

RECORD DRAWING 12/10/04

MINNESOTA DEPARTMENT OF TRANSPORTATION CITY OF DULUTH DEPARTMENT OF PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

CONSTRUCTION PLANS FOR: MILLING AND BITUMINOUS PAVEMENT, CONCRETE WALK
CONCRETE CURB AND GUTTER, STORM SEWER,
UTILITY EXCAVATION AND STRIPING

LOCATED ON:

PIEDMONT AVENUE
(MUNICIPAL STATE AID STREET NO. 149)
FROM SUPERIOR ST. TO 1st ST.

STATE AID PROJ. NO. 118-149-04 (MTB)
CITY JOB NO. 0093TR

GROSS LENGTH 748 FEET 0.142 MILES
NET LENGTH 748 FEET 0.142 MILES
EXCEPTIONS 0 FEET 0.000 MILES

SUPERIOR STREET
(MUNICIPAL STATE AID STREET NO. 109)
FROM PIEDMONT AVE. TO MICHIGAN ST.

STATE AID PROJ. NO. 118-109-15 (MTB)
CITY JOB NO. 0094TR

GROSS LENGTH 1367 FEET 0.259 MILES
NET LENGTH 1367 FEET 0.259 MILES
EXCEPTIONS 0 FEET 0.000 MILES

PLAN SYMBOLS

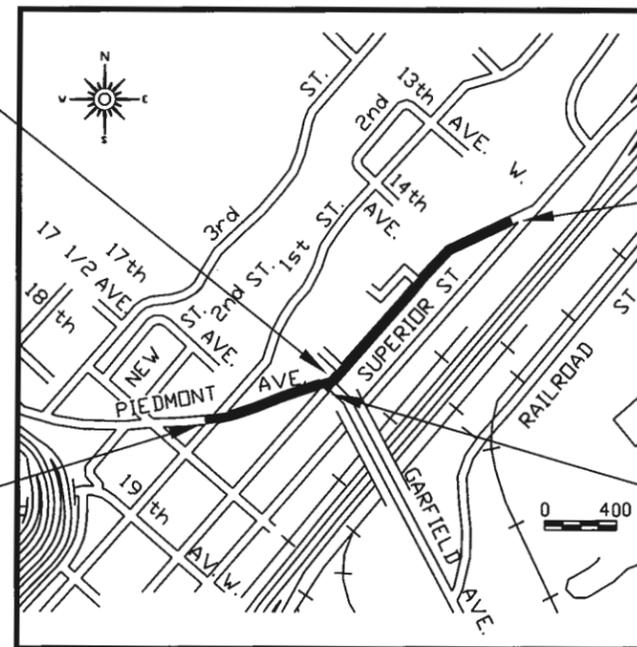
- COUNTY LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- NEW RIGHT OF WAY LINE
- PRESENT RIGHT OF WAY LINE
- CONTROL OF ACCESS LINE
- PROPERTY LINE
- VACATED PLATTED PROPERTY
- CORPORATE OR CITY LIMITS
- TRUNK HIGHWAY CENTER LINE
- RETAINING WALL
- RAILROAD
- WATER LINE
- MEANDER CORNER
- DRAINAGE DITCH
- DRAIN TILE
- CULVERT
- GUARD RAIL
- BARBED WIRE FENCE
- CHAIN LINK FENCE
- STONE WALL OR FENCE
- MEDGE
- RAILROAD CROSSING SIGN
- MARSH
- TIMBER
- ORCHARD
- BRUSH
- NURSERY
- OVERPASS
- UNDERPASS
- BRIDGE
- BUILDING
- F FRAME
- S STONE
- B BRICK
- C CONC.
- T TILE
- ST STUCCO
- DECIDUOUS TREE
- CONIFEROUS TREE
- MONUMENT (STONE, CONC. OR METAL)
- SMALL SIGN
- SLOPE EASEMENT

UTILITY SYMBOLS

- POWER POLE
- TELEPHONE POLE
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (TELEPHONE CABLE TERMINAL)
- SIGNAL WITH STREET LIGHT
- GAS MAIN / WATER MAIN
- WATER MAIN
- CONDUIT
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- WATER & GAS MANHOLE
- STEAM MANHOLE
- HANDHOLE
- YARD BASIN
- PARKING METER
- FIRE HYDRANT
- NEW SANITARY SEWER
- NEW STORM SEWER
- PVC PERFORATED PIPE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- STORM SEWER
- SANITARY SEWER
- GAS MAIN
- TELEVISION CABLE
- EXTRA BRANCH
- REPLACE WATER SERVICE
- CUT OFF WATER AT MAIN
- WATER & GAS MAIN JOINT
- WATER & GAS BELL JOINT
- WATER & GAS MECHANICAL JOINT
- WATER & GAS TRANSITION COUPLING
- COPPER WATER SERVICE
- WATER & GAS VALVE (NEW)
- WATER & GAS SHUTOFF VALVE
- SANITARY SEWER SPOT REPAIR

- 6" CONCRETE WALK
- 7" CONCRETE APRON
- BEDROCK

MANHOLE & CATCH BASIN SYMBOLS	
EXISTING STRUCTURES	PROPOSED STRUCTURES
(A) SANITARY (A TO Z)	(AA) SANITARY (AA TO ZZ)
(8) STORM (1 TO 99)	(123) STORM (100 TO 999)



WARNING
LOCATION OF UNDERGROUND UTILITIES
TO BE VERIFIED BY CONTRACTOR.
CALL BEFORE DIGGING.
GOPHER STATE ONE CALL
1-800-252-1166
REQUIRED BY LAW

GOVERNING SPECIFICATIONS
THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION
"STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.
(AVAILABLE AT: <http://www.dot.state.mn.us/tecsup/>)

THE CITY OF DULUTH DEPARTMENT OF WATER AND GAS
STANDARD SPECIFICATIONS SHALL APPLY.
THE 2360 PLANT MIXED ASPHALT PAVEMENT,
COMBINED 2360/2350 (GYRATORY/MARSHALL DESIGN) SPECIFICATION FOR
THE 2004 CONSTRUCTION SEASON SHALL GOVERN.
(AVAILABLE AT: <http://mnroad.dot.state.mn.us/pavement/bituminous/bituminous.asp>)

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE
MN MUTCD, INCLUDING THE FIELD MANUAL DATED JANUARY 2004.
(AVAILABLE AT: <http://www.dot.state.mn.us/trafficeg/>)

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
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11-15	CONSTRUCTION DETAILS
16-20	PLAN AND PROFILE SHEETS
21	TRAFFIC CONTROL
22-23	ALIGNMENT AND RADIUS POINT DETAILS
24	EROSION CONTROL
25-26	STRIPING, PAVEMENT MARKING AND SIGNAGE
27-29	SIGNAL AND LIGHTING PLANS

THIS PLAN CONTAINS 29 SHEETS

DESIGN DESIGNATION (RECONDITIONING)

PROJECT	SUPERIOR ST.	PIEDMONT AVE.
ADT (CURRENT YEAR) 2004	5250	1350
HCA DT (CURRENT) 2004	260	70
CLASSIFICATION	MINOR ARTERIAL	MINOR ARTERIAL
STRUCTURE DESIGN	9 TON	9 TON
SOIL FACTOR	130	130
NUMBER OF DRIVING LANES	4	2
NUMBER OF PARKING LANES	1	1

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

EDWARD H. FRENCH

PROJECT ENGINEER (TYPED OR PRINTED NAME)

PROJECT ENGINEER _____ DATE _____ REG. NO. 11785

CITY APPROVALS:

APPROVED _____ CHIEF ENGINEER OF TRANSPORTATION _____ DATE _____

APPROVED _____ CHIEF ENGINEER OF UTILITIES _____ DATE _____

APPROVED _____ CITY ENGINEER _____ DATE _____

STATE AID APPROVALS:

DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE _____ DATE _____
WITH STATE-AID RULES/POLICY

APPROVED FOR STATE AID FUNDING: STATE AID ENGINEER _____ DATE _____

NOTES

- 1 PAVEMENT SAWING IS INCIDENTAL TO THIS ITEM.
- 2 WALL REMOVAL TO 3 FT. BELOW FINISHED GRADE INCIDENTAL TO THIS ITEM.
PIPE RAILING REMOVAL SHALL ALSO BE INCIDENTAL TO THIS ITEM.
- 3 INCLUDES REMOVAL OF INTEGRANT CURB.
- 4 PLUGGING OF ABANDONED PIPES INCIDENTAL TO THIS ITEM.
- 5 THIS MATERIAL FOR FILLING AND BACKSLOPING ABANDONED VAULTS.
- 6 USED FOR MATCHING MISC. GRAVEL ALLEYS, STREETS, DRIVES AND TEMP. RAMPS. INCLUDES EXCAVATION FOR PLACEMENT OF CLASS 5.
- 7 FOR USE UNDER NEW CURB AND BITUMINOUS WITHOUT CONCRETE BASE.
CL 5 UNDER WALK, CONC. BASE AND APRONS IS INCIDENTAL TO THOSE ITEMS.
- 8 CONCRETE AND CL 5 INCIDENTAL TO THIS ITEM.
- 9 FILTER FABRIC & COARSE FILTER
AGGREGATE ARE INCIDENTAL TO THIS ITEM.
- 10 BACKFILLING TRENCHES FROM TOP OF GRANULAR BACKFILL TO SUBGRADE W/
SELECT GRANULAR BORROW (SPEC. 3149) MODIFIED TO NOT MORE THAN
7% PASSING A #200 SIEVE SHALL BE INCIDENTAL TO THIS ITEM.
- 11 SANITARY SEWER SPOT REPAIRS INCLUDE EXCAVATION, REQUIRED ADAPTORS
AND/OR FITTINGS, APPROPRIATELY SIZED T.P. PIPE, BACKFILLING, COMPACTION
AND DISPOSAL OF EXCAVATED MATERIAL.
- 12 INCLUDES PAYMENT FOR MNDOT APPROVED PEDESTRIAN RAMPS
(TRUNCATED DOMES) & 6" CLASS 5 BASE UNDER WALK.
- 13 NEW MONUMENT CASTINGS WILL BE SUPPLIED BY THE CITY IF REQUIRED.
- 14 SEE DETAIL ON SHT. 12.
- 15 TO BE PLACED AS DIRECTED BY THE ENGINEER.
QUANTITY BASED ON INSTALLATION FROM 34+50 TO 37+50; 37' RT.
- 16 INCLUDES NECESSARY GRADING AND 2" TOP SOIL.
- 17 THE SURFACE REMOVED SHALL BECOME THE PROPERTY OF THE CITY OF DULUTH
AND BE DELIVERED TO 40TH AVENUE WEST TOOLHOUSE. COORDINATE PRECISE
LOCATIONS TO DELIVER MATERIALS WITH CITY OF DULUTH.

STATEMENT OF ESTIMATED QUANTITIES						TOTAL		PARTICIPATING PIEDMONT AVE. S.A.P. 118-149-04		PARTICIPATING W. SUPERIOR STREET S.A.P. 118-109-15		STORM SEWER		NON-PARTICIPATING CITY OF DULUTH	
PIEDMONT AVE. ~ SUPERIOR ST.						QUANTITY		QUANTITY		QUANTITY		QUANTITY		QUANTITY	
NOTE	CHART	PAGE	SPEC. NO.	DESCRIPTION	UNIT	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	PIEDMONT	SUPERIOR	ESTIMATE	FINAL
			2021.501	MOBILIZATION	LUMP SUM	1	1	0.26		0.66		0.05		0.02	
1	A	6	2104.501	REMOVE CONCRETE CURB & GUTTER	LIN. FT.	3950	3950	1223		2727					
	D	8	2104.501	REMOVE SEWER PIPE	LIN. FT.	31	47						31		
	A	6	2104.503	REMOVE CONCRETE WALK	SQ. FT.	22840	23374	4550		18290					
2	A	6	2104.503	REMOVE VAULT ROOF	SQ. FT.	2256	1483	773		1483					
1,3	A	6	2104.505	REMOVE PAVEMENT	SQ. YD.	688	807.2	461		102				125	
4	C,D	7,8	2104.509	REMOVE MH OR CB	EACH	13	14					5	7	1	
	H	9	2104.509	REMOVE HYDRANT	EACH	1	1	1							
	A	6	2104.513	SAWING BITUMINOUS PAVEMENT	LIN. FT.	160	238			160					
5	B	6	2105.521	GRANULAR BORROW (LV)	CU. YD.	800	358			800					
	7,8	B	6	2201.503	CONCRETE BASE, IRREGULAR WIDTH	SQ. YD.	275	274.7	47	103				125	
6	B	6	2211.502	AGGREGATE BASE (LV), CLASS 5	CU. YD.	20	0	20							
7	B	6	2211.503	AGGREGATE BASE (CV), CLASS 5	CU. YD.	397	397	111		286					
17	A	6	2232.501	MILL BITUMINOUS SURFACE (4.0")	SQ. YD.	10331	10331	2007		8324					
	B	6	2350.501	TYPE MV4 WEARING COURSE MIXTURE (B)	TON	1436	1495.7	367		1069					
	B	6	2350.502	TYPE LV3 NON WEARING COURSE MIXTURE (B)	TON	1696	1663.5	334		1362					
			2451.501	STRUCTURE EXCAVATION, CLASS R	CU. YD.	10	11.9					5	5		
9	F	9	2502.541	4" PERFORATED (TP) PIPE DRAIN SDR 35	LIN. FT.	3205	3241	1162		2043					
10	C	7	2503.511	8" PVC PIPE SEWER SDR 35	LIN. FT.	29	31.5							29	
10	E	9	2503.541	12" RC PIPE SEWER, DESIGN 3006 CL III	LIN. FT.	31	31						31		
10	E	9	2503.541	15" RC PIPE SEWER, DESIGN 3006 CL III	LIN. FT.	8	21						8		
10	E	9	2503.573	15" RC PIPE APRON, CLASS III	EACH	1	1						1		
10,11	C	7	2503.602	SANITARY SEWER SPOT REPAIR	EACH	5	5							5	
	C	7	2503.602	PVC WYE	EACH	2	2							2	
	C	7	2503.602	CONNECT PVC SEWER SERVICE	EACH	2	2							2	
	H	9	2504.602	ADJUST VALVE BOX	EACH	6	3	1		5					
	H	9	2504.602	HYDRANT	EACH	1	1	1							
	H	9	2504.602	6" GATE VALVE AND BOX	EACH	1	1	1							
	H	9	2504.602	CURB STOP AND BOX	EACH	1	1			1					
10	H	9	2504.603	6" WATERMAIN, DUCTILE IRON, CL-53	LIN. FT.	16	14			16					
10	H	9	2504.603	WATER SERVICE REPLACEMENT	LIN. FT.	23	24.4			23					
	E	9	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN C OR G	EACH	12	12					5	7		
	C,D	7,8	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN. FT.	17	12					4	10	3	
	C,D,G,I	7,8,9	2506.516	CASTING ASSEMBLY	EACH	15	11					2	5	8	
	C,D	7,8	2506.522	ADJUST FRAME AND RING CASTING	EACH	7	6	3		4					
7,12	B	6	2521.501	6" CONCRETE WALK	SQ. FT.	22630	19092	4020		18610					
	B	6	2531.501	CONCRETE CURB & GUTTER, DESIGN B624	LIN. FT.	3920	3992	1231		2689					
7	B	6	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ. YD.	196	206.4	89		107					
13	L	10	2540.602	ADJUST MONUMENT BOX	EACH	3	3			3					
			2554.602	INSTALL FLARED END SECTION	EACH	2	0	2							
			2554.603	RECONSTRUCT PLATE BEAM GUARDRAIL	LIN. FT.	30	0	30							
		21	2563.601	TRAFFIC CONTROL	LUMP SUM	1	1	0.26		0.66		0.025	0.025	0.02	
	J	10	2564.602	F & I SIGN PANEL TYPE C	EACH	11	1	4		7					
14	J	10	2564.602	F & I SIGN POSTS	EACH	14	1	6		8					
	J	10	2564.602	SALVAGE AND REINSTALL SIGN	EACH	6	5	3		3					
	26	2564.603	4" SOLID LINE WHITE - EPOXY	LIN. FT.	3707	3959	1137			2570					
	26	2564.603	4" BROKEN LINE WHITE - EPOXY	LIN. FT.	2556	480				2556					
	26	2564.603	4" DOUBLE SOLID LINE YELLOW - EPOXY	LIN. FT.	1873	1916	593			1280					
	26	2564.618	CROSSWALK MARKING - EPOXY	SQ. FT.	684	612				684					
	27-29	2565.616	REVISE SIGNAL SYSTEM	SYSTEM	1	1	0.50			0.50					
15	Z	24	2573.502	SILT FENCE, TYPE PREASSEMBLED MAINTAINED	LIN. FT.	300	0			300					
	Z	24	2573.503	INLET PROTECTION, TYPE B	EACH	11	0	5		6					
16	M	10	2575.505	SODDING TYPE LAWN	SQ. YD.	1150	0	429		721					

RECORD DRAWING

CERTIFIED BY EDWARD H. FRENCH
PRINTED NAME

SIGNATURE

REG. NO. 11785 DATE _____

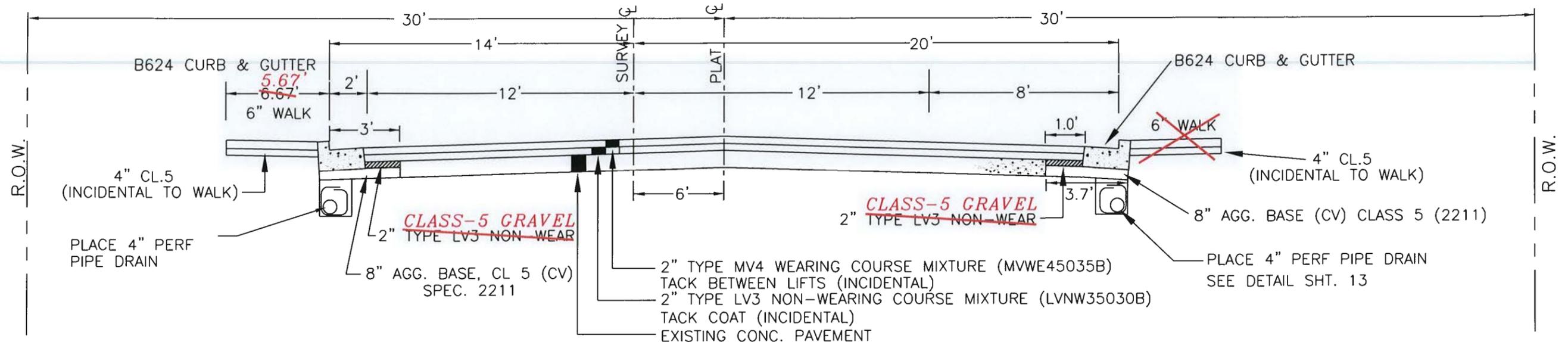
PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR

ESTIMATED QUANTITIES

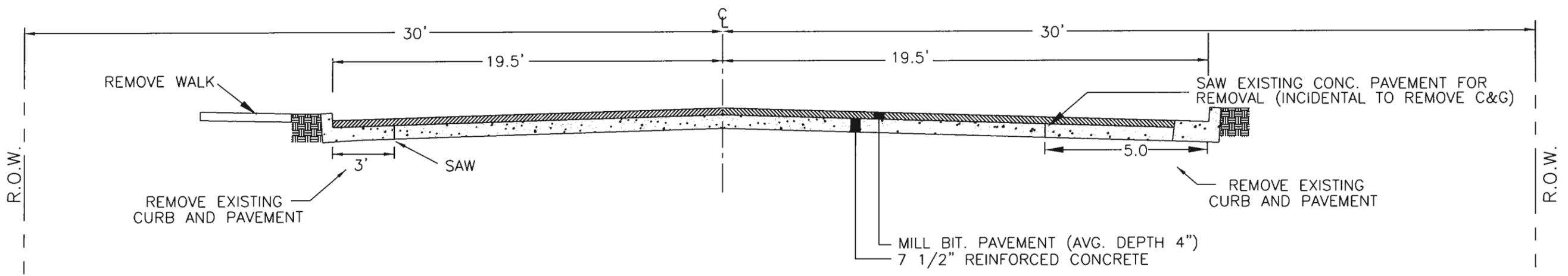
SHEET NO. 2 OF 29 SHEETS

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PROPOSED TYPICAL SECTION
 PIEDMONT AVENUE
 1ST ST. TO SUPERIOR ST.
 STA. 10+45 TO STA. 16+60

