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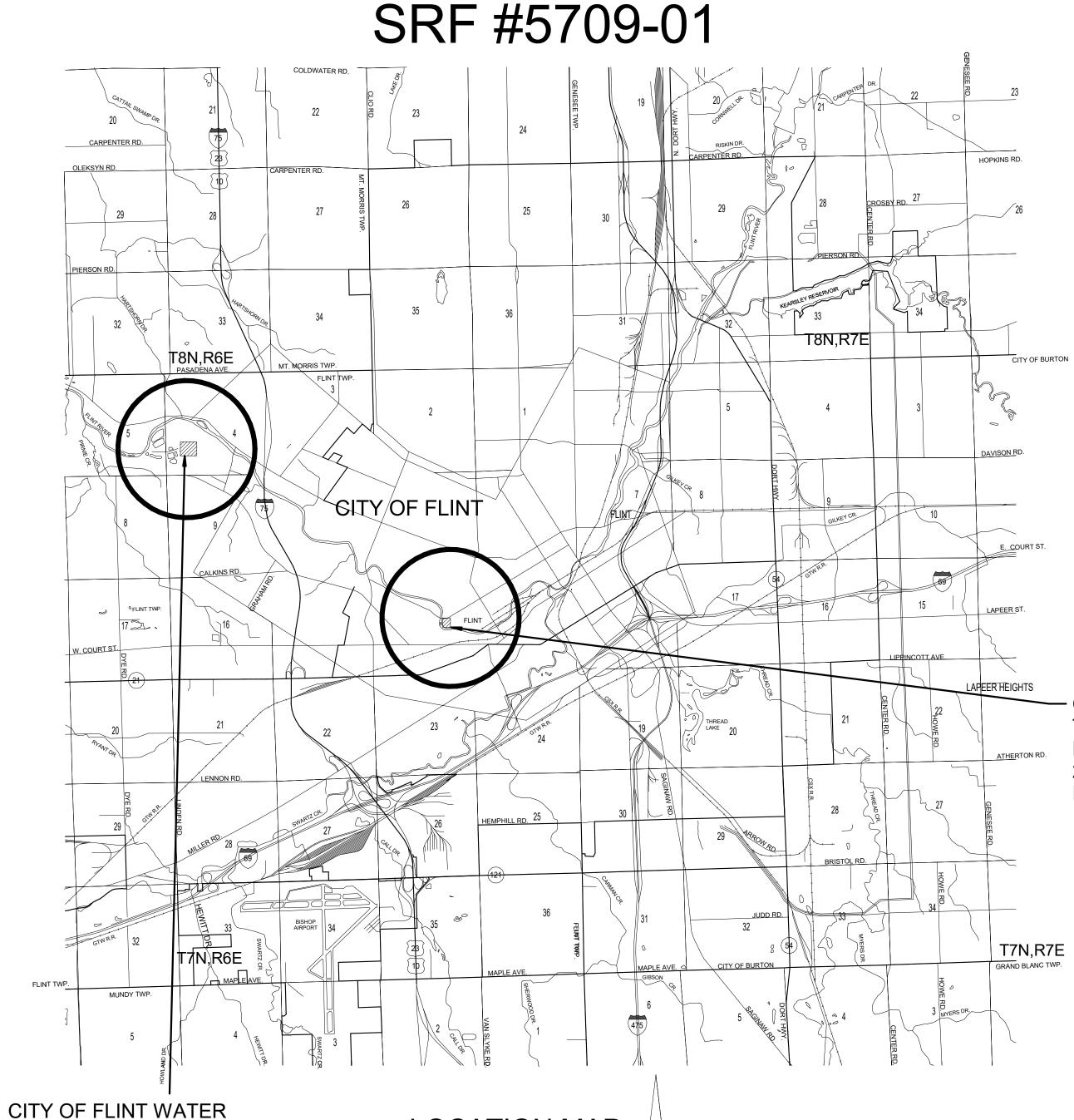
GENESEE COUNTY, MICHIGAN CONSTRUCTION PLANS FOR

WPCF THIRD AVENUE PUMPING STATION IMPROVEMENTS



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UTILITIES & MUNICIPALITIES

TELEPHONE AT&T ENGINEERING 54 NORTH MILL STREET, P.O. BOX 32 PONTIAC, MICHIGAN 48342 CONTACT: JEFF HEATH PHONE: 248.975.4588	CITY OF FLINT 702 WEST 12TH STREET TRANSPORTATION BUILDING FLINT, MI 48502 CONTACT: JOHN DALY PHONE: 810.766.7343
CABLE TV COMCAST CABLEVISION 6095 WALL STREET STERLING HEIGHTS, MI 48312 CONTACT: TOM DICKINSON PHONE: 586.883.7412	CITY OF FLINT WATER SERVICE CENTER 3310 EAST COURT STREET FLINT, MICHIGAN 48506 CONTACT: PHONE: 810.766.7202
ELECTRIC CONSUMERS ENERGY - ELECTRIC 3201 EAST COURT STREET FLINT, MICHIGAN 48501 CONTACT: MARCEY CONN PHONE: 810.760.3506	CITY OF FLINT ENGINEERING 702 WEST 12TH STREET FLINT, MI 48502 CONTACT: MARK ADAS PHONE: 810.766.7135
GAS CONSUMERS ENERGY 3201 EAST COURT STREET FLINT, MICHIGAN 48501 CONTACT: SALVATORE DELISI PHONE: 810.760.3486	
SOIL EROSION & SEDIMENTATION CONTROL GCDC-WWS G-4610 BEECHER ROAD FLINT, MI 48532 CONTACT: MARK STEPHENS PHONE: 810.732.7870	

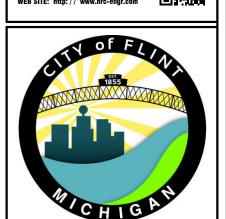
- CITY OF FLINT THIRD AVENUE PUMPING STATION PROJECT LOCATION 2398 UNIVERSITY AVE FLINT, MI 48504

COF107301F

G - 001









555 South Saginaw Street, Suite 201 Flint, MI 48502 810.235.2555/800.841.0342 FAX: 810.235.4975

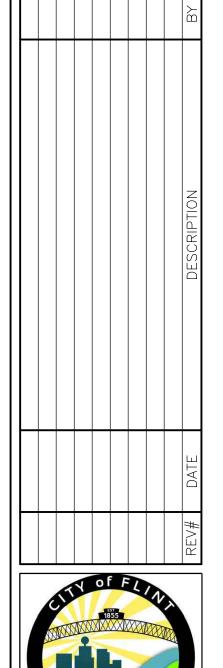


Know what's below. Call before you dig.

POLLUTION CONTROL FACILITY PROJECT LOCATION G-4652 BEECHER RD FLINT, MI 48532

LOCATION MAP SCALE: NONE CITY OF FLINT GENESEE COUNTY, MI SECTION 4, T7N, R6E

	<u>EXISTING</u>	<u>PROPOSED</u>		<u>EXISTING</u>	PROPOSED		<u>EXISTING</u>	<u>PROPOSED</u>		<u>EXISTING</u>	PROPOSED		<u>EXISTING</u> <u>PRO</u>	POSED
CABLE TV			SANITARY SEWER			TOPOGRAPHIC FEATURES (CONT.)		WATER (DOMESTIC)			<u>PATTERNS</u>	[Some State of the Control of the Co	. A. : 24 · · · · · · · · · · · · · · · · · ·
CABLE TV POLE	Ø	Ø	CLEAN OUT	©co	o co	HIGHWAY DELINEATOR	°HD		BACKFLOW PREVENTER		(CCC)	CONCRETE		4 4 4
CABLE TV PEDESTAL	CT OT (PUMPSTATION MANHOLE	(5)	®	LIGHT POLE BASE	(B)		BLOW-OFF VALVE		Ö		The second secon	64001-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
		CTVCTV		(S)	9	MAIL BOX	⊔ _{MB}		FAUCET FIRE DEPARTMENT CONNECTION	^O WF	₩F ❤	GRAVEL		
			SEWER VENT	O SV	O _{SV}	MERRY-GO-ROUND			FIRE HYDRANT	Q	•			
ELECTRICAL			SEWER VALVE	⊗ _{sv}	34	MONITORING WELL	← _{MWELL}		GATE VALVE & BOX	\otimes	€	PAVEMENT		
CIRCUIT BREAKER PANEL	E	E CBP		FMFM	— FM——FM——	NEWSPAPER BOX OIL WELL	□ _{NB}		GATE VALVE & WELL	\oslash	0			
HANDHOLE	o _{EH}	° _{EH}	SANITARY SEWER —			PARKING METER	OW OM		GATE VALVE & WELL (DETROIT) INDICATOR VALVE POST	Ø _D	\bigcirc_{D}	HEAVY DUTY PAVEMENT		
MANHOLE OUTLET	E A	€	SITE (MISCELLANEOUS)			PIER	PIER		METER	O _{WM}	O _{WM}			
PEDESTAL	PP	PP	ABANDON ITEM		ABN	PILING	\oplus_{PL}		METER PIT	MP	MP	EARTH (CROSS SECTION)		
TRANSFORMER BOX	E	E	ACCESSIBLE SYMBOL	G	Ġ.	POST (ROUND) POST (SQUARE)	•P		VALVE	\bowtie	×			
METER	O _{EM}	°EM	ADJUST ITEM		ADJ	ROCK	P O ₂₀₀₄		WATER LINE STUB WATER TOWER BASE	₩LS		ADA DETECTABLE WARNING		
POWER POLE TRANSFORMER TOWER	Ø M	Ø ⊠	FINISH GRADE		× 1234.56 × 1234.56	RAILROAD SIGNAL	ROCK ≫		WELL	+WATER TOWER	^O we			
01/501/510 51505010	E E	F———F———	FLOW ARROW			SATELLITE DISH			SHUT OFF VALVE	WE	WE ₩E	ADA RAMP		
	UEUE	UEUE	PARKING COUNT		\bigcirc	SIGN POST	os		DOMESTIC WATER		M20			
			RECONSTRUCT ITEM		(REC)	SLIDE (SPIRAL)						CONCRETE REMOVAL		
GAS			RELOCATE ITEM		(REL)	SLIDE (STRAIGHT) SLIDE END	<u>у — </u>		WATER (MISCELLANEOUS)					
VENT	◇VT	Ŷſĭ	REMOVE ITEM		REM	SLIDE STEPS	<u> </u>		RECLAIM WATER GATE VALVE	⊗ _{REC}	⊖ _{REC}	PAVEMENT REMOVAL		
BLOW OFF	⇔ _{BO}	SBO	SLOPE LABEL		1.00%	SPRINKLER HEAD	° _{SH}		SPRINKLER HEAD SPRINKLER JUNCTION BOX	o _{SH} ⋿		LATEMENT NEMOVAL		
FILLER PIPE MANHOLE		Ŷ _R				SPRINKLER JUNCTION BOX	⊟ _{JB}		RECLAIM WATER	□ _{JB} REC	REC			
MANHOLE METER	७ ◇	© ◇ _{GM}	SPOT GRADE		× 1234.56	STATUE	Δ				5			
STOP BOX	GM	GM ⇔	FLOOD LIGHT		汝	SWING SET END			LINE WORK					
SHUTOFF VALVE	⇔ _{GV}	⇒ _{GV}	LAMP POLE		X	TETHER BALL POLE TRAFFIC SIGNAL	° _{TP}		BOUNDARY LINE					L
GAS -	GG	G	LIGHT POLE (SINGLE LAMP) LIGHT POLE (DOUBLE LAMP 180°)		o∎ ∎o∎	UNDERGROUND MARKER	<u>о</u>		BUILDING	_//////////////				lΓ
MANUAL TO			LIGHT POLE (DOUBLE LAMP 90°)		₽ ♥■	U/G MARKER CABLE	M-C		BUILDING SETBACK					
MONUMENTS			LIGHT POLE (THREE LAMP)			U/G MARKER ELECTRIC	O _{M-E}		CHAIN LINK FENCE FIELD	— X X X — X — — F — — F — — F — — F — — F — — F — — F — — F — — F — — — F —	XX			
IRON (FOUND)	●IR		LIGHT POLE (FOUR LAMP)			U/G MARKER FIBER OPTIC	$^{ m O}_{ m M-F0}$		GARDEN	FF				
IRON (SET) BENCH MARK	^O IR —+		ORNAMENTAL LIGHT POLE		×	U/G MARKER GAS	O _M -G		GRAVEL					
BRASS PLATE	BM [™] ©		METAL LIGHT POLE		XX	U/G MARKER TELEPHONE VOLLEY BALL POST	O _M -T		GUARDRAIL	_ 0 0 0 0 0 0	00000			
CONCRETE NAIL	■ cn					WOOD STAKE	VP Q _{ws}		LANDSCAPE	———LS———LS—				
DRILL HOLE	ODH		STORM SEWER/DRAINAGE				#3		ORNAMENTAL FENCE		<u> Δ Δ Δ</u>			
GOVERNMENT CORNER			CATCH BASIN (ROUND GRATE)	(B)	®	UNDERGROUND UTILITIES			PROPERTY LINE RAILROAD TRACK CENTERLINE					
GPS MONUMENT IRON PIPE	(•)GPS		CATCH BASIN (SQUARE GRATE) CISTERN	CB	CB CO	UTILITY MANHOLE	<u> </u>		RIGHT OF WAY					
MONUMENT BOX	©B0X		BOX CULVERT		⊎ E		FO		SECTION LINE					
MONUMENT	•		CULVERT HEADWALL		(— OIL—— OIL——		SHORE LINE					
MERE STONE	@м s		CULVERT END SECTION	<	<	UNDERGROUND CTV & TELEPHONE — UNDERGROUND ELEC. & CABLE TV —			SILT FENCE					
NGS MONUMENT	● NGS		DOWN SPOUT	⊠DS	☑DS	UNDERGROUND ELEC. & TELEPHONE —			TO BE DEMOLISHED	· X·X·X·X·X·X·X·X·X·X·X·X·X·X·X·X·X·X·X				
NAIL & TAG	O _{N&T}		ROUND INLET	① 	0	UNDERGROUND ELECTRIC, CABLE TV			TOP OF BANK UTILITY/DRAINAGE EASEMENT					
PINCH IRON PK NAIL	[†] PI O		SQUARE INLET STORM MANHOLE	<u>U</u>	Ш ®	AND TELEPHONE			WALL					
RAILROAD SPIKE	PK 7 _{RS}		STORM SEWER STUB	⊗	•	<u>VEGETATION</u>			WETLAND	_				
RIGHT-OF-WAY MARKER			DITOU OF VITED IN IT	STS 		CONIFEROUS BUSH	**		WOOD FENCE	-0-0-0-0				
SPIKE	● SPK		FLOOD PLAIN —	FLP	— ——FLP———	CONIFEROUS TREE	W.							
SHIPS SPIKE	0		STORM SEWER —			DECIDUOUS BUSH	(B)							
T-IRON USGS MONUMENT	'Iron USGS		TEI EDHONE			DECIDUOUS TREE								
CROSS CUT	(US65		TELEPHONE POLE	æ	Æ	WILL CITY CONFEDOUS TREE								
CROSS CUT IN MONUMENT			TELEPHONE POLE TELEPHONE MANHOLE	(T)	ന	MULTI-STEM CONIFEROUS TREE	MS							
WOOD STAKE	□ _{ws}		TELEPHONE PEDESTAL	TP	TP	MULTI-STEM DECIDUOUS TREE	{ MS }							
AVERUE:			COMMUNICATIONS HANDHOLE	осн	° _{СН}									
OVERHEAD UTILITIES			FIRE CALL	FC	□ FC	PALM TREE								
DEADMAN ANCHOR	O _{DA} ≻∤√	O _{DA}	POLICE CALL	⊟ _{PC}	■ _{PC}	CTUMP	л							
FLOOD LIGHT GUY WIRE ANCHOR	<i>★</i>	*	PHONE BOOTH OVERHEAD TELEPHONE —	<u>₩</u> т	— —	STUMP BRUSH LINE	л							
GUY POLE	⁻GA O _{GP}	GA O _{OD}			— UT——UT——	DIVOSIT LINE	· · · · · · · · · · · · · · · · · · ·							
LAMP POLE	X	₩ ₩												
METAL LIGHT POLE	M)00	TOPOGRAPHIC FEATURES			TREE ROW -	-\$\$							
ORNAMENTAL LIGHT	×	×	AIR CONDITION UNIT UNIT	□ _{AC}										
POLE BOX	e X)e/	ANTENNA	×										
POWER & LIGHT POLE POWER & TELEPHONE POLE	火 ····································	ළ m	BASKET BALL POST	O _{BP}										
TELE, CTV, PWR & LIGHT POLE	ул. Жүтср	© C(TCP	BATTERY BOX BILLBOARD SIGN BASE	(BB)										
TELE, CTV, & POWER POLE	, , Ø _{TCP}	\mathcal{Q}_{TCP}	CAMERA TOWER	SGNB										5
TELE, & CTV POLE	©	Ø	CLIMBING BARS											9 1 1
TELE, CTV, & LIGHT POLE	<u>Ø</u>	Œ	COLUMN	© _{COL}										
TELE, & LIGHT POLE	Ŭ ~	Ø Ø	FENCE CORNER	Q										
TELE, POWER, & LIGHT POLE UTILITY POLE	奥 而	奥 你	FILL PORT											
OVERHEAD CABLE TV & TELEPHONE -	CTV&T		FLAG POLE FOUNTAIN	О _{FP}										
OVERHEAD ELECTRIC & CABLE TV -			GAS PUMP	∨										
				_										
OVERHEAD ELECTRIC, CABLE TV _ AND TELEPHONE	E&CTV&T	_	GAS TANK (UNDERGROUND)	⇔ _{GT}										11









WPCF THIRD AVENUE PUMPING
STATION IMPROVEMENTS
SRF # 5709-01
CIVIL LEGEND

SUED FOR: DATE: BY: % SET 4/23/21 JJA % SET 5/14/21 JJA 0% SET 6/28/21 JJA 6/22/21 JJA H

S NO. COF107301F

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ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE FINAL APPROVED CONSTRUCTION PLANS, THE SPECIFICATIONS AND SUPPLEMENTARY CONDITIONS, AND THE STANDARD DETAILS HEREIN. ANY DEVIATIONS FROM THESE DOCUMENTS WILL NOT BE PERMITTED, UNLESS OTHERWISE APPROVED BY THE OWNER OR ENGINEER.

2. BONDS AND INSURANCE

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A PERFORMANCE BOND, A LABOR AND MATERIAL PAYMENT BOND, AND ALL INSURANCE DOCUMENTS TO THE OWNER, AS REQUIRED BY THE CONTRACT DOCUMENTS. UPON COMPLETION OF THE WORK, AND PRIOR TO FINAL APPROVAL, THE CONTRACTOR SHALL FURNISH THE OWNER WITH THE REQUIRED MAINTENANCE AND GUARANTEE BONDS, AS REQUIRED BY THE CONTRACT DOCUMENTS.

3. PRE-CONSTRUCTION MEETING

A PRE-CONSTRUCTION MEETING SHALL BE HELD PRIOR TO BEGINNING THE WORK. NO PRE-CONSTRUCTION MEETING SHALL BE HELD PRIOR TO OBTAINING THE STATE CONSTRUCTION PERMITS. THE MEETING'S TIME, PLACE, AND ATTENDEES SHALL BE ARRANGED BY THE ENGINEER. THE MUNICIPALITY, THE AGENCY HAVING AUTHORITY OVER THE ROADWAYS, PROJECT OWNER, CONTRACTOR, AND ANY AFFECTED UTILITIES SHALL BE INVITED, AS A MINIMUM, TO THE PRE-CONSTRUCTION MEETING.

4. CONSTRUCTION STAKING

THE CONTRACTOR SHALL, AT THEIR OWN EXPENSE, PROVIDE A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE OF MICHIGAN, TO PROVIDE ALIGNMENT AND GRADE STAKES, AND CUT SHEETS. THE SURVEYOR SHALL PROVIDE GRADE STAKES AND CUT SHEETS AT ALL STRUCTURES AND AT A MAXIMUM OF 50' INTERVALS BETWEEN STRUCTURES.

5. SHOP DRAWINGS

PRIOR TO THE START OF THE WORK, THE CONTRACTOR SHALL FURNISH TO OWNER SHOP DRAWINGS AND/OR CATALOG CUTS FOR ALL MATERIALS AND EQUIPMENT ITEMS USED IN THIS PROJECT PER THE STANDARD SPECIFICATIONS.

6. MATERIAL CERTIFICATIONS

PRIOR TO THE START OF THE WORK, THE CONTRACTOR SHALL FURNISH TO OWNER MATERIAL CERTIFICATES FOR ALL MATERIALS USED DURING THE WORK.

7. NON-STOPPAGE CLAUSE

THE CONTRACTOR SHALL BE REQUIRED TO COMPLETE ALL WORK IN AN EXPEDITIOUS MANNER AND SHALL NOT STOP THE WORK FOR EXTENDED PERIODS ONCE THE WORK HAS BEGUN WITHOUT WRITTEN APPROVAL OF OWNER.

8. MISS DIG UTILITY ALERT

THREE (3) WORKING DAYS PRIOR TO BEGINNING THE WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT MISS DIG UTILITY PROTECTION SERVICE (811) TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. ALL UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE PROPERLY REPAIRED IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS AT THE CONTRACTOR'S EXPENSE.

9. FIELD LOCATION OF UTILITIES

PRIOR TO BEGINNING THE WORK, THE CONTRACTOR SHALL BE REQUIRED TO EXPOSE ALL EXISTING UTILITIES THAT CROSS THE PROPOSED CONSTRUCTION, SO THE ENGINEER MAY DETERMINE IF A VERTICAL CONFLICT EXISTS BETWEEN AN EXISTING UTILITY AND THE PROPOSED WORK. ALL LABOR REQUIRED TO UNCOVER THE EXISTING UTILITY SHALL BE CONSIDERED INCLUDED IN THE LINEAL FEET OF PIPE INSTALLED. THE CONTRACTOR SHALL VERIFY THE DEPTH AND HORIZONTAL LOCATIONS OF ALL UTILITIES IN SUFFICIENT TIME SUCH THAT ANY CONFLICTS CAN BE RESOLVED BEFORE WORK IS STARTED IN THAT PORTION OF THE PROJECT. THE CONTRACTOR SHALL ARRANGE FOR THE VARIOUS UTILITY OWNERS TO LOCATE, REMOVE AND REPLACE, OR RELOCATE THEIR FACILITIES. ALL COSTS FOR THIS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PROJECT.

10. UTILITY INFORMATION

UTILITY INFORMATION IS DELINEATED IN ACCORDANCE WITH THE LOCATIONS PROVIDED BY UTILITY OWNERS. THE ENGINEER IS NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION OR THE LOCATION AT WHICH THESE ARE SHOWN ON THE CONSTRUCTION PLANS. DIFFERING FIELD CONDITIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER.

11. EXISTING UTILITIES

THE CONTRACTOR SHALL MAINTAIN ALL EXISTING SANITARY SEWER, PRESSURE PIPE, STORM SEWER, GAS, TELEPHONE, FIBER OPTIC, CABLE, OR ELECTRICAL CONNECTIONS IN SERVICE THROUGHOUT THE WORK. THE CONTRACTOR SHALL PROVIDE OR ARRANGE FOR THE TEMPORARY SUPPORT OF EXISTING UTILITIES WHERE NEEDED. ALL UTILITIES DAMAGED OR REMOVED, OR RELOCATED BY THE CONTRACTOR AND NOT SHOWN AS BEING REMOVED, REPLACED OR RELOCATED ON THE CONTRACT DRAWINGS SHALL BE REPLACED WITH THE SAME SIZE AND QUALITY PIPE BY THE CONTRACTOR AT CONTRACTOR'S SOLE EXPENSE. ALL UTILITIES UNDERMINED BY THE EXCAVATION SHALL HAVE COMPACTED SAND BACKFILL PLACED UNDER THEM, UNLESS MDOT 6AA CRUSHED LIMESTONE (A1) OR MDOT 22A GRAVEL (A2) IS SHOWN ON THE CONSTRUCTION PLANS. ALL WORK TO ACCOMMODATE CONSTRUCTION TO CLEAR EXISTING SERVICES SHALL BE INCLUSIVE TO THE PROJECT UNLESS OTHERWISE NOTED.

12 IRRIGATION SYSTEMS & FIELD TILES

THE CONTRACTOR SHALL CONTACT ALL PROPERTY OWNERS IN THE VICINITY OF THE PROPOSED PIPE TRENCH IMPACTS TWO (2) WEEKS IN ADVANCE OF THE PROPOSED WORK TO DETERMINE IF MODIFICATIONS OF ANY IRRIGATION SYSTEMS AND/OR FIELD TILES ARE REQUIRED WITHIN THE VICINITY. IF MODIFICATIONS ARE NECESSARY, THE CONTRACTOR MUST NOTIFY THE PROPERTY OWNER IN WRITING, WITH A COPY OF THE LETTER TO THE ENGINEER, TO COORDINATE THE NECESSARY MODIFICATIONS.

13. SUBSURFACE SOIL CONDITIONS

PRIOR TO BIDDING, THE CONTRACTOR SHALL MAKE A PERSONAL INVESTIGATION OF THE SITE AND EXISTING SURFACE AND SUBSURFACE CONDITIONS. THE CONTRACTOR SHALL ACQUAINT THEMSELVES WITH CONDITIONS OF THE WORK AREA. THE CONTRACTOR IS ADVISED TO DETERMINE THE SUBSURFACE SOIL AND GROUND WATER CONDITIONS PRIOR TO START OF WORK. DEWATERING, IF DETERMINED NECESSARY BY THE CONTRACTOR, AND IF NOT SPECIFICALLY REQUIRED BY THE CONTRACT DOCUMENTS, WILL BE INCLUDED IN THE COST OF THE PIPE INSTALLATION.

GENERAL CONSTRUCTION NOTES

14. PERMITS AND FEES

THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS, INCLUDING THE PAYMENT OF ANY FEES OR BONDS, REQUIRED BY ANY FEDERAL, STATE, COUNTY, LOCAL, OR PRIVATE ORGANIZATIONS AND UTILITIES PRIOR TO COMMENCING WORK. PROVIDE FINAL WRITTEN APPROVAL AND RELEASE OF PERMITS FROM ALL GOVERNING AGENCIES TO OWNER AND ENGINEER.

15. STATE CONSTRUCTION PERMITS

THE CONSTRUCTION OF PUBLIC PRESSURE PIPES SHALL NOT BEGIN UNTIL THE REQUIRED STATE CONSTRUCTION PERMITS HAVE BEEN OBTAINED.

16. ROADWAY PERMITS

A PERMIT FROM THE AGENCY HAVING AUTHORITY OVER THE ROADWAYS IS REQUIRED FOR ALL CONSTRUCTION WITHIN ANY ROAD RIGHT—OF—WAY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE ALL NECESSARY PERMITS, POST ALL NECESSARY BONDS, PAY ALL FEES, AND OBTAIN ANY REQUIRED INSURANCES IN CONNECTION THEREWITH.

17. SOIL EROSION CONTROL, PART 91 OF P.A. 451 OF 1994

THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF PART 91, ACT 451 OF P.A. 1994 FOR SOIL EROSION AND SEDIMENTATION CONTROL (SESC), AND WILL BE RESPONSIBLE FOR ALL MAINTENANCE UNTIL THE FINAL ACCEPTANCE OF THE PERMANENT CONTROL MEASURES BY THE AGENCY HAVING JURISDICTION. THE CONTRACTOR IS REQUIRED BY THE OWNER TO PREPARE AND SUBMIT A SOIL EROSION AND SEDIMENTATION CONTROL PLAN IN ORDER TO OBTAIN THE SOIL EROSION AND SEDIMENTATION CONTROL PERMIT, AND TO PAY ANY APPLICATION FEES AND BOND FEES NECESSARY TO OBTAIN THE PERMIT.

18. SOIL EROSION AND SEDIMENTATION CONTROL RELEASE

PRIOR TO FINAL ACCEPTANCE BY GOVERNING AGENCY, THE CONTRACTOR SHALL REQUEST A FINAL INSPECTION OF ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND RECEIVE WRITTEN APPROVAL FROM GOVERNING AGENCY. THE SOIL EROSION AND SEDIMENTATION CONTROL BOND WILL BE RELEASED UPON GOVERNING AGENCIES FINAL APPROVAL AND ACCEPTANCE OF THE NPDES.

19. STORM WATER DRAINAGE DURING THE WORK

THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A CERTIFIED STORM WATER OPERATOR AND COMPLY WITH THE PROVISIONS OF THE NPDES AND SESC PERMITS. THE CONTRACTOR SHALL MAINTAIN DITCH DRAINAGE DURING CONSTRUCTION AND SHALL NOT OBSTRUCT SUMP PUMP LEADS DISCHARGING INTO THE DITCH. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT ALL STORM SEWER FACILITIES, SUCH AS CATCH BASINS AND CULVERTS, DURING THE WORK. CULVERTS, CATCH BASINS, AND STORM SEWERS CONTAMINATED DURING THE WORK SHALL BE CLEANED.

20. DISPOSAL OF EXCESS EXCAVATED MATERIAL

CONTRACTOR SHALL OBTAIN ALL APPROPRIATE PERMITS AND WRITTEN PERMISSIONS FOR DISPOSAL OF EXCESS EXCAVATED MATERIAL. ALL EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR WITH ALL PERMITS, PERMISSIONS, AND LOCATIONS PROVIDED BY THE CONTRACTOR. ADJACENT PROPERTY OWNERS SHALL BE GIVEN PREFERENCE FOR DISPOSAL OF EXCESS MATERIAL. WRITTEN PERMISSION FOR DISPOSAL FROM THE PROPERTY OWNERS SHALL BE PROVIDED TO OWNER.

21. WORK OBSERVATION

ALL WORK SHALL BE PERFORMED UNDER THE OBSERVATION OF A CONSTRUCTION OBSERVER FROM OWNER, LOCAL MUNICIPALITY HAVING JURISDICTION, AND/OR GOVERNING AGENCY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OBSERVING AGENCIES THREE (3) WORKING DAYS OR 72 HOURS PRIOR TO STARTING CONSTRUCTION TO ARRANGE FOR ON-SITE OBSERVATION AND TESTING. CUT SHEETS FOR ALL PIPE INSTALLATION AND RE-DITCHING SHALL BE PROVIDED TO THE GOVERNING AUTHORITY AND CONSTRUCTION OBSERVER A MINIMUM OF 24 HOURS PRIOR TO STARTING THE WORK WITH RESPECT TO THAT UTILITY. OWNER, LOCAL MUNICIPALITY HAVING JURISDICTION, OR GOVERNING AGENCY SHALL BE NOTIFIED FOR A FINAL INSPECTION.

22. MIOSHA SAFETY REQUIREMENTS

ALL WORK, WORK PRACTICE AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL SAFETY GUIDELINES, OCCUPATION, HEALTH AND ENVIRONMENTAL REGULATIONS, AND ALSO NFPA AND ANSI CODES AS APPLICABLE. ALL WORK INSIDE A CONFINED SPACE, SUCH AS THE PIPE LINE, MANHOLES OR OTHER UNDERGROUND STRUCTURES, SHALL BE COORDINATED WITH THE UTILITY OWNER, AND ALL WORKER SAFETY REQUIREMENTS STRICTLY ENFORCED. THE CONTRACTOR, SHALL HAVE ITS SAFETY PLAN ON FILE WITH OWNER, INSPECTOR, AND ONE COPY ON SITE AT ALL TIMES.

23. PROTECTION OF HAZARDOUS AREAS

EXCAVATION AND HAZARDOUS AREAS SHALL BE PROTECTED BY BARRICADES, SNOW FENCE, OR OTHER APPROPRIATE MEANS. BARRICADES LEFT IN PLACE AFTER DARK SHALL BE LIGHTED.

24. NOISE AND DUST CONTROL

THE CONTRACTOR SHALL CONTROL NOISE, CARRY OUT A PROGRAM OF DUST CONTROL, AND SHALL ALLOW NO ON—SITE BURNING WITHOUT APPROVAL FROM LOCAL FIRE DEPARTMENT.

25. TRAFFIC CONTROL

THE CONTRACTOR SHALL EXECUTE THE WORK IN A MANNER SUCH THAT TRAFFIC IS MAINTAINED AND ACCESS IS PROVIDED TO ALL RESIDENCES, BUSINESSES, AND COMMERCIAL ESTABLISHMENTS. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS AND THE CURRENT EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND THE REQUIREMENTS OF THE AGENCY HAVING AUTHORITY OVER THE ROADWAYS, OR AS DIRECTED BY THE ENGINEER.

26. SIGNING AND BARRICADING

SIGNING AND BARRICADING SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH THE DETAILS ON THE PLANS, THE CURRENT EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND THE REQUIREMENTS OF THE AGENCY HAVING AUTHORITY OVER THE ROADWAYS. SIGNS AND BARRICADES LEFT IN PLACE AFTER DARK SHALL BE LIGHTED.

27. ROADWAY REQUIREMENTS FOR UTILITY CONSTRUCTION

THE CONTRACTOR SHALL COMPLY WITH ALL OF THE REQUIREMENTS OF THE CONSTRUCTION PLANS FOR MAINTAINING TRAFFIC, BARRICADING, BORING, BACKFILLING AND RESTORATION WITHIN THE ROAD RIGHT—OF—WAY.

28. OPEN CUTTING OF STATE/COUNTY/LOCAL ROADS

WHEN OPEN CUTTING OF GRAVEL OR HARD SURFACED ROADS ARE INCORPORATED INTO THE PROJECT, THE CONTRACTOR SHALL OBTAIN THE APPROVAL AND COMPLY WITH ALL OF THE REQUIREMENTS OF THE AGENCY HOLDING THE PERMIT OVER THE ROADWAYS, AND TO THE CONSTRUCTION PLANS, SPECIFICATIONS AND DETAILS. PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR TO DOCUMENT EXISTING SIGN AND PAVEMENT MARKING LOCATIONS. CONTRACTOR TO RESTORE IN KIND AND PLACE FOLLOWING COMPLETION OF ROAD PAVING AND RESTORATION.

29. GRAVEL ROAD CONTAMINATION BY THE WORK

IF IT IS DETERMINED BY THE AGENCY HAVING AUTHORITY OVER THE ROADWAYS THAT GRAVEL ROADS HAVE BECOME CONTAMINATED DURING THE WORK, THE ROAD MUST BE REPAIRED PER THE CONSTRUCTION PLANS, STANDARD SPECIFICATIONS AND STANDARD DETAILS. WHERE THE EXISTING ROAD GRAVEL IS REMOVED BECAUSE OF THE WORK, ALL WORK AND MATERIALS SHALL MEET THE REQUIREMENTS, SPECIFICATIONS AND STANDARD DETAILS HEREIN. IF IT IS DETERMINED BY THE AGENCY HOLDING THE PERMIT OVER THE ROADWAY AND MUTUALLY AGREED UPON BY THE ENGINEER THAT GRAVEL ROAD PORTIONS THAT WERE TO REMAIN HAVE BEEN CONTAMINATED BY THE WORK, THE CONTRACTOR SHALL RE—GRAVEL PER THE CONSTRUCTION PLANS, SPECIFICATIONS AND DETAILS.

30. RESTORATION OF GRAVEL SHOULDERS

IF IT IS DETERMINED BY THE AGENCY HOLDING THE PERMIT OVER THE ROADWAYS THAT GRAVEL SHOULDERS HAVE BEEN CONTAMINATED BY THE WORK, THE CONTRACTOR SHALL RE-GRAVEL PER THE CONSTRUCTION PLANS, SPECIFICATIONS AND DETAILS.

31. COMPACTED GRANULAR BACKFILL FOR ROADWAYS, DRIVES, FTC.

ALL TRENCH EXCAVATION WITHIN A ONE—ON—ONE ZONE OF INFLUENCE OF A ROADWAY, DRIVEWAY CROSSINGS, PARKING LOTS, OR AS OTHERWISE NOTED ON THE PLANS, SHALL BE BACKFILLED PER THE SCHEDULE OF BACKFILLING, FOUND IN THE SPECIFICATIONS AND DETAILS. IN ADDITION, SEE THE SPECIFICATIONS FOR THE REQUIREMENTS FOR THE COMPACTION PLAN. PROVIDE SATISFACTORY RESULTS OF DENSITY CHECKS ON COMPACTED SAND BACKFILL FROM CERTIFIED TESTING AGENCY.

