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NOTE: STANDARD PLANS INCLUDED IN PROPOSAL

CITY OF MUSKEGON

EDGEWATER ST.

FROM THOMPSON AVE TO LAKESHORE DR.

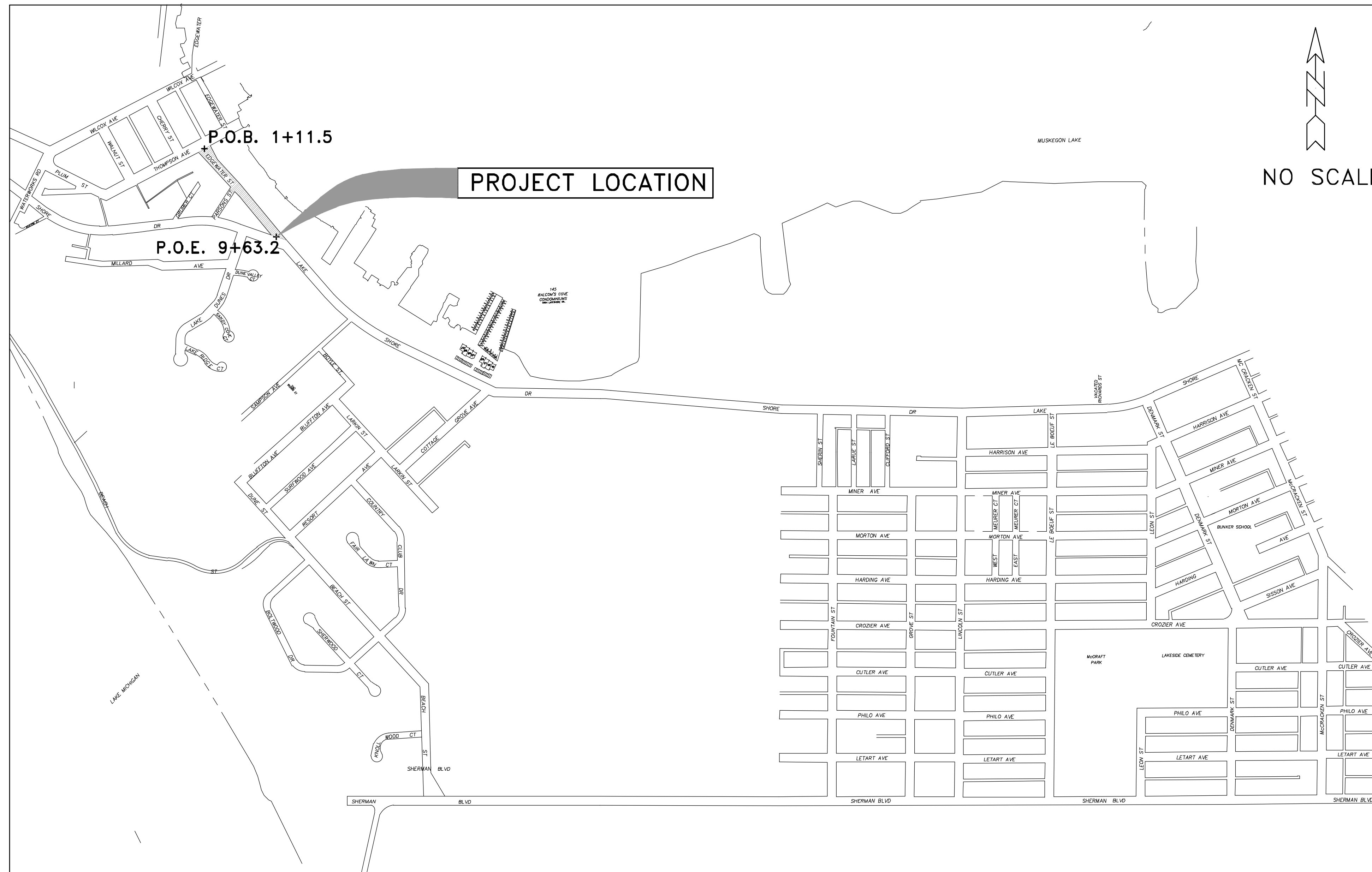
TRAFFIC, SAFETY STANDARD PLANS

- WZD-100-A GROUND DRIVEN SIGN SUPPORTS FOR TEMPORARY SIGNS
- WZD-125-E TEMPORARY TRAFFIC CONTROL DEVICES

*STANDARD PLANS INCLUDED IN PROPOSAL

UTILITIES

- ELECTRIC**
JOEL BROWN
CONSUMERS ENERGY
700 E STERNBERG ROAD
NORTON SHORES, MI 49441
(231) 557-8762
- TELEPHONE**
CINDY WHITEMAN
FRONTIER COMMUNICATIONS
860 TERRACE STREET
MUSKEGON MI 49440
(231) 727-0290
- GAS**
TONY FERRIER
DTE ENERGY
2359 OLTHOFF DRIVE
MUSKEGON MI 49444
(231) 726-0943 (CELL)
- CABLE**
JIM STITZEL
COMCAST
700 W BROADWAY AVENUE
MUSKEGON, MI 49441
(810) 217-1642
- WATER & SEWER**
DAVE BAKER
CITY OF MUSKEGON DPW
1350 E KEATING AVENUE
MUSKEGON MI 49442
(231) 724-4100



NOTE:
THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THESE IMPROVEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 2018 AASHTO GUIDELINES.

CONSTRUCTION INCLUDES 0.16 MILES OF HMA PAVEMENT RECONSTRUCTION, INCLUDING HMA REMOVAL, HMA PAVEMENT, STORM SEWER, CONCRETE SIDEWALKS, CURB RAMP, CURB & GUTTER ON EDGEWATER ST. IN THE CITY OF MUSKEGON, MUSKEGON COUNTY.

PREPARED UNDER THE SUPERVISION OF:

DAN VANDERHEIDE, P.E.
CITY ENGINEER

CITY OF MUSKEGON
ENGINEERING DEPARTMENT
1350 E KEATING AVE
MUSKEGON MI 49442

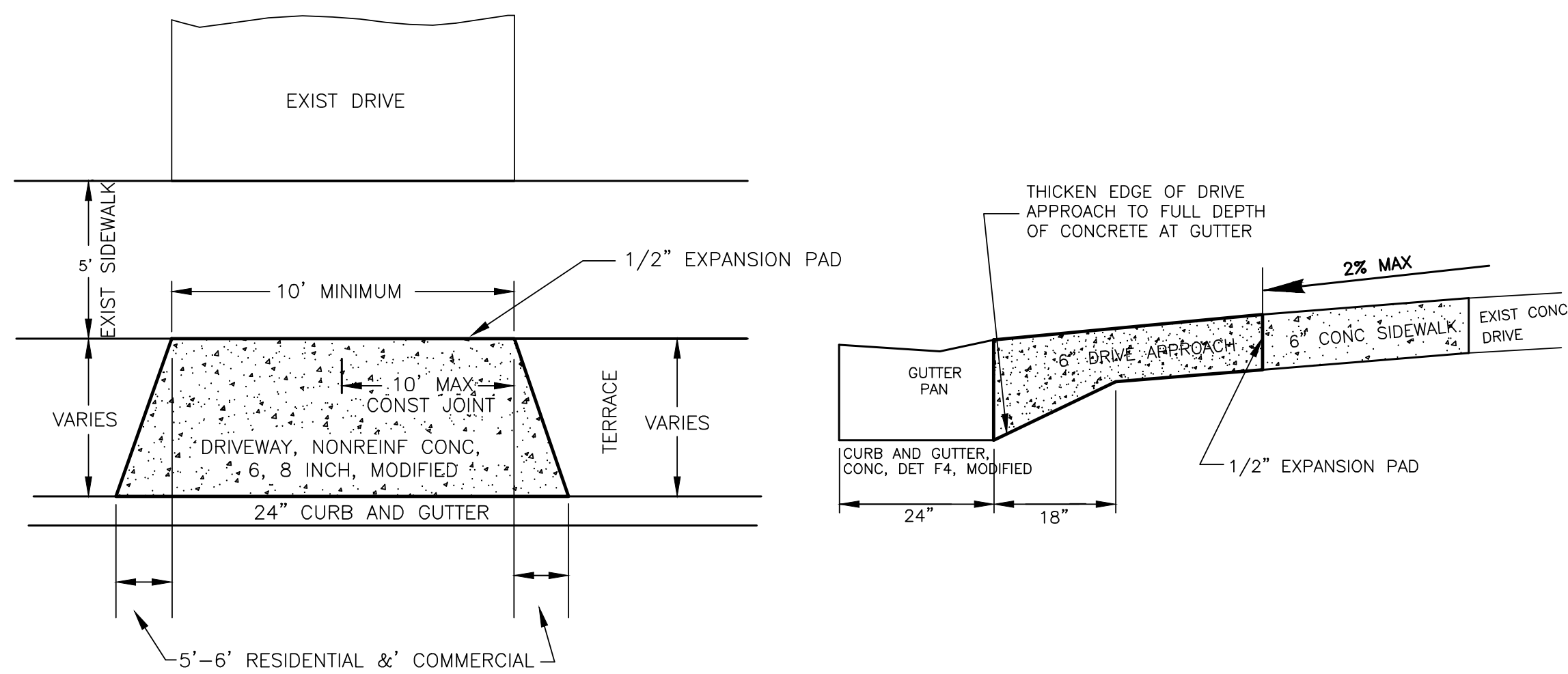
57004
REGISTRATION NUMBER

CITY OF MUSKEGON OFFICE OF THE CITY ENGINEER | EDGEWATER STREET THOMPSON AVE TO LAKESHORE DR.