NOTE: OVERLAY 1 1/2" WEAR COURSE STA 9+12 TO 10+45
 NO SCALE



EXISTING TYPICAL SECTION
 PIEDMONT AVENUE
 1ST ST. TO SUPERIOR ST.
 STA. 9+12 TO STA. 16+60

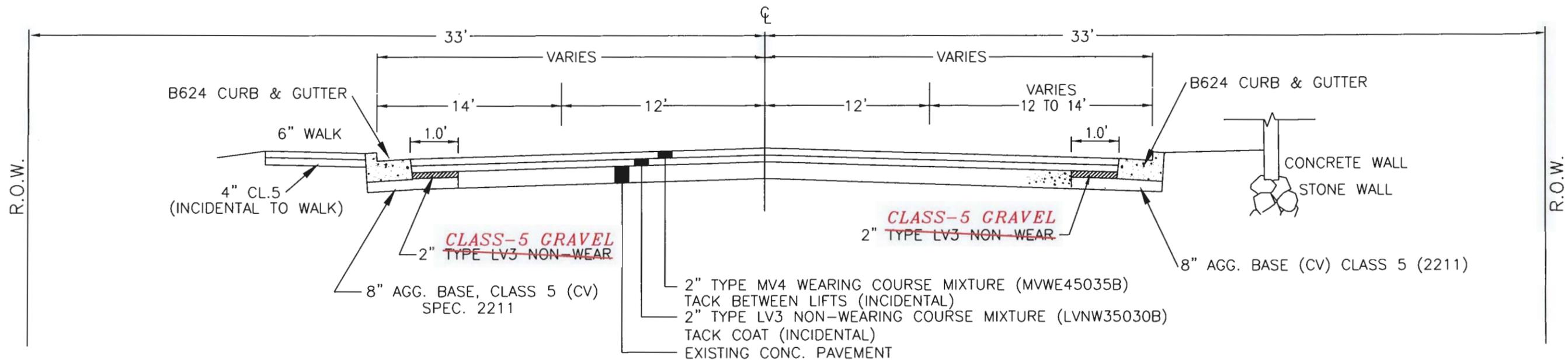
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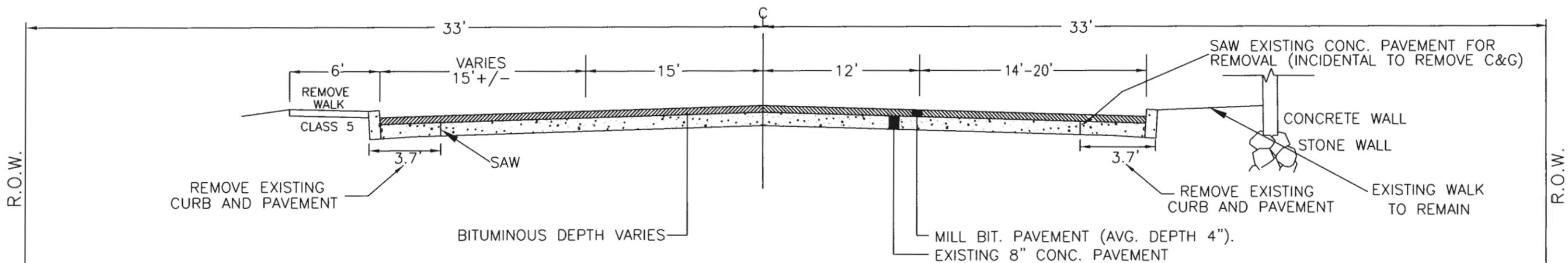
CERTIFIED BY EDWARD H. FRENCH REG. NO. 11785 DATE _____
PRINTED NAME SIGNATURE

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY
 STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR
 PIEDMONT TYPICAL SECTIONS
 SHEET NO. 3 OF 29 SHEETS

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PROPOSED TYPICAL SECTION
 GARFIELD AVENUE
 STA. 20+21 TO STA. 21+30
 NO SCALE



EXISTING TYPICAL SECTION
 GARFIELD AVENUE
 STA. 20+21 TO STA. 21+30
 NO SCALE

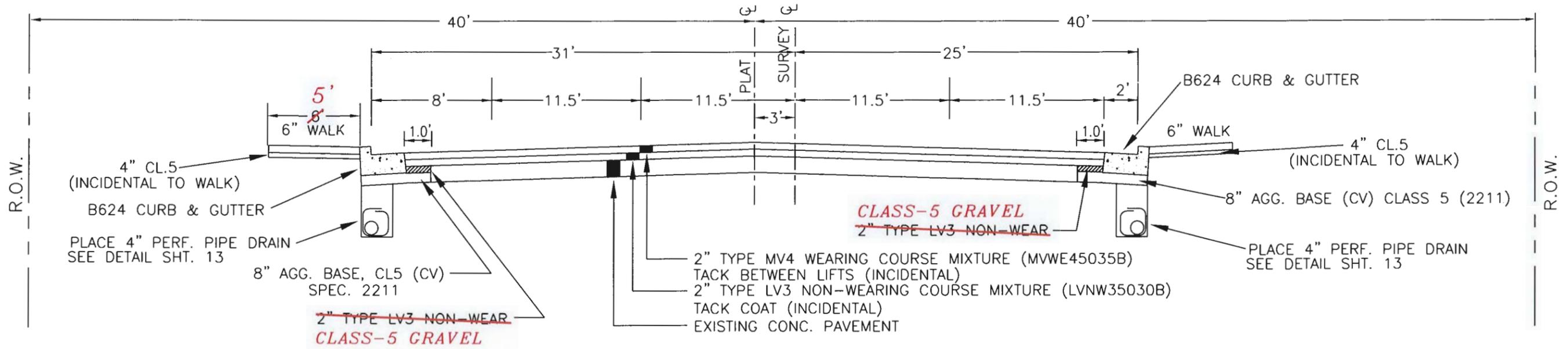
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CERTIFIED BY EDWARD H. FRENCH REG. NO. 11785 DATE _____
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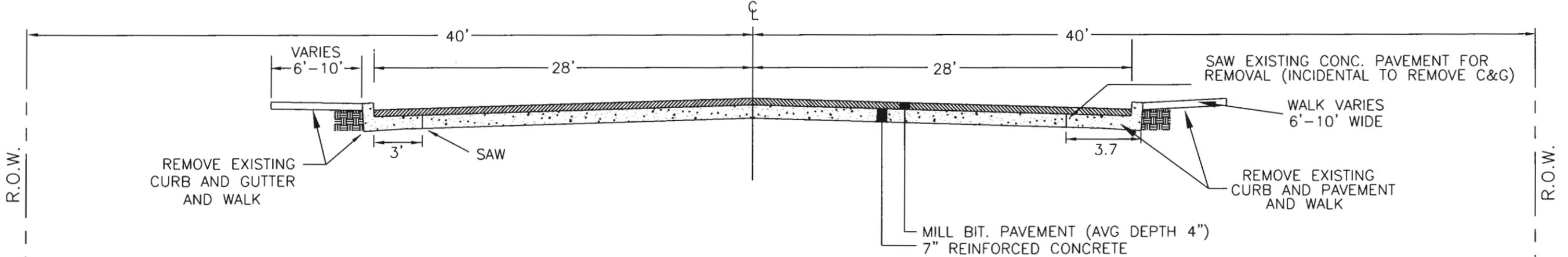
PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY
 STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR

GARFIELD TYPICAL SECTIONS
 SHEET NO. 4 OF 29 SHEETS

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PROPOSED TYPICAL SECTION
 WEST SUPERIOR STREET
 GARFIELD AVE. TO MICHIGAN ST.
 STA. 32+33 TO STA. 46+00
 NO SCALE



EXISTING TYPICAL SECTION
 WEST SUPERIOR STREET
 GARFIELD AVE. TO MICHIGAN ST.
 STA. 32+33 TO STA. 46+00
 NO SCALE

RECORD DRAWING

CERTIFIED BY EDWARD H. FRENCH REG. NO. 11785 DATE _____
PRINTED NAME SIGNATURE

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY SUPERIOR TYPICAL SECTIONS
 STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR SHEET NO. 5 OF 29 SHEETS

STANDARD PLATES	
THE FOLLOWING STANDARD PLATES APPROVED BY FHWA SHALL APPLY ON THIS PROJECT	
PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
4000J	MANHOLE OR CATCH BASIN
4002F	MANHOLE OR CATCH BASIN
4005L	MANHOLE OR CATCH BASIN
4006L	MANHOLE OR CATCH BASIN
4007C	PRECAST MECHANICAL JOINT SEWER MANHOLE
4011E	PRECAST CONCRETE BASE
7100G	CONCRETE CURB AND GUTTER
7111J	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTING
8000I	STANDARD BARRICADES
8307Q	STEEL PLATE BEAM GUARDRAIL W/ WOOD POSTS

CITY OF DULUTH STANDARD PLATES

PLATE NO.	DESCRIPTION
5002	CATCH BASIN FRAME CASTING
5005	CATCH BASIN FRAME CASTING
5010	MANHOLE FRAME & SOLID LID CASTING (STORM)
5020	MANHOLE FRAME & SOLID LID CASTING (SANITARY)
W-4	FIRE HYDRANT SETTING DETAILS
W-5	TYPICAL STREET SERVICE-WATER
W-13	WATER SERVICE INSULATION
19788	FRAME AND SOLID LID SURVEY MONUMENT CASTING

A	REMOVAL ITEMS						
	LOCATION	CONCRETE C&G	CONCRETE WALK	VAULT ROOF	PAVEMENT	SAW BIT. PAVEMENT	MILL BITUMINOUS SURFACE (4")
		2104.501	2104.503	2104.503	2104.505	2104.513	2232.501
		LIN. FT.	SQ. FT.	SQ. FT.	SQ. YD.	LIN. FT.	SQ. YD.
	NOTE 1			NOTE 2			
PIEDMONT AVE.						2007	
LT.	1223	3300	0	9	0 132		
RT.	0	1250	773	452	0		
W. SUPERIOR STREET						8324	
LT.	1205	8696	0	169	84 106		
RT.	1522	9594	1483	58	76		
TOTAL	3950	22840 23374	2256 1483	688 807.2	160 238	10331	

1. INCLUDES SAWING AND REMOVAL OF ADJACENT PAVEMENT 3' FROM FACE OF C&G.
2. INCLUDES SAWING AND REMOVAL OF ADJACENT CURB AND GUTTER ON PIEDMONT, RIGHT SIDE.

B	AGGREGATE, CONCRETE AND BITUMINOUS QUANTITIES									
	LOCATION	GRANULAR BORROW (LV) (NOTE 1)	AGG. BASE (LV) CLASS 5	AGG. BASE (CV) CLASS 5	PLANT MIXED BITUMINOUS		CONCRETE			
					MV4 WEARING COURSE MIXTURE B	LV3 NON WEARING COURSE MIXTURE B	CONC. BASE IRREGULAR WIDTH (NOTE 2)	6" CONCRETE WALK	C & G DESIGN B624 (NOTE 3)	8" CONC. DRIVEWAY PAVEMENT
					2105.521	2211.502	2211.503	2350.501	2350.502	2201.503
	CU. YD.	CU. YD.	CU. YD.	TON	TON	SQ. YD.	SQ. FT.	LIN. FT.	SQ. YD.	
PIEDMONT AVE.			111							
9+12 TO 10+45				427 387	319 384		4920 3255	4231 1309		
10+45 TO 16+60										
10+80 RT (#43)										38
12+77 LT (17TH AVE. W.)										38
14+94 LT (#18)			20							13
15+66 RT (HYDRANT REPLACEMENT)						11				
MH ADJUSTMENTS (9 X 9)						36				
W. SUPERIOR STREET			243							
9+12 TO 16+60				1068.7 1005	1344.5 1302		1860 15837	2689 2683		
16TH AVENUE WEST			27							
35+25 TO 35+50 & 36+50 TO 37+50 RT		300 358								
39+38 RT (#1510)										32
10+38 RT (#1424)										43
43+90 RT (#1424)										32
33+70 (SAN. REPAIR @ MH K)						17				
34+61 (SAN. REPAIR @ MH J)						25				
36+00 LT (SAN. REPAIR)						56				
38+00 LT (SAN. REPAIR)						11				
38+50 LT (SAN. REPAIR)						16				
37+75 RT (WATER MOVEBACK)						22				
MH ADJUSTMENTS (9' X 9')						81				
15TH AVENUE WEST			16							
TOTAL	300 358	20	397	1495.7	1663.5	275	22630	3920	19092	206.4

1. TO BE USED FOR VAULT FILL AND SLOPING.
2. CONCRETE AND 12" CL.5 INCIDENTAL TO THIS ITEM.
3. 8" CL. 5 BASE UNDER NEW C&G PAID AS AGG. BASE (CV)

RECORD DRAWING

CERTIFIED BY EDWARD H. FRENCH

SIGNATURE

REG. NO. 11785 DATE

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR

ST. PLATES, QUANTITY CHARTS

SHEET NO. 6 OF 29 SHEETS

C	SANITARY SEWER															
STRUCTURE NUMBER	STATION	LOCATION	REMOVE MH	8" PVC PIPE SEWER	SAN. SEWER SPOT REPAIR	PVC WYE	CONNECT PVC SEWER SERVICE	RECONST. DRAINAGE STRUCT.	CASTING ASSEMBLY	ADJUST FRAME AND RING	PROP. TOP OF CASTING	EXISTING TOP OF CASTING	FLOW LINE	DRAINS TO	REMARKS	
			(NOTE 1)	SDR 35	(NOTE 2)	12X6 OR 8X6				(NOTE 3&4)						
			2104.509	2503.511	2503.602	2503.602	2503.602	2506.503	2506.516	2506.522	ELEV.	ELEV.	ELEV.			
			EACH	LIN. FT.	EACH	EACH	EACH	LIN. FT.	EACH	EACH	ELEV.	ELEV.	ELEV.			
PIEDMONT AVE.																
MH A																
MH B	9+09.9	20.7 RT										674.65	665.55	S TO MH C	NO WORK	
MH C	9+20.6	48.4 RT										670.30	660.10	SW	NO WORK	
MH D	9+46.6	23.6 LT										675.86	669.30	W TO MH C	NO WORK	
MH E	10+36.8	49.9 LT								1		680.54 +/-	?	MH C	BURIED MH 6" BELOW W'LY SHOULDER ON 1st ST	
MH F	10+61.0	66.0 LT		20.31.5						1		683.57	676.33	MH E		
MH G	12+71.5	26.2 RT						2	1			660.40	652.56	MH H		
MH I	14+62.8	7.9 LT								1		646.30	640.14	MH K		
W. SUPERIOR STREET																
MH H	29+99.9	26.2 LT										631.04	617.48	WEST	NO WORK	
MH J	34+61.2	25.7 LT			1				1			640.91	627.95	K	APPROXIMATELY 10 FT.	
MH K	33+68.2	26.2 LT			1				1			638.30	625.67	L	APPROXIMATELY 5 FT.	
	33+72	26.0 LT				1	1									
MH L	32+87.4	26.1 LT							1			637.12	623.91	H		
	35+95.0	26.0 LT			1										APPROXIMATELY 4 FT.	
MH N	37+41.9	25.9 LT								1		649.19	636.76	J		
	38+00.5	26.0 LT			1										APPROXIMATELY 4 FT.	
	38+48.5	26.0 LT			1	1	1								APPROXIMATELY 8 FT.	
MH O	39+32.5	25.6 LT								1		655.47	642.76	N	PLUG LINE TO EAST.	
MH P	43+17.7	26.2 LT	1									663.21	657.97	O	PLUG OUTLET PIPE. REMOVE 3 FT. AND FILL WITH SAND.	
TOTAL			1	20.31.5	5	2	2	2	4	5						

NOTES:
1. ABANDONED SANITARY LINE WILL BE PLUGGED AT BOTH ENDS. INCIDENTAL TO 2104.509; REMOVE MH
2. SPOT REPAIRS INCLUDE EXCAVATION, REQUIRED ADAPTORS AND/OR FITTINGS, APPROPRIATELY SIZED PVC PIPE, SELECT GRANULAR BACKFILL(MOD), COMPACTION, AND DISPOSAL OF EXCAVATED MATERIAL.
3. FURNISH AND INSTALL NEW CITY OF DULUTH SAN. CASTING #5020; SPEC.NO 2506.516
4. ALL EXISTING CASTINGS NOT USED FOR THIS PROJECT SHALL BE DELIVERED TO THE CITY OF DULUTH TOOL HOUSE AT 40TH AVE. WEST DRAINAGE STRUCTURE CASTINGS SHALL BE REMOVED AND MAY BE STOCKPILED ON SITE. THE CONTRACTOR SHALL COORDINATE AND DELIVER THE CASTINGS TO THE CITY OF DULUTH SEWER DIVISION STORAGE FACILITY AT 40TH AVENUE WEST. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UNLOAD THE CASTINGS. PAYMENT WILL BE INCIDENTAL TO ITEM 2506.516, CASTING ASSEMBLY. UPON COMPLETION OF THE UNLOADING THE CASTINGS WILL BECOME THE PROPERTY OF THE CITY OF DULUTH.

RECORD DRAWING

D												
EXISTING STORM DRAINAGE STRUCTURES												
STRUCTURE NUMBER	STATION	LOCATION	REMOVE SEWER PIPE	REMOVE MH OR CB	RECONST. DRAINAGE STRUCT	CASTING ASSEMBLY	ADJUST FRAME AND RING	PROP. TOP OF CASTING ELEV.	EXISTING TOP OF CASTING ELEV.	FLOWLINE ELEV.	DRAINS TO	REMARKS
			2104.501	2104.509	2506.503	2506.516	2506.522	CASTING	CASTING	FLOWLINE		
			LIN. FT.	EACH	LIN. FT.	EACH	EACH	ELEV.	ELEV.	ELEV.		
PIEDMONT AVE.												
MH 3	10+43.2	11.0 RT			2	1		675.87	675.87	670.22	SE	REBUILD TOP 2.0' UNDER NEW CASTING ITEM
CB 3A	10+11.0	31.2 LT							677.75	674.28	MH 3	NO WORK
CB 3B	10+73.3	29.7 LT							677.32	675.58	MH 3	NO WORK
MH 4	12+57.9	11.2 RT			2	1		661.88	661.88	657.12	SE ~ MH 5	REBUILD TOP 2.0' UNDER NEW CASTING ITEM
CB 4A	12+31.9	24.4 RT		1					662.90	660.11	MH 4	
CB 4B	12+46.0	12.7 LT		1					662.41	659.91	MH 4	
MH 6	12+98.6	81.8 RT							648.47	644.67	S ~ MH 7	NO WORK
CB 8A	14+42.6	12.7 LT		1					647.63	644.46	CB 8B	
CB 8B	15+83.8	12.2 LT		1					839.46	637.31	SE ~ MH 8	
CB 8C	15+54.5	24.7 RT		1					638.57	636.11	MH 8	
W. SUPERIOR STREET												
CB 21A	20+17.0	28.0 LT									MH 21	NO WORK
MH 21	20+28.0	3.7 RT									SOUTH	NO WORK
CB 21B	20+35.5	23.4 RT									MH 21	NO WORK
MH 8	33+84.0	0.9 LT			2	1		638.99	638.99	631.74	SE ~ MH 9	REBUILD INLET UNDER RECONSTRUCT ITEM
CB 8D	33+70.6	29.9 LT		1					638.14	635.90	LINE 8B?	
MH 9	34+17.5	20.3 RT			2	1		638.64	638.64	627.97	36" MAIN	
CB 9A	34+38.8	25.4 RT		1					638.68	635.81	MH 9	
CB 9B	34+08.8	32.1 RT					1	637.86	637.86	634.09	MH 9	NEWER CATCH BASIN
MH 10	34+52.3	39.8 LT			2	1		641.18 641.44	641.18	633.72	MH 9	
CB 10A	34+51.2	46.5 LT		1					641.39	638.55	MH 10	
CB 10B	34+82.4	46.2 LT	31	1					641.98	638.95	MH 10	
CB 10C	35+04.5	29.9 LT		1					641.76	638.95	MH 10	
MH 11	39+27.0	41.7 RT					1	653.50	653.02	645.92	S	
CB 11A	39+70.8	24.4 RT		1					655.01	652.50	MH 11	
MH 12	39+26.8	15.8 LT			2	1		655.32	655.32	648.52	MH 11	
CB 12A	39+70.2	29.9 LT		1					656.44	653.37	MH 12	
MH 13	39+26.7	42.2 LT			2	1		656.32	656.32	649.56	MH 12	INVERT NEEDS REPAIR
CB 14	41+06.0	46.4 LT							661.65	655.54	MH 13	NO WORK
CB 14A	41+47.4	47.2 LT							661.73	657.03	CB 14	NO WORK
CB 15	46+01.7	25.4 RT							652.22	647.29	CB 17	NO WORK
CB 16	46+29.7	77.9 RT							643.03	636.35	MH 18	NO WORK
TOTAL			31 47	12	14 12	7	2					
NOTES: 1. ABANDONED CATCH BASIN LEADS WILL BE PLUGGED AT BOTH ENDS AND FILLED WITH HIGH SLUMP CONCRETE AS DESCRIBED IN THE SPECIAL PROVISIONS. THIS WORK IS INCIDENTAL TO MH AND CB REMOVAL. 2. DRAINAGE STRUCTURE CASTINGS NOT RE-USED ON THIS PROJECT SHALL BE REMOVED AND MAY BE STOCKPILED ON SITE. THE CONTRACTOR SHALL COORDINATE AND DELIVER THE CASTINGS TO THE CITY OF DULUTH SEWER DIVISION STORAGE FACILITY AT 40TH AVENUE WEST. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UNLOAD THE CASTINGS. PAYMENT WILL BE INCIDENTAL TO ITEM 2104.509, REMOVE MANHOLE OR CATCH BASIN. UPON COMPLETION OF THE UNLOADING THE CASTINGS WILL BECOME THE PROPERTY OF THE CITY OF DULUTH.												