32. TREE DAMAGE

TREE REMOVAL SHALL BE LIMITED TO THE EXTENT OF THE IMPACTED RIGHT—OF—WAY LIMITS. IF TREE ROOTS ARE DISTURBED, CAUSING DAMAGE TO THE INTEGRITY OF THE TREE, THE CONTRACTOR SHALL REMOVE THE TREE IN ITS ENTIRETY.

33. SURFACE RESTORATION

ALL DISTURBED AREAS SHALL BE COMPLETELY RESTORED IN STRICT COMPLIANCE WITH THE SOIL EROSION AND SEDIMENTATION CONTROL (SESC) PLANS AND SPECIFICATIONS, AND TO THE SATISFACTION OF OWNER, GOVERNING AGENCY, COUNTY ROAD COMMISSION, MDOT, THE LOCAL MUNICIPALITY, AND THE PROPERTY OWNER. ALL COSTS FOR THE CLEANUP, RESTORATION WORK, AND OTHER INTERMEDIATE OPERATIONS INCLUDING BUT NOT LIMITED TO, CONSTRUCTION SIGNAGE, STREET SWEEPING, AND MAINTAINING EXISTING UTILITIES, SHALL BE CONSIDERED INCLUSIVE AND AT NO ADDITIONAL COST TO OWNER. AREAS DISTURBED DURING THE WORK SHALL RECEIVE A MINIMUM 4" APPLICATION OF SCREENED TOPSOIL, FERTILIZER, SEED, AND MULCH. ALL EXCESS MATERIALS. DEBRIS. AND SIMILAR ITEMS SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF IN ACCORDANCE WITH THE LAW. ALL GROUND SURFACES SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER PRIOR TO FINAL APPROVAL. RESTORATION ACTIVITIES SHALL BE NOT FURTHER THAN 500 FT BEHIND ACTIVE PIPE INSTALLATION UNLESS PRIOR WRITTEN APPROVAL HAS BEEN OBTAINED FROM OWNER/ENGINEER.

34. FINAL ELEVATIONS OF SURFACE UTILITIES

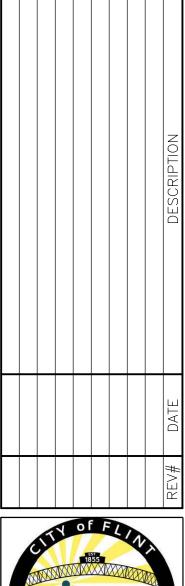
ALL FINAL ELEVATIONS OF MANHOLE CASTINGS, HYDRANTS, VALVES, AND VALVE BOXES SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE IN THE FIELD. ANY ADJUSTMENTS THAT ARE MADE SHALL BE AT THE CONTRACTOR'S SOLE EXPENSE.

35. AS-BUILT INFORMATION

UPON COMPLETION OF THE WORK AND PRIOR TO FINAL APPROVAL FROM THE OWNER, THE CONTRACTOR SHALL FURNISH OWNER WITH ONE (1) COMPLETE SET OF AS-BUILTS PLANS.

AS-BUILTS SHALL BE SUBMITTED TO OWNER AND FOR THE REVIEW AND APPROVAL OF OWNER/ENGINEER AND SHALL INCLUDE BUT NOT BE LIMITED TO: INVERT OF PIPES, LOCATION OF MANHOLES AND MANWAYS, PIPE LENGTHS, SLOPES OF PIPE, LOCATION OF ANY LATERAL LINES, LOCATION OF MAINLINE VALVES, AIR RELEASE VALVES, BLOWOFFS, BENDS, TEES, AND CROSSES. LOCATIONS MUST BE PROVIDED IN GPS STATE PLANE COORDINATES (NAD 83), AND ELEVATIONS SHALL BE PROVIDED IN NAVD88 DATUM. THIS INFORMATION SHALL BE GATHERED BY THE CONTRACTOR'S PROFESSIONAL LAND SURVEYOR, AT ITS SOLE EXPENSE. THESE AS-BUILTS SHALL ALSO INCLUDE ANY ADDITIONAL INFORMATION COLLECTED BY THE OWNER OR MUNICIPAL CONSTRUCTION OBSERVER.

IN ADDITION TO THE AS-BUILTS, THE CONTRACTOR SHALL PROVIDE TO OWNER AN ELECTRONIC DATA SET IN A MICROSOFT EXCEL SPREADSHEET DETAILING ALL OF THE ABOVE MENTIONED ITEMS WITH GPS COORDINATES AND ELEVATIONS IN NAVD88 DATUM.









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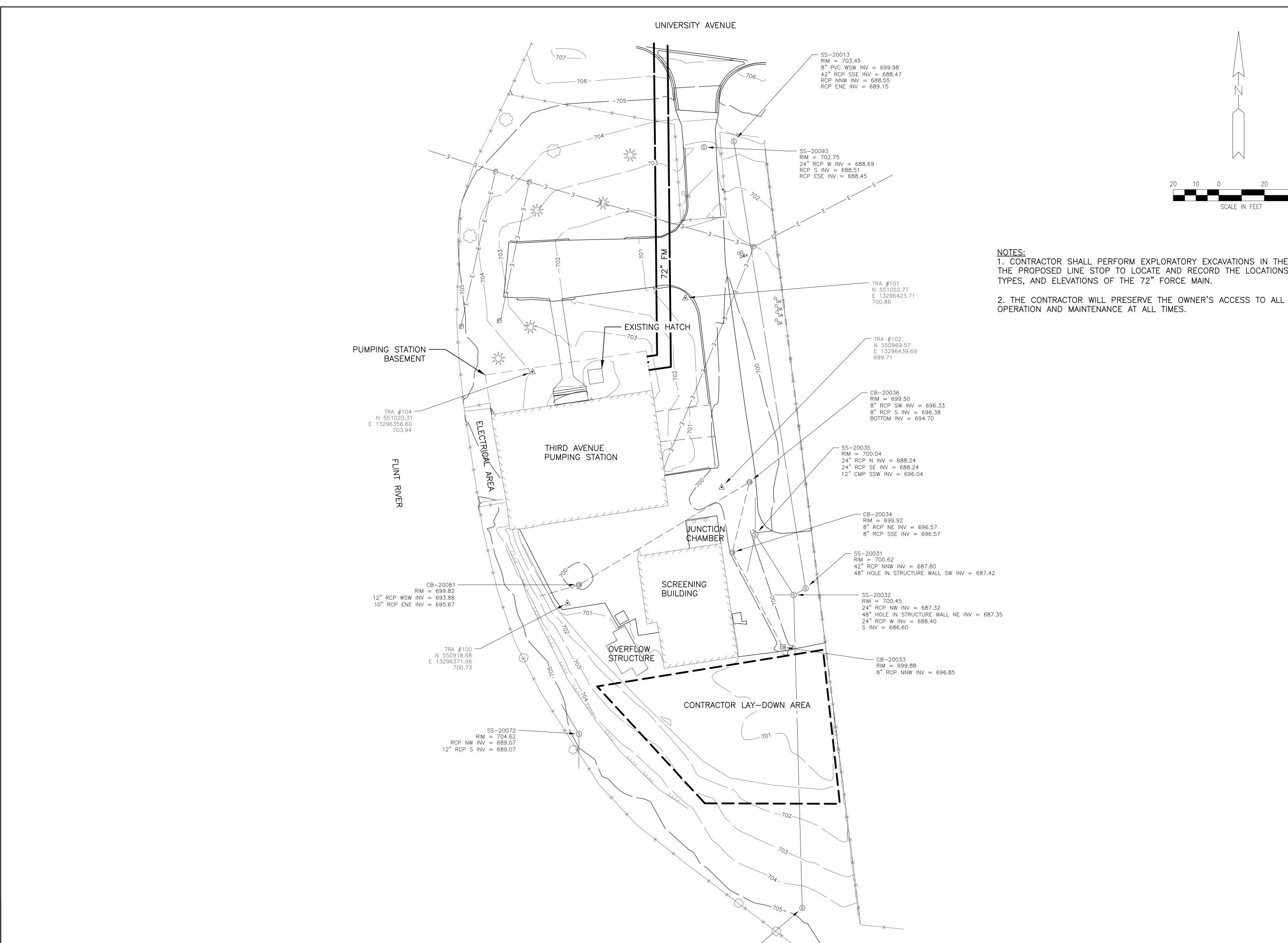
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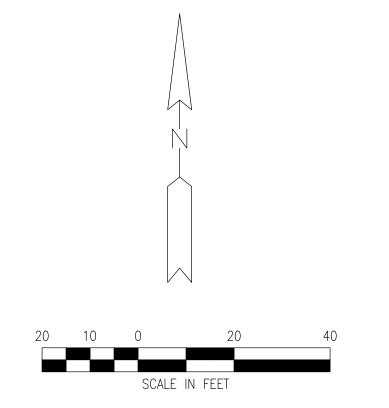
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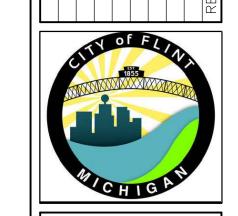
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1. CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATIONS IN THE VICINITY OF THE PROPOSED LINE STOP TO LOCATE AND RECORD THE LOCATIONS, DIMENSIONS,

2. THE CONTRACTOR WILL PRESERVE THE OWNER'S ACCESS TO ALL SITES FOR







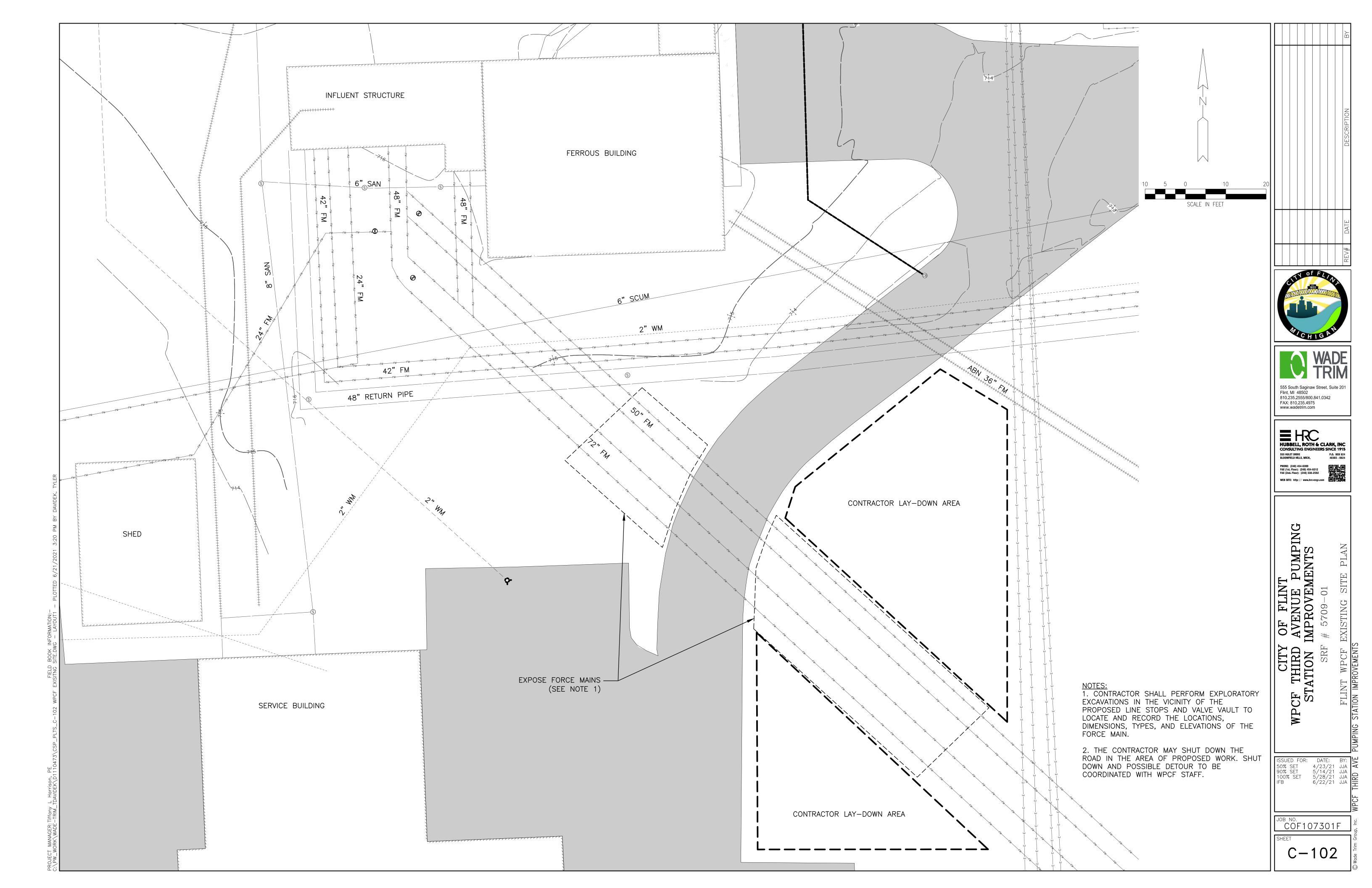
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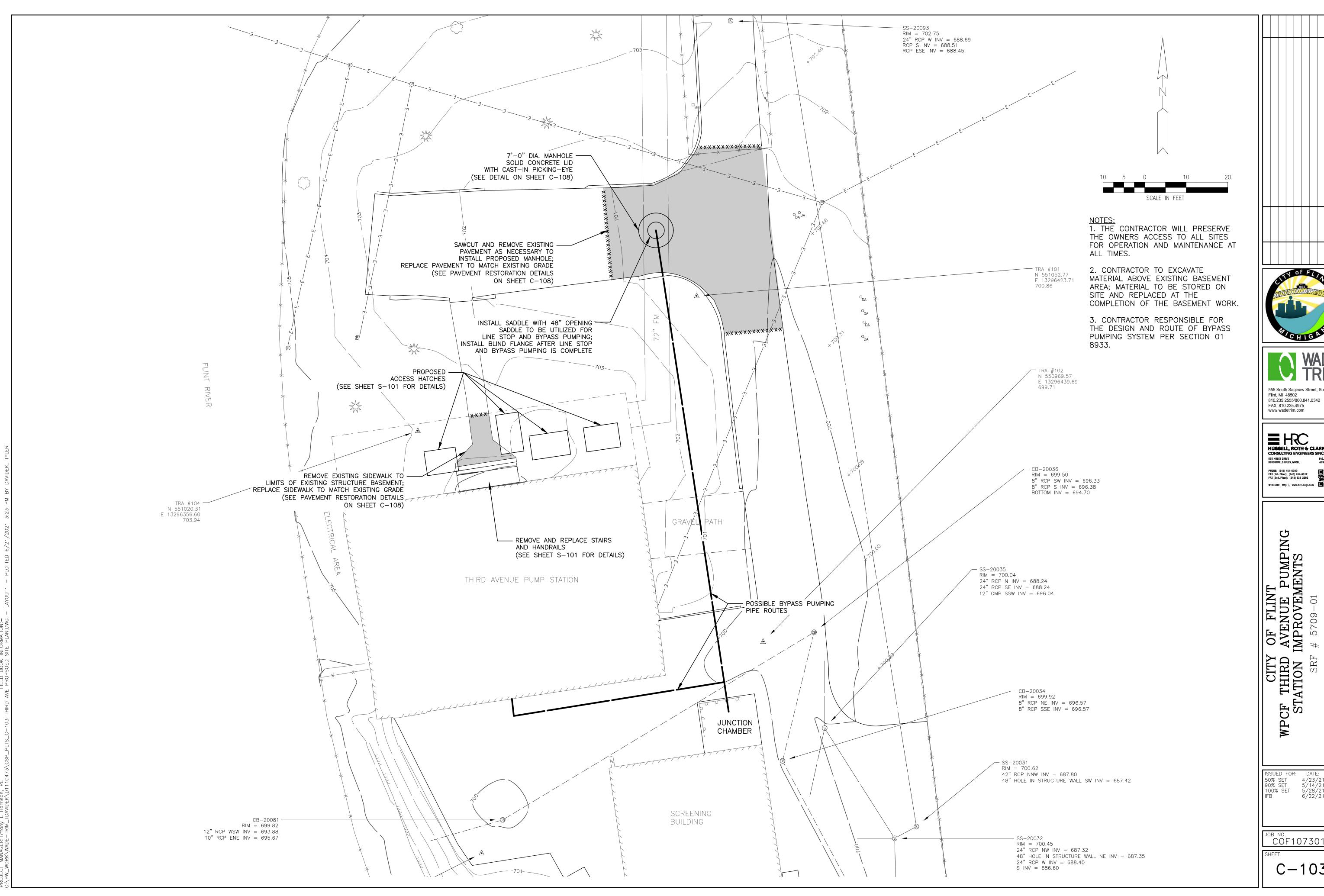
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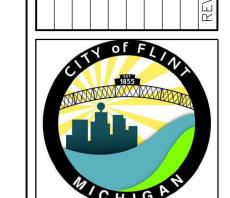
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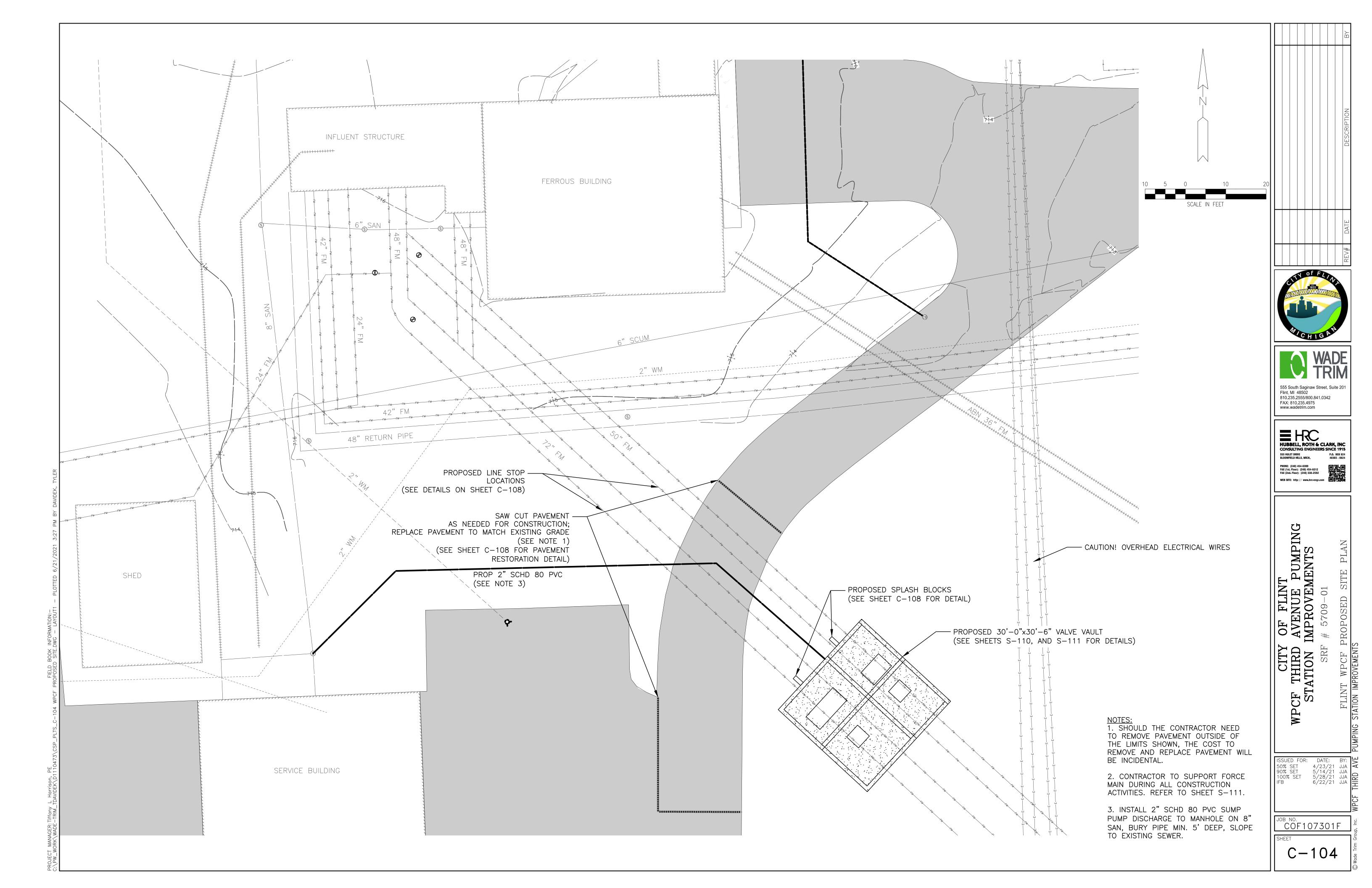


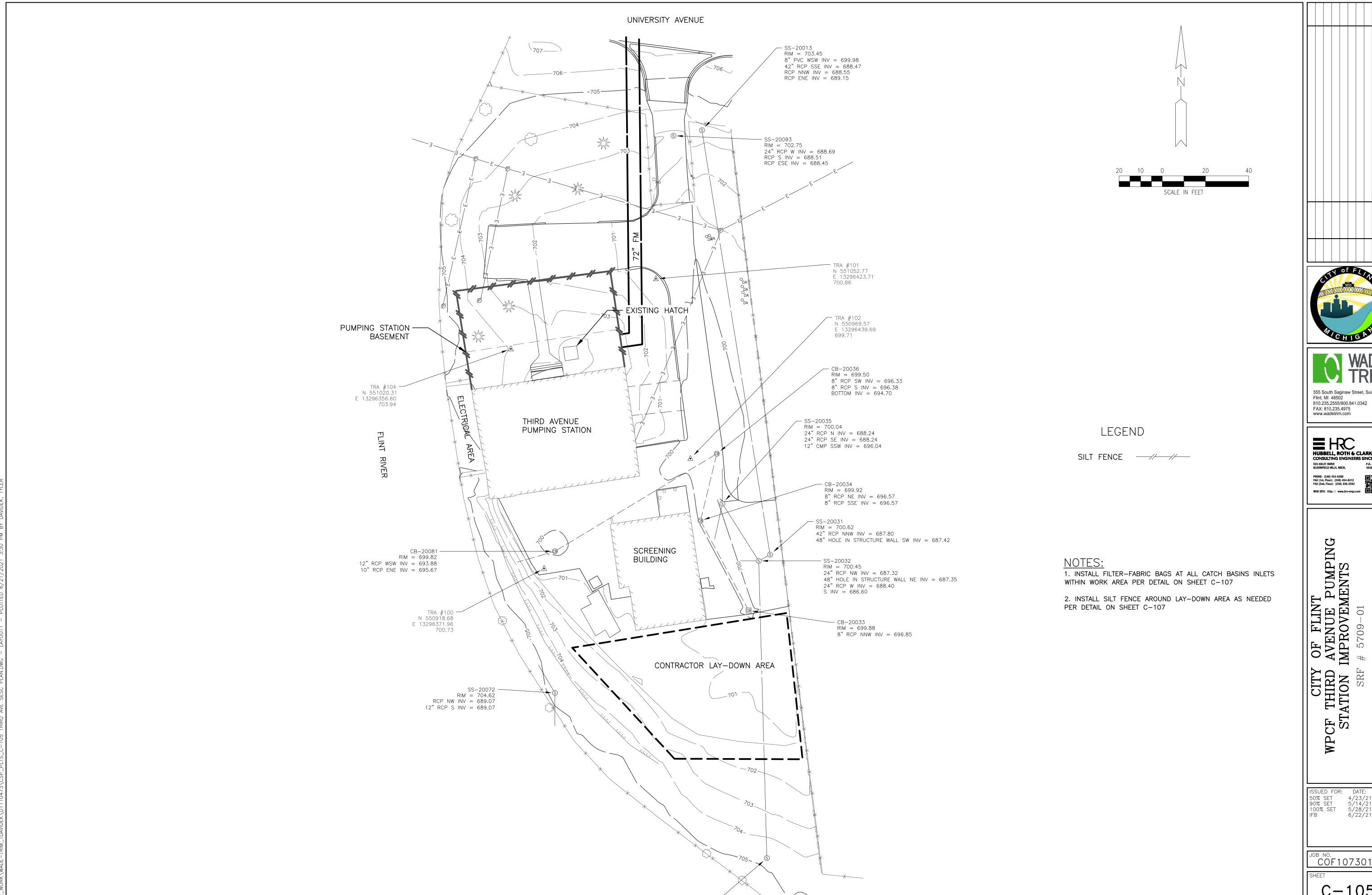


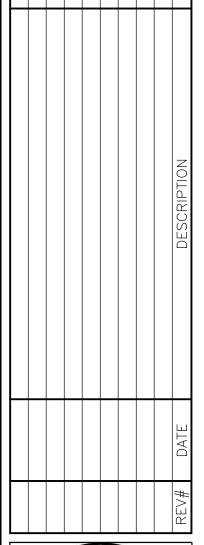


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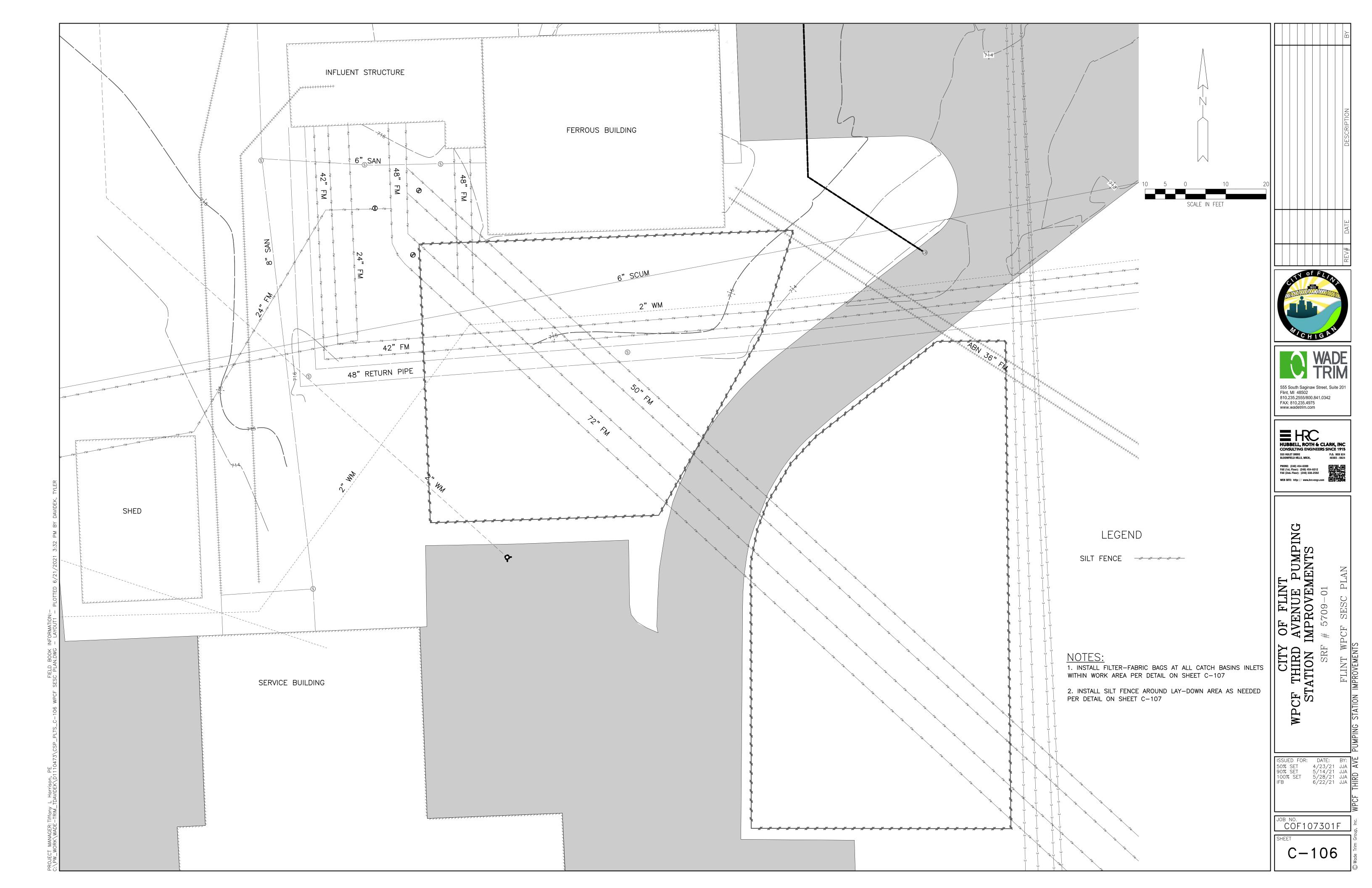


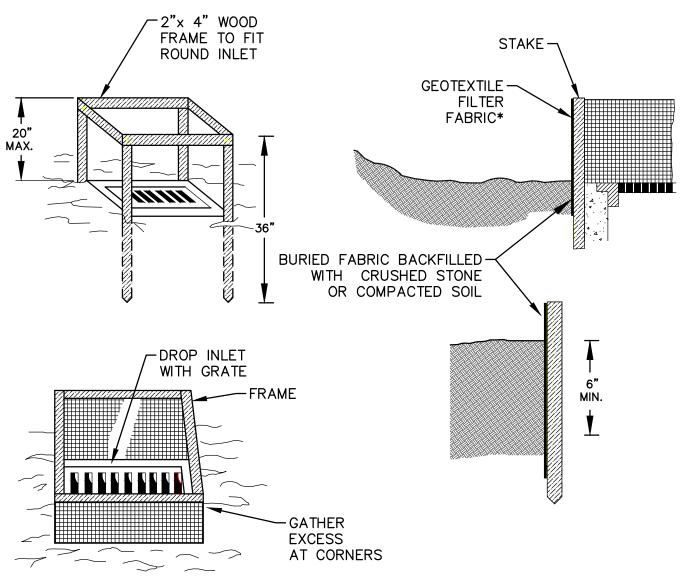


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APPLICATIONS

- 1. INLETS WITH DRAINAGE OF 1 ACRE OR LESS AND SLOPES LESS THEN 5%.
- 2. SERVICE, CLEAN AND REPAIR AFTER EACH STORM EVENT.

* NOTE *

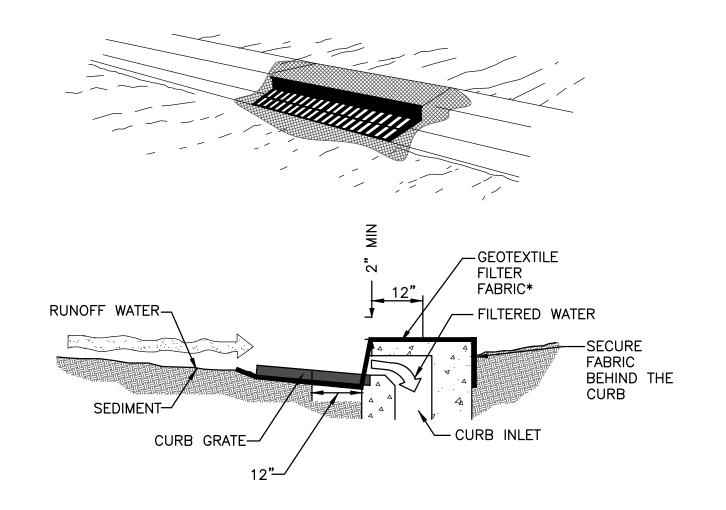
DO NOT USE SILT FENCE IN LIEU OF FILTER FABRIC FOR THIS APPLICATION.

<u>DESIGN</u>

- 1. FILTER BAGS MAY BE PLACED IN THE MANHOLE TO INCREASE THE EFFECTIVENESS OF THIS DEVICE.
- 2. IN SOME CASES FILTER BAGS IN THE MANHOLE MAY BE USED ALONE.
- 3. WARNING! THIS DEVICE MAY CAUSE FLOODING OF ADJACENT PROPERTY!
- 4. TOP OF FRAME (PONDING HEIGHTS) MUST BE LOWER THAN GROUND ELEVATION DOWN STREAM TO PREVENT BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY DOWN SLOPE OF THE STRUCTURE.

CATCH BASIN INLET PROTECTION

NOT TO SCALE



<u>APPLICATION</u>

1. INLETS AT CURB OPENINGS.

* NOTE *

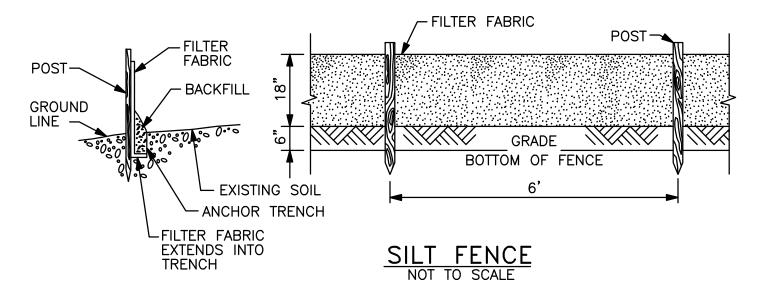
DO NOT USE SILT FENCE IN LIEU OF FILTER FABRIC FOR THIS APPLICATION.

<u>DESIGN</u>

- WARNING! THIS DEVICE MAY CAUSE FLOODING OF ADJACENT PROPERTIES.
- SERVICE CLEAN AND REPAIR AFTER EACH STORM EVENT.

FABRIC FILTER
CURB INLET PROTECTION 39

NOT TO SCALE



SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- 1. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE AGENCY HAVING JURISDICTION.
- 2. ALL SOIL EROSION CONTROL MEASURES SHALL BE CHECKED A MINIMUM OF ONCE PER WEEK AND WITHIN A MINIMUM OF 24 HOURS AFTER EVERY RAINFALL. ANY SOIL EROSION CONTROL MEASURES DAMAGED OF RENDERED INEFFECTIVE SHALL BE IMMEDIATELY REPAIRED OR REMOVED AND REPLACED AT NO ADDITIONAL COST.
- 3. EROSION AND ANY SEDIMENT FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF—SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MANMADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, AND PONDS.
- 4. ALL SOIL EROSION AND SEDIMENTATION CONTROL (SESC) DEVICES SHALL BE INSTALLED PRIOR TO CONTRACTOR BEGINNING ANY WORK. ALL SESC DEVICES SHALL BE MAINTAINED IN AN EFFECTIVE, FUNCTIONING CONDITION AT ALL TIMES DURING THE COURSE OF THE WORK. ALL TEMPORARY SESC DEVICES SHALL BE REMOVED AND THE AREA RESTORED AFTER THE PERMANENT SESC MEASURES ARE INSTALLED AND FUNCTIONING.
- 5. ALL SOIL EROSION CONTROL MEASURES SHALL BE CHECKED A MINIMUM OF ONCE PER WEEK AND WITHIN A MINIMUM OF 24 HOURS AFTER EVERY RAINFALL. ANY SOIL EROSION CONTROL MEASURES DAMAGED OR RENDERED INEFFECTIVE SHALL BE IMMEDIATELY REPAIRED OR REMOVED AND REPLACED AT NO ADDITIONAL COST.
- 6. DEBRIS FROM THE PROJECT SHALL BE LEFT ON THE SITE BY DELIVERY OR CONSTRUCTION VEHICLES THROUGH THE USE OF CLEAN STONE EXITS. SHOULD THE STONE BECOME INEFFECTIVE IT WILL BE REPLACED. ALL CONSTRUCTION TRAFFIC WILL USE THE CLEAN STONE EXITS.
- 7. EARTH EMBANKMENT BRIDGES PLACED OVER NEW PAVEMENT SHALL BE LOCATED ONLY AT PAVEMENT HIGH—POINTS AND SHALL HAVE STRAW BALES PLACED ALONG EACH SIDE OF THE BRIDGE FOR THE WIDTH OF THE PAVEMENT.
- 8. IMMEDIATELY AFTER SEEDING, MULCH ALL SEEDED AREAS WITH UNWEATHERED SMALL GRAIN STRAW OR HAY SPREAD UNIFORMLY AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE. ANCHOR MULCH WITH DISC-TYPE MULCH ANCHORING TOOL OR OTHER MEANS AS APPROVED BY THE AGENCY WITH JURISDICTION.
- 9. ALL MUD, DIRT, AND DEBRIS TRACKED OR SPILLED ONTO EXISTING ROADS FROM THIS SITE SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
- 10. PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING OR FINAL EARTH CHANGES HAVE BEEN COMPLETED. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH CHANGE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH CHANGE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IMMEDIATELY. ALL TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE ESTABLISHED. ALL PERMANENT SOIL EROSION CONTROL MEASURES WILL BE IMPLEMENTED AND ESTABLISHED BEFORE A CERTIFICATE OF COMPLIANCE IS ISSUED. ALL DRAIN BANKS DISTURBED BY CONSTRUCTION SHALL BE RESTORED WITHIN FIVE CALENDAR DAYS AND SOD PEGGED IN PLACE.
- 11. PARTICULAR CARE SHOULD BE TAKEN WHEN WORKING ALONG THE PERIMETER OF THE SITE. IN NO EVENT SHALL WORK AREA EXTEND BEYOND THE LIMITS INDICATED ON THE PLANS.
- 12. SHOULD IT BE NECESSARY FOR THE CONTRACTOR TO DEWATER THE GROUND IN THE COURSE OF CONSTRUCTING THE PROPOSED UTILITY, THE CONTRACTOR SHALL FILTER ALL DISCHARGE THROUGH A DISCHARGE FILTER BAG THAT WILL FILTER ALL DISCHARGED WATER FROM THE DEWATERING OPERATION. IN NO INSTANCE SHALL THE DEWATERING DISCHARGE BE PERMITTED TO FLOW UNFILTERED FROM THE CONSTRUCTION SITE.
- 13. THE CONTRACTOR SHALL CONTROL THE DUST ON THE SITE DURING THE LIFE OF THE CONTRACT. IN ACCORDANCE WITH THE SPECIFICATIONS AND THE REQUIREMENTS OF THE COMMUNITY THIS DUST CONTROL SHALL BE ACCOMPLISHED BY THE APPLICATION OF A POSITIVE DUST PICK—UP METHOD WITH WATER ON HARD SURFACES. SUCH DUST CONTROL MATERIALS SHALL BE APPLIED AS OFTEN AS IS NECESSARY IN THE OPINION OF THE COMMUNITY TO CONTROL THE DUST.
- 14. SHOULD THE SOIL EROSION CONTROL REQUIREMENTS BE NEGLECTED OR NOT ADEQUATELY FOLLOWED, THE COMMUNITY MAY REQUIRE THE CONTRACTOR TO CEASE CONSTRUCTION OPERATIONS AND TO APPLY HIS ENTIRE FORCE TO MEET THE REQUIREMENTS BEFORE PROCEEDING FURTHER WITH THE PROJECT.
- 15. SOIL EROSION AND SEDIMENTATION CONTROL SHALL BE IN ACCORDANCE WITH PART 91 SOIL EROSION AND SEMIMENTATION CONTROL(SESC), OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA 451, AS AMENDED (NREPA).
- 16. AS SOON AS POSSIBLE, COMPLETE FINAL GRADING AND PLACING OF PERMANENT SOIL EROSION CONTROL DEVICES. AFTER ESTABLISHMENT OF PERMANENT VEGETATION, REMOVE ALL TEMPORARY SOIL EROSION CONTROL MEASURES.

