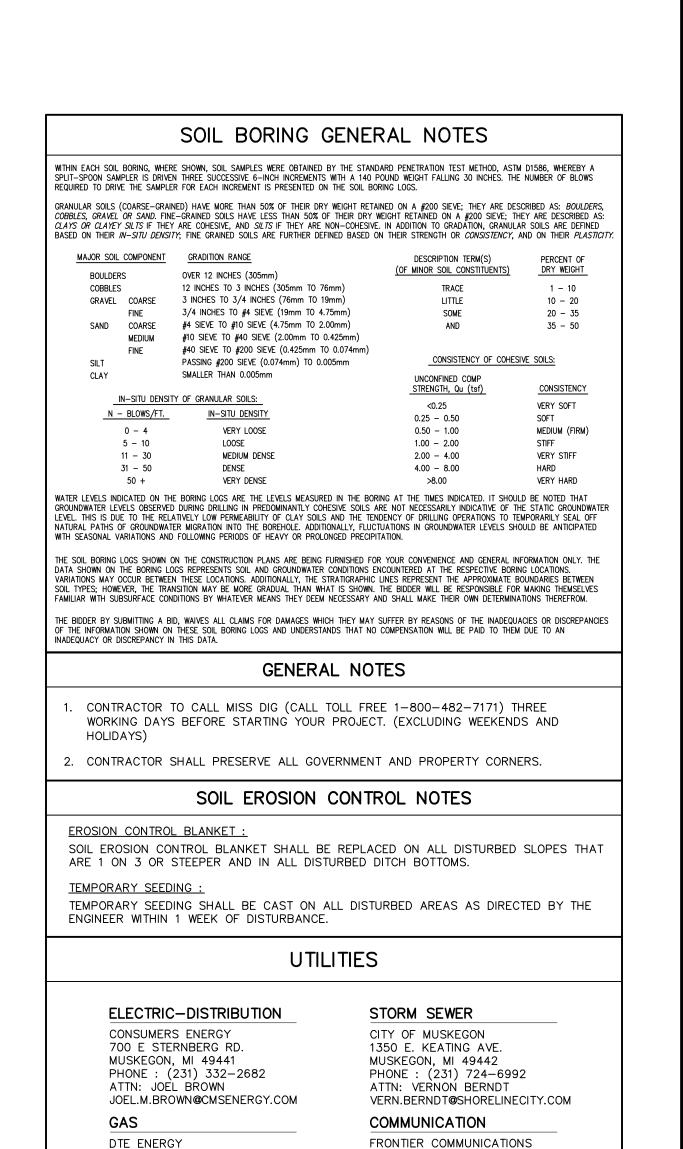
CITY OF MUSKEGON MUSKEGON COUNTY, MICHIGAN

WASTEWATER SYSTEM IMPROVEMENTS

EDGEWATER AND HARBOUR TOWNE LIFT STATIONS

SRF PROJECT #5790-01



860 TERRACE ST.

COMCAST

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY

SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT

THEY ARE THE ONLY UTILITIES IN THIS AREA.