RECORD DRAWING

CERTIFIED BY EDWARD H. FRENCH
PRINTED NAME

SIGNATURE

REG. NO. 11785 DATE _____

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR EXISTING STORM SYSTEM

SHEET NO. 8 OF 29 SHEETS

G EXISTING WATER STRUCTURES						
	STATION	LOCATION	CASTING ASSEMBLY	EXISTING TOP OF CASTING ELEV.	BOTTOM ELEV.	REMARKS
			(NOTE 1)			
			2506.516 EACH			
PIEDMONT AVE.						
W-1	10+38.9	23.6 LT	1	678.12	675.77	
W-2	16+08.6	16.8 RT	1	637.73	630.30	
W. SUPERIOR STREET						
W-4	33+46.0	12.2 RT	1	637.75	629.55	
W-3	34+29.1	12.5 RT	1	639.42	630.17	
TOTAL			4 1			
NOTES: 1. FURNISH AND INSTALL CITY OF DULUTH STORM MH CASTINGS						

E PROPOSED STORM DRAINAGE STRUCTURES										
STRUCTURE NUMBER	STATION	LOCATION	CONST. C. B. C OR G	TOP OF CASTING ELEV.	INVERT ELEV.	R.C. PIPE SEWERS CL III			DRAINS TO STRUCT. NUMBER	REMARKS
						PIPE		APRON		
						12"	15"	15"		
			2506.502 EACH			2503.541 LIN. FT.	2503.541 LIN. FT.	2503.573 EACH		
PIEDMONT AVE.										
PCB 104 A	12+31.9	24.4 RT	1	662.90	660.11					IMH 4
PCB 104 B	12+46.0	12.7 LT	1	662.41	659.91					IMH 4
PCB 108 A	14+42.6	12.7 LT	1	647.63	644.46					PCB 108 B
PCB 108 B	15+83.8	12.2 LT	1	839.46	637.31					IMH 8
PCB 108 C	15+78.60	22.15 RT	1	637.50	633.4					IMH 8
W. SUPERIOR STREET										
PCB 108 D	33+70.6	29.9 LT	1	638.14	635.90					IMH 8
PCB 109 A	34+38.8	25.4 RT	1	638.68	635.81					IMH 9
PCB 110 A	34+51.2	46.5 LT		642.75 642.70	638.55 638.57					IMH 10
PCB 110 B	34+79.8	54.0 LT		643.62 642.70	638.60 639.31					IMH 10
PCB 110 C	35+04.5	29.9 LT		641.76 641.76	638.95 638.98					IMH 10
PAPR 110 D	34+43.00	66.0 LT		642.00 642.53				8 13	1	PCB 110 A
PCB 111 A	39+70.8	24.4 RT	1	655.01	652.50					IMH 11
PCB 112 A	39+70.2	29.9 LT	1	656.44	653.37					IMH 12
TOTAL			12			31	8 21		1	

I CASTING ASSEMBLIES		
TYPE OF CASTING	A	B
TYPE OF ASSEMBLY	STORM MH	SANITARY MH
CASTING DESCRIPTION	FRAME & LID	FRAME & LID
STANDARD PLATE NUMBER	CITY 5010	CITY 5020
NUMBER REQUIRED	11	4
NOTE: 4 STORM ASSEMBLIES WILL BE USED ON WATER MH'S.		

F PROPOSED PERFORATED PIPE					
STATION TO STATION		4" PERF. PIPE DRAIN		DRAINS TO	
		2502.541			
		LIN. FT.			
PIEDMONT AVE.					
10+80 TO 12+46	LT.	166		104B	
10+15 TO 12+40	RT.	225		104A	
12+46 TO 14+43	LT.	197		108A	
12+40 TO 15+78	RT.	338		108C	
14+43 TO 15+84	LT.	141		108B	
15+84 TO 16+79	LT.	95		108D	
W. SUPERIOR STREET					
33+70 TO 35+04	LT.	134		108D	
34+39 TO 39+71	RT.	532		109A	
35+04 TO 39+70	LT.	466		110C	
39+70 TO 42+50	LT.	280		112A	
39+71 TO 42+50	RT.	279		111A	
42+50 TO 46+02	RT.	352		115	
TOTAL		3205 3241			

H WATER UTILITY QUANTITIES									
STATION	LOCATION	REMOVE HYDRANT (NOTE 1)	6" GATE VALVE AND BOX	HYDRANT	ADJUST VALVE BOX	CURB STOP AND BOX	6" WATERMAIN DUCTILE IRON CL-53	WATER SERVICE REPLACEMENT	REMARKS
		2104.509 EACH	2504.602 EACH	2504.602 EACH	2504.602 EACH	2504.602 EACH	2504.603 LIN. FT.	2504.603 LIN. FT.	
PIEDMONT AVENUE									
15+63.3	16.4 RT				1				
15+67.6	28.1 RT	1							
15+66.0	26.0 RT		1						
15+66.0	30.0 RT			1					16 14
SUPERIOR ST.									
37+70.5	12 TO 35 RT					1		23 24.4	SERVICE MOVE BACK
38+50.0	33 LT				1				
39+35.0	30 LT				1				
39+64.0	18.5 RT				1				
39+95.5	14 RT				1				
40+00	23 RT				1				
TOTAL		1	1	1	8 3	1	16 14	23 24.4	
NOTE: 1. REMOVAL OF VALVE AND PIPING INCIDENTAL TO THIS ITEM.									

RECORD DRAWING

CERTIFIED BY EDWARD H. FRENCH
PRINTED NAME

SIGNATURE

REG. NO. 11785 DATE _____

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

STORM & WATER CHARTS

STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR

SHEET NO. 9 OF 29 SHEETS

J:\Projects\Transportation\0093tr\Drawings\SHEETS\SH10 QUANTITY CHARTS.dwg, 12/9/2004 2:02:07 PM, \DULUTH_TREE\ENG HP8550-P.CH.CITY

J	SIGNS					
	LOCATION		F & I SIGN PANEL	F & I	SALVAGE &	REMARKS
	STATION	OFFSET	TYPE C	SIGN POSTS	REINSTALL	
2564.602			2564.602	2564.602		
			EACH	EACH	EACH	
PIEDMONT AVE.						
STOP	10+09.1	27.2 RT		1	1	MOVE BEHIND WALK
STOP	10+85.1	15.1 LT		1	1	MOVE BEHIND WALK
TRUCK ROUTE	12+48.8	16.1 LT		1	1	
ROUTE INFO	12+57.8	25.0 LT				NO WORK
NO PARKING	13+25	22.0 LT	R8-3a MOD	1		12 X 18
TRUCK ROUTE	13+44	27.2 RT	R14-1	1		24 X 18
LT/RT ARROW	13+44	27.2 RT	M6-5L			21 X 15
NO PARKING	15+50	22.0 LT	R8-3a MOD	1		12 X 18
NO PARKING	16+33.7	15.6 LT				REMOVE
W. SUPERIOR STREET						
YIELD	34+03.9	43.8	R1-2	1		36 X 36 X 36
STOP	34+46.8	44.5 LT		1	1	
LOCATION	34+89.5	44.3 LT				NO WORK
BUS STOP	35+96.0	38.3 RT			1	INSTALL W/ NO PARK
NO PARKING	35+96.0	33.0 RT	R8-3a MON	1		12 X 18
NO PARKING	35+97.0	32.6 LT				REMOVE
MERGE	36+19.6	36.8 RT				REMOVE
SNOW EMERGENCY ROUTE	36+69.5	33.0 LT				REMOVE
TRUCK ROUTE	36+69.5	33.0 LT	R14-1	1		24 X 18
DIRECTIONAL ARROWS	36+69.5	33.0 LT	M6-7R	1		21 X 15
NO PARKING	39+80.0	33.0 RT	R8-3a MON	1		12 X 18
RT. LANE MUST TURN RT.	42+50.0	33.0 LT	R3-7R	1		30 X 30
NO PARKING	42+50.0	33.0 LT	R8-3a MON			INSTALL W/ MUST TURN
STOP AHEAD	43+55.4	32.3 RT			1	NO WORK
NO PARKING	45+31.6	34.0 RT		1	1	
TOTAL			11	14 11	6 5	

- NOTES:
1. STOP SIGNS SHALL BE MAINTAINED WHENEVER ROAD IS OPEN TO ANY TRAFFIC.
 2. STREET NAME SIGNS MUST REMAIN VISIBLE AT ALL TIMES.
 3. SIGN AND POST REMOVAL SHALL BE INCIDENT,

RECORD DRAWING

M	SODDING QUANTITIES	
STATION	LOCATION	SODDING TYPE LAWN
		2575.005
		SQ. YD.
PIEDMONT AVE.		
10+80 TO 14+86	LT	90
10+00 TO 10+70	RT	62
10+92 TO 12+65	RT	96
12+65 TO 12+89	RT	18
12+89 TO 15+82	RT	163
W. SUPERIOR STREET		
33+60 TO 34+08	LT	11
34+34 TO 34+50	LT	11
34+84 TO 35+02	LT	11
38+00 TO 41+12	LT	69
41+41 TO 46+00	LT	102
34+25 TO 37+42	RT	177
36+50 TO 37+42	RT	225
41+64 TO 43+34	RT	76
44+20 TO 46+00	RT	40
TOTAL		1150

NOTE: 2" OF TOPSOIL BORROW UNDER SOD IS INCIDENTAL TO THIS ITEM.

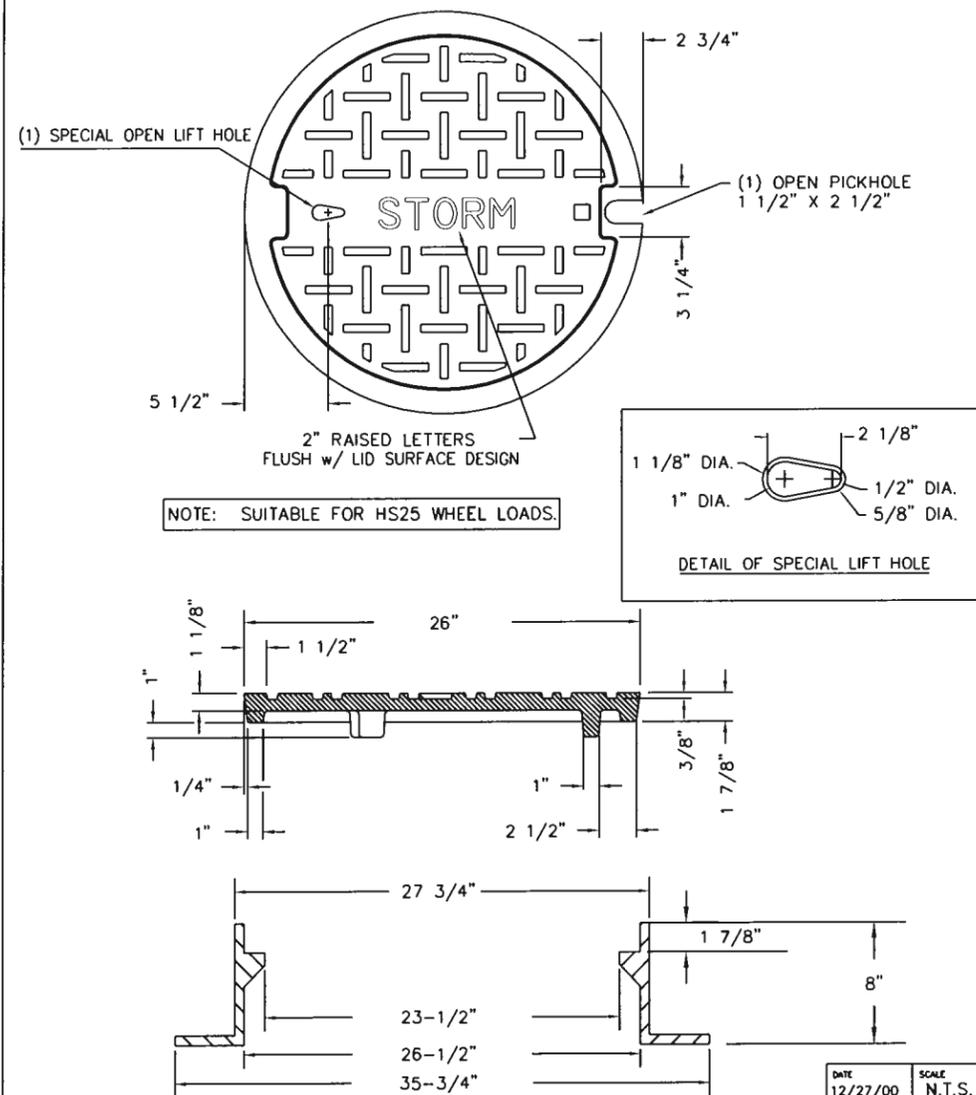
L	MONUMENT ADJUSTMENTS		
STATION	LOCATION	ADJUST MONUMENT BOX	REMARKS
		2540.602	
		EACH	
SUPERIOR STREET			
34+99.78	17.04 RT	1	(NOTE 1)
39+07.73	17.00 RT	1	(NOTE 1)
43+63.92	5.44 RT	1	(NOTE 1)
TOTAL		3	

NOTE :
1. CASTINGS WILL BE SUPPLIED BY CITY ENGINEERING IF NECESSARY.

J:\Projects\Transportation\Drawings\SHEETS\SH11 MH CASTINGS.dwg, 12/9/2004 1:37:45 PM, \\DULUTH_TREE\ENG HP8550-P.CH.CITY

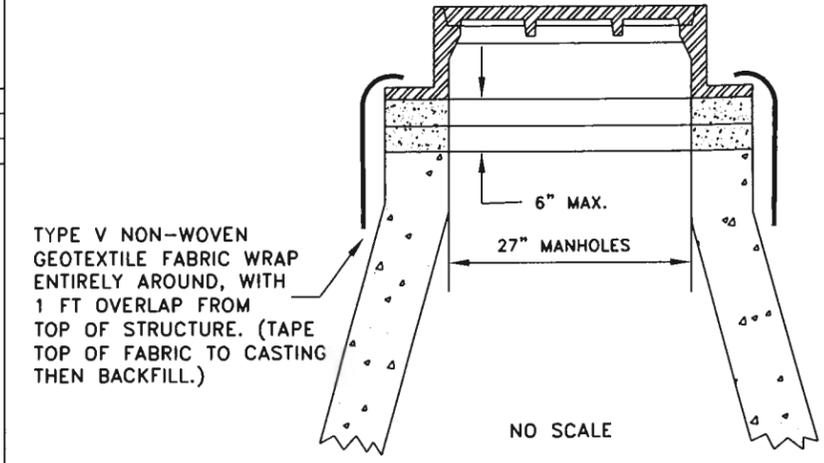
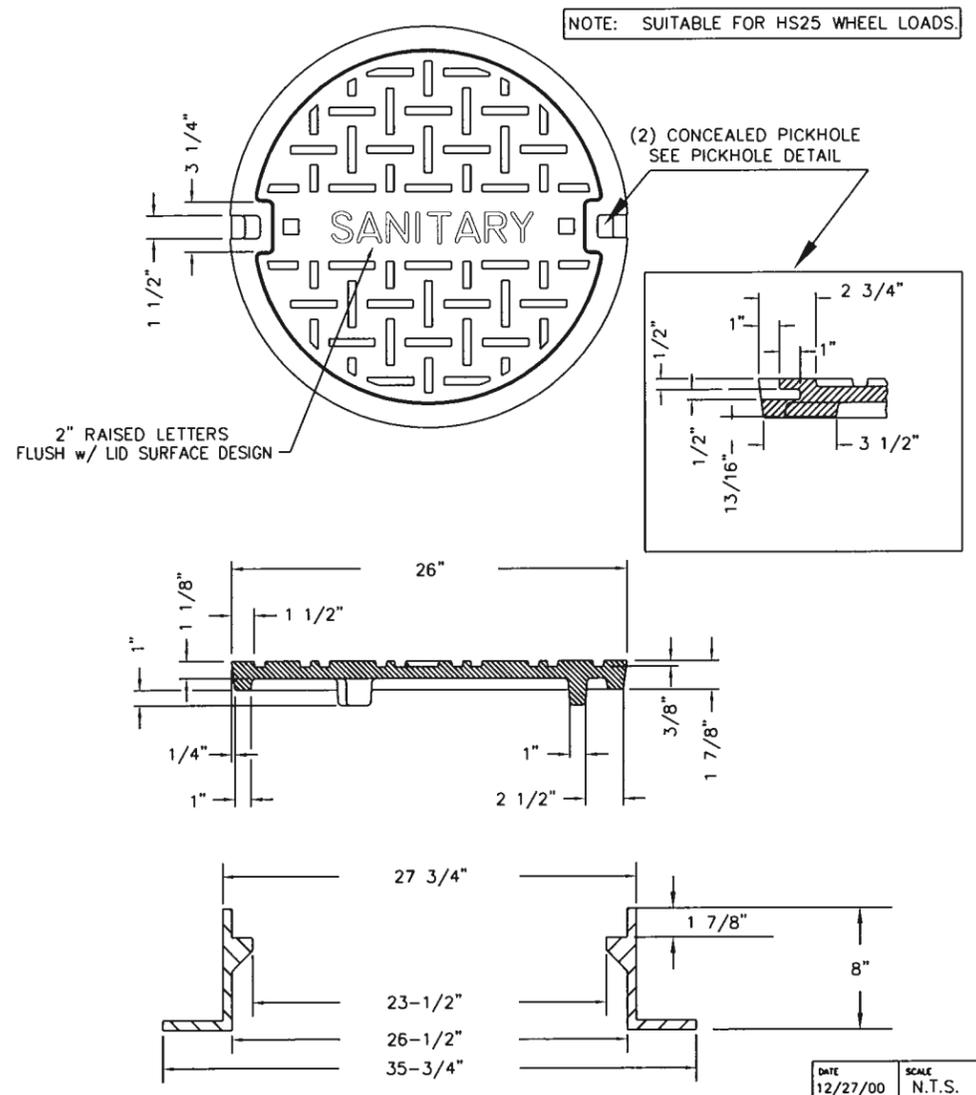
COMP. NO. 1723-5010	WGT. 298 LBS	CAT.	J:\CAD\STANDARD\STRM5010.DWG
COMP. NO.	WGT. 122 LBS		MATL. GRAY IRON CLASS 35B
COMP. NO.	TOT.WGT. 420 LBS.	PARENT NO.	SPEC. ASTM A-48-74

STORM LID AND FRAME

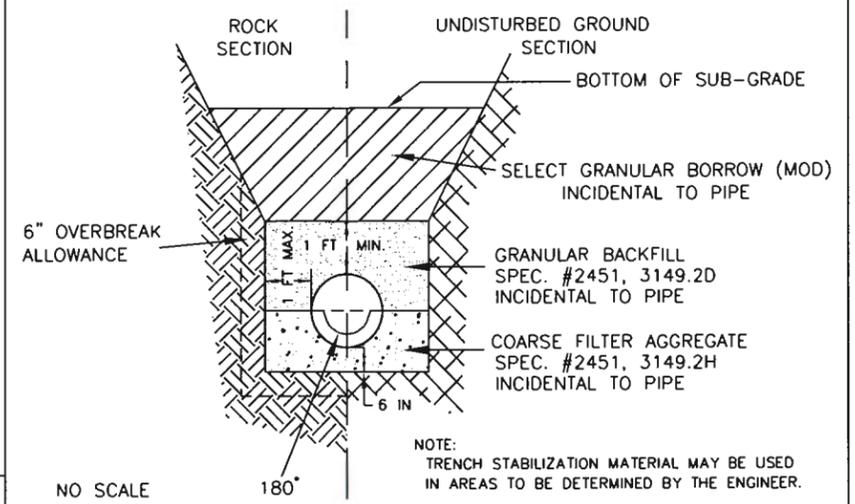


COMP. NO. 1723-5020	WGT. 298 LBS	CAT.	J:\CAD\STANDARD\STRM5020.DWG
COMP. NO.	WGT. 122 LBS		MATL. GRAY IRON CLASS 35B
COMP. NO.	TOT.WGT. 420 LBS.	PARENT NO.	SPEC. ASTM A-48-74

SANITARY SOLID LID AND FRAME



CASTINGS WITH FABRIC (INCIDENTAL)



PIPE BEDDING DETAIL
COMPACTED CONDITION
APPLIES TO 18" AND
SMALLER PIPE DIAMETERS

NO PLAN CHANGES

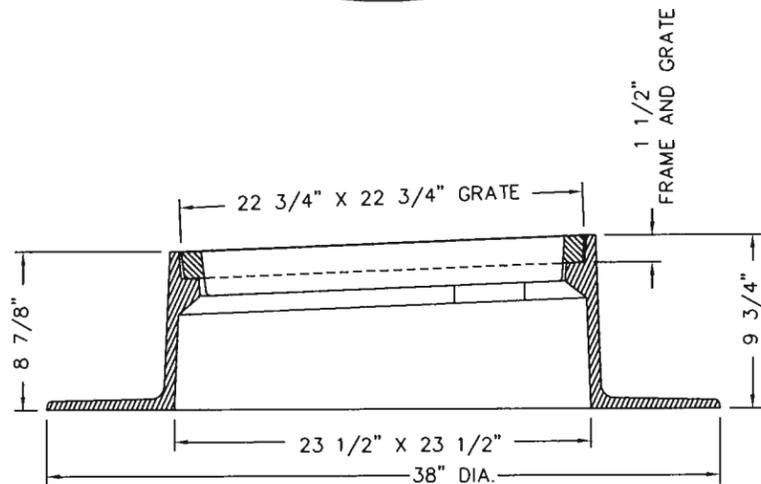
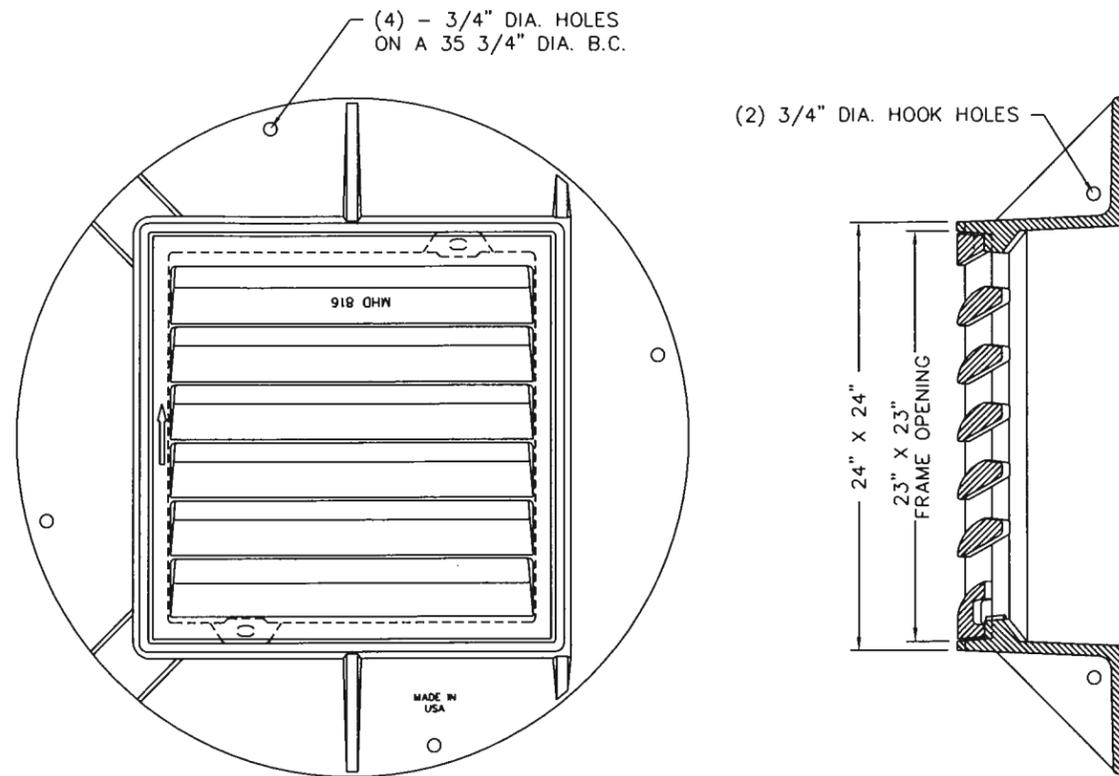
DETAIL NO. 5010 CITY OF DULUTH STANDARD