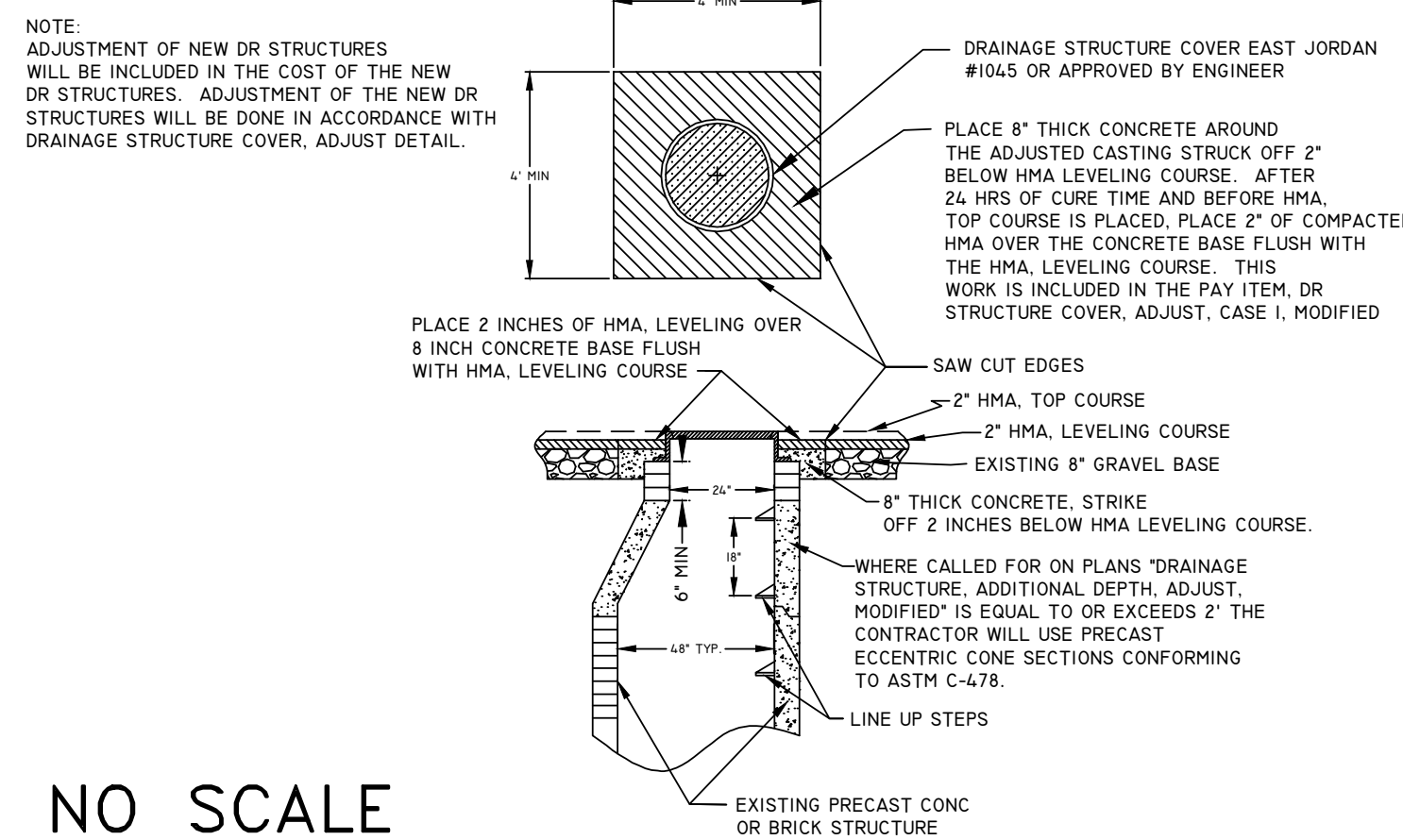
DRAWN	F. PEASE	DEC 2023	REVISION	SURVEY	F.P. J.L.	2023	H-92344
CHECKED			REVISION	AS-BUILT			PROJECT NO
APPROVED			REVISION	SCALE	NO SCALE		SHEET NO 1 OF 5