MUSKEGON, MI 49443

PHONE: (231) 727-1134

ATTN: CINDY WHITEMAN

CINDY.WHITEMAN@FTR.COM

CABLE TELEVISION

PHONE: (231) 375-5112 ATTN: JON CHARLAND

JONATHAN_CHARLAND@COMCAST.COM

700 W. BROADWAY MUSKEGON, MI 49441

2359 OLTHOF DR.

MUSKEGON, MI, 49444

PHONE: (231) 726-0943

ANTHONY.FERRIER@DTEENERGY.COM

DAVE.BAKER@SHORELINECITY.COM

ATTN: ANTHONY FERRIER

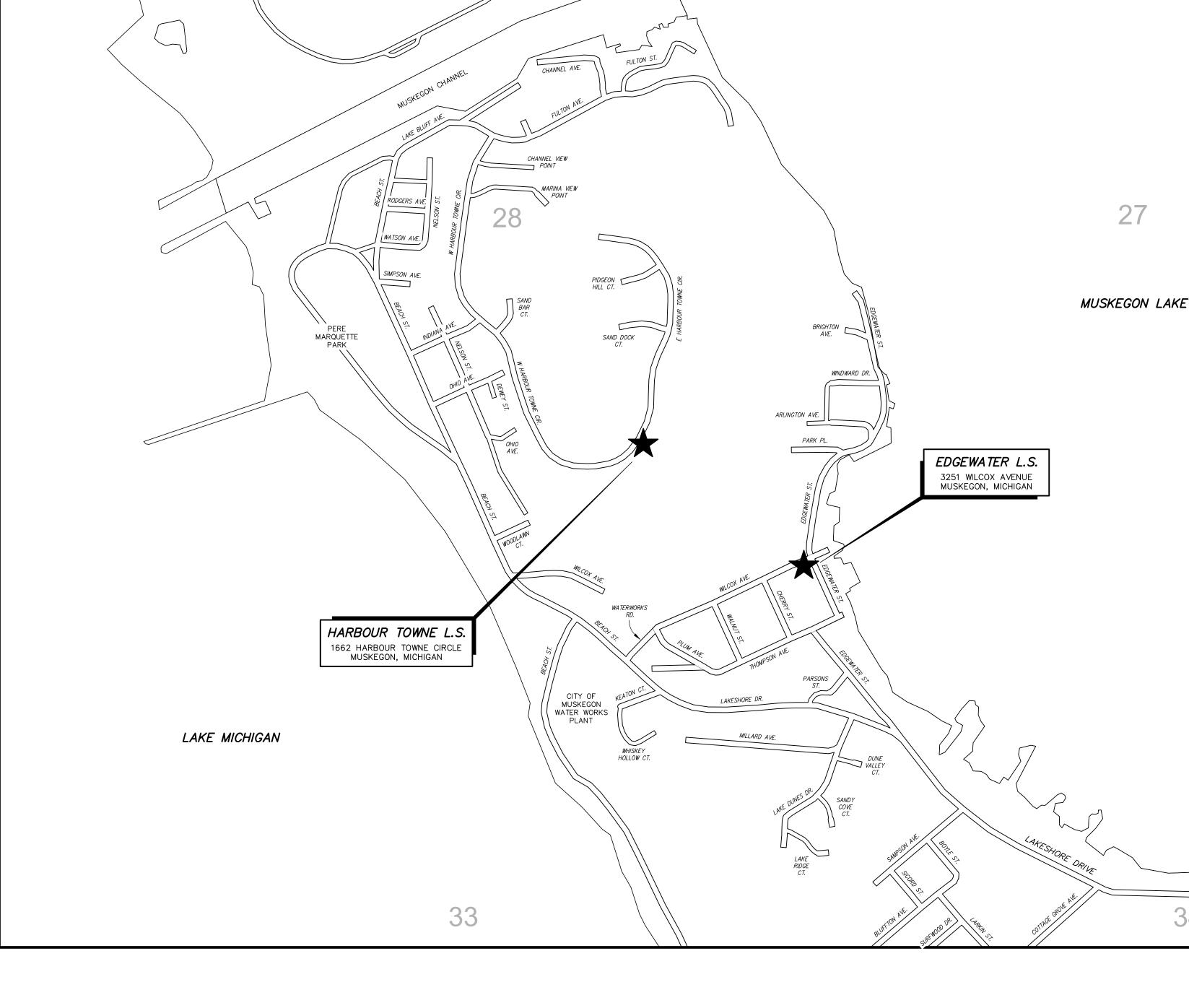
WATER & SANITARY

CITY OF MUSKEGON

1350 E. KEATING AVE.

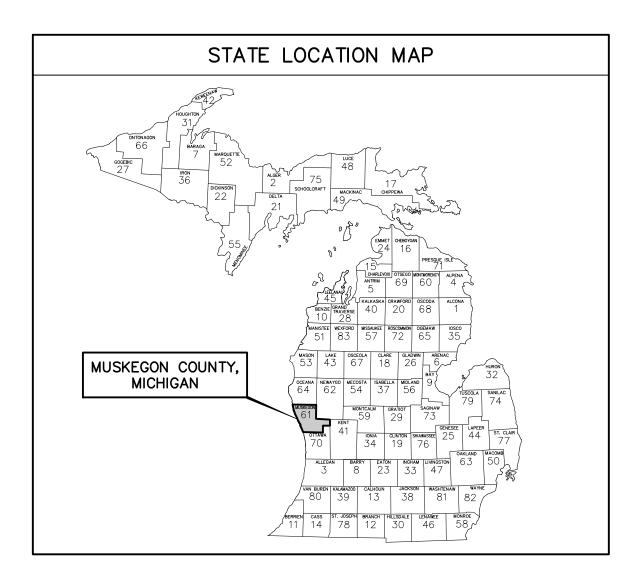
MUSKEGON, MI 49442 PHONE : (231) 724-4184

ATTN: DAVE BAKER

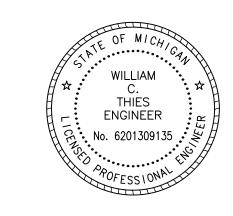


CHANNEL CAMPGROUND

PROJECT DATUM INFORMATION COORDINATE SYSTEM: STATE PLANE GRID ZONE: MICHIGAN SOUTH 2113 ELLIPSOID: GRS 80 HORIZONTAL DATUM: NAD 83 (2011) VERTICAL DATUM: NAVD 88 GEOID: GEOID 18 UNITS: INTERNATIONAL FEET PROJECT COMBINED SCALE FACTOR (PCSF) = 0.9999923934485 GROUND DISTANCE = GRID DISTANCE/PCSF



	SHEET	INDEX	
SHEET No.	DESCRIPTION		
1	COVER SHEET		
2	SITE PLANS		
3	LIFT STATION DETAILS		



LAKESHORE DRIVE

North

SCALE : 1'' = 500'



EL. 583.66 EDGEWATER LIFT STATION
WILCOX AVENUE & EDGEWATER STREET, SE
CORNER OF INTERSECTION, FOUND 60D
NAIL NW SIDE P. POLE (0.5' A/GROUND)

EDGEWATER LIFT STATION WILCOX AVENUE & EDGEWATER STREET, 150'± E & 25'± N OF C/L "X", TOP OF SE CORNER OF 8" CONC. (1.0' A/GROUND)

