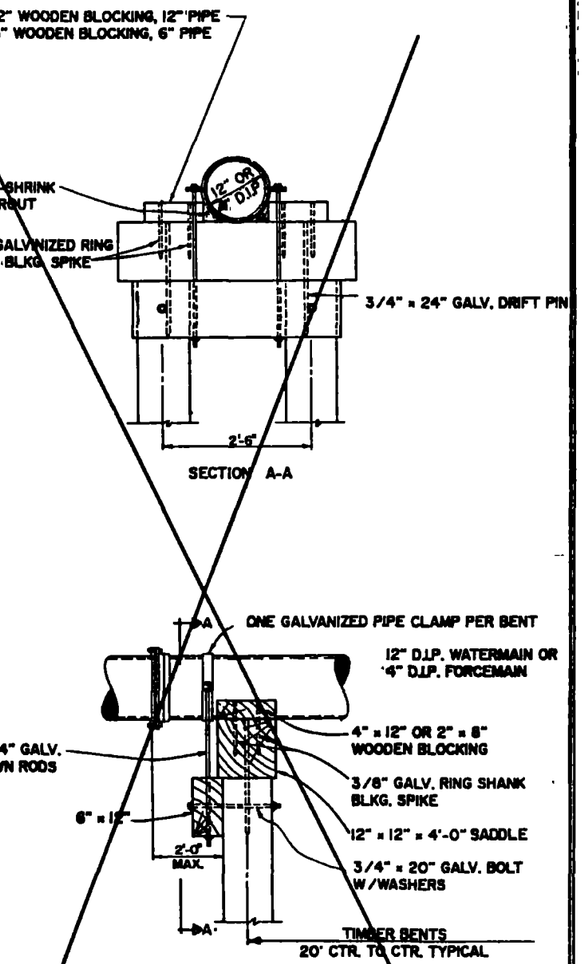
BENT DETAIL WITH EXISTING
24" SANITARY CASING
T.H. 7 STA. 514+75



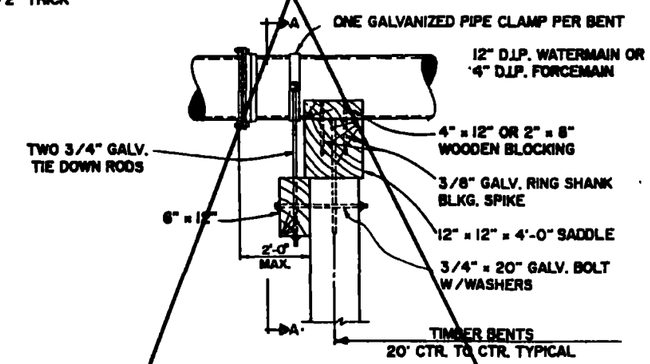
SECTION B-B



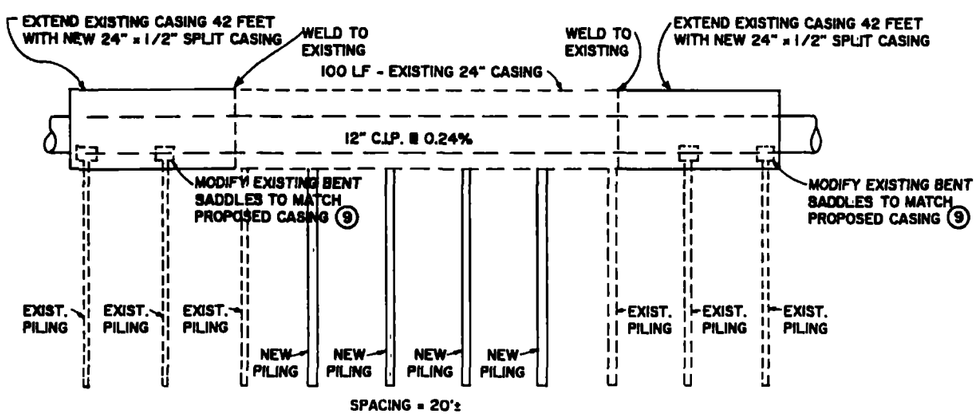
TYPICAL BENT DETAIL WITH CASING
PROPOSED 12" WATERMAIN AND
4" FORCEMAIN ON NEW PILING



SECTION A-A



TYPICAL BENT DETAIL WITHOUT CASING
PROPOSED 12" WATERMAIN AND
4" FORCEMAIN ON NEW PILING



EXISTING PIPE PROFILE WITH
24" SANITARY CASING EXTENSION
AND NEW PIPE BENTS

NOTES:

1. PILES, BENT CAP AND BLOCKING SHALL BE TREATED TIMBER PILES PER MN/DOT 3491
2. PILES SHALL BE DRIVEN TO A MINIMUM BEARING OF 30 TONS PER PILE AND PER MN/DOT 2452.
3. ESTIMATED PILE LENGTH (SEE TAB SHEET AND SEWER PROFILES).
4. BENT CAP AND BLOCKING SHALL BE 1200 @ F_c
5. HARDWARE AND TIMBER CONSTRUCTION REQUIREMENTS SHALL BE PER MN/DOT 2403.
6. ALL CUT OR NOTCHED TIMBER SHALL BE TREATED WITH PRESERVATIVE PER MN/DOT 3491.
7. ALL DIMENSIONS AND RELATIVE LOCATIONS TO BE FIELD VERIFIED
8. ONE PILE EVERY THIRD BENT SHALL BE A TEST PILE.
9. SADDLE MODIFICATION COST IS INCIDENTAL TO CASING PRICE.
10. EXCAVATION AND CUT-OFF COST OF EXISTING TRESTLE PILING IS INCIDENTAL TO EXCAVATION PRICE.

T.H. 7 / LOUISIANA AVENUE
UTILITY PILING DETAILS

TYPE "C" SIGNS (FURNISH & INSTALL) (DD)

	SIGN NO.	QUANT	POSTS NO. & TYPE	POSTS LEN. (FT.)	MTG. HT. (FT.)	PANEL SIZE (IN.)	PANEL AREA (SQ. FT.)	CODE NO.	PANEL LEGEND / DESCRIPTION
	C-1	4	1-U	14	6	24 x 24	4.00	R1-1	STOP
	C-2	3	1-U	14	6	30 x 30	6.25	R1-1	STOP
						12 x 6	0.50	R1-3	4-WAY
	C-3	7	1-U	13	6	36 EQU	3.90	R1-2	YIELD
	C-4	2	1-U	16	7	24 x 30	5.00	R2-1	SPEED LIMIT
	C-5	5	1-U	16	7	18 x 24	3.00	R2-1	SPEED LIMIT
	C-6	8	1-U	12	6	30 x 30	6.25	R3-X1	RIGHT TURN LANE
	C-7	5	1-U	12	6	30 x 30	6.25	R3-X1.	LEFT TURN LANE
	C-8	7	1-U	12	6	24 x 30	5.00	R4-7	KEEP RIGHT (SYMBOL)
						18 x 18	2.25	X4-2	HAZARD MARKER
	C-9	5	1-U	13	6	30 x 30	6.25	R5-1	DO NOT ENTER
(1)	C-10	2	1-U	13	6	30 x 30	6.25	R5-1	DO NOT ENTER
						36 x 12	3.00	R6-1(R)	ONE WAY
(1)	C-11	2	1-U	14	6	24 x 24	4.00	R1-1	STOP
						36 x 12	3.00	R6-1(R)	ONE WAY
						36 x 12	3.00	R6-1(L)	ONE WAY
(1)	C-12	1	1-U	14	6	24 x 24	4 00	R1-1	STOP
						12 x 6	0 50	R1-3	4-WAY
						24 x 30	5.00	R4-7	KEEP RIGHT (SYMBOL)
						18 x 18	2.25	X4-2	HAZARD MARKER PLATE
	C-13	1	2-U	15	6	36 x 36	9 00	R1-1	STOP
						36 x 12	3.00	SPECIAL	TRAFFIC AHEAD DOES NOT STOP
	C-14	1	2-U	15	6	36 x 36	9 00	R1-1	STOP
						36 x 12	3.00	SPECIAL	TRAFFIC FROM RIGHT DOES NOT STOP
	C-15	1	2-U	15	6	36 x 36	9.00	R1-1	STOP
						36 x 12	3.00	SPECIAL	TRAFFIC FROM LEFT DOES NOT STOP
	C-16	1	1-U	16	6	30 x 30	6.25	W1-2(L)	CURVE (SYMBOL)
	C-17	1	1-U	16	6	30 x 30	6.25	W1-2(L)	CURVE (SYMBOL)
						18 x 18	2.25	W13-1	ADVISORY SPEED PLATE
	C-18	1	1-U	16	6	30 x 30	6 25	W1-2(R)	CURVE (SYMBOL)
						18 x 18	2.25	W13-1	ADVISORY SPEED PLATE
	C-19	3	2-U	14	6	48 x 24	8.00	W1-6	ARROW (SYMBOL)
	C-20	8	2-U	14	6	48 x 24	8.00	W1-7	DOUBLE ARROW (SYMBOL)
	C-21	2	2-U	14	6	36 x 36	9 00	W3-3	SIGNAL AHEAD (SYMBOL)
	C-22	3	2-U	14	6	36 x 36	9.00	W11-2A	PEDESTRIAN CROSSING (SYMBOL)
	C-23	1	2-U	14	6	36 x 36	9.00	W11-2A	PEDESTRIAN CROSSING (SYMBOL)
						30 x 30	6'25	R3-X1	RIGHT TURN LANE
	C-24	2	1-U	16	6	30 x 30	6.25	W12-2	LOW CLEARANCE (11'-6")
	C-25	2	BRIDGE MOUNT			132 x 18	16 50	W12-X1	LOW CLEARANCE (11'-6")
	C-26	1	2-U	16	6	36 x 48	12 00	W13-2	ADVISORY EXIT SPEED SIGN
	C-27	1	1-U	16	6	30 x 30	6 25	W3-1A	STOP AHEAD (SYMBOL)
	C-28	1	1-U	15	6	24 x 24	4.00	M1-5A	MINNESOTA 7
						24 x 12	2.00	M3-4A	WEST
	C-29	1	1-U	15	6	24 x 24	4.00	M1-5A	MINNESOTA 7
						24 x 12	2.00	M3-2A	EAST
	C-30	1	1-U	16	6	18 x 36	4.50	D9-2A	HOSPITAL (ARROW LEFT)
	C-31	1	1-U	16	6	18 x 36	4.50	D9-2A	HOSPITAL (ARROW UP)
	C-32	1	1-U	16	6	18 x 36	4 50	D9-2A	HOSPITAL (ARROW RIGHT)
	C-33	2	1-U	12	6	8 x 24	1 33	D10-X1	MILEPOST MARKER (193)
	C-34	6	1-U	12	6	18 x 18	2 25	X4-2	HAZARD MARKER
	C-35	12	1-U	12	6	8 x 24	1 33	X4-6	GUIDE MARKER PLATE
(1)	C-36	14	1-U	12	6	8 x 24	1 33	X4-6	GUIDE MARKER PLATE
						8 x 24	1 33	X4-6	GUIDE MARKER PLATE
	C-37	2	1-U	15	6	12 x 36	3.00	X4-4 (R)	CLEARANCE MARKER
(2)	C-38								NO PARKING SIGN

SPECIFIC NOTES:
(1) MOUNTED BACK TO BACK.

(2) SIGN TO BE CONSTRUCTED BY OTHERS.

TYPE "D" SIGNS (FURNISH & INSTALL) (EE)

SIGN NO.	QUANT	POSTS NO. & TYPE	POSTS KNEE BRACES QUANT.	POSTS LEN. (FT.)	MTG. HT. (FT.)	PANEL SIZE (IN.)	PANEL AREA (SQ. FT.)	PANEL LEGEND
D-1	1	3-U	2	18	6	x 24 84 x 55	32.1	HAMPSHIRE AVENUE
D-2	2	3-U	2	18	6	84 x 55	32.1	LOUISIANA AVENUE
D-3	1	3-U	2	18	6	74 x 42	21.6	LAKE ST.

GENERAL NOTES:

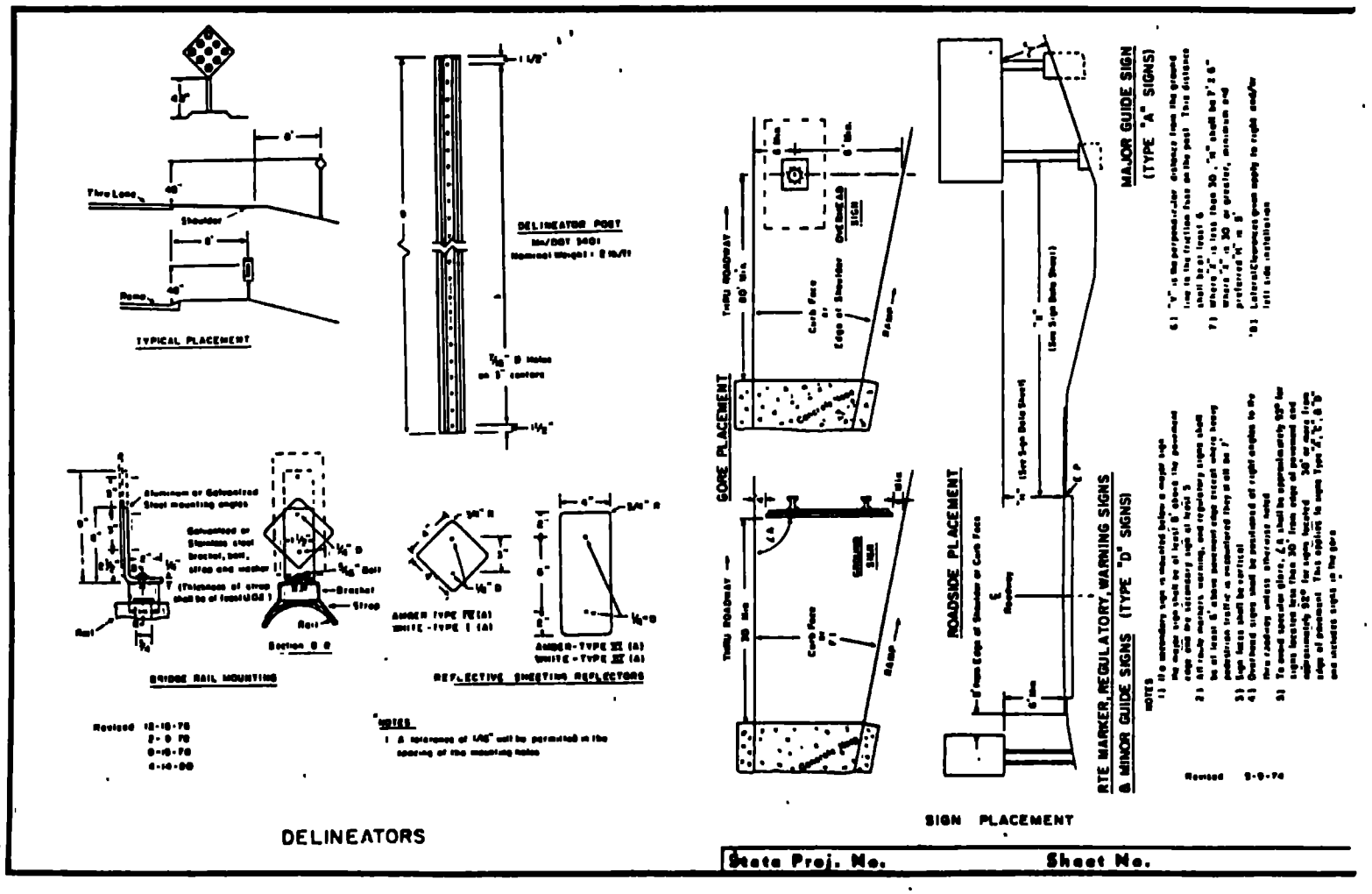
1 POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.

2 SEE SHEETS 136 TO 139 FOR STRUCTURAL DETAILS

3 SEE STANDARD SIGNS MANUAL FOR TYPE "D" STRINGER AND PANEL JOINT DETAILS

PERMANENT SIGNING TABULATION

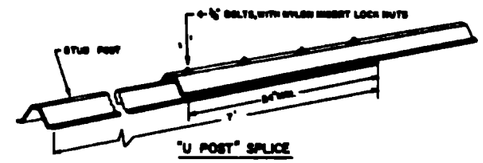
Fed. Proj. No.

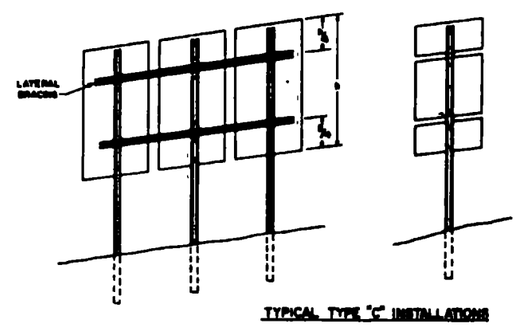


DELINEATORS

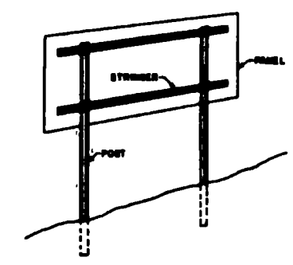
SIGN PLACEMENT

State Proj. No. Sheet No.

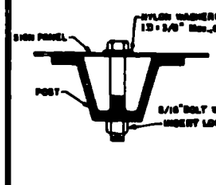




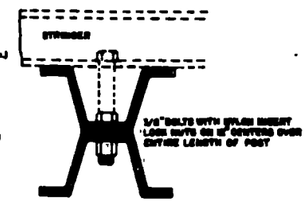
TYPICAL TYPE "C" INSTALLATIONS



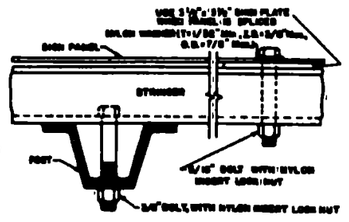
TYPICAL TYPE "D" INSTALLATION



"U POST" MOUNTING
TYPE "C" SIGNS



"X POST" MOUNTING
TYPE "D" SIGNS



"U POST" MOUNTING
TYPE "D" SIGNS

REV 10-16-78
8-9-78
7-8-00
4-7-00

NOTES:

1. Posts, stringers, knee braces and lateral bracing shall conform to Mn/DOT 3401 for 4" posts, except stringers and lateral bracing may be 3" posts.
2. For Type "D" sign post lengths and spacings see Sign Data Sheet.
3. Type "D" sign panels shall be bolted to stringers at 12 inch max intervals in accordance with Type "D" Stringer And Panel-Joint Detail. (See Standard Signs Manual)
4. Mounting for Type "C" sign panels shall be as indicated in the Standard Signs Manual unless specified otherwise for post lengths see Sign Data Sheet
5. All vertical "U Posts" shall be spliced. Driven stub post shall be 7 feet in length
6. Bolts, nuts and washers shall be stainless steel, unless indicated otherwise.
7. "U Post" embedment shall be at least 3 1/2 feet "X Post" embedment shall be at least 5 feet.
8. Where two or more single post signs (Type C) are mounted side by side, they shall be reinforced laterally by at least two post sections, bolted at each post and located approximately at the quarter points as shown in sketch
9. A-Frame Bracket shall be steel conforming to Mn/DOT 3306 and galvanized in accordance with Mn/DOT 3394
10. Collars shall be used to shim overlays and demountable legend away from panel where interference with bolt heads is encountered. Mn/DOT 3352.2A7
11. Two and three post Type "C" signs shall be reinforced with at least one lateral brace installations where the total panel height is 60 inches or more shall have two lateral braces located approximately at the quarter points.
12. A stainless steel washer with same dimensions shall be provided between all nylon washers and bolt heads

DESIGN A

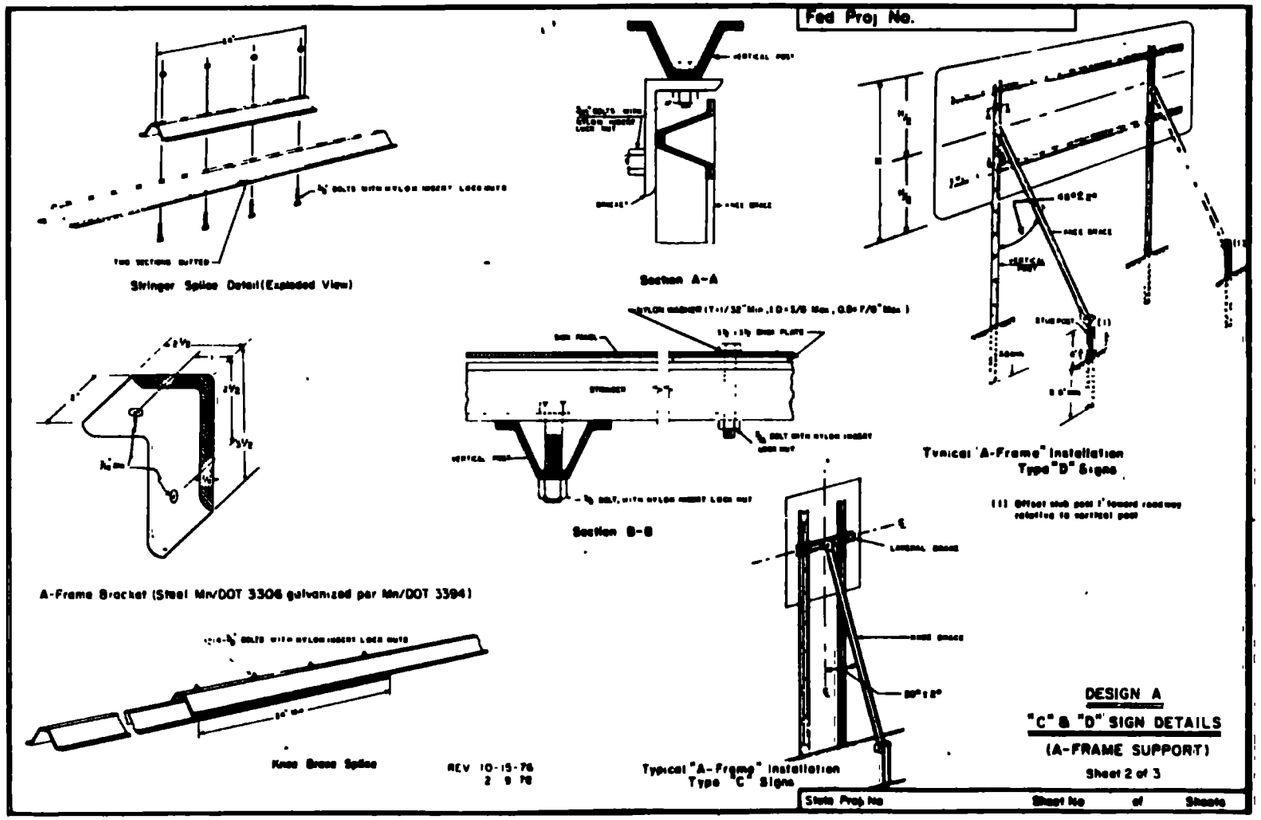
"C" & "D" SIGN DETAILS

Sheet 1 of 3

State Proj. No. | Sheet No. of Sheets

Fed. Proj. No.

Fed Proj No.



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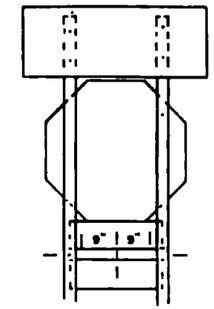
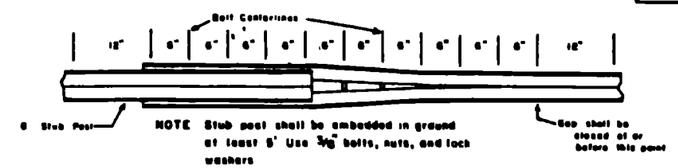
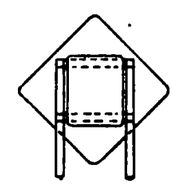


R6-1, R1-1 & (X1-6, R6-3 or R6-3a)
Mounting

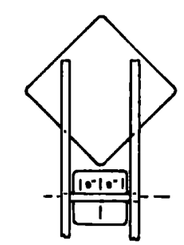


NOTE Stub post shall be embedded in ground at least 5' Use 3/8" bolts, nuts, and lock washers

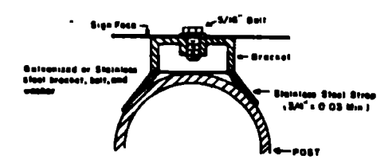
"X POST" SPLICE



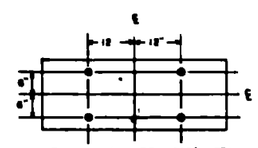
Back to back mounting of R4-7 and W9-2



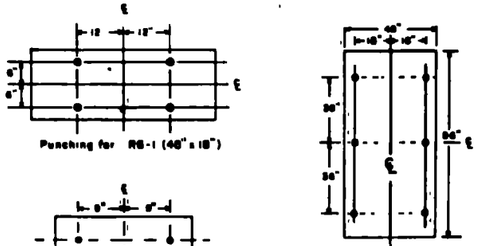
W4-1 & W4-1P
W1-2 & W13-1
W6-1 & W6-1P
W6-2 & W6-2P
W6-3 & W6-3P
Mounting



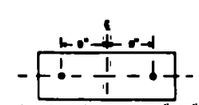
STRAP MOUNTING DETAIL
FOR TYPE "C" SIGNS



Punching for R6-1 (48" x 18")



Punching for R2-4a
SPEED LIMIT

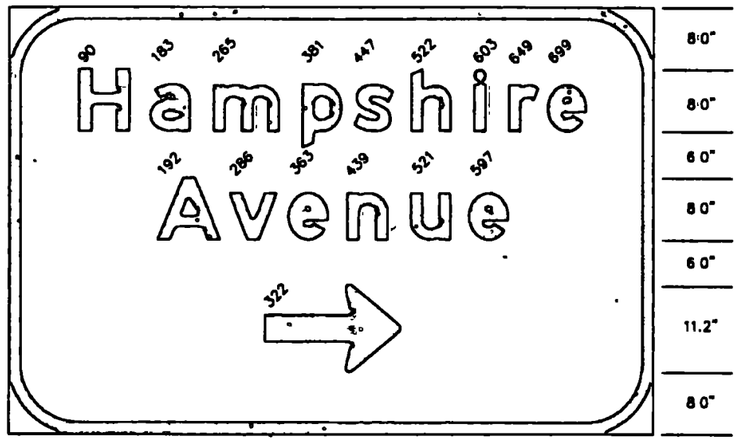


Punching for R6-1 (36" x 12")

REV 1-6-67
7-17-67
5-18-71
5-17-73
2-5-74
1-14-77
3-2-78
5-26-78
7-22-80

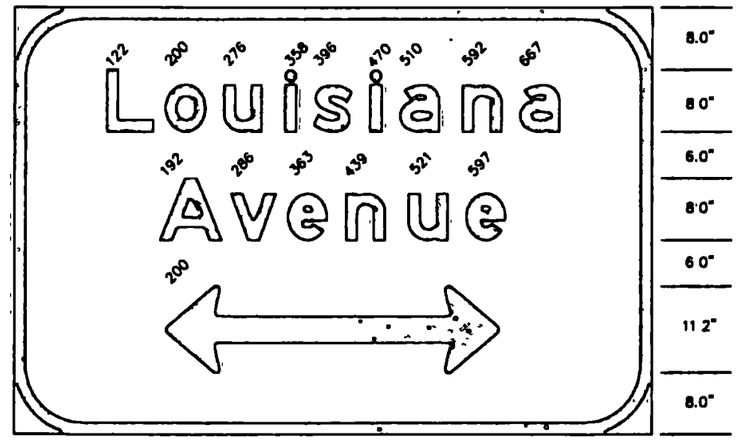
DESIGN A
"C" & "D" SIGN DETAILS
Sheet 3 of 3

State Proj. No. Sheet No. of Sheets



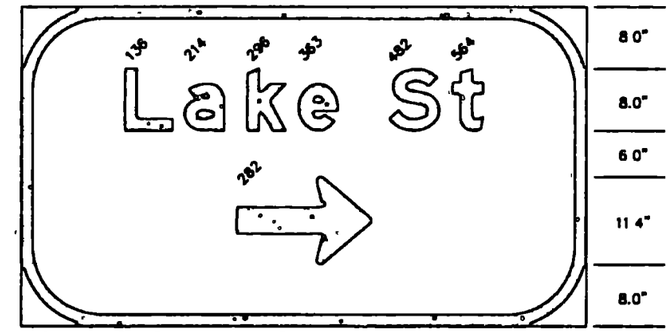
84" x 55.2", 9" RADIUS, 1.5" BORDER D-1

LINE 1 65 8 8" E MOD
LINE 2 45 5 8" E MOD
LINE 3 24 0 14-24 ARROW



84" x 55.2", 9" RADIUS, 1 5" BORDER D-2

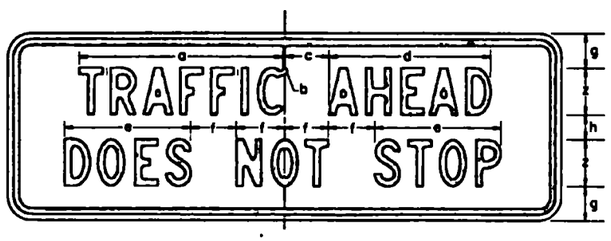
LINE 1 59 7 8" E MOD
LINE 2 45 6 · 8" E MOD
LINE 3 44 0 · 5-44 ARROW



74" x 41 4", 9" RADIUS. 1.5" BORDER D-3

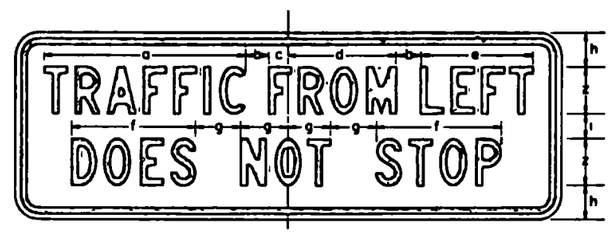
LINE 1 49 2 8" E MOD
LINE 2 24 0 . 14-24 ARROW

NOTES: 1. TYPE "D" SIGN PANELS SHALL HAVE WHITE LEGEND ON GREEN BACKGROUND
2. CORNERS OF THE SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
3 SEE STANDARD SIGNS MANUAL FOR ARROW DETAILS.



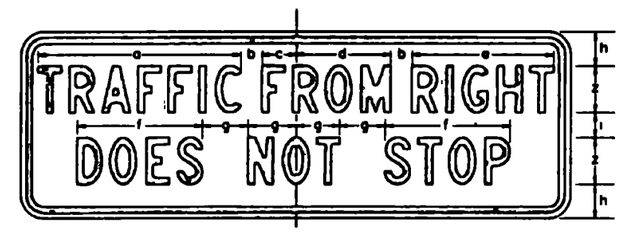
SIZE / DIMENSION	36 x 12
RADIUS	1 5 (1-1/2)
MARGIN	38(3/8)
BORDER	38(3/8)
a	13.25
b	0 13
c	2 87
d	10 50
e	8.20
f	3.00
g	2 20
h	1 60
z	3C
PUNCH CODE	G-1

NOTES 1) ALL DIMENSIONS ARE IN INCHES.



SIZE / DIMENSION	36 x 12
RADIUS	1.5 (1-1/2)
MARGIN	38(3/8)
BORDER	38(3/8)
a	13 25
b	1 60
c	1.29
d	7.14
e	7.40
f	8 20
g	3.00
h	2.20
i	1 60
z	3C
PUNCH CODE	G-1

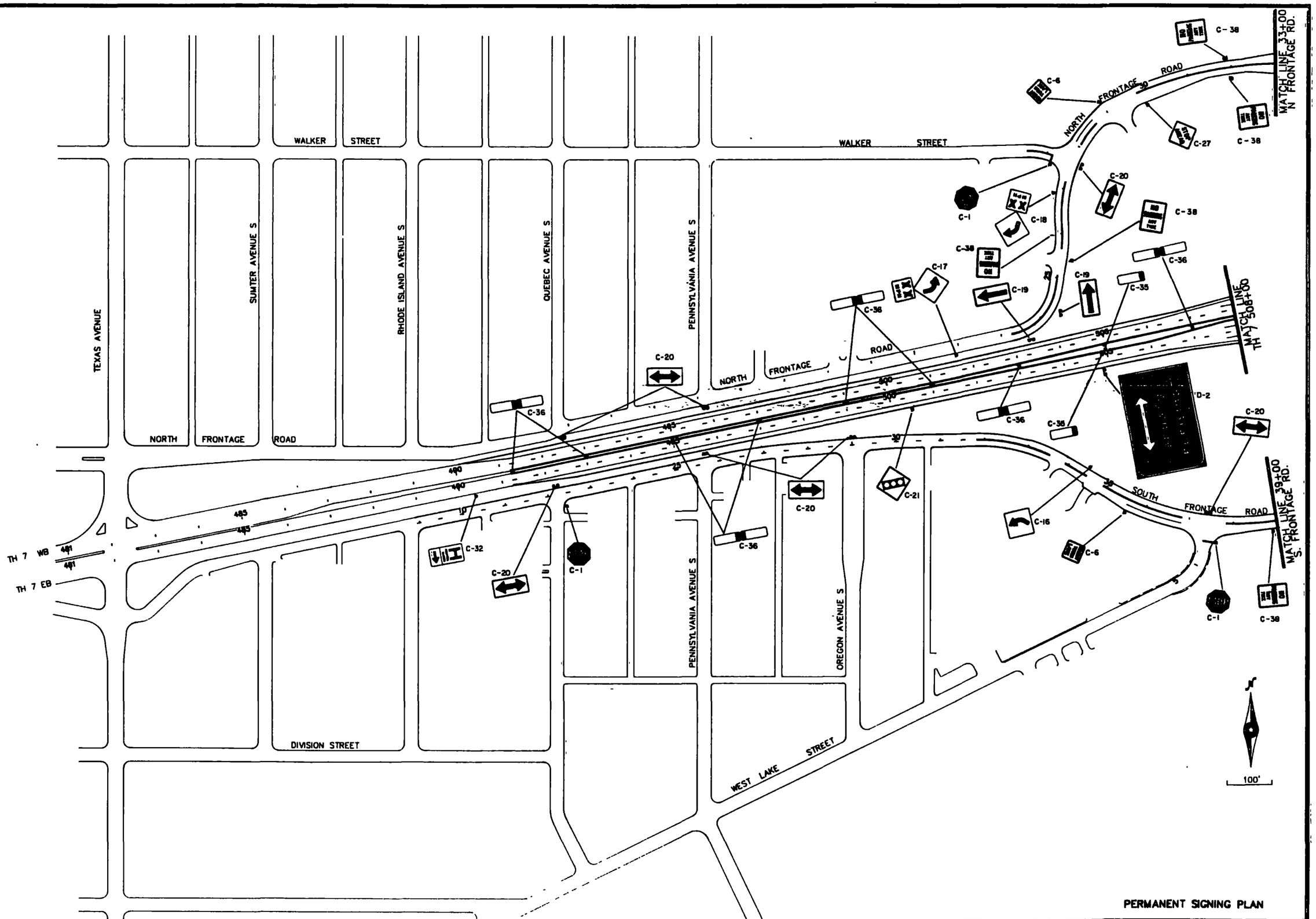
NOTES 1) ALL DIMENSIONS ARE IN INCHES



SIZE / DIMENSION	36 x 12
RADIUS	1.5 (1-1/2)
MARGIN	.38(3/8)
BORDER	.38(3/8)
a	13.25
b	1.40
c	2 23
d	6.21
e	9.27
f	8.20
g	3 00
h	2 20
i	1.60
z	3C
PUNCH CODE	G-1

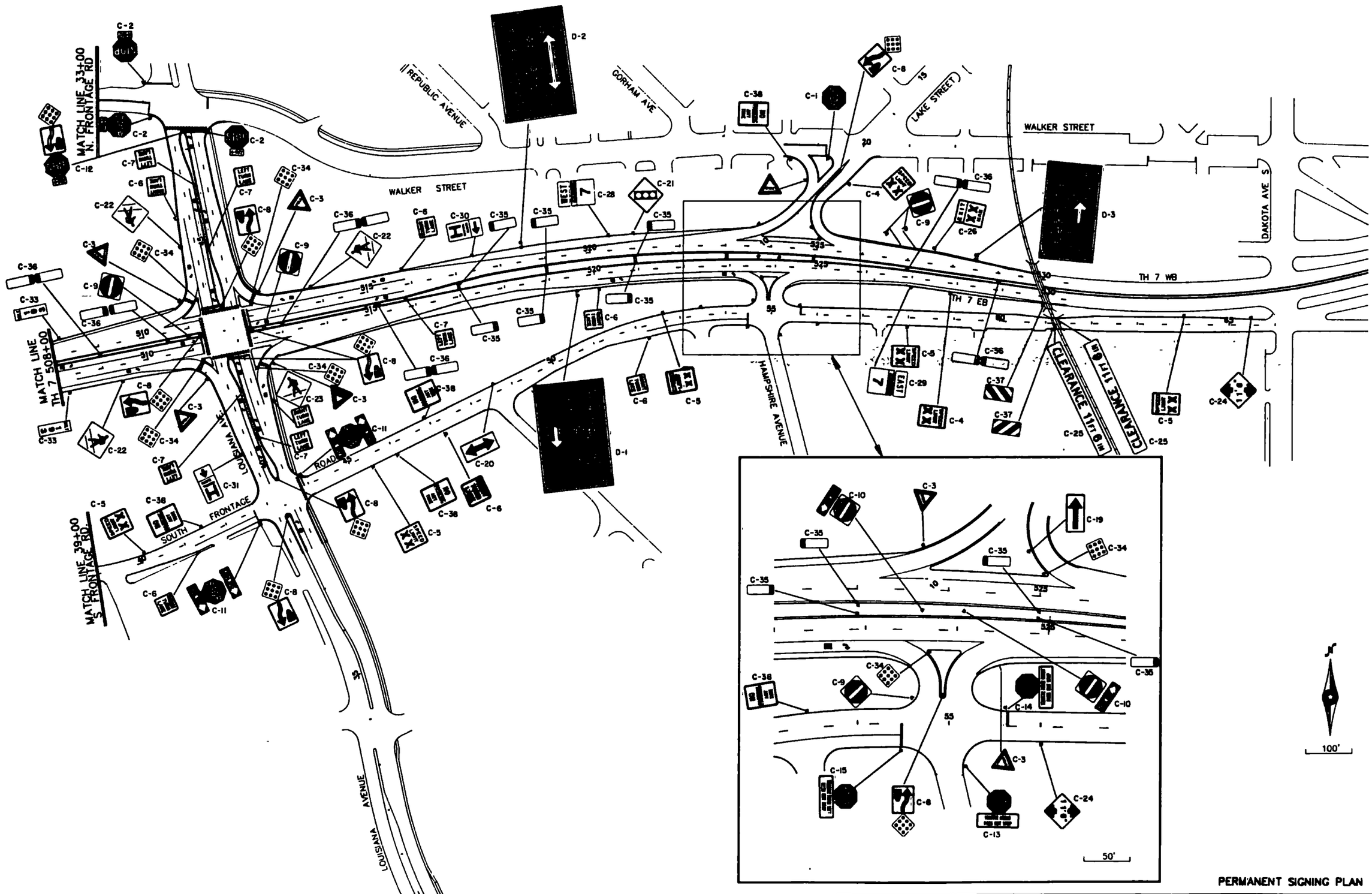
NOTES: 1) ALL DIMENSIONS ARE IN INCHES.