BEV# DATE



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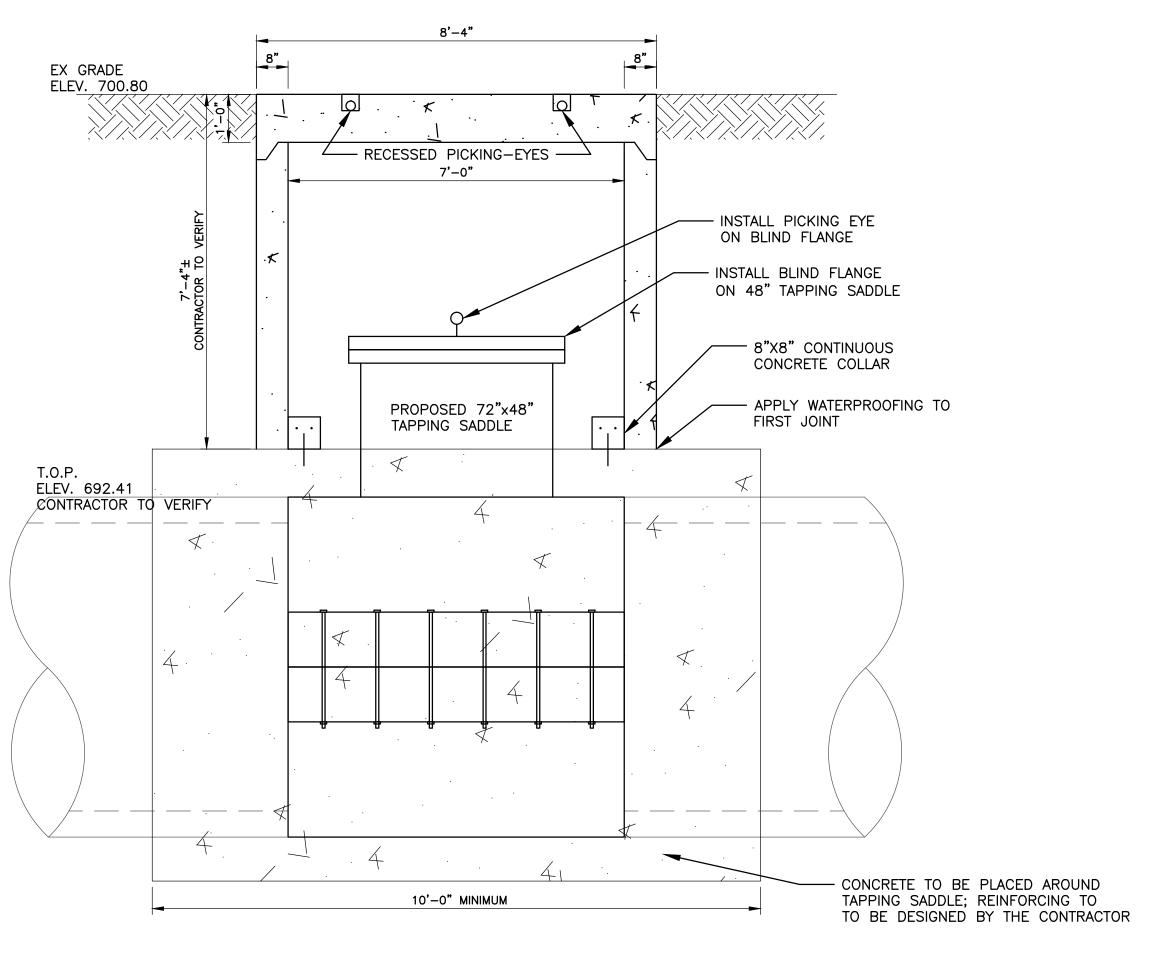
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THIRD AVENUATION IMPROVER # 5709-

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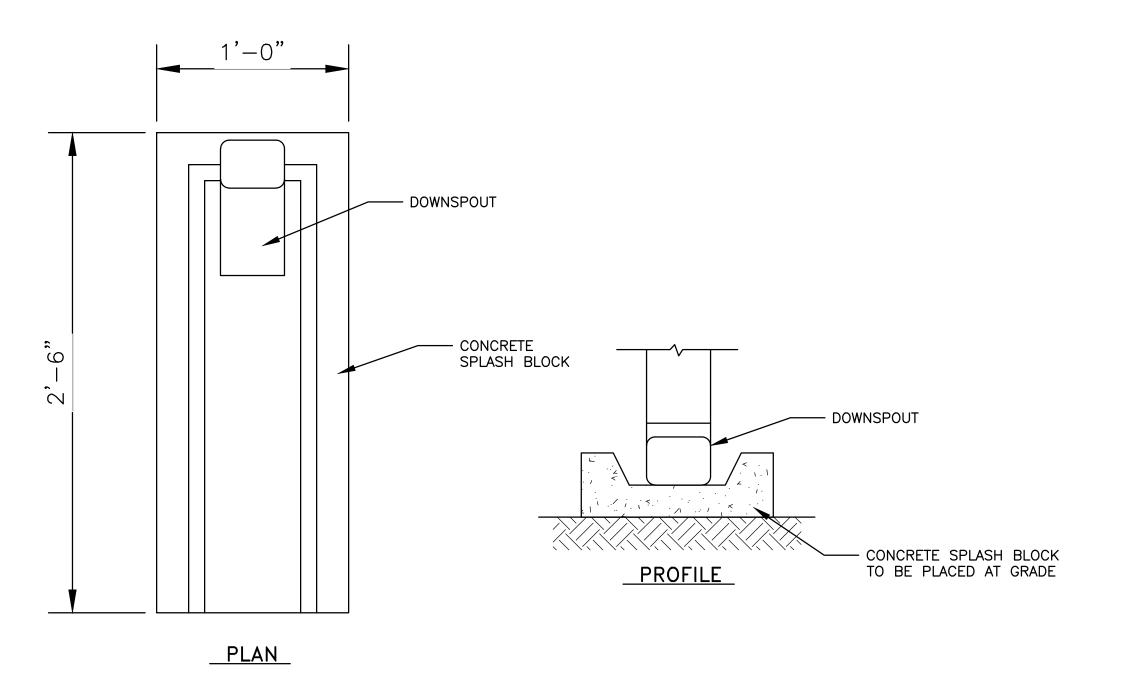
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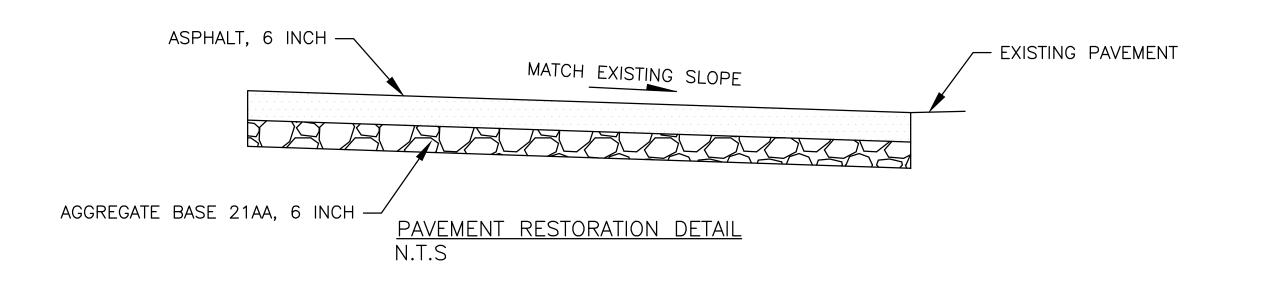


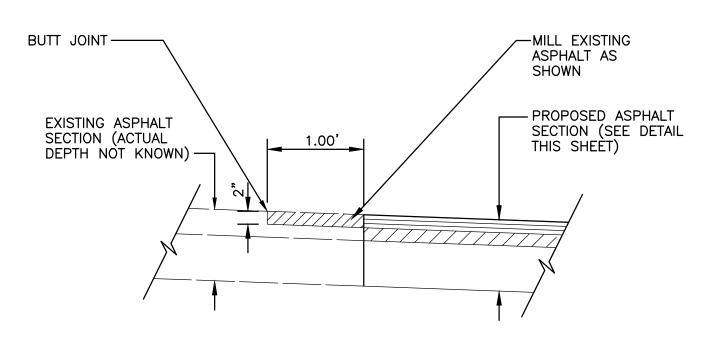
72" FORCE MAIN ACCESS MANHOLE AT THIRD AVENUE PUMPING STATION

SCALE: 1" = 2'-0"

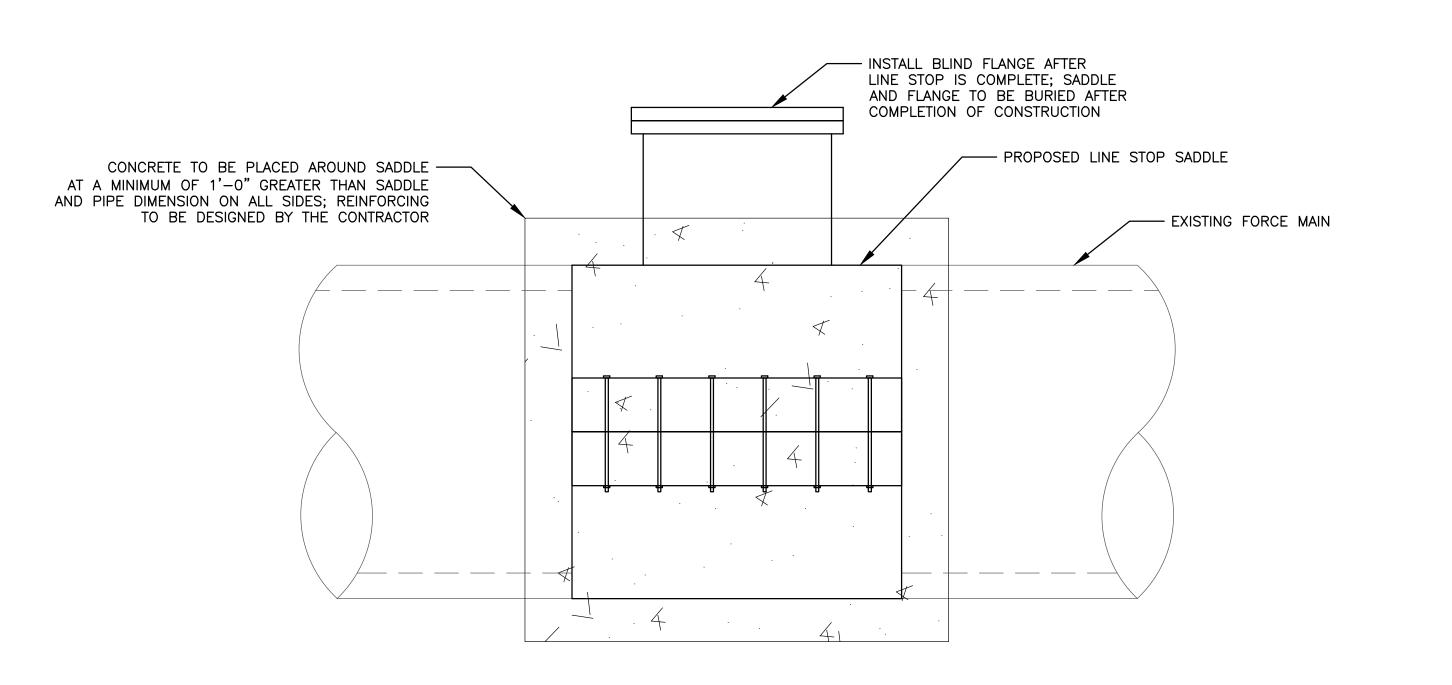


CONCRETE SPLASH BLOCK DETAIL SCALE: ½"=1'-0"

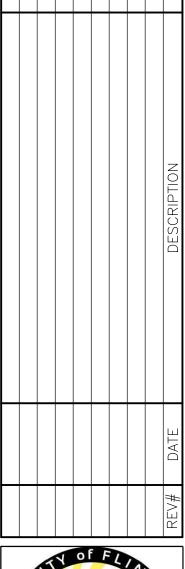




ASPHALT TO ASPHALT BUTT-JOINT
N.T.S



WPCF LINE STOP DETAIL (72" AND 50")
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GENERAL NOTES

E. NEW LADDERS . . . FRP

- DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES ARE BASED ON PREVIOUS CONTRACT DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING W/ FIELD MEASUREMENTS ALL DIMENSIONS AND ELEVATIONS FOR FABRICATION AND/OR MODIFICATIONS OR ADDITIONS BEING MADE UNDER THIS CONTRACT. ANY DISCREPANCIES SHALL BE PRESENTED TO THE OWNER AND ANY DESIGN CONFLICTS SHALL BE RESOLVED WITH OWNER PRIOR TO FABRICATIONS OR CONSTRUCTION OF IMPACTED ITEMS.
- MATERIALS FOR THE FOLLOWING FACILITY COMPONENTS SHALL BE AS INDICATED BELOW UNLESS NOTED OTHERWISE: A. PLATFORM FRAMING AT NEW VALVE VAULT . . . GALV STEEL B. GUARDRAIL AND HAND RAIL . . . FRP C. GRATING AT VALVE ACCESS PLATFORM . . . PULTRUDED FRP D. GRATING AT VALVE VAULT . . . PULTRUDED FRP E. GRATING AT PUMP-03 TRENCH . . . GALV STEEL
- ALL EXISTING DIMENSIONS AND ELEVATIONS SHOWN WITH THE ± SYMBOL, ARE APPROXIMATE AND SHALL BE VERIFIED IN FIELD BY THE CONTRACTOR BEFORE FABRICATION AND CONSTRUCTION.
- 4. ALL DIMENSIONS OR ELEVATIONS MARKED WITH AN ASTERISK "*" SHALL BE DETERMINED OR VERIFIED WITH EQUIP. MFR. CERTIFIED SHOP DRAWINGS OR FIELD MEASUREMENTS OF EXISTING CONSTRUCTION BEFORE FABRICATION AND CONSTRUCTION.
- 5. ALL ELEVATIONS ARE BASED ON NAVD 88.

CODES, LOADS AND GEOTECH

- 1. ALL STRUCTURES SHALL BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODES:
 - A. MICHIGAN BUILDING CODE (2020).
 - B. INTERNATIONAL BUILDING CODE 2020
 - C. "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES -

STRUCTURES - AMERICAN CONCRETE ASSOCIATION ACI 350 (2006)

AMERICAN SOCIETY OF CIVIL ENGINEERS" ASCE 7 -10 D. CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE

DEMOLITION

- THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT DAMAGE TO EXISTING STRUCTURES, WHICH ARE TO REMAIN, DURING DEMOLITION WORK. ALL DAMAGE SHALL BE REPAIRED TO THE COMPLETE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- WHEN REMOVING EXISTING CONCRETE BY CUTTING OR CHIPPING THE CONTRACTOR SHALL ONLY REMOVE REINFORCING BARS WHICH CANNOT BE BENT INTO AREAS WHERE NEW CONCRETE WOULD COMPLETELY COVER
- 3. IF FRACTURE OF ADJACENT CONCRETE OCCURS DURING DEMOLITION/ALTERATION WORK, THE REPAIR SHALL BE WITH AN ENGINEER APPROVED PRESSURE INJECTED EPOXY, TO THE COMPLETE SATISFACTION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL PROVIDE WRITTEN PLAN AND DESCRIPTION OF ALL DEMOLITION, MODIFICATION, OR ALTERATION WORK ON EXISTING STRUCTURES FOR REVIEW AND ACCEPTANCE PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE TO TEMPORARILY SHORE THE EXISTING BELOW GRADE (ELEV 702.50) CONCRETE SLAB NORTH OF PUMPING STATION PRIOR TO DEMOLITION WORK FOR THE NEW VALVE ACCESS STRUCTURES. TEMPORARY SHORING SHALL REMAIN IN PLACE UNTIL NEW CONCRETE BEAMS AND WALLS OVER THE SLAB HAVE ACHIVED THE DESIGN 28 DAY STRENGTH INDICATED.
- CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT OF THE EXISTING 50" AND 72" SEWER DURING EXCAVATION AND CONSTRUCTION OF THE VALVE VAULT SHOWN ON SHEET S-111. SUPPORT OF EXCAVATION SYSTEM BETWEEN THE 696.5 AND THE 704.00 SLABS IN THE VALVE VAULT IS THE RESPONSIBILITY OF THE CONTRACTOR. THE DESIGN OF ALL SUPPORT OF EXCAVATION SYSTEMS SHALL BE DESIGNED, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN. SUPPORT OF EXCAVATION SYSTEMS AND THE TEMPORARY SUPPORT OF EXISTING UTILITIES, SHALL BE DESIGNED TO MAINTAIN THE INTEGRITY OF THE UTILITIES THROUGHOUT THE EXCAVATION AND CONSTRUCTION OF THE NEW STRUCTURES.
- AFTER CONSTRUCTION OF THE VALVE VAULT, THE 72" AND 50" SEWERS SHALL BE BACKFILLED WITH CLSM TO THE SPRINGLINE OF THE SEWER. THE BALANCE OF THE EXCAVATION. WITHIN 5 FEET OF THE STRUCTURE SHALL BE BACKFILLED WITH GRANULAR STRUCTURAL BACKFILL AS SPECIFIED.

WATERPROOFING PANELS

INSTALL BENTONITE WATERPROOFING PANELS (TYPE 1C) BELOW THE VALVE VAULT SLABS ON GRADE. INSTALL BENTONITE WATERPROOFING PANELS (TYPE 1) ON EXTERIOR WALL OF THE VALVE VAULT BELOW ELEVATION 713.67.

CAST-IN-PLACE CONCRETE

- 1. THE DETAILING, BENDING, AND PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI STANDARD 350-06/350R-06 CODE AND ACI DETAILING MANUAL, SP-66 (94). FIELD BENDING WILL NOT BE PERMITTED UNLESS APPROVED BY ENGINEER
- 2. ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60.
- 3 ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 5000 PSI @ 28 DAYS UNLESS OTHERWISE NOTED
- 4. STEEL REINFORCING SHALL NOT BE SPLICED AT POINTS OTHER THAN SHOWN ON THE PLANS, EXCEPT AS APPROVED BY THE ENGINEER, UNLESS NOTED OTHERWISE.
- 5. WATERSTOPS SHALL BE PROVIDED AT ALL CONSTRUCTION JOINTS. CONTROL JOINTS AND EXPANSION JOINTS (UNLESS NOTED OTHERWISE).
- 6. ALL STIRRUPS AND TIES SHALL BE CLOSED TYPE WITH 135 DEGREE HOOKS, U.N.O.
- ALL COLD JOINTS IN CONCRETE STRUCTURES SHALL HAVE A CONTINUOUS WATERSTOP CREATING A WATERTIGHT JOINT AS DETAILED. WHERE NOT SPECIFIED ALL COLD JOINTS SHALL HAVE A HYDROPHILIC WATERSTOP PER SPECIFICATIONS.
- THE LENGTH OF ALL LAP SPLICES SHALL BE AS SPECIFIED IN "REINFORCING TENSION SPLICE TABLE" ON THIS SHEET UNLESS OTHERWISE INDICATED IN DRAWINGS. WHEN BARS OF DIFFERENT SIZE ARE BEING LAPPED, THE LENGTH SHALL BE THE SPECIFIED LAP LENGTH OF THE LARGER BAR.
- BOTTOM AND TOP REINFORCING BARS FOR ALL DISCONTINUOUS ENDS OF BEAMS AND SLABS SHALL HAVE HOOKS AND SPLICES CONFORMING TO ACI MANUAL OF STANDARD PRACTICE.
- 10. ALL NEW TO EXISTING CONCRETE SHALL HAVE A CONTINUOUS HYDROPHILIC RUBBER WATERSTOP (TYP. U.N.O.)
- 11. ALL FILLET AND TOPPING CONCRETE SHALL BE HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 6000 PSI. FILLET CONCRETE, SHALL BE PLACED TO PRODUCE CONTOURS INDICATED ON PLANS, AND SHALL RECEIVE SMOOTH FLOAT FINISH.
- 12. CONCRETE COVER OVER PRIMARY REINFORCEMENT SHALL BE (2) INCHES MINIMUM (1 1/2" FOR COLUMN TIES AND BEAM STIRRUPS), UNLESS NOTED OTHERWISE, AND (3) INCHES MINIMUM WHERE CAST AGAINST EARTH.
- 13. CAST-IN-PLACE CONCRETE WALLS WHICH SUPPORT AN ELEVATED SLAB SHALL NOT BE BACKFILLED UNTIL THE ELEVATED SLAB IS PLACED AND

FIBER REINFORCED PLASTICS (FRP)

- 1. GRATING SHALL BE 1 1/2" PULTRUDED FIBERGLASS TYP (FRP) DURADEK I-6000 BY STRONGWELL (OR APPROVED EQUAL) WHERE FRP GRATING IS INDICATED (UNLESS NOTED OTHERWISE).
- 2. ALL PULTRUDED COMPOSITE STRUCTURAL MEMBERS (FRP) SHALL BE EXTREN SERIES 525 WITH FIRE RETARDANT ADDITIVES (OR APPROVED EQUAL) WITH MINIMUM MODULUS OF ELASTICITY OF 2,500,000 PSI.
- 3. ALL CONNECTION ANGELS FOR FRP FRAMING SHALL BE FRP AS DETAILED WITH STAINLESS STEEL CONNECTION BOLTS, WASHERS AND NUTS. (STAINLESS STEEL CONNECTION ANGLE MAY BE SUBSTITUTED IF DESIRED).

METALS-STEEL

- 1. STRUCTURAL STEEL AND MISCELLANEOUS METALS DESIGN SHALL CONFORM TO THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, AISC/ANSI 360.
- 2. ALL STRUCTURAL STEEL W AND WT SHAPES SHALL CONFORM TO ASTM A-992, GRADE 50. MISCELLANEOUS METALS SHALL CONFORM TO ASTM A-36.
- 3. ALL STRUCTURAL STEEL TUBES (HSS) SHALL CONFORM TO ASTM A500, GRADE B.
- ALL STRUCTURAL PIPE SHALL CONFORM TO ASTM A53, GRADE B, TYPE E OR
- BOLTS SHALL BE A MINIMUM 3/4" DIAMETER, ASTM A325N, TYPE 1, UNLESS NOTED OTHERWISE. PROVIDE COMPATIBLE A563 GRADE DH, HEAVY HEX NUTS, AND F436 GRADE 1 WASHERS.
- 6. ALL GALVANIZED STEEL SHALL BE HOT-DIP GALVANIZED CONFORMING TO ASTM A123, UNO.
- ALL STAINLESS STEEL BEAMS AND MISCELLANEOUS SHAPES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A1637 TYP 316/316L GRADE A OR BETTER, HOT ROLLED AND ANNEALED FINISH.
- ALL STAINLESS STEEL HANGER RODS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A1637 TYPE 316.
- 9. ALL 11/2" DEEP STEEL GRATING INDICATED ON PLANS SHALL BE TYPE 15-SGI-4 GRATING AND SHALL HAVE A MINIMUM ALLOWABLE WORKING STRESS OF 12,000 PSI WITH THE FOLLOWING MINIMUM SECTION PROPERTIES: Sx = 0.90 IN3/FT
- 10. ALL POST INSTALLED ANCHOR BOLTS INTO NEW OR EXISTING CONCRETE SHALL BE ASTM A316 STAINLESS STEEL THREADED ROD WITH STAINLESS STEEL WASHER AND NUT UNO.

FOUNDATIONS AND EXCAVATIONS

- CONTRACTOR SHALL BE AWARE OF AND VERIFY LOCATION OF ALL UNDERGROUND UTILITIES, TANKS, ETC. DUE CARE SHALL BE EXERCISED DURING CONSTRUCTION ACTIVITIES SUCH THAT EXISTING UTILITIES ARE NOT
- ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF IN AN APPROVED MANNER. ALL EXCAVATIONS SHALL CONFORM TO OSHA REQUIREMENTS.
- ALL EXCAVATIONS, BACKFILL MATERIALS AND COMPACTION SHALL BE AS SPECIFIED. ALL BACKFILL UNDER NEW CONSTRUCTION AND BACKFILL WITHIN 5 FEET OF STRUCTURES SHALL CONSIST OF GRADE 2, STRUCTURAL GRANULAR BACKFILL MATERIAL
- 4. BARRICADE ALL OPEN EXCAVATIONS OCCURRING AS PART OF THE WORK AND POST WITH WARNING LIGHTS.
- SLOPE OR BENCH SIDES OF EXCAVATIONS TO COMPLY WITH CODES AND ORDINANCES HAVING JURISDICTION. PROVIDE SHORING OR SHIELDING WHERE OPEN CUT SLOPES ARE NOT POSSIBLE BECAUSE OF SPACE RESTRICTIONS OR STABILITY OF MATERIAL EXCAVATED
- THE EXISTING SEWER PIPES WITHIN THE EXCAVATION OF THE NEW VALVE VAULT SHALL BE BACKFILLED WITH CLSM TO THE SPRINGLINE OF THE PIPE. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARILY SUPPORTING THE EXISTING PIPES DURING CONSTRUCTION UNTIL PIPES HAVE BEEN ADEQUATLY BACKFILLED.
- SEE SPECIFICATION AND GEOTECHNICAL REPORT FOR DEWATERING REQUIREMENTS DURING CONSTRUCTION OF THE NEW VALVE VAULT AND PRIOR TO DEMOLITION OF THE PUMP TRENCH IN THE LOWER LEVEL OF THE PUMPING STATION.

MISCELLANEOUS

- BEFORE CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL EQUIPMENT FOUNDATION, PAD AND CURB DIMENSIONS, AND THE SIZES AND LOCATIONS OF ANCHOR BOLTS FROM MANUFACTURER'S CERTIFIED SHOP DRAWINGS.
- CONTRACTOR IS RESPONSIBLE TO IDENTIFY AND ACCOMMODATE OPENINGS AND EMBEDDED ITEMS SHOWN ON OTHER DRAWINGS.
- ALL ADHESIVE ANCHORING SYSTEMS FOR POST INSTALLED ANCHORS AND/OR REINFORCING DOWELS IN CONCRETE AND MASONRY SHALL BE "HIT-HY 200 ADHESIVE ANCHORING SYSTEM" BY HILTI AT SIZE AND SPACING INDICATED ON DRAWINGS (OR APPROVED EQUAL).

STRUCTURAL ABBREVIATIONS

ALT	ALTERNATE	HPC	HIGH PERFORMANCE COATING
ALUM	ALUMINUM	HK	HOOK
В	BOTTOM	HT	HEIGHT
BLDG	BUILDING	ID	INSIDE DIAMETER
BM	BEAM	ΙE	INVERT ELEVATION
BSMT	BASEMENT	iF	INSIDE FACE
CJ	CONSTRUCTION JOINT	iN	INCHES
CL	CENTERLINE	INT	INTERIOR
CLR	CLEAR	JT	JOINT
COL	COLUMN	KIP	THOUSAND POUNDS
CONC	CONCRETE	KSI	KIPS PER SQUARE INCH
CONST	CONSTANT	KB	KNEE BRACE
CONSTR	CONSTRUCTION	L	LENGTH
CONT	CONTINUOUS	LP	LOW POINT
CLSM	CONTROLLED LOW STRENGTH MATERIAL	LGHT	LENGTH
CMU	CONCRETE MASONRY UNIT	MAX	MAXIMUM
COR	CORNER	MIN	MINIMUM
CY	CUBIC YARD	MCP	MULTIPLE CORROSION PROTECTION
DBR	DOWEL BAR REPLACEMENT	MO	MASONRY OPENING
DET	DETAIL	NA	NOT APPLICABLE
DIA	DIAMETER	NF	NEAR FACE
DIAG	DIAGONAL	NS	NEAR SIDE
DISC	DISCONTINUOUS	NTS	NOT TO SCALE
DWLS	DOWELS	NIC	NOT IN CONTRACT
EJ	EXPANSION JOINT	OC	ON CENTER
EE	EACH END	OD	OUT SIDE DIAMETER
EF	EACH FACE	OF	OUT SIDE FACE
ES	EACH SIDE	OPNG	OPENING
EQ	EQUAL	PSF	POUNDS PER SQ. FEET
EW	EACH WAY	PSI	POUNDS PER SQUARE INCH
EA	EACH	PT	PRESSURE TREATED
EL	ELEVATION	REINF	REINFORCEMENT
EX	EXISTING	RE	REFER TO
EXT	EXTERIOR/ EXTENSION	REM	REMOVABLE
FC	FILLET CONCRETE	SHTS	SHEETS
FD	FLOOR DRAIN	SIM	SIMILAR
FF	FAR FACE	SJ	SLAB CONTROL JOINT
FS	FAR SIDE	SS	STAINLESS STEEL
FIN	FINISH	STIR	STIRRUPS
FL	FLOOR	STRUCT	STRUCTURAL
FND		T/	TOP
FTNG	FOUNDATION FOOTING		
		TERS	TEMPORARY EARTH RETENTION SYSTEM
FT	FEET	THK	THICK ELEVATION TOP OF STRUCTURAL STEEL
FV	FIELD VERIFIED	TOS	
GALV	GALVANIZED	TYP	TYPICAL
GR CV/V/	GRADE	UNO	UNLESS NOTED OTHERWISE
GVW	GROSS VEHICLE WEIGHT	V	VERTICAL
Н	HORIZONTAL	W	WIDTH
HC	HOLLOW CORE	WP	WORK POINT
HP	HIGH POINT		

ADHESIVE ANCHORING SYSTEM MINIMUM EMBEDMENT DEPTH FOR **DOWELS AND RODS**

REINFORCING BARS/DOWELS

BAR SIZE	EMBED DEPTH	REMARKS
#3	5 1/2"	
#4	5 1/2"	
#5	7"	
#6	8 1/2"	
#7	10"	
#8	11 3/4"	

ANCHOR RODS

BOLT DIAMETER	EMBED DEPTH	
3/8"	3 1/2"	
1/2"	4 1/4"	
5/8"	5"	
3/4"	6 5/8"	
1"	8 1/4"	

NOTES:

- . ALL ANCHORS INSTALLED WITH AN ADHESIVE ANCHORING SYSTEM SHALL, AT A MINIMUM, HAVE THE EMBEDMENT DEPTHS INDICATED IN THE TABLE ABOVE UNLESS SPECIFICALLY INDICATED OTHERWISE
- . CONFIRM REQUIRED EMBEDMENT DEPTHS WITH MANUFACTURERS REQUIREMENTS FOR DEVELOPING THE TENSION CAPACITY OF THE ANCHOR RODS (TYP).

REINFORCING TENSION

BAR SIZE	TENSION LAP	* TOP BARS
#3	16"	22"
#4	20"	29"
#5	24"	36"
#6	29"	43"
#7	42"	63"
#8	48"	72"
#9	54"	81"
#10	61"	91"
#11	67"	101"

NOTES:

- 1. ABOVE TABLE IS FOR NORMAL WEIGHT CONCRETE; f'c= 5,000 PSI AND REINFORCING STEEL; fy= 60,000 PSI.
- 2. ALL SPLICES SHALL BE CONSIDERED TENSION SPLICES USING LAP LENGTHS IN TABLE ABOVE UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE DRAWINGS.
- 3. LENGTHS ARE BASED ON LAP CLASS B SPLICES WITH CENTER TO CENTER SPACING OF BARS GREATER THAN 6 DIAMETERS
- 4. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST UNDER
- 5. USE TENSION LAP LENGTHS FOR HORIZONTAL & VERTICAL WALL BARS.