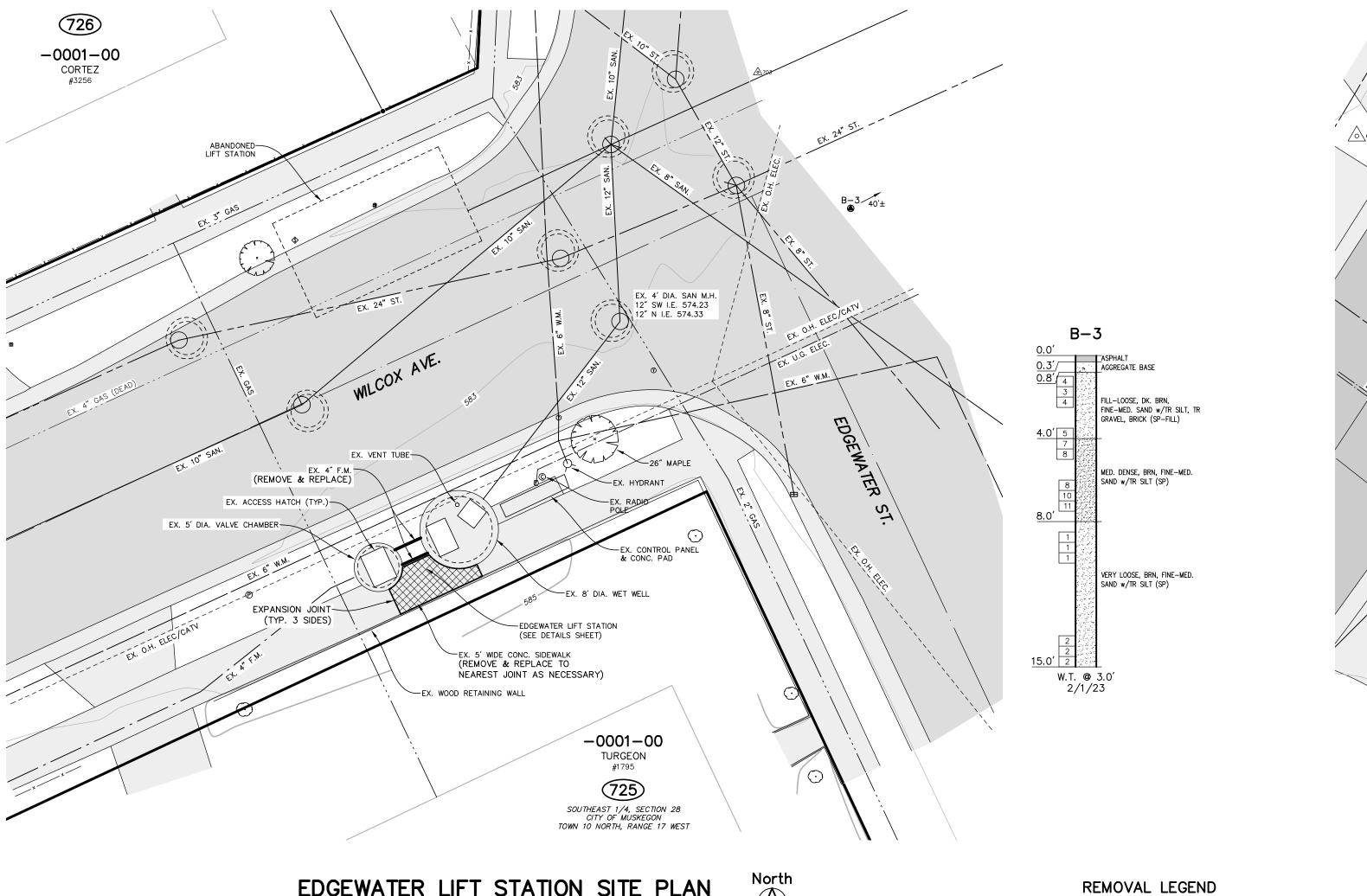
EL. 593.24 HARBOUR TOWNE LIFT STATION
77'± W & 19' N OF C/L LIFT STATION,
TOP FLANGE BOLT TO HYDRANT UNDER
THE "W" IN E.J.I.W. (0.7'± A/GRD)