SPECIAL SIGN DETAILS

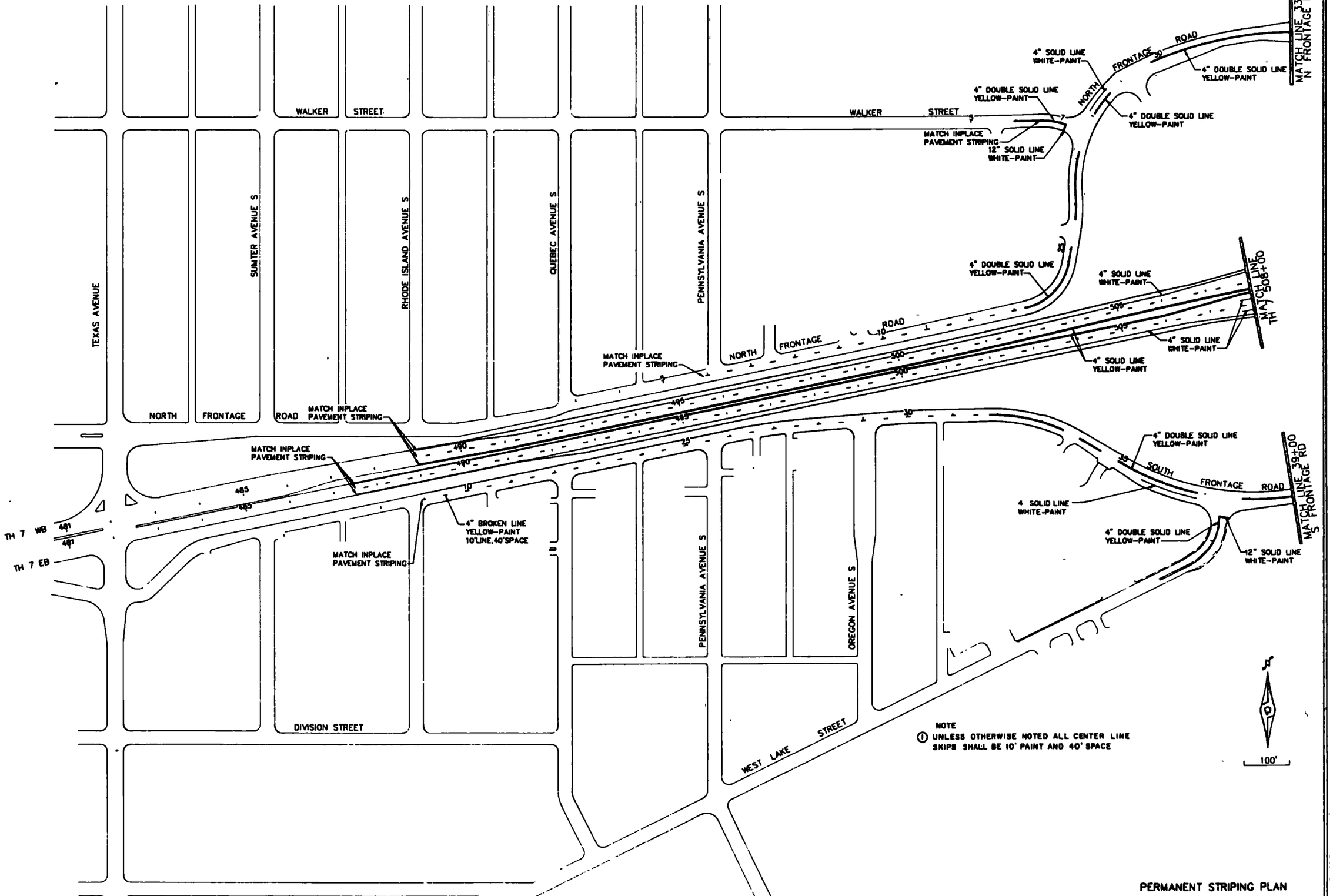


PERMANENT SIGNING PLAN

S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 141 of 197 Sheets

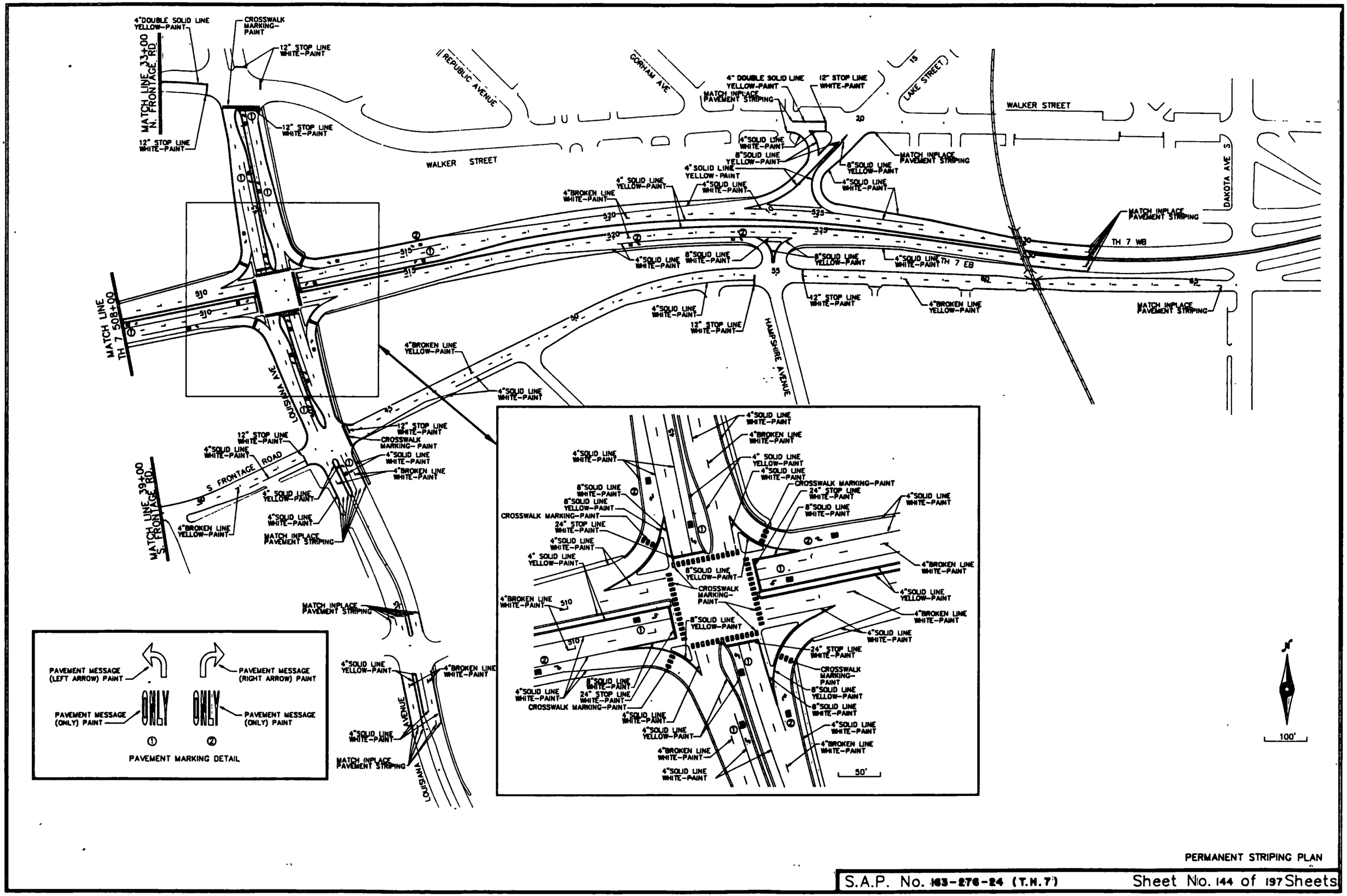


S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 142 of 197 Sheets



PERMANENT STRIPING PLAN

S.A.P. No. 133-279-24 (T.H.7) Sheet No. 143 of 197 Sheets



PERMANENT STRIPING PLAN

S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 144 of 197 Sheets

ABBREVIATIONS

3-1 (eg)	SIGNAL HEAD PHASE "3" - NO. "1"
BL	BLUE
BL/BLK	BLUE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
BR. GR.	BARE GROUND
CH. SW.	CHECK SWITCH
CLR	CLEAR
D2-1 (eg)	DETECTOR PHASE "2" - NO. "1"
DNL	DOWNLIGHT
DWK	DON'T WALK
EQG	EQUIPMENT GROUND
EVP	EMERGENCY VEHICLE PRE-EMPTION
F&I	FURNISH AND INSTALL
FL	FLASH/FLASHING
G/BLK	GREEN WITH BLACK TRACER
G	GREEN
GLTA	GREEN LEFT TURN ARROW
GRN	GREEN
GR. R.	GROUND ROD
GRTA	GREEN RIGHT THRU ARROW
GTHA	GREEN THRU ARROW
HH	HANDHOLE
HPS	HIGH PRESSURE SODIUM
IMC	INTERMEDIATE METAL CONDUIT
JB	JUNCTION BOX
LUM	LUMINAIRE
MV	MERCURY VAPOR
NEU	NEUTRAL
NMC	NONMETALLIC CONDUIT
O	ORANGE
O/BLK	ORANGE WITH BLACK TRACER
PI-1 (eg)	PEDESTRIAN INDICATIONS PHASE "1" - NO. "1"
PB	PUSHBUTTON
PB2-1 (eg)	PUSHBUTTON PHASE "2" - NO. "1"
PEC	PHOTOELECTRIC CELL
PED	PEDESTRIAN
PVC	POLYVINYL CHLORIDE CONDUIT
R	RED
R. & S.	REMOVE AND SALVAGE
R/BLK	RED WITH BLACK TRACER
RLTA	RED LEFT TURN ARROW
RRTA	RED RIGHT TURN ARROW
RSC	RIGID STEEL CONDUIT
SOP	SOURCE OF POWER
SPR	SPARE
ST LHT	STREET LIGHT
STA	STATION
SW	SWITCH
SWD	SWITCHED
TDW	TELEPHONE DROP WIRE
THRA	THRU AND RIGHT ARROW
WH	WHITE
WH/BLK	WHITE WITH BLACK TRACER
WLK	WALK
YEL	YELLOW
YLTA	YELLOW LEFT TURN ARROW
YRTA	YELLOW RIGHT TURN ARROW
YTHA	YELLOW THRU ARROW

SYMBOLS

- EQG CONNECTION
- EVP DETECTOR DIRECTION
- SPLICE
- LUMINAIRE NO. (eg- 4)
- SIGNAL BASE NO. (eg. 13)
- SIGNAL FACE NO (PHASE 2-FACE 1)

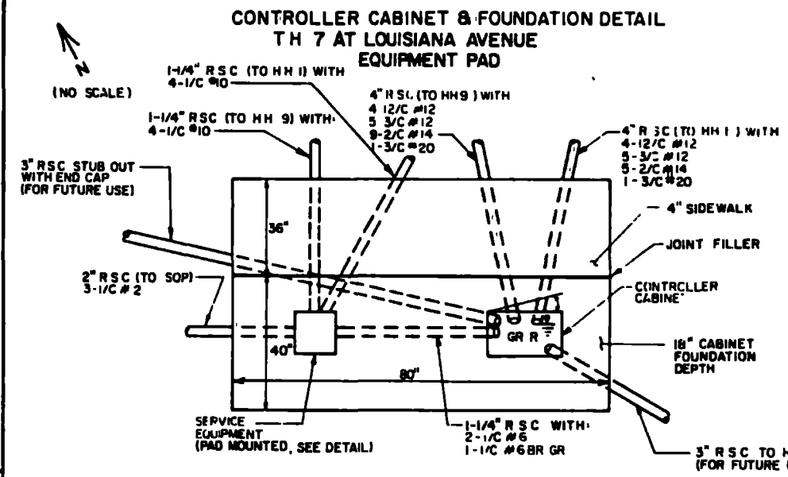
FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL.

STANDARD PLATES

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

PLATE NO.		DESCRIPTION	PLATE NO.	DESCRIPTION
8110	C	TRAFFIC SIGNAL BRACKETING		
8111	B	TRAFFIC SIGNAL BRACKETING		
8112	C	PEDESTAL FOUNDATION		
8115	C	PEDESTRIAN PUSHBUTTON INSTALLATION		
8118	C	SERVICE EQUIPMENT & POLE		
8119	C	GROUND MOUNTED CABINET FOUNDATION		
8120	H	P-90 & P-90 POLE FOUNDATION		
8121	B	TRANSFORMER BASE W/ POLE BASE PLATE		
8122	C	PEDESTAL & PEDESTAL BASE		
8123	B	POLE AND MAST ARM		
8124	D	MAST ARM SIGNAL HEAD MOUNTS		
8126	C	P-100 POLE FOUNDATION		
8130	D	SAWCUT LOOP DECTECTORS		
8140	A	ROADWAY LIGHTING SERVICE CABINET		

CONTROLLER CABINET & FOUNDATION DETAIL
T H 7 AT LOUISIANA AVENUE
EQUIPMENT PAD



NOTES:

1) ANCHOR RODS, NUTS, AND WASHERS FOR CABINET TO BE FURNISHED BY THE STATE AND INSTALLED BY THE CONTRACTOR

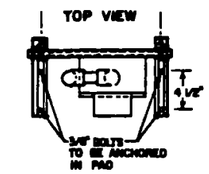
2) UPPER PART OF FOUNDATION SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER IN THE FIELD.

3) TOP OF CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED) CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER BUT SHALL NOT INTERFERE WITH CABINET FUNCTIONS OR SUPPORTING MEMBERS.

4) CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR FOUNDATION AND CONCRETE WALK

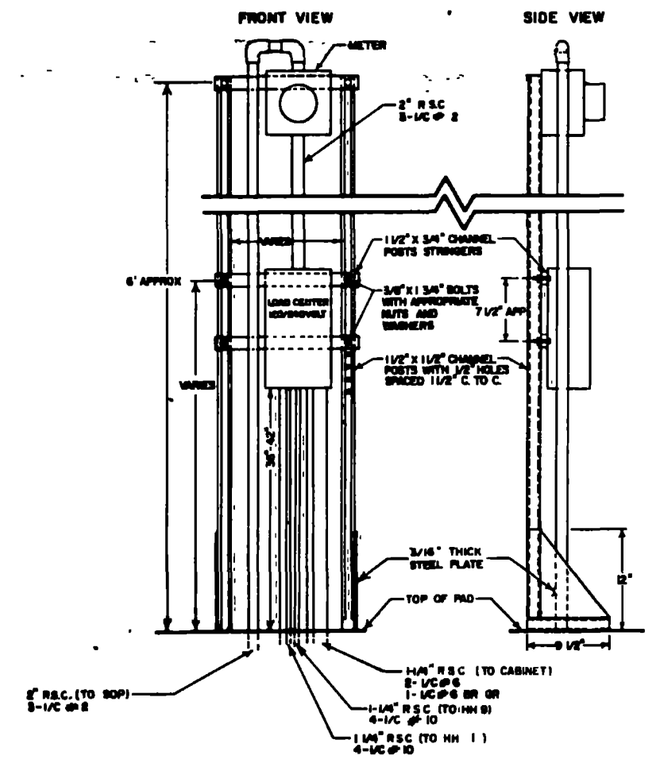
5) CONDUITS WHICH HAVE BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.

6) EXACT LOCATIONS OF CONDUIT AND CABINET WITHIN THE PAD SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD



SERVICE EQUIPMENT (PAD MOUNTED) DETAIL

MOUNTING BRACKETS FOR SERVICE EQUIPMENT



ELEC. ENGINEER CERT.

I Hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16

Date 1-8-90 Minn Reg No. 18925

CIVIL ENGINEER CERT.

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 State of Minnesota Statutes Sections 326.02 to 326.16

Date 1-3-90 Minn. Reg. No. 13020

TRAFFIC SIGNAL DETAILS
SIGNAL PLANS

S.A.P. No 163-276-24 SHEET 145 OF 197 DESIGN FILE No

NOTES

1) ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS.
2) ALL PEDESTRIAN INDICATIONS SHALL BE 12"x12"
3) ALL HANDHOLES SHALL BE PVC WITH LD COVERS IN ISLANDS AND CONCRETE COVERS AT ALL OTHER LOCATIONS. (SEE SPECIAL PROVISIONS)
4) SEE SHEET 147 FOR TYPE D SIGN DETAILS
5) SEE SPECIAL PROVISIONS FOR DEPARTMENT FURNISHED MATERIALS.
6) INSTALL 1 ONE WAY E.V.P. DETECTOR AND FEED BACK INDICATOR LIGHT ON MA 1 (Ø8) AND ON MA 3 (Ø4) AS DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISIONS.

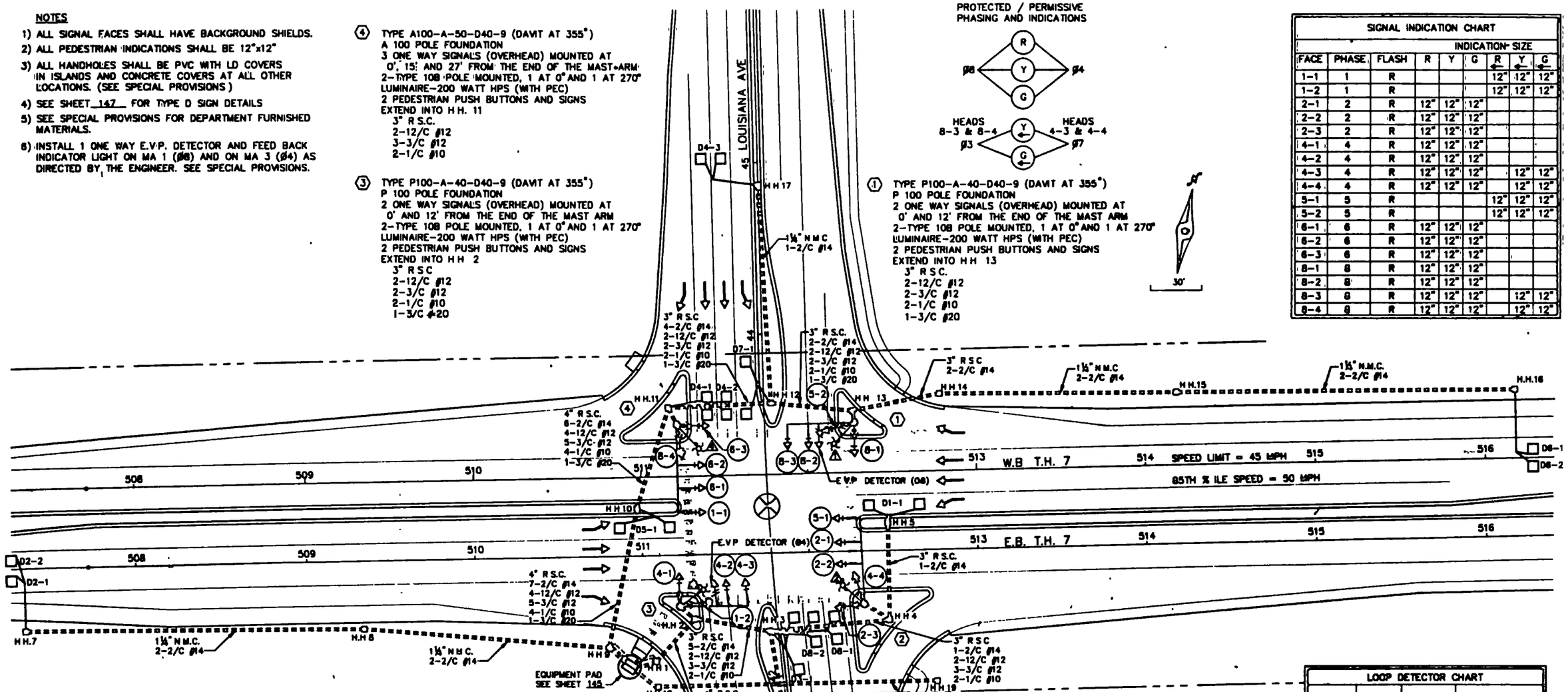
④ TYPE A100-A-50-D40-9 (DAVIT AT 355°)
A 100 POLE FOUNDATION
3 ONE WAY SIGNALS (OVERHEAD) MOUNTED AT 0', 15' AND 27' FROM THE END OF THE MAST-ARM
2-TYPE 10B POLE MOUNTED, 1 AT 0° AND 1 AT 270°
LUMINAIRE-200 WATT HPS (WITH PEC)
2 PEDESTRIAN PUSH BUTTONS AND SIGNS
EXTEND INTO H.H. 11
3" R.S.C.
2-12/C Ø12
3-3/C Ø12
2-1/C Ø10

③ TYPE P100-A-40-D40-9 (DAVIT AT 355°)
P 100 POLE FOUNDATION
2 ONE WAY SIGNALS (OVERHEAD) MOUNTED AT 0' AND 12' FROM THE END OF THE MAST ARM
2-TYPE 10B POLE MOUNTED, 1 AT 0° AND 1 AT 270°
LUMINAIRE-200 WATT HPS (WITH PEC)
2 PEDESTRIAN PUSH BUTTONS AND SIGNS
EXTEND INTO H.H. 2
3" R.S.C.
2-12/C Ø12
2-3/C Ø12
2-1/C Ø10
1-3/C Ø20

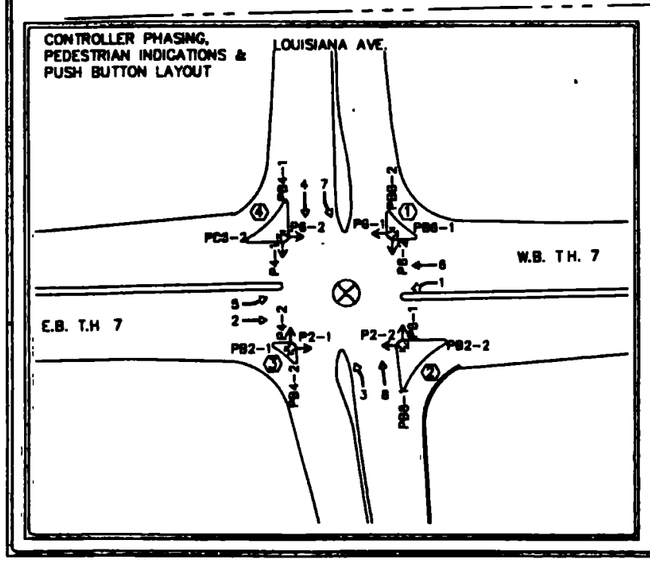
PROTECTED / PERMISSIVE PHASING AND INDICATIONS

① TYPE P100-A-40-D40-9 (DAVIT AT 355°)
P 100 POLE FOUNDATION
2 ONE WAY SIGNALS (OVERHEAD) MOUNTED AT 0' AND 12' FROM THE END OF THE MAST ARM
2-TYPE 10B POLE MOUNTED, 1 AT 0° AND 1 AT 270°
LUMINAIRE-200 WATT HPS (WITH PEC)
2 PEDESTRIAN PUSH BUTTONS AND SIGNS
EXTEND INTO H.H. 13
3" R.S.C.
2-12/C Ø12
2-3/C Ø12
2-1/C Ø10
1-3/C Ø20

SIGNAL INDICATION CHART								
			INDICATION SIZE					
FACE	PHASE	FLASH	R	Y	G	R ←	Y ←	G ←
1-1	1	R				12"	12"	12"
1-2	1	R				12"	12"	12"
2-1	2	R	12"	12"	12"			
2-2	2	R	12"	12"	12"			
2-3	2	R	12"	12"	12"			
4-1	4	R	12"	12"	12"			
4-2	4	R	12"	12"	12"			
4-3	4	R	12"	12"	12"		12"	12"
4-4	4	R	12"	12"	12"		12"	12"
5-1	5	R				12"	12"	12"
5-2	5	R				12"	12"	12"
6-1	6	R	12"	12"	12"			
6-2	6	R	12"	12"	12"			
6-3	6	R	12"	12"	12"			
8-1	8	R	12"	12"	12"			
8-2	8	R	12"	12"	12"			
8-3	8	R	12"	12"	12"		12"	12"
8-4	8	R	12"	12"	12"		12"	12"



② TYPE A100-A-50-D40-9 (DAVIT AT 355°)
A 100 POLE FOUNDATION
3 ONE WAY SIGNALS (OVERHEAD) MOUNTED AT 0', 15' AND 27' FROM THE END OF THE MAST ARM
2-TYPE 10B POLE MOUNTED, 1 AT 0° AND 1 AT 270°
LUMINAIRE-200 WATT HPS (WITH PEC)
2 PEDESTRIAN PUSH BUTTONS AND SIGNS
EXTEND INTO H.H. 4
3" R.S.C.
2-12/C Ø12
3-3/C Ø12
2-1/C Ø10



PAD MOUNTED SERVICE EQUIPMENT

LOAD CENTER TO H.H. 1
1¼" R.S.C.
4-1/C Ø10

LOAD CENTER TO H.H. 9
1¼" R.S.C.
4-1/C Ø10

CONTROLLER AND CABINET
EXTEND INTO H.H. 1
4" R.S.C.
4-12/C Ø12
5-3/C Ø12
5-2/C Ø14
1-3/C Ø20

CONTROLLER AND CABINET
EXTEND INTO H.H. 9
4" R.S.C.
4-12/C Ø12
5-3/C Ø12
9-2/C Ø14
1-3/C Ø20

CONTROLLER AND CABINET
3" R.S.C. EXTEND INTO HH 18
3" R.S.C. STUBOUT (TO WEST)

LOAD CENTER TO CABINET
1¼" R.S.C.
2-1/C #8
1-1/C #8 BRGR

LOOP DETECTOR CHART			
NUMBER	SIZE	FUNCTION	DISTANCE FROM STOP LINE
D1-1	2-6'x6'	1	5' & 35'
D2-1	6'x6'	1	400'
D2-2	6'x6'	1	400'
D3-1	2-6'x6'	1	5' & 35'
D4-1	2-6'x6'	1	5' & 15'
D4-2	2-6'x6'	1	5' & 15'
D4-3	2-6'x6'	2	150'
D5-1	2-6'x6'	1	5' & 35'
D6-1	6'x6'	1	400'
D6-2	6'x6'	1	400'
D7-1	2-6'x6'	1	5' & 35'
D8-1	2-6'x6'	1	5' & 15'
D8-2	2-6'x6'	1	5' & 15'
D8-3	2-6'x6'	2	150'
LOOP DETECTOR FUNCTIONS			
1. CALL AND EXTEND			
2. EXTEND ONLY			

ELEC. ENGINEER CERT.

I Hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16

Date 1/9/90 Minn. Reg. No. 10925

CIVIL ENGINEER CERT.

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Date 1-1-90 Minn. Reg. No. 10907

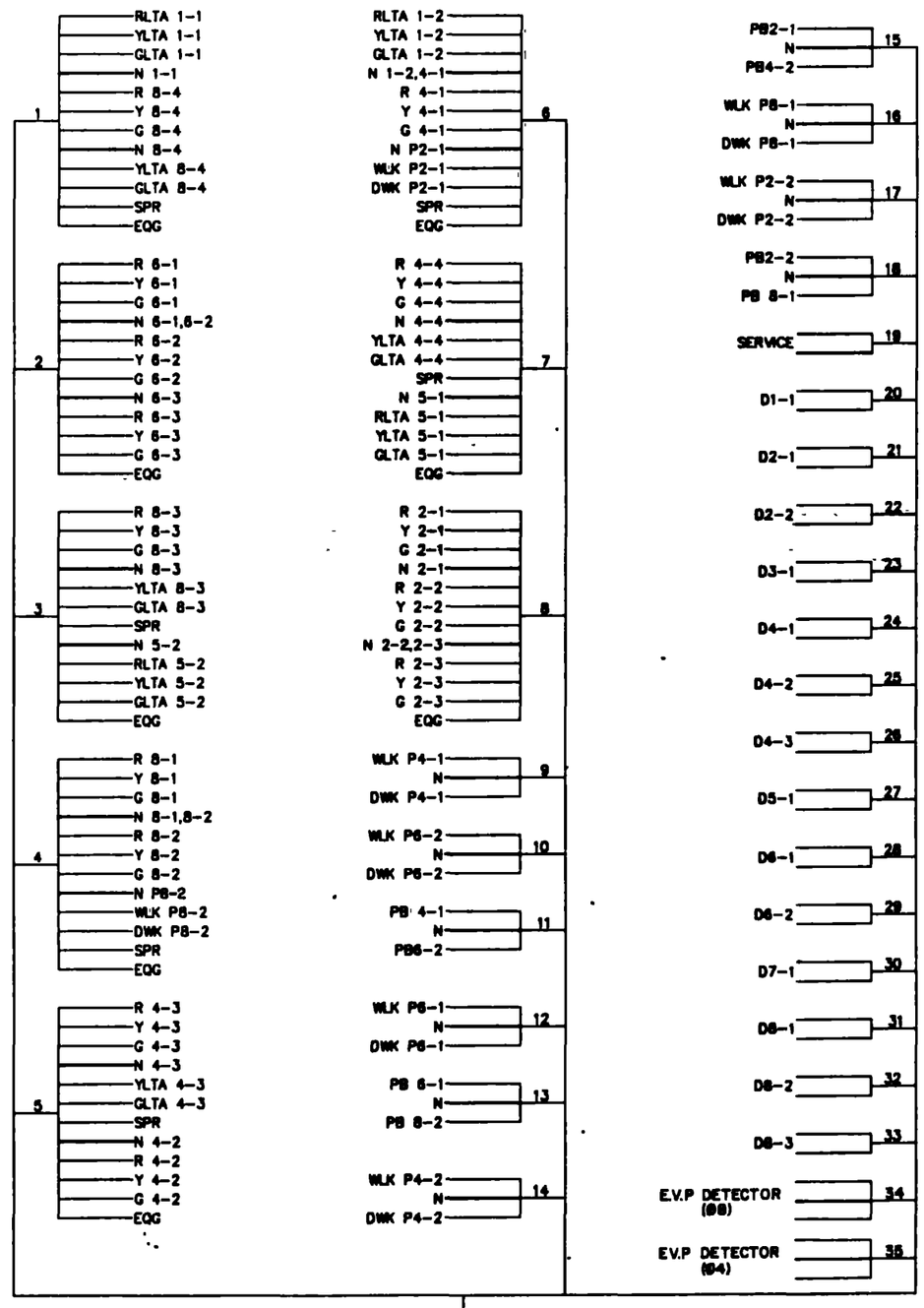
PERMANENT SIGNAL SYSTEM
INTERSECTION LAYOUT - T.H. 7 AT LOUISIANA AVE.

S. A. P. No. 163-276-24 (T.H. 7)

NOTES
1. TYPE "D" SIGN PANELS SHALL HAVE WHITE LEGEND ON GREEN REFLECTORIZED BACKGROUND.
2. CORNERS OF THE SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMRD.

SPECIAL SIGN DETAILS

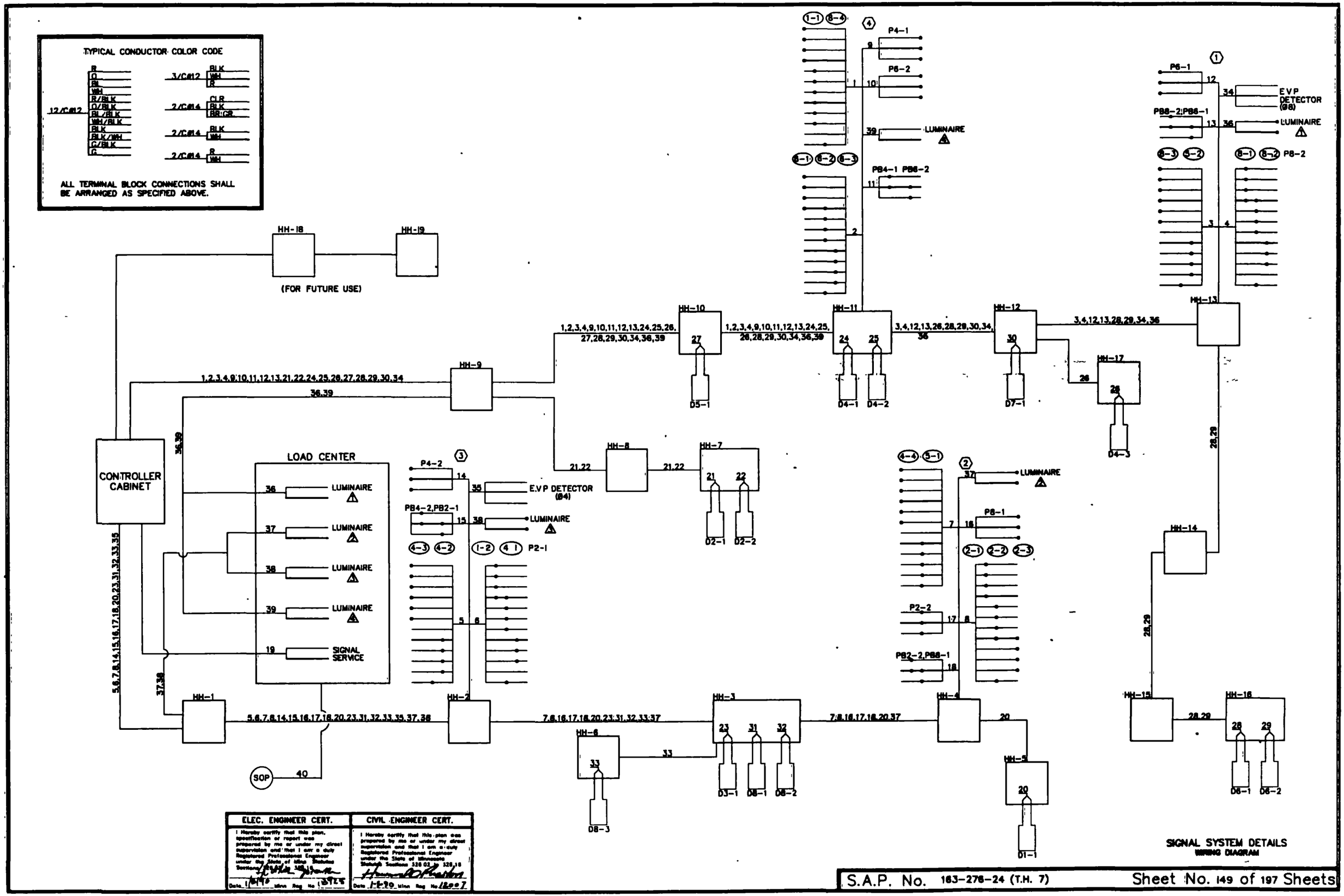
CONTROLLER CABINET



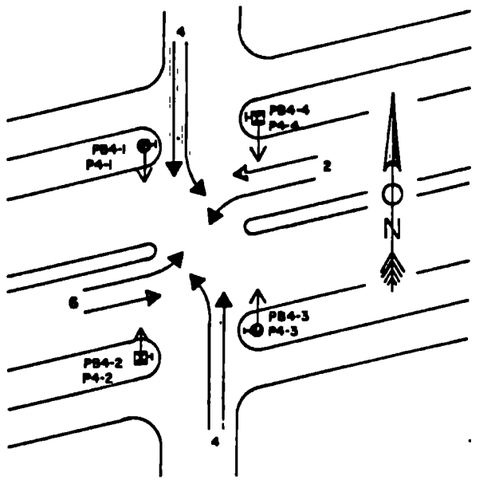
SEE SHEET 149

ELEC. ENGINEER CERT.	CIVIL ENGINEER CERT.
I Hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Illinois Statutes Section 225.328 to 225.1	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 State of Minnesota Statutes Sections 326.02 to 326.15
Date 1/8/90 Illinois Reg. No. 081-[illegible]	Date 1-8-90 Illinois Reg. No. 18967

SIGNAL SYSTEM DETAILS
CONTROLLER CABINET


TYPICAL CONDUCTOR COLOR CODE
12/C#12
R
O
BL
WH
R/BLK
O/BLK
BL/BLK
WH/BLK
BLK
BLK/WH
G/BLK
G
3/C#12
BLK
WH
R
2/C#14
CLR
BLK
BR:GR
2/C#14
BLK
WH
2/C#14
R
WH
ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.
HH-18
HH-19
(FOR FUTURE USE)
CONTROLLER CABINET
LOAD CENTER
LUMINAIRE
SIGNAL SERVICE
E.V.P DETECTOR (Ø4)
EVP DETECTOR (Ø6)
P4-1
P6-2
P4-2
P2-1
P2-2
P8-1
P6-1
P8-2
PB4-1 PB6-2
PB4-2,PB2-1
PB2-2,PB6-1
PB6-2,PB6-1
SOP
HH-1
HH-2
HH-3
HH-4
HH-5
HH-6
HH-7
HH-8
HH-9
HH-10
HH-11
HH-12
HH-13
HH-14
HH-15
HH-16
HH-17
D1-1
D2-1
D2-2
D3-1
D4-1
D4-2
D4-3
D5-1
D6-1
D6-2
D7-1
D8-1
D8-2
D8-3
1,2,3,4,9,10,11,12,13,24,25,26,27,28,29,30,34,36,39
1,2,3,4,9,10,11,12,13,21,22,24,25,26,27,28,29,30,34,36,39
3,4,12,13,26,28,29,30,34,36
3,4,12,13,28,29,34,36
21,22
5,6,7,8,14,15,16,17,18,20,23,31,32,33,35,37,38
7,8,16,17,18,20,23,31,32,33,37
7,8,16,17,18,20,37
28,29
33
40
ELEC. ENGINEER CERT.
I Hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn Statutes Section
Date
Minn Reg No
CIVIL ENGINEER CERT.
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 State of Minnesota Statutes Sections 326.02 to 326.15
Date 1-4-90
Minn Reg No 12907
SIGNAL SYSTEM DETAILS
WIRING DIAGRAM
S.A.P. No. 163-276-24 (T.H. 7)
Sheet No. 149 of 197 Sheets

CONTROLLER PHASING, PEDESTRIAN INDICATION AND PUSHBUTTON LAYOUT

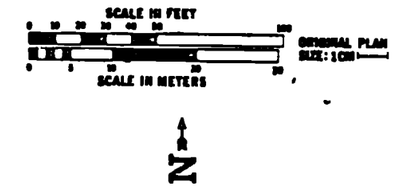


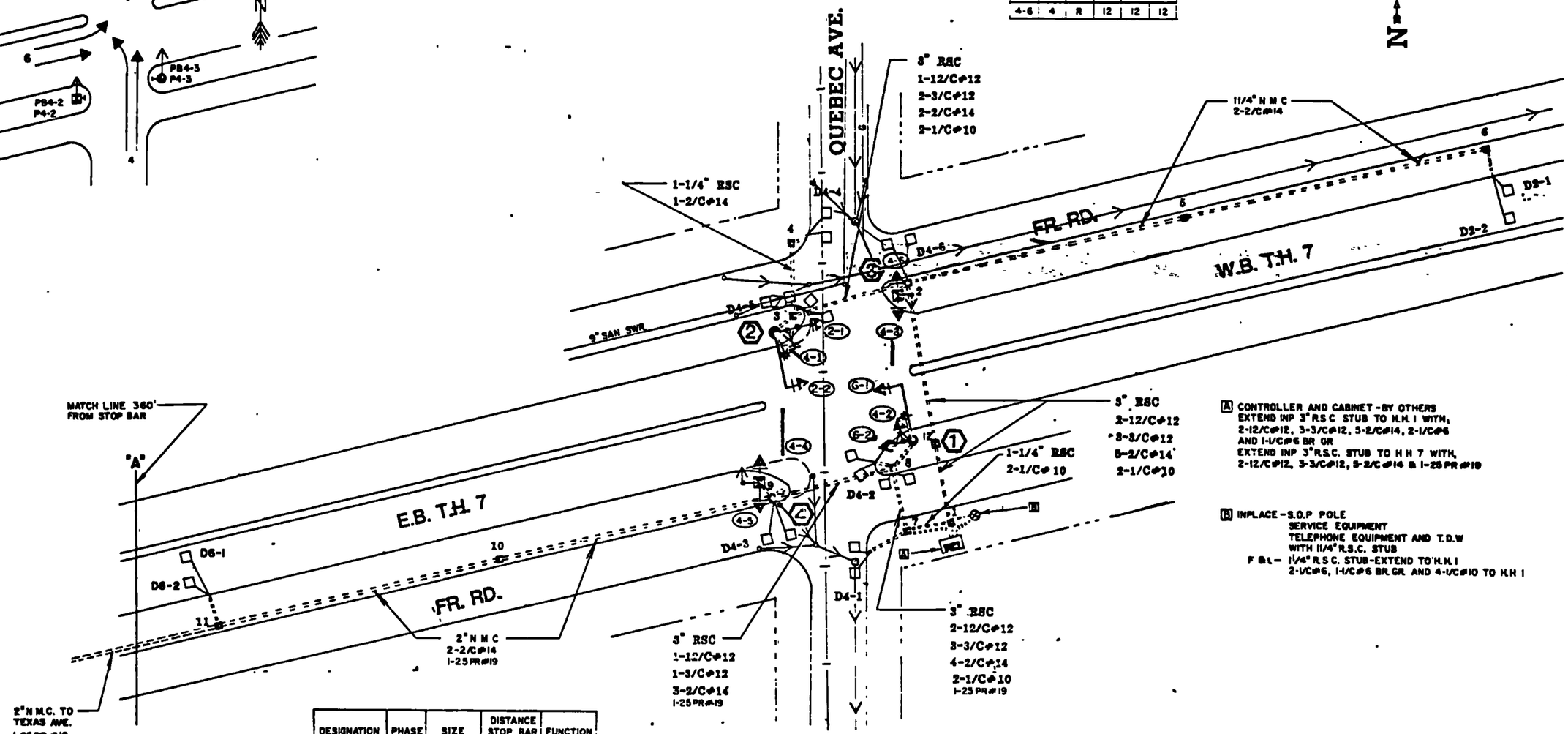
(1) & (2) TYPE A-30-040-9
ONE WAY SIGNAL (OVERHEAD)
TYPE 20B (POLE MOUNTED AT 270°)
LUMINAIRE-200 WATT HPS -AT 355°
ONE PEDESTRIAN PUSHBUTTON
EXTEND 3" R.S.C. INTO H.H. 8 AT (1); H.H. 3 AT (2);
1-12/C#12, 2-3/C#12 AND 2-1/C#10
4-STEEL GUARD POSTS

(3) & (4) TYPE 2B (MODIFIED-PEDESTRIAN INDICATION OFF TO THE SIDE)
ONE PEDESTRIAN PUSHBUTTON
EXTEND 3" R.S.C. INTO H.H. 2 AT (3); H.H. 9 AT (4);
1-12/C#12 AND 1-3/C#12
4-STEEL GUARD POSTS

SIGNAL INDICATION CHART

FACE	PHASE	FLASH	INDICATION SIZE IN INCHES		
			R	Y	G
6-1	6	Y	12	12	12
6-2	6	Y	12	12	12
2-1	2	Y	12	12	12
2-2	2	Y	12	12	12
4-1	4	R	12	12	12
4-2	4	R	12	12	12
4-3	4	R	12	12	12
4-4	4	R	12	12	12
4-5	4	R	12	12	12
4-6	4	R	12	12	12





A CONTROLLER AND CABINET - BY OTHERS
EXTEND INP 3" R.S.C. STUB TO H.H. 1 WITH,
2-12/C#12, 3-3/C#12, 5-2/C#14, 2-1/C#6
AND 1-1/C#6 BR GR
EXTEND INP 3" R.S.C. STUB TO H.H. 7 WITH,
2-12/C#12, 3-3/C#12, 5-2/C#14 & 1-25 PR#19

B INPLACE - S.O.P. POLE
SERVICE EQUIPMENT
TELEPHONE EQUIPMENT AND T.D.W
WITH 1 1/4" R.S.C. STUB
F & L - 1 1/4" R.S.C. STUB-EXTEND TO H.H. 1
2-1/C#6, 1-1/C#6 BR. GR. AND 4-1/C#10 TO H.H. 1

DESIGNATION	PHASE	SIZE	DISTANCE STOP BAR	FUNCTION
D2-1	2	6'X6'	340'	1
D2-2				
D6-1	6			
D6-2				
D4-1	4	2-6'X6'	NONE	2
D4-3				
D4-4				
D4-6				
D4-2	4	MULTIPLE		
D4-5				

1. CALL AND EXTEND
2. CALL AFTER DELAY EXTEND NORMALLY

NOTE.
REMOVE AND SALVAGE EXISTING SIGNAL SYSTEM (SEE SPECIAL PROVISIONS)

INTERSECTION LAYOUT
SYSTEM "A"
T.H. 7 AT QUEBEC AVE.
~~IN ST. LOUIS PARK~~

"FOR INFORMATION ONLY"

Fed. Proj. No.