DETAIL NO. 5020 CITY OF DULUTH STANDARD

CERTIFIED BY EDWARD H. FRENCH PRINTED NAME _____ SIGNATURE _____ REG. NO. 11785 DATE _____

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY MANHOLE CASTINGS, DETAILS
STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR SHEET NO. 11 OF 29 SHEETS

J:\Projects\Transportation\0093tr\Drawings\Sheets\12 CATCH BASIN CASTINGS.dwg, 12/9/2004 1:28:58 PM, \\DULUTH_TREE\ENG HP8550-P.CH.CITY



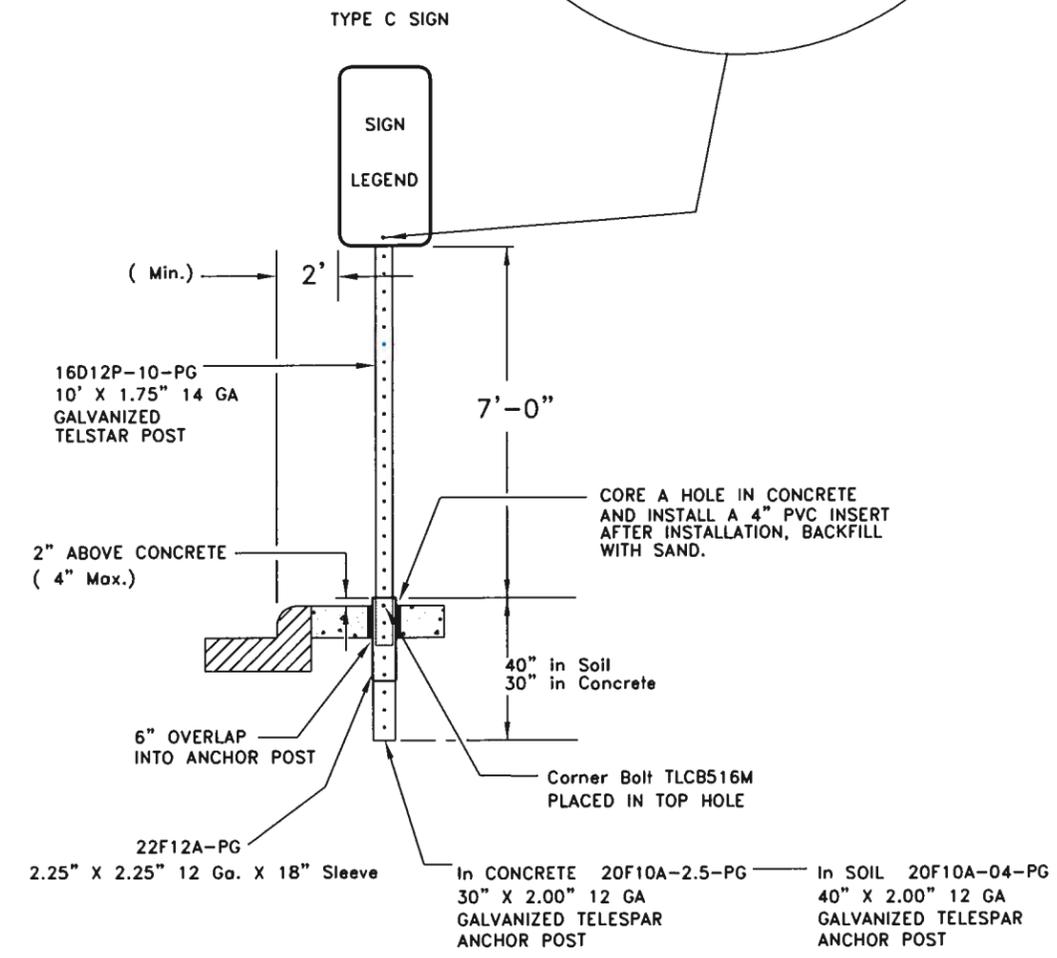
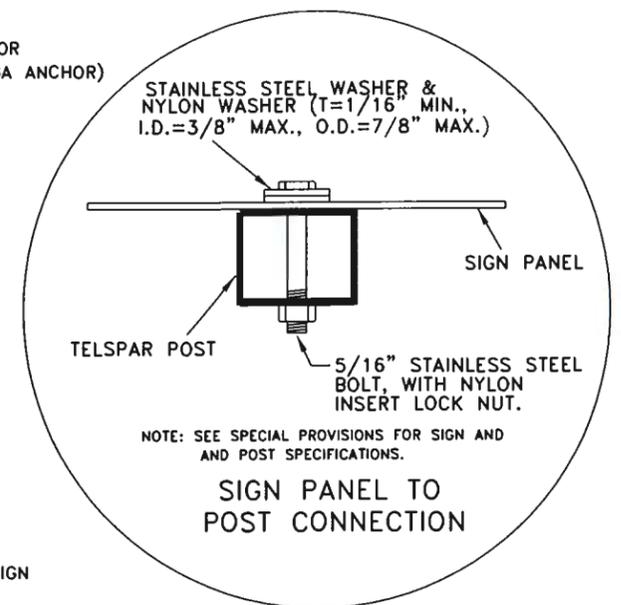
NOTES:

COMPONENT NO'S: TOP FRAME 5005, GRATE 816 (STD PLATE 4154).
 MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
 WEIGHT: FRAME 262#; GRATE 131#

CITY OF DULUTH CATCH BASIN CASTING 5005

NOTES:

1. IN SOIL USE 20F10A-04-PG 40" X 2.00" 12 GA ANCHOR (IN CONCRETE USE 20F10A-2.5-PG 30" X 2.00" 12 GA ANCHOR) WITH 16D12P-10-PG 10' X 1.75" 14 GA GALVANIZED TELSPAR POST, ALL SHALL CONFORM TO MN\DOT 3401.
2. MOUNTING (PUNCHING CODE) FOR TYPE "C" SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
3. ALL RISER (VERTICAL) TELSPAR POSTS SHALL BE SPLICED. THE DRIVEN STUB POSTS SHALL BE AT LEAST 40" LONG POSTS IN SOIL AND 30' LONG IN CONCRETE.
4. USE 5/16" STAINLESS STEEL BOLTS, WASHERS, AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
5. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.



"TELSPAR POST" SPLICE

NO SCALE **NO PLAN CHANGES**

CERTIFIED BY EDWARD H. FRENCH
PRINTED NAME

SIGNATURE

REG. NO. 11785 DATE _____

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

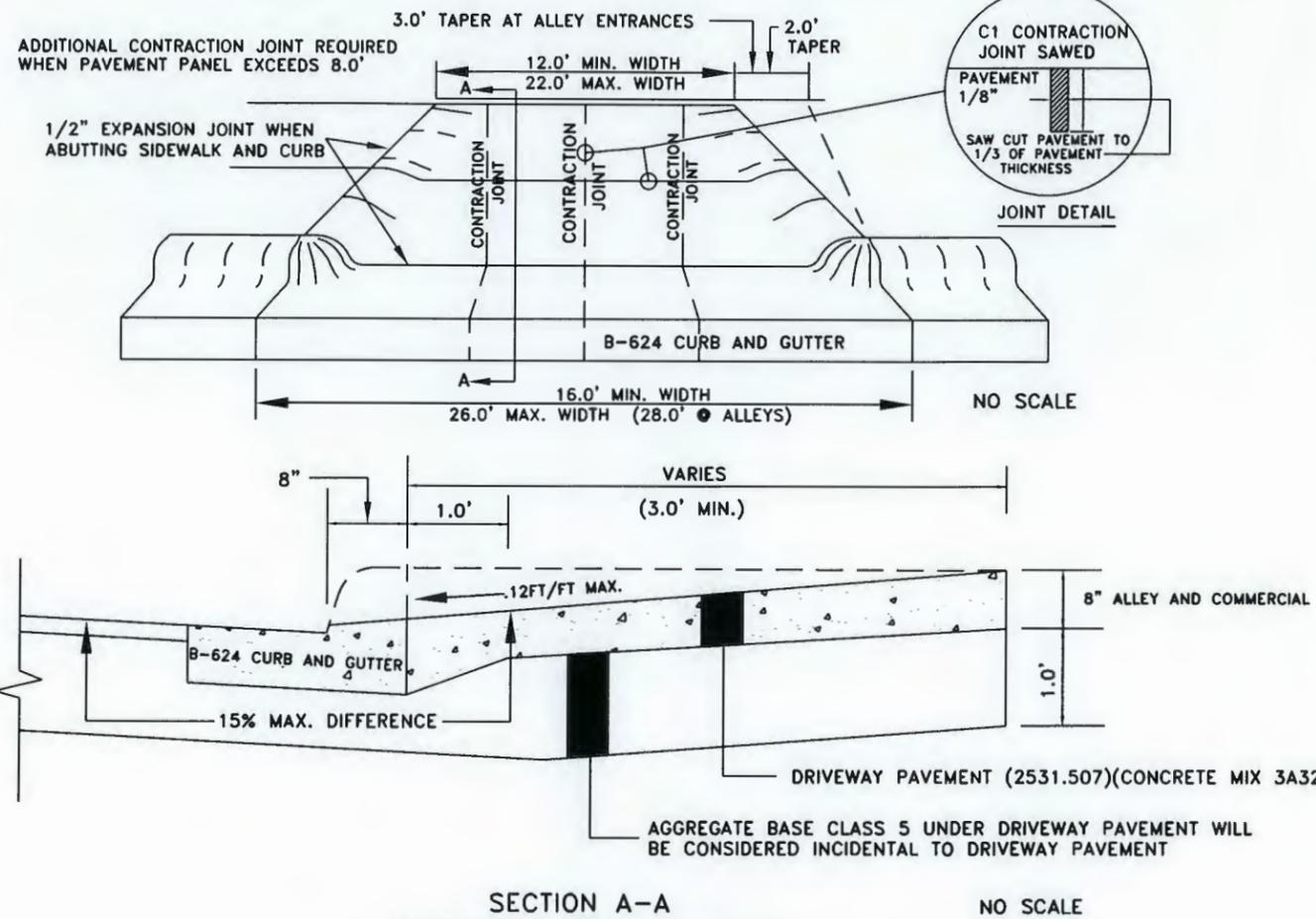
CONSTRUCTION DETAILS

STATE AID PROJECT NO. 118-109-15 (MTB)

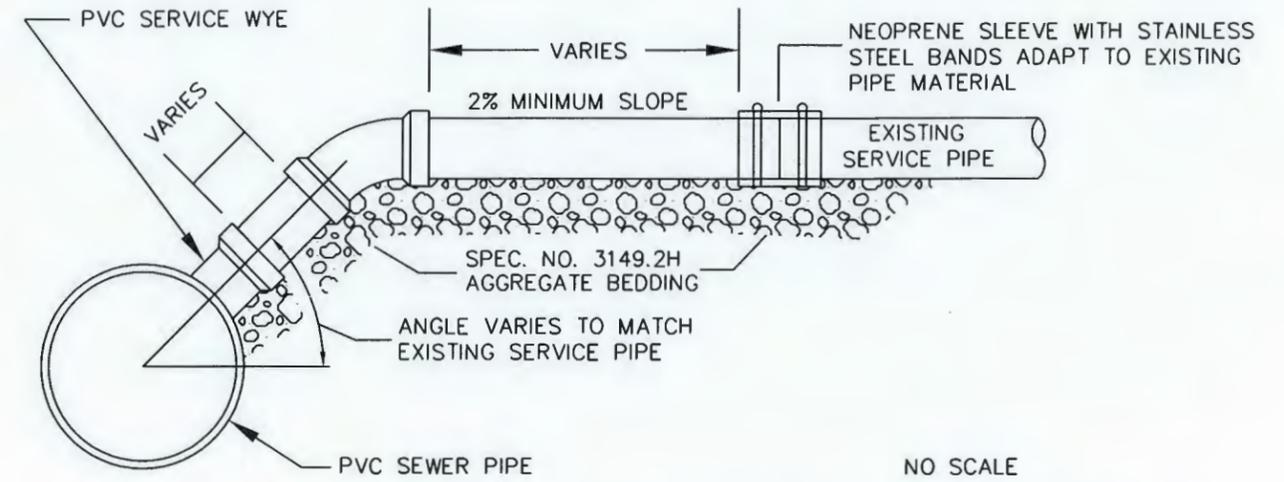
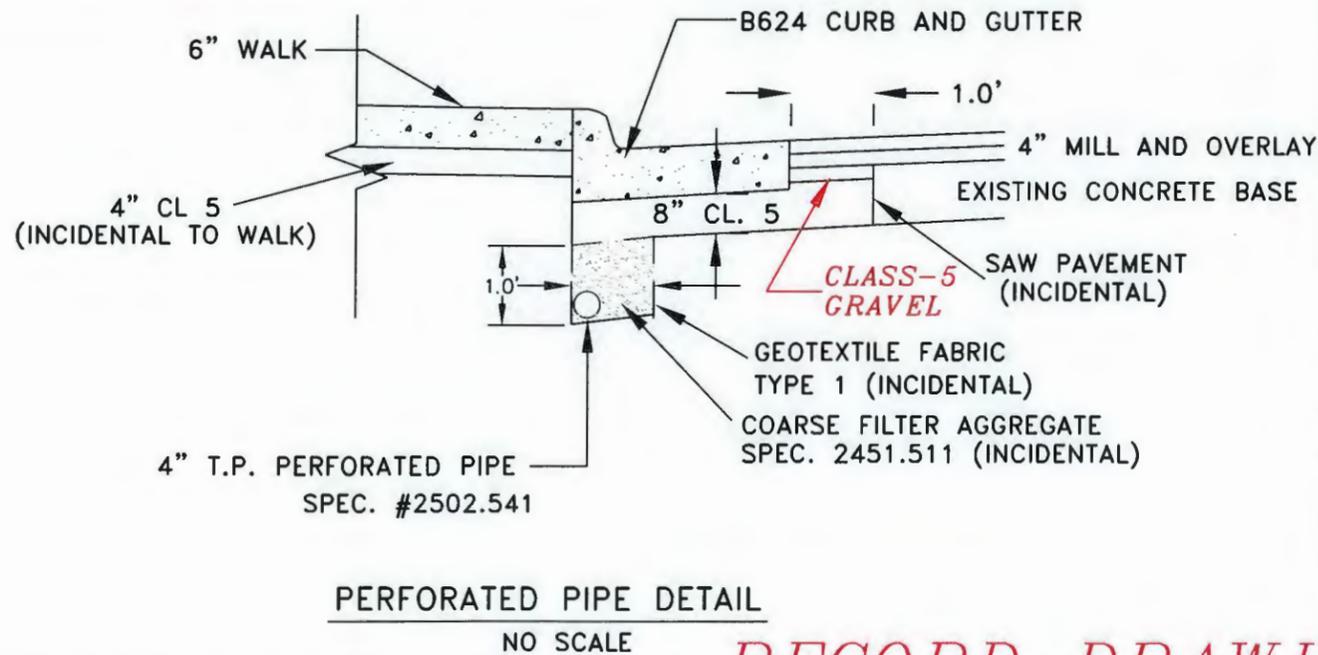
CITY PROJECT NOS. 0093TR,0094TR

SHEET NO. 12 OF 29 SHEETS

DRIVEWAY AND ALLEY ENTRANCE DETAIL

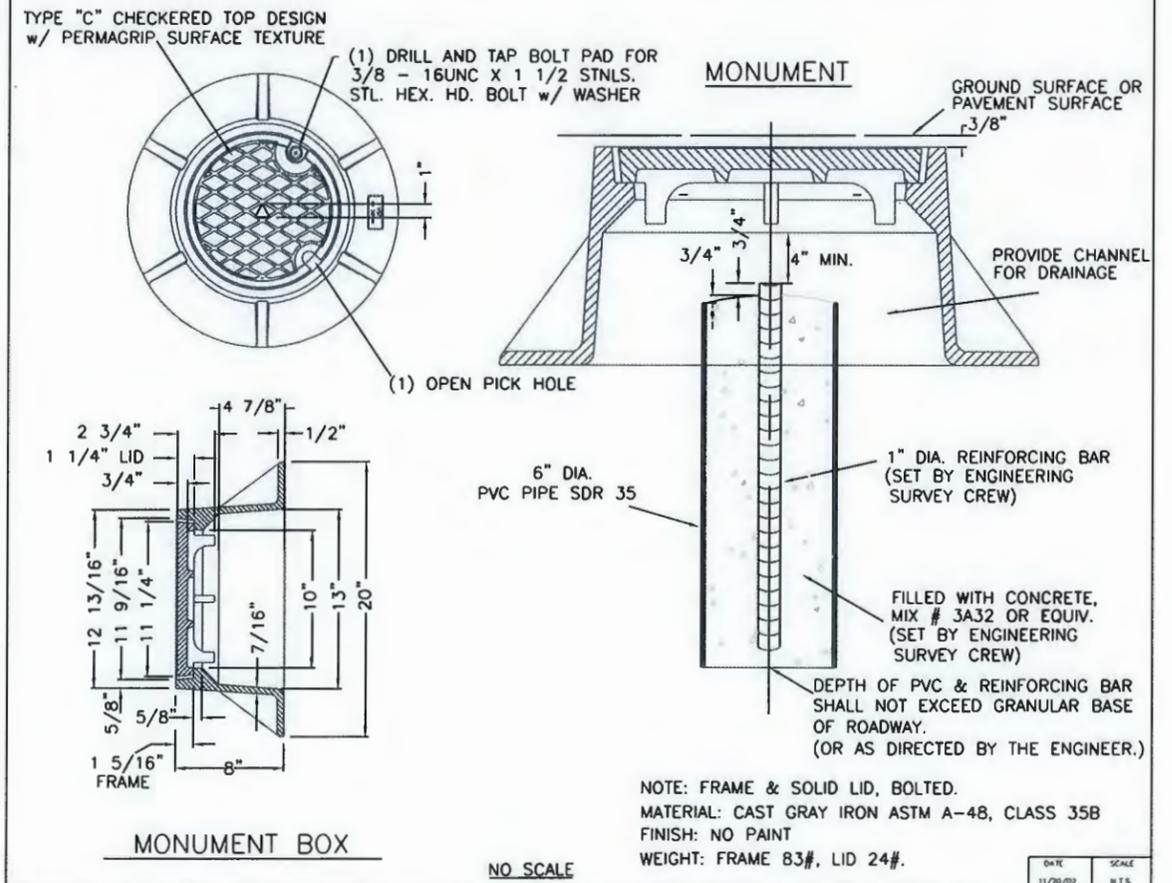


NOTE: THE CREST OF THE DRIVEWAY MUST BE AT LEAST 6" ABOVE GUTTER TO CONTAIN RUNOFF.
 NOTE: STATE OF MINN. STANDARD PLATE 7035L NOTE 5 SHALL NOT APPLY.



- NOTES:
1. WYE INCLUDES FURNISHING AND INSTALLING WYE IN SEWER MAIN
 2. RECONNECT SANITARY SERVICE INCLUDES UP TO 4.0' OF PVC HOUSE SERVICE PIPE AND ALL FITTINGS
 3. 4"/6" PVC SEWER SERVICE PIPE IS INTENDED FOR THE RECONSTRUCTION OF SEWER SERVICES (WHEN FOUND TO BE IN NEED BY THE ENGINEER) COMPLETE IN PLACE FROM 4.0' BEYOND THE C/L OF THE SEWER MAIN TO A POINT DESIGNATED BY THE ENGINEER

TYPICAL SEWER SERVICE CONNECTION



NOTE: FRAME & SOLID LID, BOLTED.
 MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
 FINISH: NO PAINT
 WEIGHT: FRAME 83#, LID 24#.