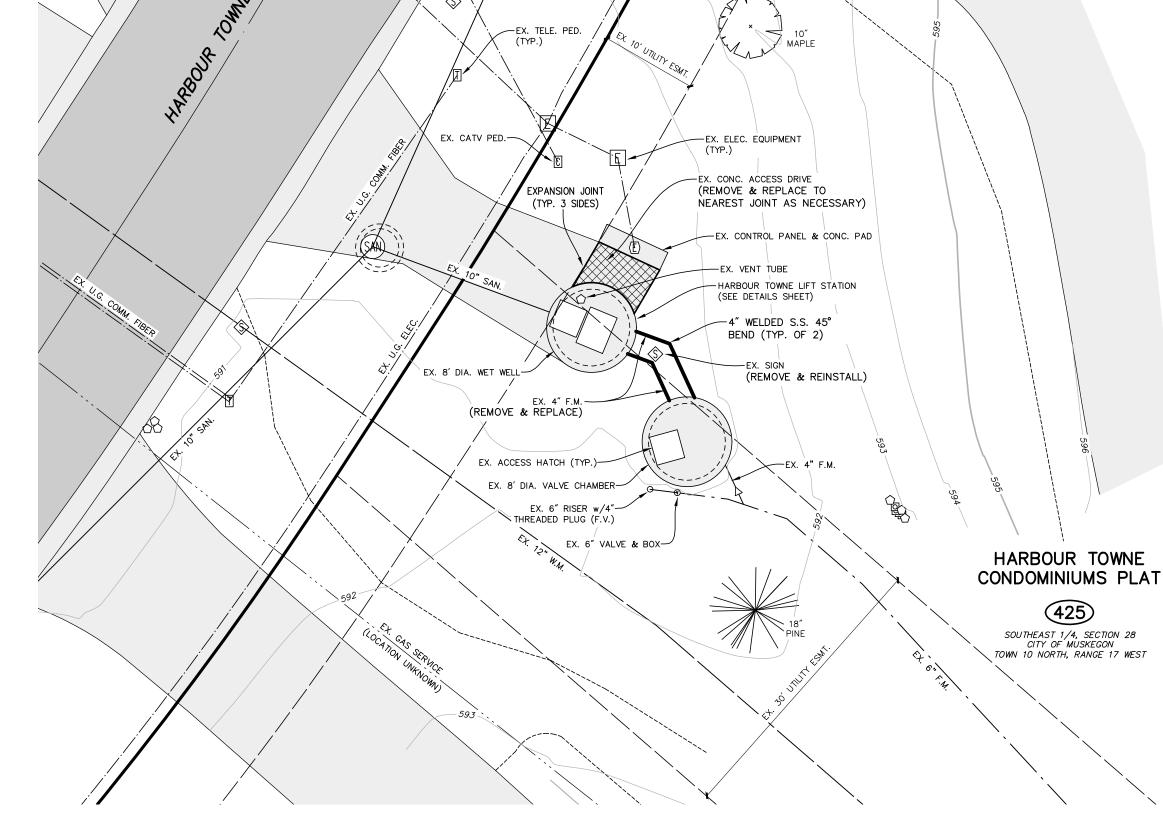
CONTROL POINT TABLE POINT No. NORTHING | EASTING | ELEVATION
 600
 634126.707
 12600525.090
 591.26

 601
 634074.755
 12600454.620
 591.21

CONTROL POINT TABLE
 POINT No.
 NORTHING
 EASTING
 ELEVATION

 703
 633234.805
 12601716.220
 582.85





EDGEWATER LIFT STATION SITE PLAN SCALE: 1'' = 10'

NOTES

EXISTING CONDITIONS OF UNDERGROUND UTILITIES, STRUCTURES AND ROAD MAY CHANGE PRIOR TO CONSTRUCTION DUE TO PROPOSED WORK ACTIVITIES BY OTHERS. EXISTING CONCRETE CURB AND GUTTER WILL BE REPLACED BY OTHERS. CONTRACTOR SHALL COORDINATE LIFT STATION WORK WITH OTHERS AS NECESSARY.

CONTRACTOR SHALL ADEQUATELY SHORE AND BRACE EXCAVATION AS NECESSARY TO PREVENT DAMAGE TO ADJACENT RETAINING WALL.

CONCRETE SIDEWALK SHALL BE 4 INCHES THICK OR MATCH EXISTING IF GREATER.

PAVEMENT REMOVAL

HARBOUR TOWNE LIFT STATION SITE PLAN SCALE: 1'' = 10'

NOTES

CONTRACTOR SHALL ADEQUATELY SHORE AND BRACE EXCAVATION AS NECESSARY TO PREVENT DAMAGE TO ADJACENT STRUCTURES AND

CONCRETE ACCESS DRIVE SHALL BE 6 INCHES THICK OR MATCH EXISTING IF GREATER.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NO.	REVISIONS	BY	DATE	DRAWN	
				J.J.S.	
				DATE	
				MAY '23	
				W.C.T.	
				DATE	
				MAY '23	