③ TYPE A-20
ONE WAY SIGNAL (OVERHEAD)
TYPE 10B POLE MOUNTED AT 270°
EXTEND
TO HH 11: 3" RSC 2-12/C#12, 1-3/C#12
TYPE 30A-POLE MOUNTED AT 90°
TWO PED PBS

NOTES: 1. MAST ARM POLES ③ & ④ ARE TO BE SALVAGED FROM INPLACE SIGNAL SYSTEM AND REFURBISHED. (SEE SPECIAL PROVISIONS.)
2. LUMINAIRES SHALL BE 200 WATT H.P.S.
3. S.O.P - USE INPLACE WOOD POLE. F&I NEW SERVICE EQUIPMENT AND CONDUITS AS SHOWN.
4. UTILITY LOCATIONS ARE APPROXIMATE ONLY.
5. REMOVE AND SALVAGE INPLACE SIGNAL SYSTEM.
6. H.H. 3,5,9 SHALL HAVE TYPE LD COVERS.

④ TYPE A-20
ONE WAY SIGNAL (OVERHEAD)
TYPE 10B (POLE MOUNTED AT 270°)
EXTEND
TO HH 3: 3" RSC, 2-12/C#12, 1-3/C#12
TYPE 30A (POLE MOUNTED AT 90°)
TWO PED PBS

② TYPE A-35-D40-9
2-ONE WAY SIGNALS (OVERHEAD)
TYPE 10B (POLE MOUNTED AT 90°)
TYPE 20B (POLE MOUNTED AT 270°)
EXTEND TO HH 8: 3" RSC, 2-12/C#12, 2-3/C#12
EXTEND TO H.H 1: 1 1/4" R.S.C., 2-1/C#10
LUMINAIRE AT 355°
2-PED PBS

① TYPE A-35-D40-9
2-ONE WAY SIGNALS (OVERHEAD)
TYPE 10B (POLE MOUNTED AT 90°)
TYPE 20B (POLE MOUNTED AT 270°)
EXTEND TO HH 7: 3" RSC, 2-12/C#12, 2-3/C#12, 2-1/C#10
LUMINAIRE AT 355°
TWO PED PBS

SIGNAL INDICATION CHART

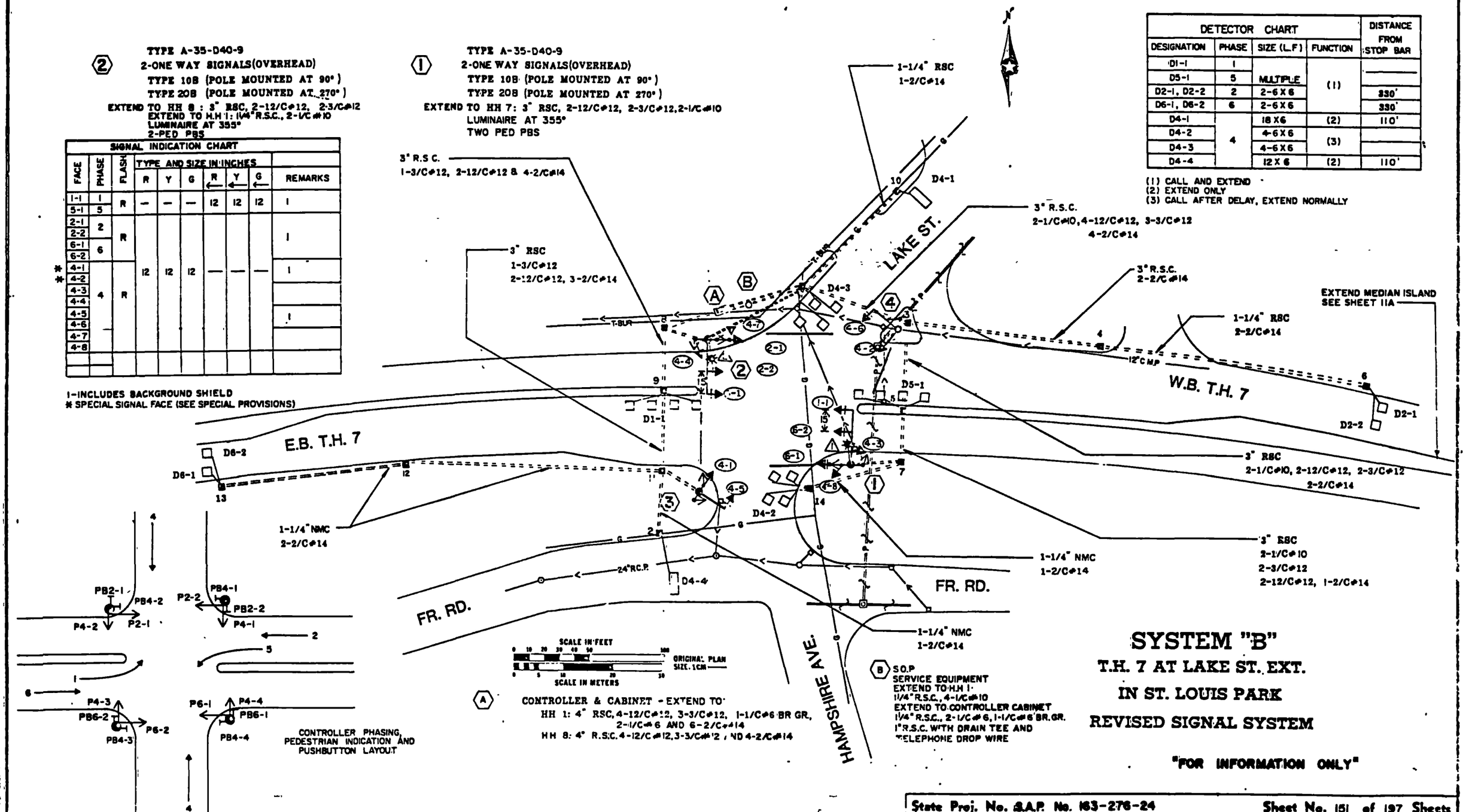
FACE	PHASE	FLASH	TYPE AND SIZE IN INCHES R	Y	G	R ←	Y ←	G ←	REMARKS
1-1	1	R	—	—	—	12	12	12	1
5-1	5								
2-1	2	R	12	12	12	—	—	—	1
2-2									
6-1	6								
6-2									
* 4-1	4	R							1
* 4-2									
4-3									
4-4									
4-5									1
4-6									
4-7									
4-8									

1-INCLUDES BACKGROUND SHIELD
* SPECIAL SIGNAL FACE (SEE SPECIAL PROVISIONS)

DETECTOR CHART

DESIGNATION	PHASE	SIZE (L.F)	FUNCTION	DISTANCE FROM STOP BAR
D1-1	1	MULTIPLE	(1)	—
D5-1	5			
D2-1, D2-2	2	2-6 X 6		330'
D6-1, D6-2	6	2-6 X 6		330'
D4-1	4	18 X 6	(2)	110'
D4-2		4-6 X 6	(3)	
D4-3		4-6 X 6		
D4-4		12 X 6	(2)	110'

(1) CALL AND EXTEND
(2) EXTEND ONLY
(3) CALL AFTER DELAY, EXTEND NORMALLY



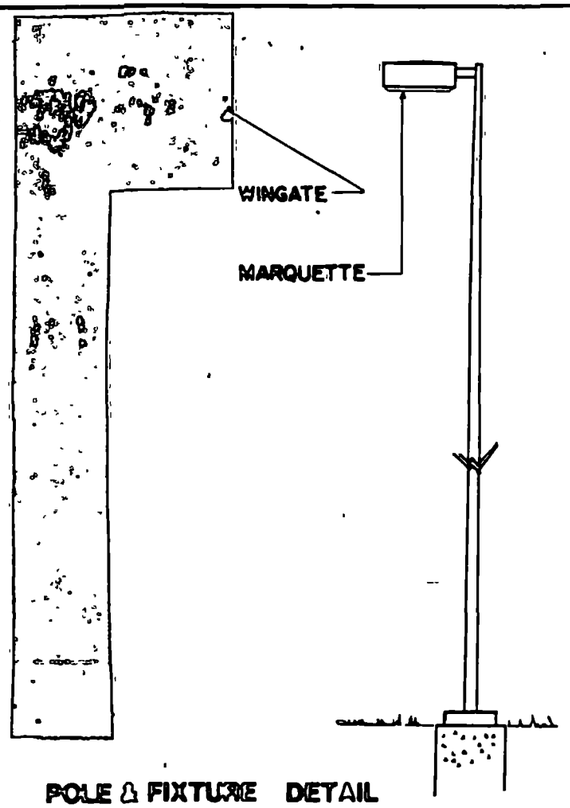
SYSTEM "B"

T.H. 7 AT LAKE ST. EXT.

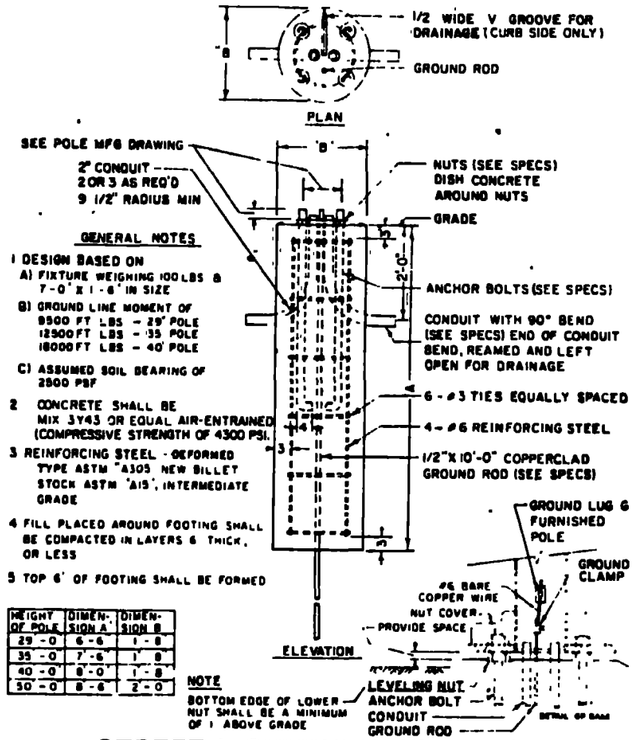
IN ST. LOUIS PARK

REVISED SIGNAL SYSTEM

"FOR INFORMATION ONLY"



POLE & FIXTURE DETAIL



GENERAL NOTES

1 DESIGN BASED ON
A) FIXTURE WEIGHING 100 LBS & 7'-0" X 1'-6" IN SIZE
B) GROUND LINE MOMENT OF
9500 FT LBS - 29' POLE
12500 FT LBS - 35' POLE
16000 FT LBS - 40' POLE
C) ASSUMED SOIL BEARING OF 2500 PSF

2 CONCRETE SHALL BE MIX 3Y43 OR EQUAL AIR-ENTRAINED (COMPRESSIVE STRENGTH OF 4300 PSI.

3 REINFORCING STEEL - DEFORMED TYPE ASTM "A305 NEW BILLET STOCK ASTM 'A15', INTERMEDIATE GRADE

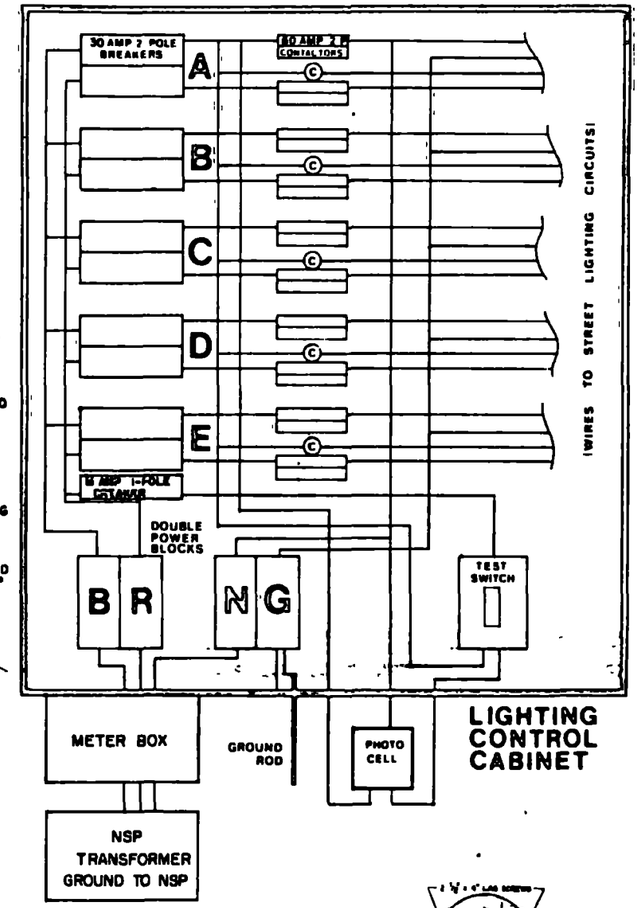
4 FILL PLACED AROUND FOOTING SHALL BE COMPACTED IN LAYERS 6" THICK, OR LESS

5 TOP 6" OF FOOTING SHALL BE FORMED

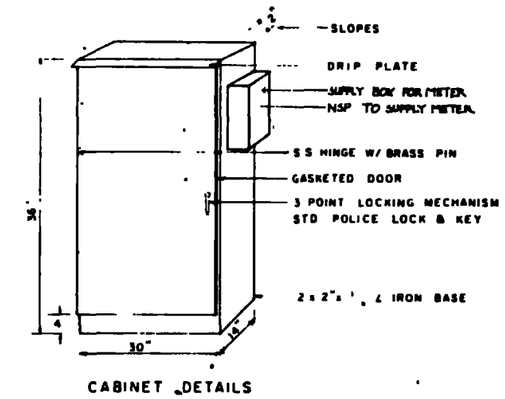
HEIGHT OF POLE	DIMENSION A	DIMENSION B
29'-0"	6'-6"	1'-8"
35'-0"	7'-6"	1'-8"
40'-0"	8'-0"	1'-8"
50'-0"	8'-6"	2'-0"

NOTE
BOTTOM EDGE OF LOWER NUT SHALL BE A MINIMUM OF 1' ABOVE GRADE

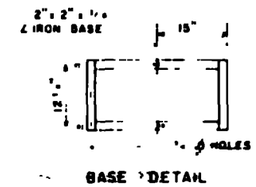
STREET LIGHTING FOUNDATION
ROUND FOOTING FOR A SINGLE UNIT
DESIGN SLP



LIGHTING CONTROL CABINET



CABINET DETAILS



BASE DETAIL

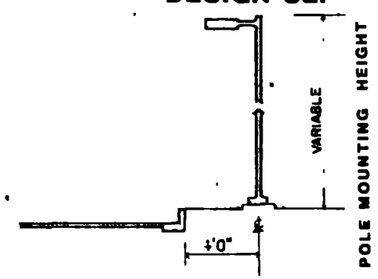
MATERIALS:

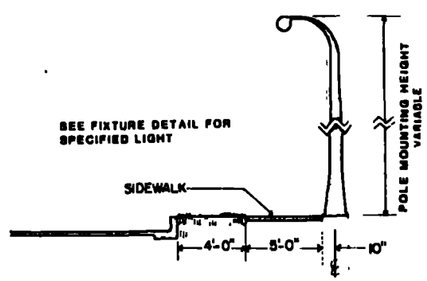
CABINET
12 GAUGE COLD ROLLED STEEL

FINISH
RUST INHIBITING PRIMER MNDOT SPEC NO 3606
EXTERIOR - ENAMEL MNDOT SPEC NO. 3301
COLOR SHALL BE MEDIUM BRONZE TO MATCH POLES AND FIXTURES

HINGE
STAINLESS STEEL WITH BRASS PIN

LIGHTING CONTROL CABINET

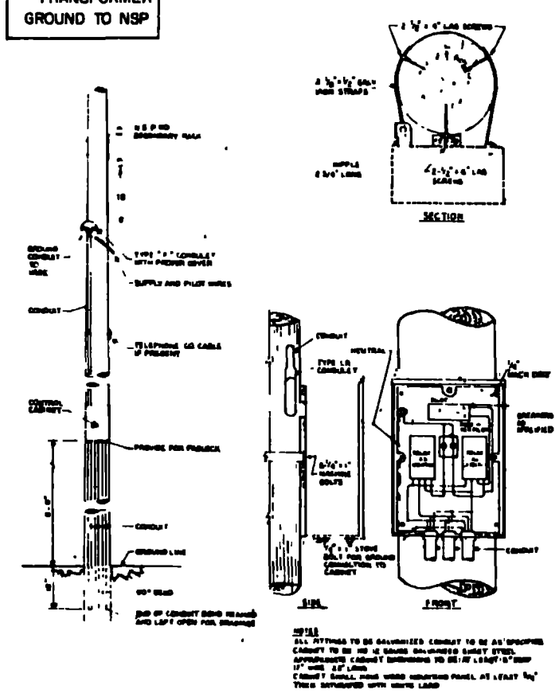




NOTE:
DIMENSIONS SHALL BE VERIFIED IN THE FIELD AND APPROVED BY ENGINEER AT EACH LIGHT STANDARD LOCATION

BOULEVARD

TYPICAL POLE LOCATIONS
NO SCALE



POLE MOUNTED FEED POINT DETAILS

S.A.P. No. 133-270-24

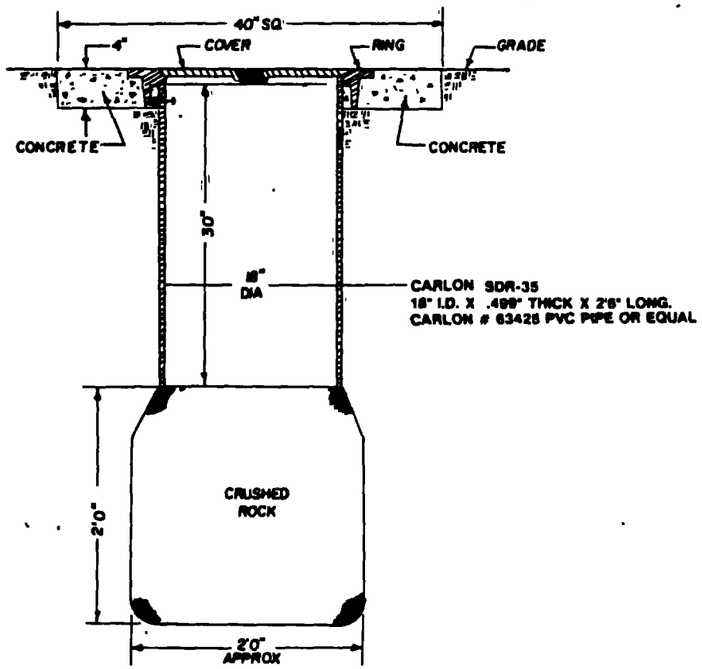
City of St. Louis Park
Minnesota

PLAN BY JD	PROJECT	CHECKED
PROFILE	STANDARD STREET LIGHTING DETAILS	APPROVED
SURVEY		DATE
AS BUILT		CONTRACT

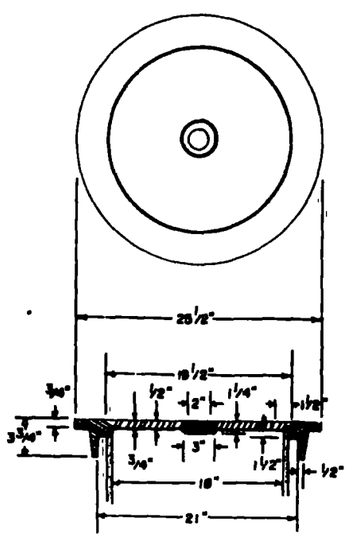
JACKIE N. GRUCE
DIRECTOR OF PUBLIC WORKS

CITY ENGINEER

HANDHOLE DETAILS



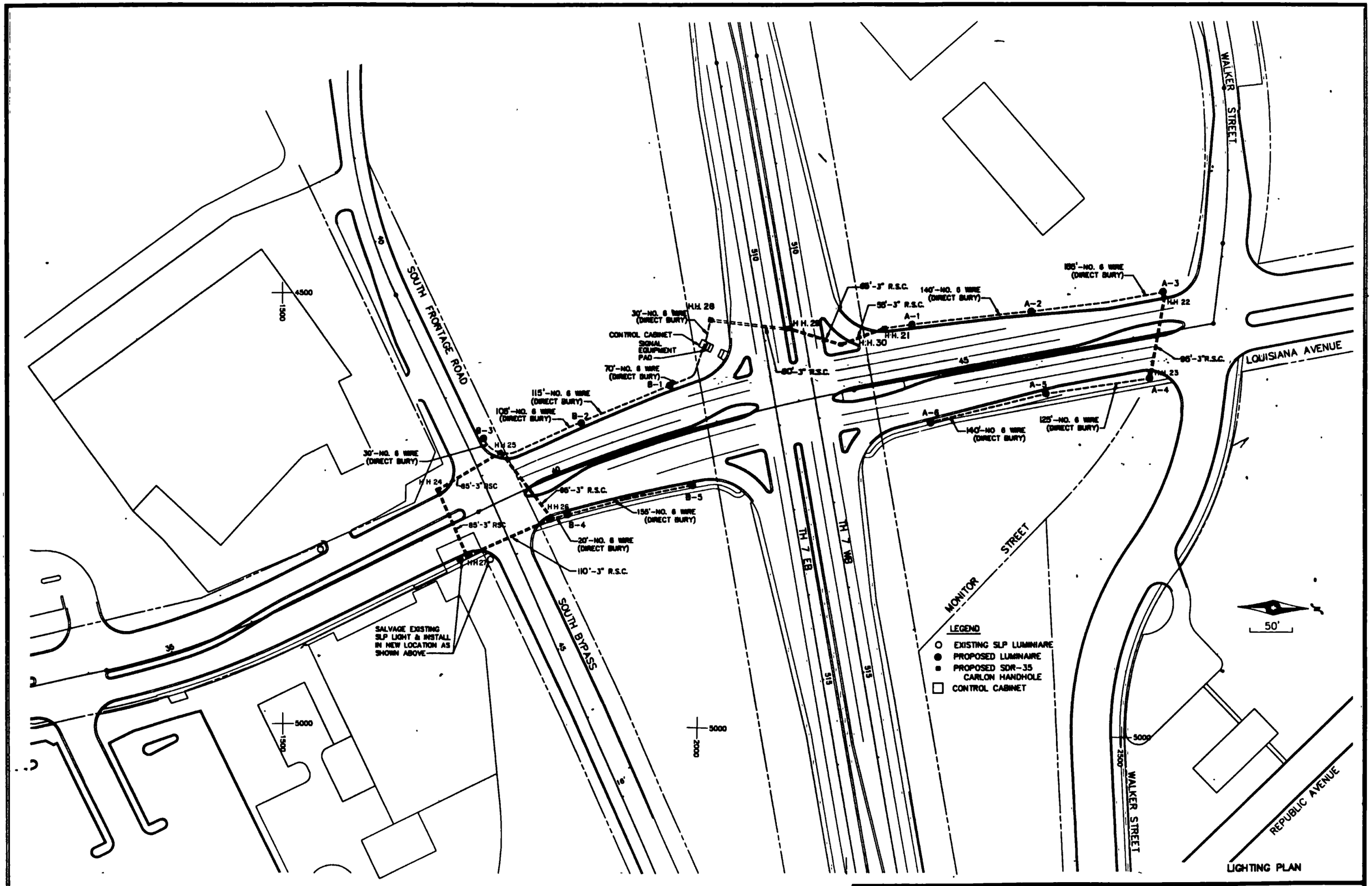
CONSTRUCTION DETAIL - 18" TRANSITE HANDHOLE



RING & COVER

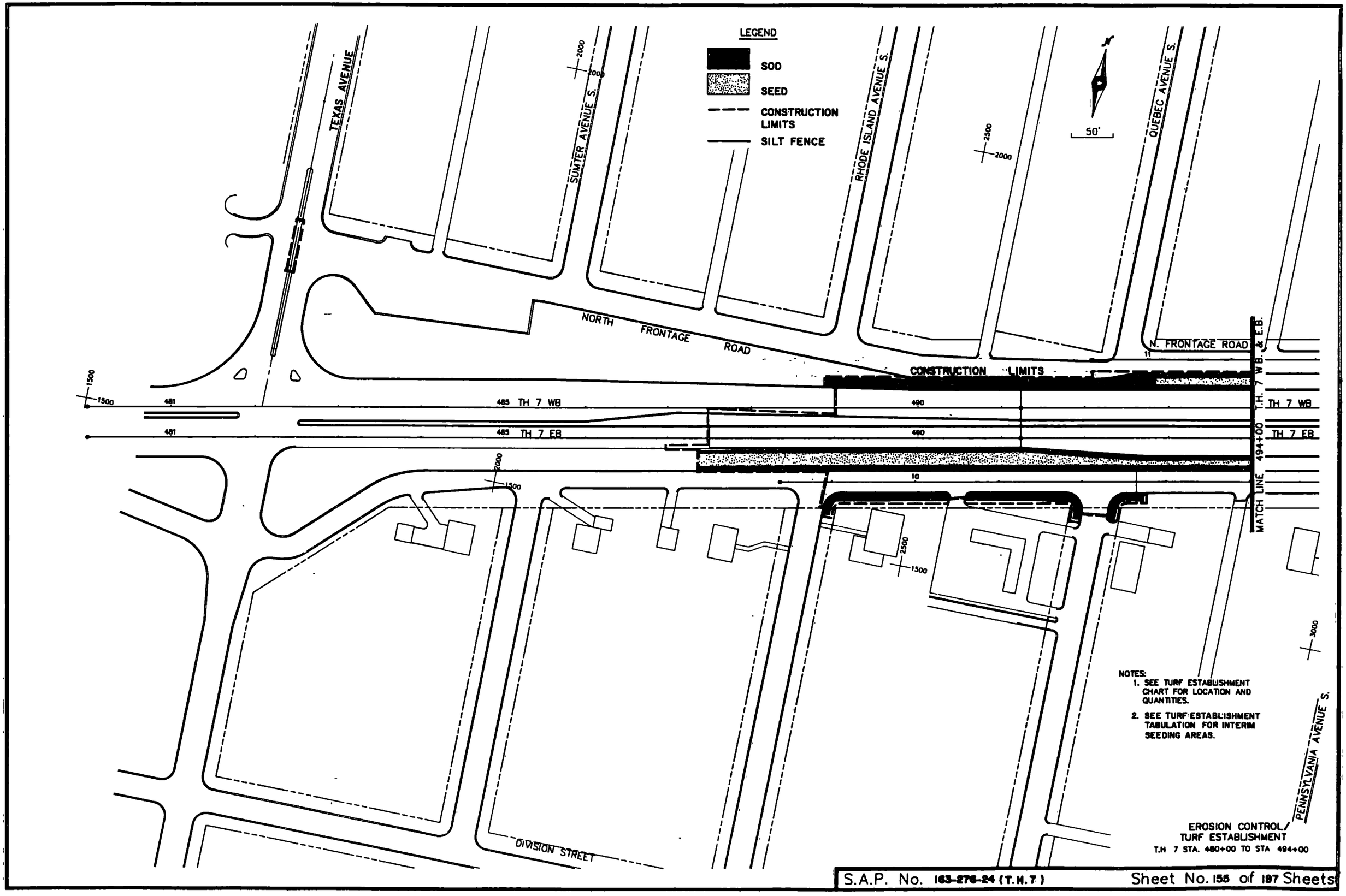
RING AND COVER SHALL BE FREE OF CONCRETE AFTER FINISHING

City of St. Louis Park Minnesota		
PLAN BY	PROJECT	CHECKED
PROFILE	LIGHTING HANDHOLE DETAIL	APPROVED
SURVEY		DATE
AS BUILT		CONTRACT
DIRECTOR OF PUBLIC WORKS		CITY ENGINEER

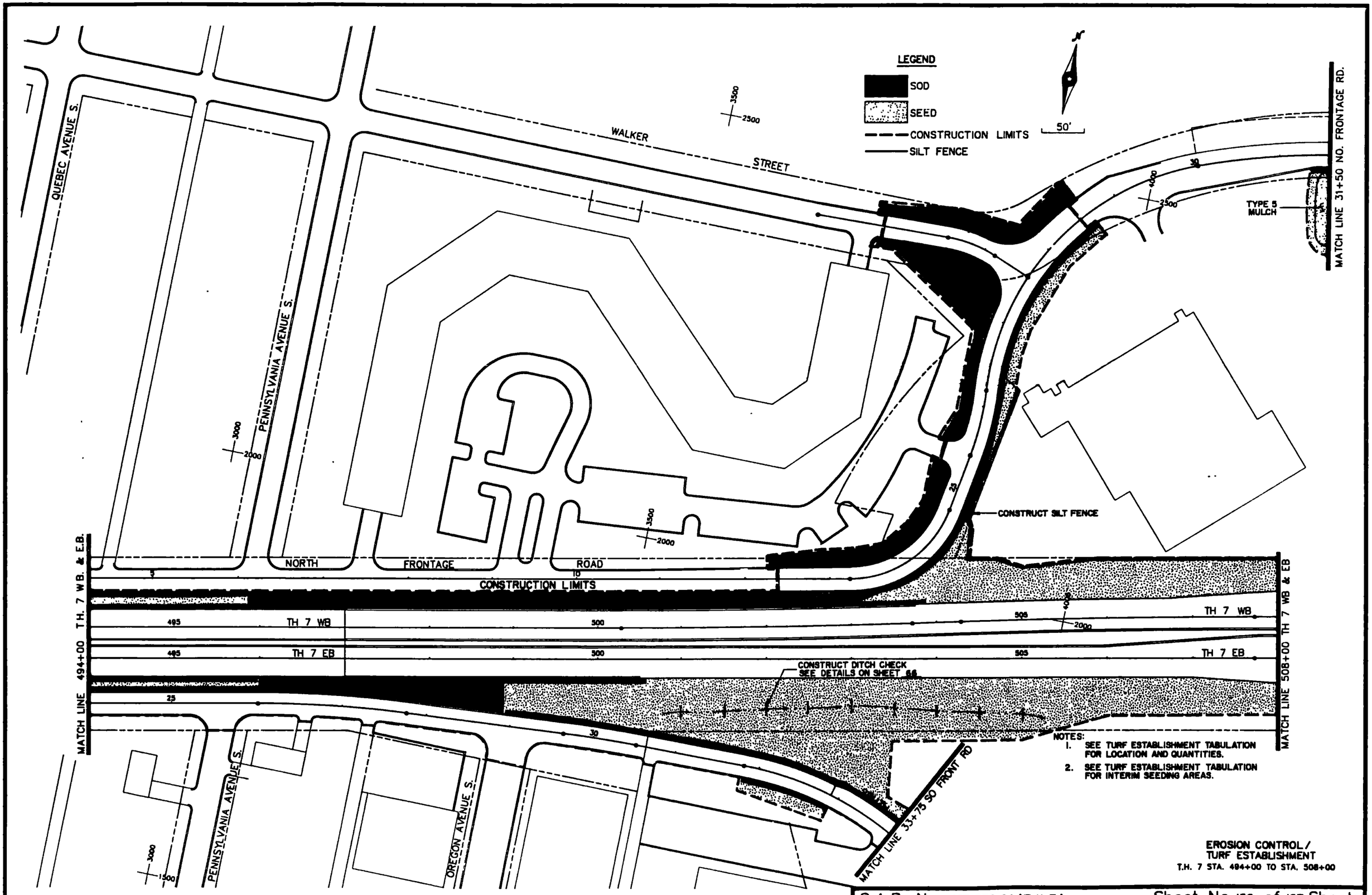


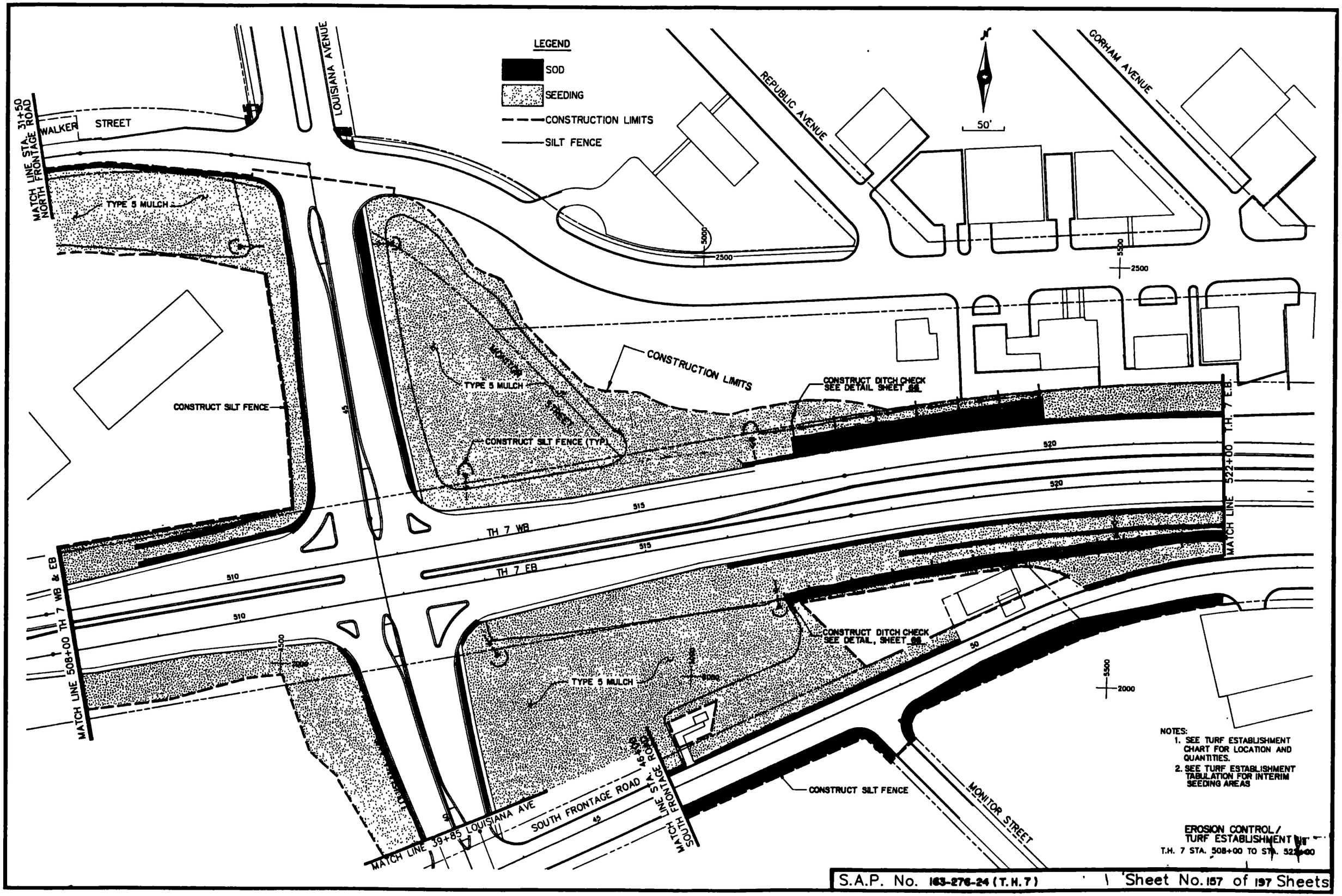
LIGHTING PLAN

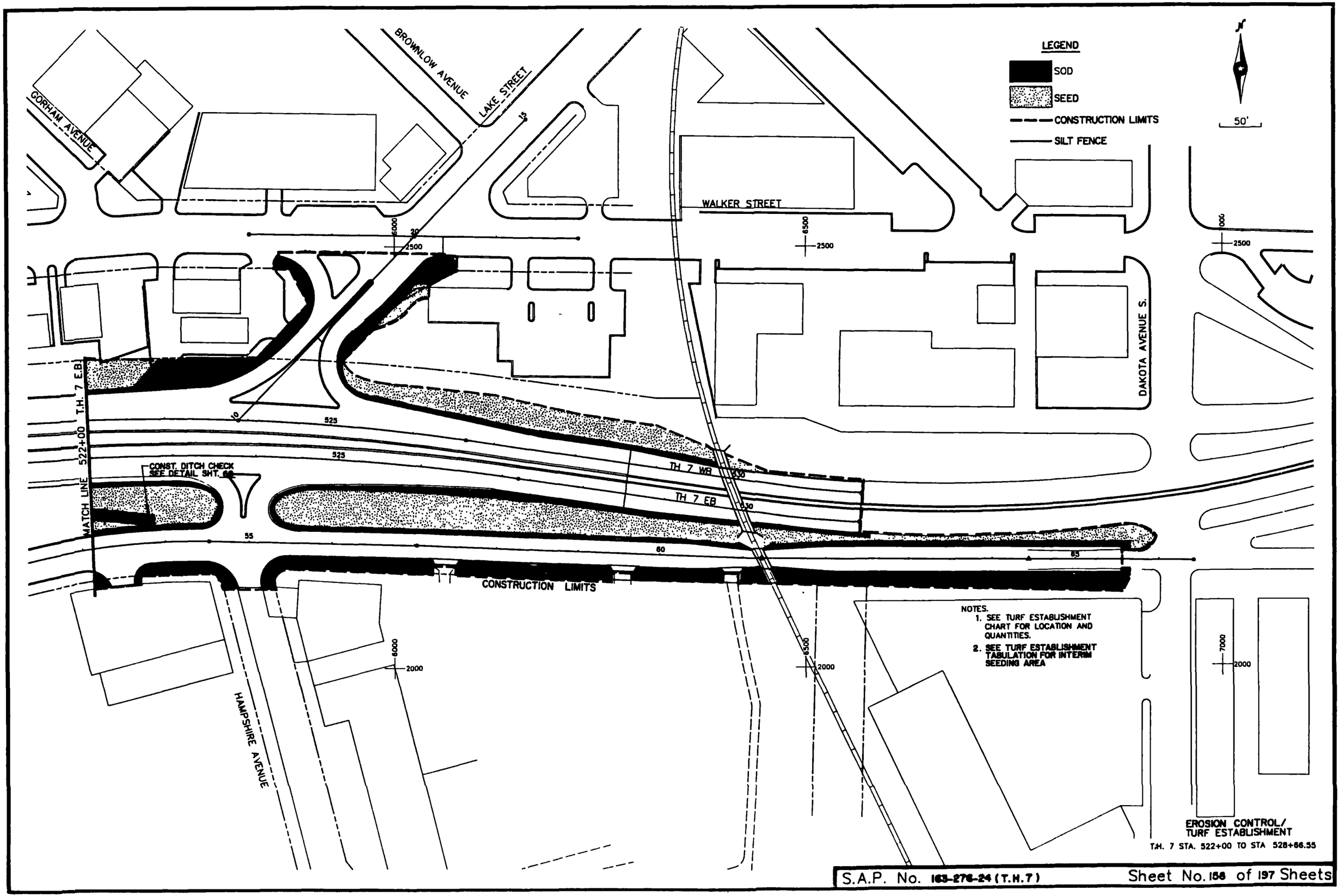
S.A.P. No. 183-276-24 (T.H. 7) Sheet No. 154 of 197 Sheets