RECORD DRAWING

CERTIFIED BY EDWARD H. FRENCH
 PRINTED NAME

SIGNATURE

REG. NO. 11785 DATE

DETAIL NO. 5076 A

CITY OF DULUTH STANDARD

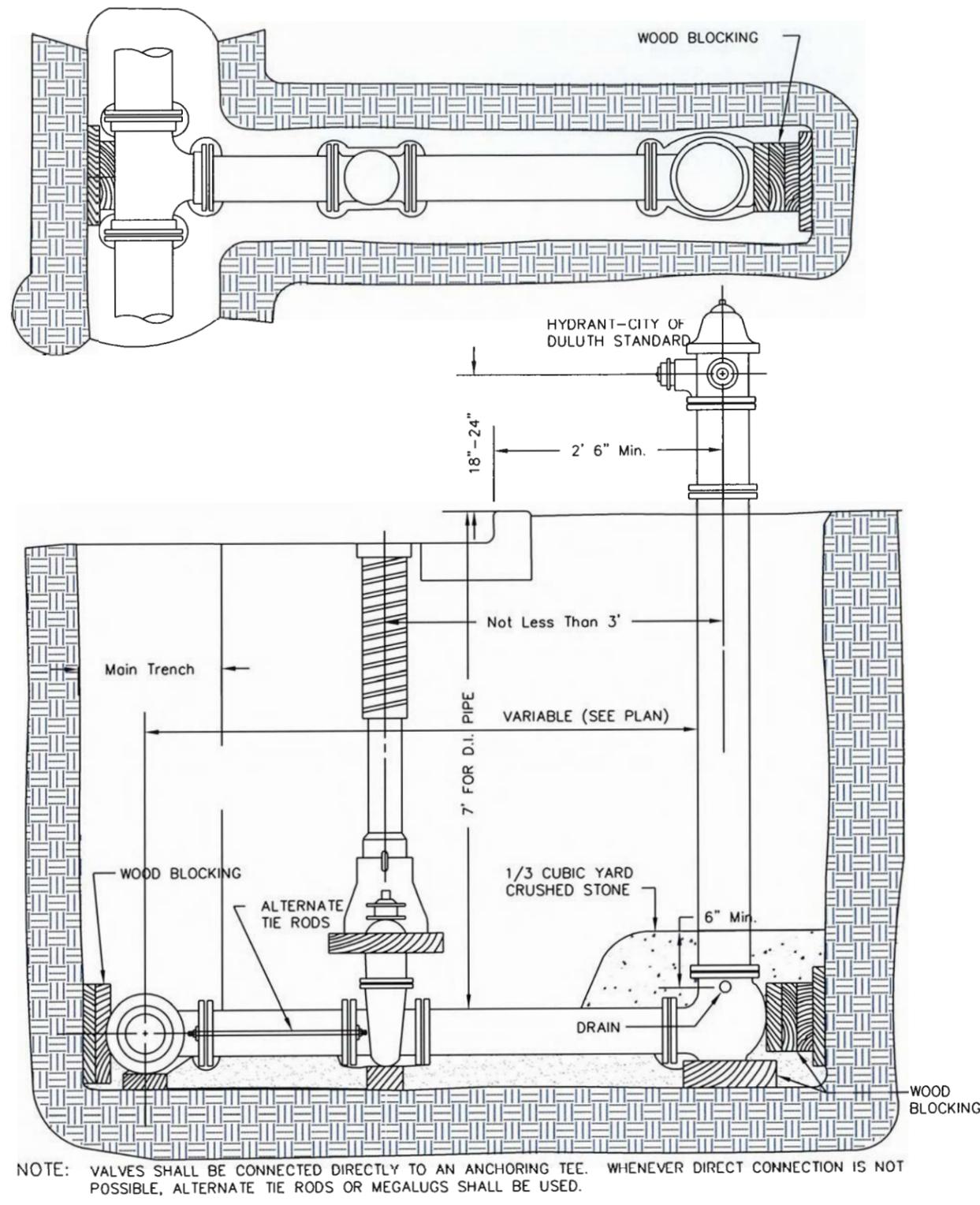
PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

STANDARD DETAILS

STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR

SHEET NO. 13 OF 16 SHEETS

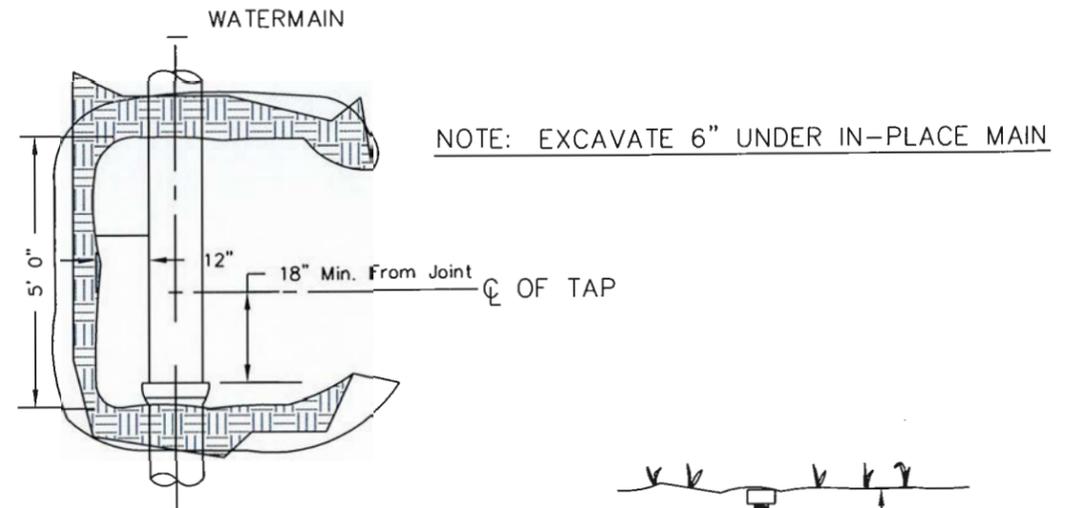
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NOTE: VALVES SHALL BE CONNECTED DIRECTLY TO AN ANCHORING TEE. WHENEVER DIRECT CONNECTION IS NOT POSSIBLE, ALTERNATE TIE RODS OR MEGALUGS SHALL BE USED.

FIRE HYDRANT SETTING DETAIL

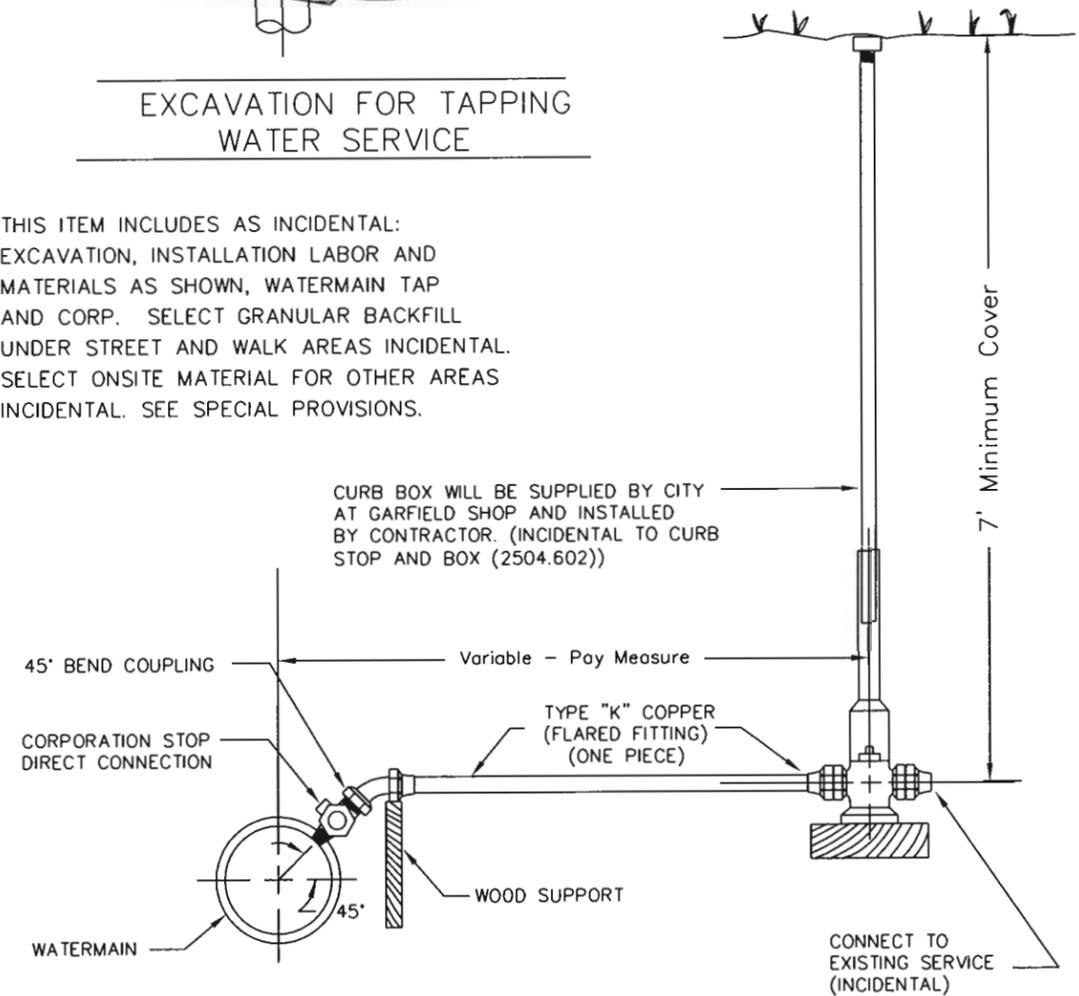
W-4



NOTE: EXCAVATE 6" UNDER IN-PLACE MAIN

EXCAVATION FOR TAPPING WATER SERVICE

THIS ITEM INCLUDES AS INCIDENTAL: EXCAVATION, INSTALLATION LABOR AND MATERIALS AS SHOWN, WATERMAIN TAP AND CORP. SELECT GRANULAR BACKFILL UNDER STREET AND WALK AREAS INCIDENTAL. SELECT ONSITE MATERIAL FOR OTHER AREAS INCIDENTAL. SEE SPECIAL PROVISIONS.



TYPICAL STREET SERVICE - WATER

SPEC. 2504.603 - LIN. FT.

W-5

RECORD DRAWING

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PRINTED NAME

SIGNATURE

REG. NO. 11785 DATE

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

WATER DETAILS

STATE AID PROJECT NO. 118-109-15 (MTB)

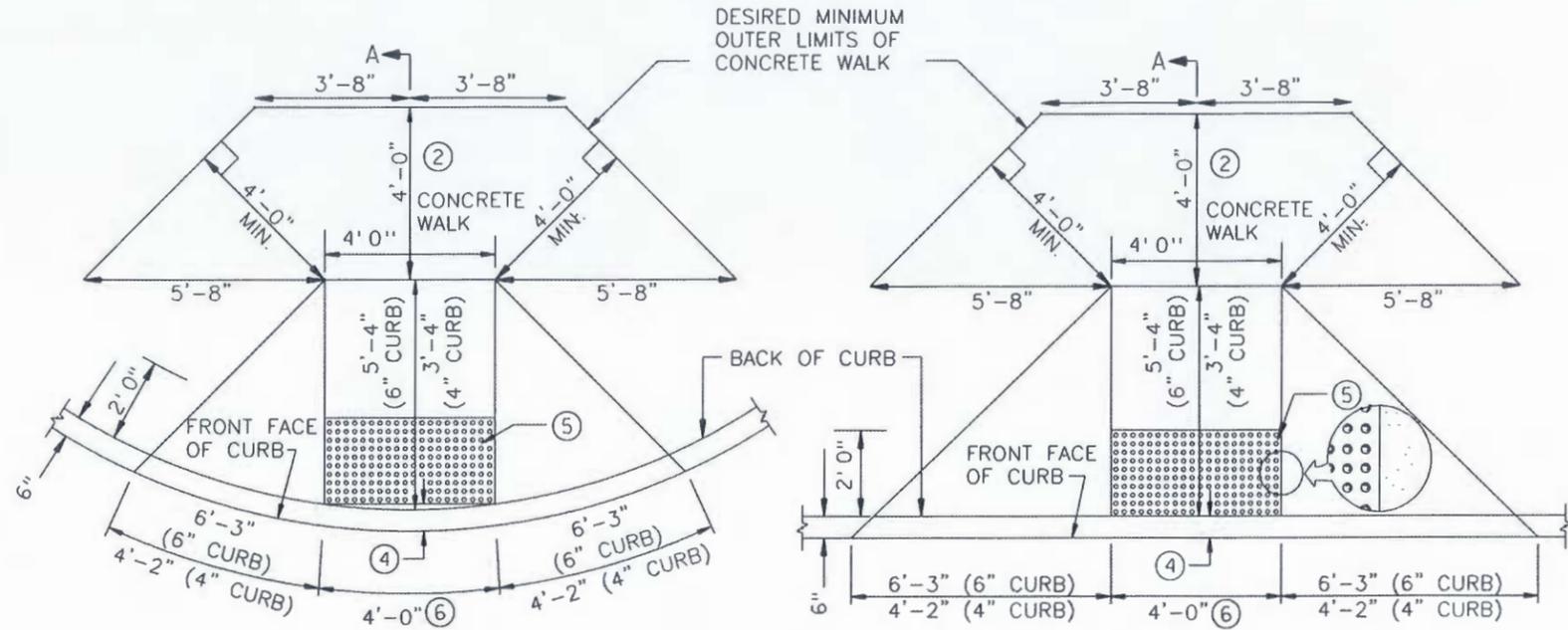
CITY PROJECT NOS. 0093TR,0094TR

SHEET NO. 14 OF 29 SHEETS

J:\Projects\Transportation\0093tr\Drawings\SHEETS\SHT 15 PED RAMP DETAILS.dwg, 12/9/2004 11:44:57 AM, \\DULUTH_TREE\ENG HP8550-P.CH:City

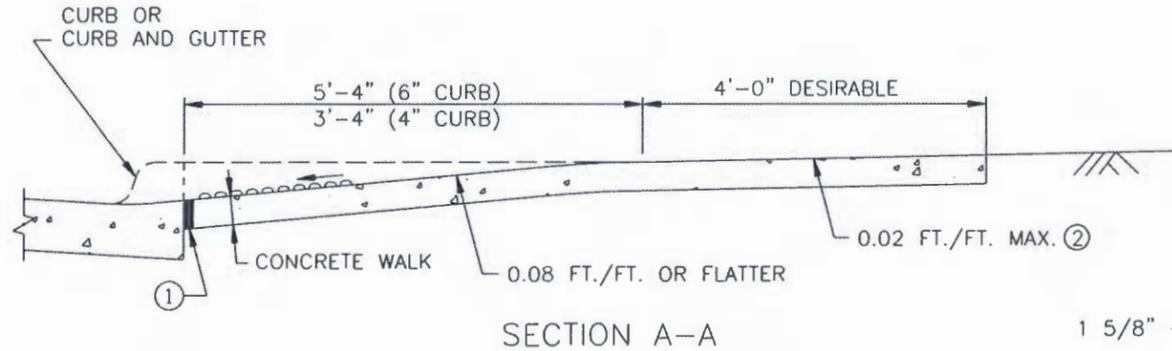
NOTES:

- THE CURB AND CURB TRANSITION ON THE RAMP WILL BE PAID FOR AS LINEAR FEET OF CONCRETE CURB OR CONCRETE CURB AND GUTTER.
- THE RAMP AREA WILL BE PAID FOR AS CONCRETE WALK. THE TRUNCATED DOME AREA SHALL BE CONSIDERED INCIDENTAL.
- ① 1/2 INCH PREFORMED JOINT FILLER MATERIAL, AASHTO M 213
- ② WHEN POSSIBLE, PROVIDE A PATH OF TRAVEL 4'-0" WIDE BEHIND THE PEDESTRIAN RAMP. A RELATIVELY FLAT 4' x 4' LANDING WILL ALLOW WHEELCHAIRS TO NAVIGATE AROUND THE PEDESTRIAN RAMP.
- ③ WHEN A MEDIAN IS NOT WIDE ENOUGH FOR TWO PEDESTRIAN RAMPS AND A 48" LANDING BETWEEN THEM, THE PEDESTRIAN CROSSING SHALL BE CUT THROUGH THE MEDIAN AT STREET LEVEL.
- ④ 6" TO 8" IS THE REQUIRED OFFSET OF THE DETECTABLE WARNINGS/ TRUNCATED DOME AREA FROM THE FRONT FACE OF CURB, OR PLACE THE DETECTABLE WARNINGS AT THE BACK OF CURB.
- ⑤ ADA REQUIRED TRUNCATED DOME AREA SHALL BE 2'-0" MIN. IN DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH (3'-0" OR 4'-0" TYP.) OF THE CURB RAMP. THIS 2'-0" BY 3'-0" OR 4'-0" WIDTH (TYP.) TRUNCATED DOME AREA SHALL CONTRAST VISUALLY WITH THE ADJACENT WALKING SURFACE. THE ENTIRE TRUNCATED DOME AREA SHALL BE A LIGHT COLOR (LIGHT GRAY, WHITE, OR YELLOW) WHEN THE ADJACENT SIDEWALK IS A DARK COLOR. THE ENTIRE TRUNCATED DOME AREA SHALL BE A DARK GRAY WHEN THE ADJACENT SIDEWALK IS A "WHITE" OR LIGHT GRAY CEMENT COLOR.
- ⑥ 4'-0" FOR NEW CONSTRUCTION 3'-0" ALLOWED FOR RETROFITS OR PRESERVATION PROJECTS.

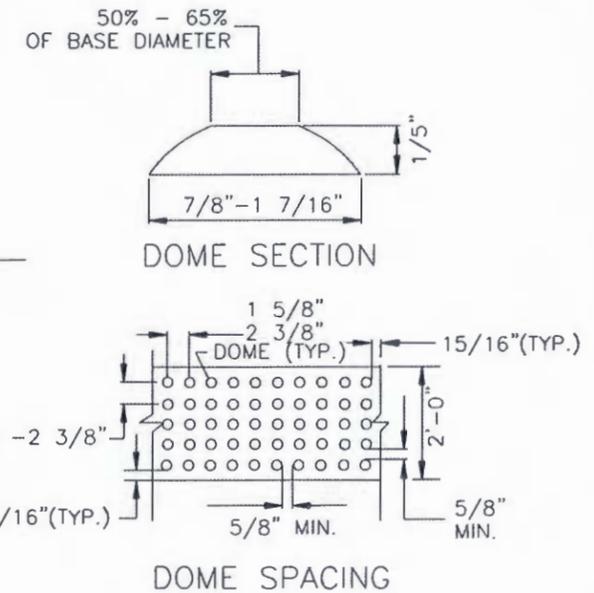


PLAN VIEW OF DIAGONAL RAMP

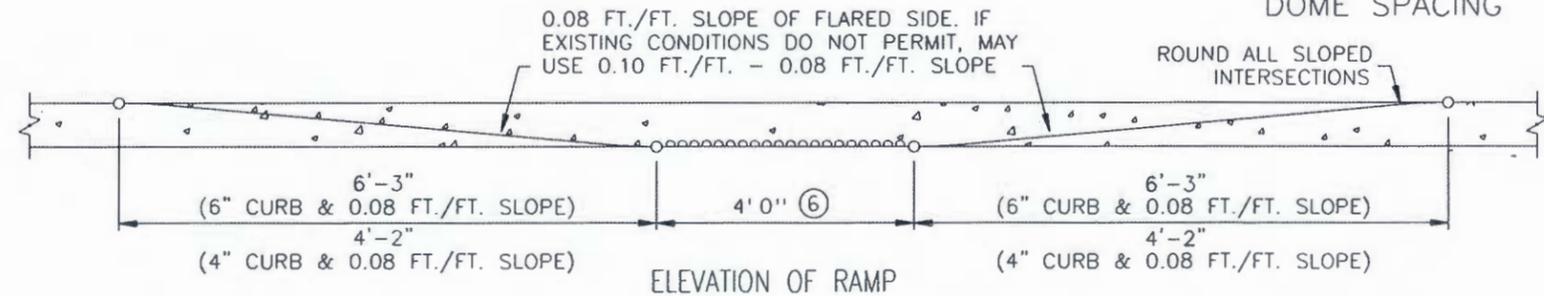
PLAN VIEW OF PERPENDICULAR RAMP



SECTION A-A



DOME SPACING



ELEVATION OF RAMP

PEDESTRIAN RAMP **RECORD DRAWING**

CERTIFIED BY EDWARD H. FRENCH
PRINTED NAME

SIGNATURE

REG. NO. 11785 DATE _____

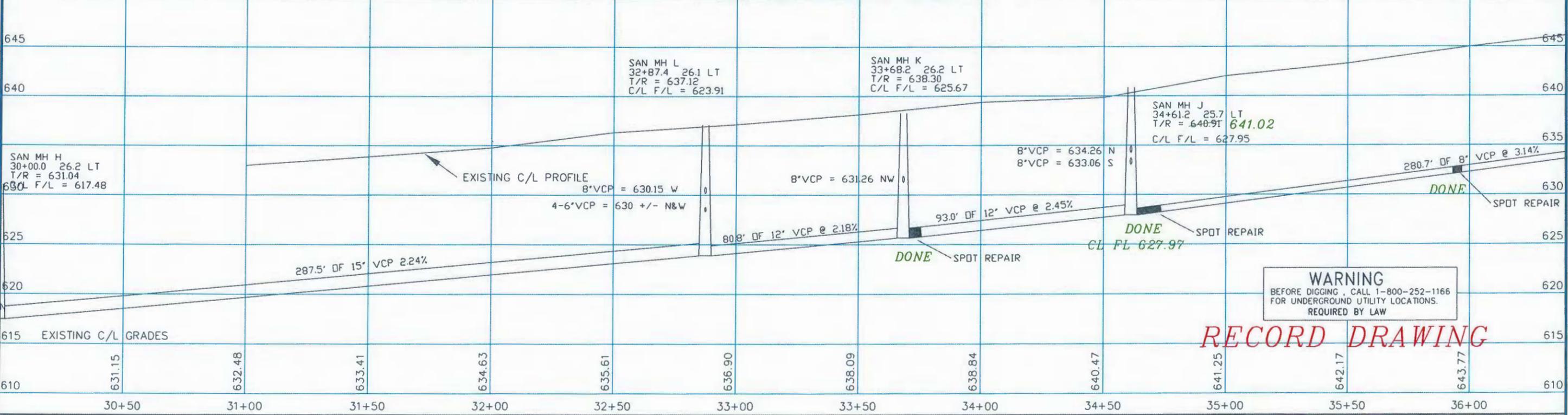
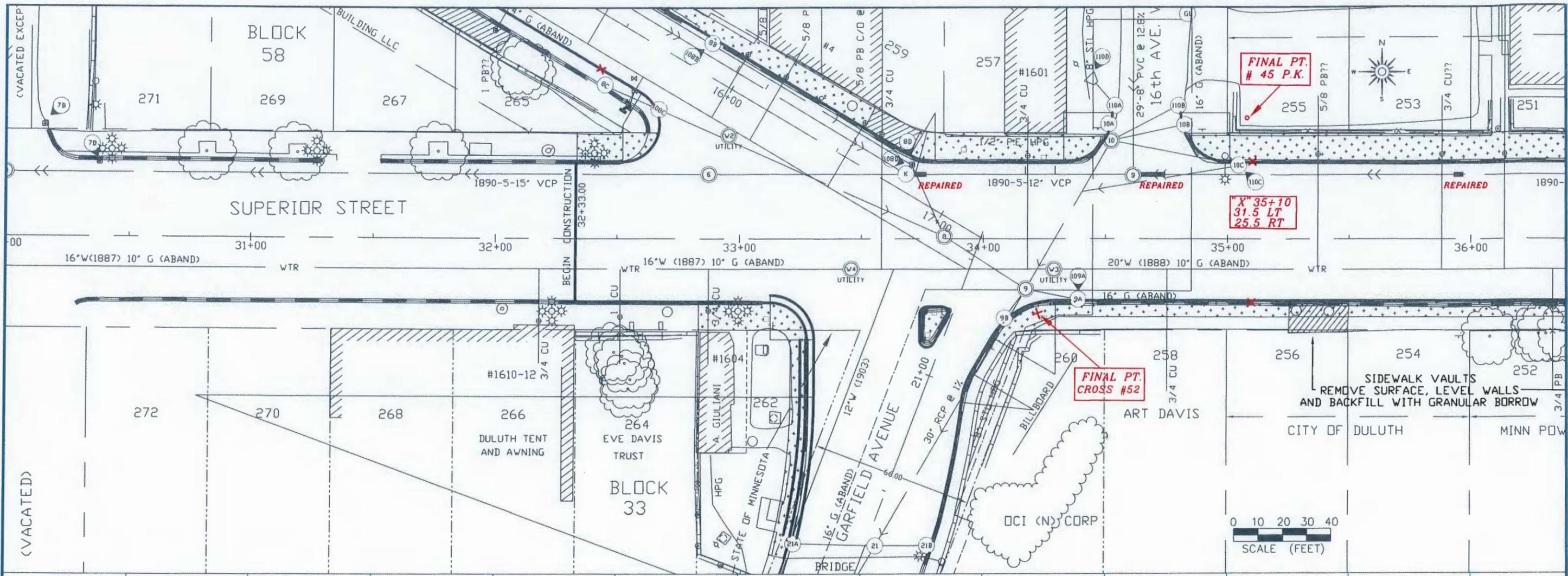
PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