Prein& Newhof
Engineers - Surveyors - Environmental - Laboratory

CITY OF MUSKEGON MUSKEGON COUNTY, MICHIGAN

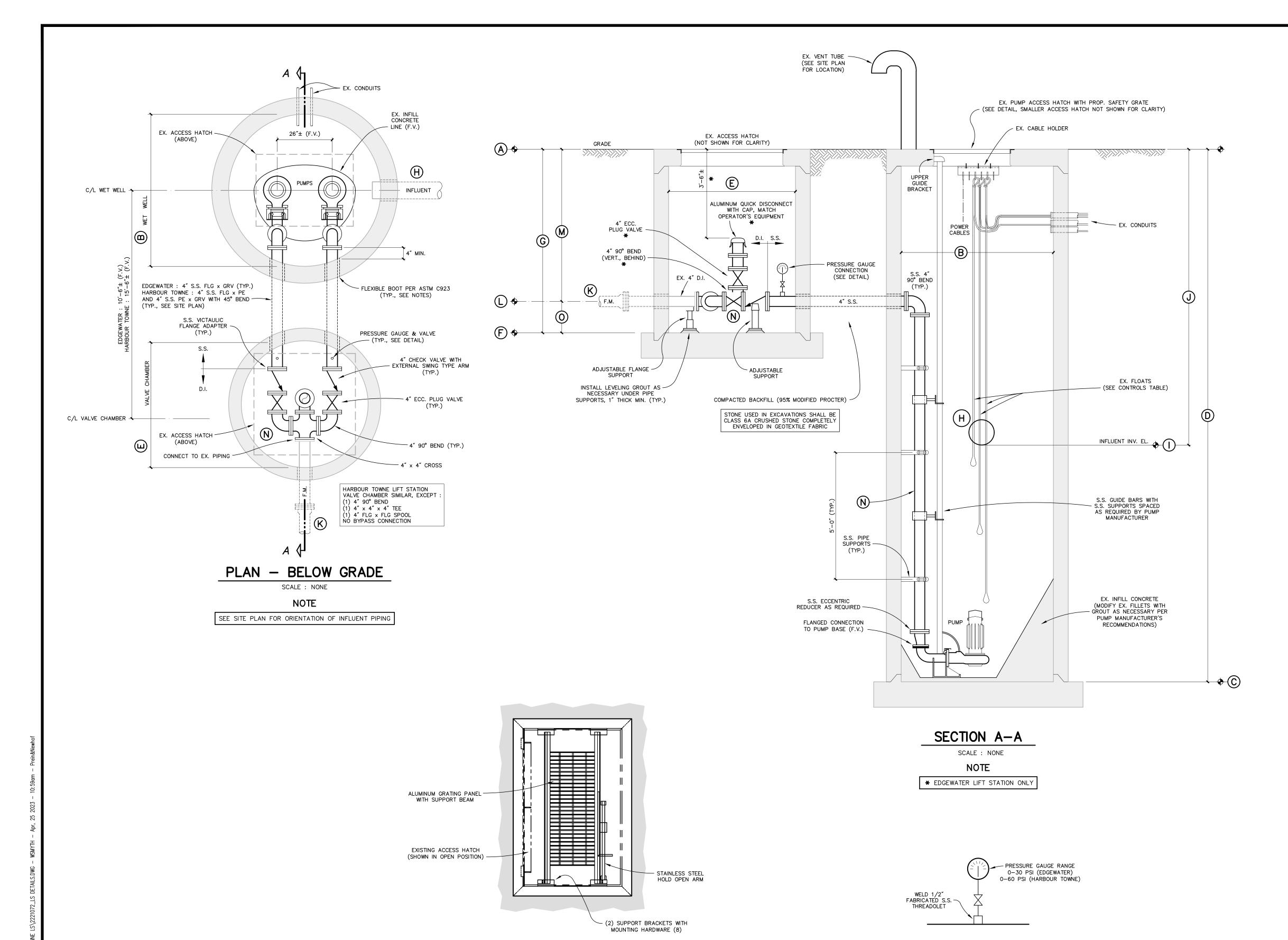
WASTEWATER SYSTEM IMPROVEMENTS
EDGEWATER & HARBOUR TOWNE LIFT STATIONS SITE PLANS

2 of 3

PROJECT NO.

SHEET NO.

2221072



SAFETY GRATE INSTALLATION DETAIL

NOTES

NOTES

PROPOSED SAFETY GRATES REQUIRED IN LARGER (PUMP) WET WELL ACCESS HATCH ONLY.