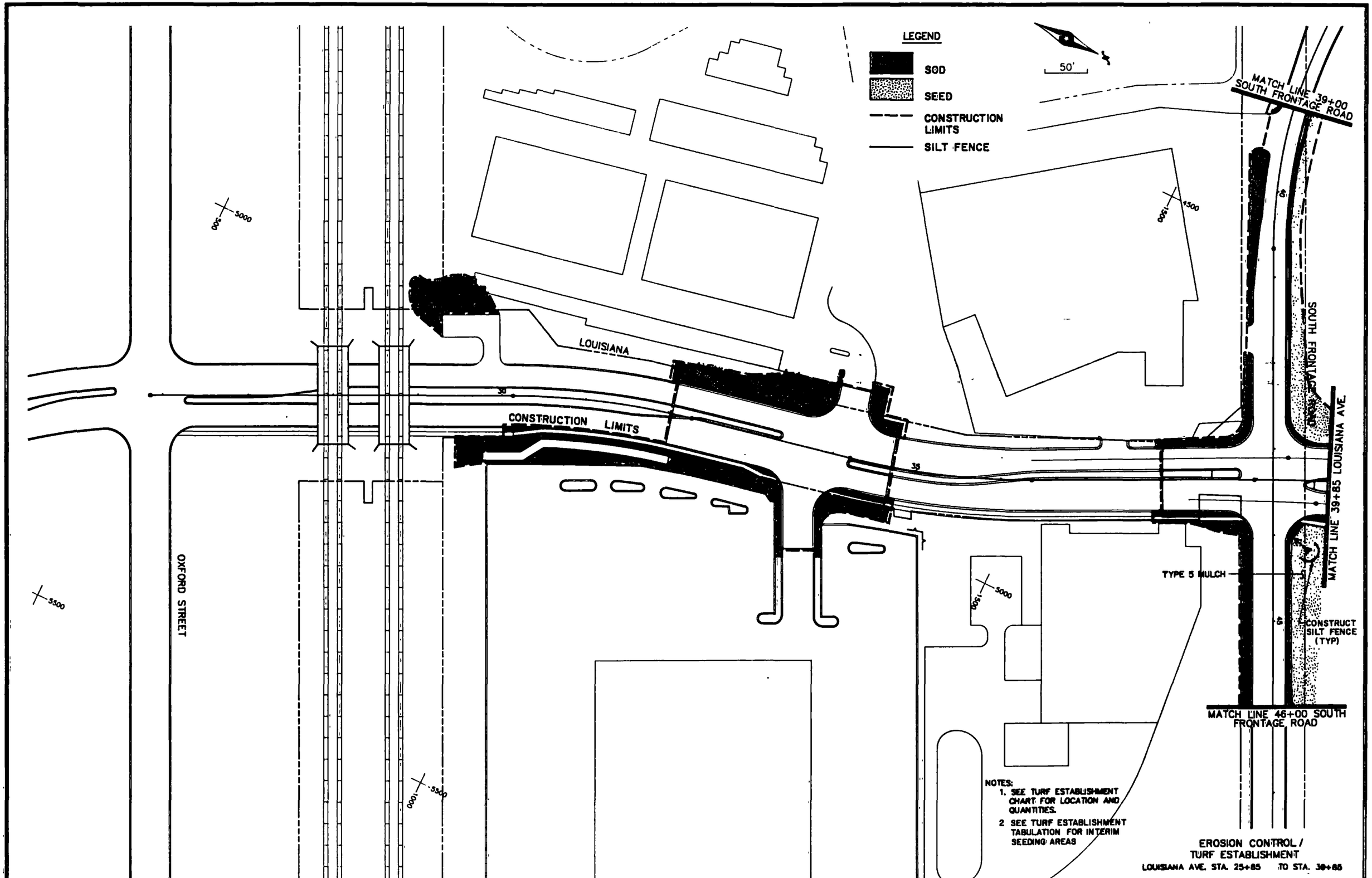


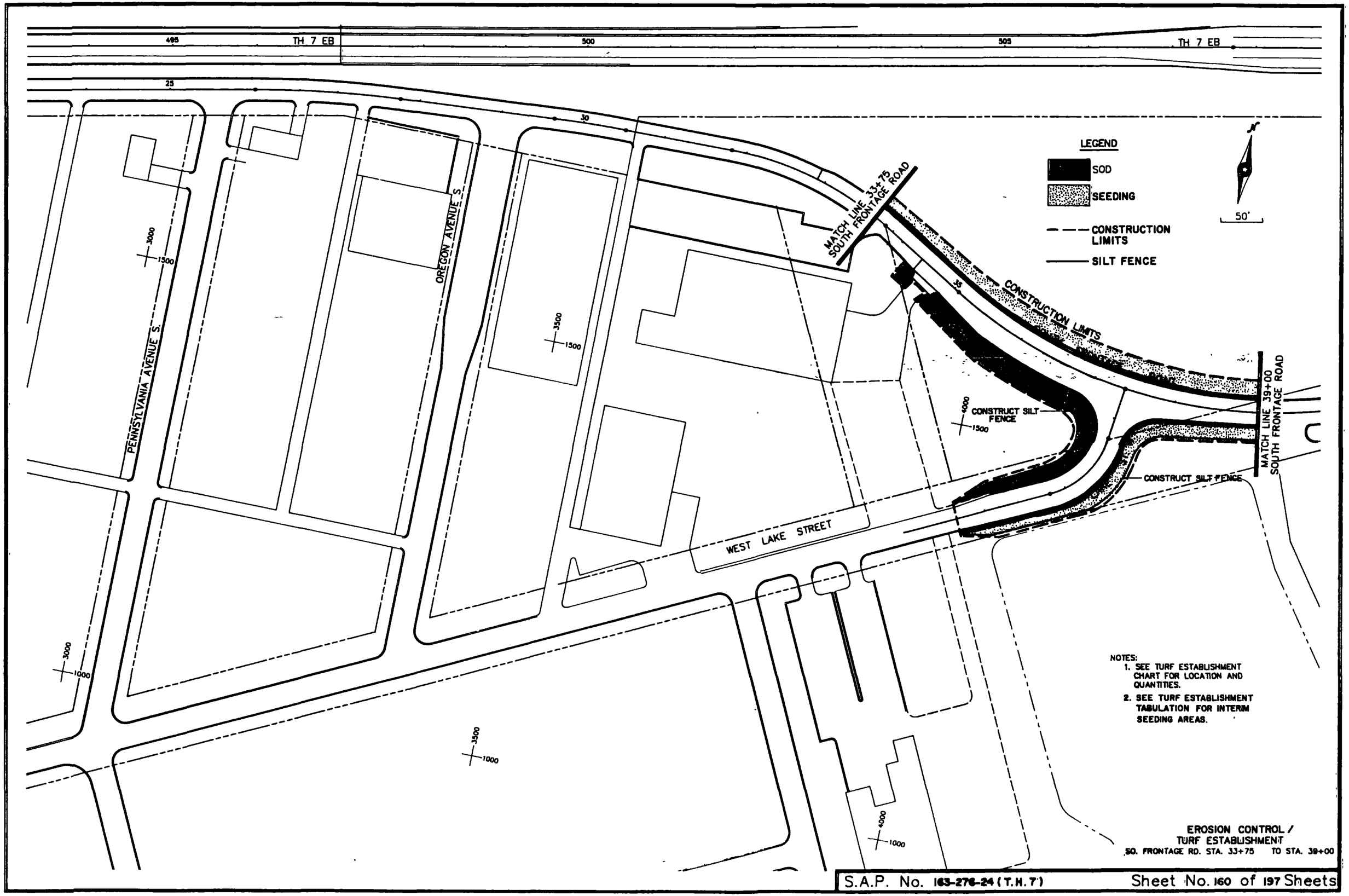
S.A.P. No. 163-276-24 (T.H.7) Sheet No. 155 of 197 Sheets


LEGEND
SOD
SEED
CONSTRUCTION LIMITS
SILT FENCE
50'
WALKER STREET
QUEBEC AVENUE S.
PENNSYLVANIA AVENUE S.
OREGON AVENUE S.
NORTH FRONTAGE ROAD
CONSTRUCTION LIMITS
TYPE 5 MULCH
CONSTRUCT SILT FENCE
CONSTRUCT DITCH CHECK
SEE DETAILS ON SHEET 66
TH 7 WB
TH 7 EB
MATCH LINE 494+00 TH. 7 W.B. & E.B.
MATCH LINE 508+00 TH 7 WB & EB
MATCH LINE 31+50 NO. FRONTAGE RD.
MATCH LINE 33+75 SO FRONT RD
NOTES:
1. SEE TURF ESTABLISHMENT TABULATION FOR LOCATION AND QUANTITIES.
2. SEE TURF ESTABLISHMENT TABULATION FOR INTERIM SEEDING AREAS.
EROSION CONTROL/
TURF ESTABLISHMENT
T.H. 7 STA. 494+00 TO STA. 508+00


LEGEND
SOD
SEEDING
CONSTRUCTION LIMITS
SILT FENCE
LOUISIANA AVENUE
REPUBLIC AVENUE
GORHAM AVENUE
50'
MATCH LINE STA. 31+50 NORTH FRONTAGE ROAD
WALKER STREET
TYPE 5 MULCH
CONSTRUCTION LIMITS
CONSTRUCT DITCH CHECK SEE DETAIL SHEET 88
CONSTRUCT SILT FENCE
CONSTRUCT SILT FENCE (TYP)
TH 7 WB
TH 7 EB
MATCH LINE 508+00 TH 7 WB & EB
MATCH LINE 522+00 T.H. 7 E.B.
CONSTRUCT DITCH CHECK SEE DETAIL, SHEET 88
MATCH LINE 39+85 LOUISIANA AVE
SOUTH FRONTAGE ROAD
MATCH LINE STA. 46+50 SOUTH FRONTAGE ROAD
CONSTRUCT SILT FENCE
MONITOR STREET
NOTES:
1. SEE TURF ESTABLISHMENT CHART FOR LOCATION AND QUANTITIES.
2. SEE TURF ESTABLISHMENT TABULATION FOR INTERIM SEEDING AREAS
EROSION CONTROL/ TURF ESTABLISHMENT
T.H. 7 STA. 508+00 TO STA. 522+00
S.A.P. No. 163-276-24 (T.H. 7)
Sheet No. 157 of 197 Sheets

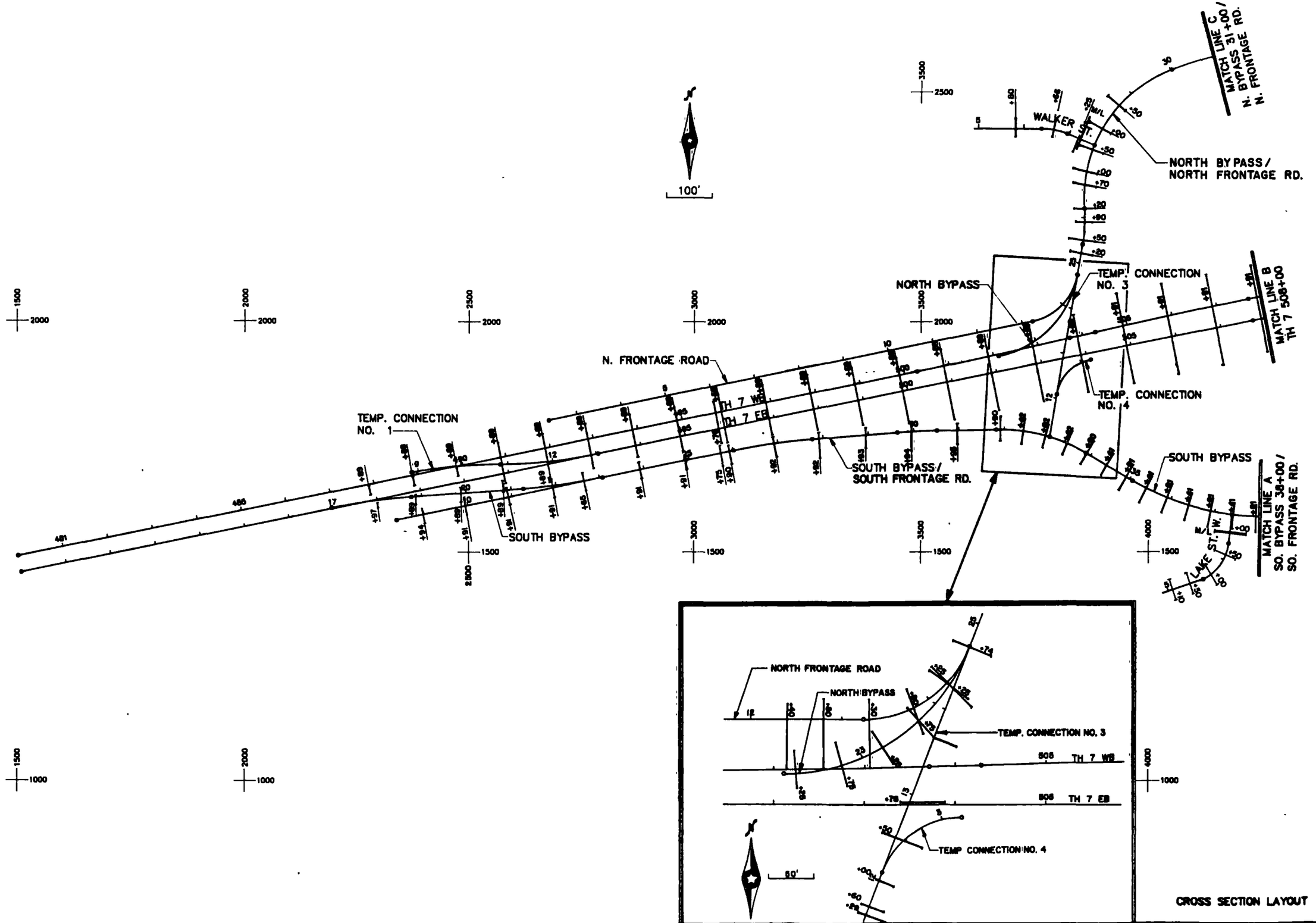

LEGEND
SOD
SEED
CONSTRUCTION LIMITS
SILT FENCE
50'
BROWNLOW AVENUE
LAKE STREET
GORHAM AVENUE
WALKER STREET
DAKOTA AVENUE S.
HAMPSHIRE AVENUE
MATCH LINE 522+00 T.H. 7 E.B.
CONST. DITCH CHECK SEE DETAIL SHT. 66
TH 7 WB
TH 7 EB
CONSTRUCTION LIMITS
NOTES.
1. SEE TURF ESTABLISHMENT CHART FOR LOCATION AND QUANTITIES.
2. SEE TURF ESTABLISHMENT TABULATION FOR INTERIM SEEDING AREA
EROSION CONTROL/ TURF ESTABLISHMENT
T.H. 7 STA. 522+00 TO STA 528+66.55


LEGEND
SOD
SEED
CONSTRUCTION LIMITS
SILT FENCE
50'
MATCH LINE 39+00 SOUTH FRONTAGE ROAD
SOUTH FRONTAGE ROAD
MATCH LINE 39+85 LOUISIANA AVE.
LOUISIANA
CONSTRUCTION LIMITS
OXFORD STREET
TYPE 5 MULCH
CONSTRUCT SILT FENCE (TYP)
MATCH LINE 46+00 SOUTH FRONTAGE ROAD
NOTES:
1. SEE TURF ESTABLISHMENT CHART FOR LOCATION AND QUANTITIES.
2 SEE TURF ESTABLISHMENT TABULATION FOR INTERIM SEEDING AREAS
EROSION CONTROL / TURF ESTABLISHMENT
LOUISIANA AVE. STA. 25+85 TO STA. 39+85



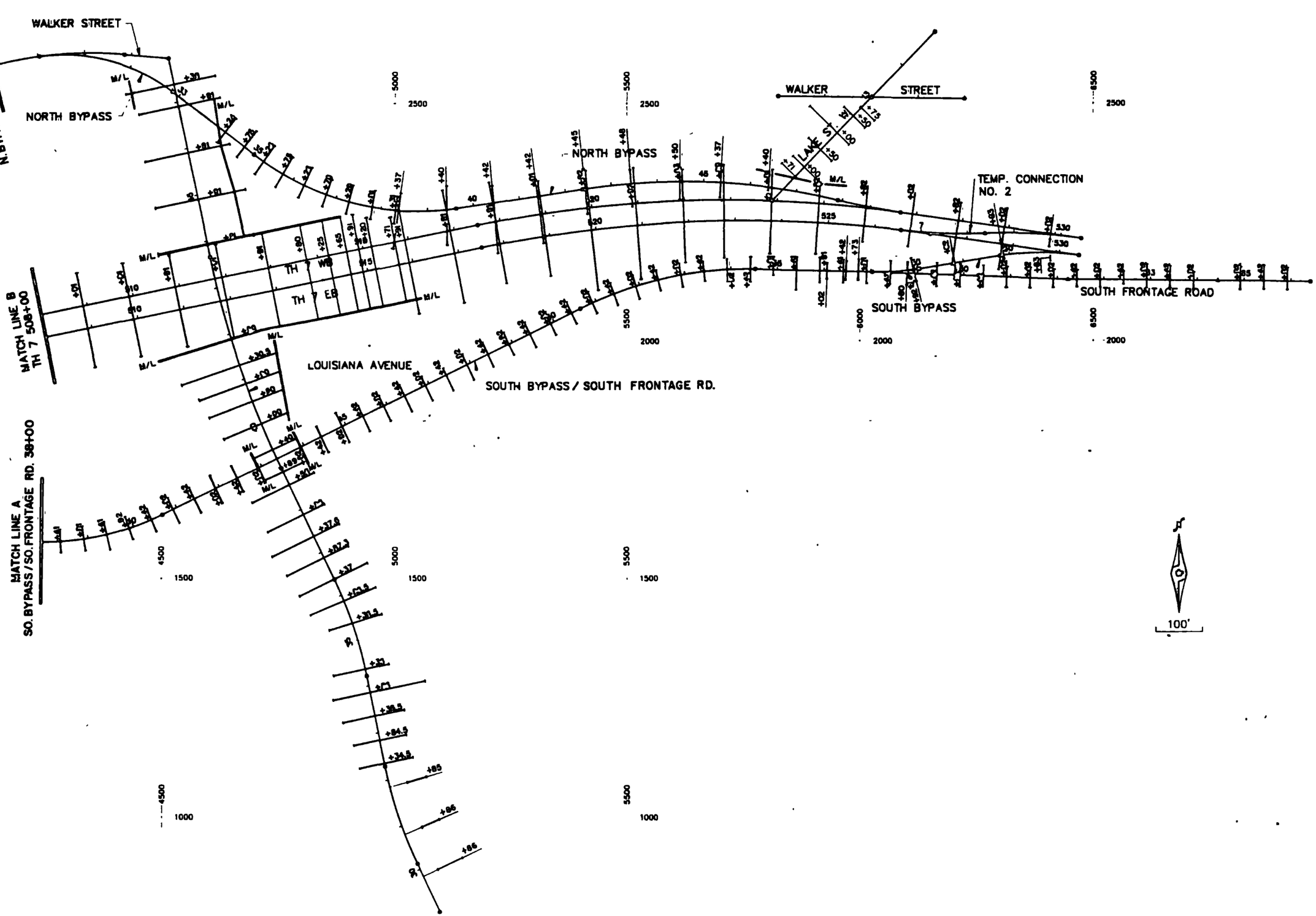
S.A.P. No. 163-276-24 (T.H. 7)

Sheet No. 160 of 197 Sheets



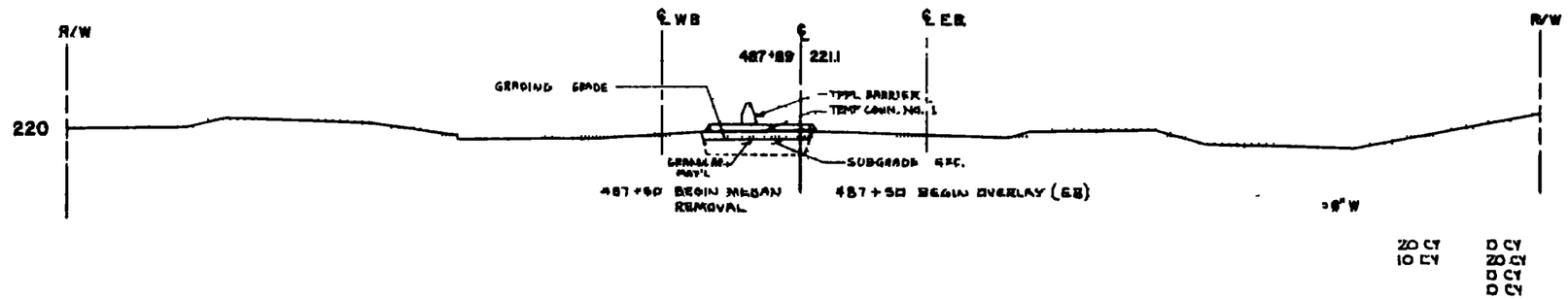
CROSS SECTION LAYOUT

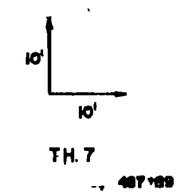
S.A.P. No. 163-276-24 (T.H. 7) Sheet No. 161 of 197 Sheets

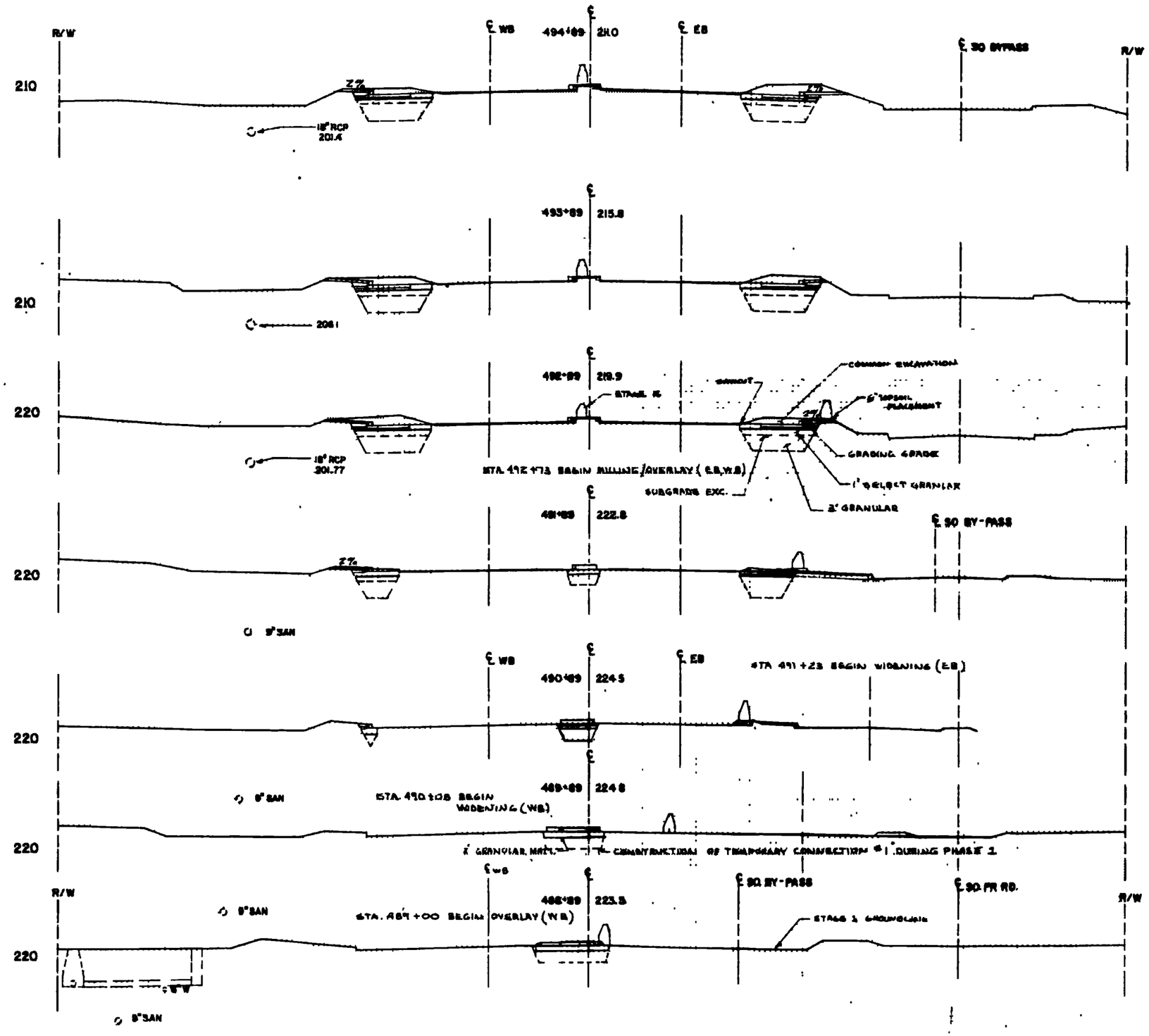


CROSS SECTION LAYOUT

EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	SELECT GRANULAR
COMMON EXCAVATION	GRANULAR MATERIAL
	TOPSOIL
	REGULAR EMBANKMENT



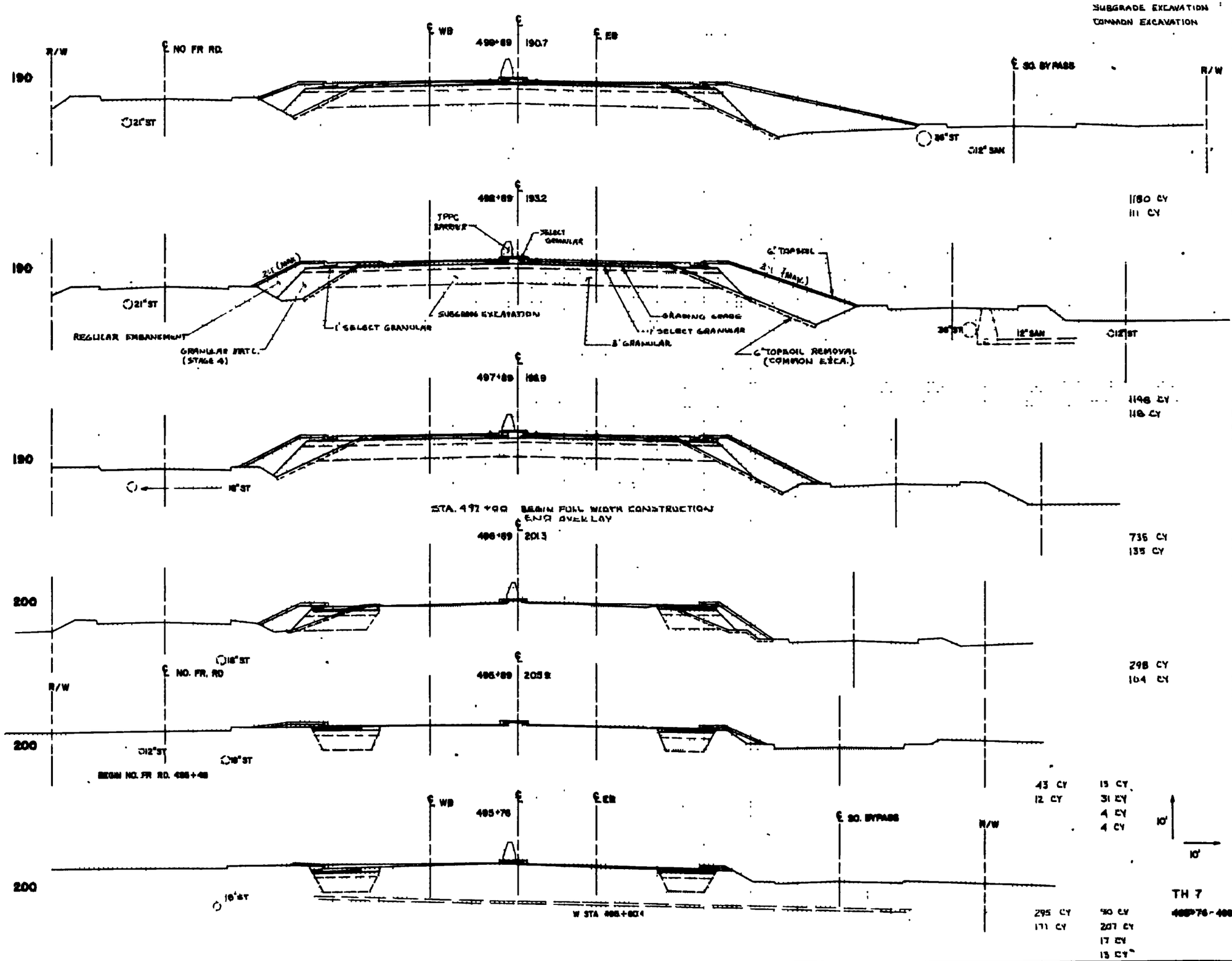




EXCAVATION (CY)		EMBANKMENT (CY)
SUBGRADE EXCAVATION		SELECT GRANULAR
COMMON EXCAVATION		GRANULAR MATERIAL
		TOPSOIL
		REGULAR EMBANKMENT
357 CY		111 CY
271 CY		263 CY
		22 CY
		13 CY
361 CY		120 CY
262 CY		259 CY
		20 CY
		13 CY
306 CY		96 CY
158 CY		215 CY
		19 CY
		7 CY
159 CY		43 CY
52 CY		102 CY
		11 CY
		2 CY
70 CY		7 CY
46 CY		41 CY
		2 CY
		0 CY
85 CY	0 CY	
46 CY	85 CY	
	0 CY	
	0 CY	
100 CY	0 CY	
50 CY	27 CY	
	0 CY	
	0 CY	

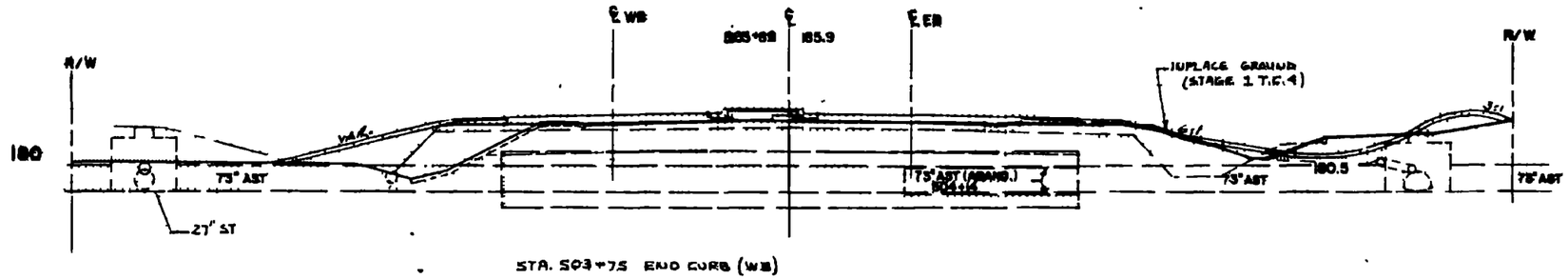
10'
10'

T.H. 7
488+89-494+89



Excavation (CY)	Embankment (CY)
Subgrade Excavation	Select Granular
Common Excavation	Granular Material
	Topsoil
	Regular Embankment
1180 CY	344 CY
111 CY	1100 CY
	109 CY
	806 CY
1148 CY	348 CY
118 CY	1100 CY
	130 CY
	574 CY
736 CY	228 CY
135 CY	714 CY
	98 CY
	309 CY
298 CY	102 CY
104 CY	283 CY
	56 CY
	111 CY
43 CY	15 CY
12 CY	31 CY
	4 CY
	4 CY
295 CY	90 CY
171 CY	207 CY
	17 CY
	13 CY

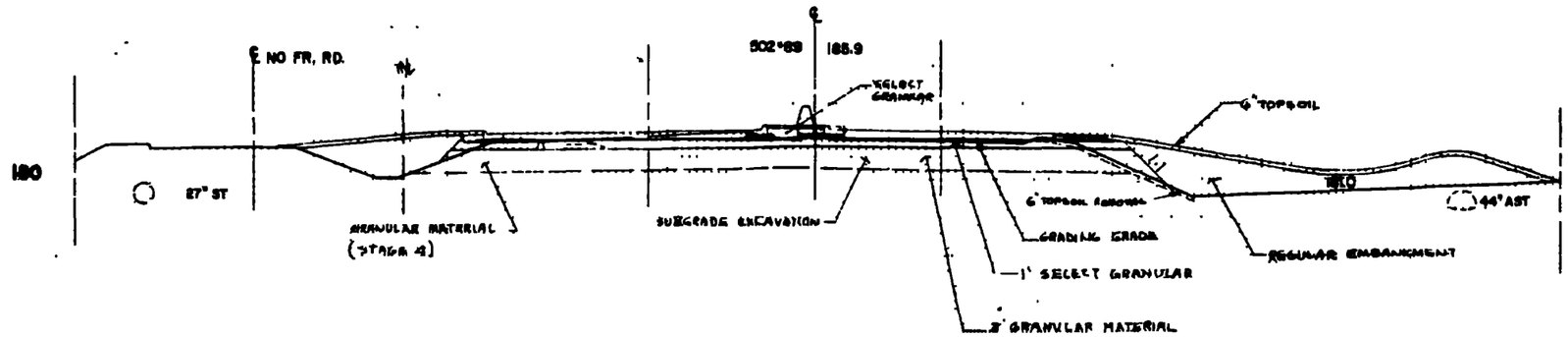
EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	SELECT GRANULAR
COMMON EXCAVATION	GRANULAR MATERIAL
	TOPSOIL
	REGULAR EMBANKMENT



STA. 503+75 END CURB (WB)

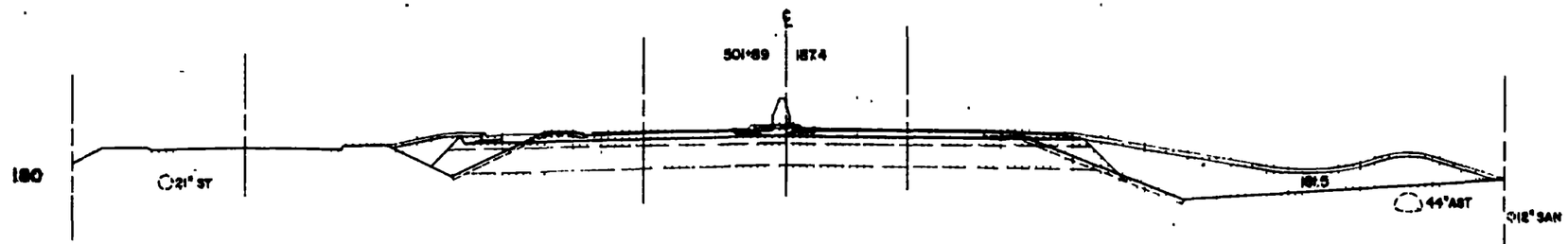
1129 CY
155 CY

381 CY
1087 CY
113 CY
376 CY



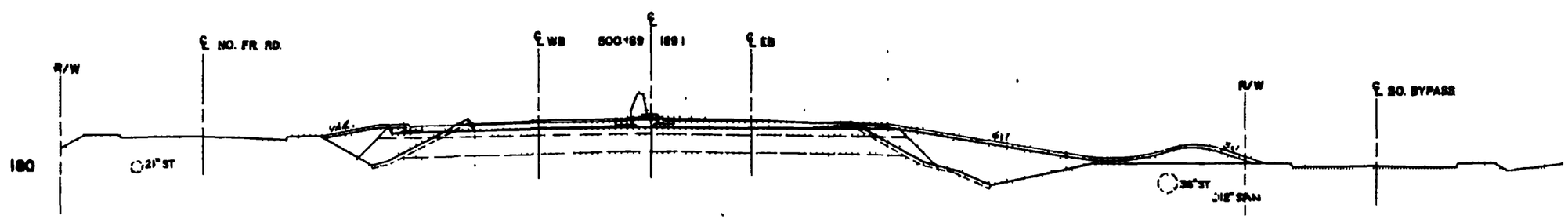
1181 CY
118 CY

361 CY
1104 CY
119 CY
774 CY



1212 CY
279 CY

354 CY
1139 CY
131 CY
815 CY



STA. 500+89 END CURB (RB)

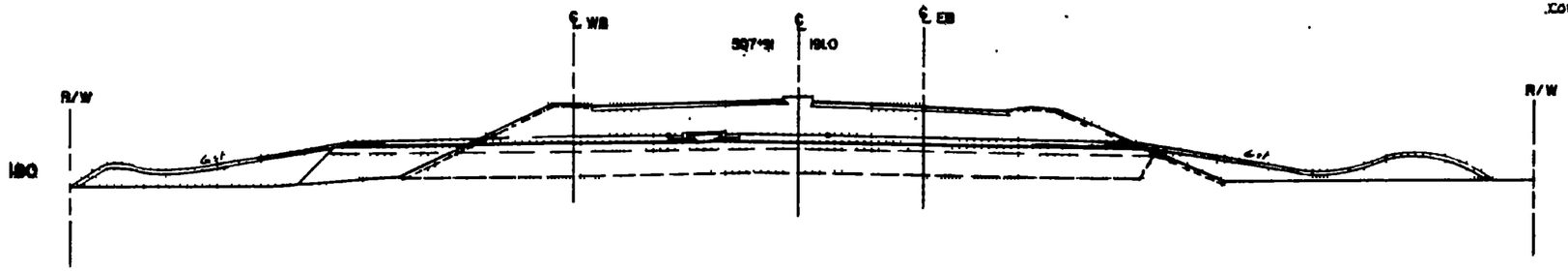
1193 CY
262 CY

348 CY
1119 CY
146 CY
846 CY

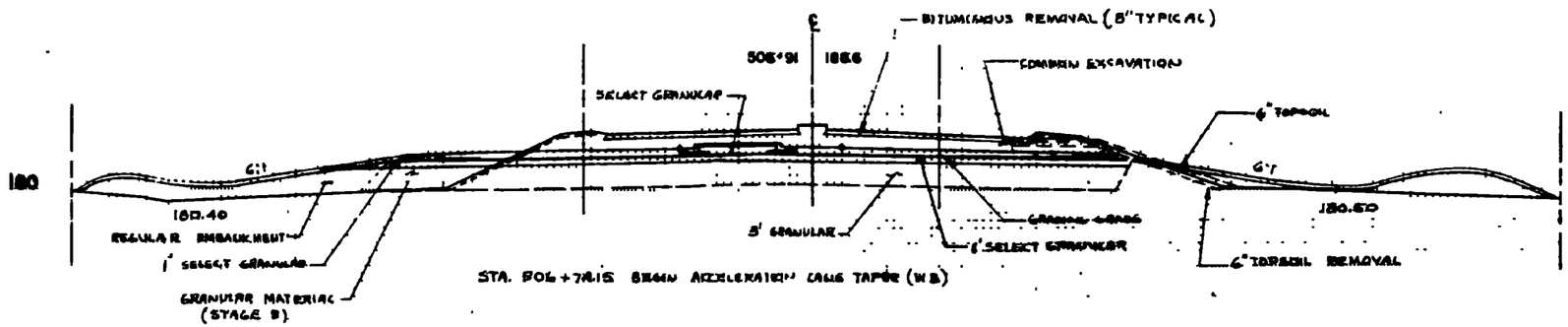
10'
10'

TH 7
500+89-503+89

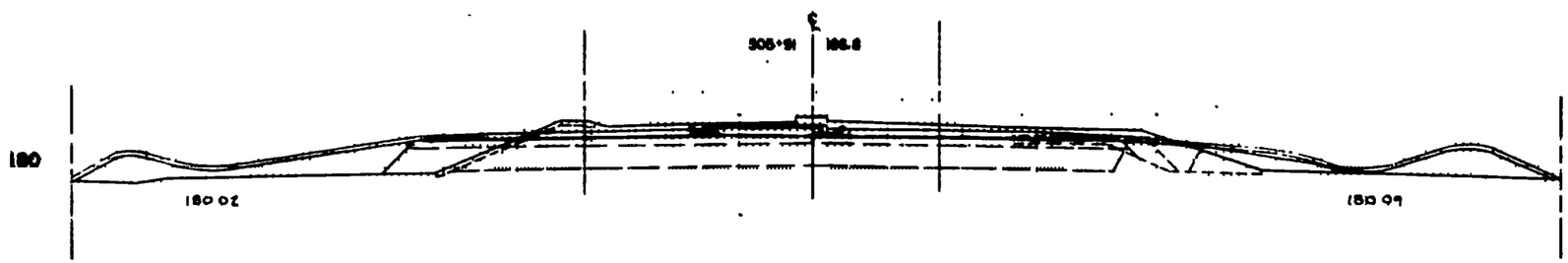
EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	SELECT GRANULAR
COMMON EXCAVATION	GRANULAR MATERIAL
	TOPSOIL
	REGULAR EMBANKMENT



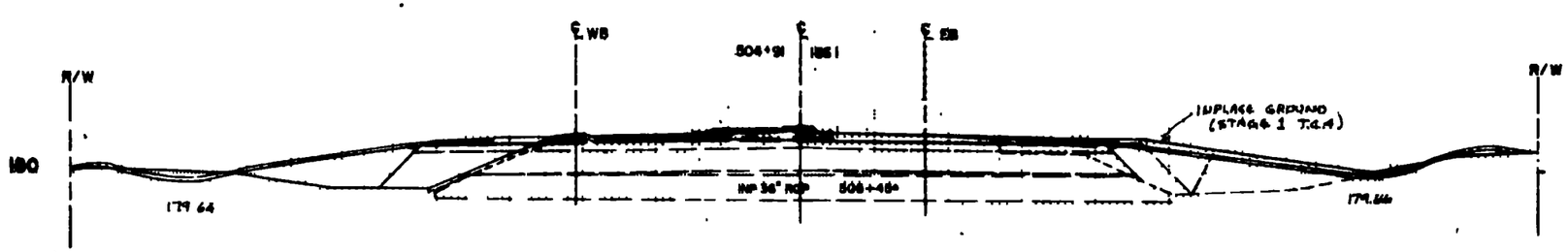
1428 CY	422 CY
1216 CY	1244 CY
	176 CY
	563 CY