EDGEWATER STREET, THOMPSON AVE TO LSD CROSS SECTION AND DETAIL SHEET

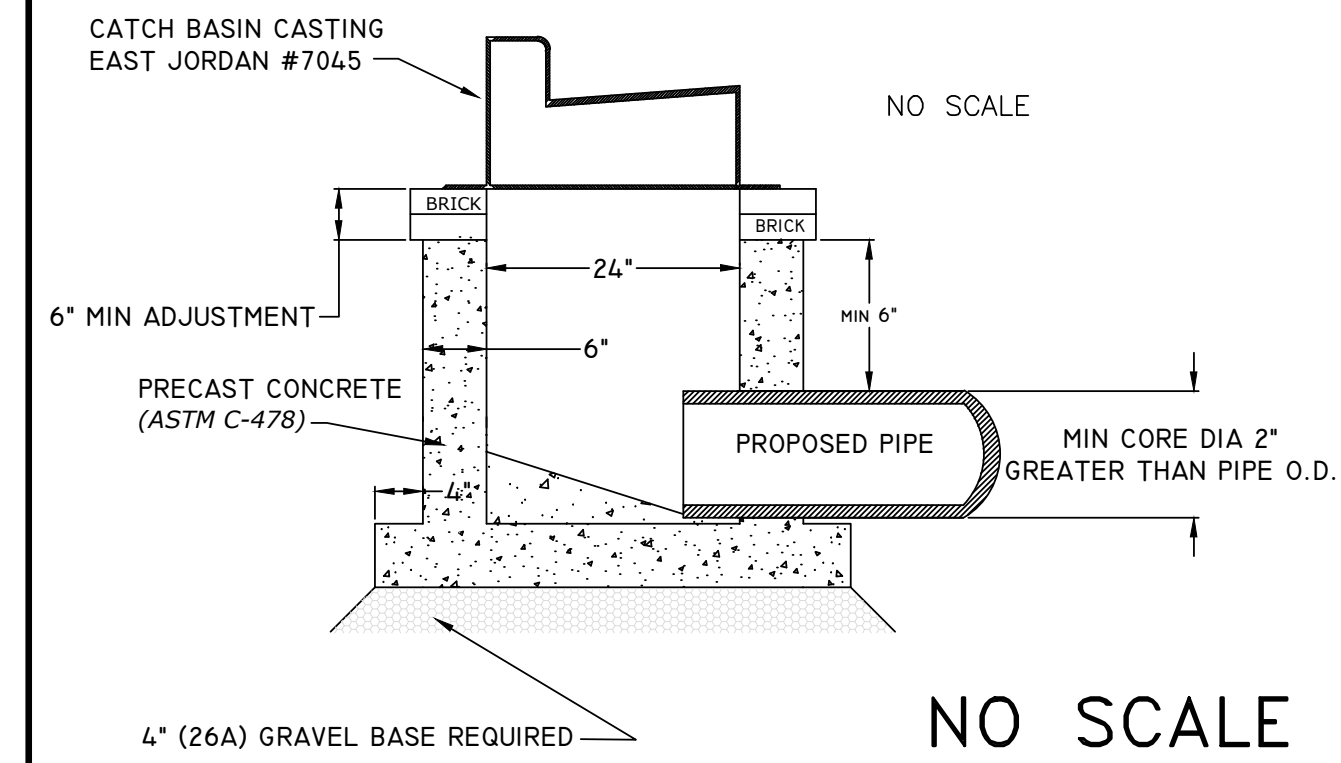
TYPICAL DRIVE APPROACH DETAIL



DRAINAGE STRUCTURE COVER, ADJUST DETAIL



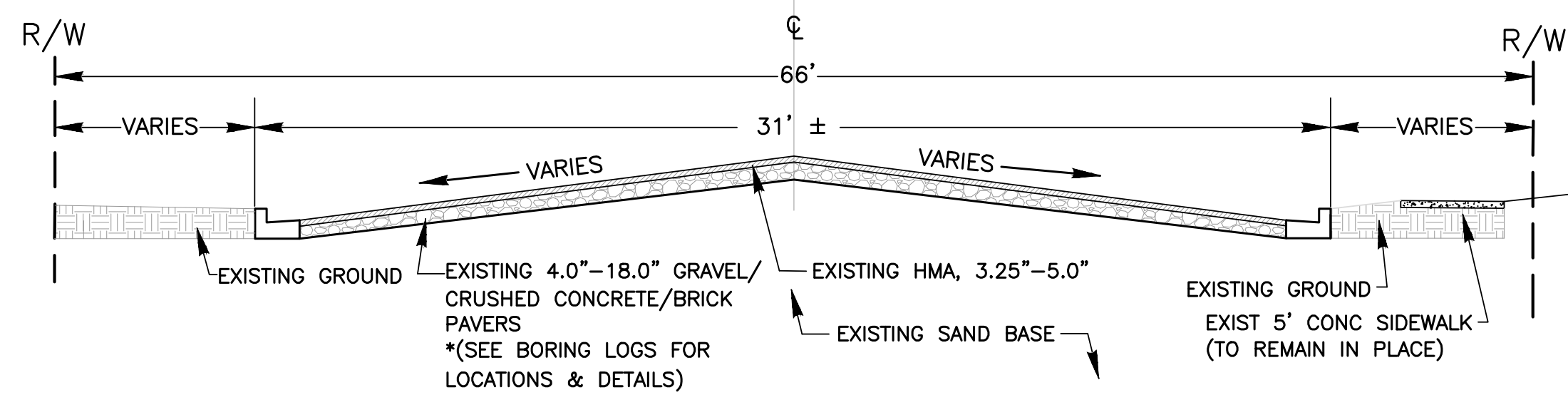
DETAIL FOR: CATCH BASIN 2 FT DIA, SPECIAL DETAIL



GENERAL NOTES:

- UPON REQUEST AND APPROVAL, THE CONTRACTOR MAY OBTAIN A WATER SUPPLY FROM THE CITY OF MUSKEGON FIRE HYDRANTS AT NO COST, PROVIDED THAT THEY FOLLOW THE CONDITIONS OF THE CITY WATER DEPARTMENT.
- WHENEVER SMALL CASTINGS (STOP BOXES, METER PITS, MONITORING WELLS) ARE ENCOUNTERED WITHIN THE WORK AREA THEY SHALL BE ADJUSTED AT NO COST TO THE CITY. PAYMENT SHALL BE INCLUDED WITH THE LINE ITEM OF WORK BEING PERFORMED.
- FOR PROTECTION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL CALL MISS DIG, (811) 1-800-482-7171, A MINIMUM OF 3 WORKING DAYS EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO EXCAVATING IN THE VICINITY OF ALL UTILITY LINES. ALL MISS DIG PARTICIPATING MEMBERS WILL BE NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING OWNERS WHO MAY NOT BE PART OF THE MISS DIG ALERT SYSTEM.

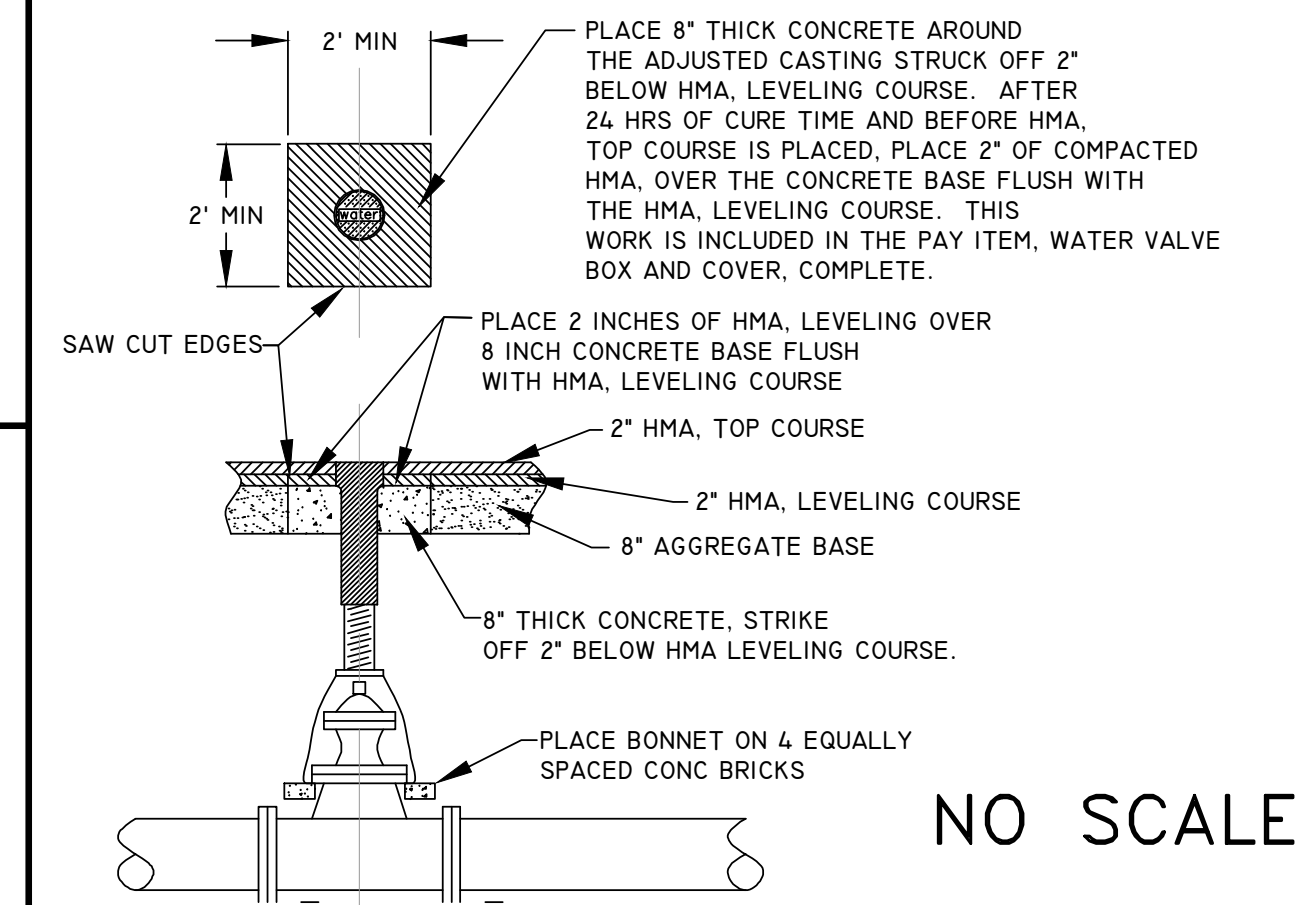
NOT TO SCALE
TYPICAL EXISTING X-SECTION
STATION 1+11.5-8+87 (31'+/-)
STATION 8+87-9+83.37 (VARIES)



DRAINAGE STRUCTURE COVERS

QUANTITY	DETAIL TYPE	CASTING DESCRIPTION	UNIT WEIGHT	TOTAL WEIGHT
5 EA	K	CATCH BASIN CASTING EAST JORDAN #7045 OR EQUAL	490#	2,450#
2 EA	B	MANHOLE CASTING EAST JORDAN #1045 OR EQUAL TYPE A - SOLID COVER	330#	660#

WATER VALVE BOX AND COVER, COMPLETE DETAIL



EDGEWATER ST. HMA APPLICATION

HMA MIX	RATE	PERFORMANCE GRADE	LIFT
HMA 4EML (TOP COURSE)	220# / SYD	70-28(P)	2 INCH-LIFT AWI 260, MIN
HMA 4EML (LEVEL COURSE)	220# / SYD	64-28	2 INCH-LIFT
HMA HAND PATCHING (HMA 4EML)	220# / SYD	64-28	2 INCH-LIFT