- COORDINATE SAFETY GRATE SIZE WITH MANUFACTURER BASED ON EXISTING ACCESS HATCH DIMENSIONS. SAFETY GRATES SHALL BE INSTALLED SO AS TO AVOID EXISTING GUIDERAILS AND OTHER EQUIPMENT.
- 3. ALL PROPOSED SAFETY GRATE HARDWARE SHALL BE TYPE 316 STAINLESS STEEL. PROVIDE BOLT ISOLATION KITS IF MOUNTING TO EXISTING ALUMINUM ACCESS HATCH FRAME OR OTHER DISSIMILAR METALS.

PRESSURE GAUGE CONNECTION DETAIL

SCALE : NONE

NOTE

ALL PIPING AND BALL VALVES, 1/2", STAINLESS STEEL.

DIMENSION INFORMATION

ITEM	DESCRIPTION	EDGEWATER	HARBOUR TOWNE
Α	EX. WET WELL LID ELEVATION (FT)	583.30±	590.60±
В	EX. WET WELL DIAMETER (FT)	8	8
С	BOTTOM OF EX. WET WELL ELEVATION (FT)	569.30±	566.20±
D	DEPTH TO BOTTOM OF EX. WET WELL (FT)	14.00±	24.40±
E	EX. VALVE CHAMBER DIAMETER (FT)	5	8
F	BOTTOM OF EX. VALVE CHAMBER ELEVATION (FT)	575.80±	583.93±
G	DEPTH TO BOTTOM OF EX. VALVE CHAMBER (FT)	7.50	6.67
Н	EX. INFLUENT SANITARY SEWER DIAMETER (IN)	12	10
1	EX. INFLUENT INVERT ELEVATION (FT)	574.00	571.20±
J	DEPTH TO EX. INFLUENT INVERT (FT)	9.30±	19.40±
K	EX. FORCE MAIN (F.M.) DIAMETER (IN) (DI)	4	4/6
L	EX. F.M. CENTERLINE ELEVATION (FT)	576.88±	584.85±
М	DEPTH TO EX. F.M. CENTERLINE (FT)	6.42	5.75
N	STATION PIPING DIAMETER (IN)	4	4
0	HEIGHT OF EX. F.M. ABOVE EX. VALVE CHAMBER FLOOR (FT)	1.08	0.92
Р	APPROXIMATE WATER TABLE ELEVATION (FT)	580.00	585.90
Q	APPROXIMATE DEPTH TO WATER TABLE (FT)	3.30	4.70

PROPOSED LIFT STATION CONTROLS TABLE

PUMP CONTROL DESCRIPTION	EDGE	WATER	HARBOUR TOWNE					
	ELEVATION (FT)	DEPTH TO BOT/WW (FT)	ELEVATION (FT)	DEPTH TO BOT/WW (FT)				
INFLUENT INVERT	574.00	4.70	571.20±	5.00				
HIGH WATER ALARM/BACKUP LEAD PUMP ON	573.75	4.45	570.95	4.75 4.50 4.00				
LAG PUMP ON	573.50	4.20	570.70 570.20					
LEAD PUMP ON	573.00	3.70						
PUMPS OFF (TOP OF PUMPS)	571.50	2.20	568.70	2.50				
LOW WATER ALARM/BACKUP PUMPS OFF	571.00	1.70	568.20	2.00				
BOTTOM OF WET WELL	569.30±	_	566.20±	_				
FIRM CAPACITY (GPM)	2	40	280					
DESIGN TOTAL DYNAMIC HEAD (FT)	23 37							
MINIMUM FLOW FOR 2 FT/S IN FORCE MAIN (GPM)	80 180							
NOTE : CONFIRM CONTROL ELEVATIONS WITH THE OWNER AT LIFT STATION STARTUP.								