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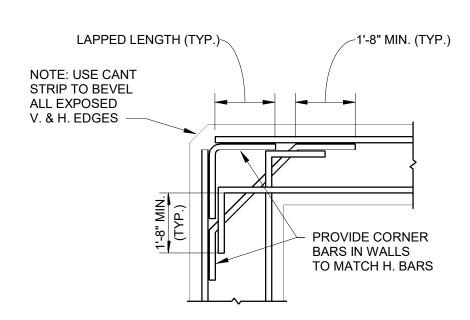
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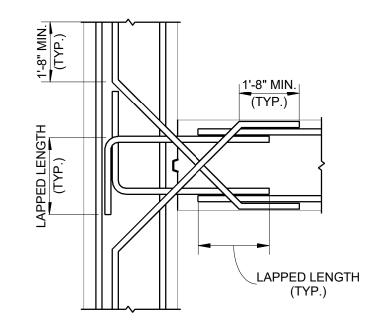
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TYP. FORMED KEYWAY SCALE: 1" = 1'-0"



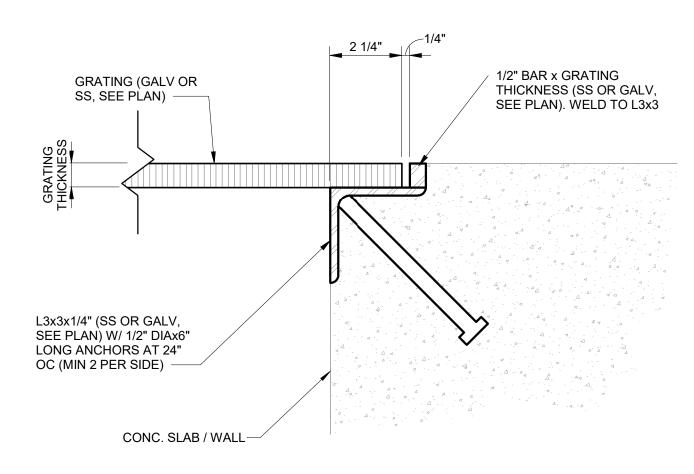


SECTIONAL PLAN OF WALLS DETAIL

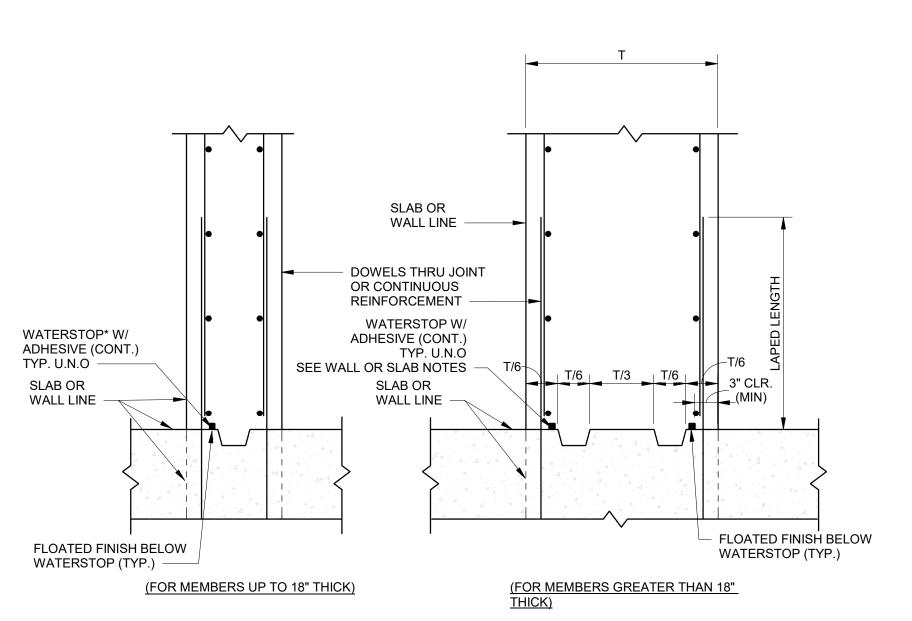
TYPICAL REINFORCING DETAIL AT WALL

INTERSECTIONS

SCALE: 3/8" = 1'-0"



TYPICAL STEEL GRATING FRAME



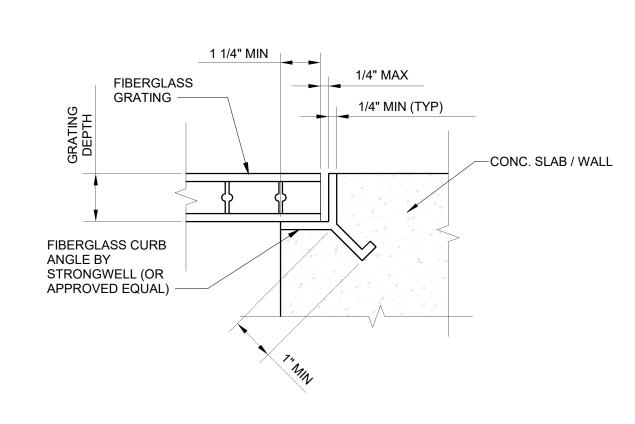
WALL OR SLAB JOINT NOTES:

- 1. HYDRAULIC RUBBER WATERSTOP SHALL BE USED IN ALL CAST-IN-PLACE CONCRETE BELOW GROUNDWATER TABLE.
- 2. BENTONITE WATERSTOP (NSF 61 CERTIFIED) MAY BE USED AT ALL OTHER JOINTS IN CAST-IN-PLACE CONCRETE CONSTRUCTION.
- 3. ALL UNFORMED SURFACES WHERE WATERSTOP IS BE ADHERED, SHALL HAVE A FLOATED FINISH.
- 4. ALL KEYWAYS SHALL BE CONSTRUCTED USING WOOD FORM EMBEDDED IN PLASTIC CONCRETE AND REMOVED AFTER CURING.

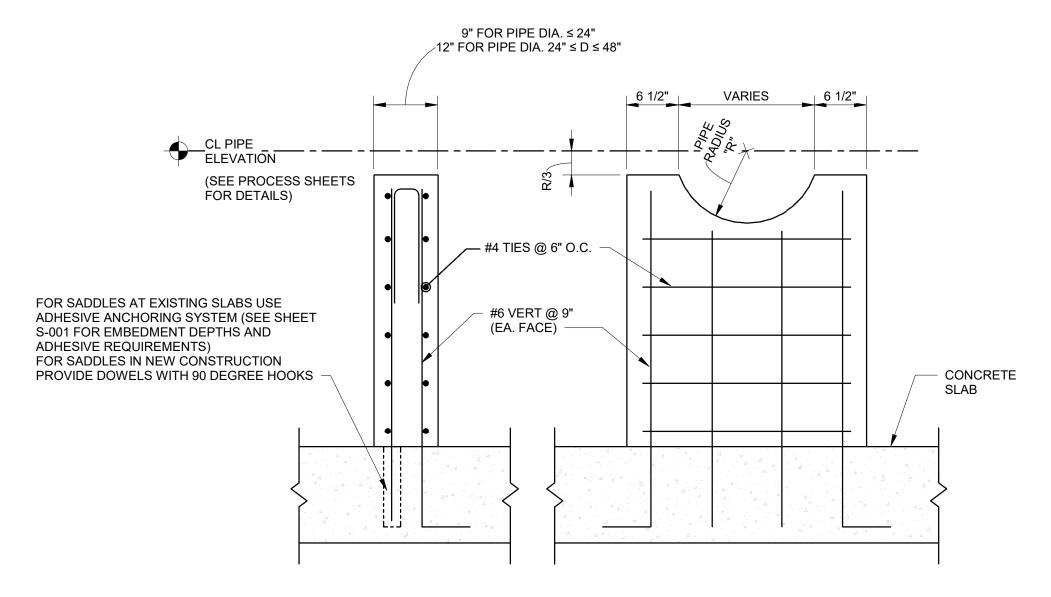
STANDARD WALL TO WALL OR WALL TO SLAB JOINT DETAIL

5 SLAB JOINT DETAIL

SCALE: 1" = 1'-0"



3 TYPICAL FRP GRATING CURB ANGLE SCALE: 1" = 1'-0"



6 CONCRETE PIPE SADDLE DETAIL

SCALE: 1" = 1'-0"

REV# DATE DESCRIPTION



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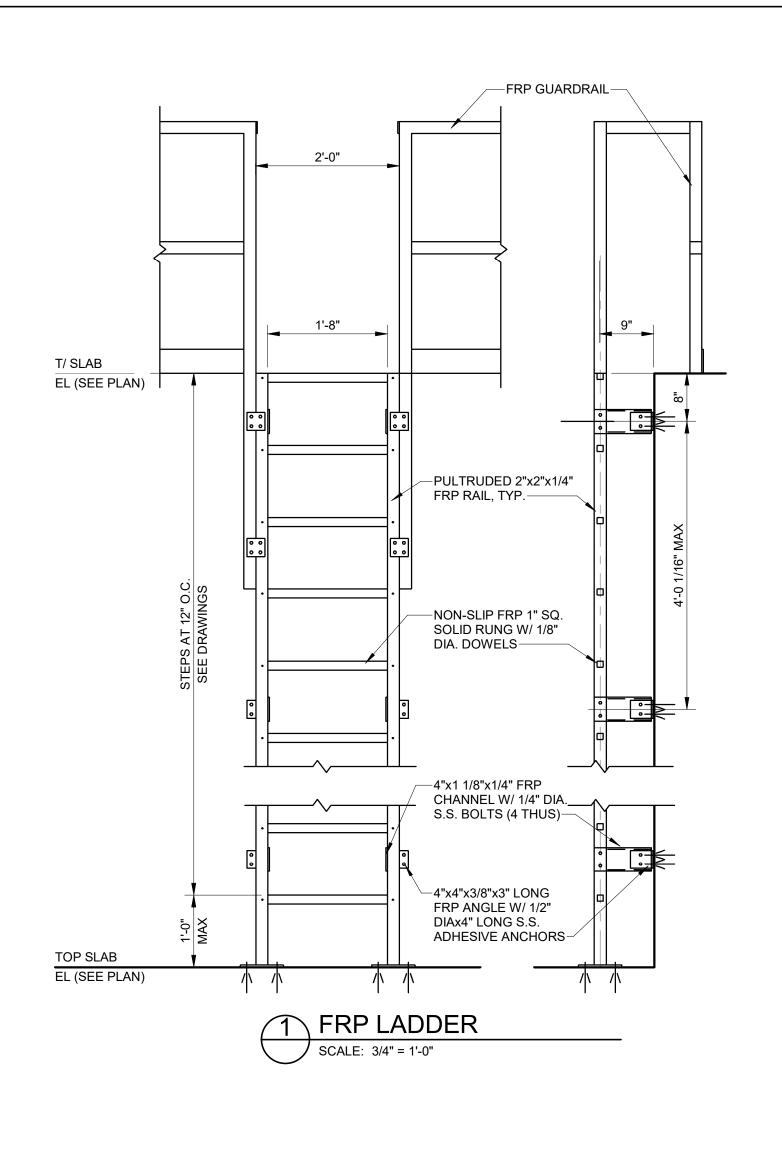
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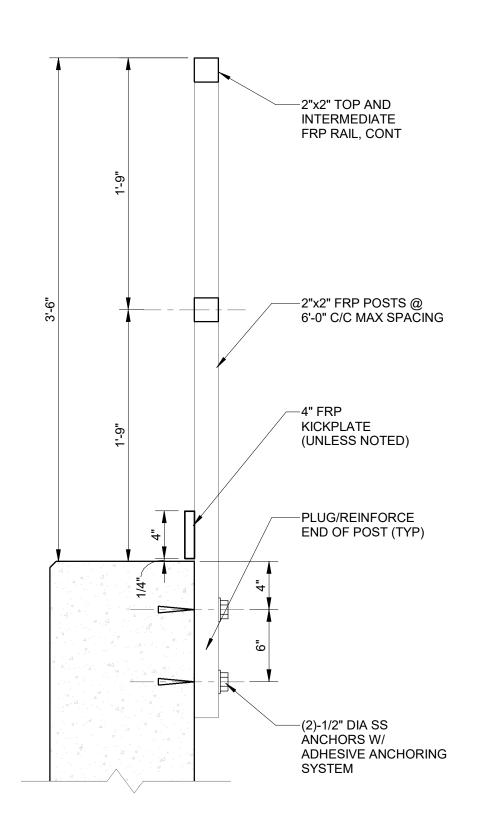
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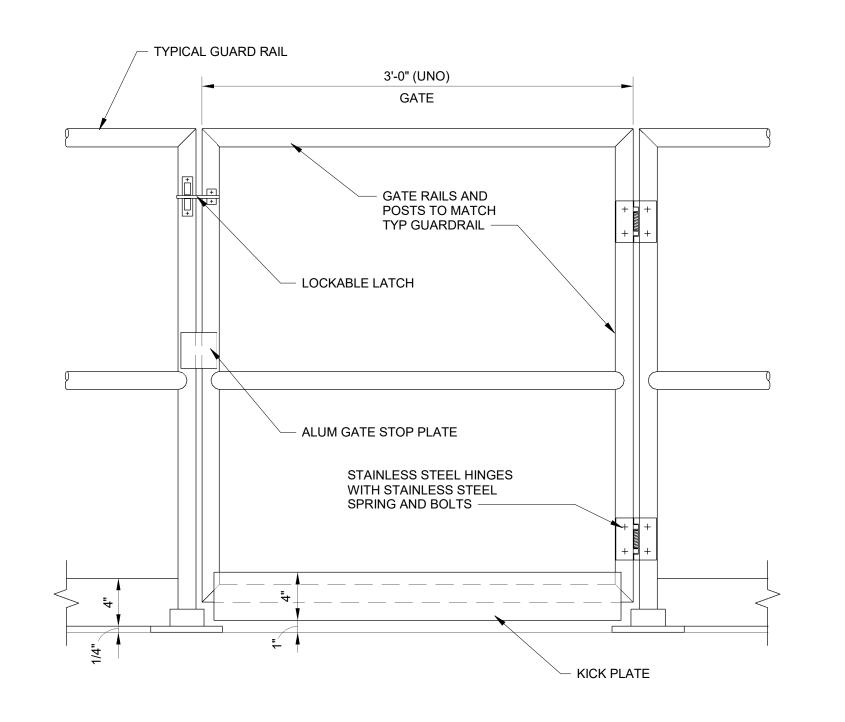
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100% SET 05/28/21 JKV

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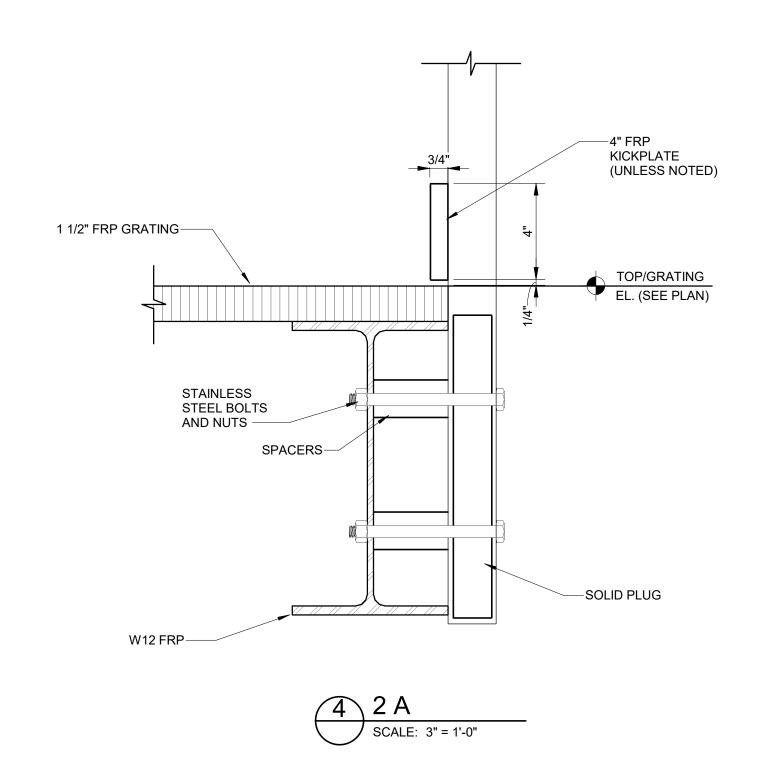


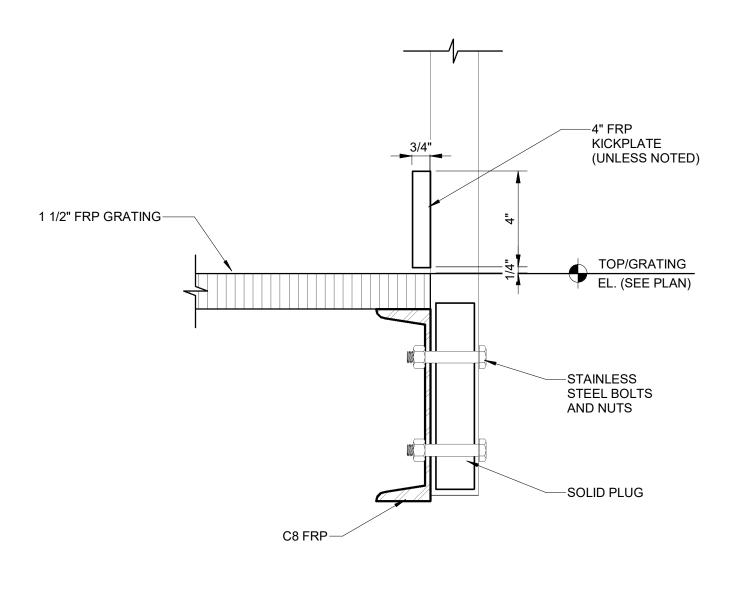




2 FRP GUARDRAIL DETAIL - SIDE MOUNT SCALE: 1 1/2" = 1'-0"









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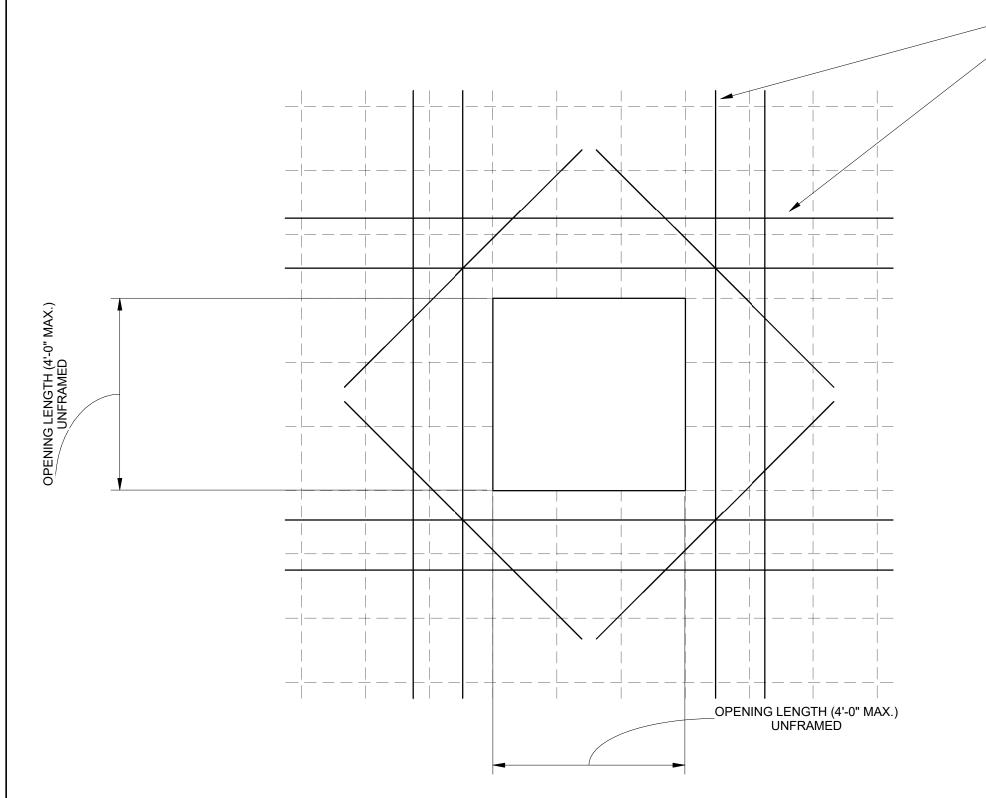
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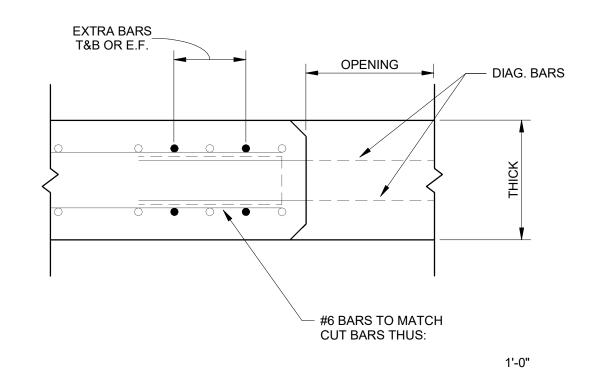
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UNFRAMED OPENING DETAIL PLAN-RECTANGULAR SLAB OPENING **ELEV.-RECTANGULAR WALL OPENING** NO SCALE



SLAB OPENING DETAIL OR WALL JAMB PLAN
NO SCALE

1'-0"

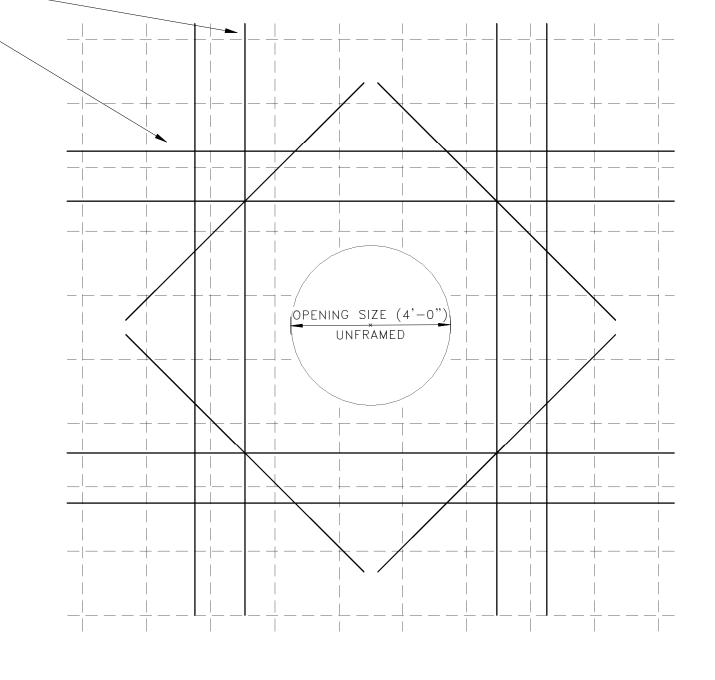
PROVIDE EXTRA BARS E.W., E.F. TO REPLACE BARS CUT BY OPENING (1/2 EA. SIDE). WHEN No. OF CUT BARS IS ODD No. INCREASE TO NEXT LARGEST EVEN No.

	DIAGONAL BARS ALL OPENINGS					
SLAB OR WALL THICKNESS DIAG. BARS - (4) SIDES OF OPENING E.F.: EQUAL SPACING						
FROM	TO & INCLUDING	NO.	NO. BAR SIZE			
0	8"	1	#4	3'-0"		
8"	16"	2	#5	4'-0"		
16"	24"	3	#6	5'-0"		
24"	32"	4	#6	5'-0"		
32"	40"	5	#7	6'-0"		

L	LENGTH OF EXTRA BARS CENTERED OF Q OF OPENING								
BAR SIZE	BAR SIZE LENGTH = OPENING PLUS BAR SIZE LENGTH = OPENING PLUS								
#4	3'-0"	#8	10'-0"						
#5	4'-0"	#9	12'-0"						
#6	6'-0"	#10	16'-0"						
#7	8'-0"	#11	20'-0"						

OPENING REINFORCEMENT SCHEDULE						
TYPE OF	THOMNESS	REINFORCEMENT REQUIRED				
OPENING	THICKNESS	EXTRA	DIAGONAL	[-BARS		
UNFRAMED	16" OR LESS	YES	YES	NO		
ONITAMED	16" - 4'-0"	YES	YES	YES		
FRAMED (BEAMS)	ALL	NO	YES	NO		

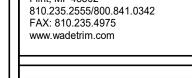
ALL OPENINGS LESS THAN 6" SPREAD REINFORCEMENT TO CLEAR; NO DIAGONALS REQUIRED



UNFRAMED OPENING DETAIL PLAN-CIRCULAR SLAB OPENING **ELEV.-CIRCULAR WALL OPENING** NO SCALE









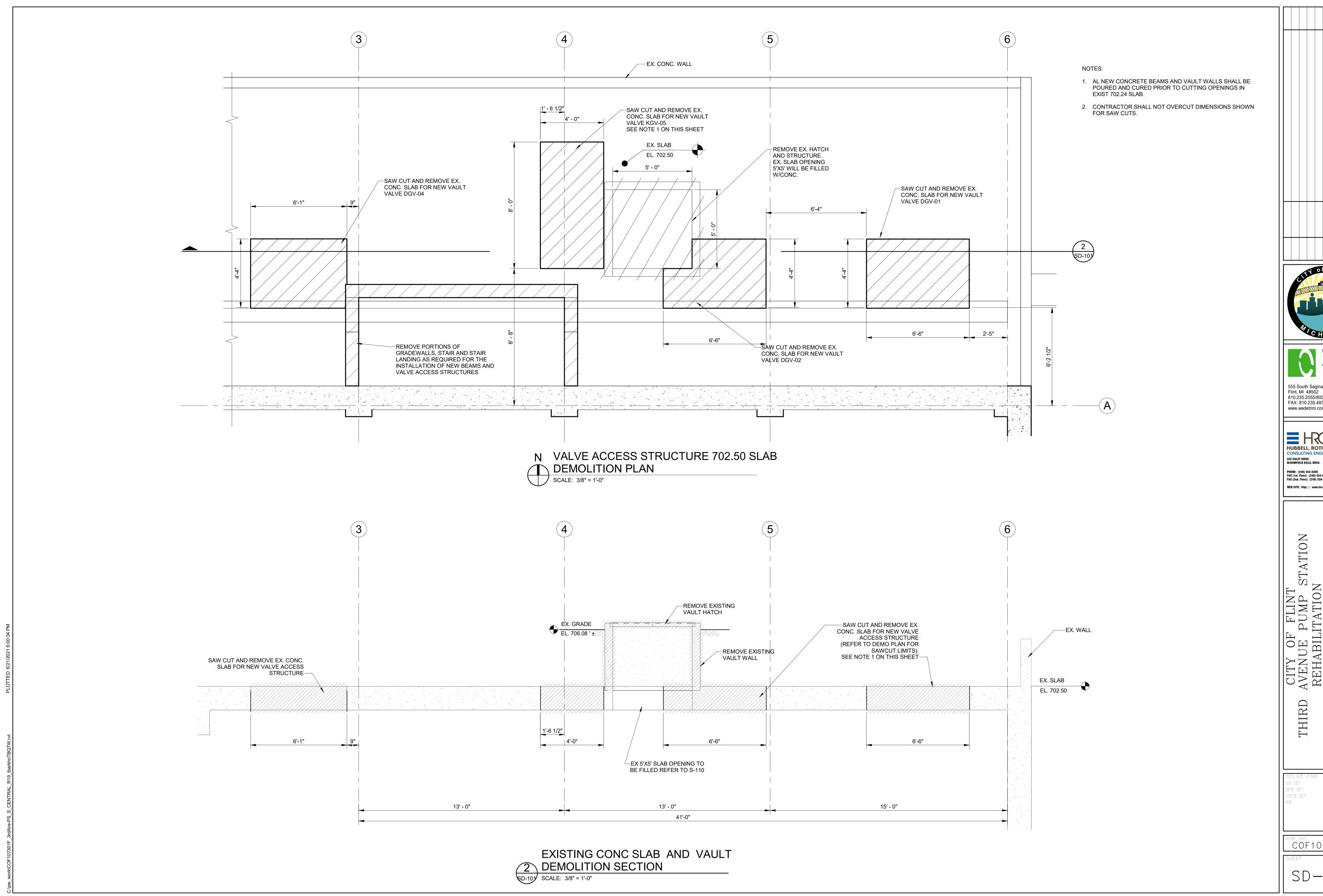
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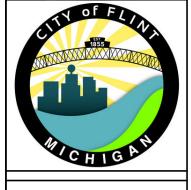


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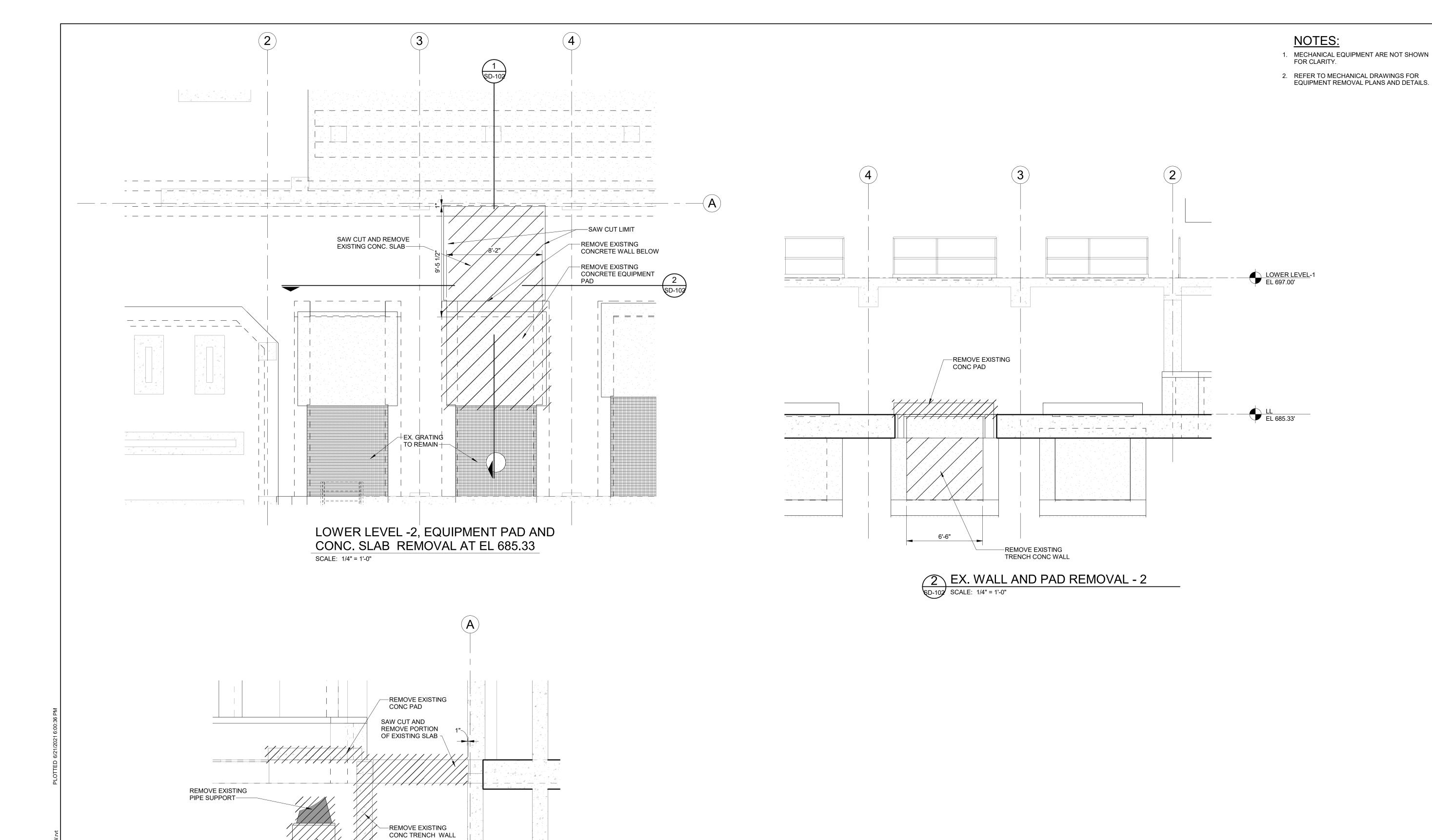
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SD - 101



-EX. CONC FOUNDATION FOOTINGS

—EX. CONC FOUNDATION SLAB

REMOVE EXISTING
PIPE SUPPORT PAD

1 EX. WALL AND PAD REMOVAL - 1
SD-102 SCALE: 1/4" = 1'-0"





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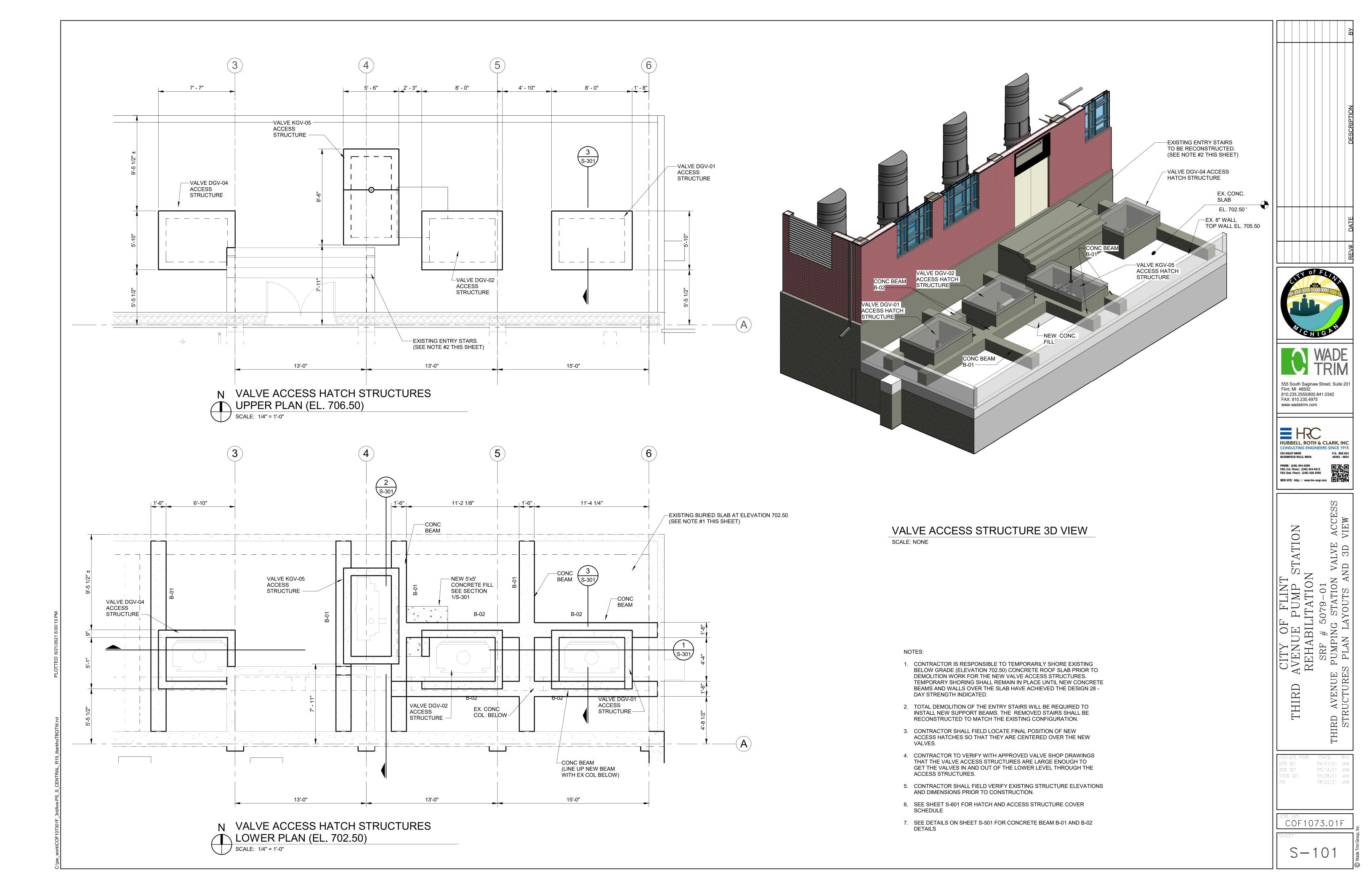
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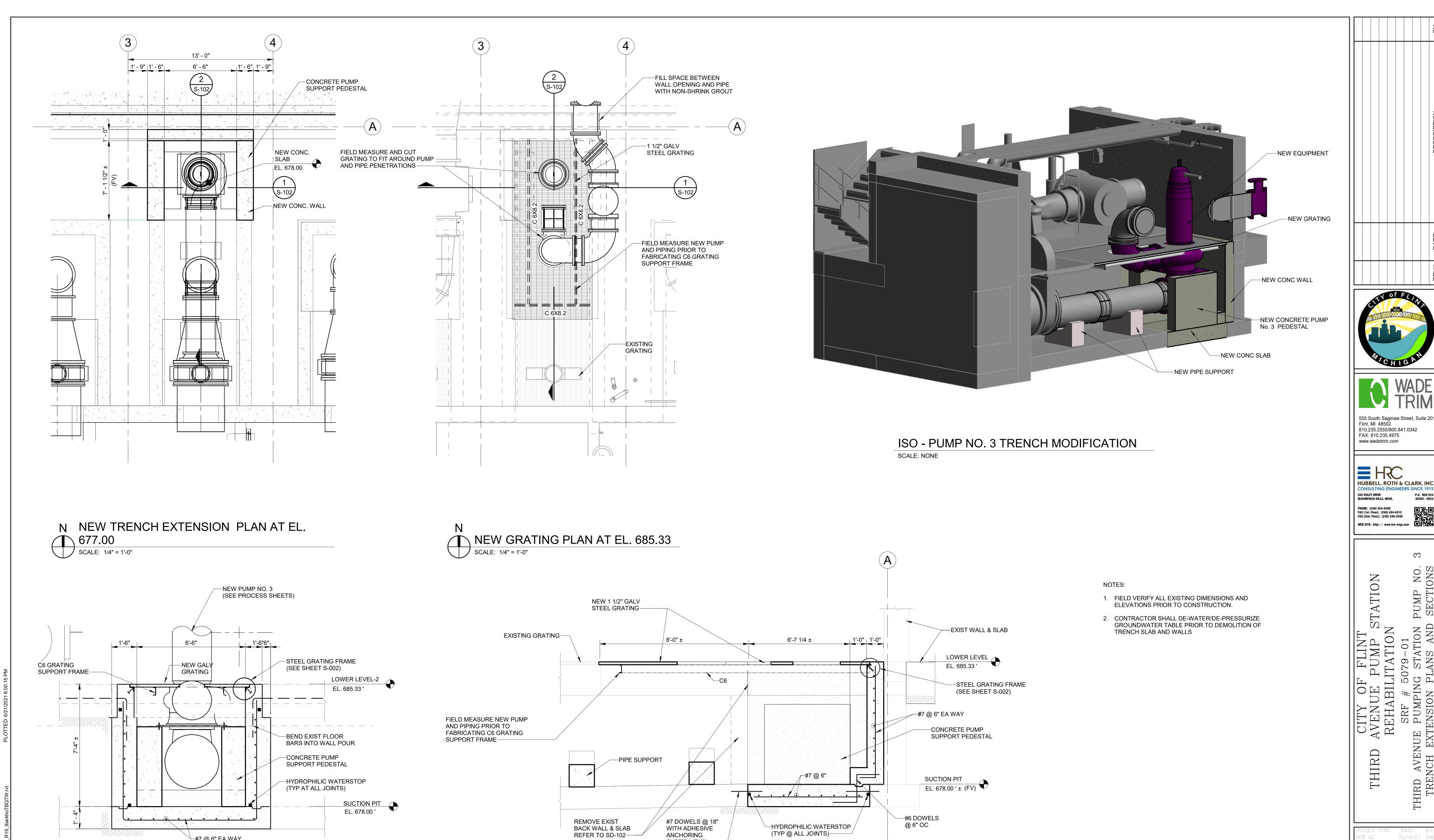
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SD - 102