TRUNCATED DOME PED. RAMPS

STATE AID PROJECT NO. 118-109-15 (MTB)

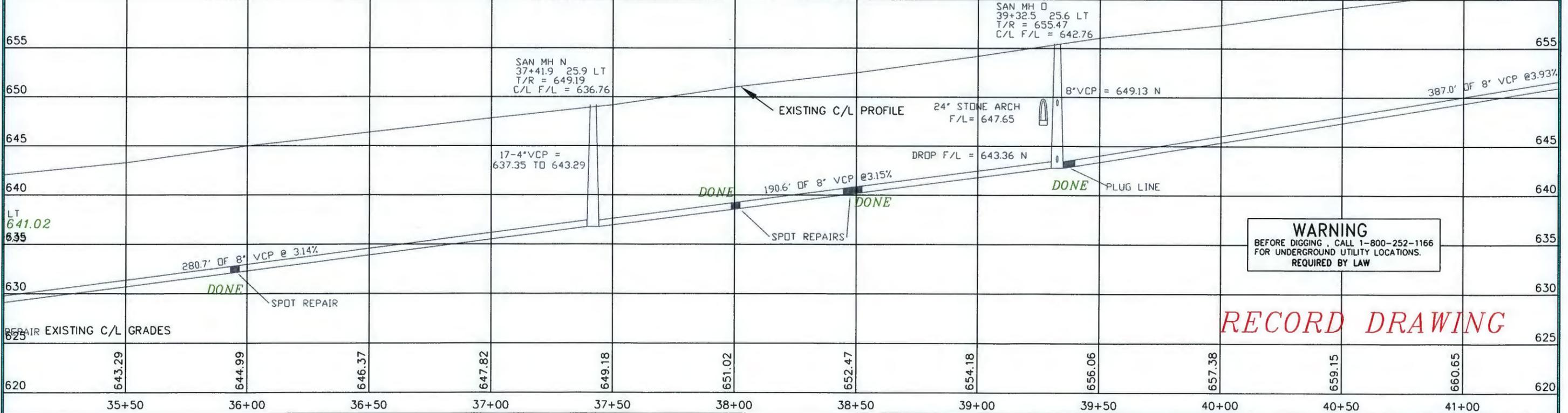
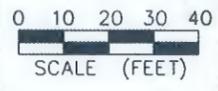
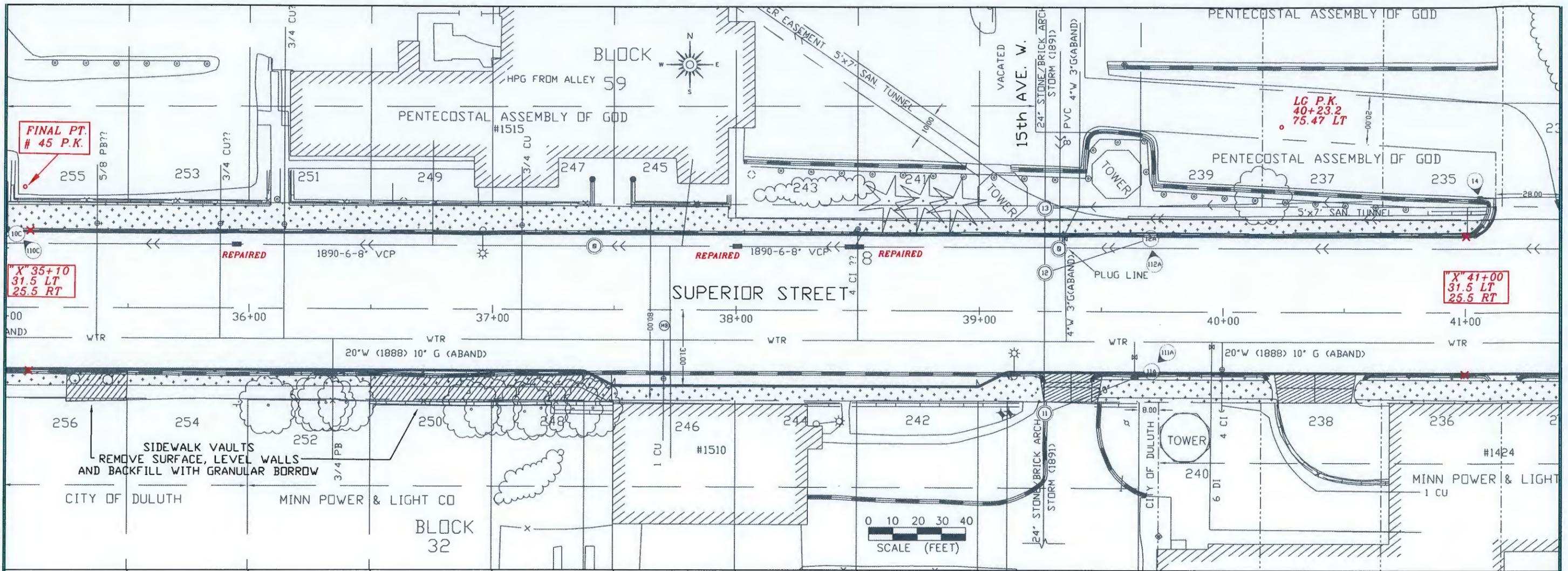
CITY PROJECT NOS. 0093TR,0094TR

SHEET NO. 15 OF 29 SHEETS



WARNING
 BEFORE DIGGING, CALL 1-800-252-1166
 FOR UNDERGROUND UTILITY LOCATIONS.
 REQUIRED BY LAW

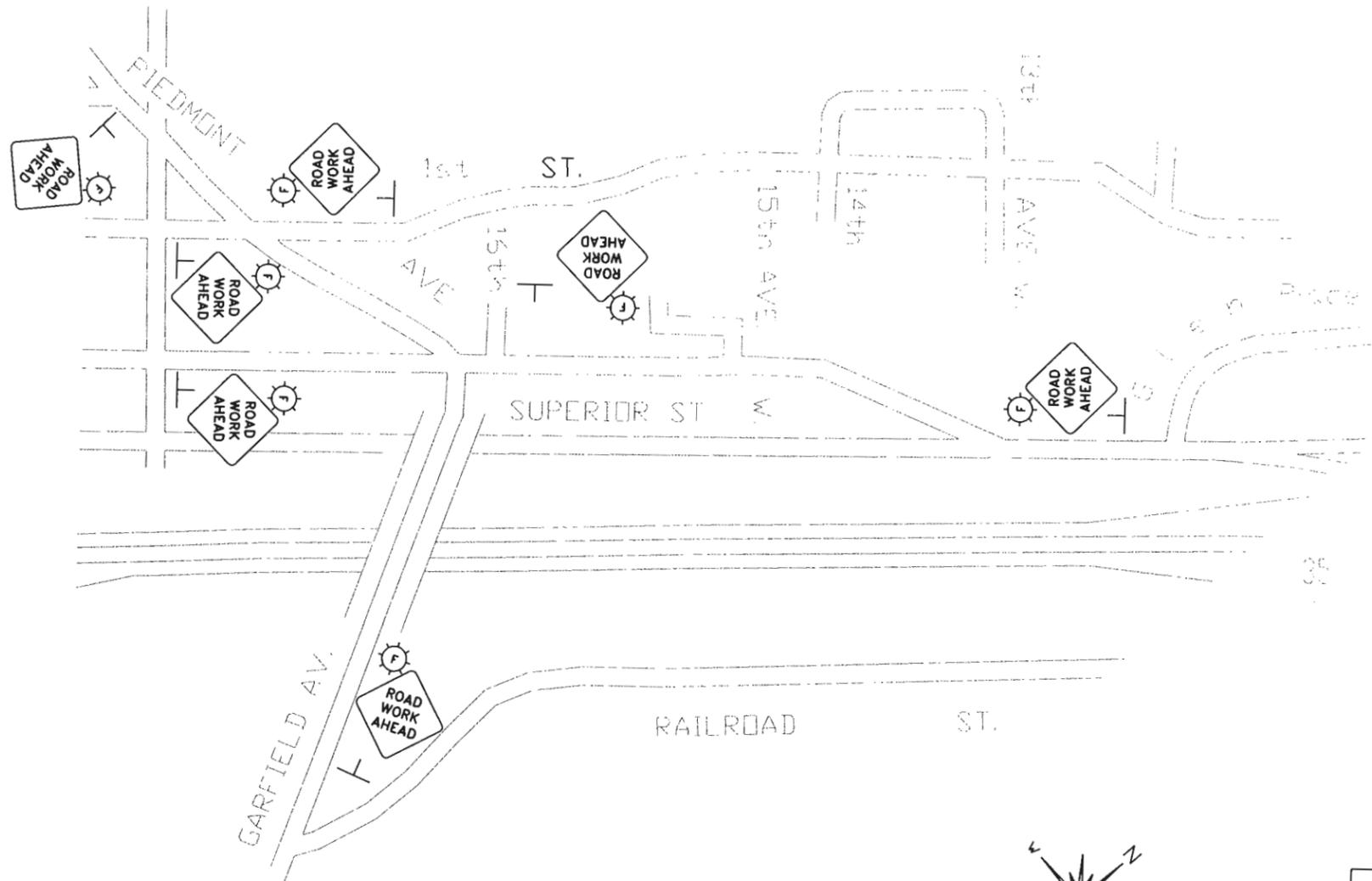
RECORD DRAWING



WARNING
 BEFORE DIGGING, CALL 1-800-252-1166
 FOR UNDERGROUND UTILITY LOCATIONS.
 REQUIRED BY LAW

RECORD DRAWING

TRAFFIC CONTROL PLAN



- NOTES:**
- 1) THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
 - 2) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" DATED JANUARY 2004. AVAILABLE AT: <http://www.dot.state.mn.us/trafficeng/otepubl/fieldmanual2004/index.html>
 - 3) FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
 - 4) THE NUMBER AND PLACEMENT OF TRAFFIC CONTROL DEVICES WILL DEPEND UPON THE SEQUENCE OF THE CONTRACTORS OPERATION.
 - 5) ALL DISTANCES ARE APPROXIMATE.
 - 6) THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH MMUTCD.
 - 7) IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN, THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.
 - 8) ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION, SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
 - 9) "ROAD WORK AHEAD" SIGNS SHALL BE MOUNTED APPROX. 300 FT (1 BLOCK) IN ADVANCE OF THE CONSTRUCTION AND SHALL HAVE A TYPE "A" LOW INTENSITY FLASHING AMBER WARNING LIGHT MOUNTED ON THEM.
 - 10) TYPE "A" LOW INTENSITY AMBER WARNING LIGHTS SHALL BE MOUNTED ON ALL ADVANCE WARNING SIGNS AND ON ALL TYPE I AND TYPE III BARRICADES WHEN USED AT NIGHT OR TO IDENTIFY HAZARDS.
 - 11) ADDITIONAL SIGNING MAY BE REQUIRED FOR SEPARATE LANE CLOSURES. THE SIGNING SHALL BE IN CONFORMANCE WITH "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL DATED JANUARY 2004 AND SHALL BE CONSIDERED INCIDENTAL TO "TRAFFIC CONTROL".

ATTENTION: CONSTRUCTION ON THIS JOB WILL BE "UNDER TRAFFIC". BECAUSE OF THE FREQUENT CHANGES IN CHANNELIZATION AND LANE CLOSURES, NO TRAFFIC CONTROL FOR THESE OPERATIONS ARE SHOWN. ALL TRAFFIC CONTROL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST CONFORM TO THE MMUTC MANUAL.

NO SHEET CHANGES

TRAFFIC - BILL OF MATERIALS							
THE FOLLOWING ITEMS ARE INCLUDED AND PAID FOR UNDER SPEC. 2563.601 TRAFFIC CONTROL - LUMP SUM							
SIGN NO.	MESSAGE	SIZE	NO. REQ'D	SIGN NO.	MESSAGE	SIZE	NO. REQ'D
W21-4		3 FT X 3 FT	7	TYPE III BARRICADE		8 FT	AS REQUIRED
W21-X5 (R or L)		3 FT X 3 FT	AS REQUIRED		FLASHING AMBER WARNING LIGHTS		AS REQUIRED
W20-X3 (R or L)		4 FT X 4 FT	AS REQUIRED		STANDARD NO. 4 ENCAPSULATED LENS BARREL		AS REQUIRED
W1-6		4 FT X 2 FT	AS REQUIRED	W4-2 (R or L)		3 FT X 3 FT	AS REQUIRED

CERTIFIED BY EDWARD H. FRENCH PRINTED NAME _____ SIGNATURE _____ REG. NO. 11785 DATE _____

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR

TRAFFIC CONTROL PLAN
SHEET NO. 21 OF 29 SHEETS

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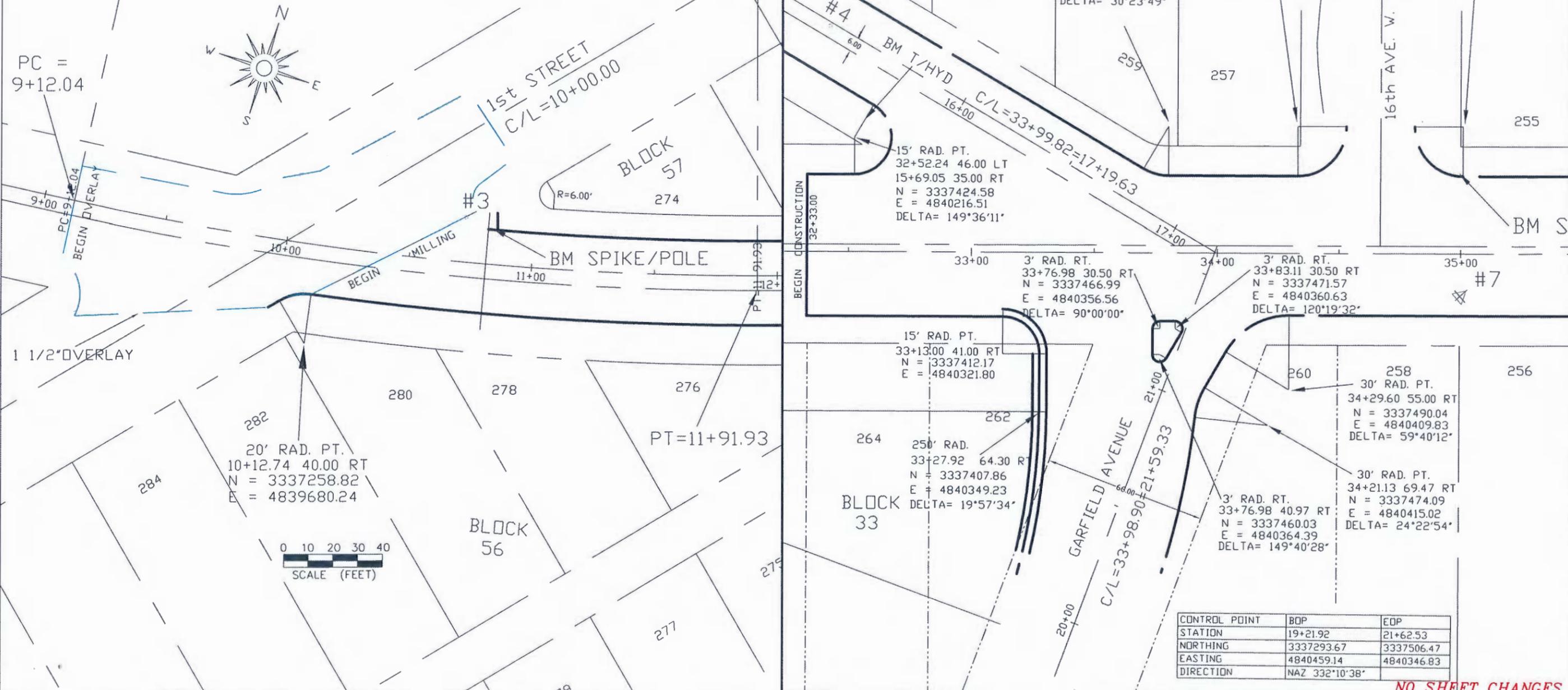
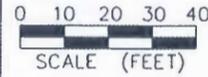
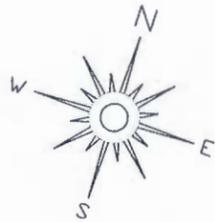
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NOTES:

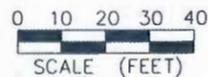
1. CONSTRUCTION C/L IS 6.00 FT. LEFT OF PLAT C/L.