1313 CY	419 CY
644 CY	1194 CY
	185 CY
	585 CY



1298 CY	413 CY
384 CY	1169 CY
	161 CY
	459 CY

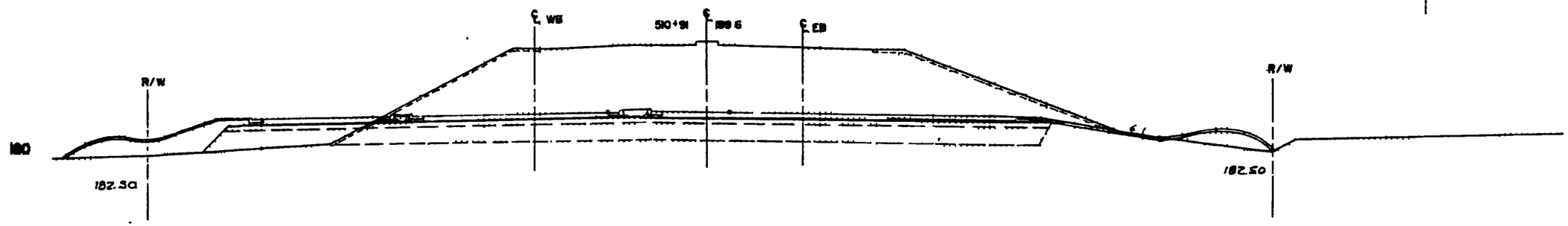


1221 CY	406 CY
289 CY	1167 CY
	136 CY
	161 CY

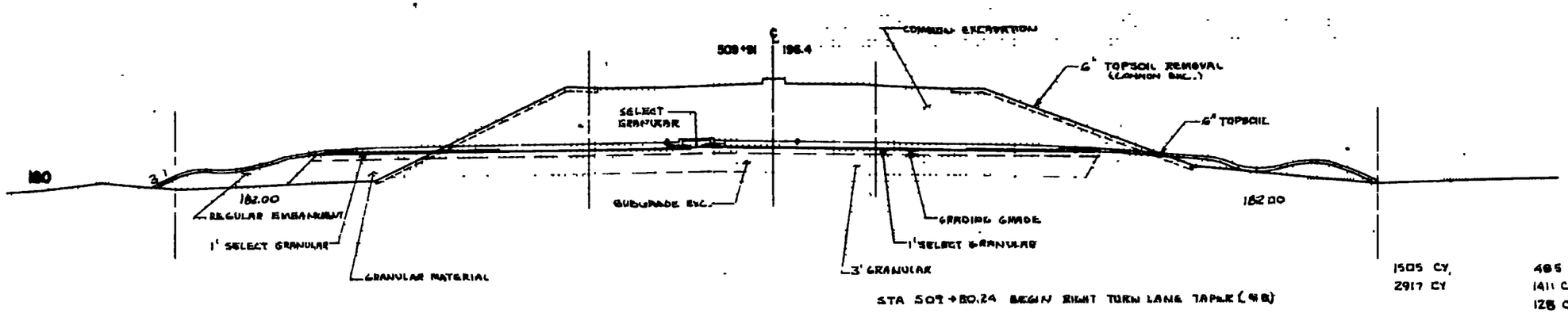
TH 7

504+91-507+91

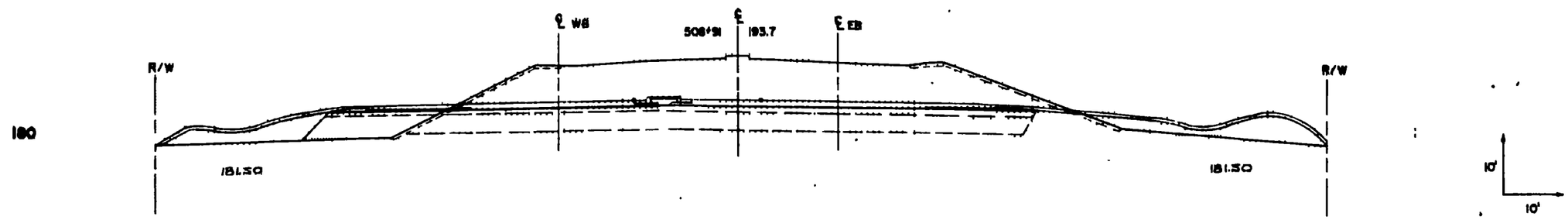
EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	SELECT GRANULAR
COMMON EXCAVATION	GRANULAR MATERIAL
	TOPSOIL
	REGULAR EMBANKMENT



1709 CY	530 CY
8064 CY	1550 CY
	128 CY
	383 CY

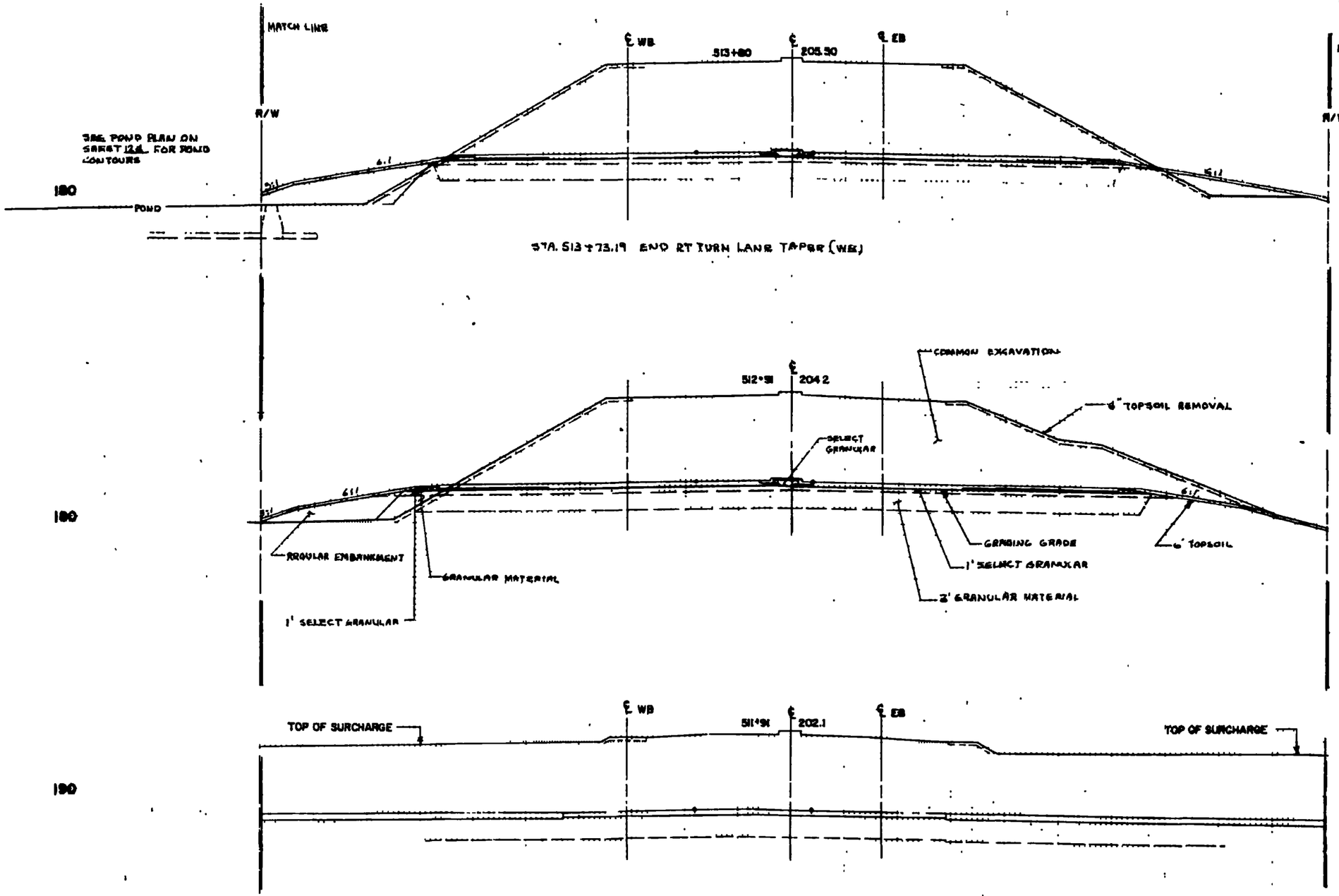


1505 CY	485 CY
2917 CY	1411 CY
	128 CY
	441 CY



1484 CY	450 CY	T.H. 7
2002 CY	1306 CY	508+91 - 510+91
	146 CY	
	556 CY	

EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	SELECT GRANULAR
COMMON EXCAVATION	GRANULAR MATERIAL
MUCK EXCAVATION	TOPSOIL
	REGULAR EMBANKMENT

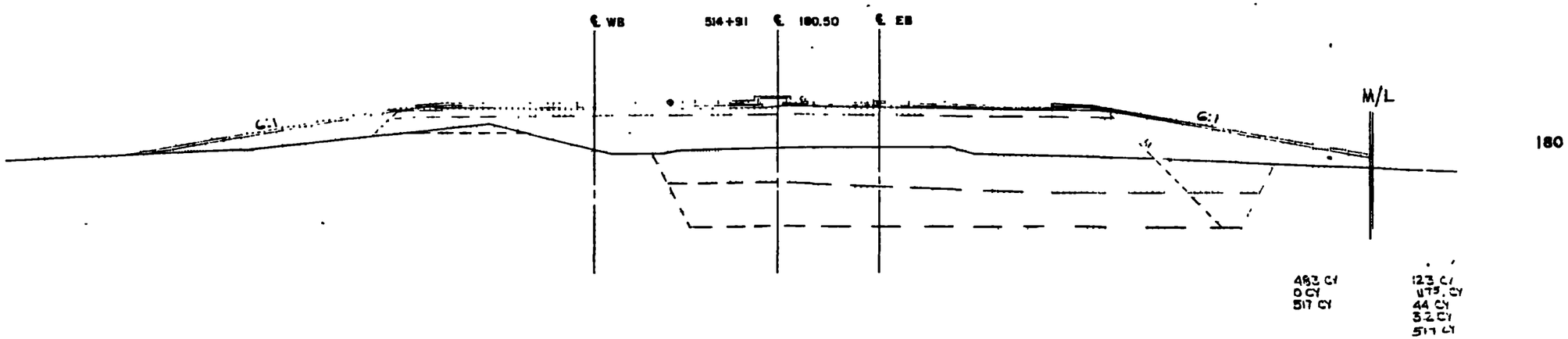


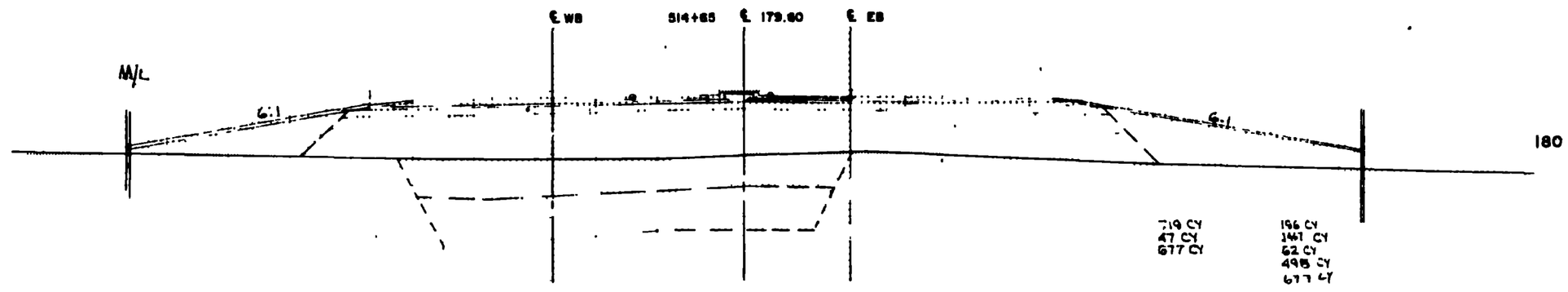
EXCAVATION (CY)	EMBANKMENT (CY)
1656 CY	448 CY
5765 CY	1360 CY
0 CY	119 CY
	321 CY
2401 CY	637 CY
8057 CY	1922 CY
	61 CY
	120 CY
2409 CY	644 CY
7196 CY	1917 CY
	57 CY
	198 CY

10'
10'

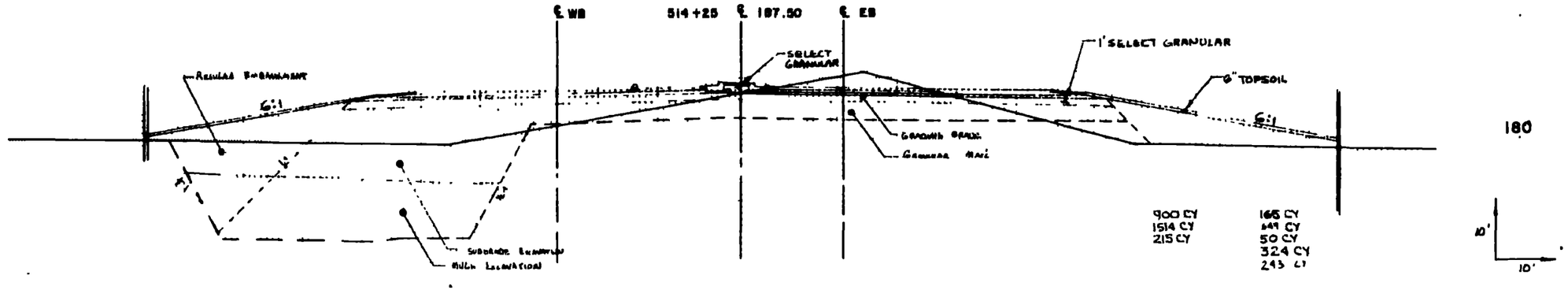
T.H. 7
511+91-513+80

EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	SELECT GRANULAR
COMMON EXCAVATION	GRANULAR MATERIAL
MUCK EXCAVATION	TOPSOIL
	REG EMBANKMENT
	SELECT GRANULAR 7%



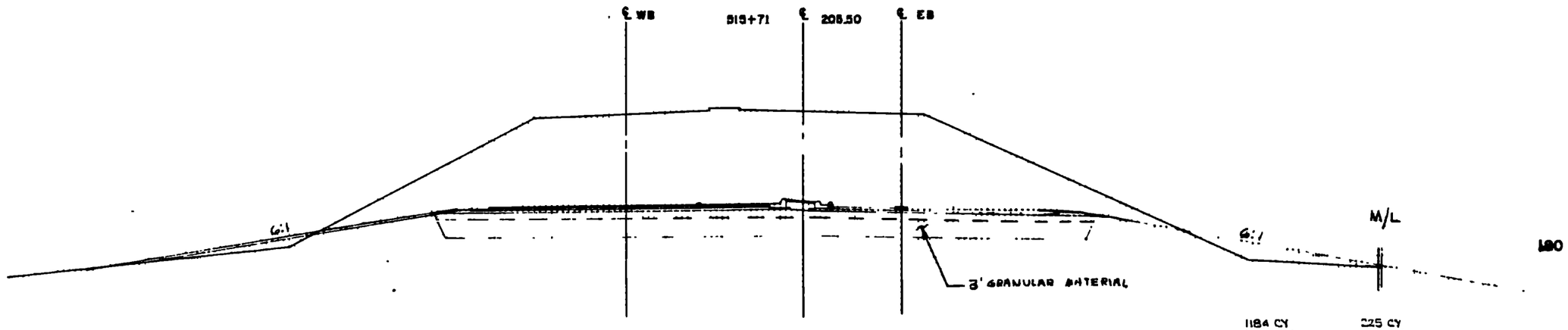


NOTE: SEE POND PLAN ON SHEET 124 FOR POND CONTOURS



T.H. 7
514+25 — 514+91

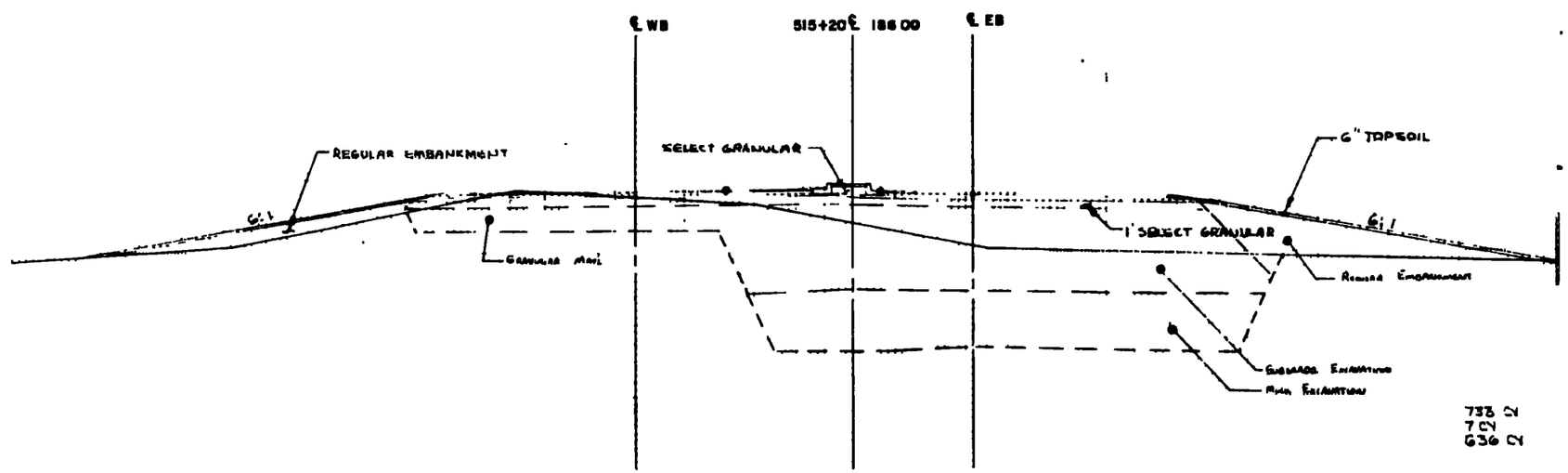
EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	SELECT GRANULAR
COMMON EXCAVATION	GRANULAR MATERIAL
MUCK EXCAVATION	TOPSOIL
	REGULAR EMBANKMENT
	SELECT GRANULAR 7%



1184 CY
1693 CY
0 CY

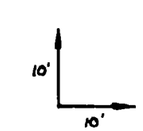
225 CY
[illegible] CY
98 CY
250 CY
530 CY

NOTE: SEE POND PLAN
ON SHEET 126
FOR POND CONTOURS



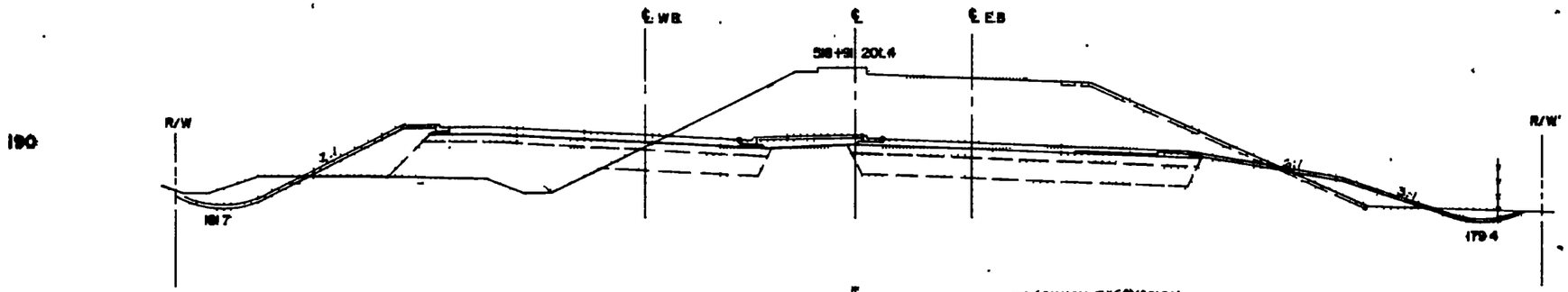
733 CY
7 CY
636 CY

152 CY
1128 CY
53 CY
298 CY
636 CY

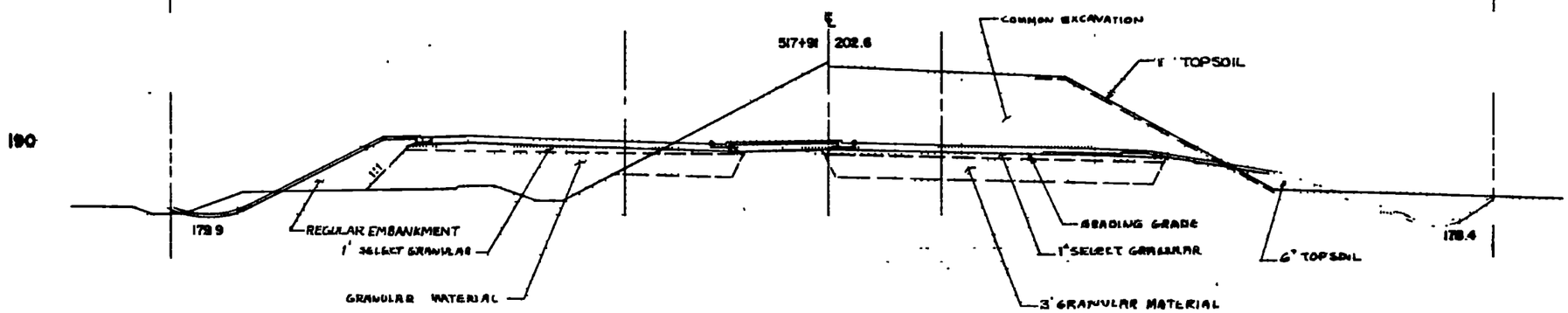


T.H. 7
515+20 – 515+71

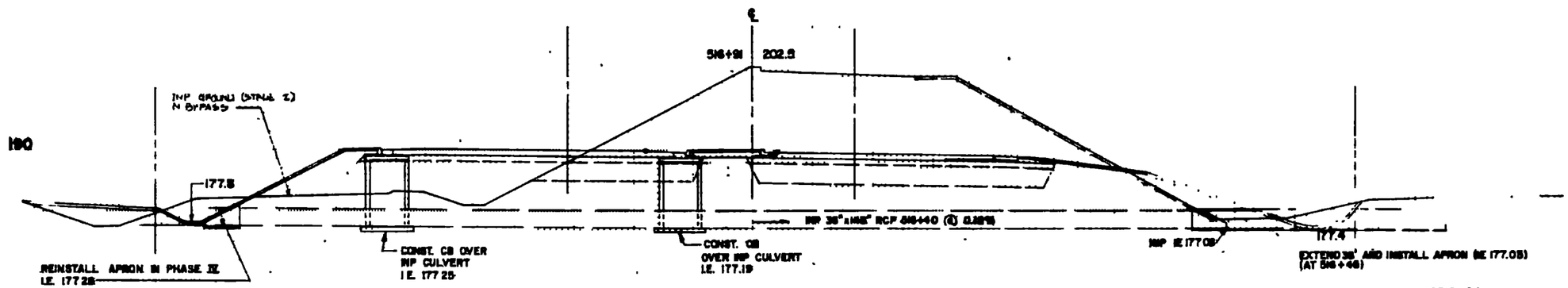
EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	SELECT GRANULAR
COMMON EXCAVATION	GRANULAR MATERIAL
	TOPSOIL
	REGULAR EMBANKMENT



1000 CY	437 CY
2946 CY	1480 CY
	174 CY
	293 CY

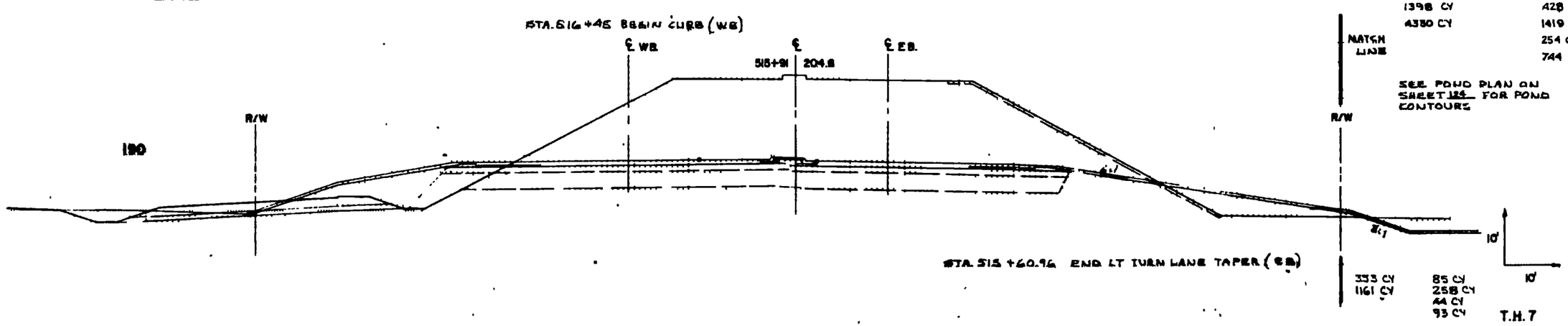


1028 CY	437 CY
3320 CY	1615 CY
	224 CY
	561 CY



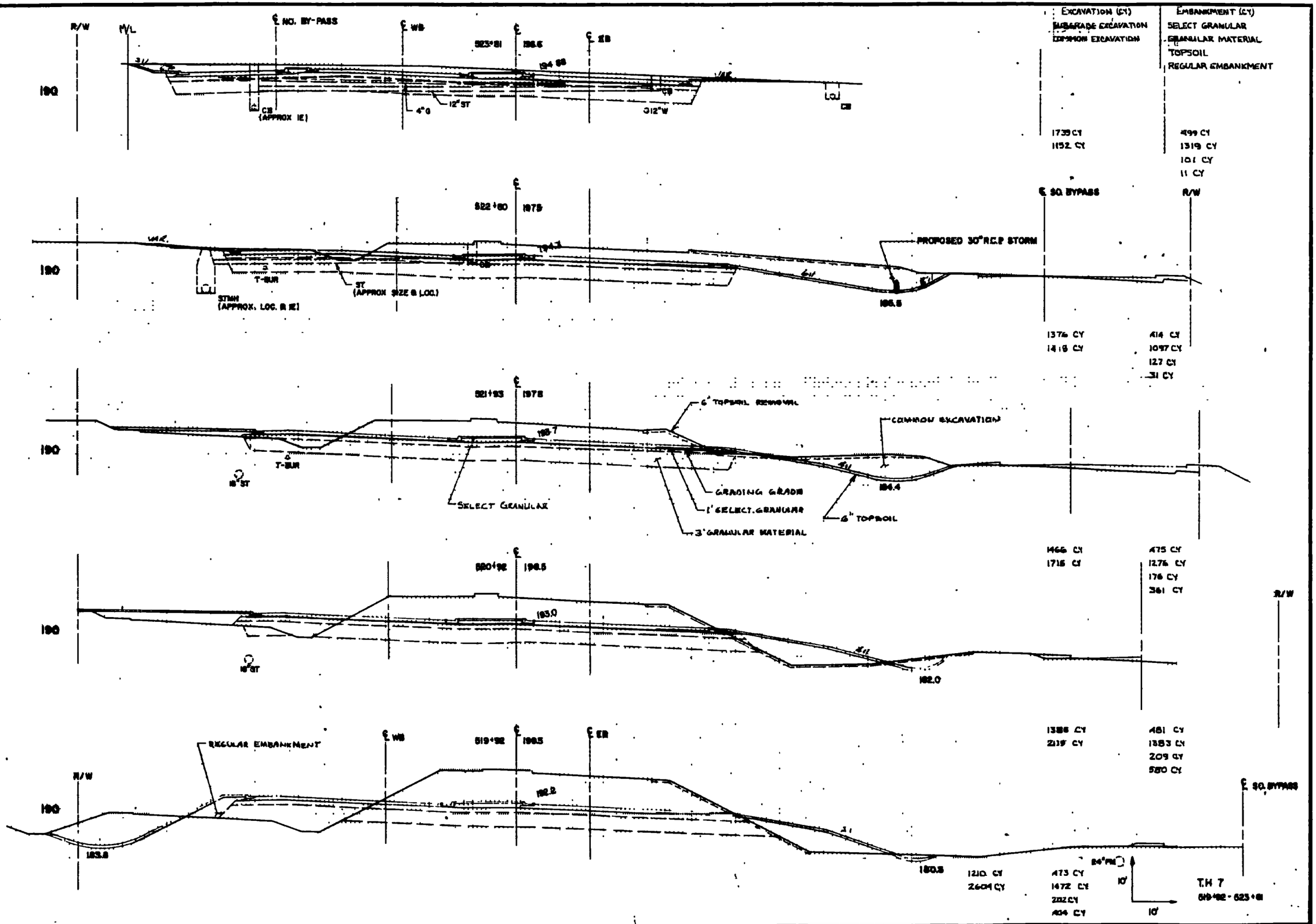
1398 CY	428 CY
4350 CY	1419 CY
	254 CY
	744 CY

STA. 516+45 BEGIN CURB (WB)



333 CY	85 CY	
1161 CY	258 CY	
	44 CY	
	93 CY	

T.H. 7
518+91 – 518+91



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EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	SELECT GRANULAR
COMMON EXCAVATION	GRANULAR MATERIAL
	TOPSOIL
	REGULAR EMBANKMENT

NOTE: SEE SOUTH FRONTAGE ROAD X-SECTIONS, SHEET 186 FOR BYPASS EARTHWORK

END MEDIAN CONST. STA 530+40 EB

32 CY
10 CY

5 CY
16 CY
0 CY
0 CY

℄ WB — 529+82 — 198.8 — ℄ — ℄ EB

END WIDENING STA 529+90 EB, RT
24 CY
122 CY

56 CY
14 CY
80 CY
87 CY

T-BUR STA 530+20

190 — R/W

END WIDENING STA 529+75 WB, LT

STA. 528+89.10 BEGIN TAPER (EB)

529+82 — 198.1 — ℄

INP. GROUND (STAGE 1) SO. BYPASS

R/W

34 CY
181 CY

100 CY
204 CY
85 CY
248 CY

190

T-BUR STA 529+80

MH & CB STA 529+66 (APPROX 12')

W/L

STA. 528+66.85 BEGIN TAPER (WB)

℄ SO. FR. RD.

527+82 — 197.7 — ℄

SAWCUT

190

C 12" ST

Select Granular

SELECT GRANULAR

GRANULAR MATERIAL

820 CY
336 CY

238 CY
428 CY
59 CY
157 CY

STA 527+50 END FULL WIDTH CONSTRUCTION (WB)
BEGIN WIDENING

STA 527+35 END FULL WIDTH CONSTRUCTION (EB)
BEGIN WIDENING

M/L

526+82 — 197.6 — ℄

℄ SO FR RD

COMMON EXCAVATION

190

C 12" ST

6" TOPSOIL

M/L

GRADING GRADE

8" GRANULAR MAT'L

1' SELECT GRANULAR

1349 CY
576 CY

374 CY
1066 CY
47 CY
15 CY

M/L

525+82 — 196.8 — ℄

R/W

190

C 12" ST

1570 CY
721 CY

433 CY
1219 CY
49 CY
13 CY

R/W

℄ NO BY-PASS — ℄ WB — ℄ EB

M/L

524+82 — 196.5 — ℄

M/L

℄ SO. BYPASS

190

P-DUCT (VERIFY)

12" ST

C 12" ST

P-DUCT (VERIFY)

10'

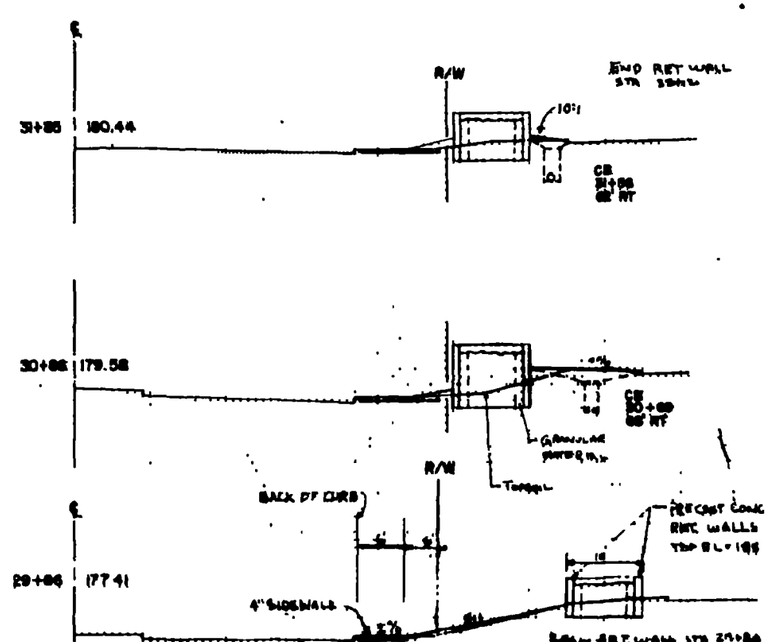
10'

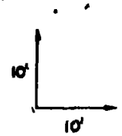
1764 CY
726 CY

493 CY
1343 CY
60 CY
15 CY

T.H. 7
524+82 - 529+82

	Excavation Common Cy	Embankment Granular Material Type 5.1 Regular Embankment
31+86 180.44	11 CY	6 CY 18 CY 1 CY
	77 CY	51 CY 183 CY 7 CY
30+86 179.58	94 CY	63 CY 182 CY 14 CY
29+86 177.41	3 CY	2 CY 5 CY 1 CY





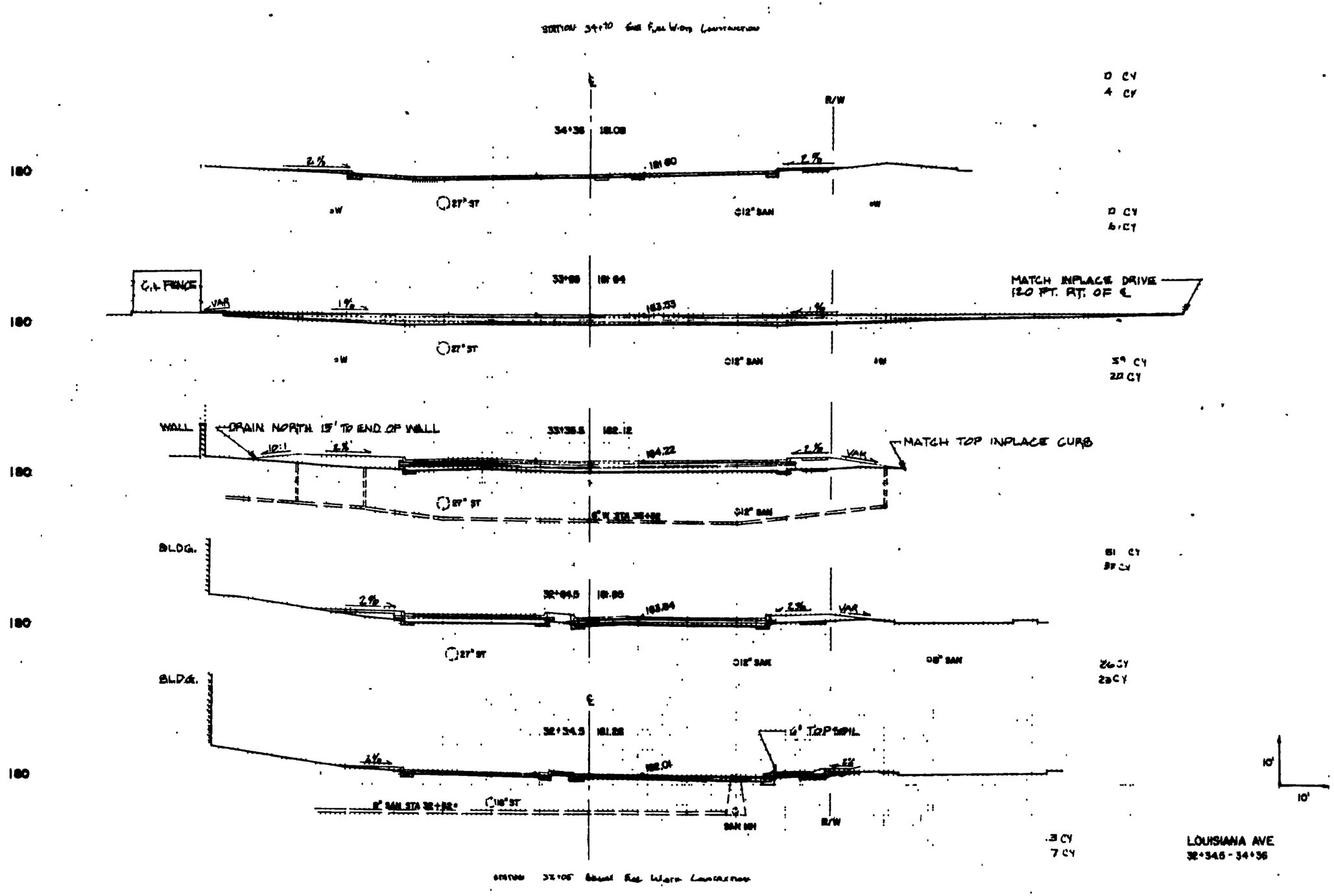
LOUISIANA AVE.
STA 29+86 – 31+86

180

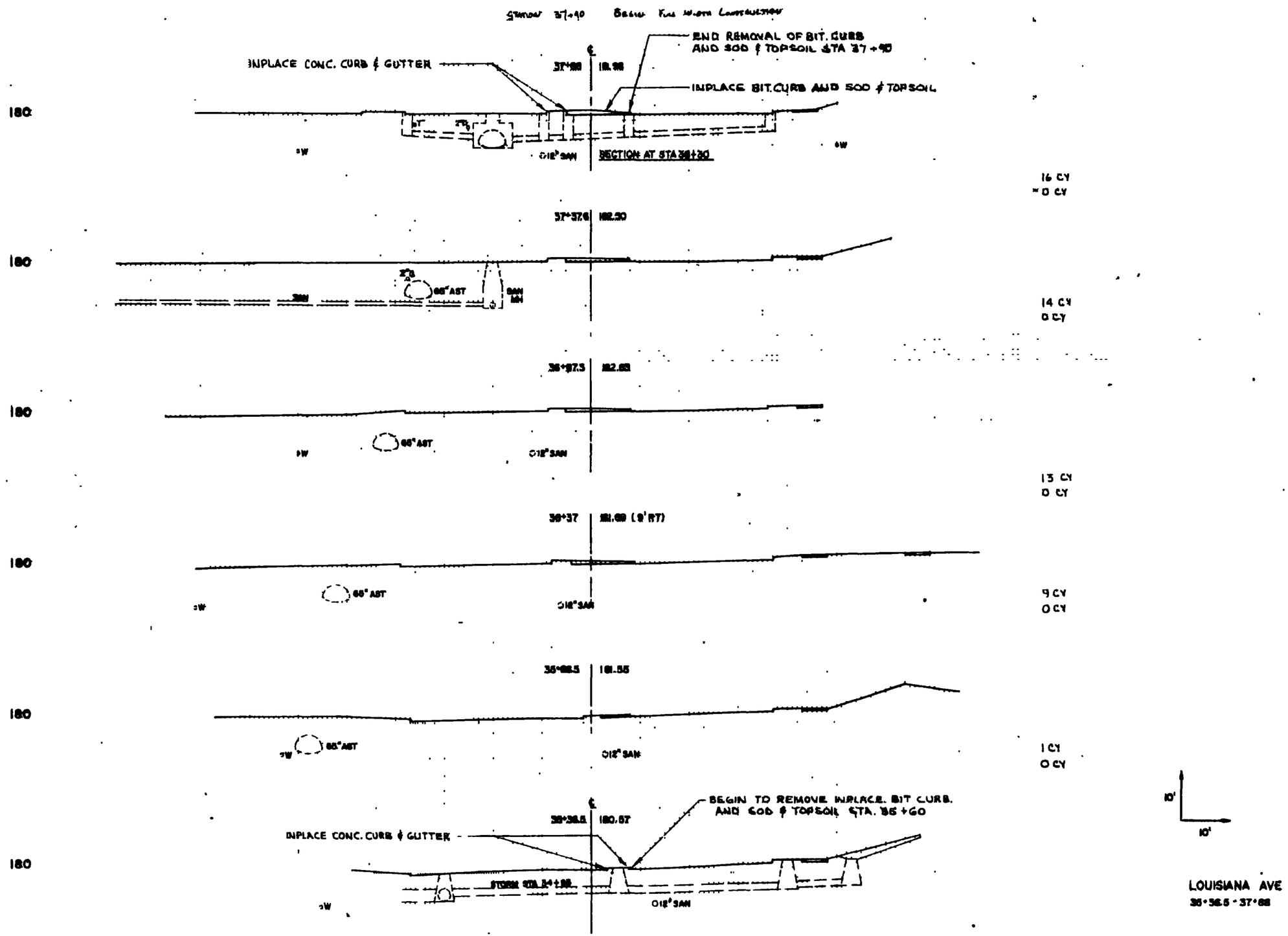
170

170

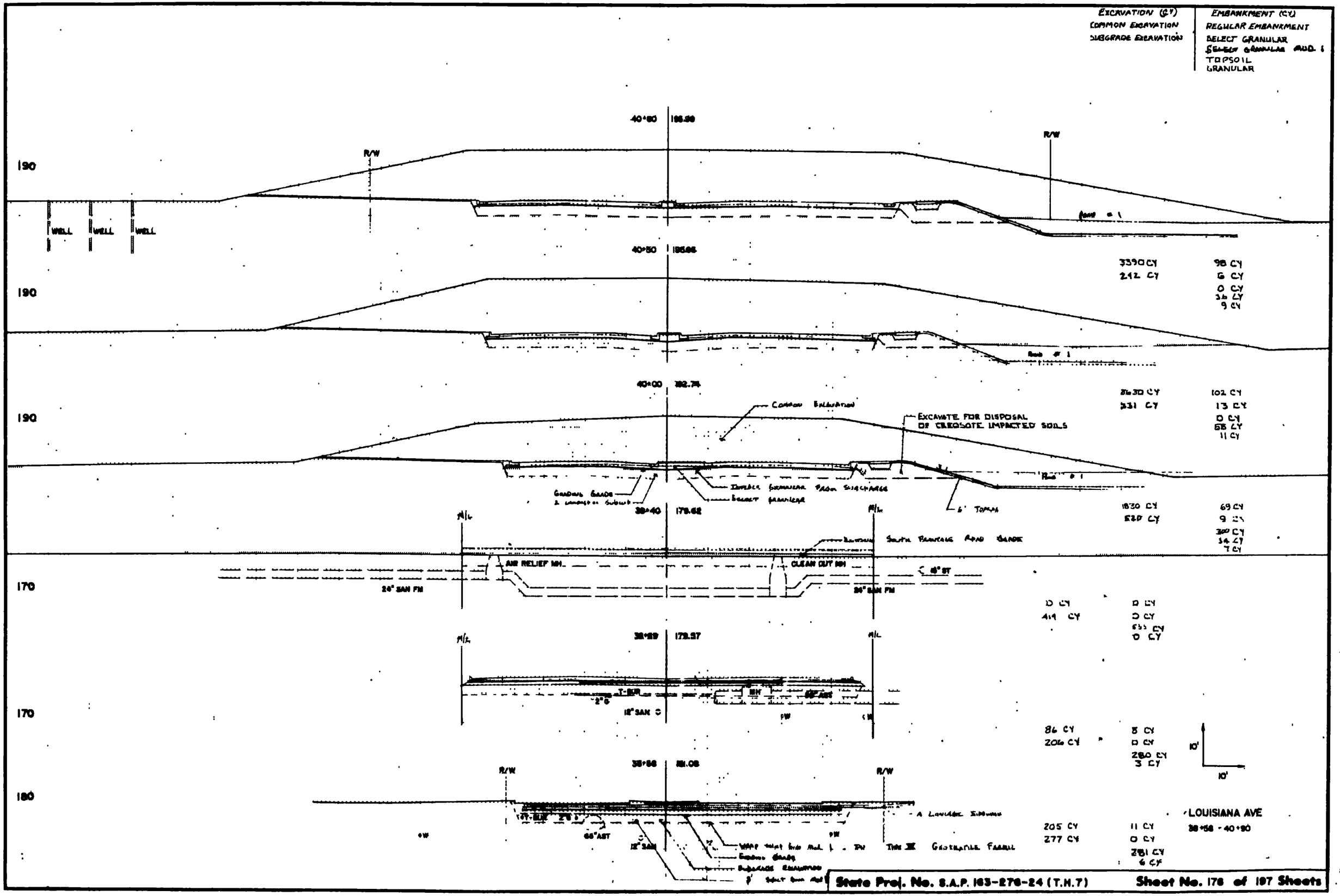
EMBANKMENT (CY)
REGULAR EMBANKMENT
TOPSOIL