ANCHORING

2 SECTION

S-102 SCALE: 3/8" = 1'-0"

SYSTEM (TYP)-

PIPES AND VALVE ARE NOT SHOWN FOR CLARITY

NEW TRENCH EXTENSION - LONGITUDINAL

#7 @ 6" EA WAY

1 NEW TRENCH EXTENSION CROSS SECTION

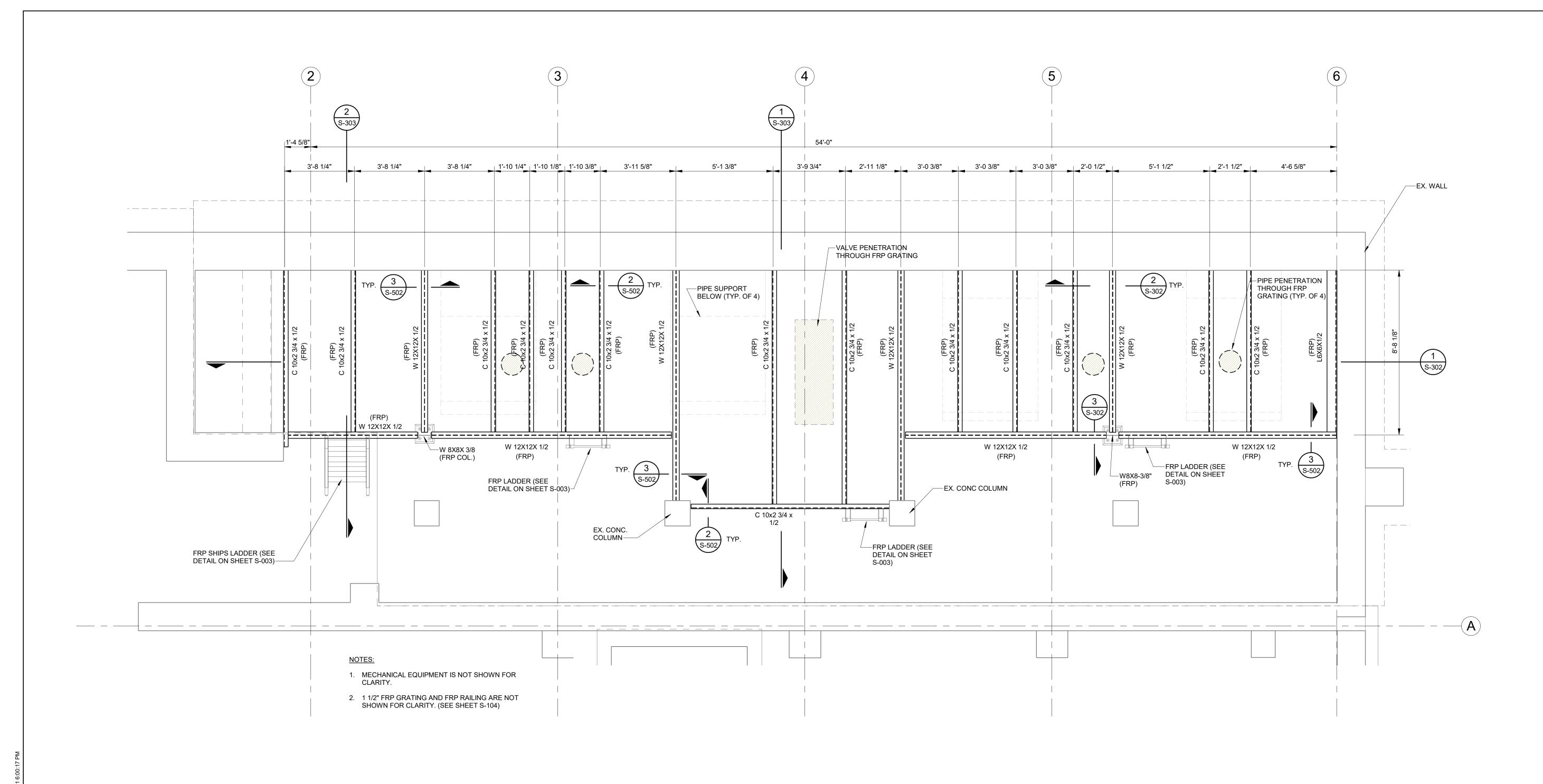
CONCRETE PUMP SUPPORT PEDESTAL DIMENSIONS AND REINFORCING SHALL BE COORDINATED WITH PUMP MANUFACTURER REQUIREMENTS

S-102 SCALE: 3/8" = 1'-0"

(TYP @ ALL JOINTS)-

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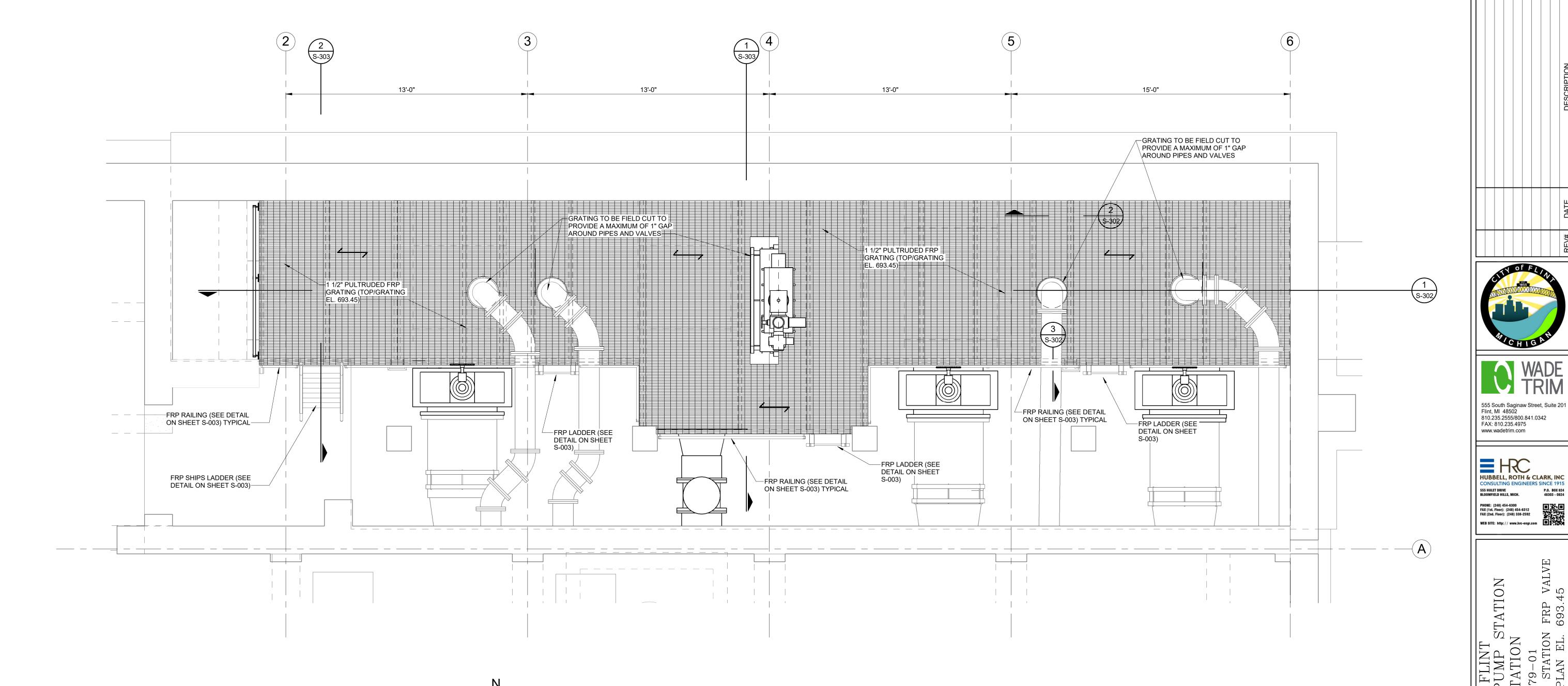
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VALVE 693.45

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SRF # 5079-01
NUE PUMPING STATION FRP VALV
ATFORM FRAMING PLAN EL. 693.4

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VALVE ACCESS PLATFORM GRATING PLAN

SCALE: 3/8" = 1'-0"

NOTES:

1. INDICATES THE GRATING SPAN DIRECTION

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REHABILITATION
SRF # 5079-01
ACCESS PLATFORM PLAN EL. 693.45

555 South Saginaw Street, Suite 201 Flint, MI 48502

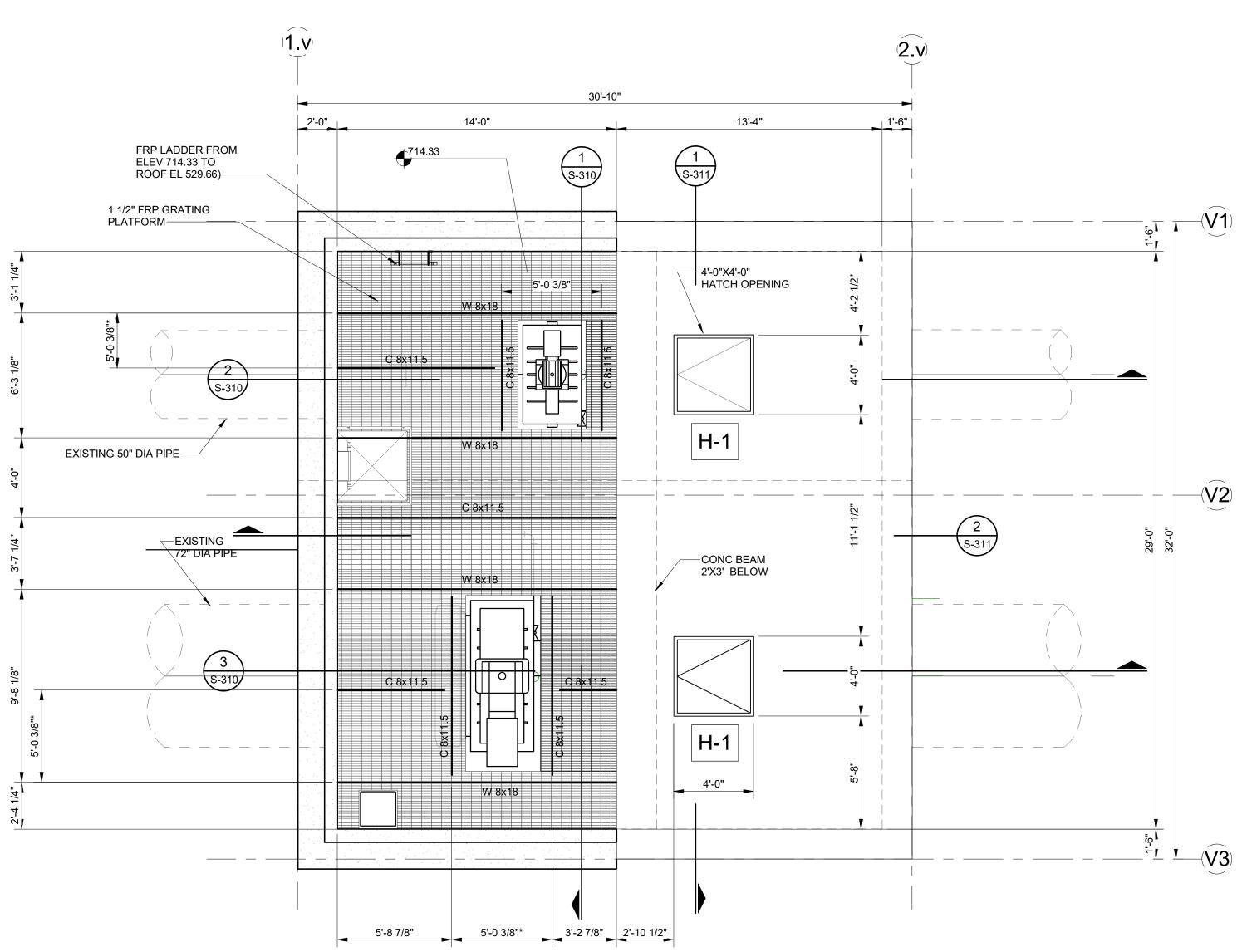
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COF1073.01F

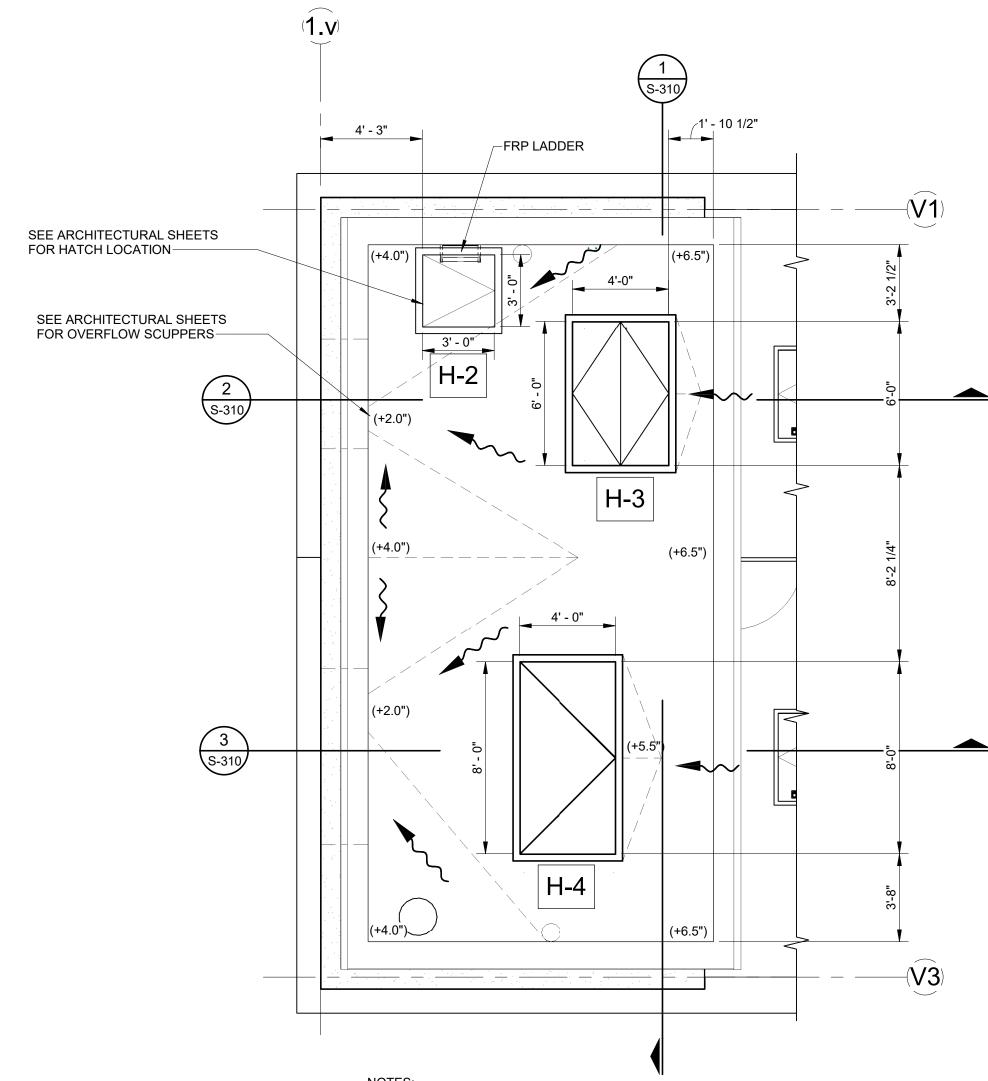
05/28/21 JKW



NOTES:

- 1. H-X INDICATES ROOF OR FLOOR HATCH, SEE SHEET S-601 FOR HATCH SCHEDULE AND DETAILS.
- 2. SEE SHEET S-002 FOR LADDER DETAILS.
- 3. ALL FRAMING MEMBERS SHALL BE GALVANIZED STEEL. ALL FASTENERS SHALL BE 304 STAINLESS STEEL.
- 4. AN ASTERISK (*) INDICATES DIMENSIONS THAT ARE TO BE VERIFIED WITH APPROVED VALVE SHOP DRAWINGS. BEAMS SHALL BE LOCATED TO ALLOW 2" CLEAR OF WIDEST PORTION OF VALVE BELOW.

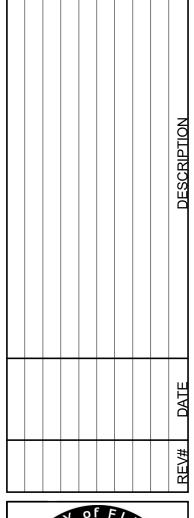




- NOTES:

 1. TOP OF STRUCTURAL ROOF SLAB IS AT ELEVATION 729.66 (+X.X") INDICATES THICKNESS OF TOPPING, PLACED ABOVE STRUCTURAL SLAB.
- 2. TOPPING SHALL SLOPE UNIFORMLY BETWEEN ELEVATIONS INDICATED TO PROVIDE POSITIVE DRAINAGE TO WALL SCUPPERS.
- 3. H-X INDICATES ROOF OR FLOOR HATCH, SEE SHEET S-601 FOR HATCH SCHEDULE AND DETAILS.
- 4. DIMENSIONS INDICATED WITH AN ASTERISK "*" SHALL BE FIELD VERIFIED BY CONFIRMING THE CENTER TO CENTER DIMENSION BETWEEN THE 2 SEWERS AND CENTERING THE HATCHES DIRECTLY OVER THE CENTER OF THE PROPOSED VALVES.









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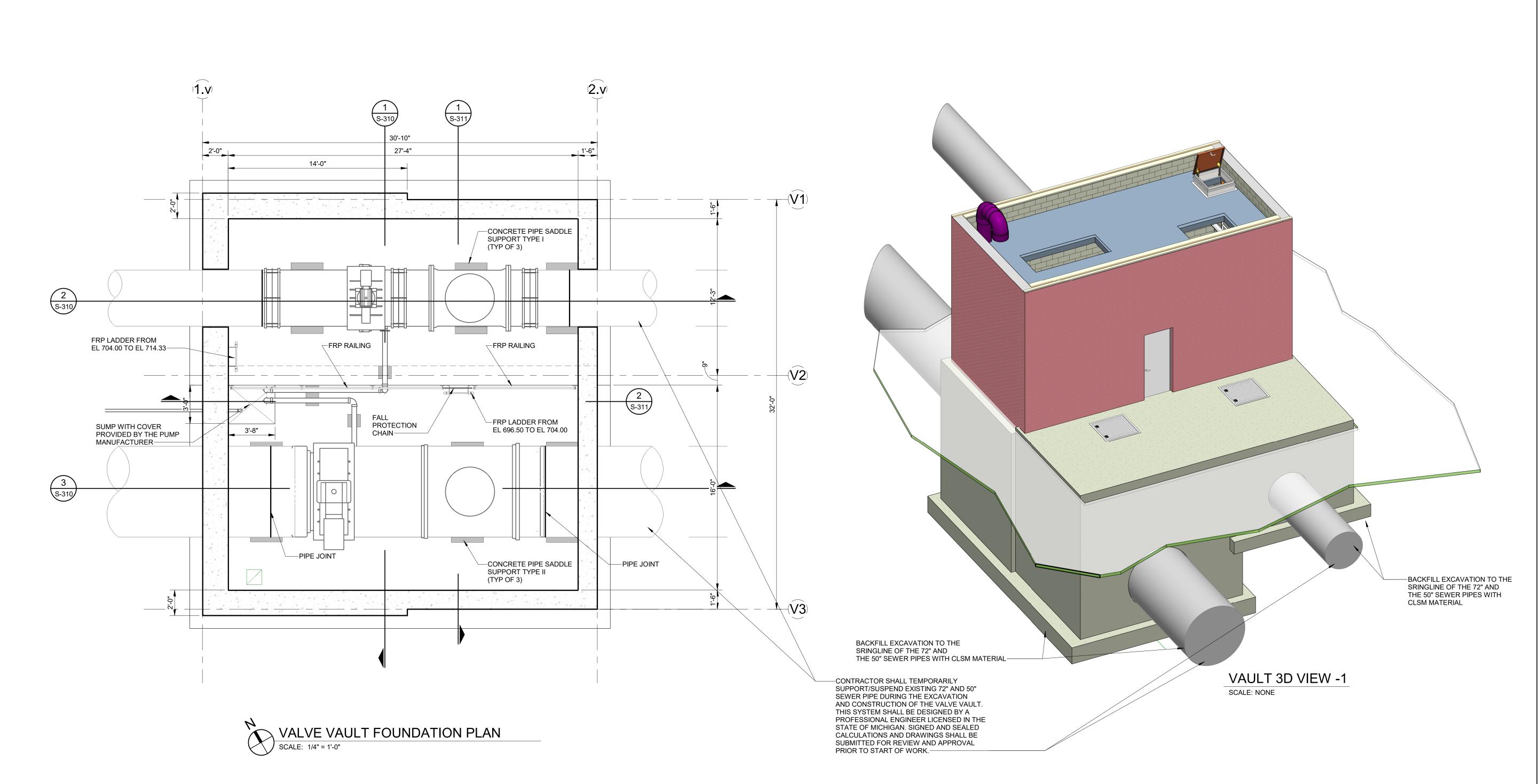
ON 1 LAN (EL 714.33)

REHABILITATION
SRF # 5079-01
VPCF VALVE VAULT GRADE PLAN

SSUED FOR: DATE: BY
0% SET 04/21/21 JKW
0% SET 04/14/21 JKW
00% SET 05/28/21 JKW
EB 06/22/21 JKW

COF1073.01F

S-110





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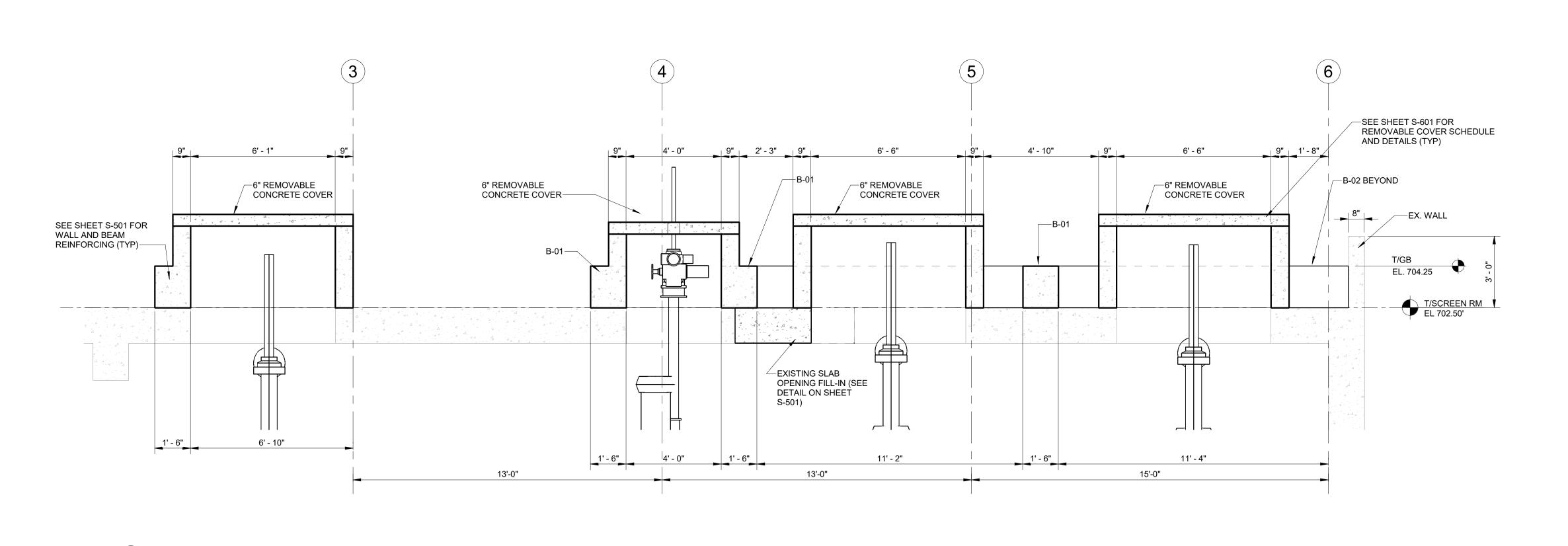
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3D

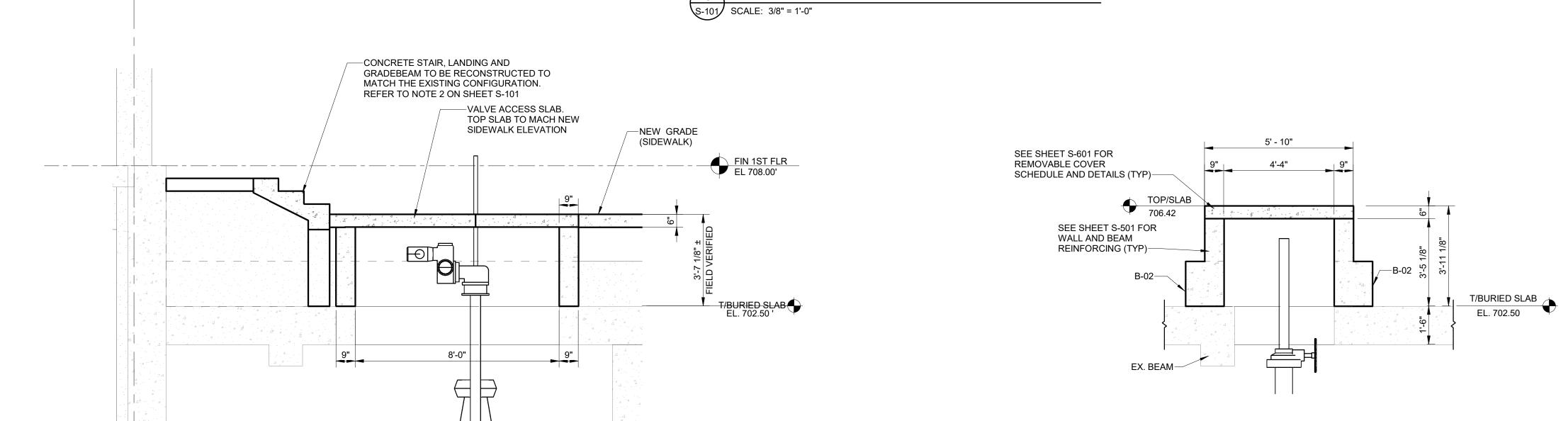
CITY OF FLINT
AVENUE PUMP STATION
REHABILITATION
SRF # 5079-01
E VAULT FOUNDATION PLAN AND STATION

05/14/21 JKW 05/28/21 JKW

COF1073.01F



1 VALVE ACCESS STRUCTURE SECTION - 1



VALVE ACCESS STRUCTURE DGV 01 (DGV 3 02 AND DGV 04 SIM) S-101 SCALE: 3/8" = 1'-0"

NOTES:

- 1. SEE SHEET S-501 FOR CONCRETE BEAM DETAILS.
- 2. SEE HATCH AND VALVE ACCESS STRUCTURE COVER SCHEDULE AND DETAILS.
- 3. CONTRACTOR IS RESPONSIBLE TO TEMPORARILY SHORE EXISTING BELOW GRADE (ELEVATION 702.50) CONCRETE ROOF SLAB PRIOR TO DEMOLITION WORK FOR THE NEW VALVE ACCESS STRUCTURES. TEMPORARY SHORING SHALL REMAIN IN PLACE UNTIL NEW CONCRETE BEAMS AND WALLS OVER THE SLAB HAVE ACHIEVED THE DESIGN 28 - DAY STRENGTH INDICATED.
- 4. EXACT LOCATIONS SHALL BE FIELD COORDINATED WITH SELECTED VALVES AND FINAL PIPING LAYOUT TO ENSURE THAT THE ACCESS STRUCTURES ARE CENTERED OVER THE FINAL VALVE LOCATION AND CONFIRM THAT THE ACCESS STRUCTURES ARE LARGE ENOUGH TO INSTALL AND MAINTAIN THE FINAL SELECTED VALVES, CONFIRM WITH CERTIFIED SHOP DRAWINGS.



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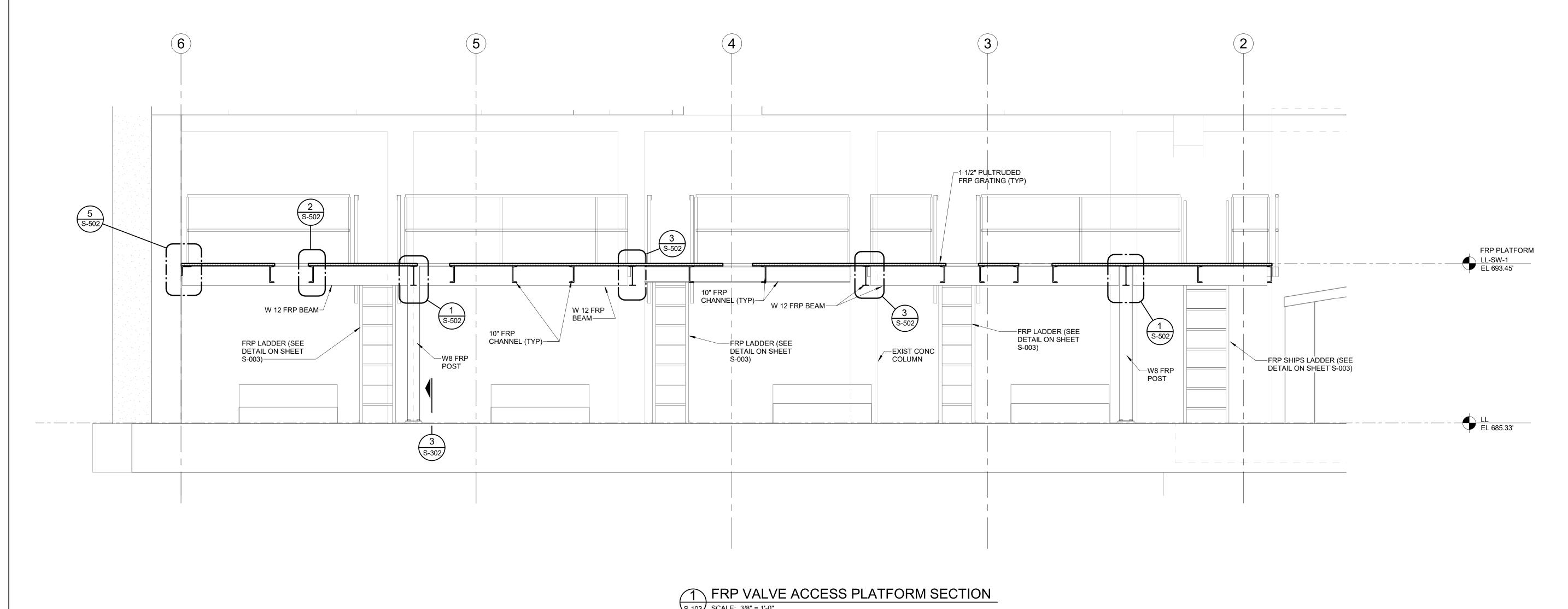
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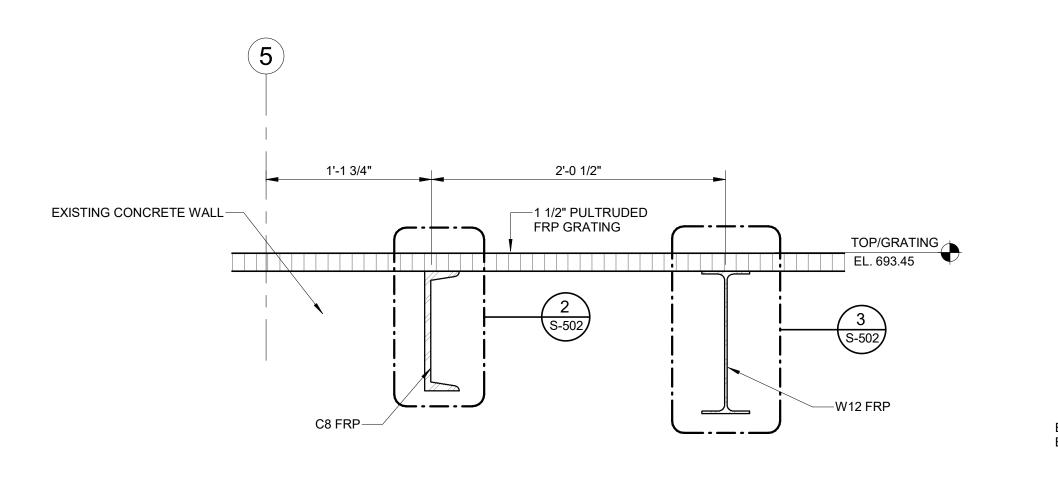
S - 301

2 VALVE ACCESS STRUCTURE SECTION - 2 S-101 SCALE: 3/8" = 1'-0"

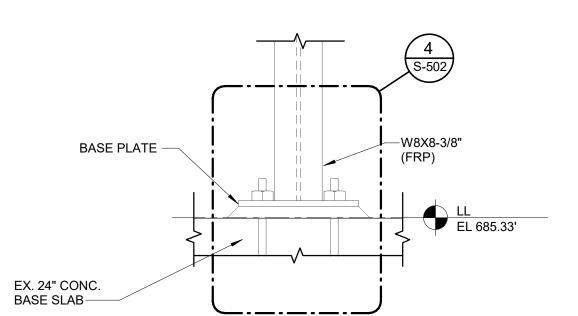
(A)



S-103 SCALE: 3/8" = 1'-0"