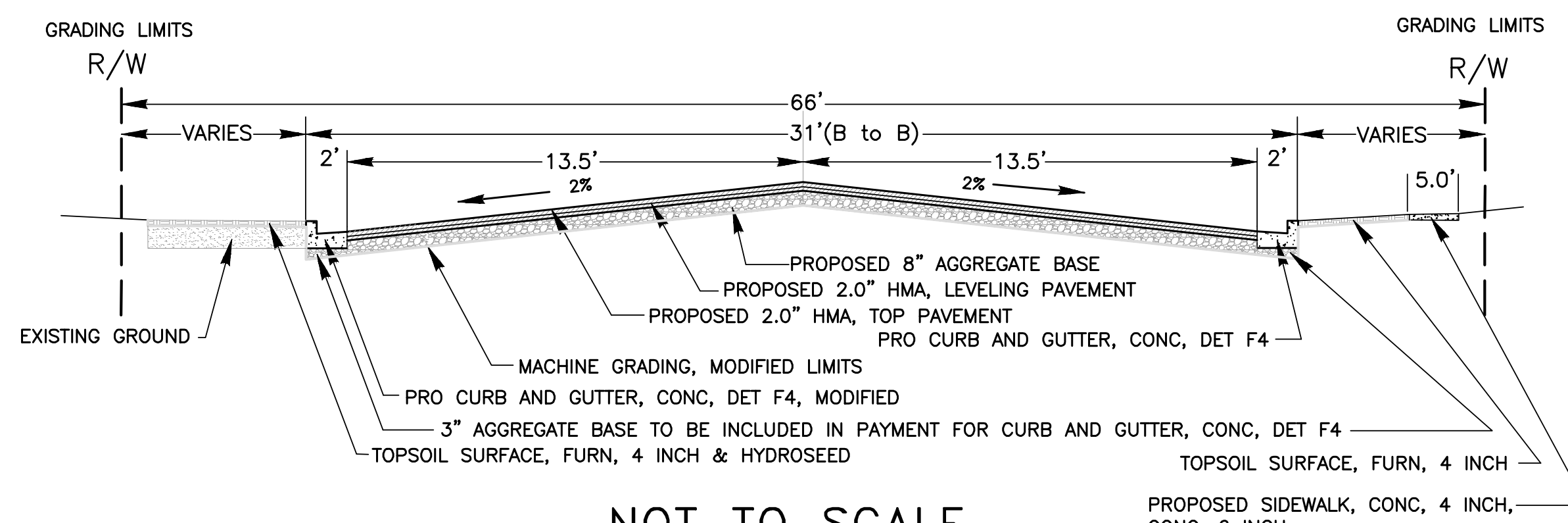
HMA BOND COAT, SS-HI, AT 0.05 TO 0.1 IS GAL/SY, SHALL BE PLACED BETWEEN EACH LIFT. THE COST IS INCLUDED WITH THE HMA PAY ITEM.

SUMMARY OF PAVEMENT CORING

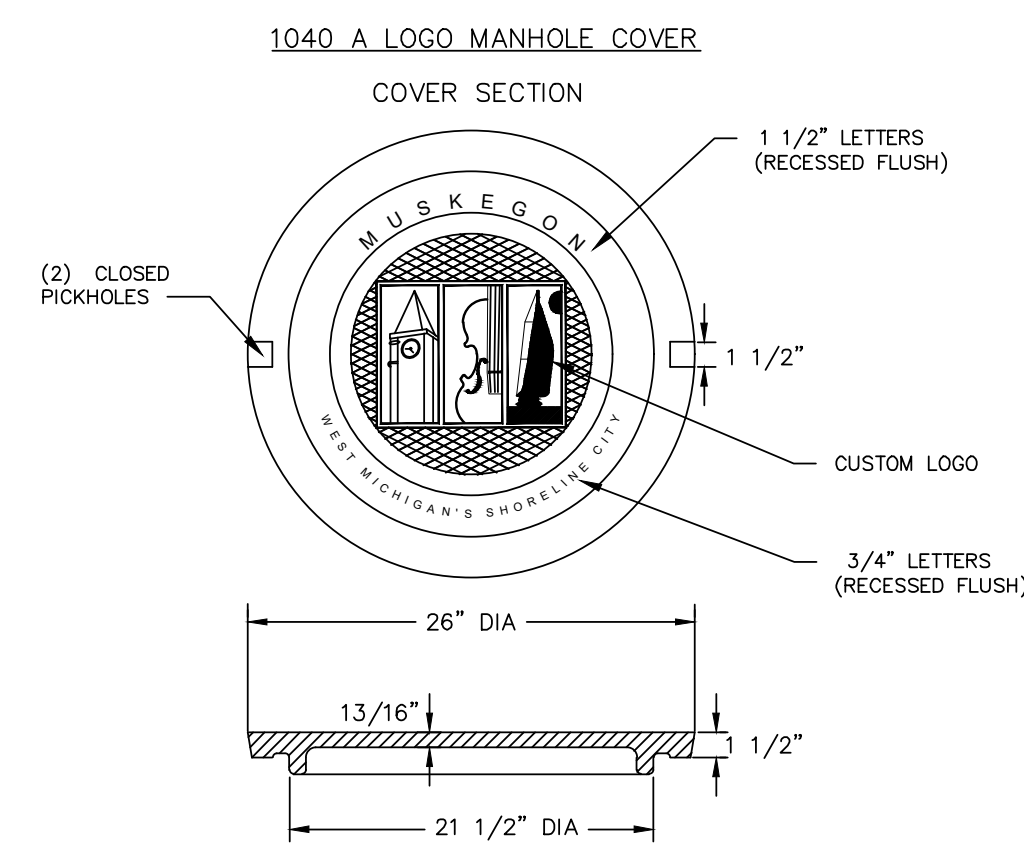
CORE #	STATION #	HMA THICKNESS	GRAVEL THICKNESS	SOIL TYPE TO I-10' BELOW PAVT	NOTE
TB-01	5+55 RT	7.0"	N/A	SAND: BROWN FINE TO MEDIUM	NOTE: NO GROUND WATER ENCOUNTERED
TB-02	8+34 RT	7.5"	N/A	SAND: BROWN FINE TO MEDIUM	NOTE: NO GROUND WATER ENCOUNTERED

* SEE SOIL BORING LOGS IN CONTRACT DOCUMENTS

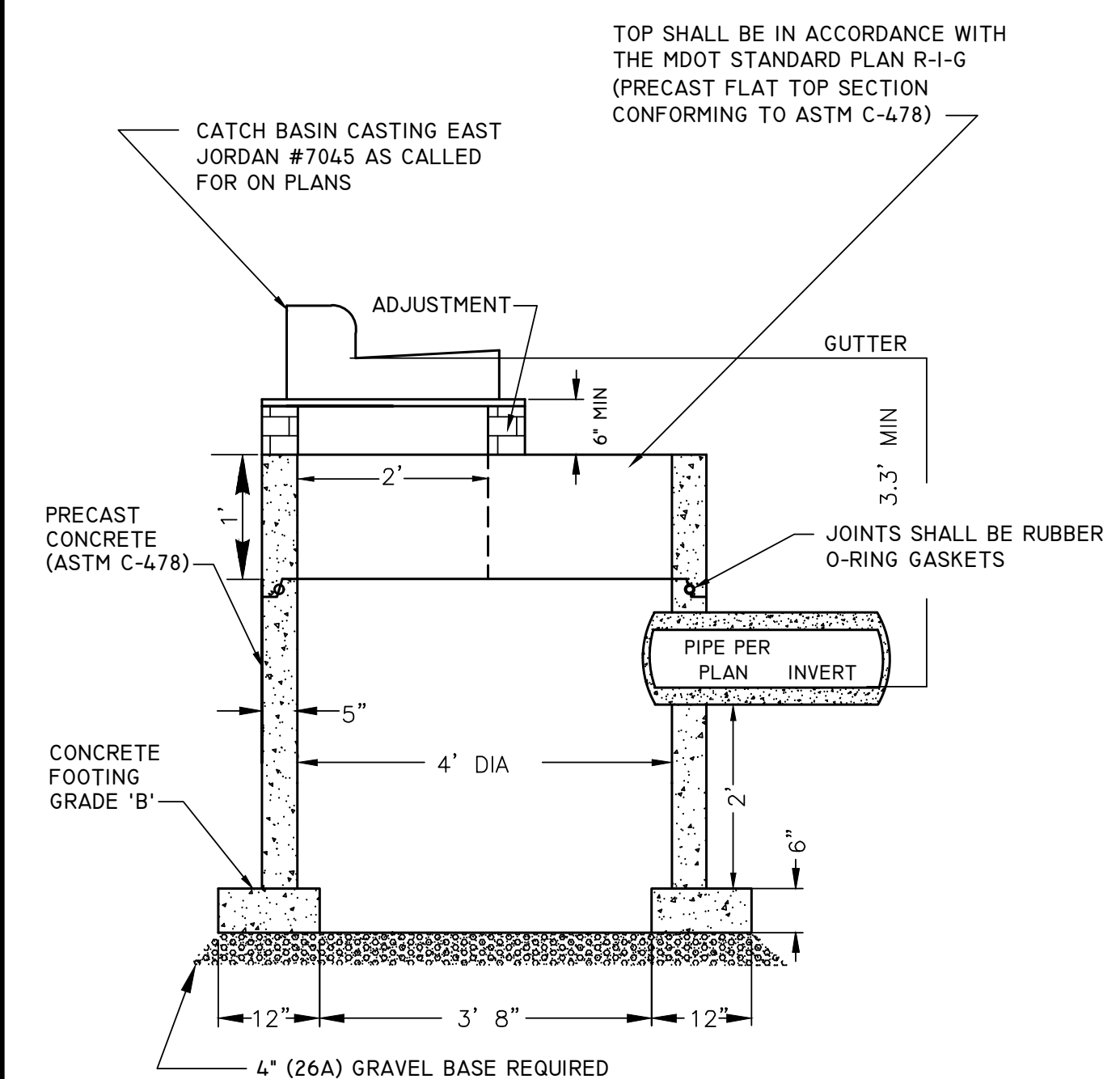
TYPICAL PROPOSED X-SECTION
STATION 1+11.5-9+63.2 (31' B-B)