EXCAVATION (CY)
COMMON EXCAVATION
SUBGRADE EXCAVATION



EXCAVATION (CY)	EMBANKMENT (CY)
COMMON EXCAVATION	REGULAR EMBANKMENT
SUBGRADE EXCAVATION	SELECT GRANULAR
	SELECT GRANULAR AND 1
	TOPSOIL
	GRANULAR



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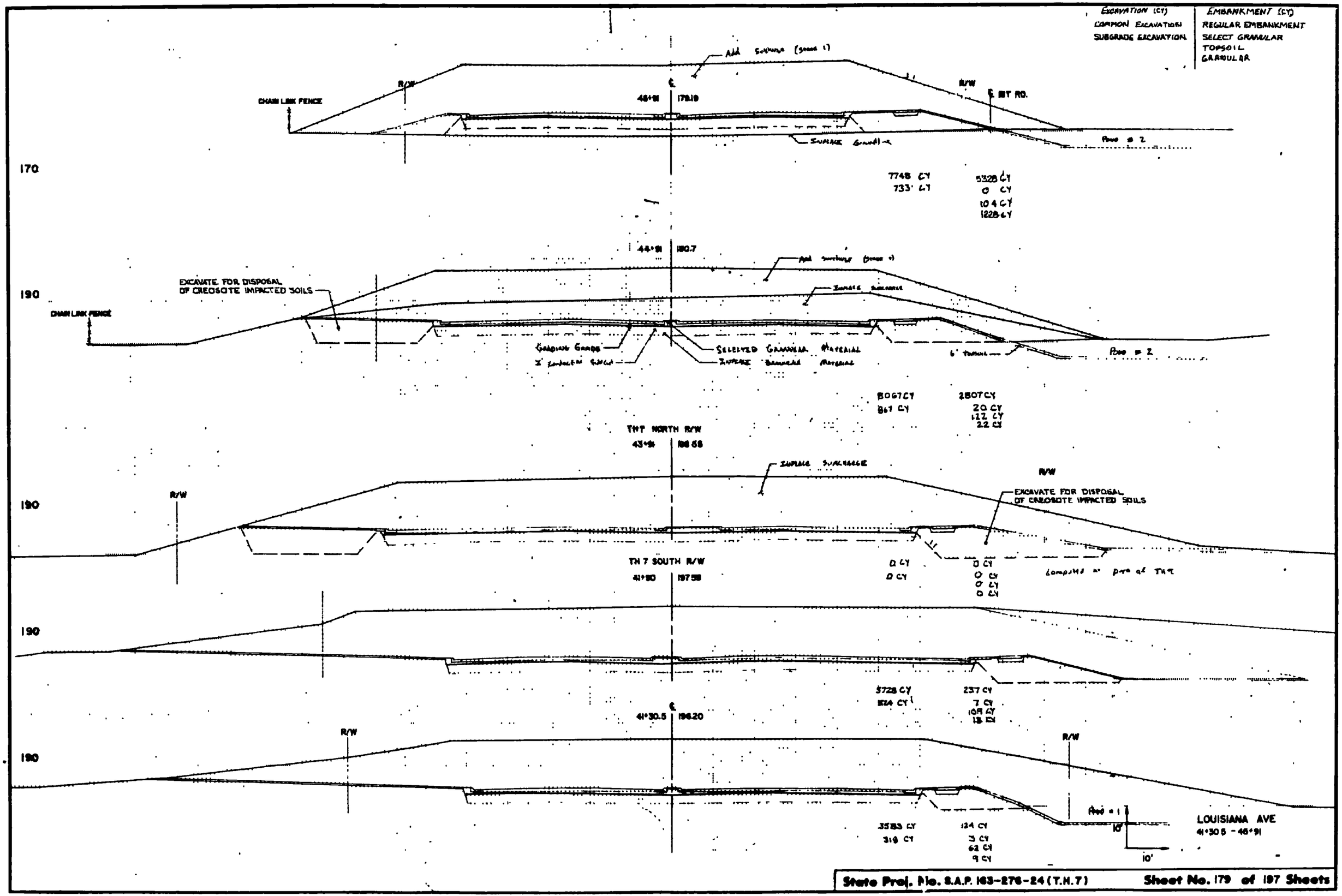
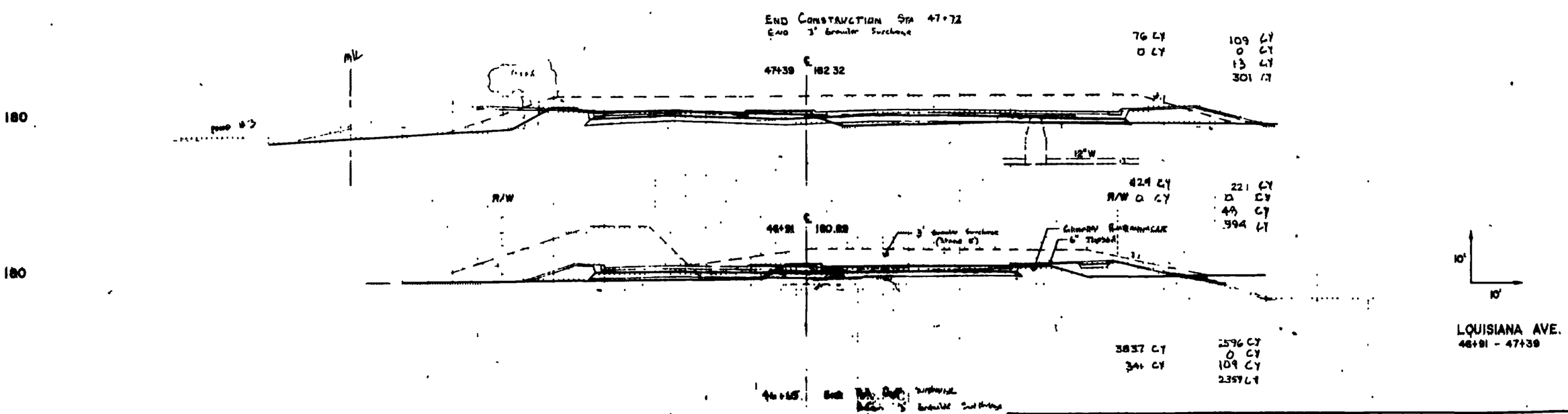
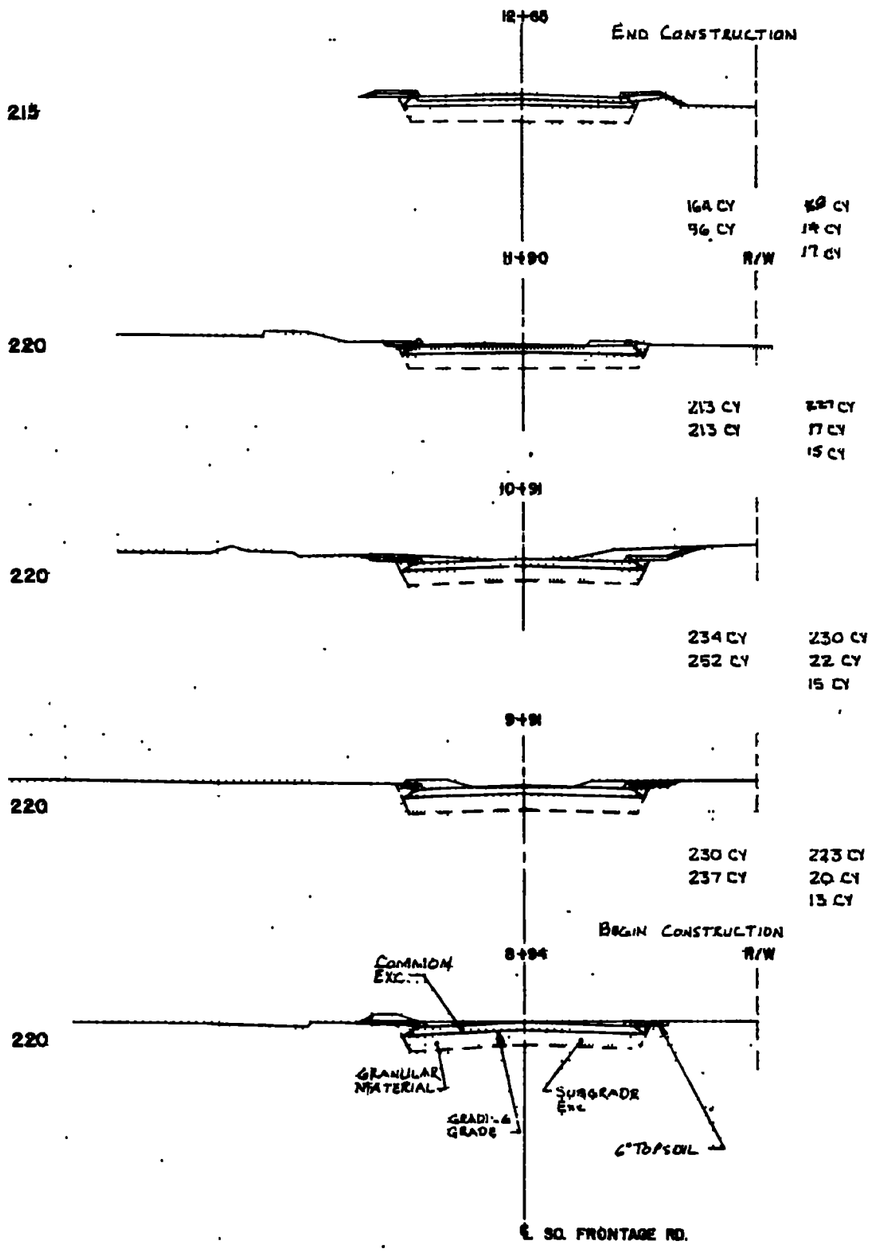
EXCAVATION (CY)	EMBANKMENT (CY)
COMMON EXCAVATION	REGULAR EMBANKMENT
SUBGRADE EXCAVATION	SELECT GRANULAR
	TOPSOIL
	GRANULAR



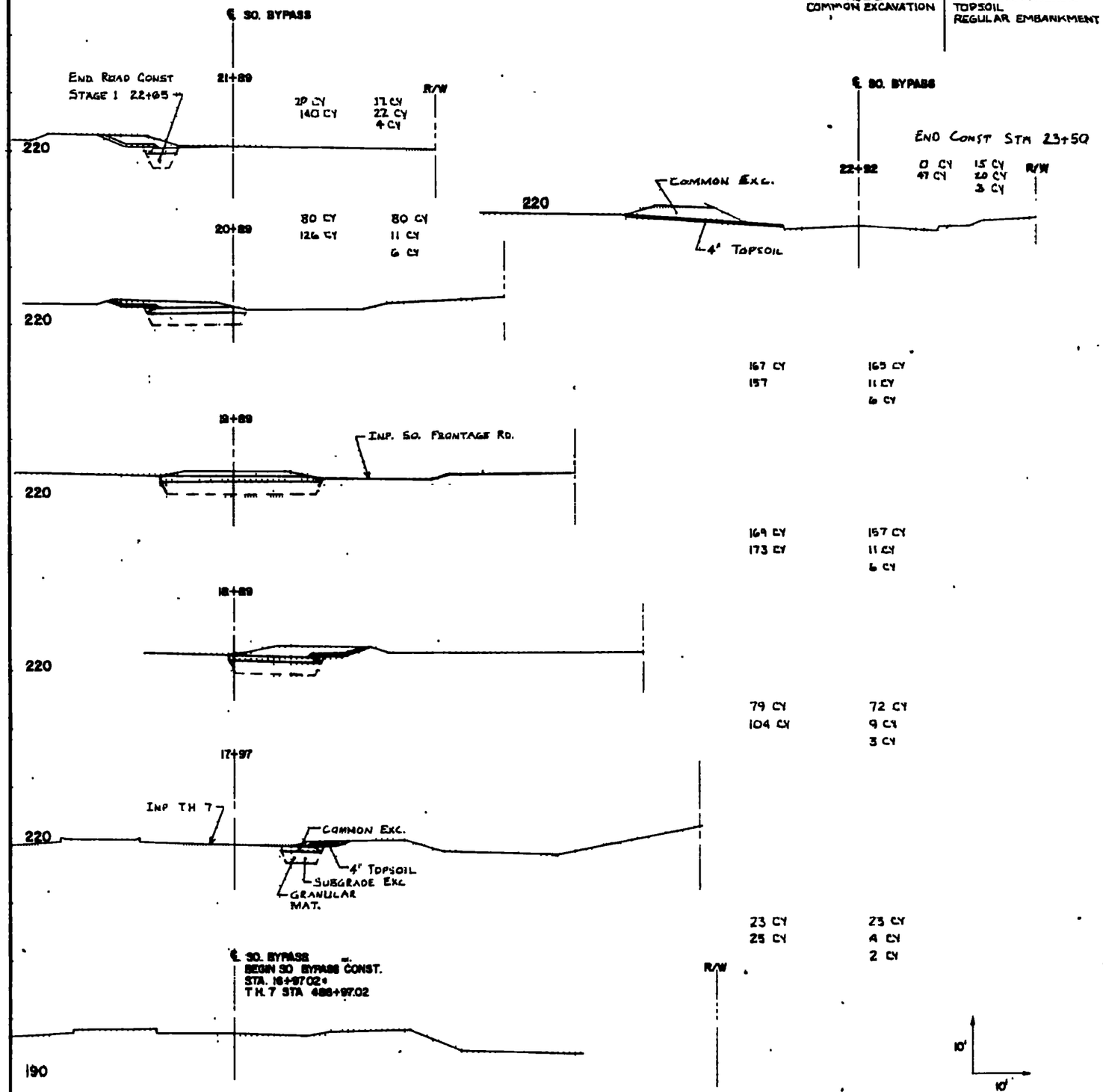
Excavation (CY)	Embankment (CY)
Common Excavation	Regular Embankment
Subgrade Excavation	Select Granular
	Topsoil
	Granular



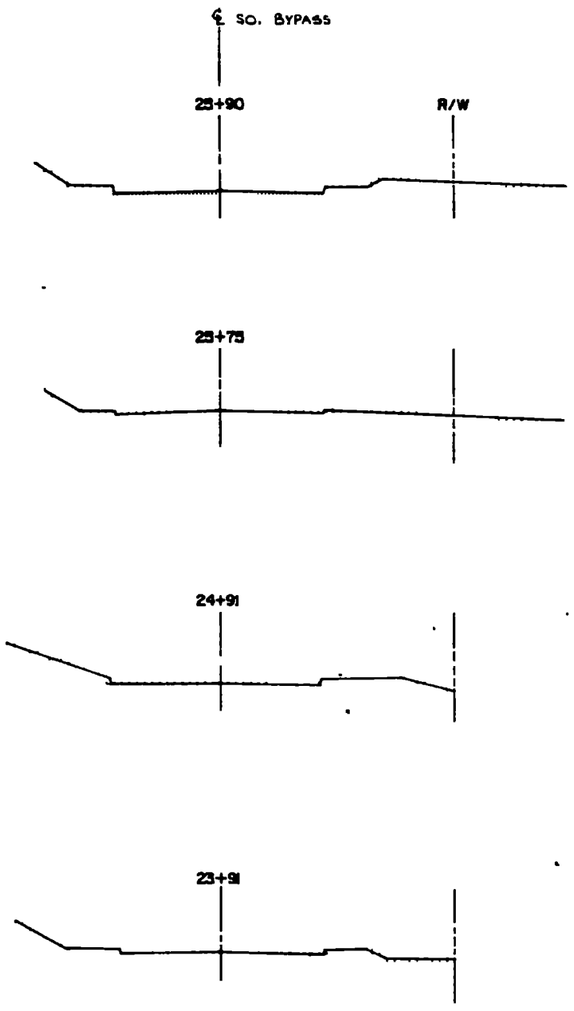
EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	GRANULAR MATERIAL
COMMON EXCAVATION	TOPSOIL
	REGULAR EMBANKMENT

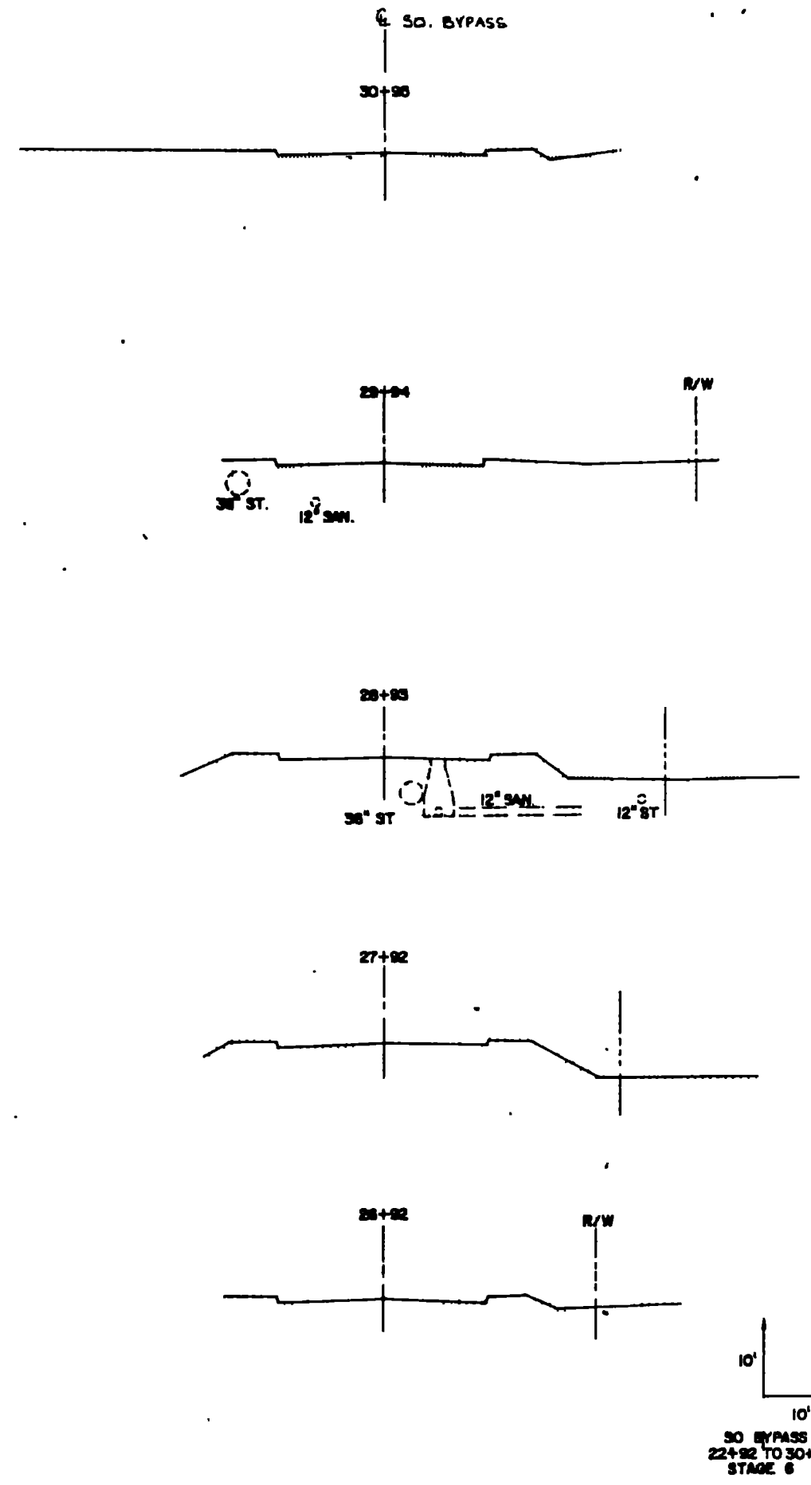


SO FRONTAGE RD.
8+94 TO 12+65
STAGE 5
PERMANENT CONSTRUCTION



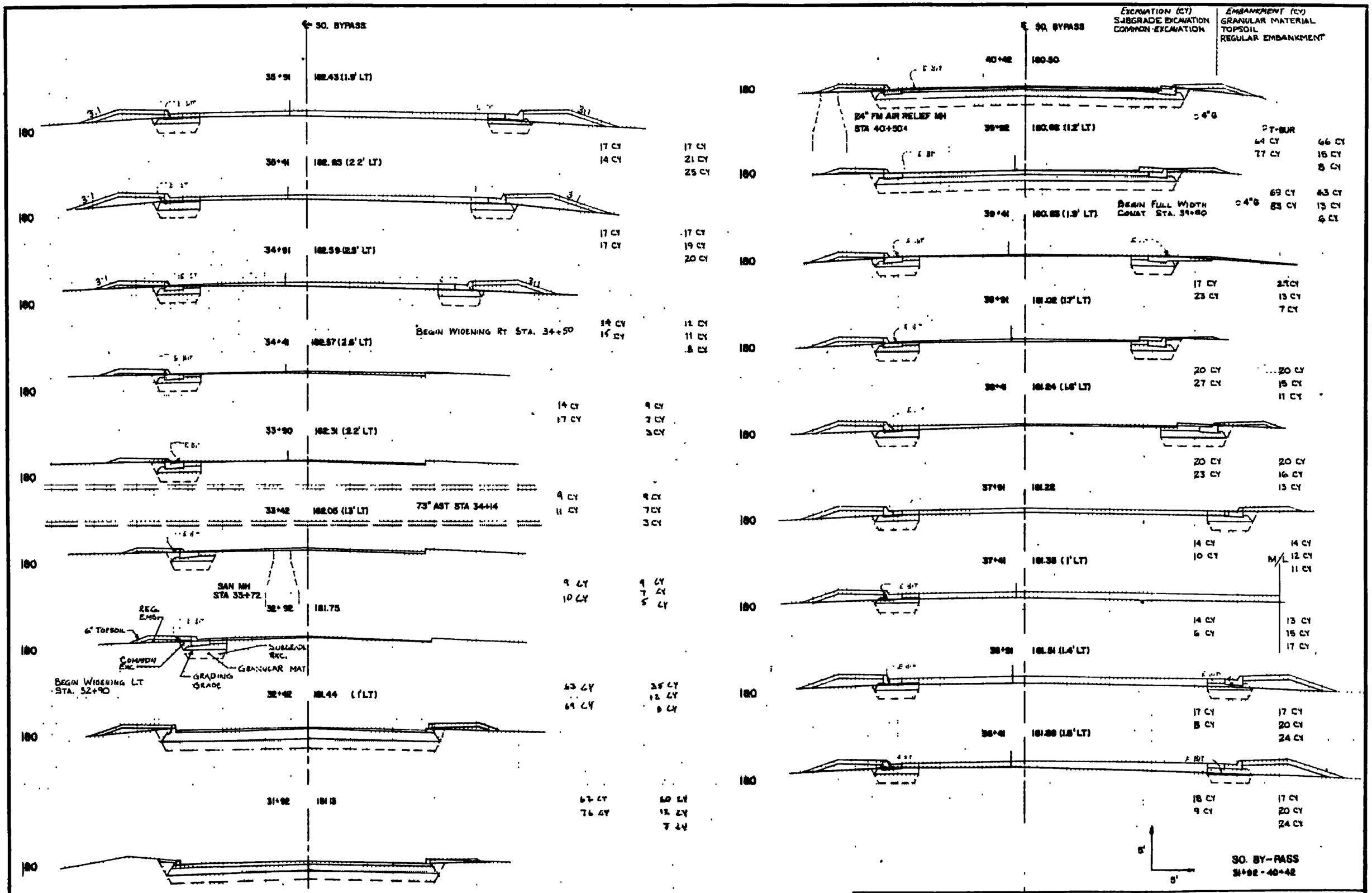
SO BYPASS
16+97 TO 22+92
STAGE 1
TEMPORARY CONSTRUCTION

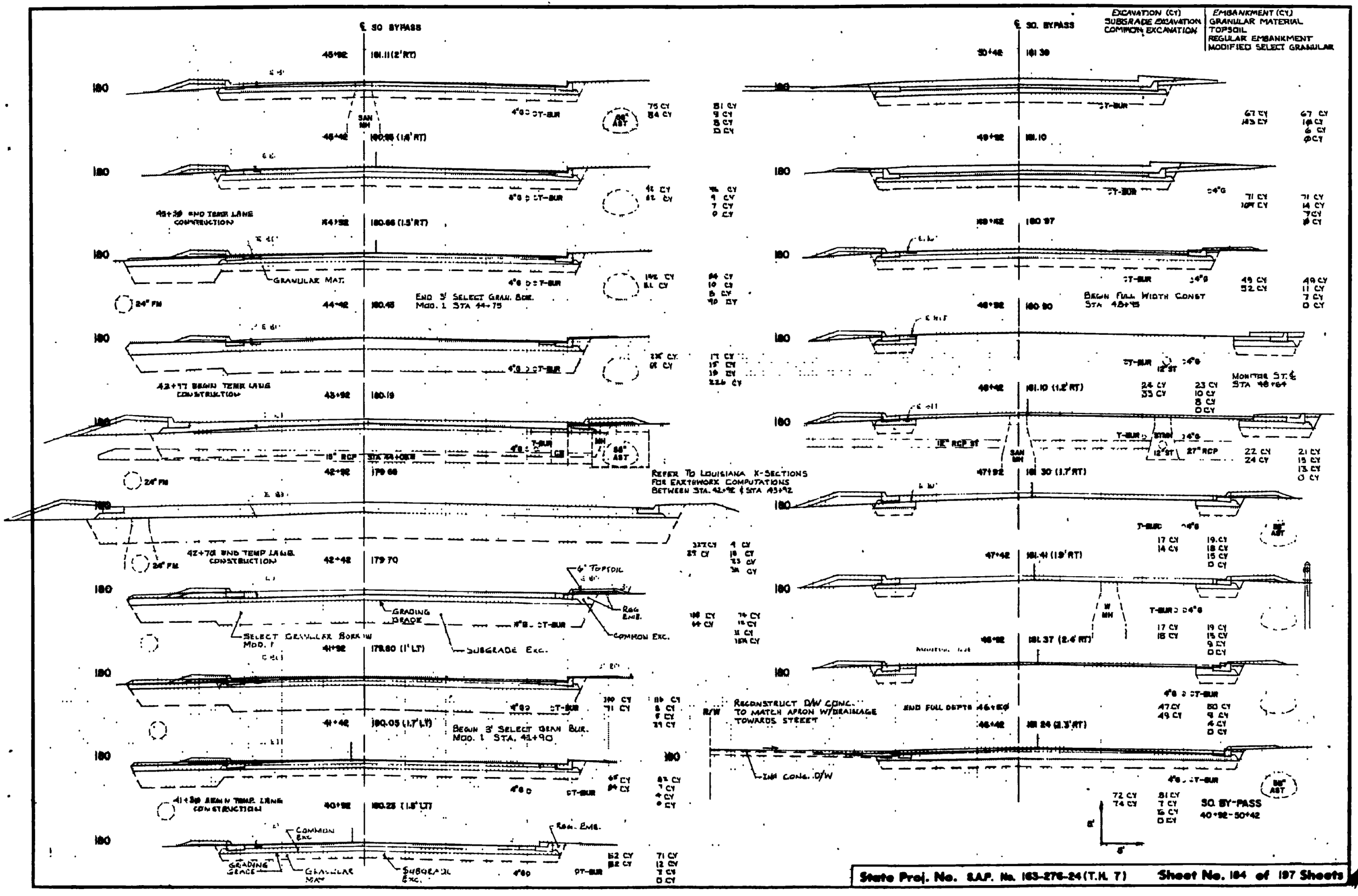




BEGIN OVERLAY INSET F
STA. 12+65 SO. FRONTAGE RD.
STA. 23+07 SO. BYPASS

THIS SHEET IS FOR INFORMATION ONLY


℄ 30. BYPASS
35+91 182.43 (1.9' LT)
17 CY 17 CY
14 CY 21 CY
25 CY
36+41 182.83 (2.2' LT)
17 CY 17 CY
17 CY 19 CY
20 CY
34+91 182.59 (2.5' LT)
14 CY 12 CY
16 CY 11 CY
8 CY
BEGIN WIDENING RT STA. 34+50
34+41 182.57 (2.6' LT)
14 CY 9 CY
17 CY 7 CY
3 CY
33+90 182.31 (2.2' LT)
9 CY 9 CY
11 CY 7 CY
3 CY
33+42 182.05 (1.3' LT)
73" AST STA 34+14
9 CY 9 CY
10 CY 7 CY
5 CY
SAN MH
STA 33+72
32+92 181.75
REG. EMB.
6" TOPSOIL
COMMON EXC.
SUBGRADE EXC.
GRANULAR MAT
GRADING GRADE
BEGIN WIDENING LT
STA. 32+90
32+42 181.44 (1' LT)
43 CY 35 CY
69 CY 12 CY
8 CY
31+92 181.13
67 CY 60 CY
76 CY 12 CY
7 CY
℄ 30. BYPASS
EXCAVATION (CY)
SUBGRADE EXCAVATION
COMMON EXCAVATION
EMBANKMENT (CY)
GRANULAR MATERIAL
TOPSOIL
REGULAR EMBANKMENT
40+42 180.50
24" FM AIR RELIEF MH
STA 40+50
39+92 180.68 (1.2' LT)
4"Ø
T-BUR
64 CY 66 CY
77 CY 16 CY
8 CY
BEGIN FULL WIDTH
COMAT STA. 39+80
39+41 180.83 (1.9' LT)
69 CY 43 CY
83 CY 13 CY
4 CY
38+91 181.02 (1.7' LT)
17 CY 25 CY
23 CY 13 CY
7 CY
38+41 181.04 (1.6' LT)
20 CY 20 CY
27 CY 15 CY
11 CY
37+91 181.22
20 CY 20 CY
23 CY 16 CY
13 CY
37+41 181.38 (1' LT)
14 CY 14 CY
10 CY 12 CY
11 CY
M/L
36+91 181.51 (1.4' LT)
14 CY 13 CY
6 CY 15 CY
17 CY
36+41 181.68 (1.8' LT)
17 CY 17 CY
8 CY 20 CY
24 CY
18 CY 17 CY
9 CY 20 CY
24 CY
5'
5'
30. BY-PASS
31+92 - 40+42



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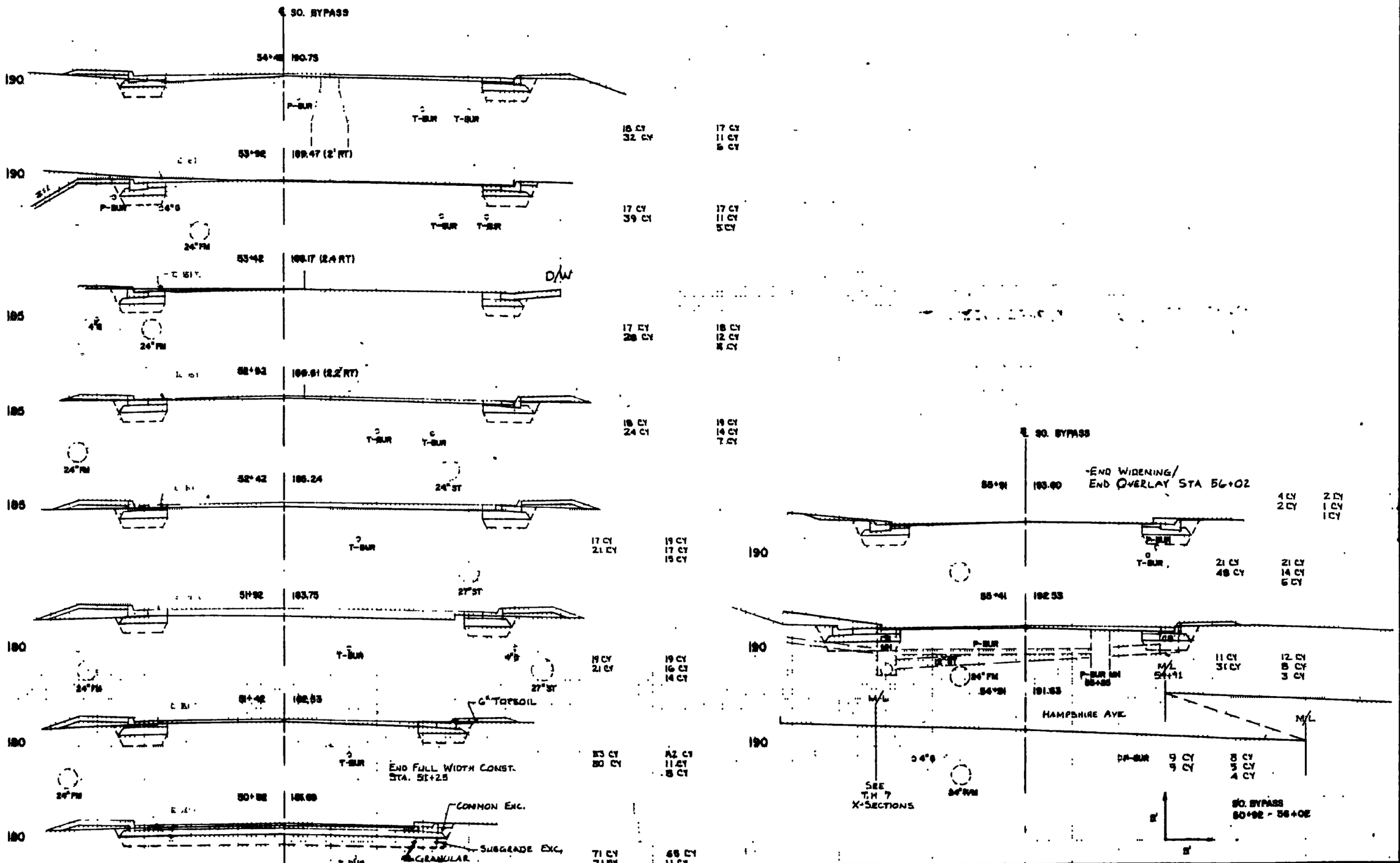
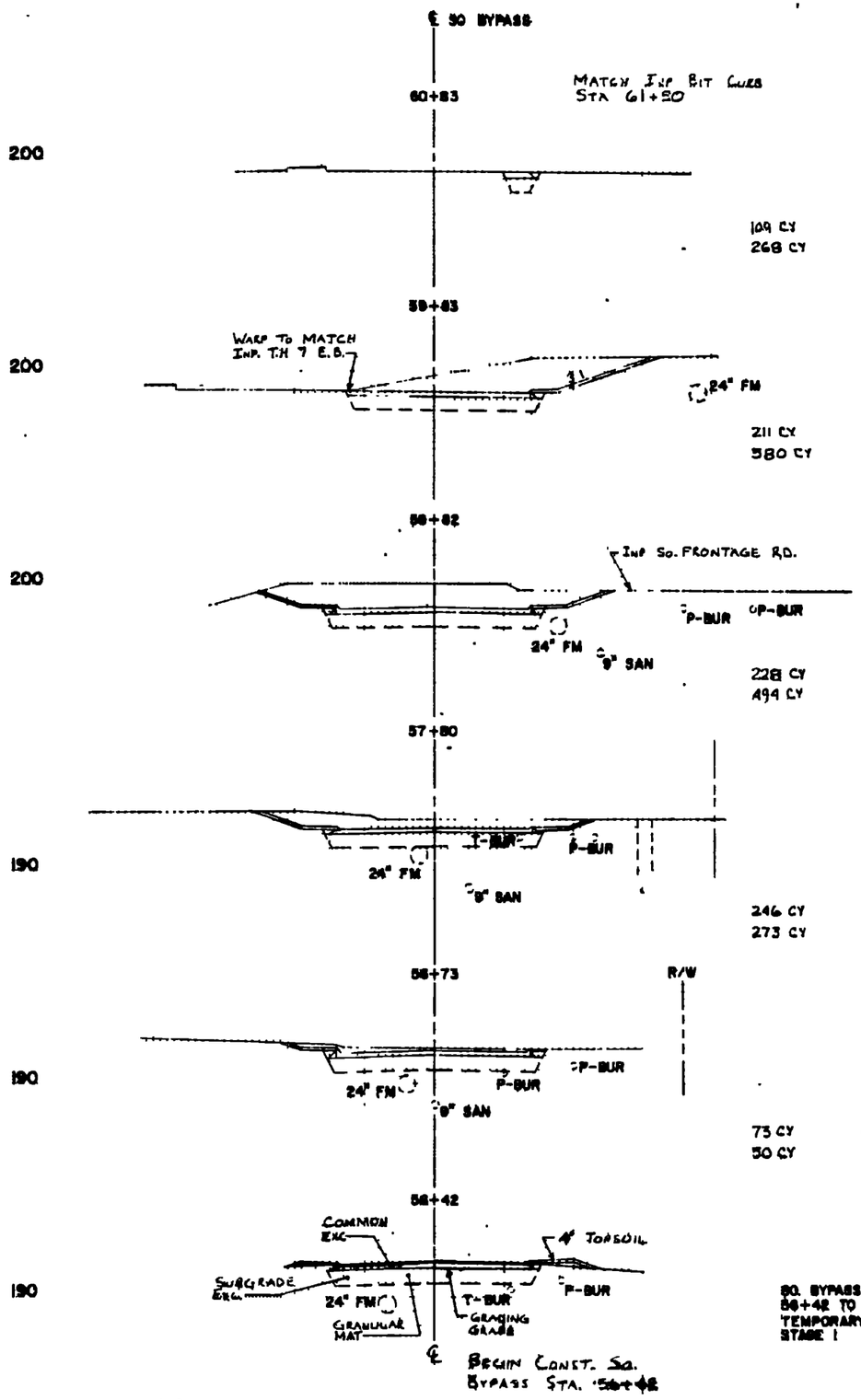
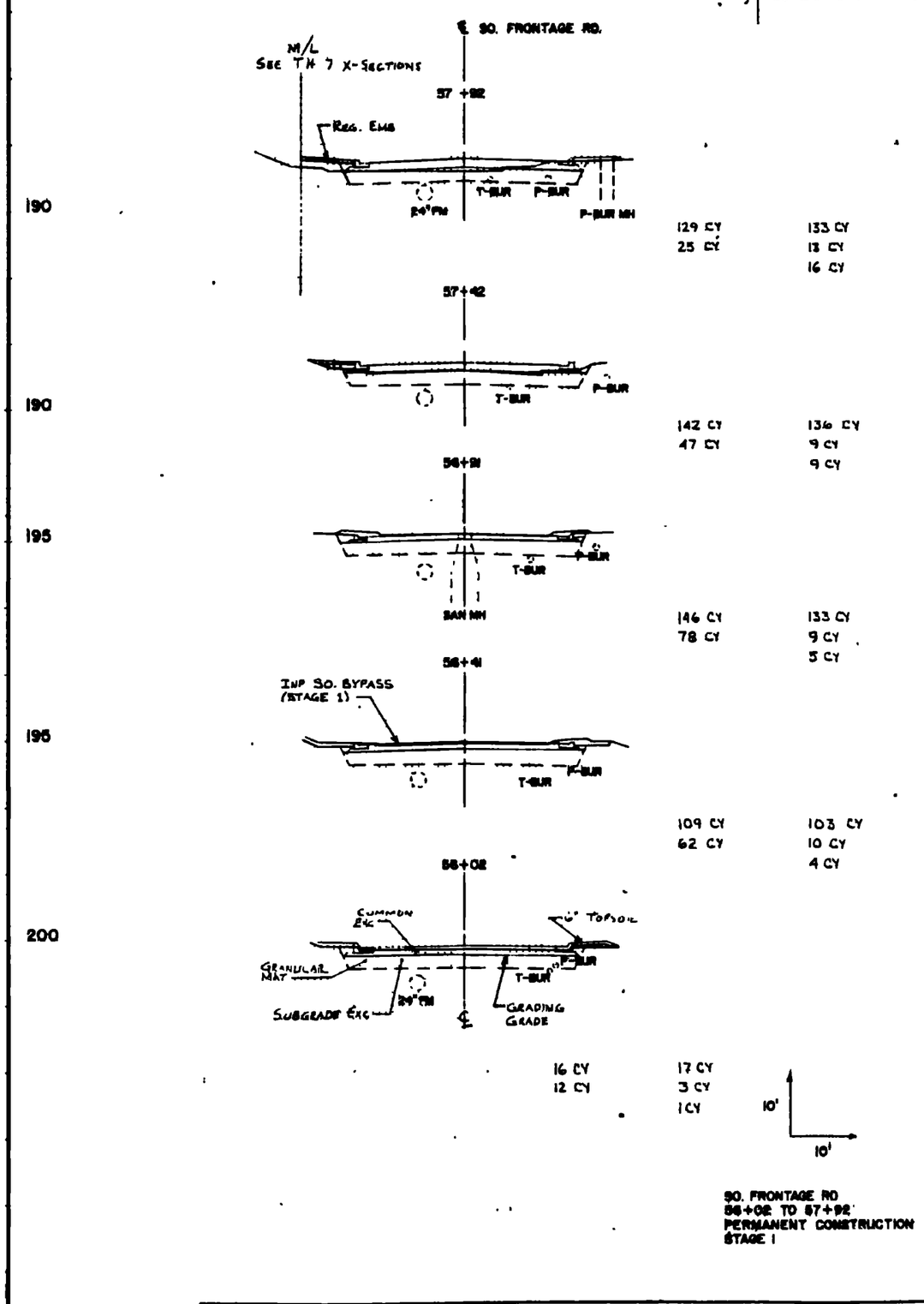
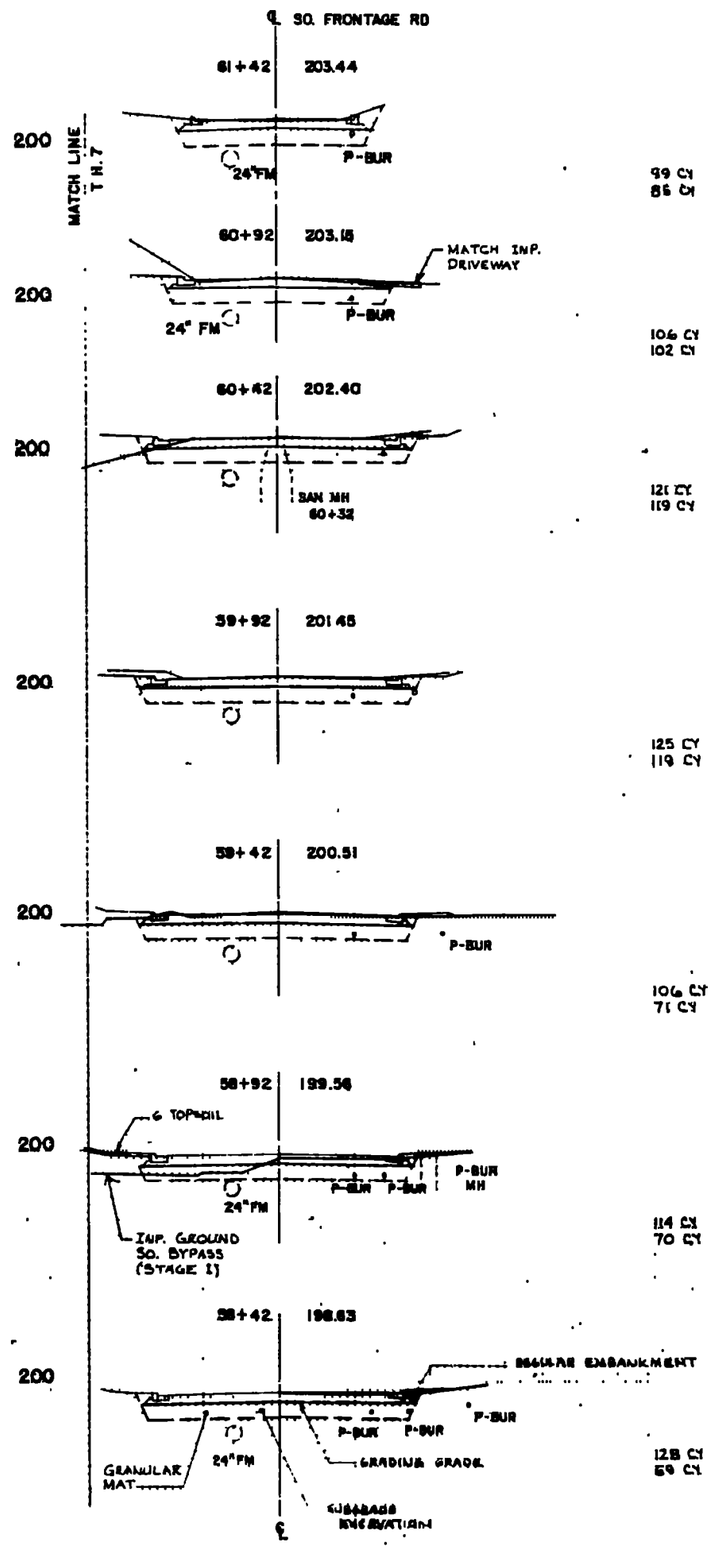
EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	GRANULAR MATERIAL
COMMON EXCAVATION	TOPSOIL
	REGULAR EMBANKMENT