GENERAL NOTES (BOTH STATIONS)

- 1. LIFT STATION PLANS ARE ADAPTED FROM AVAILABLE RECORD PLANS AND FIELD OBSERVATIONS, AND ARE A REPRESENTATION OF ACTUAL CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE CURRENT CONDITIONS. SOME FITTINGS AND OTHER ITEMS ARE NOT SHOWN FOR CLARITY.
- 2. EDGEWATER LIFT STATION PIPE AND FITTING LAYOUT SHOWN IN PLAN AND SECTION. HARBOUR TOWNE LIFT STATION LAYOUT IS SIMILAR. WITH THE FORCE MAIN EXITING THE VALVE CHAMBER IN LINE WITH THE EAST DISCHARGE PIPE.
- 3. REMOVE AND REINSTALL EXISTING INSTRUMENTATION AS NECESSARY FOR CONSTRUCTION. FLOAT ELEVATIONS SHALL BE ADJUSTED AS INDICATED IN THE CONTROLS TABLE.
- 4. CORE STRUCTURES AS NECESSARY TO INSTALL FLEXIBLE BOOTS. IF CONDITION OF STRUCTURE AND/OR EXISTING GROUT PREVENTS INSTALLATION OF BOOT, SEAL PIPE PENETRATIONS WITH NON-SHRINK GROUT THE FULL DEPTH OF THE
- 5. WHERE REPLACING PUMPS, DISCONNECT PUMP CABLES FROM EXISTING COMBINATION STARTERS IN CONTROL PANEL. REMOVE SEALING MATERIAL IN CONDUIT SEAL AS NECESSARY TO INSTALL PROPOSED PUMP CABLES. AFTER PROPOSED PUMP CABLES ARE INSTALLED, PROVIDE NEW SEALING MATERIAL IN EXISTING CONDUIT SEAL.
- CONTACT CHUCK GALARNEAU, CNC ELECTRIC, (231) 329-0404, TO COORDINATE ANY ELECTRICAL OR CONTROLS WORK IN CONTROL PANELS.

DEMOLITION NOTES (BOTH STATIONS)

- THE OWNER HAS THE FIRST RIGHT TO REFUSAL ON ALL ITEMS TO BE REMOVED. THE CONTRACTOR SHALL COORDINATE ITEMS TO BE SALVAGED. REFER TO SECTION 02 41 00 OF THE SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING EQUIPMENT TO BE SALVAGED FOR REUSE OR TURNED OVER TO THE OWNER.
- 2. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL DEBRIS IN THE WET WELL.
- 3. REMOVE PUMPS, PUMP BASES, GUIDE RAILS, PIPING, VALVES, AND ANY PIPE SUPPORTS IN AND BETWEEN THE VALVE CHAMBER AND WET WELL. SALVAGE EDGEWATER LIFT STATION PUMP No. 1 FOR REINSTALLATION.

EDGEWATER LIFT STATION NOTE

EXISTING TWO (2) INCH VALVE CHAMBER DRAIN TO WET WELL AND ASSOCIATED CHECK VALVE NOT SHOWN FOR CLARITY

HARBOUR TOWNE LIFT STATION NOTES

- 1. SEE SITE PLAN FOR ORIENTATION OF PIPE AND ADDITIONAL FITTINGS BETWEEN STRUCTURES.
- 2. EXISTING SUMP IN VALVE CHAMBER NOT SHOWN FOR CLARITY.
- 3. REPLACE THE EXISTING BIMETAL OVERLOADS ON EACH PUMP STARTER CONTACTOR BASED ON THE NEW FULL LOAD AMP (FLA) RATING OF THE PROPOSED PUMPS TO MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.

	DRAWN	DATE	BY	S	Ν	0	1	S	1	٧	Ε	R	NO.
	SMYTH												
	DATE												
3	MAY '23												
	W.C.T.												
_	DATE												
5	MAY '23												



CITY OF MUSKEGON MUSKEGON COUNTY, MICHIGAN

WASTEWATER SYSTEM IMPROVEMENTS EDGEWATER & HARBOUR TOWNE LIFT STATIONS

LIFT STATION DETAILS 3

3 of 3

PROJECT NO.

SHEET NO.

2221072