DETAIL FOR: COVER B



DETAIL FOR: CATCH BASIN 4 FT DIA, SPECIAL DETAIL



- PUBLIC UTILITIES OF ALL TYPES HAVE BEEN SHOWN ON THE PLAN USING AVAILABLE INFORMATION, BUT ARE NOT GUARANTEED AS ACCURATE, OR THAT UTILITIES OTHER THAN THOSE SHOWN ARE NOT PRESENT. THE CONTRACTOR SHALL CALL MISS DIG 3 WORKING DAYS (EXCLUDING SAT., SUN., AND HOLIDAYS) BEFORE EXCAVING (1-800-482-7171).
- EXISTING TRAFFIC CONTROL SIGNS THAT NEED TO BE REMOVED TO ALLOW THE CONTRACTOR TO WORK WILL BE REMOVED BY THE CONTRACTOR AND STORED IN A SAFE PLACE TO AVOID DAMAGE. THE CONTRACTOR SHALL THEN REINSTALL THE SIGNS IN THEIR ORIGINAL LOCATION OR AS DIRECTED BY THE ENGINEER. REMOVAL AND REPLACEMENT OF THE SIGNS WILL BE INCLUDED IN THE ITEM OF MINOR TRAFFIC DEVICES. SIGNS THAT ARE DAMAGED BY THE CONTRACTOR WILL BE REPLACED BY CITY FORCES, AND THE CONTRACTOR WILL PAY THE CITY FOR THE COST OF REPLACEMENT.
- THE CONTRACTOR SHALL SAW CUT ALL MEETS RELATIVE TO SIDEWALK OR PAVEMENT CONSTRUCTION UNLESS WAIVED BY THE ENGINEER. PAYMENT FOR SAW CUTTING SHALL BE INCLUDED IN THE PAYMENT FOR THE PAY ITEMS PAVT, REM, MODIFIED, CURB AND GUTTER, REM, HMA SURFACE, REM AND SIDEWALK, REM. NO ADDITIONAL PAYMENT WILL ALLOWED FOR SAW CUTTING.

- IRRIGATION SYSTEMS AS MARKED OR STAKED DAMAGED THROUGH CARELESS WORK BY THE CONTRACTOR WILL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE CITY OF MUSKEGON. THE CITY OF MUSKEGON WILL PAY FOR RELOCATION OF IRRIGATION SYSTEMS DUE TO WIDENING OF ROAD OR IN CONFLICT WITH THE CONSTRUCTION OF UNDERGROUND WORK. PAYMENT WILL BE MADE BY A NEGOTIATED UNIT PRICE THROUGH A CONTRACT MODIFICATION. IT SHALL BE AT THE ENGINEER'S DISCRETION AS TO WHAT IRRIGATION REPAIR AND/OR RELOCATION IS THE RESULT OF CARELESS WORK BY THE CONTRACTOR OR THAT WHICH IS NECESSARY FOR THE CONSTRUCTION OF ROAD OR UTILITY WORK.

- THE CONTRACTOR SHALL PREVENT EROSION AND CONTROL SEDIMENTATION ASSOCIATED WITH THE PROJECT. KEEP SEDIMENTATION WITHIN THE RIGHT OF WAY AND OUT OF SURFACE WATERS, CONSTRUCT AND MAINTAIN TEMPORARY EROSION AND SEDIMENTATION CONTROLS, CONTROLS TO INCLUDE EROSION CONTROL, INLET PROTECTION, FABRIC DROPS, ON ALL INLET STRUCTURES, NEW AND EXISTING, AND INSTALL TEMPORARY EROSION, SEDIMENTATION CONTROLS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL REMOVE ON A DAILY BASIS SOIL TRACKED ONTO EXISTING PAVED ROADS, (VACUUM METHODS ARE PREFERRED BUT BROOM SWEEPING IS ACCEPTABLE IF THE MATERIAL IS REMOVED) THE CONTRACTOR SHALL INSPECT ALL SOIL EROSION/SEDIMENTATION CONTROL MEASURES ON A WEEKLY BASIS OR AFTER EACH RAIN FALL EVENT, CLEAN REPAIR, OR REPLACE, AS NECESSARY, TO ENSURE PROPER FUNCTION. ALL SOIL EROSION/SEDIMENTATION CONTROLS SHALL REMAIN UNTIL ALL DISTURBED AREAS ARE STABILIZED. ALL SOIL EROSION/SEDIMENTATION CONTROL, EXCEPT FOR THE EROSION CONTROL, INLET PROTECTION, FABRIC DROP, SHALL BE INCLUDED WITH THE PAY ITEM "PAVT, REM, MODIFIED" NO OTHER PAYMENT SHALL BE MADE.

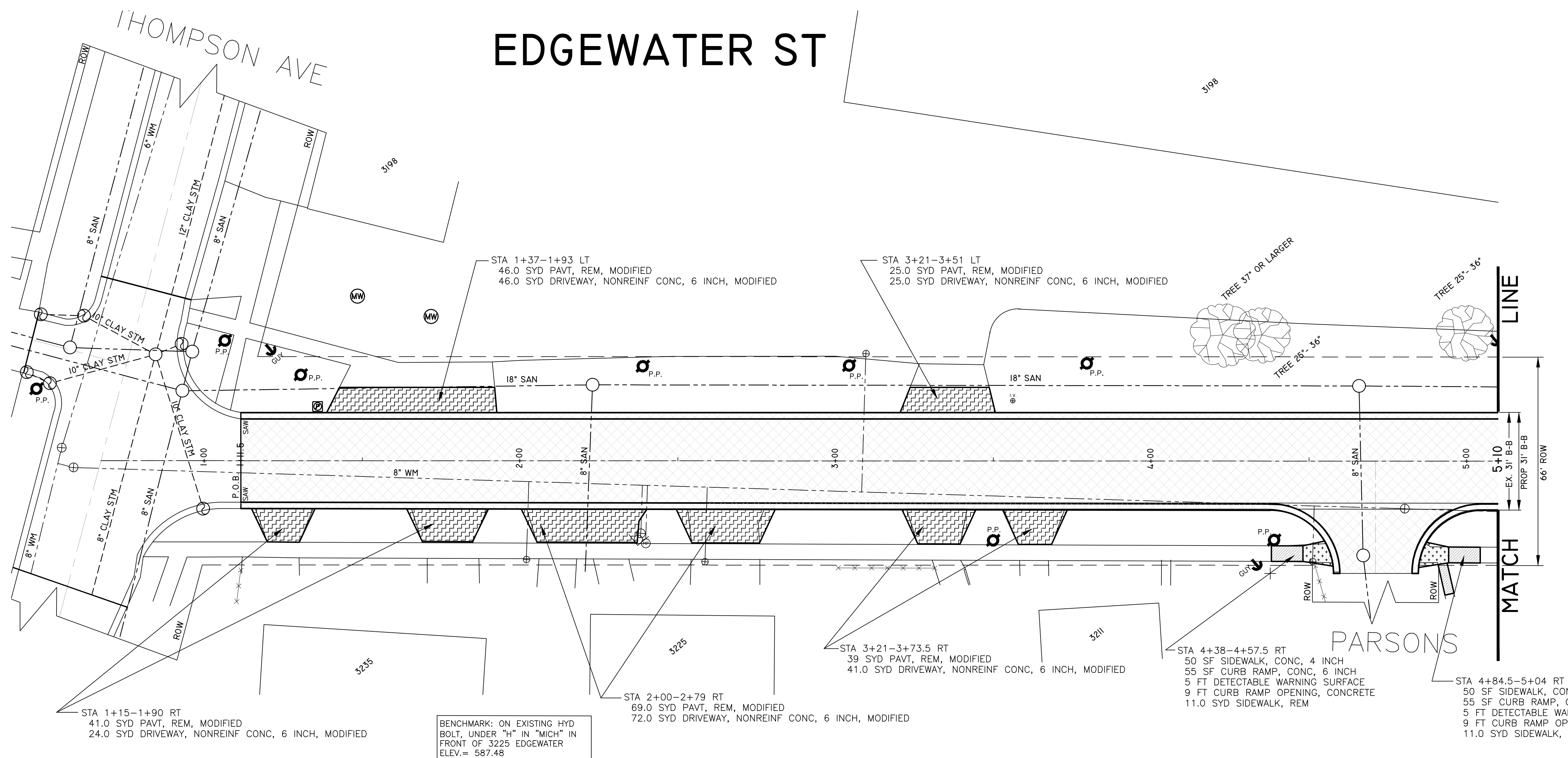
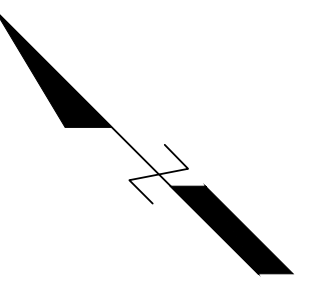
CITY OF MUSKEGON
OFFICE OF THE CITY ENGINEER

EDGEWATER ST.
THOMPSON TO LAKESHORE DR.