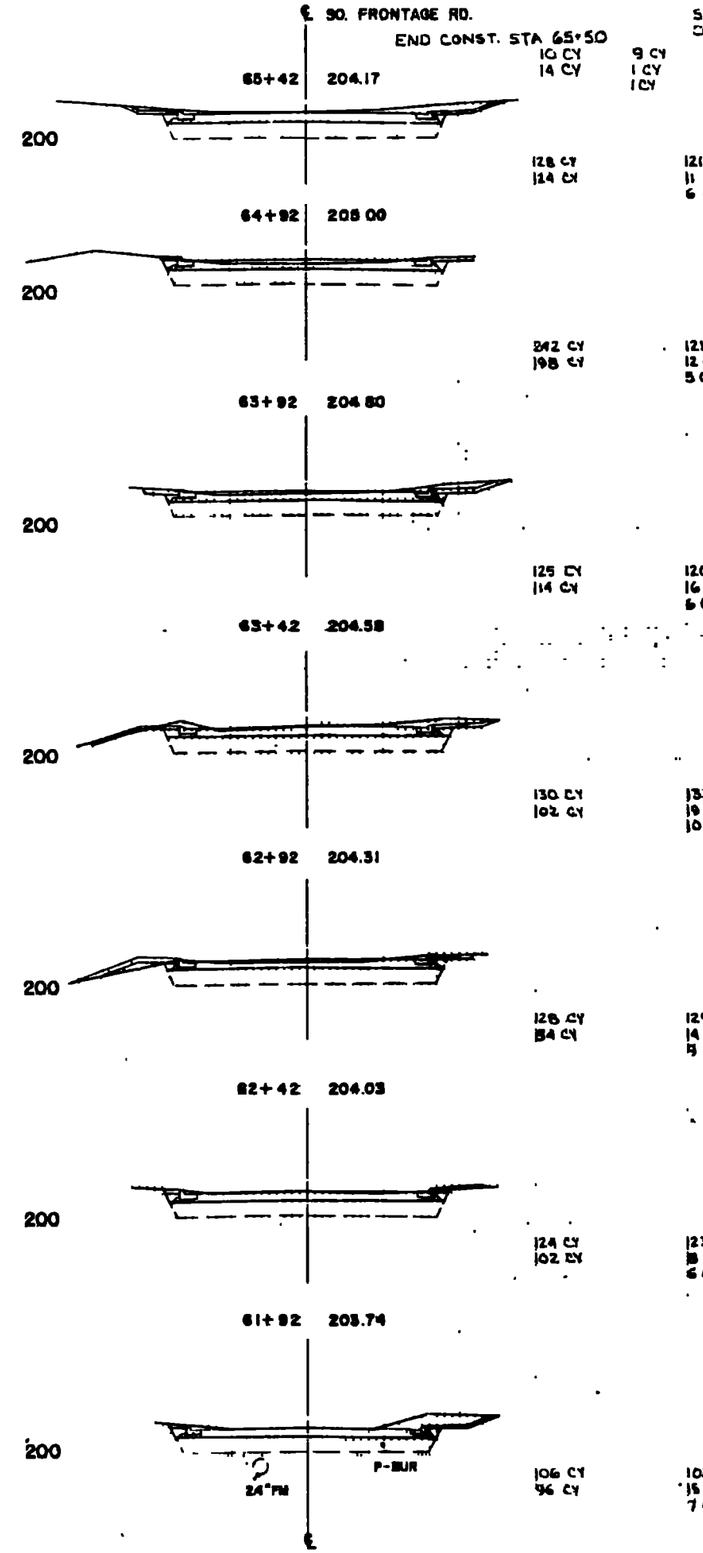


EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	GRANULAR MATERIAL
COMMON EXCAVATION	TOPSOIL
	REGULAR EMBANKMENT





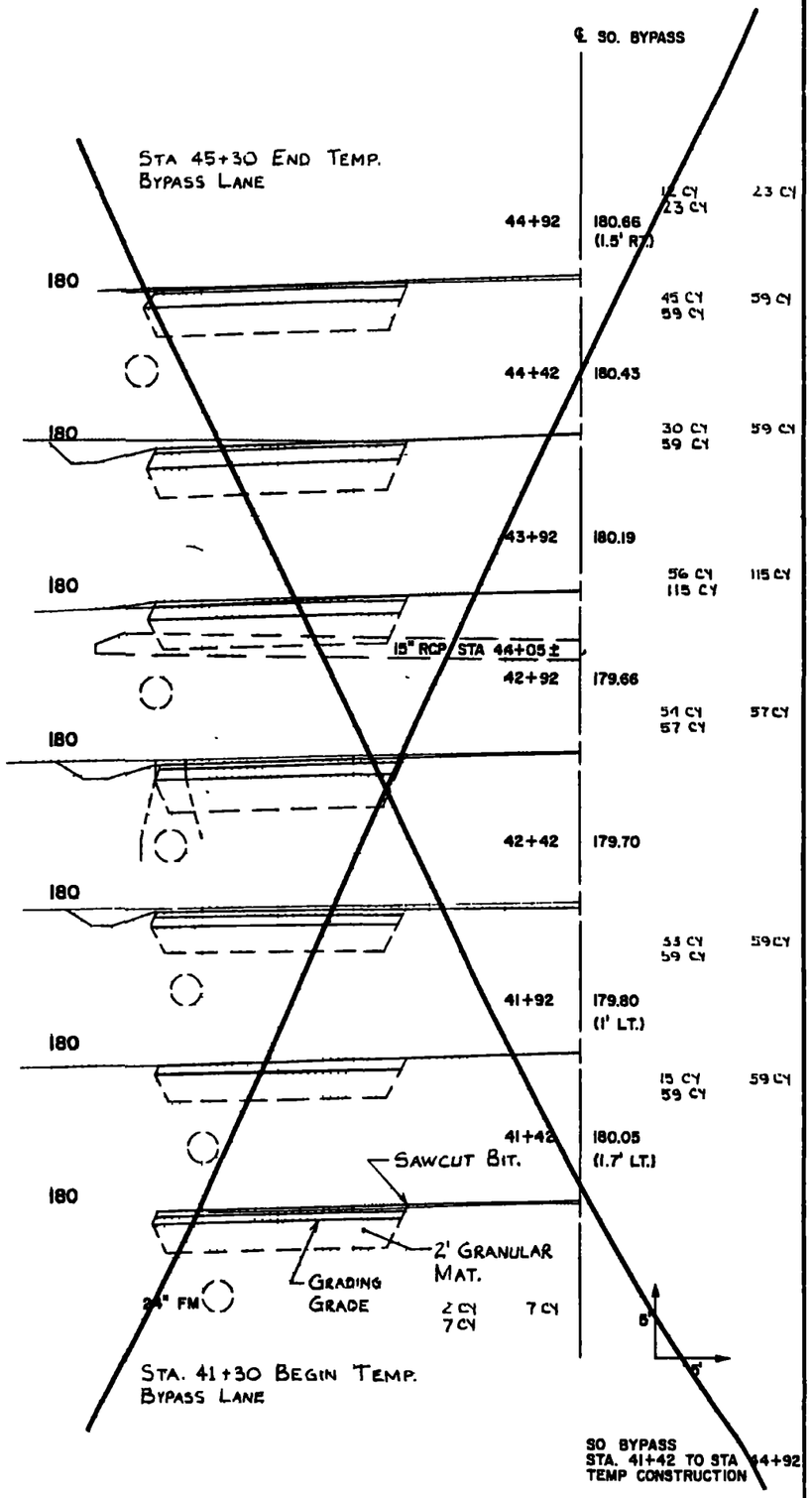
	Excavation (CY) Subgrad Excavation	Common Excavation	Embankment (CY) Granular Material	Topsoil	Regular Embankment
61+42	99 CY	94 CY			
	86 CY	17 CY			
		6 CY			
60+92	106 CY	106 CY			
	102 CY	18 CY			
		3 CY			
60+42	121 CY	112 CY			
	119 CY	14 CY			
		5 CY			
59+92	125 CY	124 CY			
	119 CY	16 CY			
		7 CY			
59+42	106 CY	120 CY			
	71 CY	13 CY			
		22 CY			
58+92	114 CY	126 CY			
	70 CY	8 CY			
		21 CY			
58+42	128 CY	132 CY			
	59 CY	10 CY			
		14 CY			

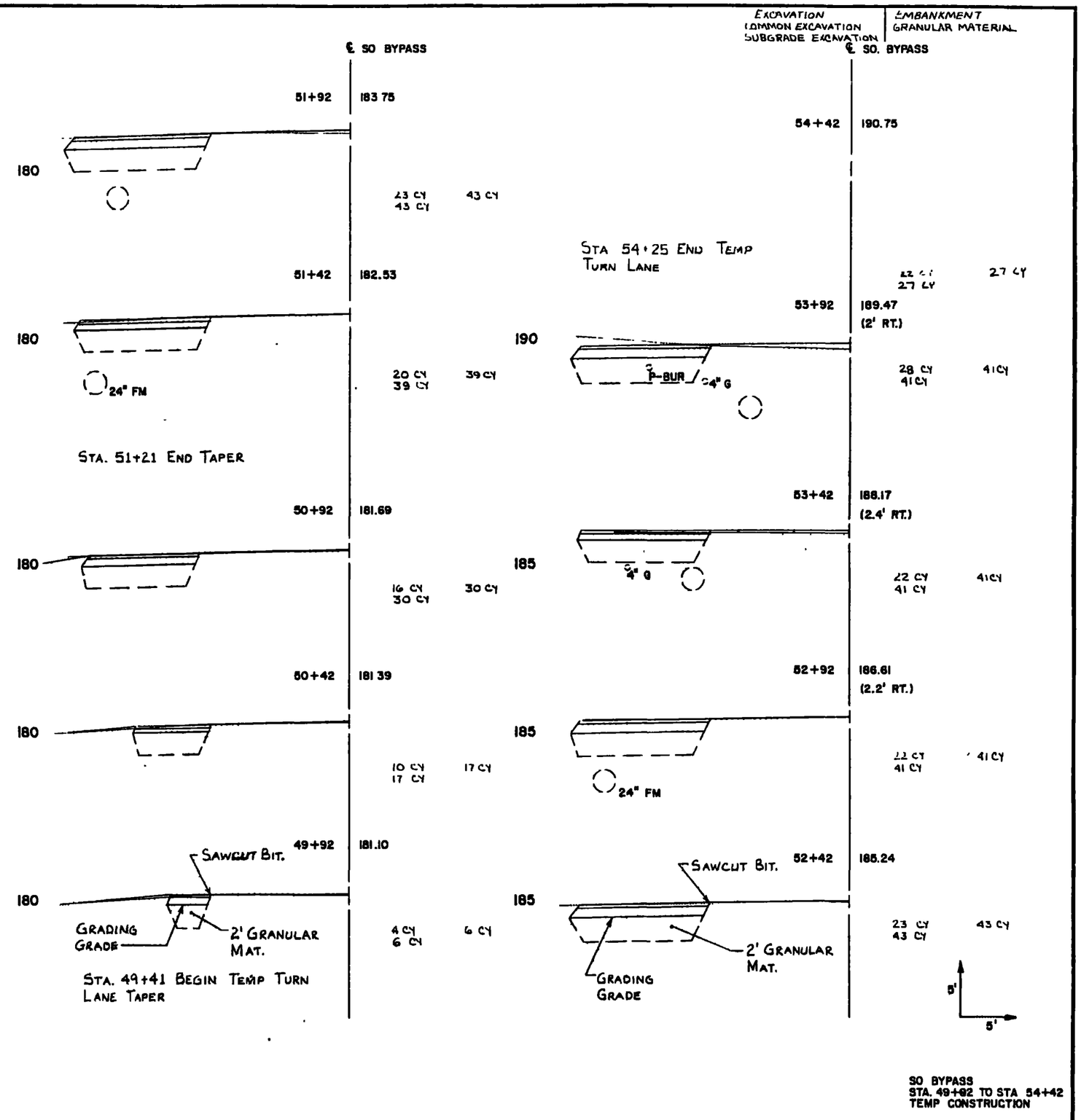


	Excavation (CY) Subgrad Excavation	Common Excavation	Embankment (CY) Granular Material	Topsoil	Regular Embankment
65+42	10 CY	9 CY			
	14 CY	1 CY			
		1 CY			
64+92	128 CY	121 CY			
	124 CY	11 CY			
		6 CY			
63+92	242 CY	121 CY			
	198 CY	12 CY			
		5 CY			
63+42	125 CY	126 CY			
	114 CY	16 CY			
		6 CY			
62+92	130 CY	131 CY			
	102 CY	19 CY			
		10 CY			
62+42	128 CY	129 CY			
	84 CY	14 CY			
		5 CY			
61+92	124 CY	123 CY			
	102 CY	8 CY			
		6 CY			
61+42	106 CY	106 CY			
	96 CY	15 CY			
		7 CY			

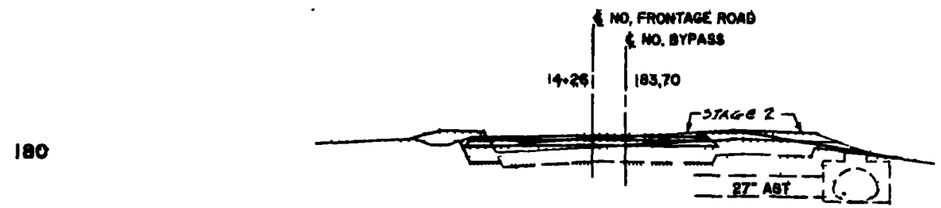
10'
10'

SO. FRONTAGE ROAD
STA 58+42 TO STA 65+42
PERMANENT CONSTRUCTION
(STAGE 1)


℄ SO. BYPASS
STA 45+30 END TEMP.
BYPASS LANE
44+92
180.66
(1.5' RT.)
12 CY
23 CY
23 CY
180
45 CY
59 CY
59 CY
44+42
180.43
180
30 CY
59 CY
59 CY
43+92
180.19
56 CY
115 CY
115 CY
180
15" RCP STA 44+05 ±
42+92
179.66
54 CY
57 CY
57 CY
180
42+42
179.70
180
53 CY
59 CY
59 CY
41+92
179.80
(1' LT.)
180
15 CY
59 CY
59 CY
41+42
180.05
(1.7' LT.)
SAWCUT BIT.
180
2' GRANULAR MAT.
GRADING GRADE
24" FM
2 CY
7 CY
7 CY
5'
5'
STA. 41+30 BEGIN TEMP.
BYPASS LANE
SO BYPASS
STA. 41+42 TO STA 44+92
TEMP CONSTRUCTION

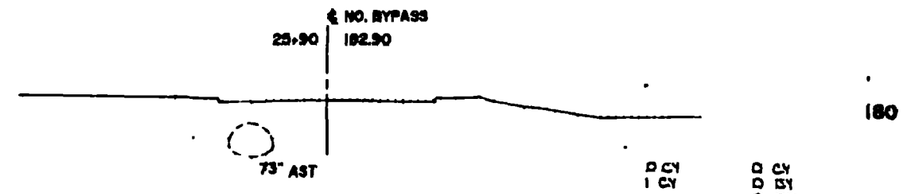

EXCAVATION
COMMON EXCAVATION
SUBGRADE EXCAVATION
EMBANKMENT
GRANULAR MATERIAL
℄ SO BYPASS
℄ SO. BYPASS
51+92
183.75
180
23 CY
43 CY
43 CY
51+42
182.53
180
24" FM
20 CY
39 CY
39 CY
STA. 51+21 END TAPER
50+92
181.69
180
16 CY
30 CY
30 CY
50+42
181.39
180
10 CY
17 CY
17 CY
49+92
181.10
SAWCUT BIT.
180
GRADING GRADE
2' GRANULAR MAT.
4 CY
6 CY
6 CY
STA. 49+41 BEGIN TEMP TURN
LANE TAPER
STA 54+25 END TEMP
TURN LANE
54+42
190.75
22 CY
27 CY
27 CY
53+92
189.47
(2' RT.)
190
P-BUR
4" G
28 CY
41 CY
41 CY
53+42
188.17
(2.4' RT.)
185
4" G
22 CY
41 CY
41 CY
52+92
186.61
(2.2' RT.)
185
24" FM
22 CY
41 CY
41 CY
52+42
185.24
SAWCUT BIT.
185
2' GRANULAR MAT.
GRADING GRADE
23 CY
43 CY
43 CY
5'
5'
SO BYPASS
STA. 49+92 TO STA 54+42
TEMP CONSTRUCTION

EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	SELECT GRANULAR BORROW MOD. 1
COMMON EXCAVATION	REGULAR EMBANKMENT
	TOPSOIL



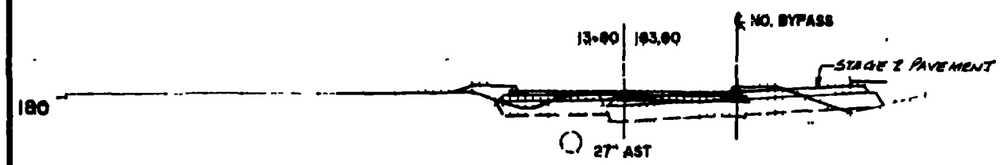
115 CY
78 CY

119 CY
34 CY
3 CY



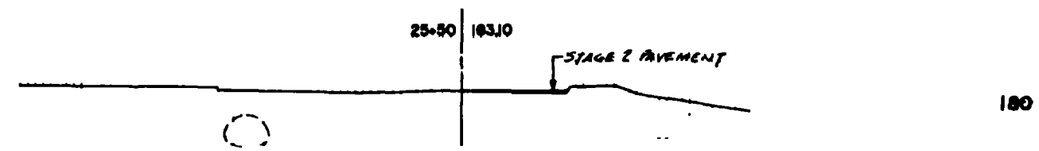
0 CY
1 CY

0 CY
0 CY
0 CY



103 CY
60 CY

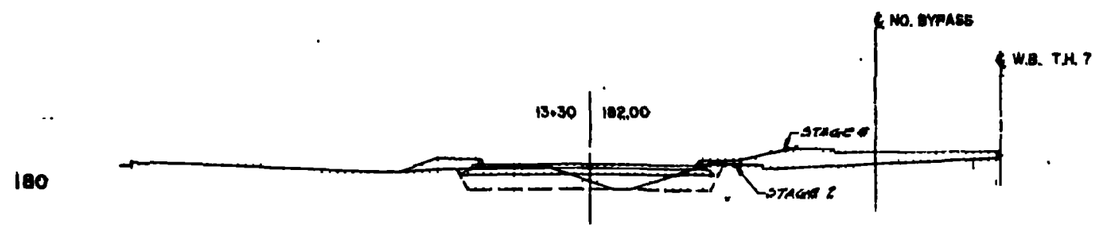
130 CY
37 CY
6 CY



0 CY
2 CY

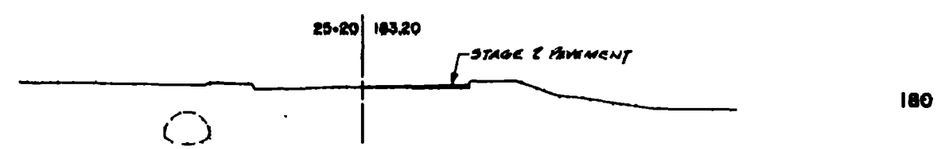
0 CY
0 CY
0 CY

NOTE: MILL PAVEMENT TO NORMAL CROWN



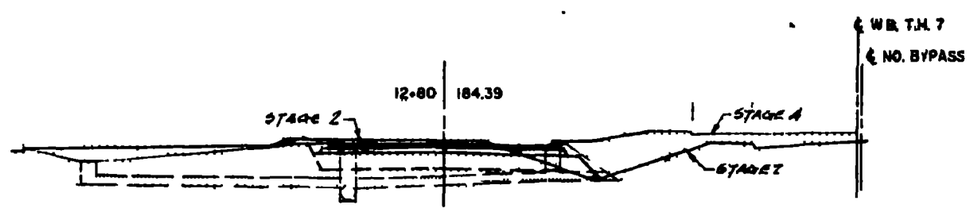
104 CY
85 CY

130 CY
23 CY
6 CY



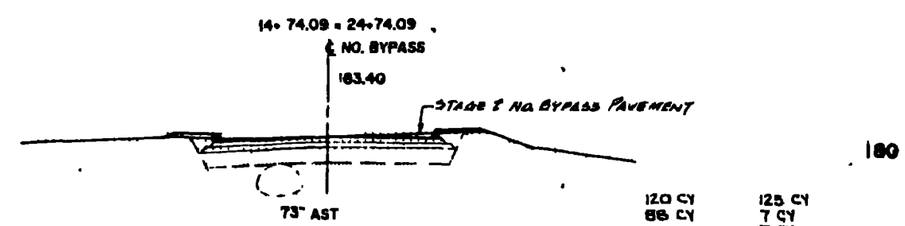
53 CY
47 CY

59 CY
9 CY
2 CY



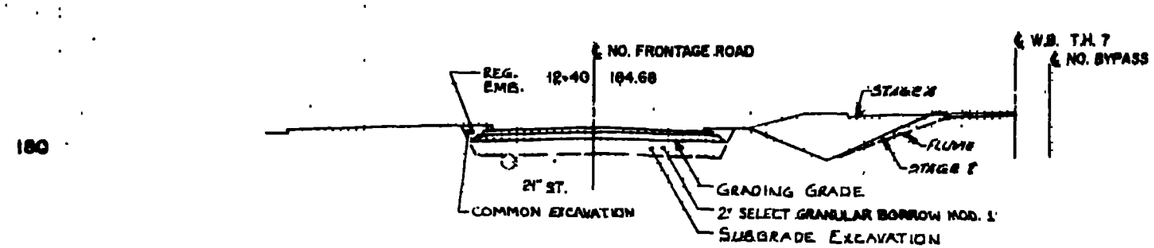
94 CY
91 CY

104 CY
11 CY
4 CY



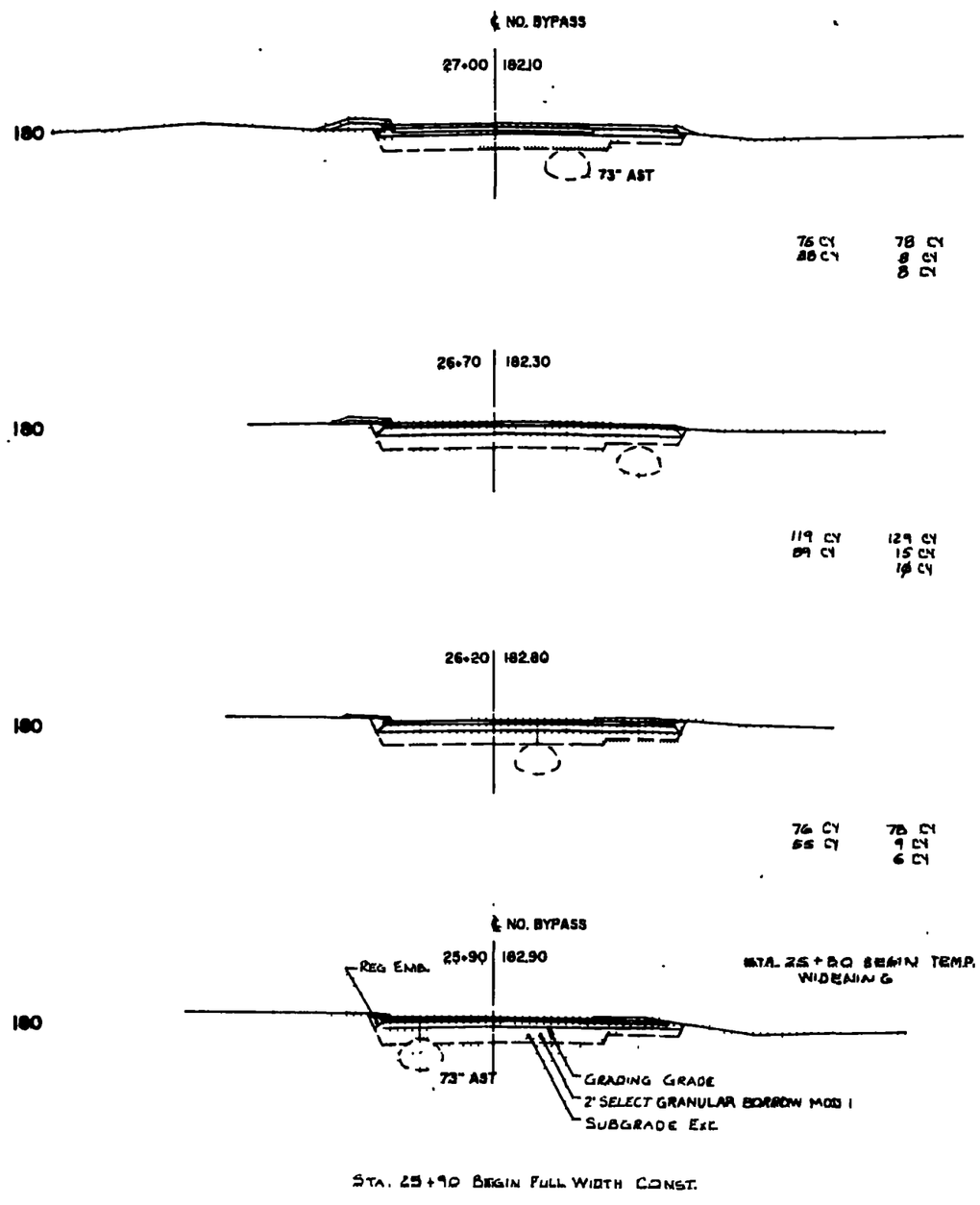
120 CY
88 CY

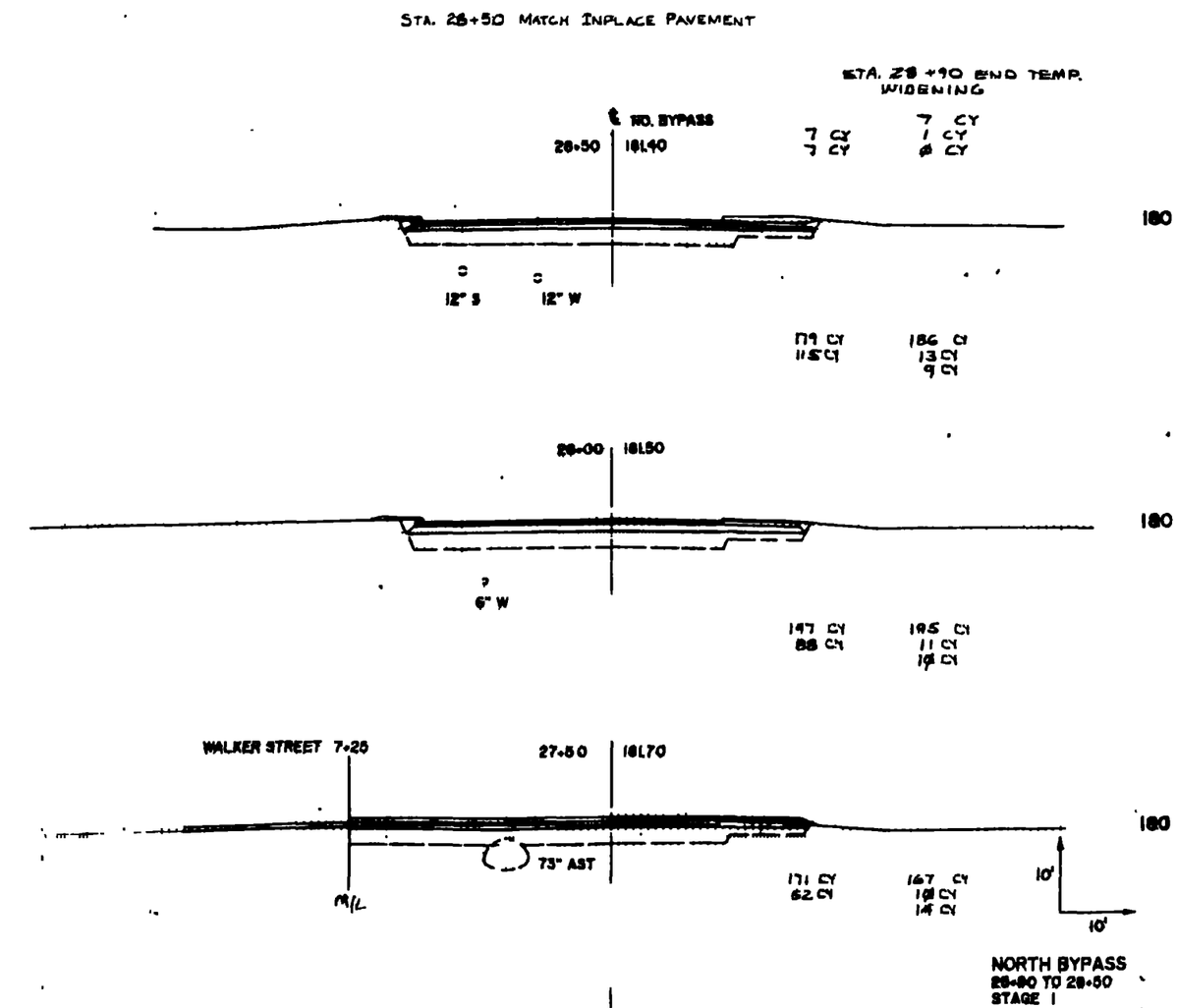
125 CY
7 CY
5 CY



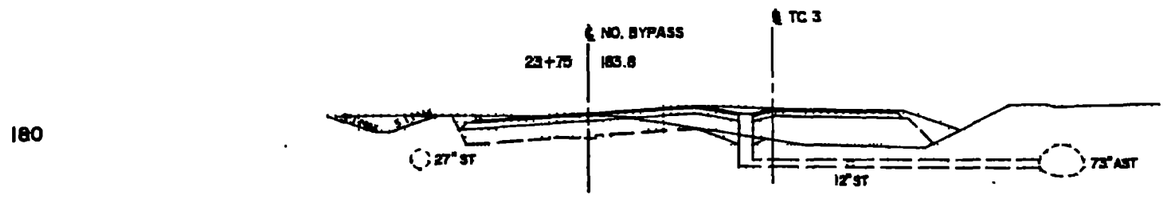
NORTH FRONTAGE ROAD
12+40 TO 14+74.09
24+74.09 TO 25+90
STAGE 4

EXCAVATION	EMBANKMENT
SUBGRADE EXCAVATION	SELECT GRANULAR BORROW MOD 1
COMMON EXCAVATION	REGULAR EMBANKMENT
	TOPSOIL



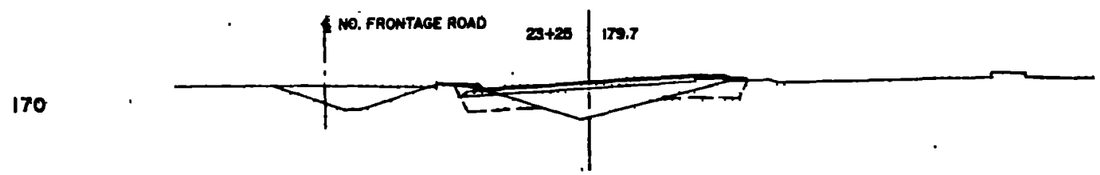


EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	GRANULAR MATERIAL
COMMON EXCAVATION	REGULAR EMBANKMENT
	TOPSOIL
	SELECT GRANULAR BORROW MOD. 1