CONTROL POINT	BOP	PC	RADIUS	PI	PT	EOP
STATION	7+33.54	9+12.04	N/A	10+52.54	11+91.93	17+19.63
NORTHING	3337266.86	3337284.50	3338574.81	3337298.20	3337341.54	3337504.32
EASTING	4839395.89	4839573.52	4839447.04	4839713.34	4839846.98	4840348.94
DIRECTION	NAZ 84°19'49"				NAZ 72°01'57"	
DEFLECTION ANGLE				12°22'09"		
DELTA ANGLE			12°22'09"			
TANGENT			140.49			
RADIUS			1296.50			
ARC LENGTH			279.89			

PC = 9+12.04



20' RAD. PT.
10+12.74 40.00 RT
N = 3337258.82
E = 4839680.24



PT=11+91.93

250' RAD.
33+27.92 64.30 RT
N = 3337407.86
E = 4840349.23
DELTA= 19°57'34"

15' RAD. PT.
33+13.00 41.00 RT
N = 3337412.17
E = 4840321.80

3' RAD. RT.
33+76.98 30.50 RT
N = 3337466.99
E = 4840356.56
DELTA= 90°00'00"

3' RAD. RT.
33+83.11 30.50 RT
N = 3337471.57
E = 4840360.63
DELTA= 120°19'32"

30' RAD. PT.
34+29.60 55.00 RT
N = 3337490.04
E = 4840409.83
DELTA= 59°40'12"

3' RAD. RT.
33+76.98 40.97 RT
N = 3337460.03
E = 4840364.39
DELTA= 149°40'28"

30' RAD. PT.
34+21.13 69.47 RT
N = 3337474.09
E = 4840415.02
DELTA= 24°22'54"

CONTROL POINT	BOP	EOP
STATION	19+21.92	21+62.53
NORTHING	3337293.67	3337506.47
EASTING	4840459.14	4840346.83
DIRECTION	NAZ 332°10'38"	

NO SHEET CHANGES

CERTIFIED BY **EDWARD H. FRENCH**

SIGNATURE

REG. NO. 11785 DATE

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

PIEDMONT ALIGNMENT

STATE AID PROJECT NO. 118-109-15 (MTB)

CITY PROJECT NOS. 0093TR,0094TR

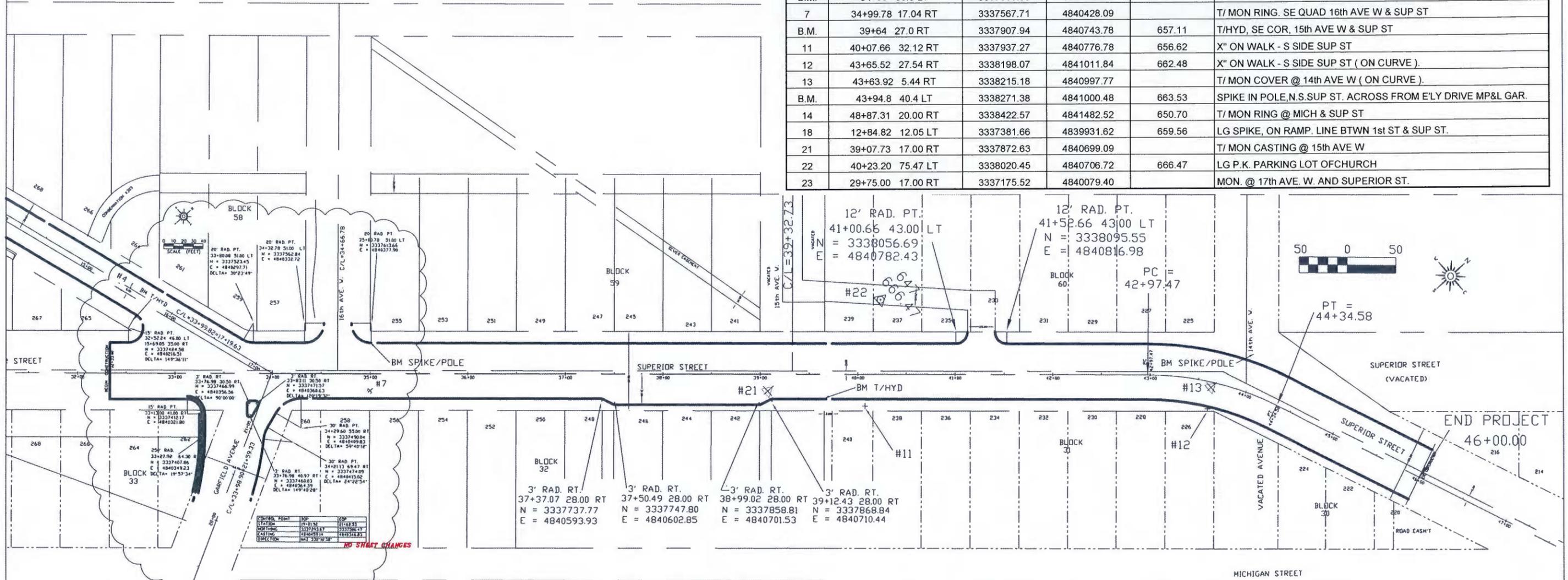
SHEET NO. 22 OF 29 SHEETS

NOTES:

1. SUPERIOR ST. ALIGNMENT BASED ON LINE FROM MON. @ 17TH AVE. W. TO MON. @ 15TH AVE. W.
2. CONSTRUCTION C/L IS 3.00 FT. RIGHT OF PLAT C/L FROM 32+33.00 TO 42+97.47.
3. CONSTRUCTION C/L IS 6.00 FT. RIGHT OF PLAT C/L FROM 44+34.58 TO 46+00.00.

ALIGNMENT and BENCHMARK DATA

POINT	STATION	NORTH	EAST	ELEVATION	DESCRIPTION
B.M.	10+81.4 15.3 LT	3337326.88	4839737.02	676.68	B.M. SPIKE IN POLE, SE COR, PIEDMONT & 1st ST
2	8+53.14 13.21 LT	3337291.82	4839513.60	676.22	4" NAIL, W OF 1st ST - N SIDE PIEDMONT
3	10+71.59 17.84 LT	3337327.19	4839727.05	676.51	4" SPIKE E COR, PIEDMONT & 1st ST
4	15+37.50 1.44 RT	3337446.77	4840176.14	641.32	LG PK - RAMP, TRAVERSE NR CL PIEDMONT AVE
B.M.	32+54.5 32.6 LT	3337430.68	4840213.04	642.90	T/HYD - SW COR, PIEDMONT AVE & SUP. ST
B.M.	34+99 33.5 LT	3337600.68	4840389.78	642.73	SPIKE IN POLE NE COR, 16th AVE W & SUP
7	34+99.78 17.04 RT	3337567.71	4840428.09		T/ MON RING. SE QUAD 16th AVE W & SUP ST
B.M.	39+64 27.0 RT	3337907.94	4840743.78	657.11	T/HYD, SE COR, 15th AVE W & SUP ST
11	40+07.66 32.12 RT	3337937.27	4840776.78	656.62	X" ON WALK - S SIDE SUP ST
12	43+65.52 27.54 RT	3338198.07	4841011.84	662.48	X" ON WALK - S SIDE SUP ST (ON CURVE).
13	43+63.92 5.44 RT	3338215.18	4840997.77		T/ MON COVER @ 14th AVE W (ON CURVE).
B.M.	43+94.8 40.4 LT	3338271.38	4841000.48	663.53	SPIKE IN POLE, N.S. SUP ST. ACROSS FROM E'LY DRIVE MP&L GAR.
14	48+87.31 20.00 RT	3338422.57	4841482.52	650.70	T/ MON RING @ MICH & SUP ST
18	12+84.82 12.05 LT	3337381.66	4839931.62	659.56	LG SPIKE, ON RAMP. LINE BTWN 1st ST & SUP ST.
21	39+07.73 17.00 RT	3337872.63	4840699.09		T/ MON CASTING @ 15th AVE W
22	40+23.20 75.47 LT	3338020.45	4840706.72	666.47	LG P.K. PARKING LOT OF CHURCH
23	29+75.00 17.00 RT	3337175.52	4840079.40		MON. @ 17th AVE. W. AND SUPERIOR ST.



SEE DETAIL
SHT. 22.

CONTROL POINT	BOP	PC	RADIUS	PI	PT	PI
STATION	30+00.00	42+97.47	N/A	43+67.24	44+34.58	48+56.91
NORTHING	3337205.50	3338175.22	3337975.90	3338227.36	3338253.70	3338413.14
EASTING	4840083.30	4840945.33	4841169.55	4840991.69	4841056.29	4841447.38
DIRECTION	NAZ 41°38'08"				NAZ 67°49'13"	NAZ 41°38'08"
DEFLECTION ANGLE				26°11'05"		26°11'05"
DELTA ANGLE			26°11'05"			
TANGENT			69.77			
RADIUS			300.00			
ARC LENGTH			137.10			

NO SHEET CHANGES

CERTIFIED BY EDWARD H. FRENCH
PRINTED NAME

SIGNATURE

REG. NO. 11785 DATE _____

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

SUPERIOR ST. ALIGNMENT

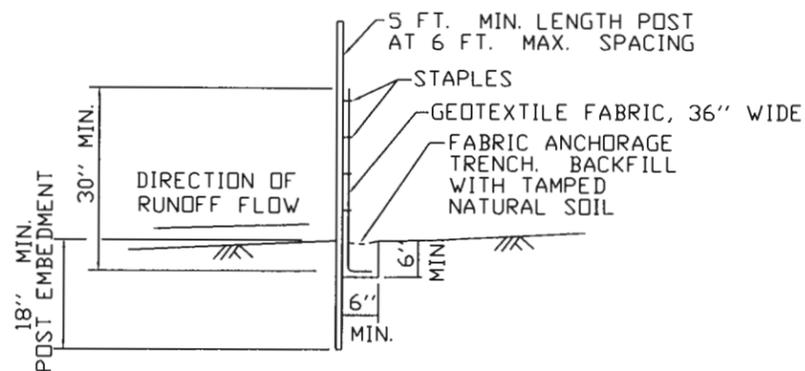
STATE AID PROJECT NO. 118-109-15 (MTB)

CITY PROJECT NOS. 0093TR,0094TR

SHEET NO. 23 OF 29 SHEETS

SILT FENCE DETAILS

TO PROTECT AREAS FROM SHEET FLOW
(SEE SPEC. 3886)



PREASSEMBLED, MAINTAINED

Z	EROSION CONTROL	
LOCATION	SILT FENCE, TYPE PREASSEM. MAINT. (3)	INLET PROTECTION TYPE A (4)
	2573.502	2575.530
	LIN. FT.	EACH
PIEDMONT AVE.		
104 A		1
104 B		1
108 A		1
108 B		1
108 C		1
W. SUPERIOR STREET		
34+50 TO 37+50 37' RT.	300	
108 D		1
109 A		1
9B		1
110 C		1
111 A		1
112 A		1
TOTAL	3000	110
NOTES:		
1) ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSPECTED AFTER EACH RAIN EVENT. ALL NONFUNCTIONAL DEVICES SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS WITH NO ADDITIONAL COMPENSATION MADE THEREFOR.		
2) ALL SILT FENCE SHALL BE CLEANED OF SEDIMENT WHEN THE SEDIMENT REACHES 1/3 THE HEIGHT OF SILT FENCE OR BALE CHECK.		
3) TO BE PLACED AS DIRECTED BY THE ENGINEER.		
4) TO BE PLACED ON ALL CATCH BASINS.		

EROSION CONTROL NOTES

(rev 03/07/03)

1. MNDOT STD. SPEC. 1803.5, EROSION CONTROL, SHALL APPLY. ALONG WITH THE CITY OF DULUTH, CONTRACTOR WILL BE CO-PERMITTEE FOR THE MPCA NPDES STORMWATER CONSTRUCTION PERMIT FOR THIS PROJECT - CONTRACTORS SIGNATURE ON PERMIT IS REQUIRED UPON RECEIVING CITY LETTER OF INTENT (LOI).
SUBMIT INITIAL EROSION CONTROL (EC) SCHEDULE AT PRECON. SUBMIT EC SCHEDULE ALTERATIONS/ADJUSTMENTS WEEKLY THEREAFTER FOR ENGINEERS APPROVAL. GRUBBING AND GRADING SHALL BE SCHEDULED TO MINIMIZE EXPOSURE TO EROSION.
2. THE CONTRACTOR IS RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL ON THIS PROJECT. CONTRACTOR SHALL PLACE OR OTHERWISE CONSTRUCT EROSION CONTROL AND SEDIMENT CONTAINMENT DEVICES TO PREVENT THE RUNOFF, TRACKING OR LOSS OF SEDIMENT FROM DISTURBED AREAS OF THE PROJECT SITE. EXPOSED AREAS SHALL DRAIN TO PROTECTED BASINS OR SILT FENCE.
3. SEDIMENT AND EROSION CONTROL DEVICES SHALL BE FUNCTIONAL BEFORE SITE IS DISTURBED.
4. TOTAL DISTURBED AREA IS 3.2 ACRES. BEGINNING IMPERVIOUS IS 3.2 ACRES. NEW IMPERVIOUS IS 3.0 ACRES. TOTAL CHANGE IN IMPERVIOUS IS -6.3 %.
5. RECEIVING WATER IS LAKE SUPERIOR.
6. THE SURFACE OF STRIPPED AREAS SHALL BE PERMANENTLY OR TEMPORARILY PROTECTED FROM SOIL EROSION IF NOT WORKED WITHIN 7 DAYS. USE PINNED EROSION CONTROL BLANKET (OVER SEED/FERTILIZER) OR APPROVED EQUAL.
7. THE FOLLOWING CONTROLS WILL BE IMPLEMENTED AT THE CONSTRUCTION SITE:
 - A. EROSION AND SEDIMENT CONTROLS
 - * EROSION CONTROL BLANKETS SHALL BE USED ON ALL SLOPES 1:3 OR STEEPER AND OVER 5 FEET HIGH AND TO A 10 FOOT WIDTH IN ALL DITCH BOTTOMS.
 - * PERMANENT VEGETATION WILL BE ESTABLISHED AFTER TOPSOIL IS RESPREAD.
 - * SILT FENCES WILL PREVENT SEDIMENT FROM DISCHARGING FROM SITE.
 - * TRIANGULAR DITCH CHECKS, OR APPROVED EQUAL, WILL REDUCE VELOCITIES AND REDUCE EROSION IN DITCHES.
 - * STORM INLETS AND OUTLET APRONS SHALL BE PROTECTED WITH SEDIMENT CONTAINMENT DEVICES.
 - * STABILIZED CONSTRUCTION ENTRANCE TO REDUCE SEDIMENT TRACKING.
8. ALL SLOPES AND DITCHES SHALL BE STABILIZED PRIOR TO OPENING NEW CULVERTS INTO EXISTING DRAINAGE WAYS.
9. IF ANY STOCKPILE IS TO REMAIN IN PLACE FOR MORE THAN 3 DAYS, SEDIMENT AND EROSION CONTROL DEVICES SHALL BE USED.
10. WATER PUMPED OR OTHERWISE DISCHARGED FROM THE SITE DURING CONSTRUCTION DEWATERING SHALL BE DIRECTED TOWARD SEDIMENT CONTAINMENT OR FILTERING DEVICE.
11. THE CONTRACTOR SHALL TAKE ALL POSSIBLE PRECAUTIONS TO PREVENT APPRECIABLE SOIL TRACKING ONTO ROADWAYS. SOIL, MUD OR DEBRIS WASHED, TRACKED OR DEPOSITED ONTO PAVED SURFACES SHALL BE REMOVED PRIOR TO THE END OF EACH WORK DAY.
12. STABILIZED CONSTRUCTION ENTRANCE(S) SHALL BE REMOVED AND AREA RESTORED AFTER GRADING IS COMPLETE.
13. THE CONTRACTOR SHALL MAINTAIN THE SEDIMENT AND EROSION CONTROL MEASURES UNTIL THE SITE IS STABILIZED IN ACCORDANCE WITH MNDOT 1803.5. CONTRACTOR QC PROGRAM SHALL ENSURE ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE ROUTINELY INSPECTED AND LOGGED INCLUDING AFTER EACH RAIN EVENT. ALL NONFUNCTIONAL DEVICES SHALL BE REPAIRED OR REPLACED OR CLEANED WITH NO ADDITIONAL COMPENSATION MADE THEREFOR.

NO PLAN CHANGES

CERTIFIED BY EDWARD H. FRENCH
PRINTED NAME

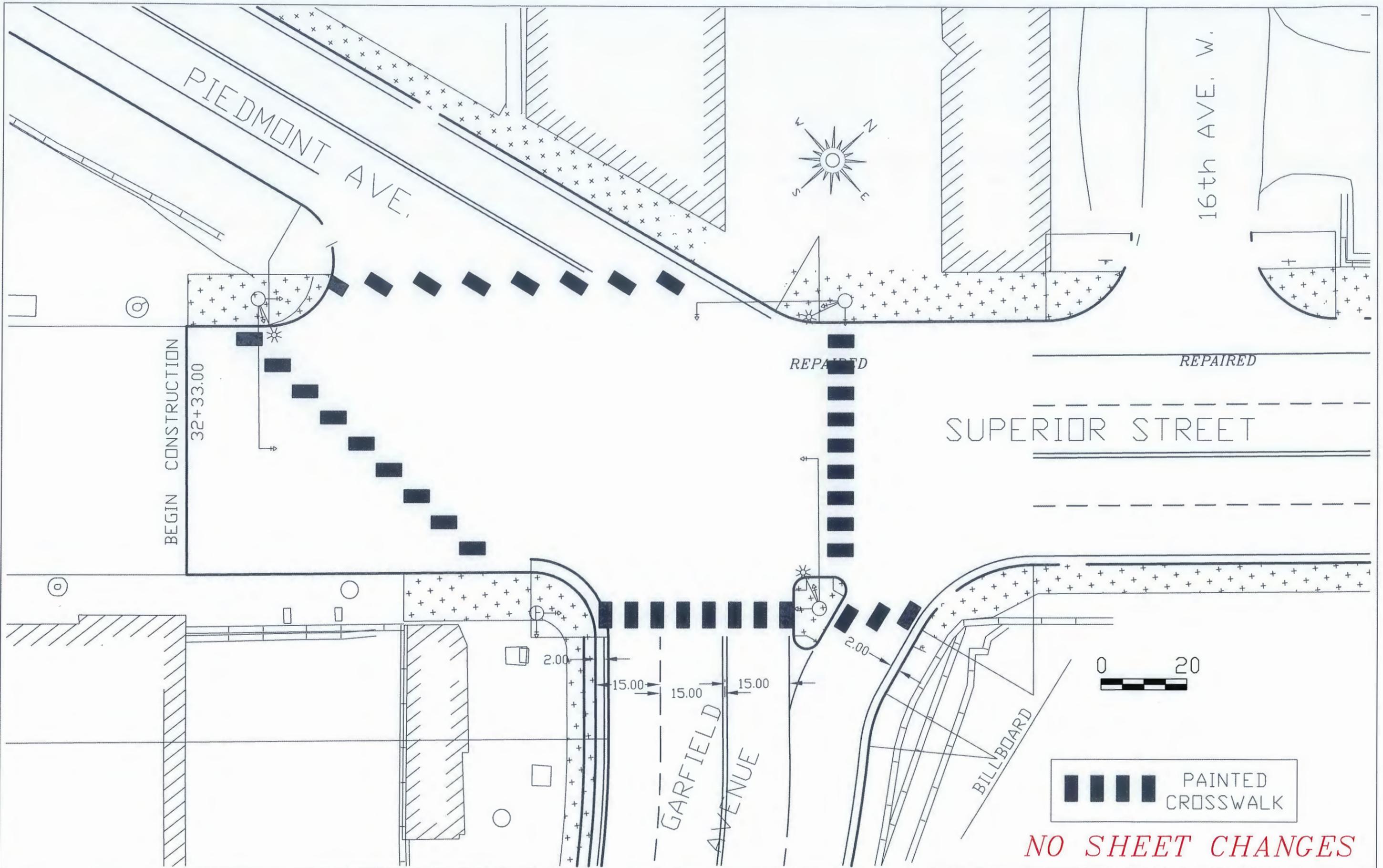
SIGNATURE

REG. NO. 11785 DATE _____

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

EROSION CONTROL

STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR SHEET NO. 24 OF 29 SHEETS



CERTIFIED BY EDWARD H. FRENCH
PRINTED NAME

SIGNATURE

REG. NO. 11785 DATE _____

PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

INTERSECTION DETAIL

STATE AID PROJECT NO. 118-109-15 (MTB)

CITY PROJECT NOS. 0093TR,0094TR

SHEET NO. 25 OF 29 SHEETS

NO SHEET CHANGES

PAVEMENT MARKING DETAILS

GENERAL CONSTRUCTION REQUIREMENTS

EPOXY

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC), OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

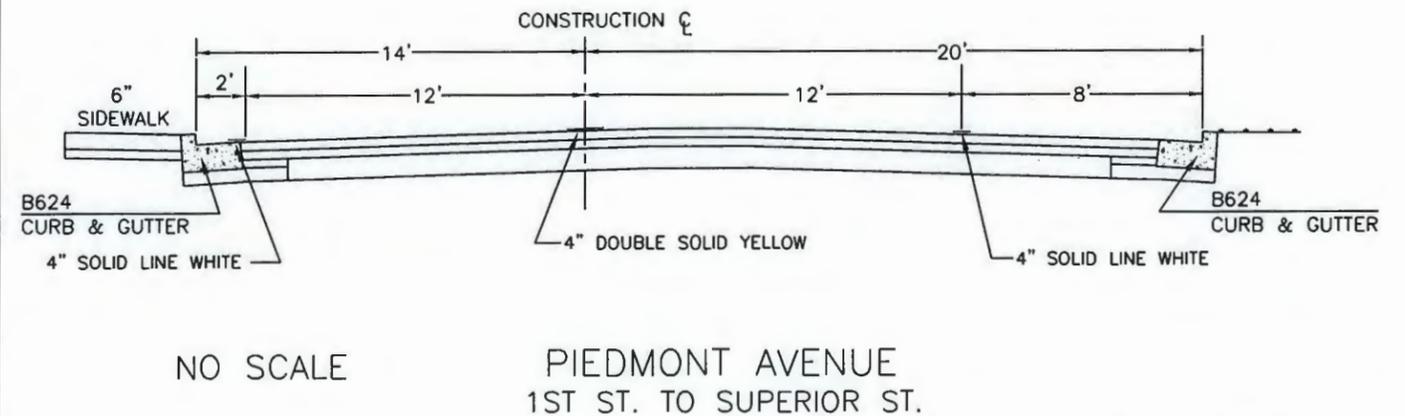
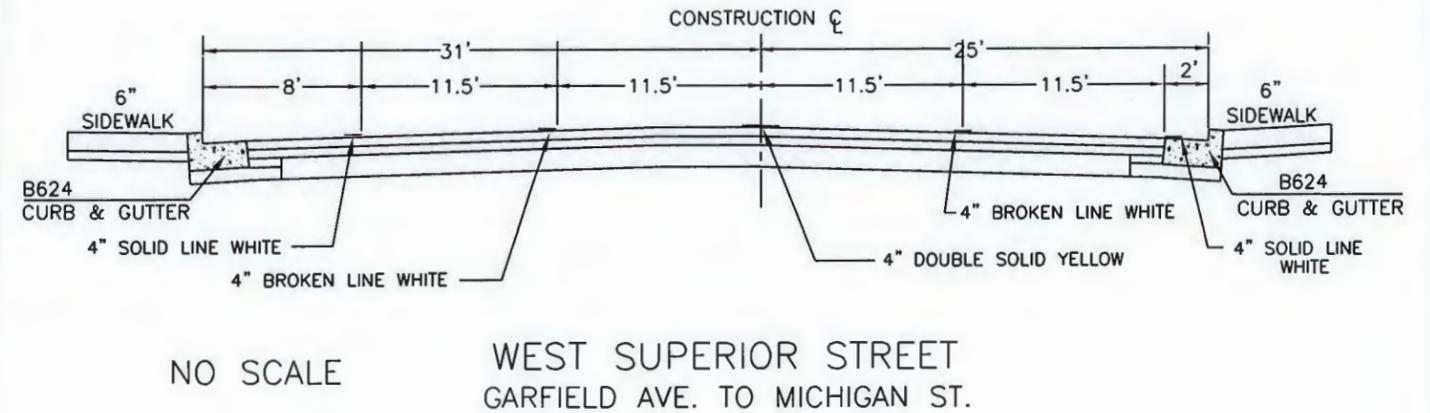
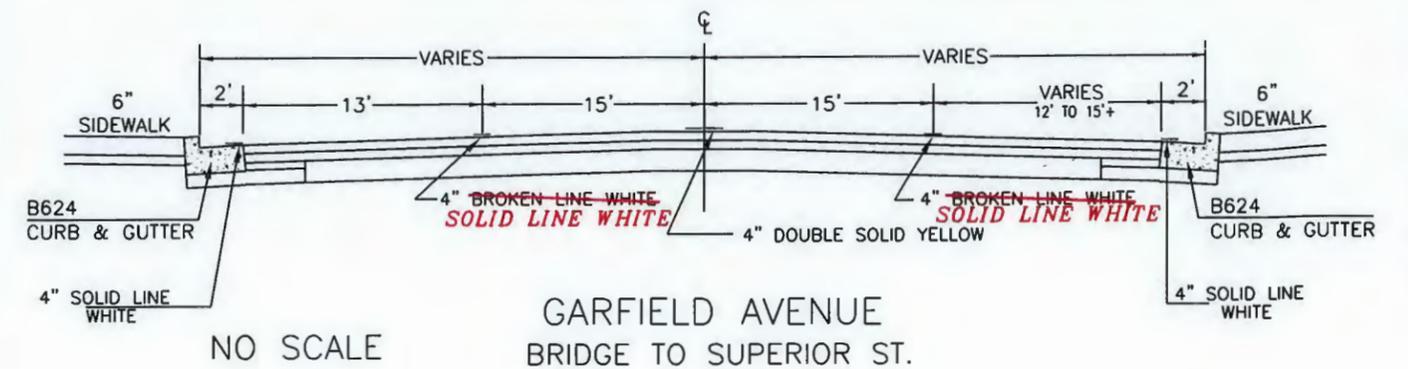
THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOXY RESIN LINE 4 INCHES WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS PER 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES F OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY MARKINGS EXCEPT WHEN SPECIFIED IN SPECIFICATIONS OR SPECIAL PROVISIONS.