DRAWN	F. PEASE	DEC 23	REVISION	SURVEY	F.P. J.L.	2023	H-92344
CHECKED			REVISION	AS-BUILT			PROJECT NO
APPROVED			REVISION	SCALE	NO SCALE		SHEET NO 2 OF 5

811 3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG

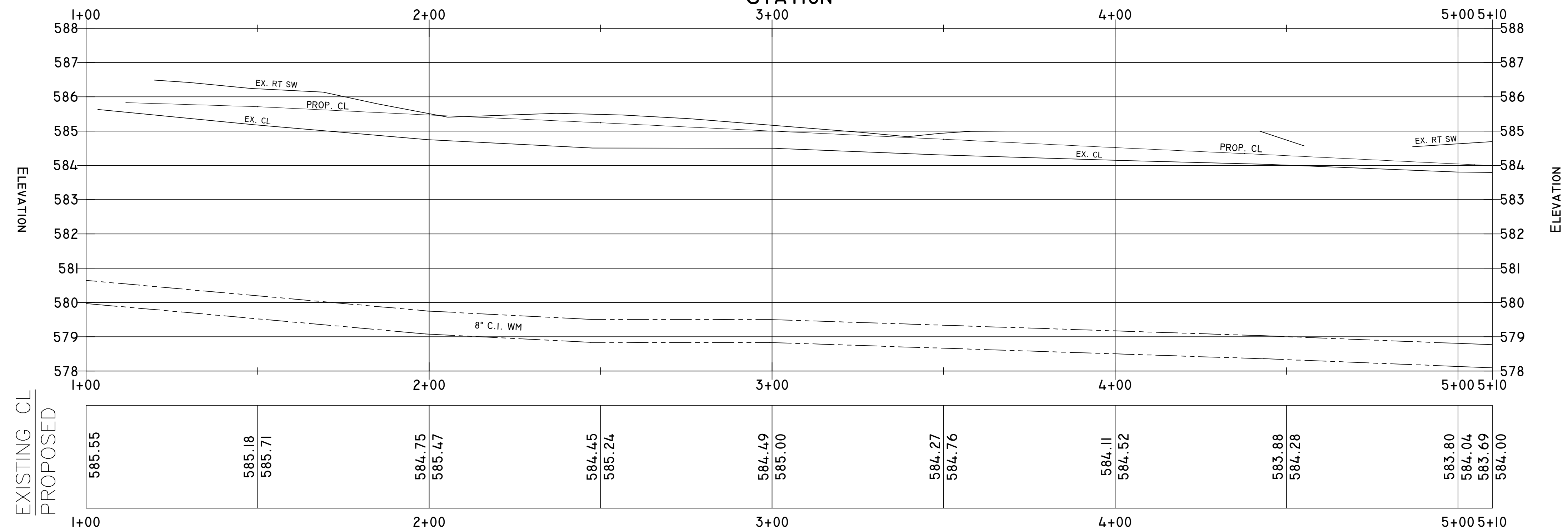
EDGEWATER ST



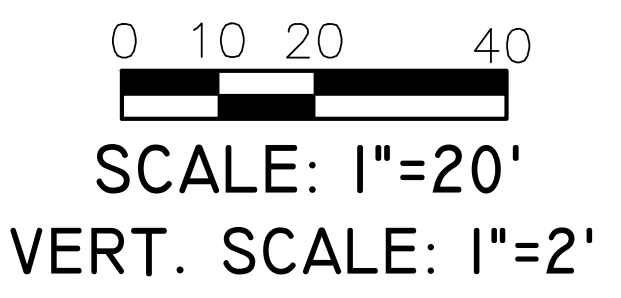
ADDITIONAL QUANTITIES THIS SHEET STA 1+00 TO 5+10		
DESCRIPTION	QUANTITIES	UNIT
MACHINE GRADING, MODIFIED	4	STA
AGGREGATE BASE, 8 INCH	1261	SYD
CURB AND GUTTER, CONC, DET F4	800	FT
EROSION CONTROL, INLET PROTECTION, FABRIC DROP	2	EA
HMA, LEVELING	148	TON
HMA, TOP	148	TON
HYDROSEEDING	576	SYD
PAVT, REM, MODIFIED	1433	SYD
TOPSOIL SURFACE, FURN, 4 INCH	576	SYD
DR STRUCTURE COVER, ADJ, CASE 1, MODIFIED	1	EA
DR STRUCTURE COVER, TYPE B, MODIFIED	1	EA
WATER VALVE BOX AND COVER COMPLETE	1	EA
SIDEWALK, CONC, 6 INCH	50	SFT

TOTAL QUANTITIES THIS SHEET		
DESCRIPTION	QUANTITIES	UNIT
MACHINE GRADING, MODIFIED	4	STA
AGGREGATE BASE, 8 INCH	1261	SYD
CURB AND GUTTER, CONC, DET F4	800	FT
EROSION CONTROL, INLET PROTECTION, FABRIC DROP	2	EA
HMA, LEVELING	148	TON
HMA, TOP	148	TON
HYDROSEEDING	576	SYD
PAVT, REM, MODIFIED	1653	SYD
TOPSOIL SURFACE, FURN, 4 INCH	576	SYD
DR STRUCTURE COVER, ADJ, CASE 1, MODIFIED	1	EA
DR STRUCTURE COVER, TYPE B, MODIFIED	1	EA
WATER VALVE BOX AND COVER COMPLETE	1	EA
SIDEWALK, CONC, 4 INCH	100	SF
CURB RAMP, CONC, 6 INCH	110	SF
DETECTABLE WARNING SURFACE	10	FT
CURB RAMP OPENING, CONCRETE	18	FT
SIDEWALK, REM	22	SYD
DRIVEWAY, NONREINF CONC, 6 INCH, MODIFIED	208	SYD

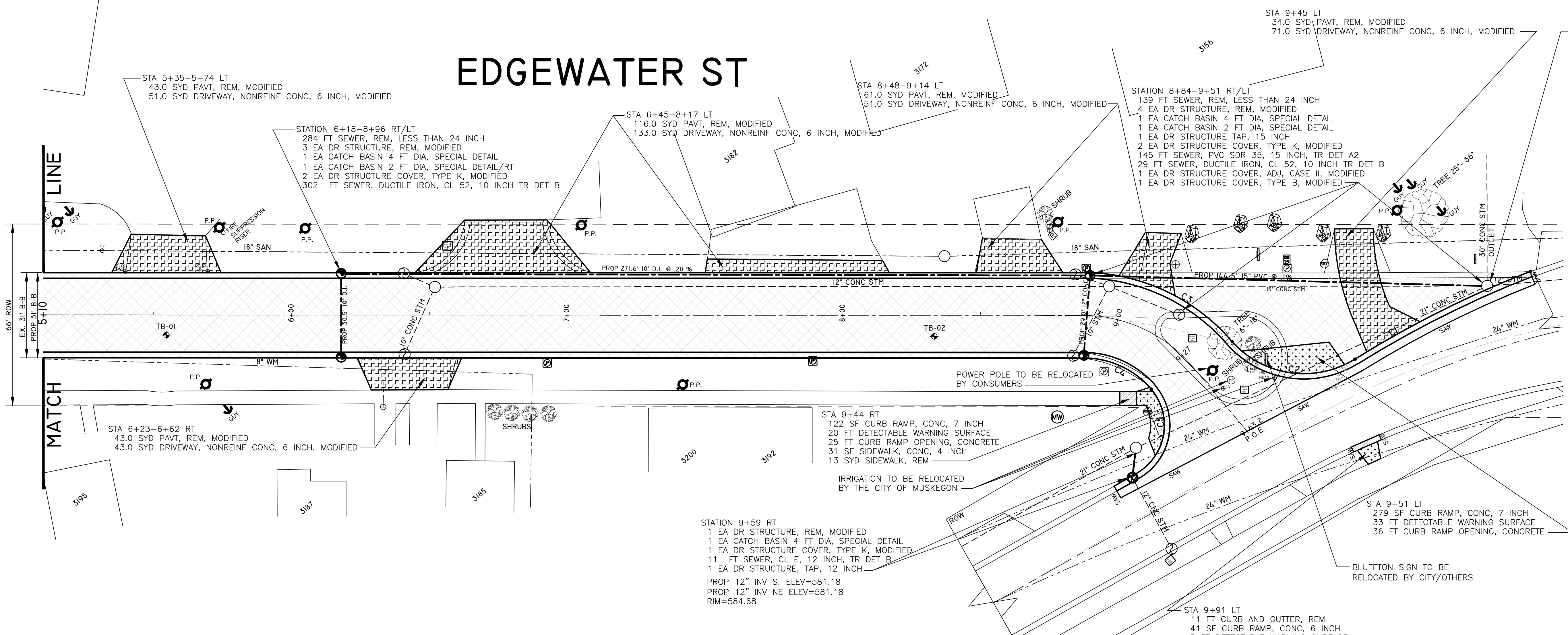
PROFILE VIEW OF EDGEWATER STATION



<p>CURB RAMP, CONC, 6 INCH</p>	<p>DRIVEWAY, NONREINF, CONC, 6 INCH, MODIFIED</p>
<p>SIDEWALK, CONC, 4 & 6 INCH</p>	<p>PAVT, REM, MODIFIED</p>
<p>SIDEWALK, REM</p>	