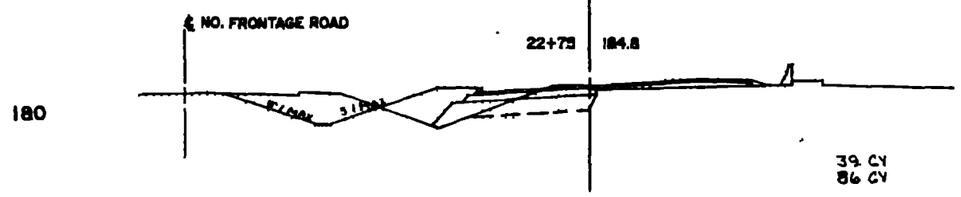
73 CY
73 CY

241 CY
31 CY
5 CY



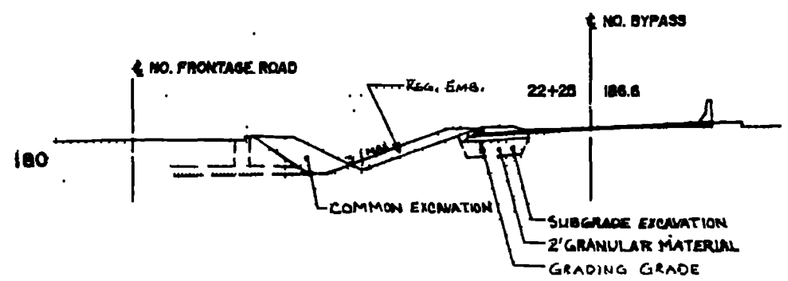
50 CY
87 CY

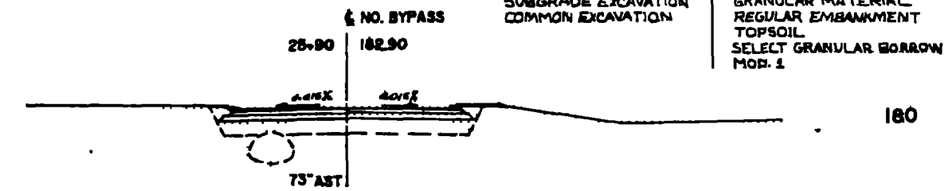
130 CY
40 CY
4 CY



39 CY
86 CY

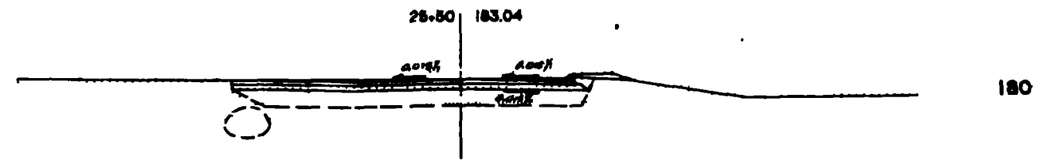
65 CY
65 CY
5 CY





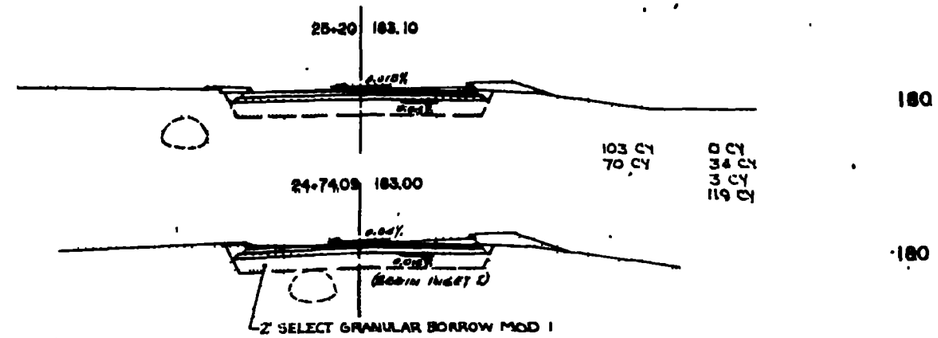
114 CY
77 CY

0 CY
10 CY
4 CY
119 CY



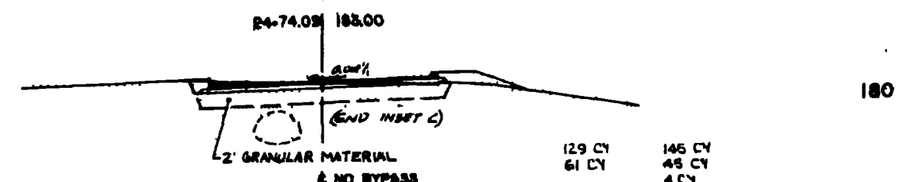
86 CY
54 CY

0 CY
13 CY
3 CY
89 CY



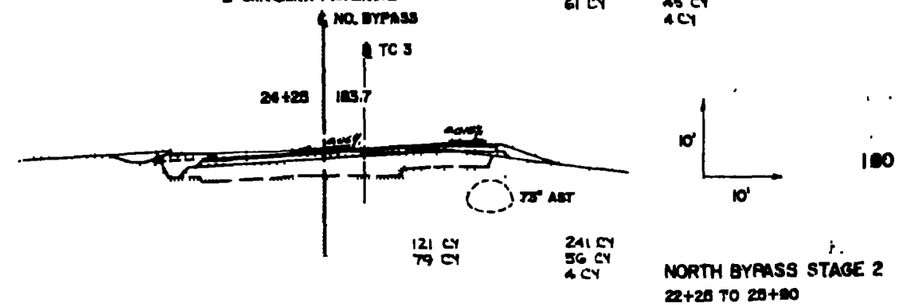
103 CY
70 CY

0 CY
34 CY
3 CY
119 CY



129 CY
61 CY

146 CY
46 CY
4 CY

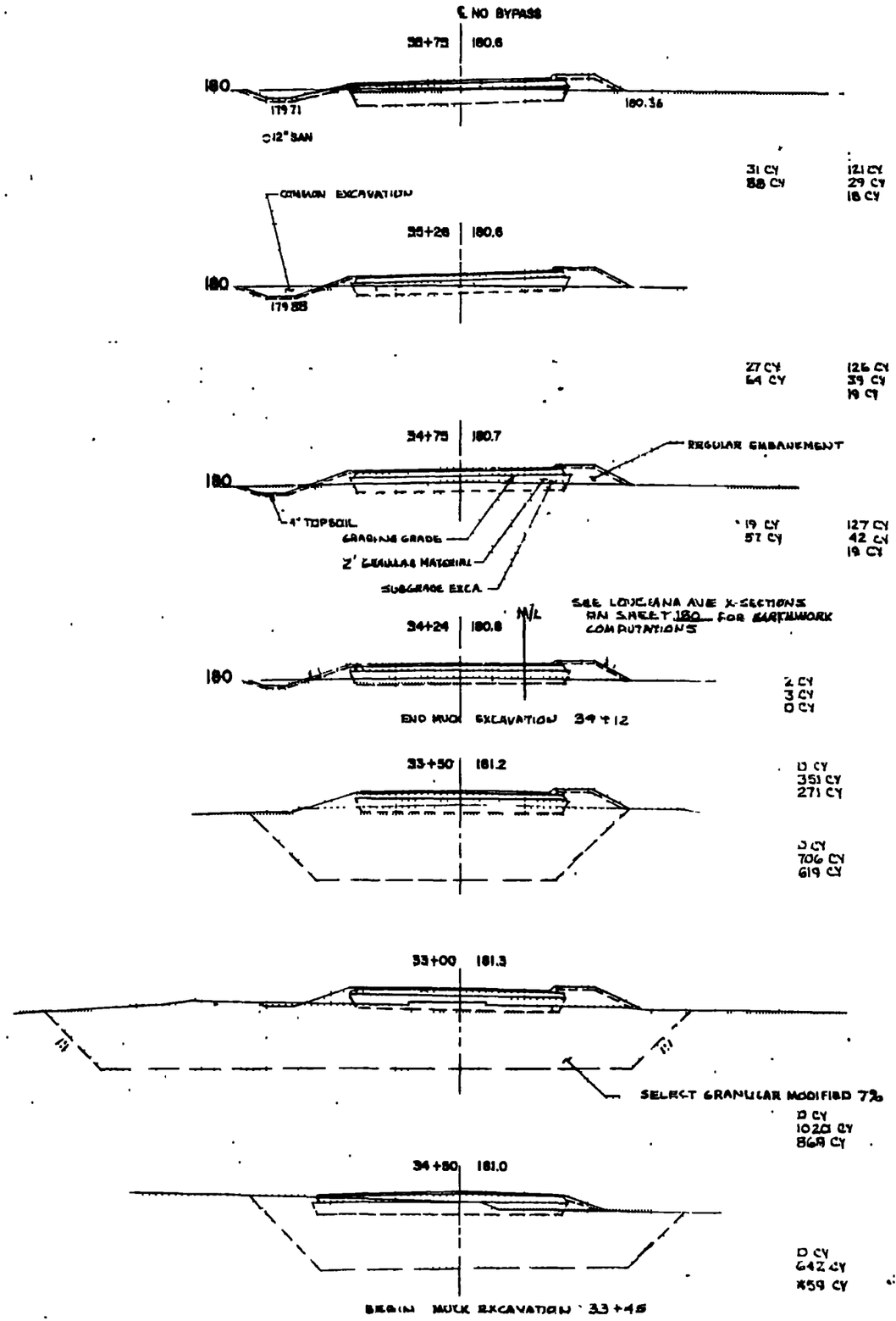


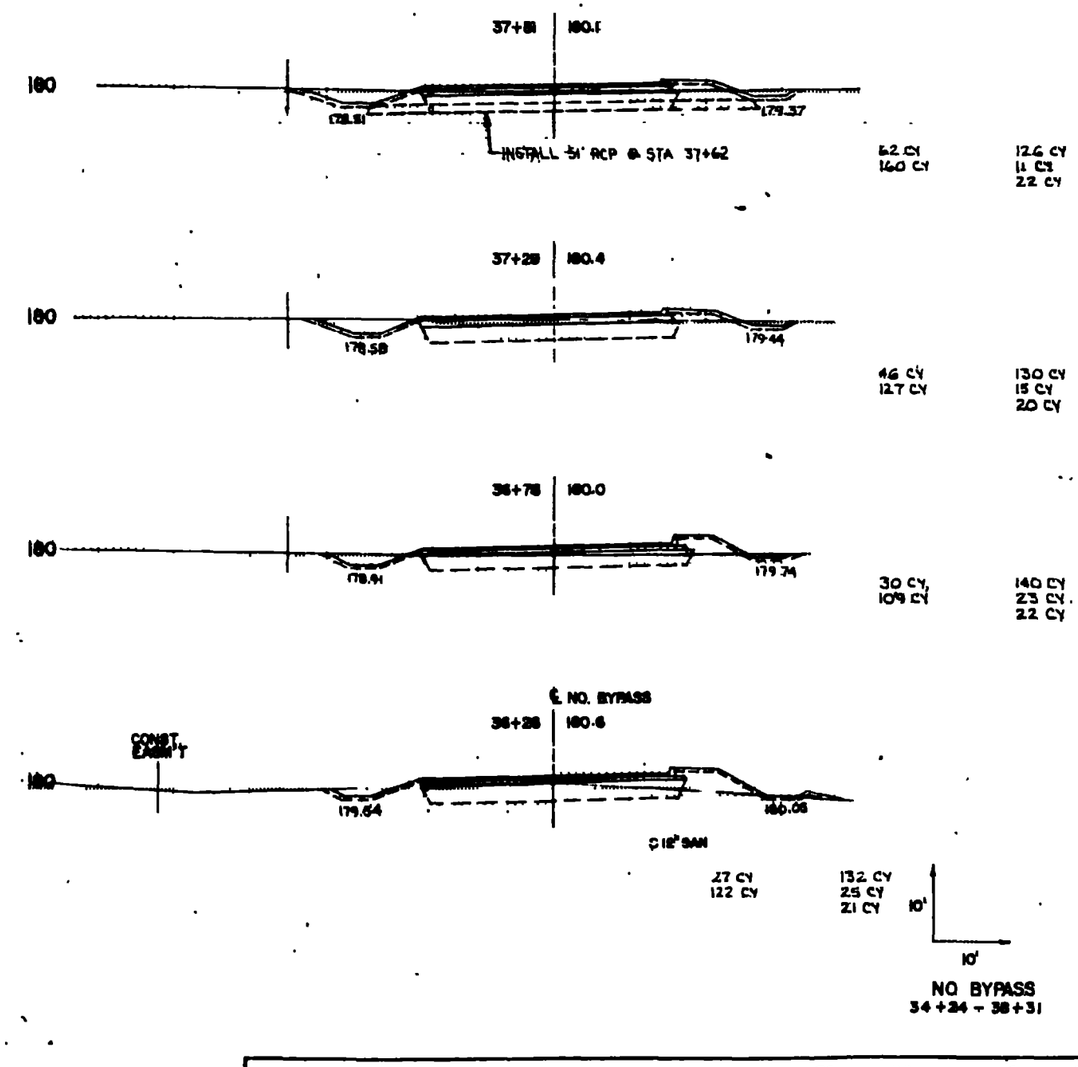
121 CY
79 CY

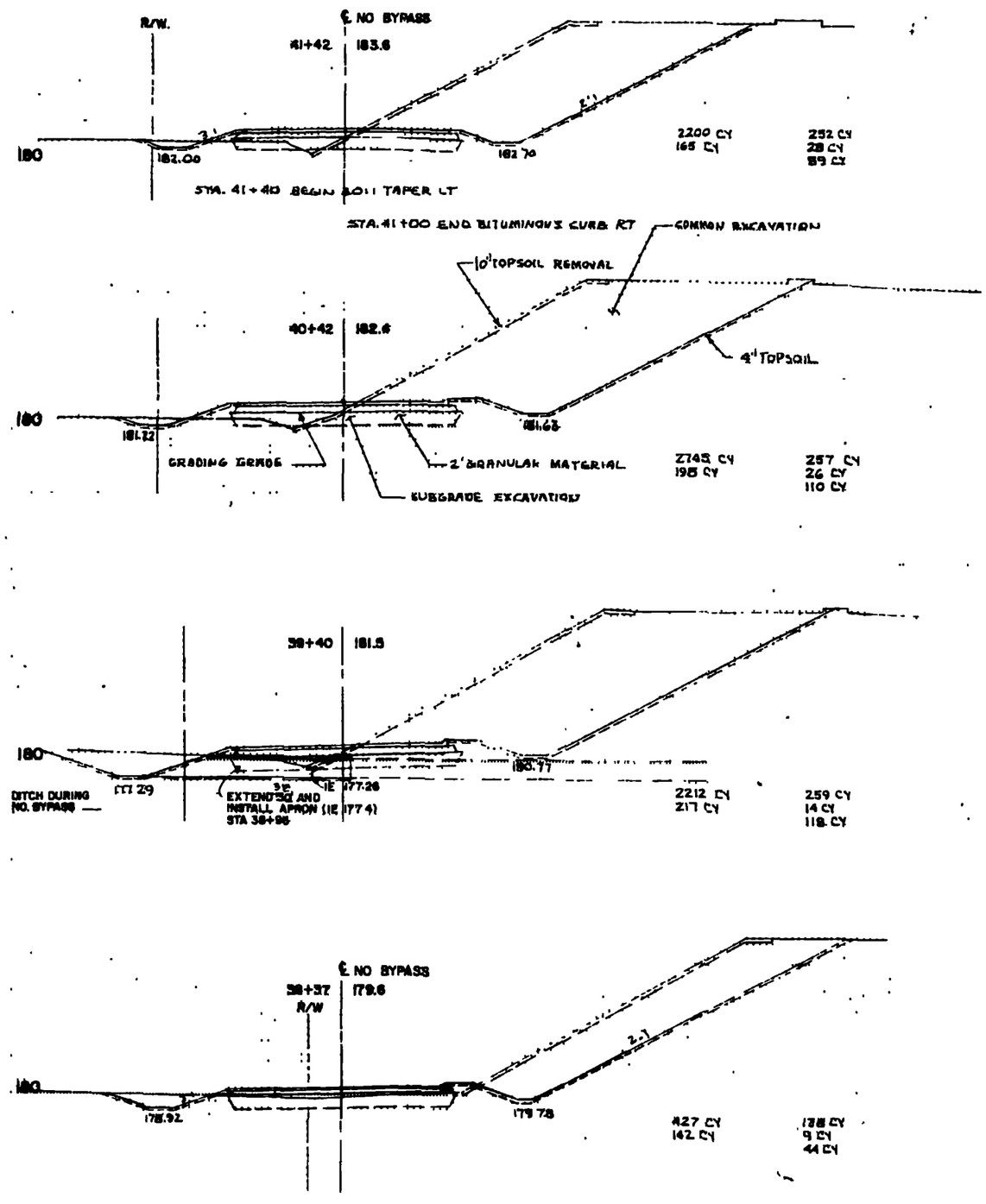
241 CY
56 CY
4 CY

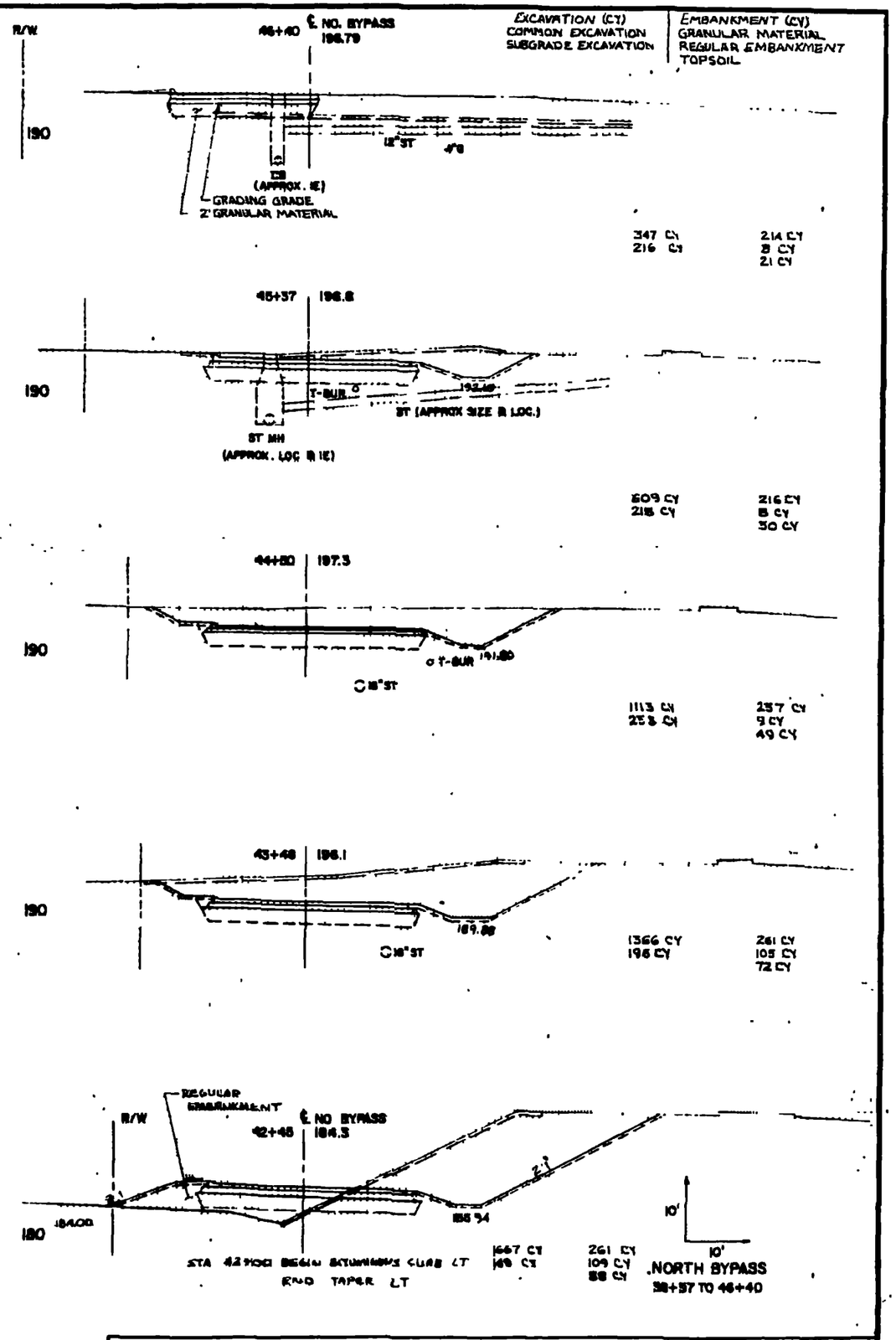
NORTH BYPASS STAGE 2
22+25 TO 25+90

EXCAVATION (CY)	EMBANKMENT (CY)
COMMON EXCAVATION	GRANULAR MATERIAL
SUBGRADE EXCAVATION	REGULAR EMBANKMENT
MUCK EXCAVATION	TOPSOIL
	SELECT GRANULAR 7%

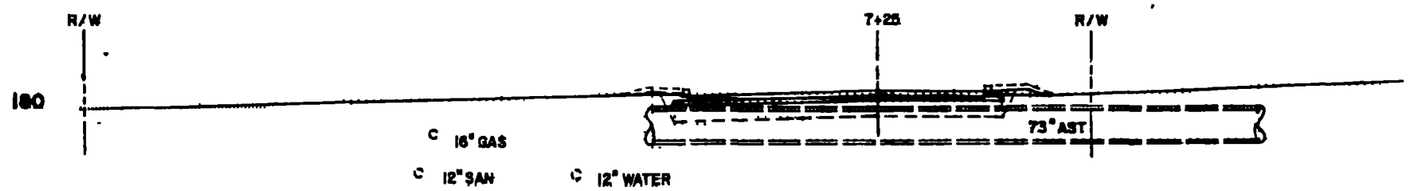




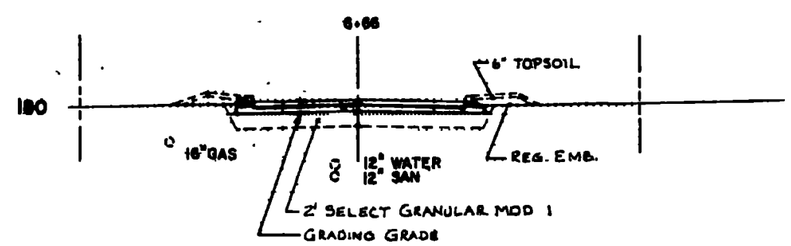

R/W.
℄ NO BYPASS
41+42 | 183.6
190
182.00
182.70
STA. 41+40 BEGIN 4:01 TAPER LT
STA. 41+00 END BITUMINOUS CURB RT
COMMON EXCAVATION
10" TOPSOIL REMOVAL
40+42 | 182.6
4" TOPSOIL
181.22
181.63
GRADING GRADE
2' GRANULAR MATERIAL
SUBGRADE EXCAVATION
2200 CY
165 CY
252 CY
28 CY
89 CY
2745 CY
195 CY
257 CY
26 CY
110 CY
39+40 | 181.5
DITCH DURING NO. BYPASS
177.29
EXTEND 30" AND INSTALL APRON (IE 177.4)
STA 39+98
177.26
180.77
2212 CY
217 CY
259 CY
14 CY
118 CY
℄ NO BYPASS
38+37 | 179.6
R/W
178.92
179.78
427 CY
142 CY
178 CY
9 CY
44 CY


EXCAVATION (CY)
COMMON EXCAVATION
SUBGRADE EXCAVATION
EMBANKMENT (CY)
GRANULAR MATERIAL
REGULAR EMBANKMENT
TOPSOIL
R/W
46+40 | ℄ NO. BYPASS 198.79
190
12" ST
4" B
CB (APPROX. IE)
GRADING GRADE
2' GRANULAR MATERIAL
347 CY
216 CY
214 CY
8 CY
21 CY
45+37 | 196.8
T-BUR
193.40
ST (APPROX SIZE & LOC.)
ST MH (APPROX. LOC & IE)
609 CY
218 CY
216 CY
8 CY
50 CY
44+50 | 197.3
T-BUR 191.80
18" ST
1113 CY
258 CY
257 CY
9 CY
49 CY
43+48 | 196.1
189.88
18" ST
1366 CY
196 CY
261 CY
105 CY
72 CY
REGULAR EMBANKMENT
R/W
42+48 | ℄ NO BYPASS 194.3
184.00
186.94
STA 42+00 BEGIN BITUMINOUS CURB LT
END TAPER LT
1667 CY
49 CY
261 CY
109 CY
88 CY
10'
NORTH BYPASS
38+37 TO 46+40

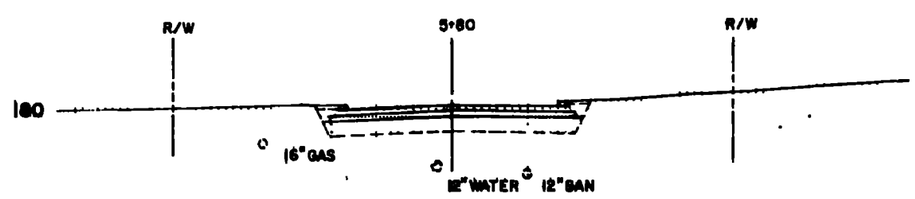
EXCAVATION	EMBANKMENT
COMMON EXCAVATION	SELECT GRANULAR
SUBGRADE EXCAVATION	REGULAR EMBANKMENT
	TOPSOIL



63	168
170	26
	19



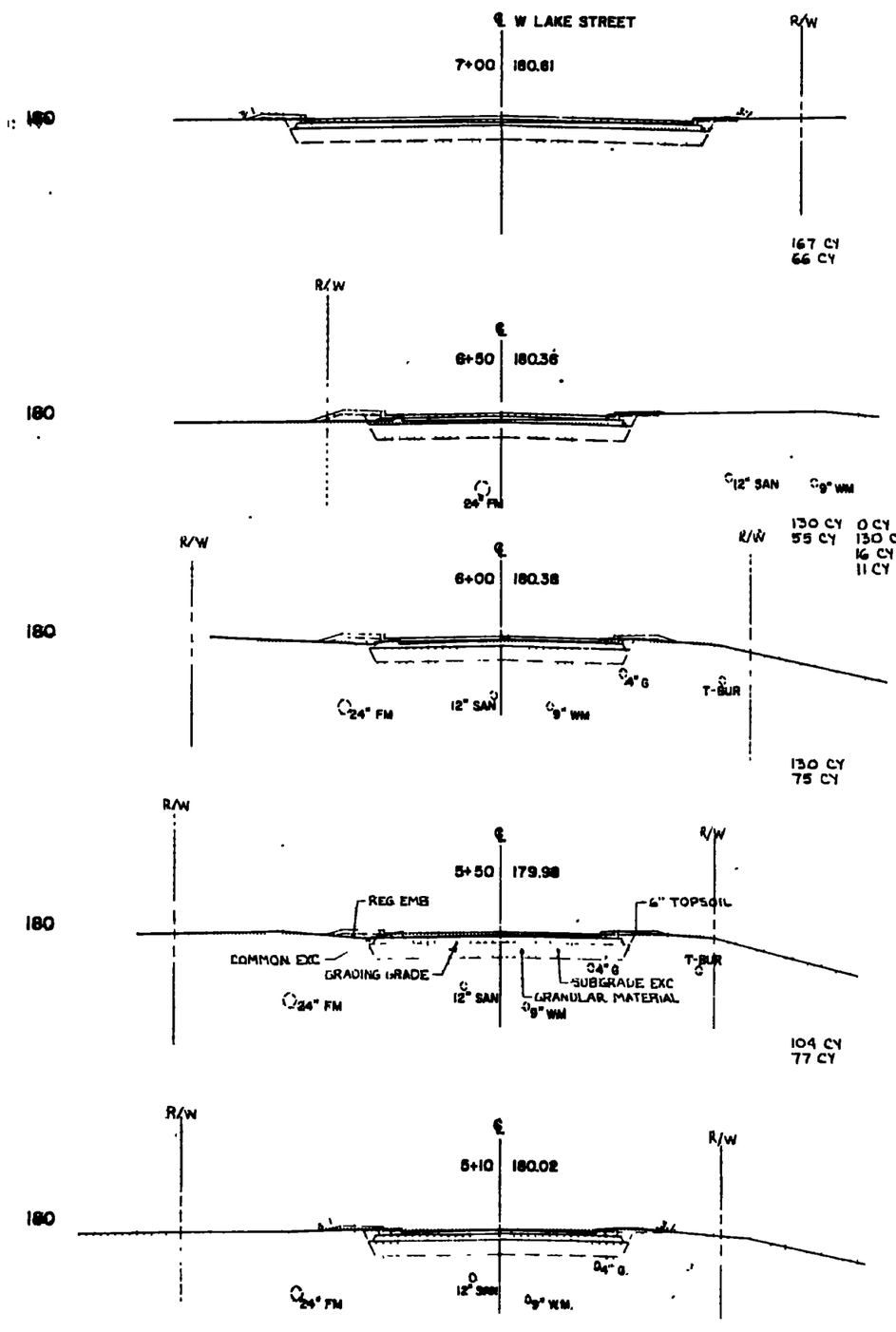
135	210
107	33
	21

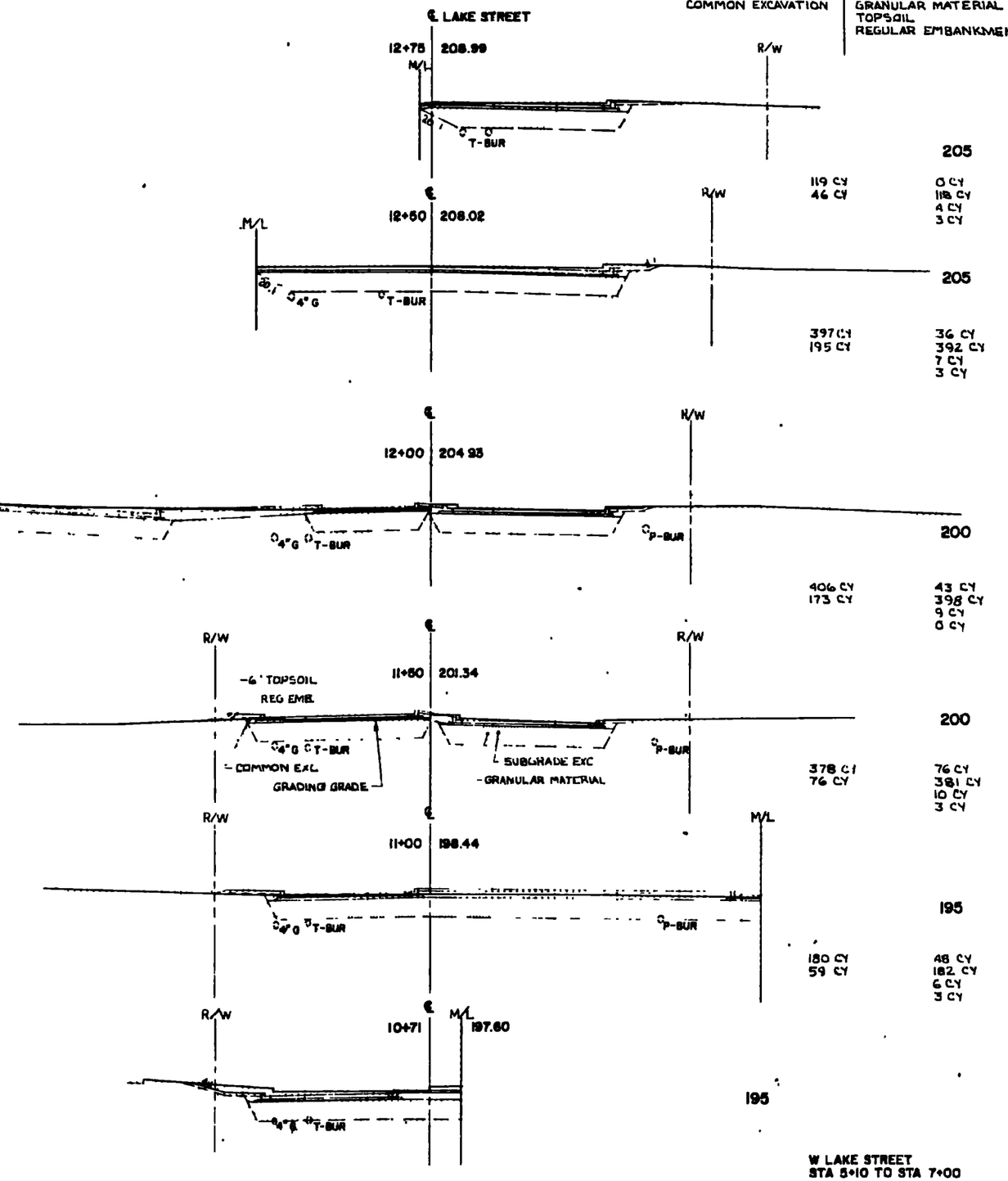


STA. 5+80 MATCH INPLACE PAVEMENT

WALKER ST.
5+80 TO 7+25
STAGE 1

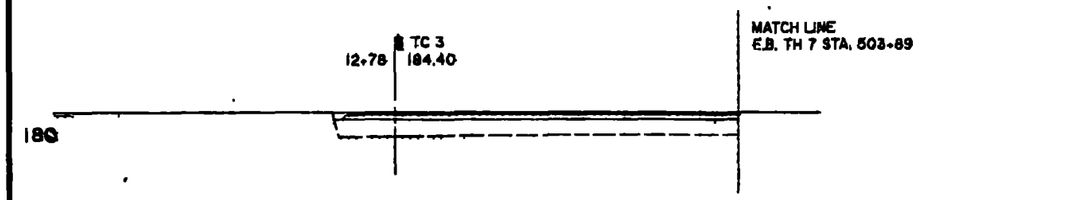
EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	SELECT GRANULAR
COMMON EXCAVATION	GRANULAR MATERIAL
	TOPSOIL
	REGULAR EMBANKMENT



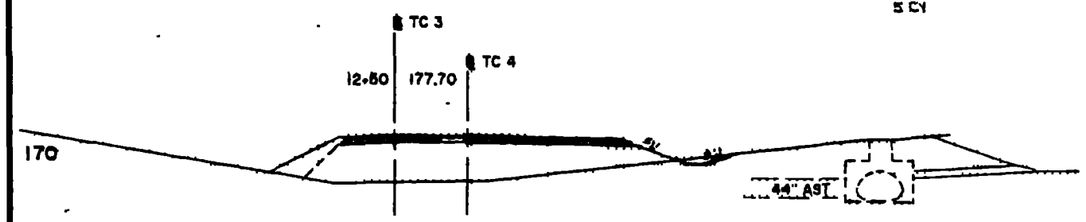


W LAKE STREET
STA 5+10 TO STA 7+00
LAKE STREET
STA 10+71 TO 12+75

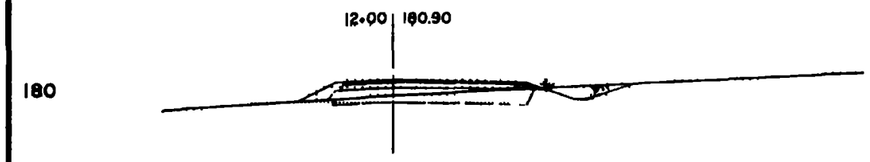
EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	GRANULAR MATERIAL
COMMON EXCAVATION	REGULAR EMBANKMENT
	TOPSOIL



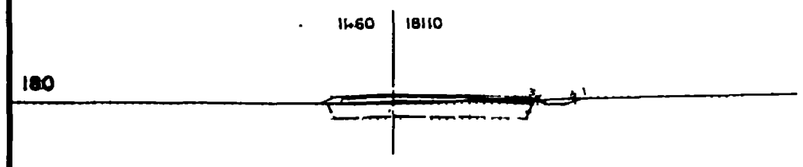
55 CY 156 CY
25 CY 9 CY
5 CY



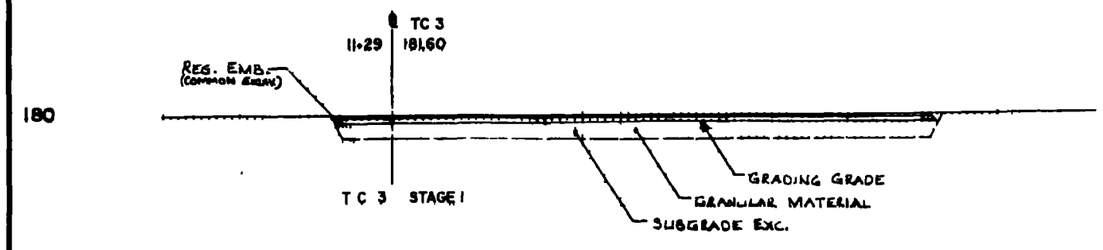
32 CY 222 CY
14 CY 19 CY
12 CY

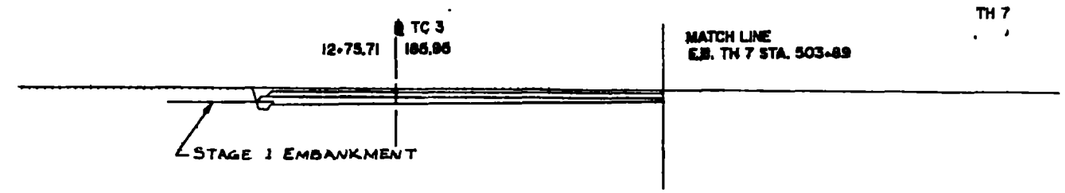


63 CY 74 CY
11 CY 5 CY
6 CY

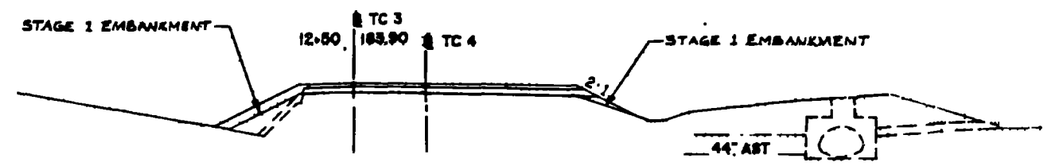


115 CY 121 CY
40 CY 3 CY
2 CY

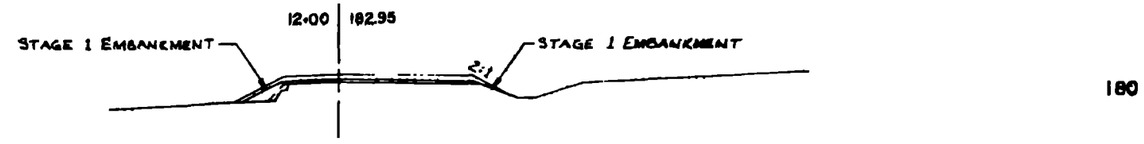




0 CY 3 CY
10 CY 16 CY
5 CY

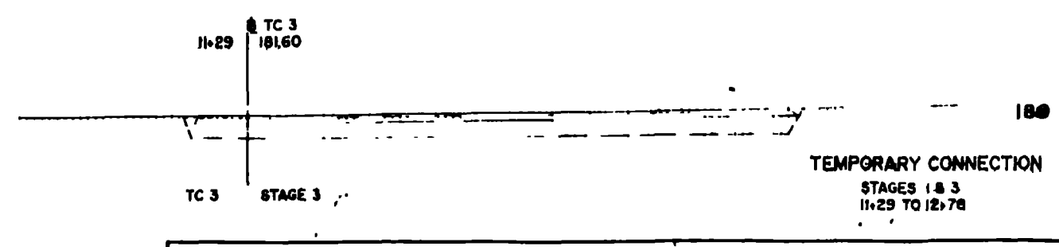


0 CY 7 CY
32 CY 37 CY
2 CY



0 CY 2 CY
10 CY 7 CY
1 CY

0 CY 0 CY
0 CY 0 CY
1 CY



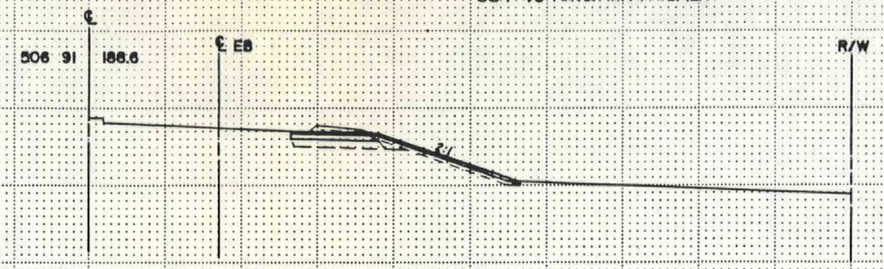
10'
10'

TEMPORARY CONNECTION
STAGES 1 & 3
11+29 TO 12+78

State Proj. No. S.A.P. NO. 163-278-24 (T.H. 7) Sheet No. 196 of 197 Sheets

EXCAVATION (CY)	EMBANKMENT (CY)
SUBGRADE EXCAVATION	GRANULAR MATERIAL
COMMON EXCAVATION	REGULAR EMBANKMENT
	TOPSOIL

507+73 MATCH INP. PAVEMENT

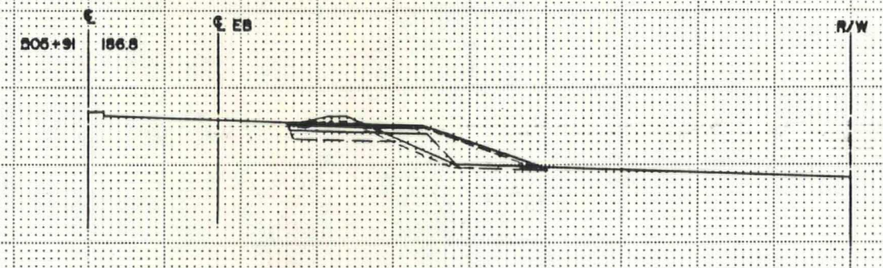


48 CY
0 CY

18 CY
13 CY
10 CY

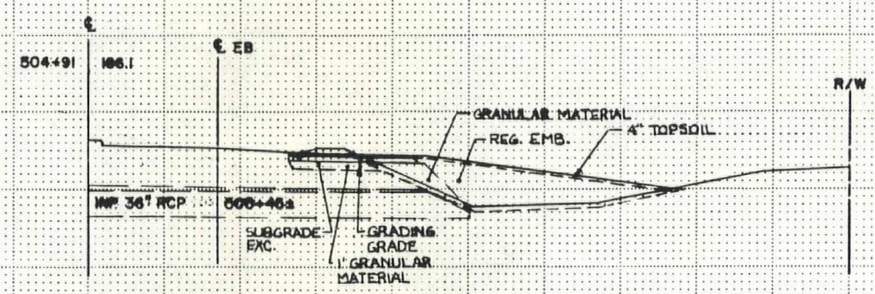
116 CY
0 CY

76 CY
66 CY
24 CY



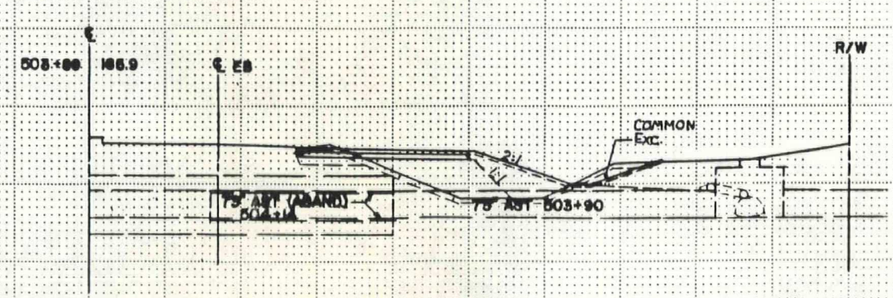
105 CY
0 CY

117 CY
255 CY
33 CY



82 CY
28 CY

204 CY
273 CY
40 CY



T.H. 7
503+89 - 506+91
TEMP. CONN. 4
STAGE 1

10'
10'

State Proj. No. S.A.P. 163-276-24 (T.H. 7) Sheet No. 197 of 197 Sheets

blueprint.