2 FRP PLATFORM BEAMS SECTION S-103 SCALE: 1 1/2" = 1'-0"



3 FRP CLOUMN BASE PLATE SECTION
S-103 SCALE: 1 1/2" = 1'-0"



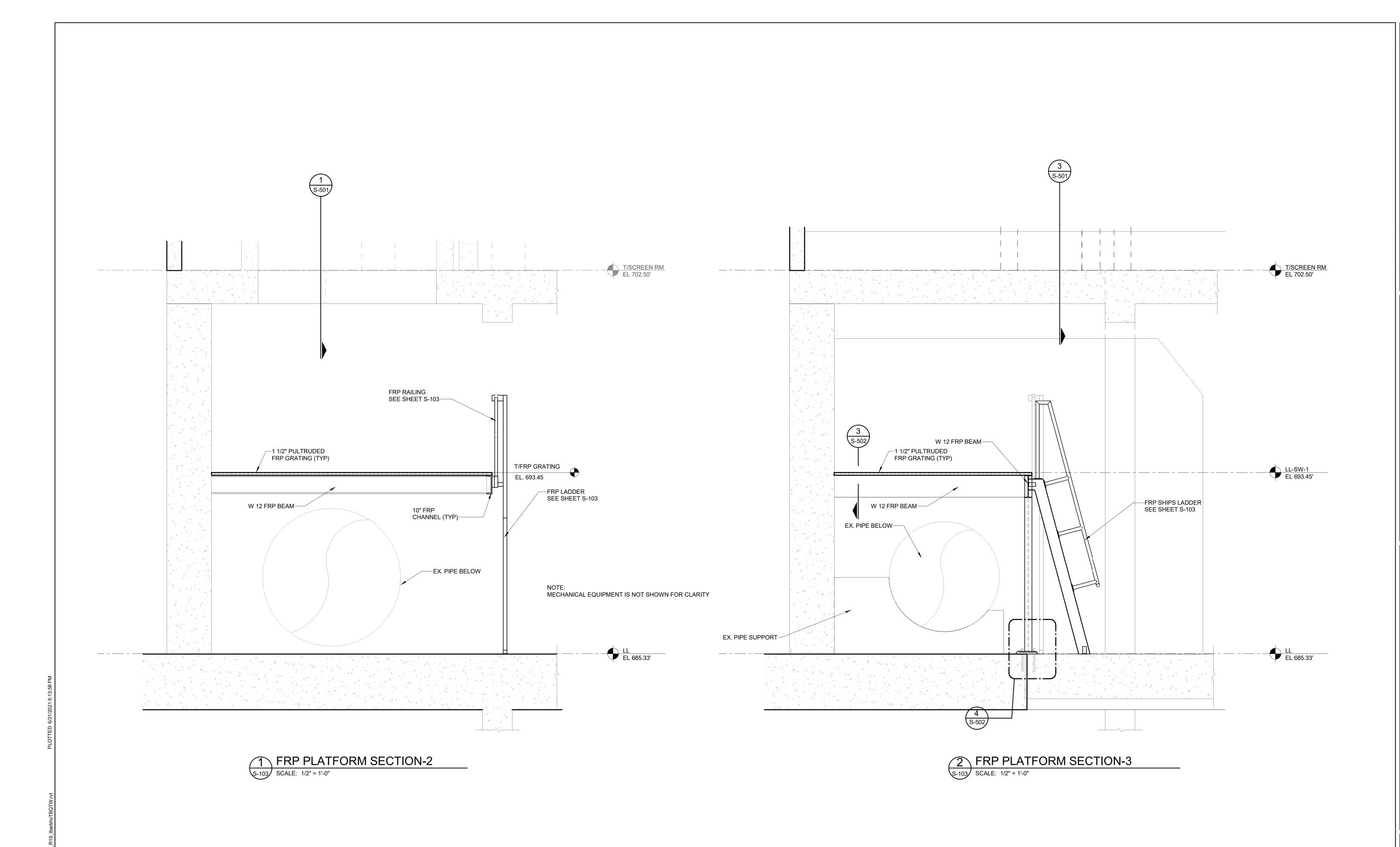






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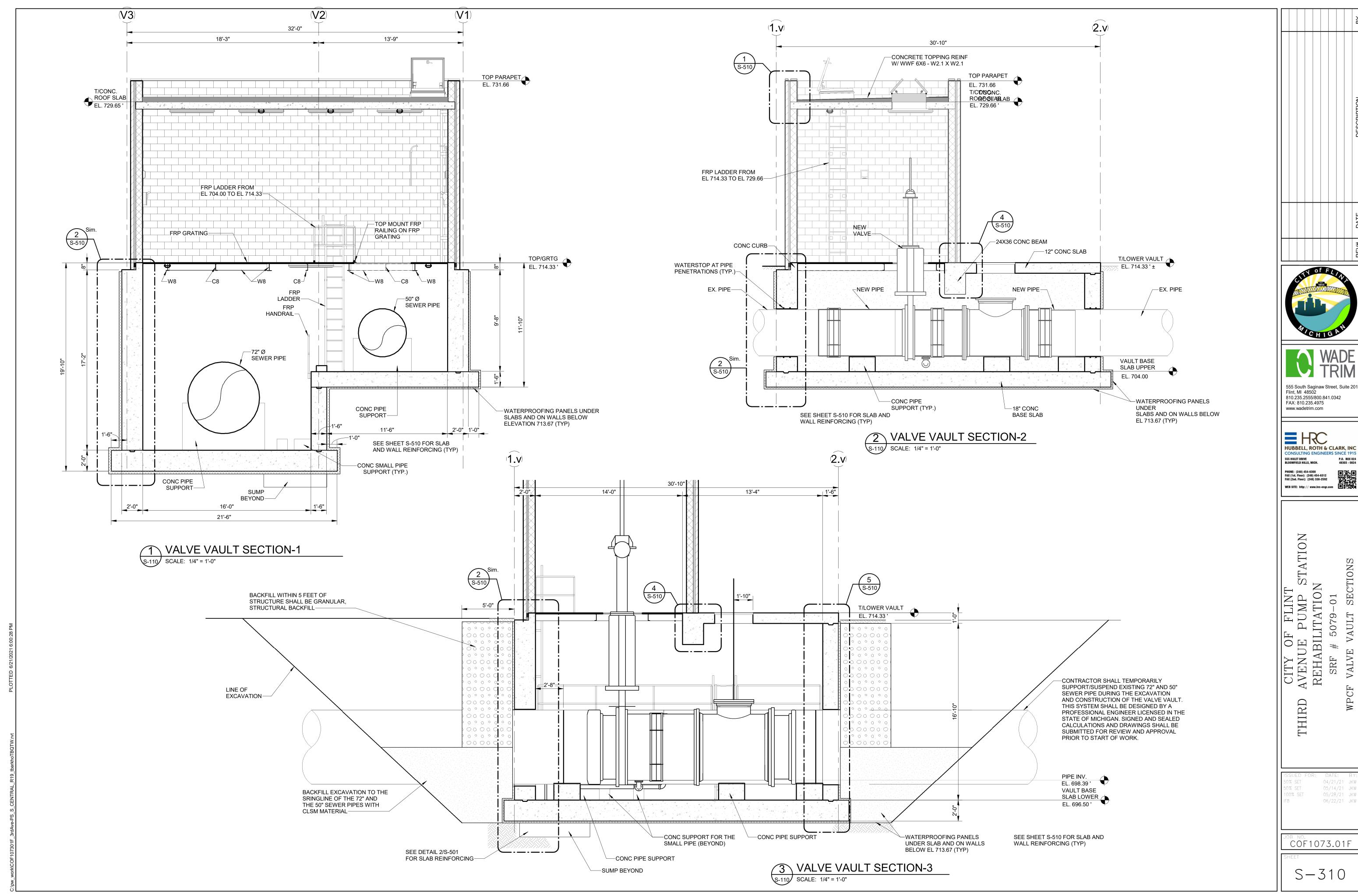
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ITATION
079-01
G STATION FRP VALVE

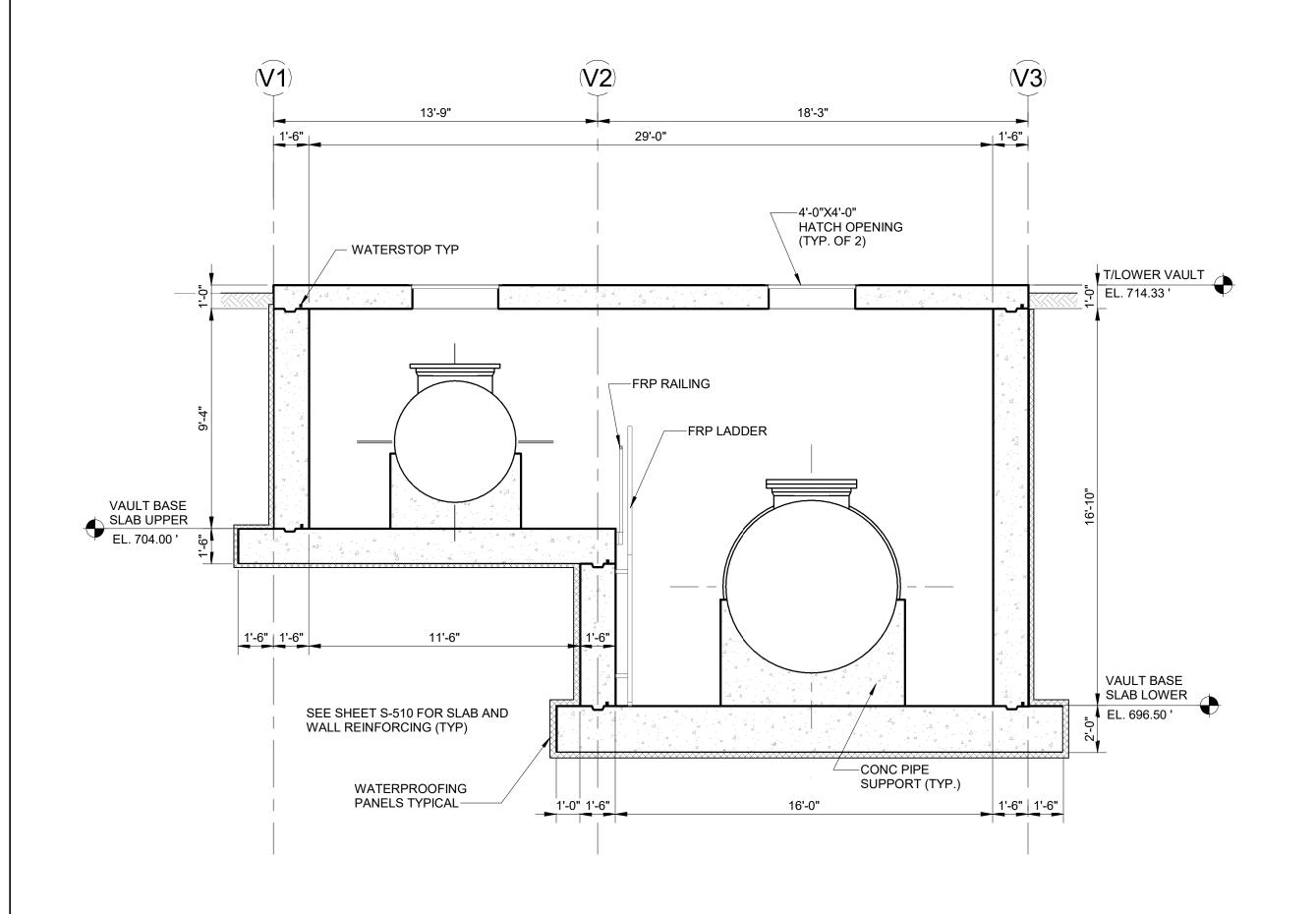
HIRD AVENUE PUMP
REHABILITATIO
SRF # 5079-01
D AVENUE PUMPING STATI

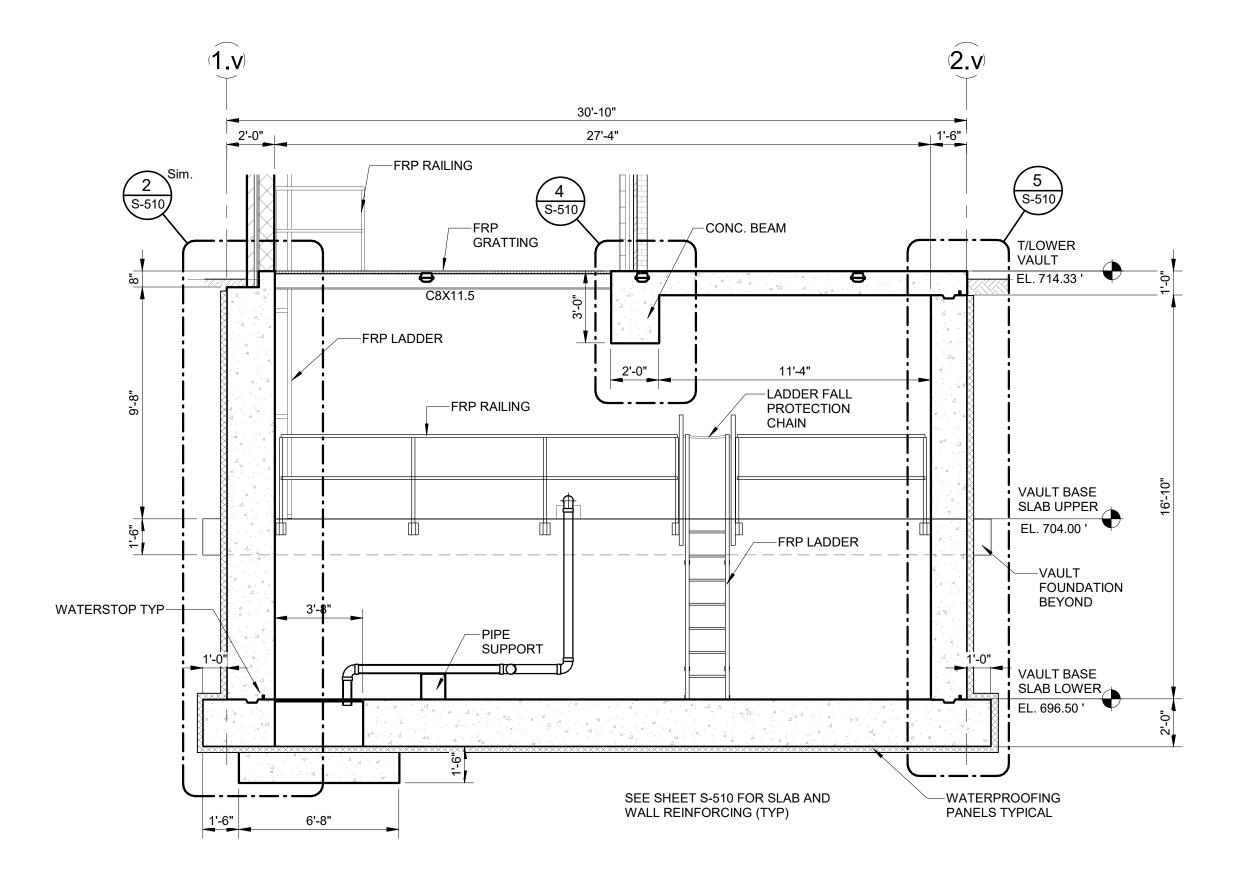
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1 VALVE VAULT SECTION-4
S-110 SCALE: 1/4" = 1'-0"

2 VALVE VAULT SECTION-5
S-110 SCALE: 1/4" = 1'-0"





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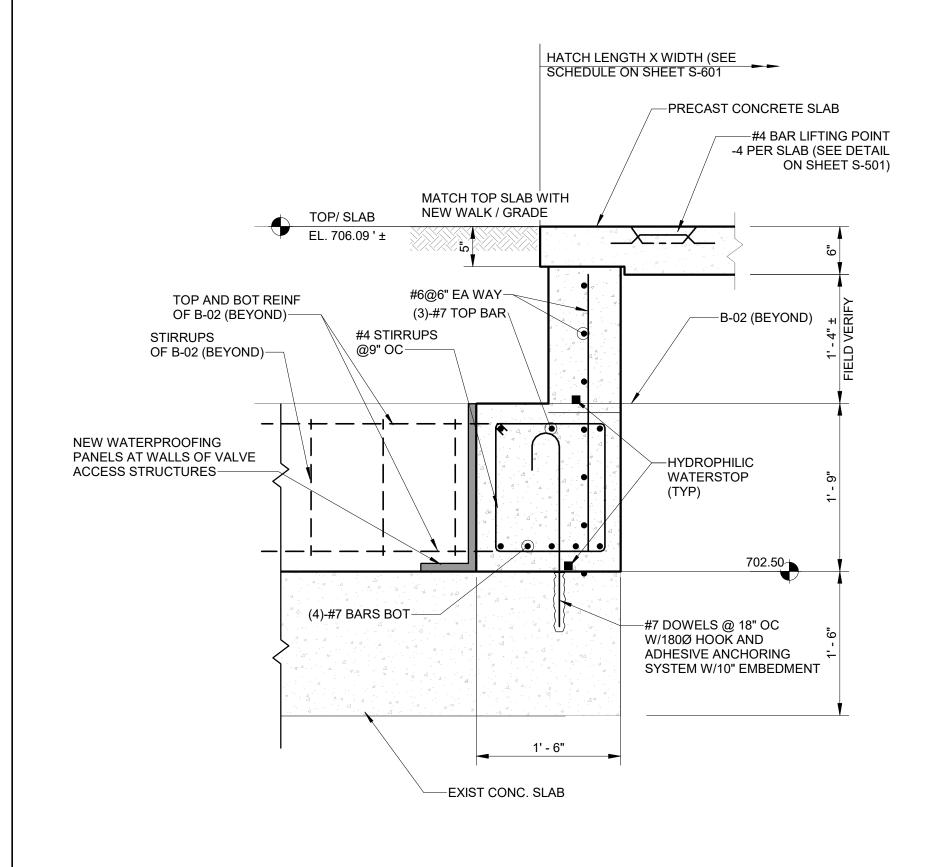
FAX (2nd. Floor): (248) 338-2592

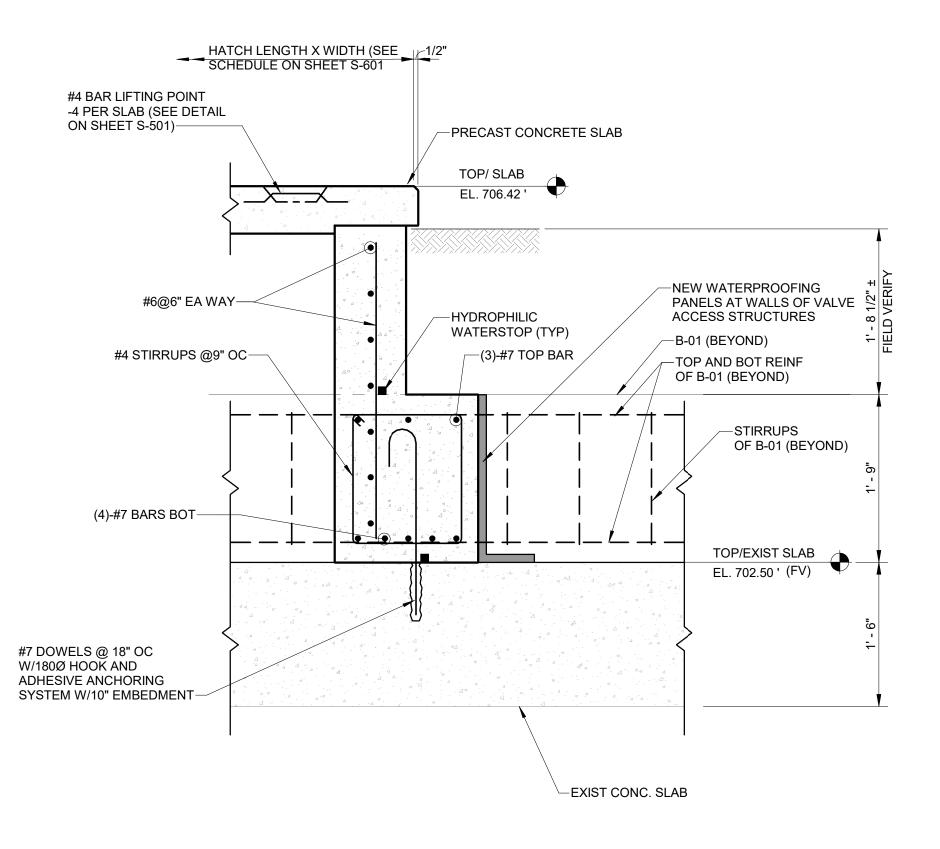
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CITY OF FLINT
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REHABILITATION
SRF # 5079-01

WPCF

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NEW WATERPROOFING
PANELS AT WALLS OF
VALVE ACCESS
STRUCTURES

#6 HORIZ @ 6" HOOK
AROUND CORNERS

#6 VERT @ 6" WITH
ADHESIVE ANCHORING
SYSTEM INTO EXISTING
SLAB

**EXIST CONC.
SLAB

NOTE:
PROPERLY CLEAN EXPOSED WATERPROOFING MEMBRANE, LAP NEW
WATERPROOFING PANELS A MINIMUM OF 1'-0" OVER EXISTING
WATERPROOFING.
(TYPICAL AROUND PERIMETER OF VALVE ACCESS STRUCTURES).

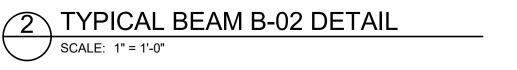
TYPICAL VALVE ACCESS STRUCTURE WALL

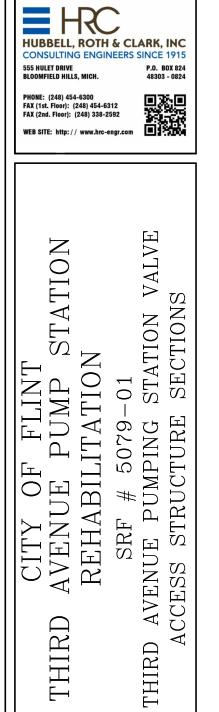
3 DETAIL

SCALE: 1" = 1'-0"

1 TYPICAL BEAM B-01 DETAIL

SCALE: 1" = 1'-0"





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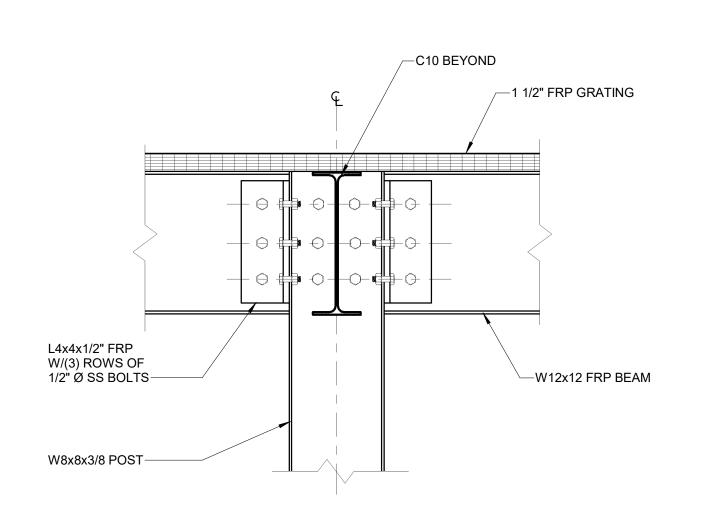
FAX: 810.235.4975

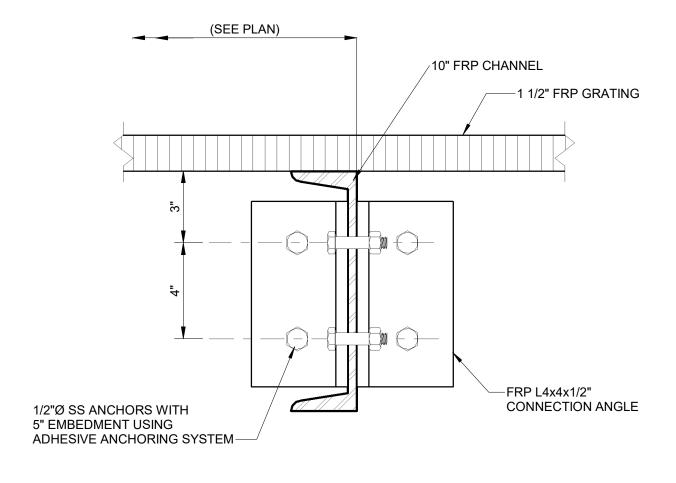
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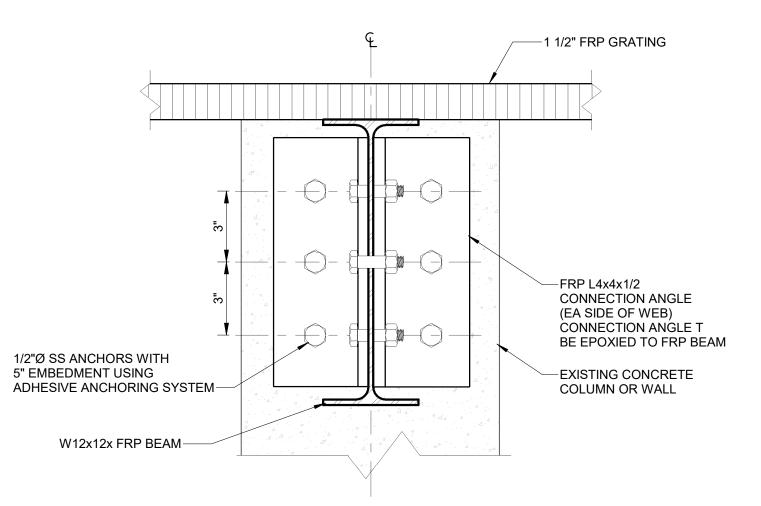
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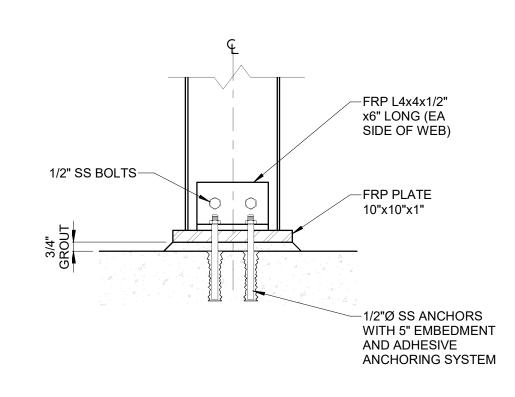
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S-501









FRP COLUMN / BEAM - CONNECTION

1 DETAIL

S-302 SCALE: 1 1/2" = 1'-0"

FRP CHANNEL TO CONCRETE CONNECTION

DETAIL

S-103 SCALE: 3" = 1'-0"

FRP WIDE FLANGE TO CONCRETE

CONNECTION DETAIL

S-103 SCALE: 3" = 1'-0"

FRP COLUMN BASE PLATE DETAIL

S-302 SCALE: 1 1/2" = 1'-0"

1 1/2" PULTRUDED
FRP GRATING

1/2"Ø SS ANCHOR @ 2-0" OC. WITH
ADHESIVE ANCHORING SYSTEM

L 6X6X1/2 FRP
LEDGER ANGLE

GRATING LEDGE ANGLE DETAIL AT

5 EXISTING WALL

S-302 SCALE: 4"=1'-0"



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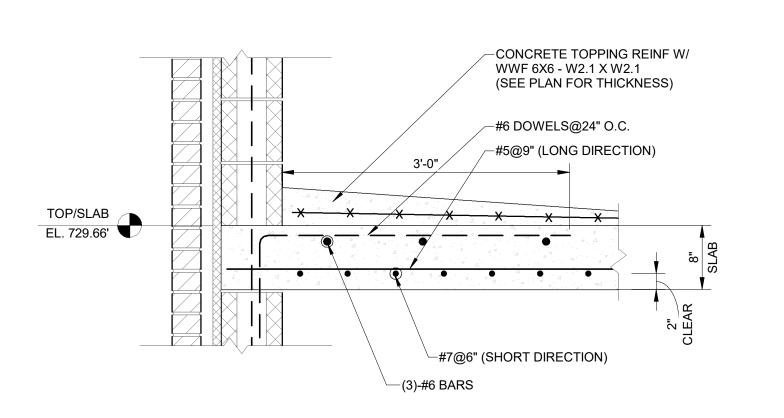
REHABILITATION
SRF # 5079-01
E PUMPING STATION CONNE

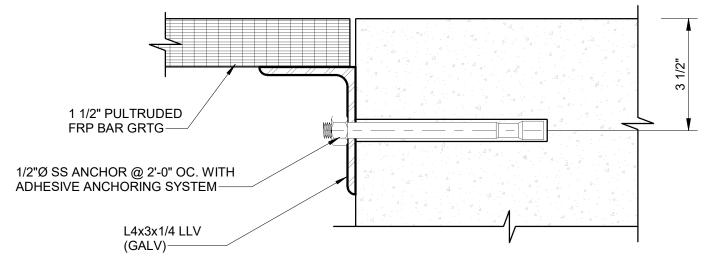
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COF1073.01F

S-502



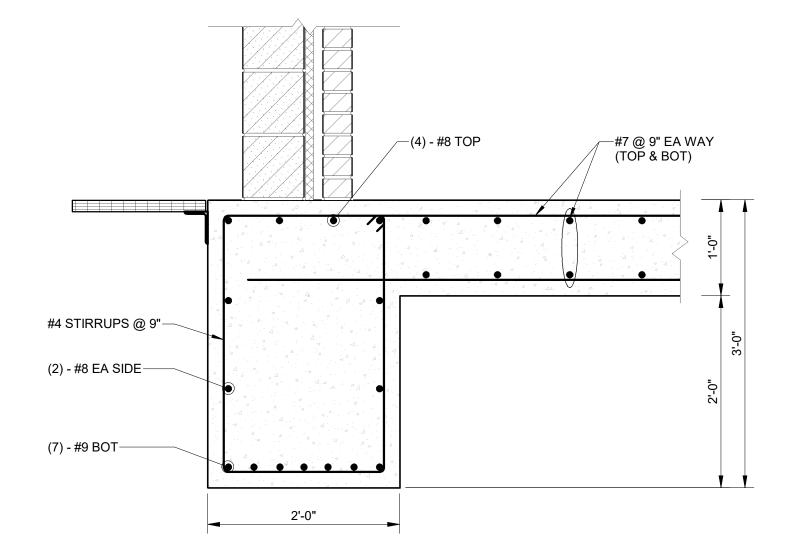


SCALE: 4"=1'-0"

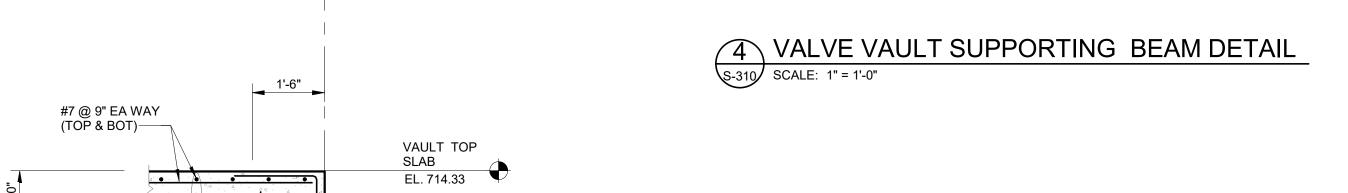
3 GRATING LEDGE ANGLE DETAIL

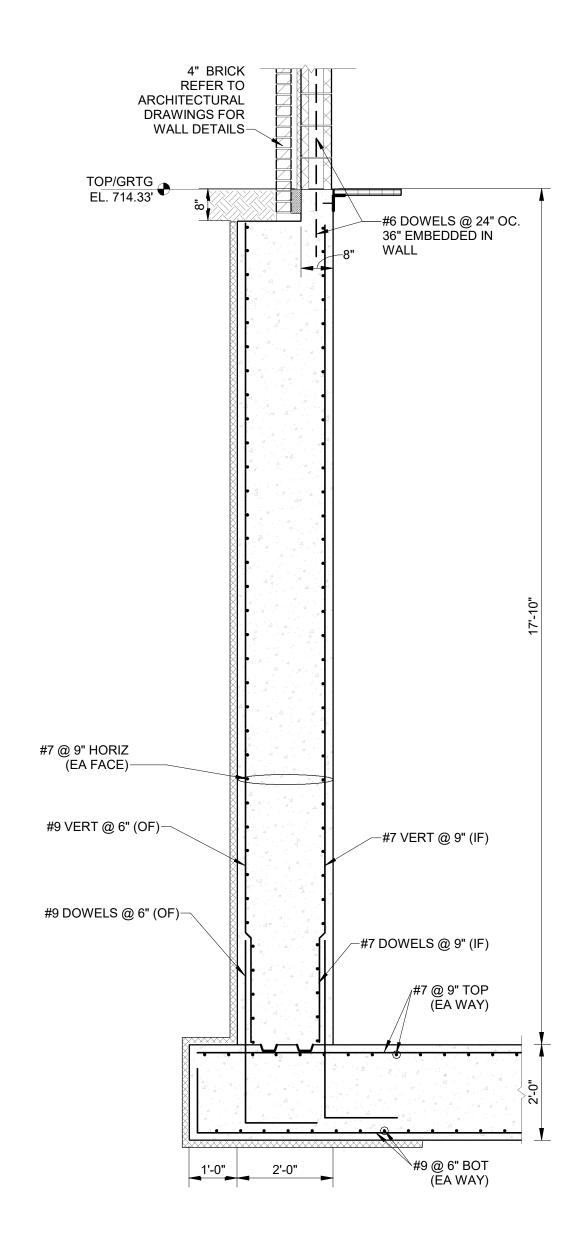
(2.v)

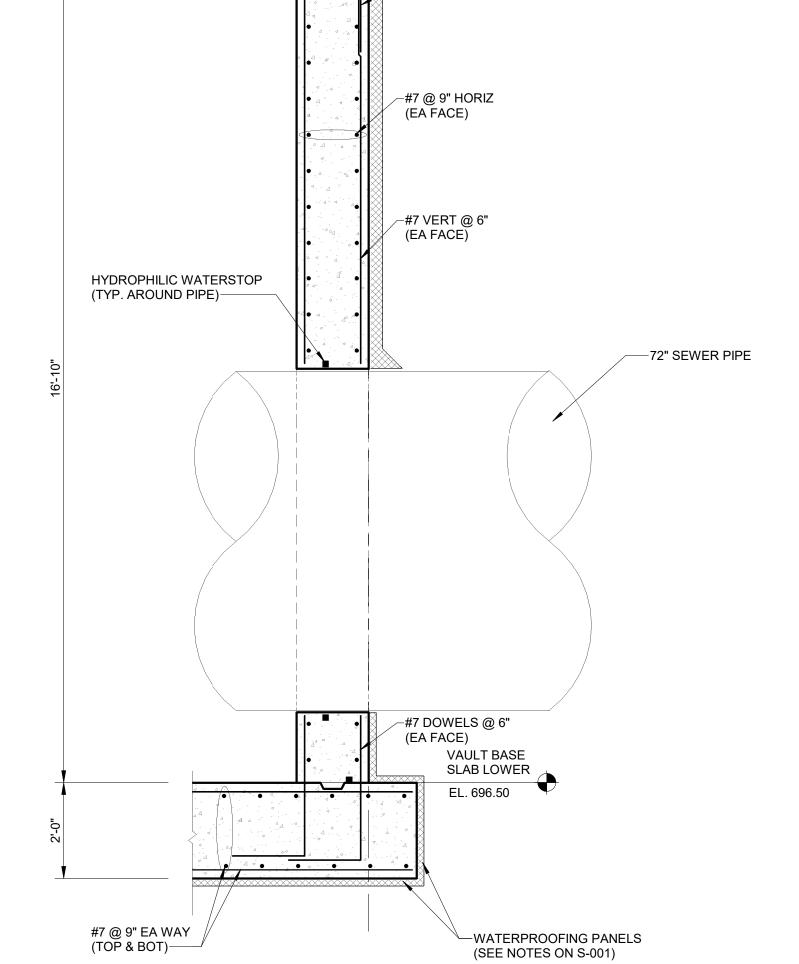
_#7 DOWELS @ 9"



VALVE VAULT ROOF SLAB DETAIL S-310 SCALE: 1" = 1'-0"