EDGEWATER ST



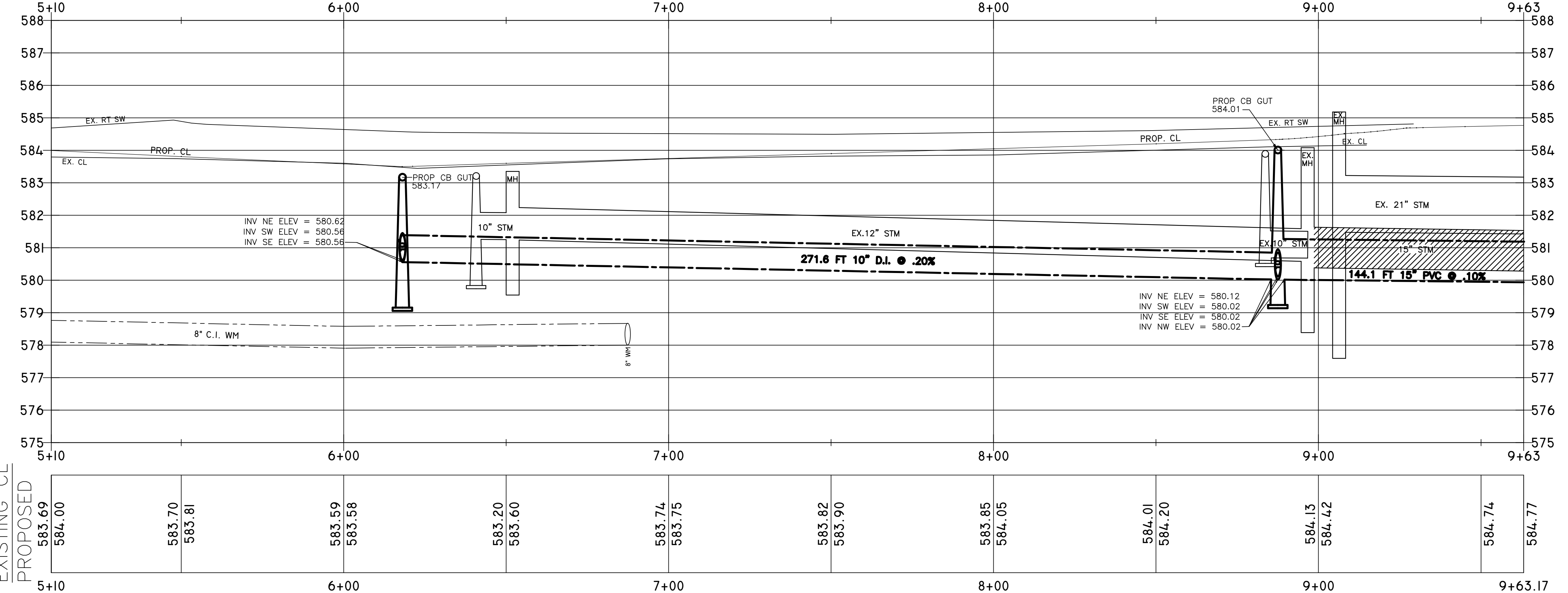
ADDITIONAL QUANTITIES THIS SHEET STA 5+10 TO 9+63.15

DESCRIPTION	QUANTITIES	UNIT
MACHINE GRADING, MODIFIED	4.5	STA
AGGREGATE BASE, 8 INCH	1455	SYD
CURB AND GUTTER, CONC, DET F4	1006	FT
EROSION CONTROL, INLET PROTECTION, FABRIC DROP	6	EA
HAND PATCHING	10	TON
HMA, LEVELING	168	TON
HMA, TOP	168	TON
HYDROSEEDING	965	SYD
PAVT, REM, MODIFIED	1887	SYD
TOPSOIL SURFACE, FURN, 4 INCH	965	SYD
TREE, REM, 6 INCH TO 18 INCH	1	EA
WATER VALVE BOX AND COVER COMPLETE	1	EA
SIDEWALK, CONC, 6 INCH	50	SFT

TOTAL QUANTITIES THIS SHEET

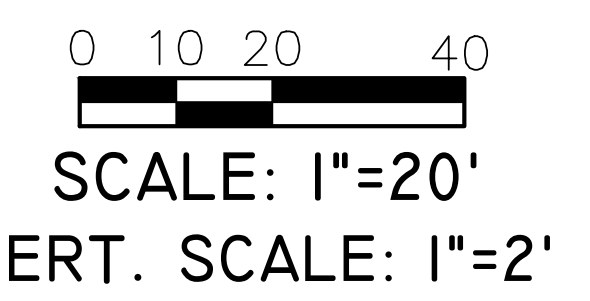
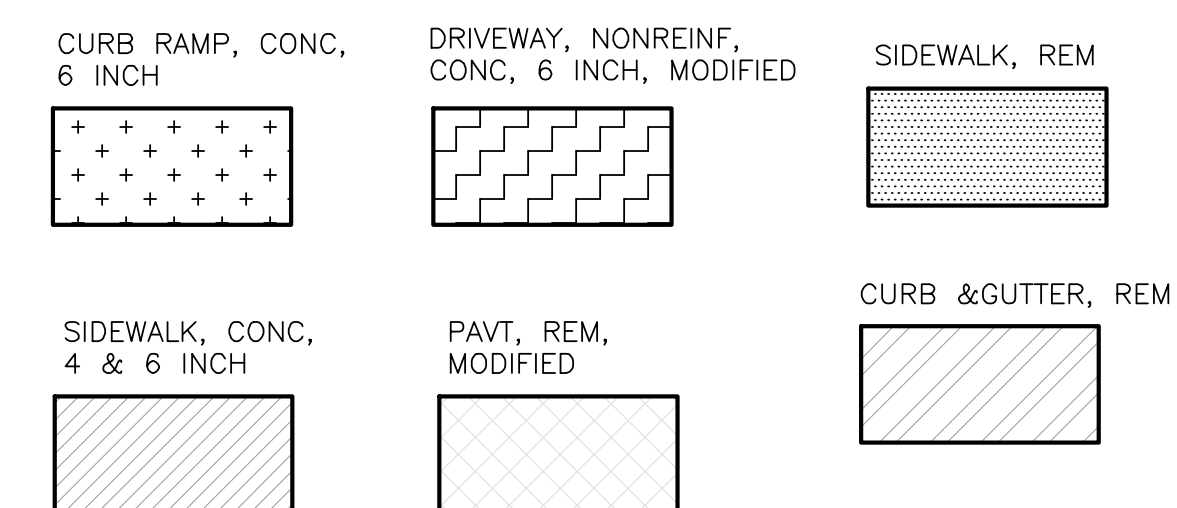
DESCRIPTION	QUANTITIES	UNIT
MACHINE GRADING, MODIFIED	4.5	STA
AGGREGATE BASE, 8 INCH	1455	SYD
CURB AND GUTTER, CONC, DET F4	1017	FT
CURB AND GUTTER, REM	11	FT
EROSION CONTROL, INLET PROTECTION, FABRIC DROP	6	EA
HAND PATCHING	10	TON
HMA, LEVELING	168	TON
HMA, TOP	168	TON
HYDROSEEDING	965	SYD
PAVT, REM, MODIFIED	2184	SYD
TOPSOIL SURFACE, FURN, 4 INCH	965	SYD
DR STRUCTURE COVER, ADJ, CASE II, MODIFIED	1	EA
DR STRUCTURE COVER, TYPE B, MODIFIED	1	EA
WATER VALVE BOX AND COVER COMPLETE	1	EA
SIDEWALK, CONC, 4 INCH	31	SF
CURB RAMP, CONC, 7 INCH	401	SF
CURB RAMP, CONC, 6 INCH	41	SF
DETECTABLE WARNING SURFACE	58	FT
CURB RAMP OPENING, CONCRETE	68	FT
SIDEWALK, REM	13	SYD
DRIVEWAY, NONREINF CONC, 6 INCH, MODIFIED	34.9	SYD
SEWER, REM, LESS THAN 24 INCH	423	FT
DR STRUCTURE, REM, MODIFIED	8	EA
CATCH BASIN 4 FT DIA, SPECIAL DETAIL	3	EA
CATCH BASIN 2 FT DIA, SPECIAL DETAIL	2	EA
DR STRUCTURE COVER, TYPE K, MODIFIED	5	EA
SEWER, DUCTILE IRON, CL 52, 10 INCH, TR DET B	302	FT
DR STRUCTURE, TAP, 15 INCH	1	EA
SEWER, PVC SDR 35, 15 INCH, TR DET A2	145	FT
SEWER, CL E, 12 INCH, TR DET B	40	FT
DR STRUCTURE, TAP, 12 INCH	1	EA