LOCATION	4" SOLID LINE WHITE EPOXY	4" BROKEN LINE WHITE EPOXY	4" DOUBLE SOLID YELLOW EPOXY	CROSSWALK MARKING EPOXY
	2564.603 LIN FT	2564.603 LIN FT	2564.603 LIN FT	2564.618 SQ FT
PIEDMONT AVENUE				
1ST. ST. TO SUPERIOR ST.	1137 1056		593 500	
GARFIELD AVENUE				
BRIDGE TO SUPERIOR ST.	230 478	215 0	110 133	
SUPERIOR STREET				
GARFIELD TO MICH. ST.	2340 2425	2340 480	1170 1283	684 612
TOTAL	3707 3959	2556 480	1873 1916	684 612



RECORD DRAWING

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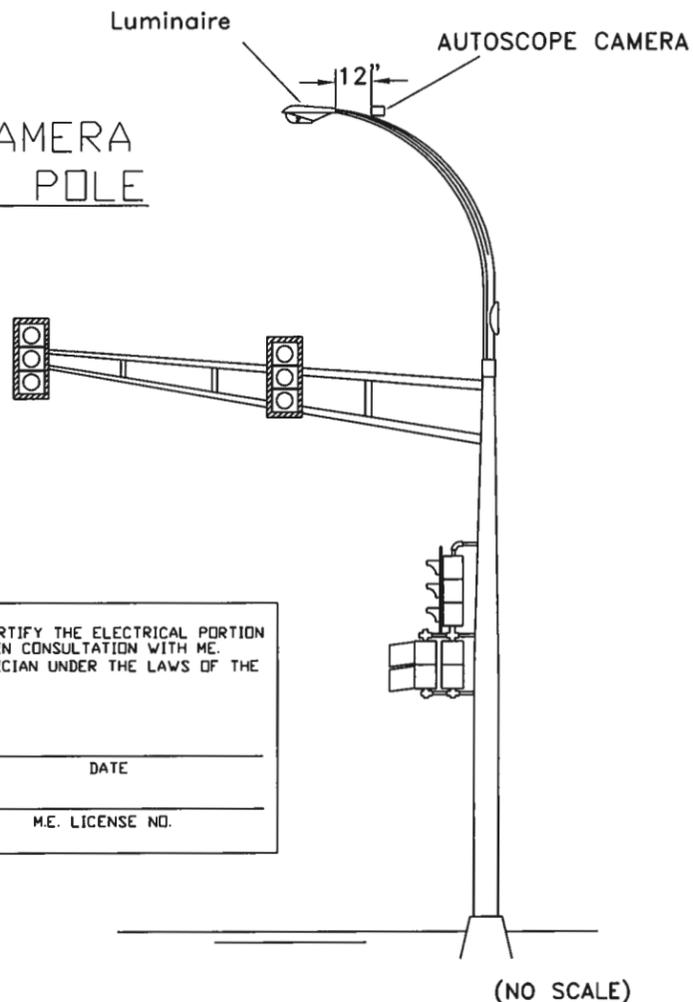
PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

PAVEMENT MARKINGS

STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR

SHEET NO. 26 OF 29 SHEETS

PROPOSED AUTOSCOPE CAMERA
INSTALLATION ON SIGNAL POLE



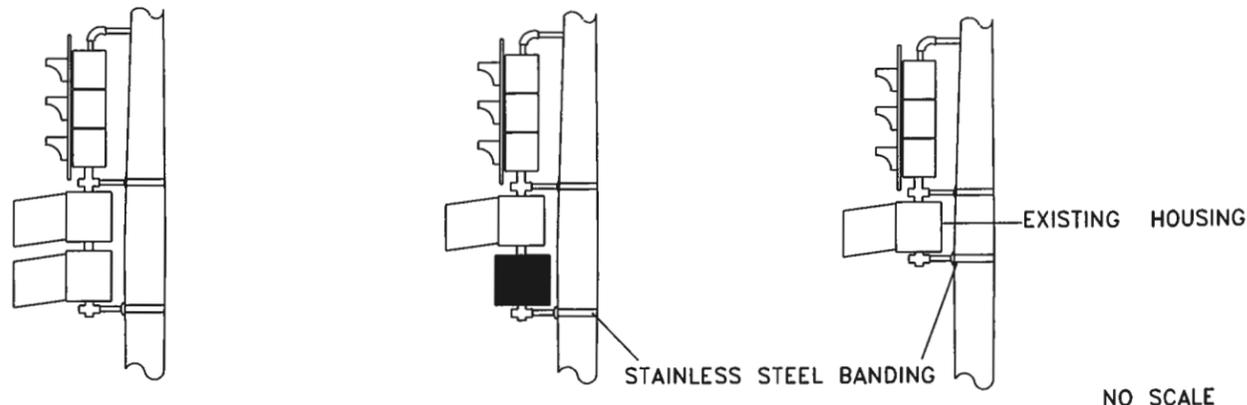
IN ACCORDANCE WITH THE RULES FOR STATE AID OPERATIONS, I HEREBY CERTIFY THE ELECTRICAL PORTION OF THESE SIGNAL PLANS, SHEETS 27 THRU 29, WERE PREPARED BY ME OR IN CONSULTATION WITH ME. I HAVE REVIEWED THESE PLANS AND AM A DULY LICENSED MASTER ELECTRICIAN UNDER THE LAWS OF THE STATE OF MINNESOTA.

EARL STEWART
PRINTED NAME

DATE _____
M.E. LICENSE NO. _____

(NO SCALE)

PEDESTRIAN INDICATION MODIFICATIONS



EXISTING 12" "WALK" "DONT WALK"

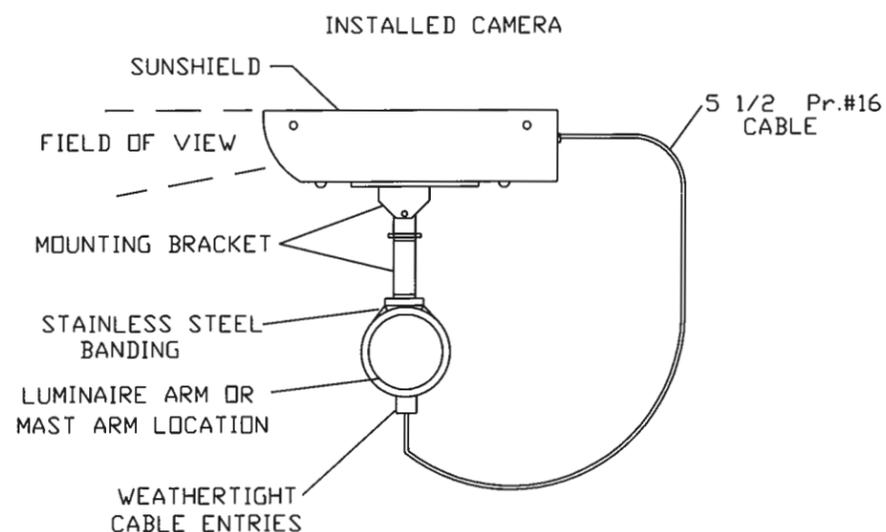
ROTATE BOTTOM PED INDICATION
NEW 12" "HAND / WALKING MAN"
NEW PEDESTRIAN PUSH BUTTON

NEW 12" "HAND / WALKING MAN"

NO SCALE

TRAFFIC SIGNAL MODIFICATIONS

1. MODIFY PEDESTRIAN INDICATORS AS SHOWN WITH NEW LED HAND/ WALKING MAN INDICATORS
2. WIRE FOR FUTURE EVP AS SHOWN AND FUTURE EVP LIGHT
3. FURNISH AND INSTALL NEW VIDEO DETECTION SYSTEM AS SHOWN
4. FURNISH AND INSTALL NEW CONTROLLER AND CABINET ON EXISTING CONCRETE BASE
5. FURNISH AND INSTALL NEW 4' HDPE INNERDUCT FROM HH #6 TO HH#3 AND FROM HH # 3 TO THE CONTROLLER CABINET
6. FURNISH AND INSTALL TWO NEW PEDESTRIAN PUSH BUTTONS



NOTES:

1. ALL CAMERA DETECTION DEVICES SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL PROVIDE ALL CABLES AND INSTALL CAMERAS ON LUMINAIRE EXTENSIONS AS PER DETAIL.
3. THE CONTRACTOR SHALL RUN ONE CONTINUOUS PULL (WITHOUT SPLICES) OF 5 1/2 Pr No. 16 CABLE BETWEEN THE TRAFFIC SIGNAL BASE AND THE TRAFFIC SIGNAL CONTROLLER CABINET. FOR EACH CAMERA.
4. CABLES FOR CAMERA OPERATION SHALL MEET THE FOLLOWING SPECIFICATION: "Belden 5 1/2 Pair No 16 Cable #YC46223"
5. CAMERA CABLE AND 5 1/2 Pr # 16 CABLE SHALL BE SPLICED IN EACH SIGNAL BASE BY EACH WIRE BEING A TWISTED OVERLAP, SOLDERED INDIVIDUALLY INSULATED AND THE ENTIRE SPLICE HEAT SHRINK JACKETED

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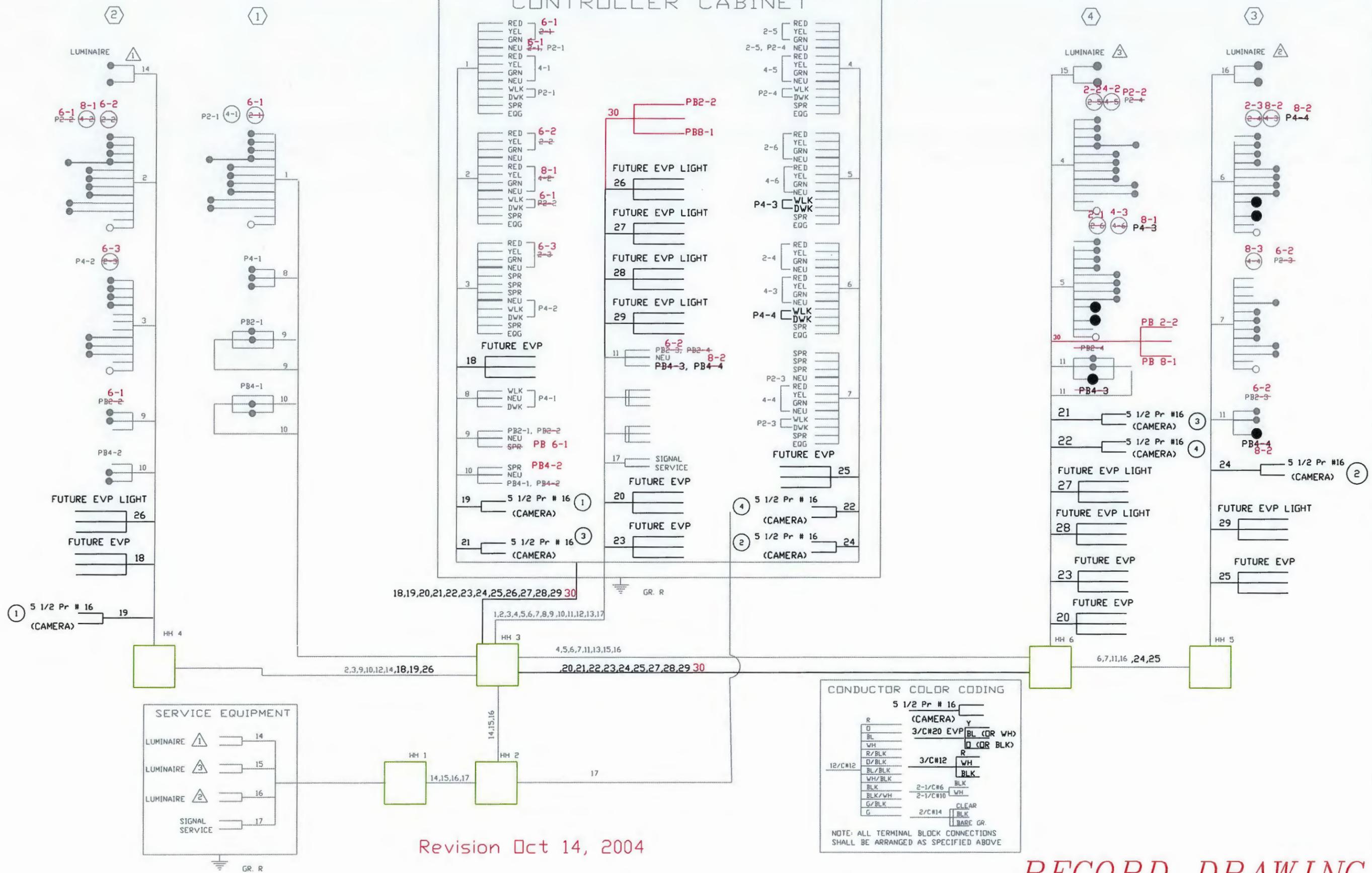
PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY

SIGNAL DETAILS

STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR

SHEET NO. 27 OF 29 SHEETS

CONTROLLER CABINET



CONDUCTOR COLOR CODING	
5 1/2 Pr # 16	Y
(CAMERA)	BL (OR WH)
3/C#20 EVP	W (OR BLK)
3/C#12	R
	WH
	BLK
2-1/C#6	BLK
2-1/C#10	WH
2/C#14	CLEAR
	BLK
	BARE GR.

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE

RECORD DRAWING

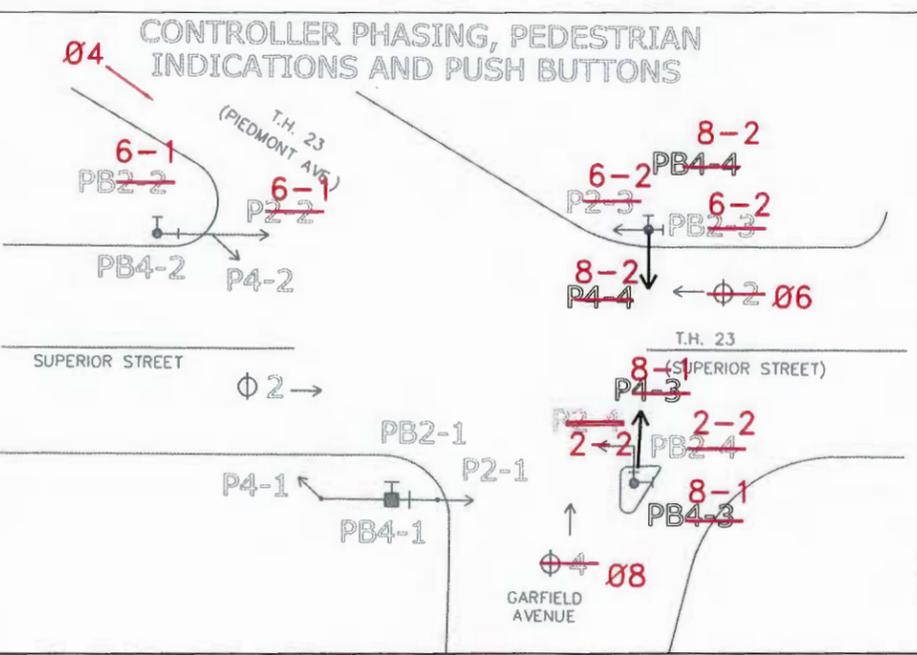
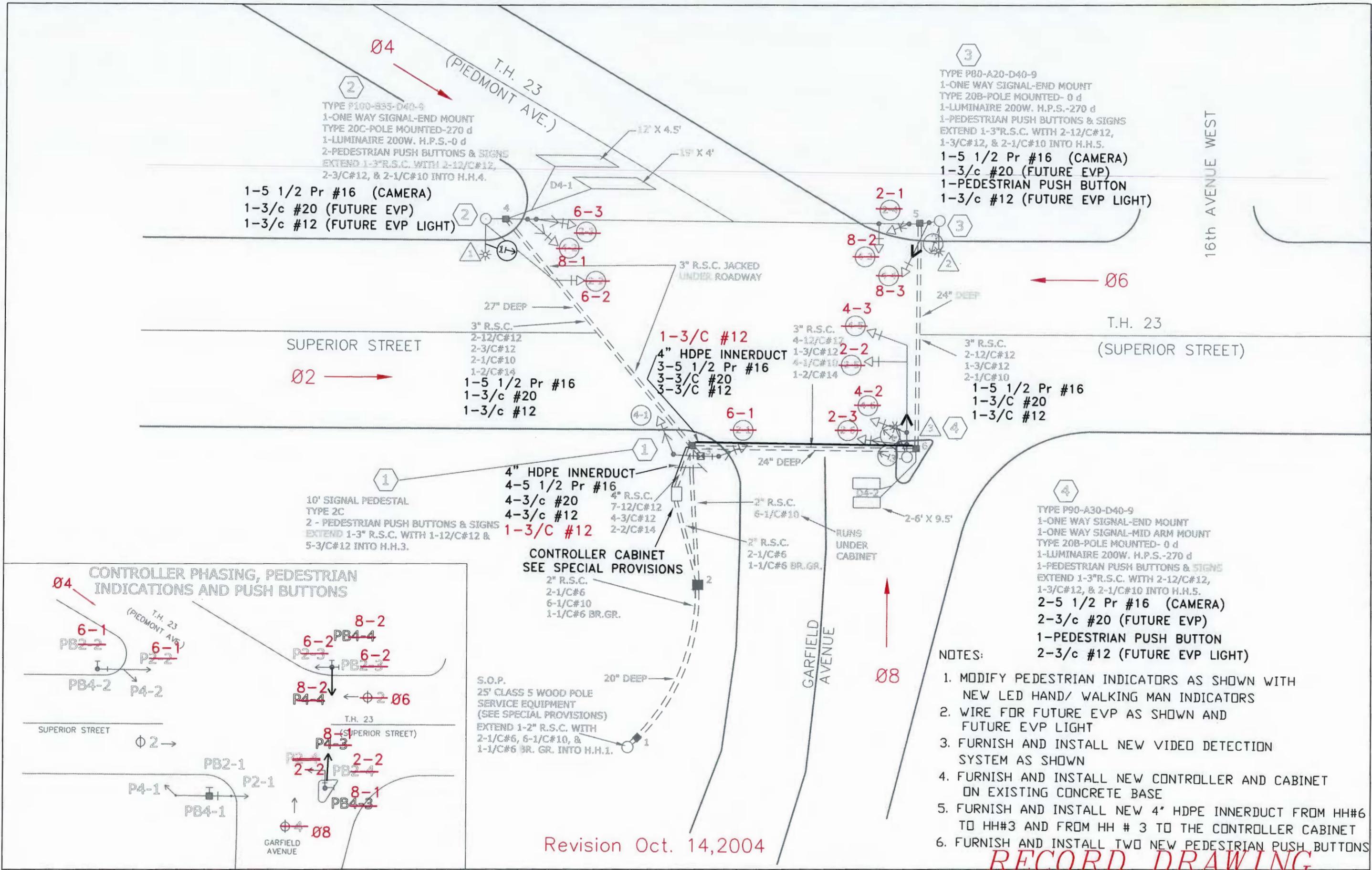
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PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY
STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR

SIGNAL WIRING DIAGRAM
SHEET NO. 28 OF 29 SHEETS



Revision Oct. 14, 2004

RECORD DRAWING

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PIEDMONT AVE. / W. SUPERIOR ST. MILL AND OVERLAY SIGNAL LAYOUT
 STATE AID PROJECT NO. 118-109-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR SHEET NO. 29 OF 29 SHEETS