VAULT WALL / SLAB REINFORCEMENT

2 DETAIL S-310 SCALE: 1/2" = 1'-0"

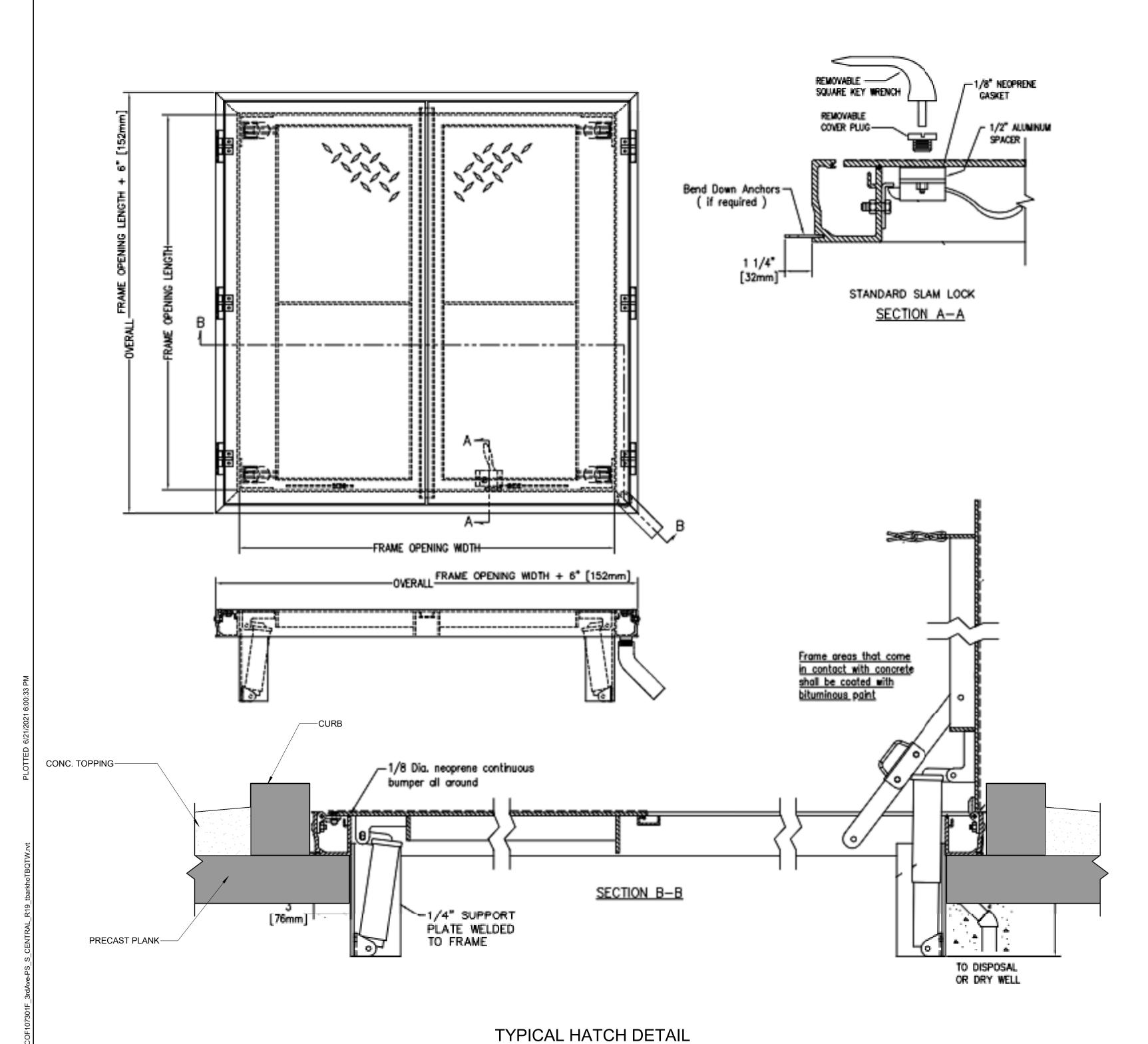
5 VALVE VAULT WALL/SLAB DETAIL
S-310 SCALE: 1/2" = 1'-0"

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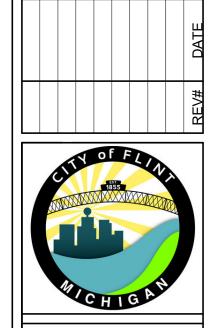
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05/28/21 JKW

	HATCH AND REMOVABLE COVER SCHEDULE									
MARK	LENGTH (IN)	WIDTH (IN)	QUANTITY	LEAF CONFIG.	LOADING	MATERIAL	LOCATION	REMARKS		
H-1	48"	48"	2	Single	300 psf	Aluminum	WPCF Valve Vault (Grade Slab)	JOINT BETWEEN PRECAST SLABS TO OCCUR AT VALVE		
H-2	36"	36"	1	Single	100 psf	Aluminum	WPCF Valve Vault (Roof Slab)	SHAFT JOINT TO BE SEALED WATERTIGH		
H-3	72"	48"	1	Double	100 psf	Aluminum	WPCF Valve Vault (Roof Slab)			
H-4	96"	48"	1	Double	100 psf	Aluminum	WPCF Valve Vault (Roof Slab)			
DGV-1	8'-0"	5'-10"	1	1 Slab	H-20	Precast Concrete	Exterior North of Pump Station			
DGV-2	8'-0"	5'-10"	1	1 Slab	H-20	Precast Concrete	Exterior North of Pump Station			
DGV-4	6'-10"	5'-10"	1	1 Slab	H-20	Precast Concrete	Exterior North of Pump Station			
KGV-5	9'-6"	5'-6"	1	2 Slab	H-20	Precast Concrete	Exterior North of Pump Station			



SCALE: NONE



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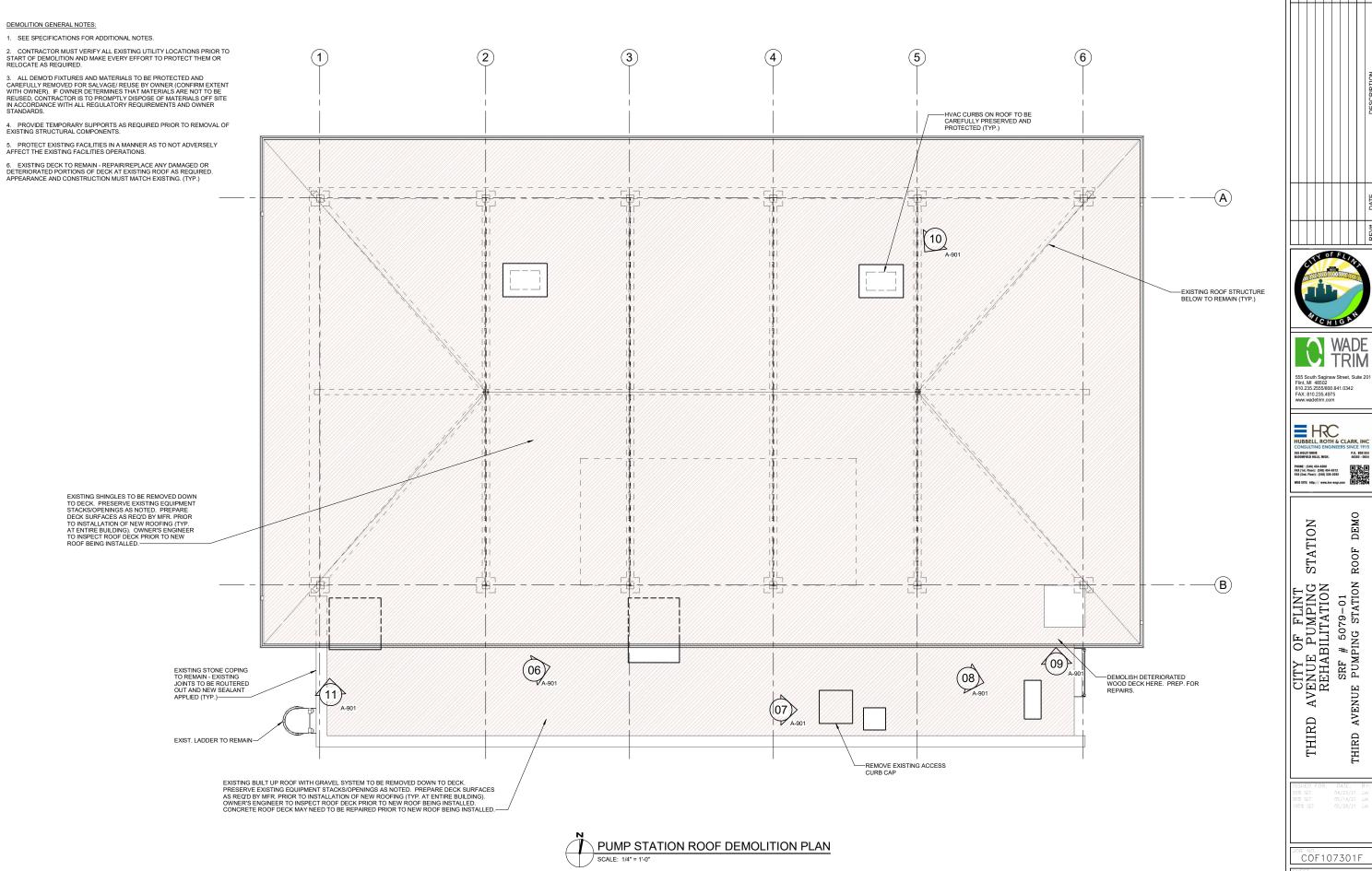
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CITY OF FLINT
AVENUE PUMP STATION
REHABILITATION
SRF # 5079-01
HATCH SCHEDULE

COF1073.01F



COF107301F

AD - 101

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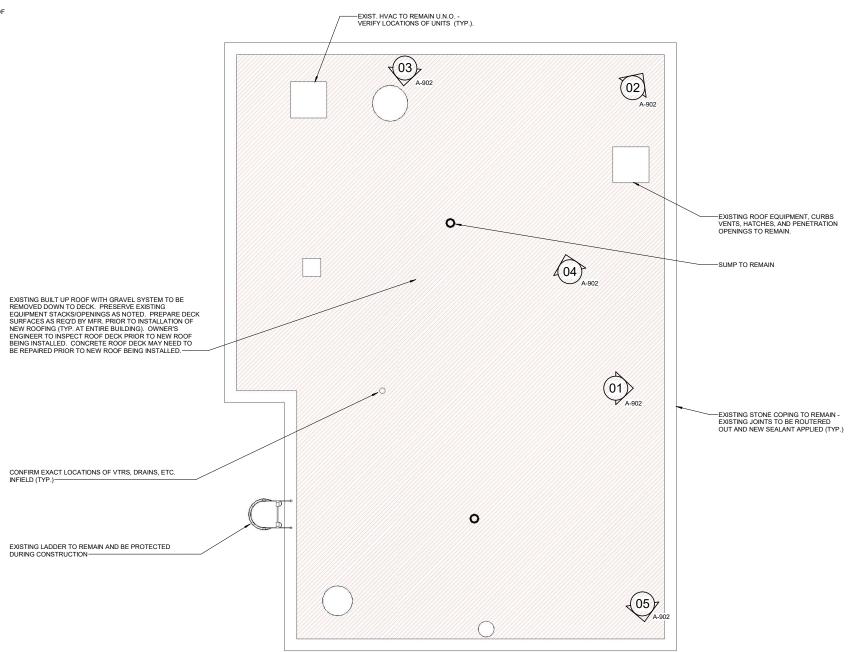
DEMO

ROOF

SRF # 5079-01 PUMPING STATION

AVENUE

- 1. SEE SPECIFICATIONS FOR ADDITIONAL NOTES.
- 2. CONTRACTOR MUST VERIFY ALL EXISTING UTILITY LOCATIONS PRIOR TO START OF DEMOLITION AND MAKE EVERY EFFORT TO PROTECT THEM OR RELOCATE AS REQUIRED.
- 3. ALL DEMO'D FIXTURES AND MATERIALS TO BE PROTECTED AND CAREFULLY REMOVED FOR SALVAGE! REUSE BY OWNER (CONFIRM EXTENT WITH OWNER). IF OWNER DETERMINES THAT MATERIALS ARE NOT TO BE REUSED. CONTRACTOR IS TO PROMPTLY DISPOSE OF MATERIALS OFF SITE IN ACCORDANCE WITH ALL REGULATORY REQUIREMENTS AND OWNER STANDARDS.
- 4. PROVIDE TEMPORARY SUPPORTS AS REQUIRED PRIOR TO REMOVAL OF EXISTING STRUCTURAL COMPONENTS.
- 5. PROTECT EXISTING FACILITIES IN A MANNER AS TO NOT ADVERSELY AFFECT THE EXISTING FACILITIES OPERATIONS.
- 6. EXISTING DECK TO REMAIN REPAIR/REPLACE ANY DAMAGED OR DETERIORATED PORTIONS OF DECK AT EXISTING ROOF AS REQUIRED. APPEARANCE AND CONSTRUCTION MUST MATCH EXISTING. (TYP.)













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SCREENING

STATION CITY OF FLINT
AVENUE PUMPING

SRF # 5079-01 AVENUE PUMPING STATION BUILDING ROOF DEMO THIRD

THIRD

COF107301F

AD - 102

- 1. THE CONTRACTOR SHALL COORDINATE ALL WORK PRIOR TO INSTALLATION OR FABRICATION OF ANY COMPONENTS. ALL OPENINGS SHALL ALSO BE
- 2. ALL WORK MUST CONFORM TO ALL STATUTES OF THE MICHIGAN BUILDING CODE (EDITION IN EFFECT AT THE TIME OF PERMIT), ALL STATE, COUNTY AND LOCAL ORDINANCES, CURRENT BARRIER FREE REGULATIONS, MIOSHA STRUCTURAL GUIDELINES, ASTM STANDARD TESTING PROCEDURES, OWNERS PRACTICES AND GENERALLY ACCEPTED DESIGN PRACTICES. IF DISCREPANCIES IN DRAWING APPEAR, WORK MUST BE DONE PER CODE. CITY WILL COVER THE COST OF BUILDING, ELECTRICAL, MECHANICAL, AND PLUMBING PERMITS. CONTRACTOR MUST STILL APPLY FOR THE PERMITS.
- 3. EXISTING CONDITIONS OF BUILDING SHOWN ON CONSTRUCTION DOCUMENTS ARE ILLUSTRATIVE OF CONDITIONS VISIBLE TO ARCHITECT AND BASED ON EXISTING DRAWINGS. ALL EXISTING DIMENSIONS, CONDITIONS, SIZES & LOCATIONS ARE TO BE FIELD VERIFIED
- 4. THE CONTRACTOR SHALL PROVIDE NEW OPENINGS AND SUPPORTS AS NOTED. FINAL OPENING DIMENSIONS, CONNECTION SIZES, CLEARANCES, ETC. MUST BE COORDINATED DURING CONSTRUCTION WITH APPROVED COMPONENTS. SEAL TIGHT ALL OPENINGS (ROOF, WALL AND CELLING), EQUIPMENT AND/OR PENETRATIONS FROM AIR AND MOISTURE.
- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND APPROVED
- 6. ALL INSTALLATIONS TO BE COORDINATED WITH EXISTING CONDITIONS FOR PROPER SIZE, LOCATION AND PROVISIONS REQUIRED TO INSTALL COMPONENTS
- 7. PIPING & CONDUIT HANGERS AND SUPPORT LOCATION ARE NOT SHOWN ON DRAWINGS. THE CONTRACTOR SHALL PROVIDE THE PIPING AND CONDUIT HANGERS AND SUPPORTS NECESSARY AS REQUIRED PER CODE.
- 8. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED TRANSITIONS, FITTINGS AND APPURTENANT CONNECTIONS.
- 9. THE CONTRACTOR SHALL KEEP THE SITE IN A NEAT AND ORDERLY CONDITION AND SHALL REMOVE RUBBISH DAILY OR AS DIRECTED BY OWNER. DUST CONTROL MEASURES ARE TO BE ERECTED BY THE CONTRACTOR TO PROTECT PATRONS AND VEHICLES DURING DEMOLITION AND CONSTRUCTION ACTIVITIES. ALL STAGING AND MATERIALS STORAGE IS TO BE COORDINATED WITH THE OWNER. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO SIOLATE CONSTRUCTION ACTIVITIES FROM ADJACENT AREAS THAT ARE TO REMAIN IN OPERATION UNIDED CONSTRUCTION ACTIVITIES FROM ADJACENT AREAS THAT ARE TO REMAIN IN OPERATION DURING CONSTRUCTION - CONFIRM SCHEDULE AND REQUIRED BARRICADES WITH OWNER PRIOR TO COMMENCEMENT
- 10. CONFIRM ANY COLOR SELECTIONS WITH OWNER. COLORS TO COORDINATE WITH EXISTING BUILDINGS ON SITE.
- 11 PREVENT GALVANIC ACTION AND OTHER FORMS OF CORROSION BY INSULATING METALS OR OTHER MATERIALS FROM DIRECT CONTACT WITH INCOMPATIBLE MATERIALS.
- 12. SHOP DRAWINGS AND PRODUCT DATA THE CONTRACTOR SHALL SUBMIT TO THE OWNER AND PROJECT ENGINEER, SHOP DRAWINGS & PRODUCT DATA SUBMITTALS FOR ALL PRODUCTS AND COMPONENTS TO BE USED ON THIS PROJECT. MAINTAIN ONE COPY OF ALL APPROVED SUBMITTALS AT THE SITE FOR THE OWNER'S REFERENCE.
- 13. "RECORD" DRAWINGS THE CONTRACTOR SHALL MAINTAIN A SET OF "ASBUILT" PRINTS, MARKED UP AT THE SITE, CONTAINING ALL "AS-BUILT" INFORMATION. TURN SET OVER TO ENGINEER UPON COMPLETION OF THE WORK.
- 14. INSTALL ALL MATERIALS IN COMPLIANCE W/ MFR. RECOMMENDATIONS AND
- 15. CONTRACTOR MUST VERIFY ALL EXISTING UTILITY LOCATIONS PRIOR TO START OF DEMOLITION AND MAKE EVERY EFFORT TO PROTECT THEM OR RELOCATE AS REQUIRED.
- 16. ALL PERMANENT WOOD BLOCKING, SHEATHING, FRAMING, ETC. UTILIZED IN CONSTRUCTION TO BE FIRE RETARDANT TREATED.
- 17. PROVIDE ADDITIONAL BLOCKING TO MATCH EXISTING AT WALLS/ CEILINGS TO ACCOMMODATE NEW INSTALLATIONS. MAINTAIN FIRE RATED ASSEMBLIES AND FIRE STOPPING PER LOCAL GOVERNING CODES AND ORDINANCES.
- 18. ALL DEMO'D COMPONENTS TO BE PROTECTED AND CAREFULLY REMOVED FOR SALVAGE/ REUSE AS NOTED. DEMOLISHED ITEMS THAT ARE NOT TO BE REUSED ARE TO BE REMOVED FROM PROJECT SITE PROMPTLY AND DISPOSED OF IN ACCORDANCE WITH OWNER STANDARDS. PROTECT EXISTING FACILITIES IN A MANNER AS TO NOT ADVERSELY AFFECT THE EXISTING FACILITY'S OPERATIONS.
- 19. WORKING HOURS AT BUILDING ARE AT THE DISCRETION OF THE OWNER. CONFIRM AND ABIDE BY ALL SECURITY RESTRICTIONS AND LOGISTICS PRIOR TO
- $20.\,$ COORDINATE ANY INTERRUPTIONS OF FACILITY OPERATIONS WITH OWNER PRIOR TO INTERRUPTION.

WALL CAVITY INSULATION BOARD:

EXTRUDED POLYSTYRENE, OWENS CORNING "FOAMULAR" OR EQUAL COMPLIANT WITH ASTM C578 TYPE IV AND ASTM E84, 1" THICKNESS AT

FIRE EXTINGUISHERS:

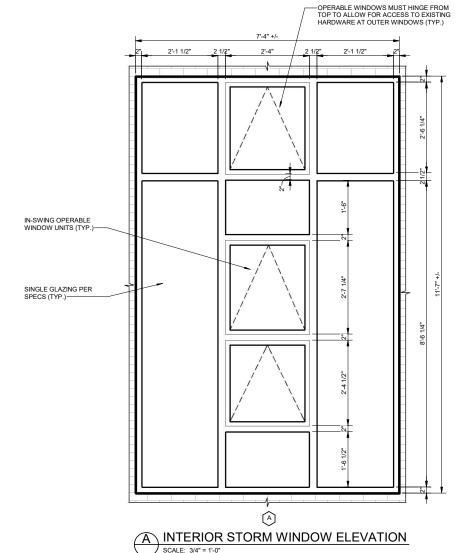
1. FIRE EXTINGUISHERS & ACCESSORIES: DRY CHEMICAL TYPE, UL299,
HEAVY DUTY STEEL CYLINDER W/ PRESSURE GAGE; RECHARGEABLE UNIT;
TYPE 10-A-120-BC; PAINTEO FINISH, COLOR RED. PROVIDE CHROMED
STEEL MOUNTING BRACKETS & ALUM. WALL SIGNAGE (WHITE GOTHIC LETTERS ON RED BACKGROUND), BRADY SIGNAGE NO. 43294, 14X10, ALUM. PROVIDE WITH SIGNAGE ABOVE EXTINGUISHER. EXACT LOCATION TO BE DETERMINED BY FIRE MARSHALL & OWNER IN FIELD. PROVIDE (1) EXTINGUISHER WALL MOUNTED ON VALVE VAULT BLDG. INTERIOR ADJACENT TO THE EXTERIOR MANDOOR, WITH SIGNAGE ABOVE EXTINGUISHER - TOTAL OF (1) FIXTURE.

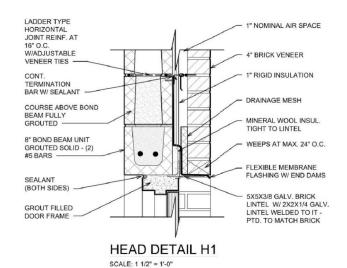
GENERAL NOTES:

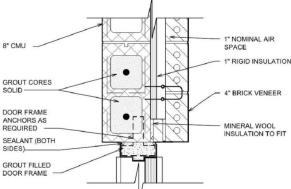
- PROVIDE TEMPORARY OPENING PROTECTION TO PREVENT FALLS AND WEATHER INTRUSION AT ALL HATCHES/ACCESS COVERS AND FLOOR/ROOF OPENINGS THAT ARE TO BE REMOVED OR MODIFIED AS PART OF THIS
- 2 REFER TO PLANS AND ELEVATIONS FOR ALL BUILDINGS TO DETERMINE SCOPE OF EXTERIOR AND INTERIOR MASONRY REPOINTING. VERIFY EXACT EXTENT OF REPAIR EFFORTS IN THE FIELD.
- 3. INTERIOR SPACES OF BUILDINGS AFFECTED BY THIS WORK SCOPE ARE TO BE CLEANED OF ALL DUST AND DEBRIS PRIOR TO FINAL CLOSE OUT OF JOB.
- 4. ANY EXISTING BROKEN OR DAMAGED BRICK ARE TO BE REPLACED WITH NEW TO MATCH EXISTING (MODULE, COLOR, TEXTURE, ETC.) SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. NEW BRICK AT INFILL AND REPLACEMENT LOCATIONS MUST MATCH EXISTING AND CMU AND BE TOOTHED INTO EXISTING.
- 5. CONTRACTORS TO REFER TO ENTIRE SET OF DRAWINGS AND SPECIFICATIONS FOR FULL SCOPE OF WORK. CROSS COORDINATION BETWEEN CIVIL. PROCESS. MECHANICAL. ELECTRICAL. STRUCTURAL AND ARCHITECTURAL DRAWINGS IS REQUIRED.

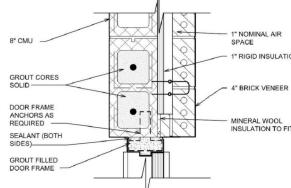
ROOFING NOTES:

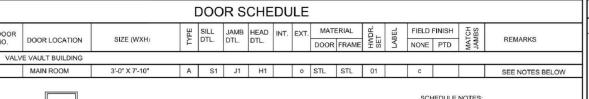
- . ONLY MAJOR ROOF PENETRATIONS & EQUIP. ARE SHOWN. THE ROOF PLAN REPRESENTS THE GENERAL WORK AREA ONLY. THE CONTRACTOR SHALL REFER TO DEMO SHEET, REFERENCE DWGS. & FIELD VERIFY ALL CONDITIONS, OPENINGS, ETC. PRIOR TO BEGINNING WORK, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THIS PLAN OR REF DWGS.
- 2. THE EXISTING ROOFS, IN WORK AREAS SHOWN, SHALL BE REMOVED & REPLACED WITH A NEW ROOFING SYSTEM - SEE SPECIFICATIONS PROVIDE MINIMUM INSULATION AS NOTED AT ALL ROOF AREAS.
- 3. PROVIDE WALKWAY PADS FROM ROOF HATCH TO ALL H&V UNITS, FANS, ROOF SUMPS, ETC. IN THE MOST DIRECT ROUTE OF TRAVEL. VERIFY EXACT LAYOUT/LOCATIONS IN FIELD WITH OWNER.
- 4. NEW METAL PERIMETER EDGING SHALL BE INSTALLED. METALS FOR NEW FLASHING SHALL BE AS SPECIFIED IN SECTION 07 6000.
- PROVIDE NEW FLASHING AT EXIST. PENETRATIONS PER NRCA ROOFING & WATERPROOFING MANUAL (TYP.)
- 6. ALL REMAINING CURBS SHALL BE EXTENDED OR RAISED TO MIN. 8" ABOVE TOP OF NEW ROOFING. INSTALL NEW MEMBRANE UP AND OVER CURBS, FASTEN TO INSIDE FACE OF CURBS PER ROOFING MFR. STANDARD DETAIL, ALL VENT PIPING TO BE EXTENDED AS REQ'D TO ACCOMMODATE SIM. FLASHING REQ'MENTS. (TYP.)
- 7. TAPERED INSULATION REQ'D IN AREAS INDICATED ON THIS DWG. MAINTAIN MIN. SLOPE PER ROOFING MFR. WARRANTY REQUIREMENTS.
- 8. ROOF SADDLES ARE TO HAVE A MIN. SLOPE OF 1/4" PER FT. SLOPE (U.N.O.) PER ROOFING MFR. WARRANTY REQUIREMENTS.
- 9. PROVIDE CRICKETS ON HIGH SIDE OF <u>ALL</u> CURBED ITEMS. MIN 1/4" PER FOOT (U.N.O.) PER ROOFING MANUFACTURERS WARRANTY REQUIREMENTS.

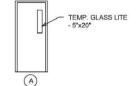












FIELD VERIFY ALL DOOR & WINDOW OPENING DIMENSIONS PRIOR TO FABRICATION

ALL DOOR FRAMES SHALL BE GROUTED SOLID (U.N.O.).
SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION ON DOORS, FRAMES, WINDOWS AND

DOOR AND WINDOW NOTES:

HARDWARE

SCHEDULE NOTES:

1. SEE SECTION 08 7100 FOR DOOR

- ALL FRAMES ARE 2" HIGH PROFILE, JAMS AND HEADS (U.N.O.).
- 3. SEE SECTIONS 08 1213-53 AND 081313-53 FOR STEEL DOORS/FRAMES.

ROOM DESCRIPTION

ROOM NAME

PUMP STATION

VALVE VAULT BUILDING

LOWER LEVEL 685.33'

REFER TO DRAWINGS AND SPECIFICATIONS FOR SPECIFIC PAINTING REQUIREMENTS FOR NEW EQUIPMENT AND PIPING

ROOM FINISH SCHEDULE

CEILING

WALLS

REFER TO DRAWINGS FOR LIMITED REPAINTED REQUIRED AT EXISTING BUILDINGS. EXISTING STAIRS ARE NOT REQUIRED TO BE COATED.

×

FLOOR

CONTRACTOR MUST RELOCATE ALL NON-FIXED ITEMS FROM FLOORS PRIOR TO APPLYING FLOOR COATING. VERIFY W/ OWNER WHERE RELOCATED ITEMS ARE TO BE MOVED TO (MAY BE OFF SITE).

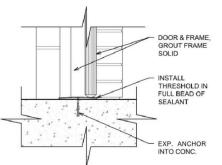


SCALE: 1 1/2" = 1'-0"

REMARKS

WALL TYPES: A = PAINT

B = UNFINISHED



SILL DETAIL S1 SCALE: 1 1/2" = 1'-0"

TRIN

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DET/

SRF # 507 AL NOTES #

= HRC

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PUMP STATION SCOPE ITEMS

DESCRIPTION	UNIT	AMOUNT
RECAULK EXTERIOR JOINTS AND OPENINGS	LS	1
RE-ROOFING	LS	1
PAINTING - STEEL LINTELS AT OPENINGS AND ALL NEW/AFFECTED PIPING AND EQUIPMENT	LS	1
WINDOW REPAIRS	EA	5
NEW STORM WINDOWS	EA	5
BRICK REPOINTING - REFER TO CHART ON A-201		
LIMESTONE REPOINTING - REFER TO CHART ON A-201		- 12
BRICK & LIMESTONE CLEANING/RESTORATION	LS	1

NOTES: THE QUANTITIES AND DESCRIPTIONS ABOVE ARE PROVIDED FOR THE CONNTHIES AND DESCRIPTIONS ABOVE ARE PROVIDED FOR CLARIFICATION AND INFORMATION ONLY. THE CONTENTS OF THIS TABLE ARE TO BE USED FOR THE CONSTRUCTION BIDDING PROCESS ONLY AND ARE NOT TO BE CONSTRUED AS INDIVIDUAL PAY/BID ITEMS.

02 A-901 -EXISTING WINDOWS TO BE REPAIRED IN EXISTING LOCATIONS - REFERE TO NOTES, THIS PAGE (TYP. OF 5 LOCATIONS) 7'-5" +/-7'-4" +/-7'-4" + 7'-5" + 7'-4" +/-_2'-4" +/-7'-6" +/-DOORS TO REMAIN -RECAULK ALL OPENINGS (TYP.) \bigcirc A A (A)-(A)NEW DOWNSPOUT-04) A-901 NEW STORM WINDOW IN EXISTING OPENING BEHIND EXISTING WINDOWS - NEW MULLIONS TO ALIGN WITH EXISTING (TYP. OF 5)-EXIST. LOUVER TO REMAIN (TYP.)-MAIN ROOM 03) A-901 ELEC. EQUIP. NOTE: PAINT NEW AND EXISTING PIPE AT ALL AREAS BELOW FIRST FLOOR. NOTE: LOWER FLOORS TO RECEIVE FLOOR COATING. --REPAINT STEEL LINTELS (TYP.) EXISTING LARGE WINDOWS (TYP. OF 5, TAGGED WITH "A" ON PLAN):

1. EXISTING STEEL WINDOWS ARE TO BE REPAIRED IN PLACE. REMOVE
AND REPLACE ALL GLAZING WITH NEW PER SPECS. CONTRACTOR TO
ASSUME THAT EXISTING CAULK, GLAZING COMPOUND AND GLASS
COATING AT WINDOWS IS ASBESTOS CONTAINING, AND THAT THESE
MATERIALS ARE TO BE PROPERLY ABATED BY A LICENSED ASBESTOS
REMOVAL CONTRACTOR AS REQUIRED PER ALL LOCAL, STATE AND
FEDERAL GUIDELINES.
2. BENT OR BOWED SECTIONS OF FRAME TO BE CAREFULLY
STRAIGHTENED AS REQUIRED TO ACCOMMODATE INSTALLATION OF
NEW GLAZING. FRAME SECTIONS THAT ARE TOO DETERIORATED TO
ALLOW FOR INSTALLATION OF NEW GLAZING ARE TO BE SPLICED IN AND
REPI ACED IN KIND. MINIMIZE REPI ACEOMENTS. -(A) CONTROL ROOM -EXISTING VENT PIP TO REMAIN AT WINDOW OPENING - RESEAL OPENING AT EXISTING WINDOW AND PROVIDE NEW CUSTOM SEALED INFILL PANEL AT NEW STORM WINDOW. ALLOW FOR INSTALLATION OF NEW GLAZING ARE TO BE SPLICED IN AND REPLACED IN INID - MINIMIZE REPLACEMENT AS MUCH AS POSSIBLE AS IT WILL LIKELY REQUIRE THE REMOVAL OF THE WINDOW ASSEMBLY FROM THE OPENING WHICH IS NOT DESIRED. SCORCH MARKS ON THE EXISTING BRICK FROM IN FIELD WELDING WILL NOT BE PERMITTED.

3. PATCH GAPS AND SMALL HOLES WITH STEEL-BASED EPOXY (APPROPRIATE FOR INDUSTRIAL STEEL WINDOW REPAIR) AND SANDED SMOOTH FOR A LIKE NEW APPEARANCE.

4. PREPARE ALL METAL SURFACES PER SPEC SECTION 09 9000 AND REPAIRT IMMEDIATELY AFTER PREP SO AS NOT TO ALLOW SURFACE FLASH RUSTING TO OCCUR. PRIOR TO EXISTING PAINT REMOVAL. COLLECT SAMPLES OF ORIGINAL COATINGS (ALL LAYERS) AND GIVE TO OWNER FOR HISTORICAL DOCUMENTATION PURPOSES.

5. REPLACE ALL GLAZING COMPOUND (APPROPRIATE FOR USE ON STEEL WINDOWS). (B) NEW DOWNSPOUT -NEW DOWNSPOUT

(5)

(01)

(2)

(1)

(3)

PUMP STATION FLOOR PLAN - 708.00'

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PLAN STATION FLOOR

CITY OF FLINT AVENUE PUMPING REHABILITATION SRF # 5079-01 PUMPING STATION AVENUE THIRD THIRD

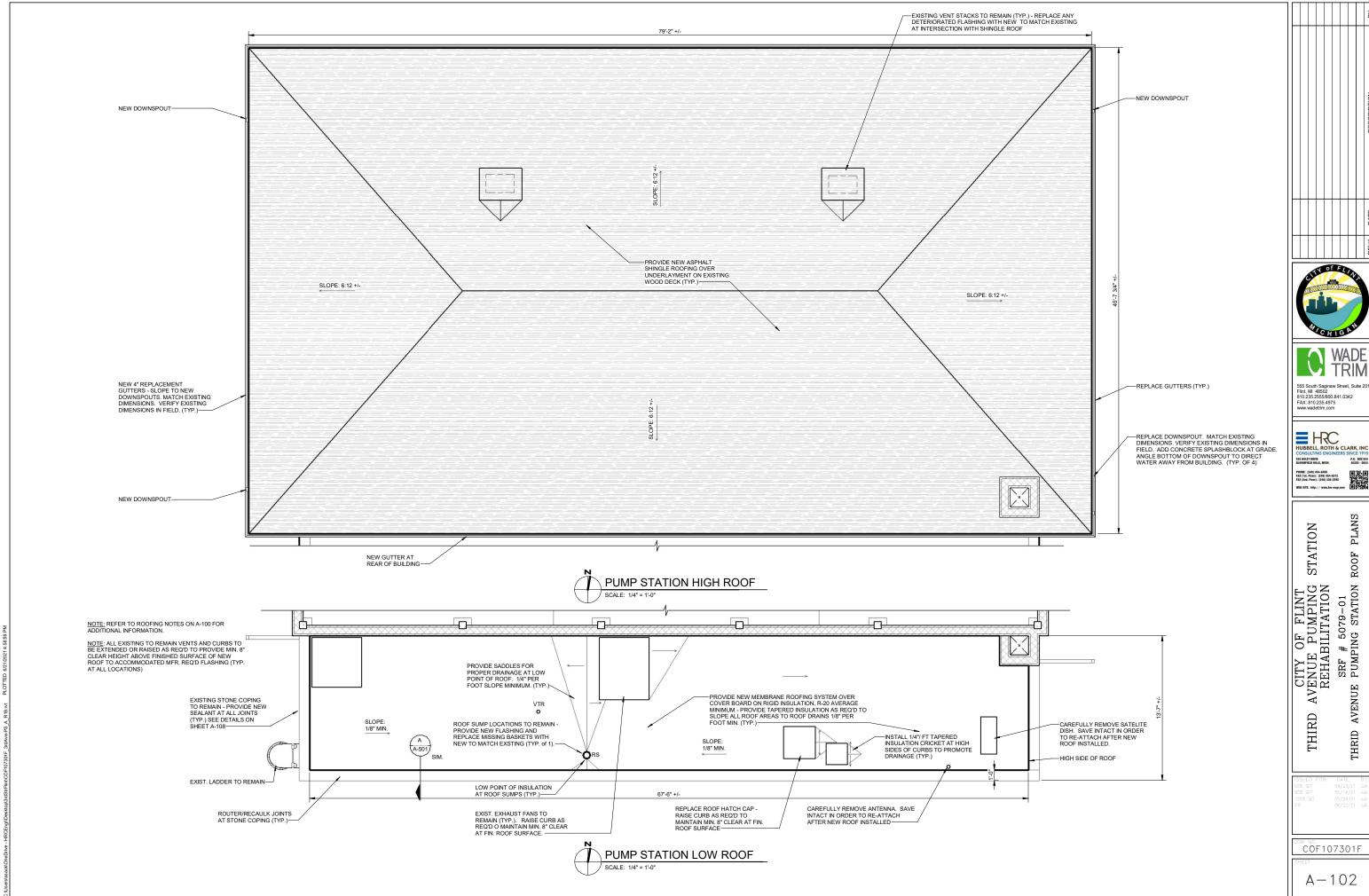
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A - 101

TEPLACE ALL GLAZING COMPOUND (APPROPRIATE FOR USE ON STEEL WINDOWS).
 REPLACE ALL MISSING OR NON-FUNCTIONING HARDWARE WITH NEW TO MATCH EXISTING. CLEAN AND LUBRICATE ALL HINGES AND HARDWARE FOR SMOOTH OPERATION WITH NON-GREASY LUBRICANT THAT HAS AN ANTI-CORROSIVE AGENT.
 RECAULK PERIMETER OF EXISTING FRAMES AT OPENINGS PER SPEC SECTION 07 9200.