PROFILE VIEW OF EDGEWATER STATION

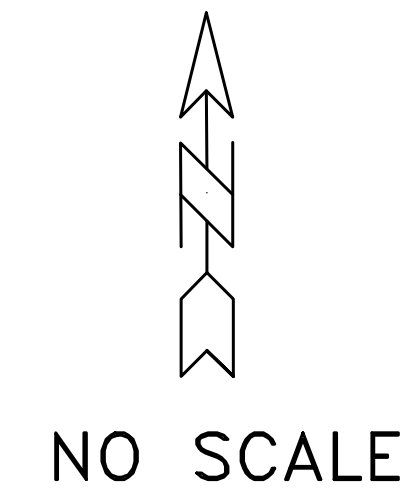
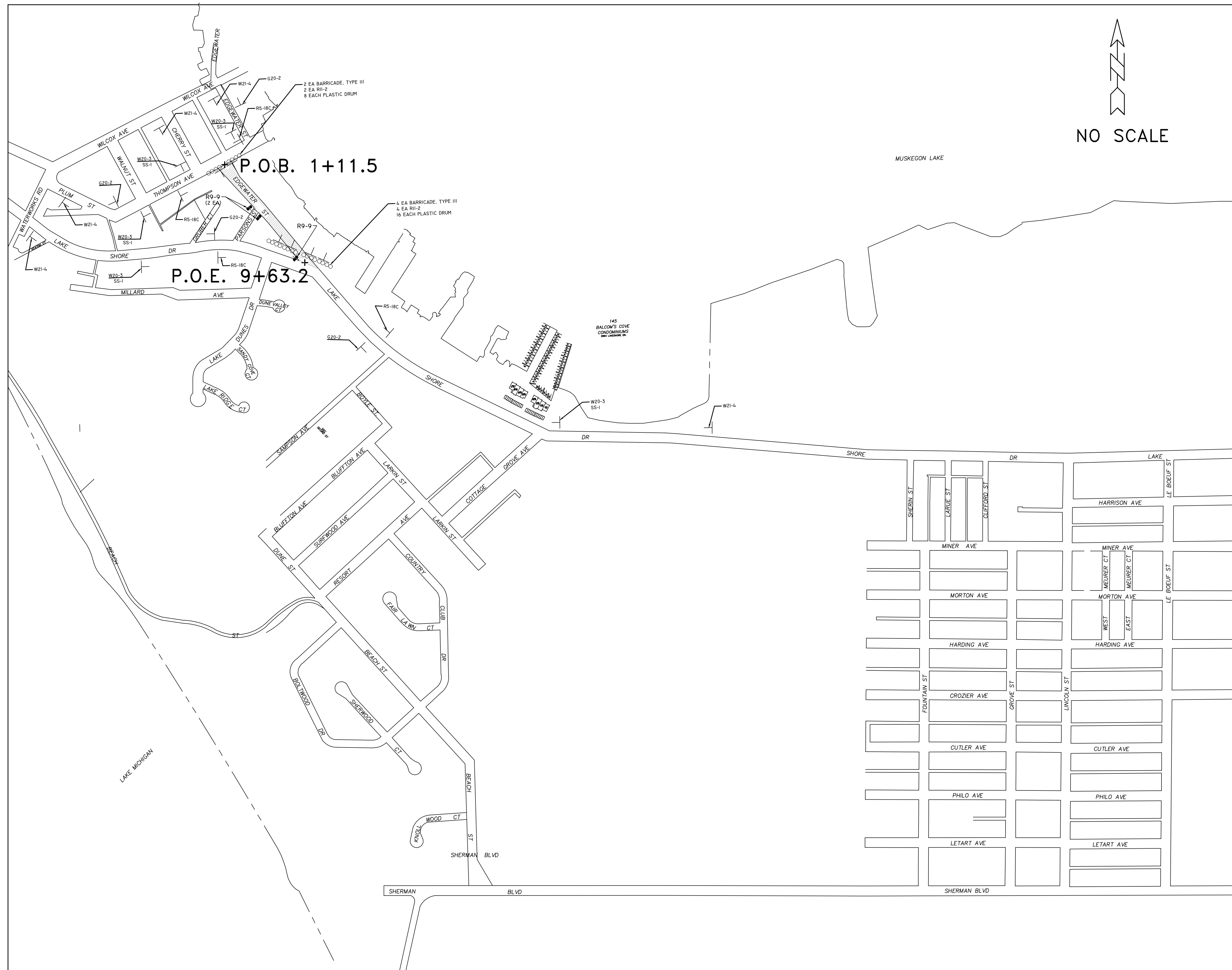


ROADWAY CURVE TABLE

CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHORD
C1	10°43'2"	380.8'	35.72'	71.24	71.13
C2	79°55'40"	35'	29.33'	48.83	44.96
C3	47°10'33"	71.7'	31.32'	59.05'	57.40'
C4	49°44'34"	32.0'	14.83'	27.78'	26.92'
C5	103°7'55"	20.2'	25.51'	36.44'	31.71'



TRAFFIC CONTROL DETAILS



ESTIMATED QUANTITIES SIGN, TYPE B TEMPORARY				
SIGN	DESCRIPTION	QUANTITY	AREA	TOTAL AREA
G20-2	END ROAD WORK	4	8 SFT	32 SFT
R5-18C	WORK ZONE BEGINS	4	16 SFT	64 SFT
R11-2	ROAD CLOSED	6	10 SFT	60 SFT
R9-9	SIDEWALK CLOSED	3	12.5 SFT	37.5 SFT
W20-3	ROAD CLOSED AHEAD	5	16 SFT	80 SFT
W21-4	ROAD WORK AHEAD	5	16 SFT	80 SFT
			TOTAL	353.5 SFT

ESTIMATED QUANTITIES SIGN, TYPE B TEMPORARY, SPECIAL				
SIGN	DESCRIPTION	QUANTITY	AREA	TOTAL AREA
SS-1	EDGEWATER ST.	5	8 SFT	40 SFT
			TOTAL	40 SFT

ESTIMATED TRAFFIC CONTROL DEVICES		
MINOR TRAFFIC DEVICES		
BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED, FURN	1	LS
BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED, OPER	6	EA
PLASTIC DRUM, FLUORESCENT, FURN	6	EA
PLASTIC DRUM, FLUORESCENT, OPER	24	EA
SIGN, TYPE B, TEMP, PRISMATIC, FURN	353.5	SFT
SIGN, TYPE B, TEMP, PRISMATIC, OPER	353.5	SFT
SIGN, TYPE B, TEMP, PRISMATIC, SPECIAL, FURN	40	SFT
SIGN, TYPE B TEMP, PRISMATIC, SPECIAL, OPER	40	SFT
MAINTENANCE GRAVEL, LM	100	CYD
DUST PALLIATIVE, APPLIED	30	TON
PEDESTRIAN TYPE II BARRICADE, TEMP	3	EA

TRAFFIC CONTROL NOTES:

1. THE CONTRACTOR SHALL MAINTAIN ACCESS TO BUSINESSES, RESIDENCES, AND CROSS STREETS WITH MAINTENANCE GRAVEL AS DIRECTED BY THE ENGINEER. CONTRACTOR MAY USE THE EXISTING AGGREGATE BASE FOR MAINTENANCE GRAVEL OR HMA MILLINGS. AGGREGATE OR HMA MILLINGS USED TO MAINTAIN TRAFFIC WILL BE PAID AT THE BID PROPOSAL UNIT PRICE FOR MAINTENANCE GRAVEL.
2. IN ADDITION TO THE 24 PLASTIC BARRELS USED FOR CHANNELING DEVICES AND ROAD CLOSURES, THE CONTRACTOR WILL SUPPLY AN ADDITIONAL 20 PLASTIC BARRELS FOR MARKING TEMPORARY DRIVES, BLOCKING EXISTING DRIVES, AND SIDEWALKS, ETC. AS DIRECTED BY THE ENGINEER.
3. PLEASE KEEP THE SIDEWALK RAMPS MAINTAINED AT EDGEWATER AND LAKESHORE DR, AND PARSONS AND EDGEWATER BY USING MAINTENANCE GRAVEL AS NECESSARY TO ACCOMMODATE PEDESTRIAN TRAFFIC.

SPECIAL SIGNS