SECTION 07 9200.

8. SUBMIT REPAIR PLAN THAT INCLUDES SHOP DRAWINGS SHOWING REQUIRED REPAIRS AND REPLACEMENT SECTIONS, ALONG WITH CUT SHEETS FOR ALL PRODUCTS/COMPONENTS BEING UTILIZED FOR REVIEW AND APPROVAL.









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PLANS

SRF # 5079-01 PUMPING STATION

AVENUE THRID

COF107301F

SCREENING BUILDING SCOPE ITEMS

DESCRIPTION	UNIT	AMOUNT
RECAULK EXTERIOR JOINTS AND OPENINGS	LS	1
BRICK REPOINTING	LF	10
RE-ROOFING	LS	1

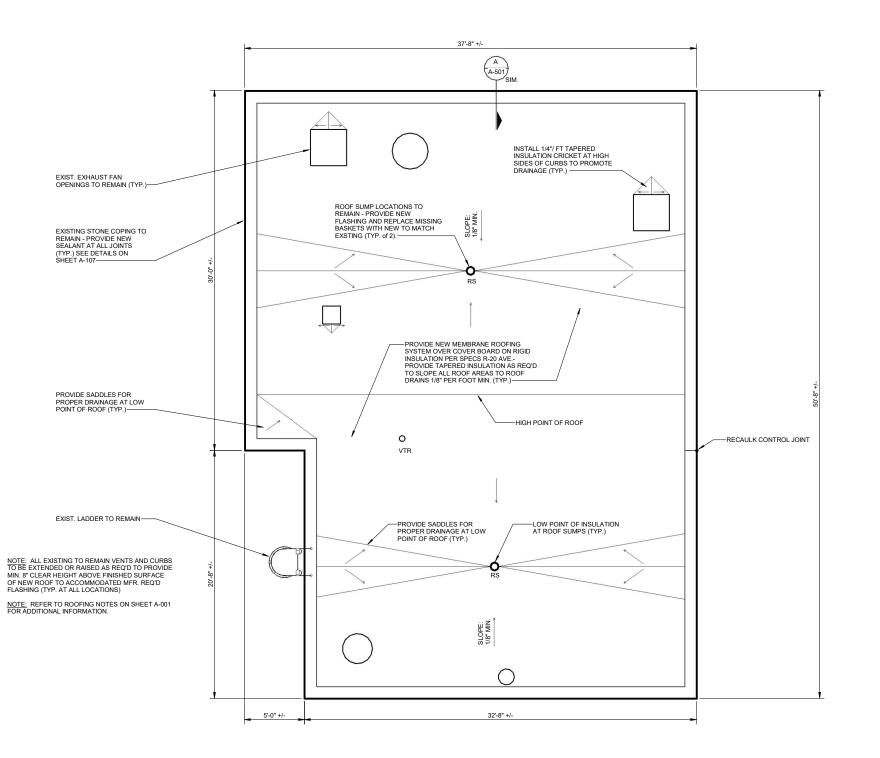
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TO BE CONSTRUED AS INDIVIDUAL PAY/BID ITEMS.

EXISTING BUILDING MASONRY NOTES:

EXISTING MORTAR AT MASONRY JOINTS TO BE REPCRITED AT CRACKED AND/OR DAMAGED LOCATIONS. EXACT (A-106TITY TO BE DETERMINED IN FIELD, AT OWNER WALK THROUGH DURING CONSTRUCTION. FOR PRICING PURPOSES IN BID PROPOSAL, CONTRACTOR TO INCLUDE REPOINTING QUANTITIES NOTED ON THIS SHEET, AND UNIT PRICING PER LINEAL FOOT.

FINISH NOTES:

1. DO NOT PAINT FRP, STAINLESS STEEL OR ALUMINUM (U.N.O.).











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STATION

SCREENING

CITY OF FLINT
RD AVENUE PUMPING S
REHABILITATION
SRF # 5079-01

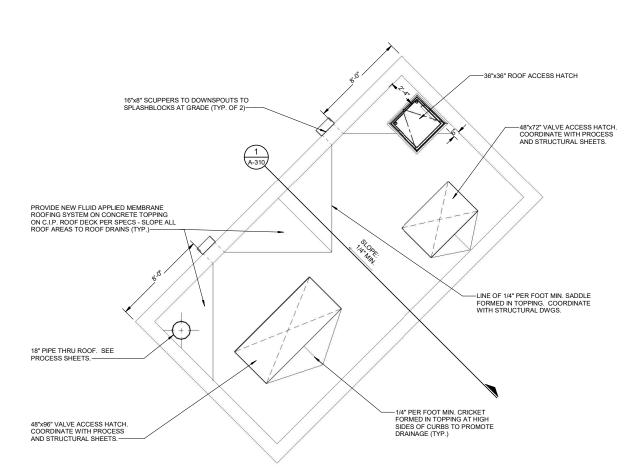
AVENUE PUMPING STATION S
BUILDING ROOF PLAN

THIRD

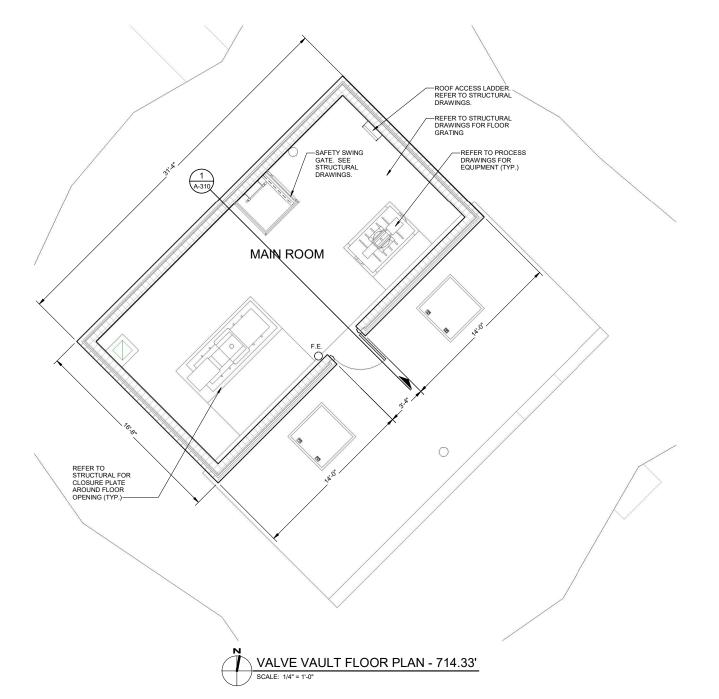
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ENERGY CODE CLASSIFICATION: NON-CONDITIONED













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STATION

CITY OF FLINT
AVENUE PUMPING SEHABILITATION
SRF # 5079-01
WPCF VAULT PLANS

THIRD

COF107301F

ALL QUANTITIES TO BE FIELD VERIFIED W/ OWNER AND ARCHITECT

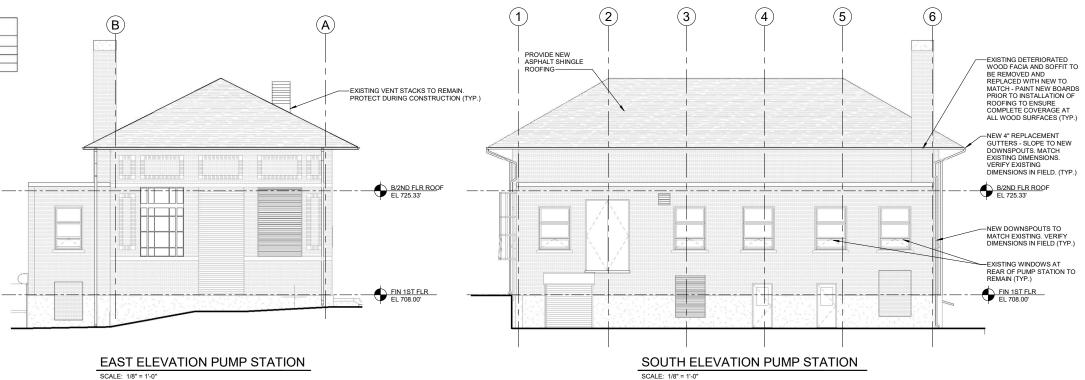
EXISTING BUILDING MASONRY NOTES:

EXISTING MORTAR AT MASONRY JOINTS TO BE REPOINTED AT CRACKED ANDIOR DAMAGED LOCATIONS. EXACT QUANTITY TO BE DETERMINED IN PIELD, AT OWNER WALK THROUGH DURING CONSTRUCTION. FOR PRICING PURPOSES IN BID PROPOSAL, CONTRACTOR TO INCLUDE REPOINTING QUANTITIES NOTED ON THIS SHEET, AND UNIT PRICING PER LINEAL FOOT.

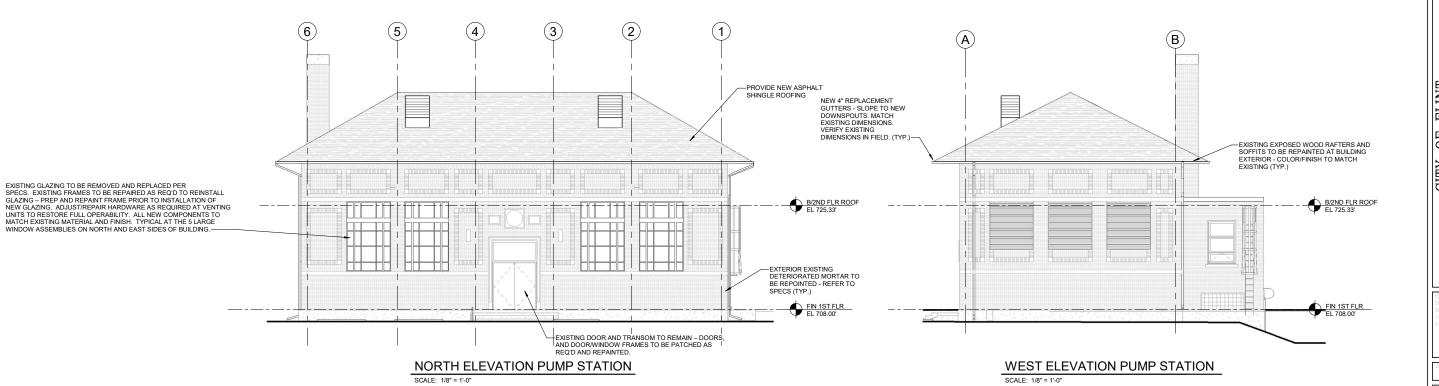
FINISH NOTES:

1. REFER TO SPEC SECTION 09 9000 FOR PAINTING REQUIREMENTS.

2. DO NOT PAINT FRP, STAINLESS STEEL OR ALUMINUM (U.N.O.).



NOTE: DECORATIVE BRICK AND LIMESTONE ACCENT PIECES SHOWN IN SIMPLIFIED FORM ON ELEVATION DRAWINGS - SEE PHOTOS, SHEET A-901 FOR REFERENCE.







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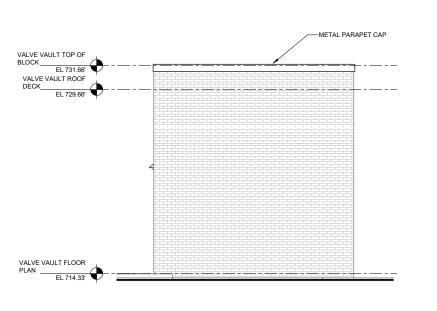
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STATION

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AVENUE THIRD

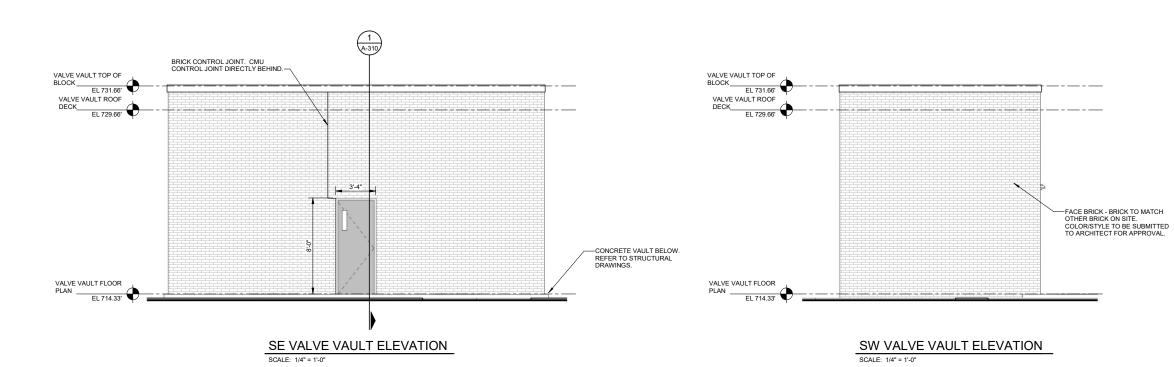
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-BRICK CONTROL JOINT. CMU CONTROL JOINT DIRECTLY BEHIND. C A-501 SIM. SCUPPER BOX--16" x 8" SCUPPER EL 729.66' VALVE VAULT FLOOR PLAN _______EL 714.33' -DOWNSPOUTS EMPTY TO SPLASH BLOCKS AT GRADE

NE VALVE VAULT ELEVATION SCALE: 1/4" = 1'-0"

NW VALVE VAULT ELEVATION SCALE: 1/4" = 1'-0"







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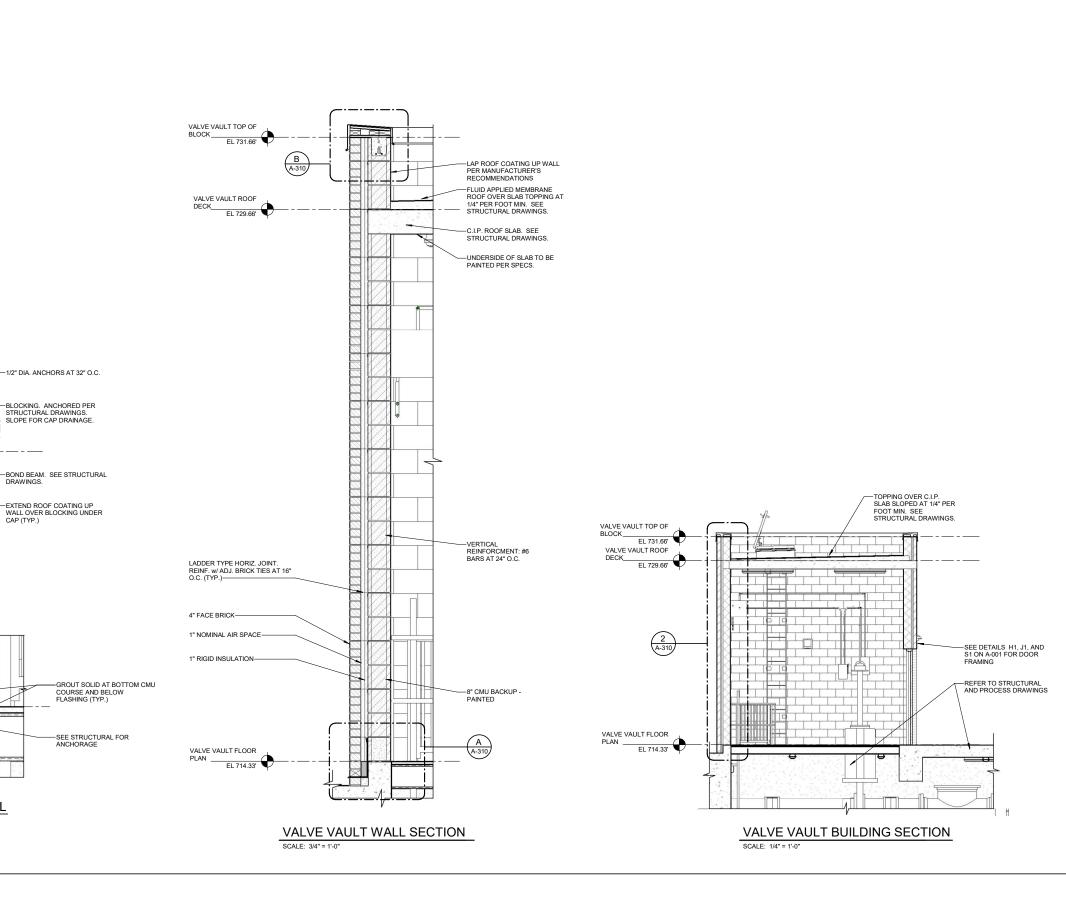
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CITY OF FLINT

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REHABILITATION
SRF # 5079-01
WPCF VAULT ELEVATIONS THIRD

COF107301F



PRE-FINISHED METAL PARAPET CAP w/ CONCEALED CLEATS & HEMMED EDGE

EL 731.66'

VALVE VAULT TOP OF BLOCK____

1 1/4" x 1/8" CONT. TERMINATION BAR w/ SEALANT

FLEXIBLE MEMBRANE FLASHING W/ END DAMS

VALVE VAULT FLOOR
PLAN

EL 714.33'

WEEPS AT MAX. 24" O.C.

CONC. VALVE VAULT. SEE STRUCTURAL DRAWINGS-

SLOPE

PARAPET DETAIL

SCALE: 1 1/2" = 1'-0"

A WALL BASE DETAIL
SCALE: 1 1/2" = 1'-0"





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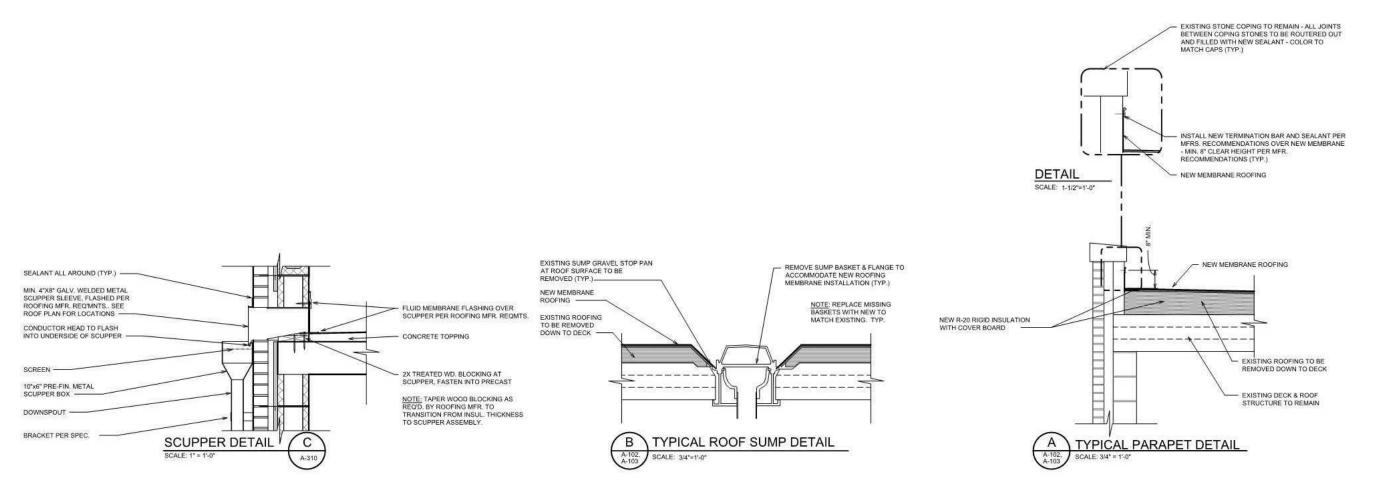
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WPCF STATION AND

CITY OF FLINT
RD AVENUE PUMPING S'
REHABILITATION
SRF # 5079-01

AVENUE PUMPING STATION A
VAULT ROOF DETAILS THIRD

COF107301F

-EXISTING GLAZING TO BE REMOVED AND REPLACED PER -EXISIING GLAZING TO BE REMOVED AND REPLACED PER SPECS. EXISTING FRAMES TO BE REPAIRED AS REQD'TO REINSTALL GLAZING - PREP AND REPAINT FRAME PRIOR TO INSTALLATION OF NEW GLAZING. ADJUSTIREPAIR HARDWARE AS REQUIRED AT VENTING UNITS TO RESTORE FULL OPERABILITY. ALL NEW COMPONENTS TO MATCH EXISTING MATERIAL AND FINISH. TYPICAL AT THE 5 LARGE WINDOW ASSEMBLIES ON NORTH AND EAST SIDES OF BUILDING.



CLEAN AND PREP FOR NEW WINDOW. INSTALLATION - VERIFY EXACT MOUNTING LOCATION IN FIELD WITH OWNER—



PHOTO 04

PHOTO 01

-ACCOMDATE PIPE THAT PENETRATES WINDOW (THIS LOCATION ONLY)

-AFTER REPOINTING, EXISTING BRICK AND LIMESTONE TO BE CLEANED/ RESTORED IN ACCORDANCE WITH SPEC SECTION 04 0120-92 -

TYP. AT PUMP STATION BUILDING

-EXISTING ROOF TO BE REMOVED DOWN TO DECK (TYP. FOR FLAT ROOF)

PHOTO 03

RE-ATTACH SATELLITE DISH AFTER NEW CAP IS CONSTRUCTED - PENETRATIONS TO BE SEALED WATERTIGHT.



PHOTO 08

—RAISE SKID UNIT AS-NEEDED. ADJUST WIRES ACCORDINGLY. PROVIDE ADDITIONAL MEMBRANE LAYER BENEATH FOR NEW ROOFING PROTECTION.



-EXISTING DETERIORATED WOOD FACIA AND SOFFIT TO BE REMOVED AND REPLACED WITH NEW TO MATCH - PAINT NEW BOARDS PRIOR TO INSTALLATION OF ROOFING TO ENSURE COMPLETE COVERAGE AT ALL WOOD SURFACES (TYP.)

PHOTO 06

-DUPLICATE EXISTING GUTTER CLIP ATTACHMENT SYSTEM. MOUNT NEW GUTTERS IDENTICALLY TO EXISTING.

PHOTO 02

-REMOVE AND REPLACE FLASHING AT INTERSECTION OF BRICK AND NEW ROOFING WITH NEW TERMINATION BAR/SEALANT PER MER. RECOMMENDATIONS. MIN. 8" CLEAR HEIGHT FROM NEW FINISHED ROOFING SURFACE. (TYP.)

EXISTING EQUIPMENT TO REMAIN - INSTALL MEMBRANE FLASHING PER MFR. REQUIREMENTS (TYP.)

PHOTO 07

-PROVIDE NEW CURB AND CUSTOM PREFIN.
ROOF CAP SIMILAR TO EXISTING - CURB CAP
SHALL BE REMOVABLE AND HELD DOWN WITH
STAINLESS STEEL CLIPS ON THE INSIDE.
PROVIDE 8" MIN. CLEAR FLASHING HEIGHT
FROM NEW ROOF SURFACE PER MFR. REQUIREMENTS (TYP.)



-ENSURE PROPER DRAINAGE FROM CORNER AT NEW ROOF

PHOTO 09

—REMOVE EXISTING FLASHING AND SEALANT AT ALL SIDES OF CHIMNEY. PROVIDE NEW CUSTOM REPLACEMENT FLASHING, COUNTER FLASHING, CRICKET, APRON AND SEALANT TO MATCH APPEARANCE OF EXISTING (METAL MUST BE COPPER). ALL METAL IN CONTACT WITH ROOF SURFACE TO EXTEND A MINIMUM OF 6° IN ALL DIRECTIONS IN ACCORDANCE WITH BEST INDUSTRY PRACTICES. EXTEND ICE & WATER SHIELD FROM MAIN ROOF UNDER BASE FLASHING & TURNED UP AT WALL SURFACE OF CHIMNEY. ALL SEAMS/JOINTS TO BE SEALED WEATHERTIGHT. -REPAINT WOOD RAFTERS AND SOFFIT

PHOTO 10

-REFLASH PER ROOFING MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH WARRANTY REQUIREMENTS

-EXISTING LOUVER HOUSING TO BE REMOVED AND REINSTALLED ON RAISED CURB AS REQ'D TO ACCOMMODATE MIN. 8" OF CLEAR HEIGHT FOR VERTICAL FLASHING FROM SURFACE OF ROOF PER ROOFING MFR. REQUIREMENTS.



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STATION

CITY OF FLINT AVENUE PUMPING REHABILITATION

THIRD

P.O. BOX 824 48303 - 0824

REFERENCE

SRF # 5079-01 PHOTOS

AVENUE

THIRD

COF107301F

A - 901

-EXISTING VENT STACK TO REMAIN (TYP.)

PHOTO 11









PHOTO 04

PHOTO 01

— REMOVE AND REPLACE FLASHING AND COUNTERFLASHING AT INTERSECTION OF BRICK AND NEW ROOFING WITH NEW TERMINATION BAR/SEALANT PER MFR. RECOMMENDATIONS. MIN. 8" CLEAR HEIGHT FROM NEW FINISHED ROOFING SURFACE. (TYP.)—

PHOTO 02

PHOTO 03

-RAISE CURBS 8" MIN. ABOVE NEW ROOF SURFACE AS REQUIRED (TYP.)

PROVIDE NEW MEMBRANE ROOFING SYSTEM OVER COVER BOARD ON RIGID INSULATION PER SPECS R-20 AVE. - PROVIDE TAPERED INSULATION AS REQ'D TO SLOPE ALL ROOF AREAS TO ROOF DRAINS (TYP.)—



-EXIST. STONE COPING CAP TO REMAIN - REMOVE AND REPLACE JOINT MATERIAL WITH NEW SEALANT AND BACKER ROD (TYP. AT ALL LOCATIONS)

PHOTO 05



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CITY OF FLINT
RD AVENUE PUMPING STATION
REHABILITATION
SRF # 5079-01
D AVENUE PUMPING STATION SCREENING
BUILDING REFERENCE PHOTOS

THIRD THIRD

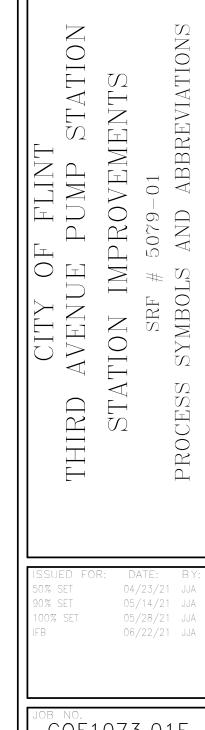
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ABBREVIATIONS - PIPING AIR RELIEF VALVE BOLTED FLEXIBLE COUPLING BOP **BOTTOM OF PIPE** BP **BYPASS** CENTER LINE COPPER PIPE CP DOMESTIC COLD WATER DCW DGV DOUBLE DISC GATE VALVE ECC RED ECCENTRIC REDUCER ECF **EQUIPMENT CONNECTION FITTING ELEVATION** ELBOW FM FORCE MAIN GV GATE VALVE INVERT KGV KNIFE GATE VALVE MANHOLE PRE-STRESSED CONCRETE CYLINDER PIPE PUMP CONTROL VALVE PGV PLUG GATE VALVE RED REDUCER SANITARY WASTE SPP STEEL PLATE PIPE SRP SURGE RELIEF PIPING SEAL WATER TAPS THIRD AVENUE PUMPING STATION WPCF WATER POLLUTION CONTROL FACILITY VALVE SYMBOLS TRIPLE DUTY VALVE GATE VALVE GLOBE VALVE BALL VALVE BUTTERFLY VALVE ——<mark> → РЕТ СОСК</mark> CHECK VALVE extstyle extSTOP AND CHECK VALVE PINCH VALVE INSTRUMENTATION SYMBOLS PANEL MOUNTED INSTRUMENT (INSIDE) PANEL MOUNTED INSTRUMENT (FACE) LOCALLY MOUNTED INSTRUMENT FLOW ELEMENT FLOW INDICATOR LEVEL ELEMENT LWC LOW WATER CUT-OFF PRESSURE SWITCH TEMPERATURE INDICATOR TEMPERATURE INDICATOR CONTROLLER TEMPERATURE TRANSMITTER

"	SYMBOLS		
VTR	_		
	PIPE ANCHOR		
—	EXPANSION JOINT		
——————————————————————————————————————	EXPANSION COMPENSATOR		
	FLEXIBLE CONNECTOR		
	FLOW ELEMENT		
	PIPE GUIDE		
	ELBOW UP		
	ELBOW DOWN		
	TEE UP		
	TEE DOWN		
<u></u>	REDUCER-CONCENTRIC		
	REDUCER-ECCENTRIC		
***************************************	WYE STRAINER		
	BASKET STRAINER		
—— ——	UNION		
М	METER (TOTALIZING)		
	ROTAMETER		
	STEEL WALL SLEEVE		
Es	EMERGENCY SHOWER AND EYEWASH		
	PIPING (BELOW SLAB)		
FD	FLOOR DRAIN		
— — — FD/SB	FLOOR DRAIN W/SEDIMENT BUCKET		
FS	FLOOR SINK		
— — РВО	PUMP BASE DRAIN		
— — — ED	EQUIPMENT DRAIN		
Oco	CLEANOUT-FLOOR		
— co	CLEANOUT-HORIZONTAL		
— — RD	ROOF DRAIN		
D	PIPE TO DRAIN		
	IN-LINE PUMP		
	INSTRUMENT AIR PNEUMATIC SIGNAL		
	ELECTRIC		
	INSTRUMENT CAPILLARY TUBING BACKFLOW PREVENTER		
↓ ▷			
	CONNECTION TO EXISTING		
	PIPE CAP OR PLUG		
-	DIRECTION OF FLOW		

SLEEVE DES	SIGNATIONS
	PLAIN END x PLAIN END WALL SLEEVE
	RECESSED FLANGE x PLAIN END WALL SLEEVE
	FLANGE x PLAIN END WALL SLEEVE
	FLANGE x FLANGE WALL SLEEVE
	MECHANICAL JOINT x MECHANICAL JOINT WALL SLEEVE
	MECHANICAL JOINT x PLAIN END WALL SLEEVE

PIF	PIPING & EQUIPMENT		
SYMBOLS			
VTR	VENT TO ROOF		
	PIPE ANCHOR		
—	EXPANSION JOINT		
——————————————————————————————————————	EXPANSION COMPENSATOR		
	FLEXIBLE CONNECTOR		
FE	FLOW ELEMENT		
	PIPE GUIDE		
——Ю	ELBOW UP		
	ELBOW DOWN		
+0+	TEE UP		
- 101	TEE DOWN		
	REDUCER-CONCENTRIC		
	REDUCER-ECCENTRIC		
***************************************	WYE STRAINER		
	BASKET STRAINER		
—— ——	UNION		
М	METER (TOTALIZING)		
	ROTAMETER		
	STEEL WALL SLEEVE		
——————————————————————————————————————	EMERGENCY SHOWER AND EYEWASH		
	PIPING (BELOW SLAB)		
- FD	FLOOR DRAIN		
	FLOOR DRAIN W/SEDIMENT BUCKET		
FS	FLOOR SINK		
— — — PBD	PUMP BASE DRAIN		
— — — E D	EQUIPMENT DRAIN		
Oco	CLEANOUT-FLOOR		
— co	CLEANOUT-HORIZONTAL		
— — RD	ROOF DRAIN		
D	PIPE TO DRAIN		
	IN-LINE PUMP		
	INSTRUMENT AIR PNEUMATIC SIGNAL		
	ELECTRIC		
	INSTRUMENT CAPILLARY TUBING		
BFP D	BACKFLOW PREVENTER		
───	CONNECTION TO EXISTING		



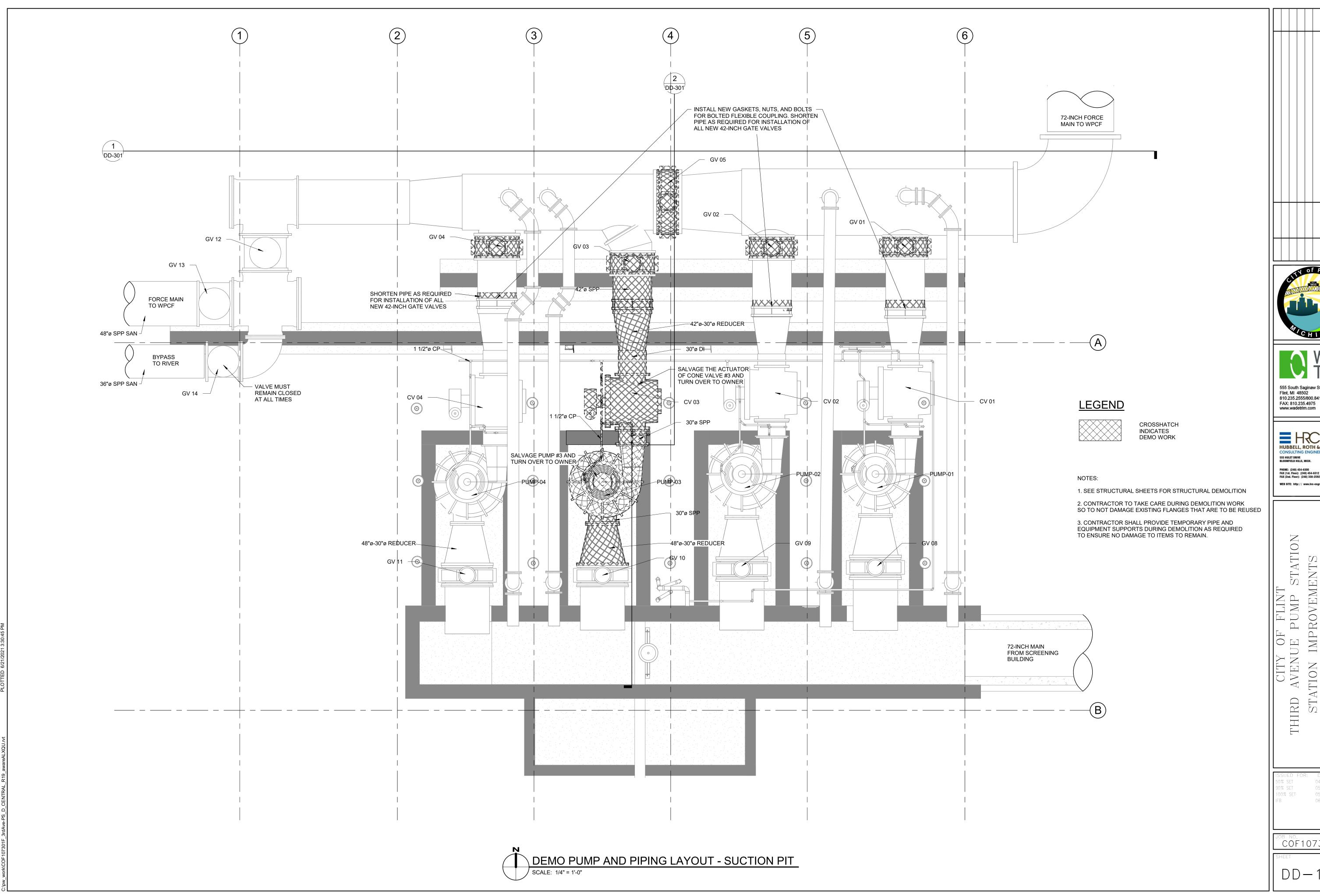
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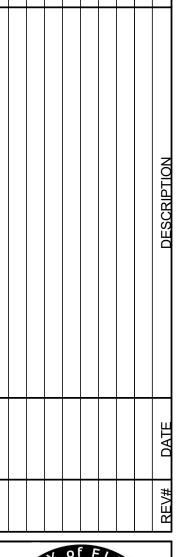
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FAX (2nd. Floor): (248) 338-2592
WEB SITE: http://www.hrc-engr.com

FAX: 810.235.4975 www.wadetrim.com

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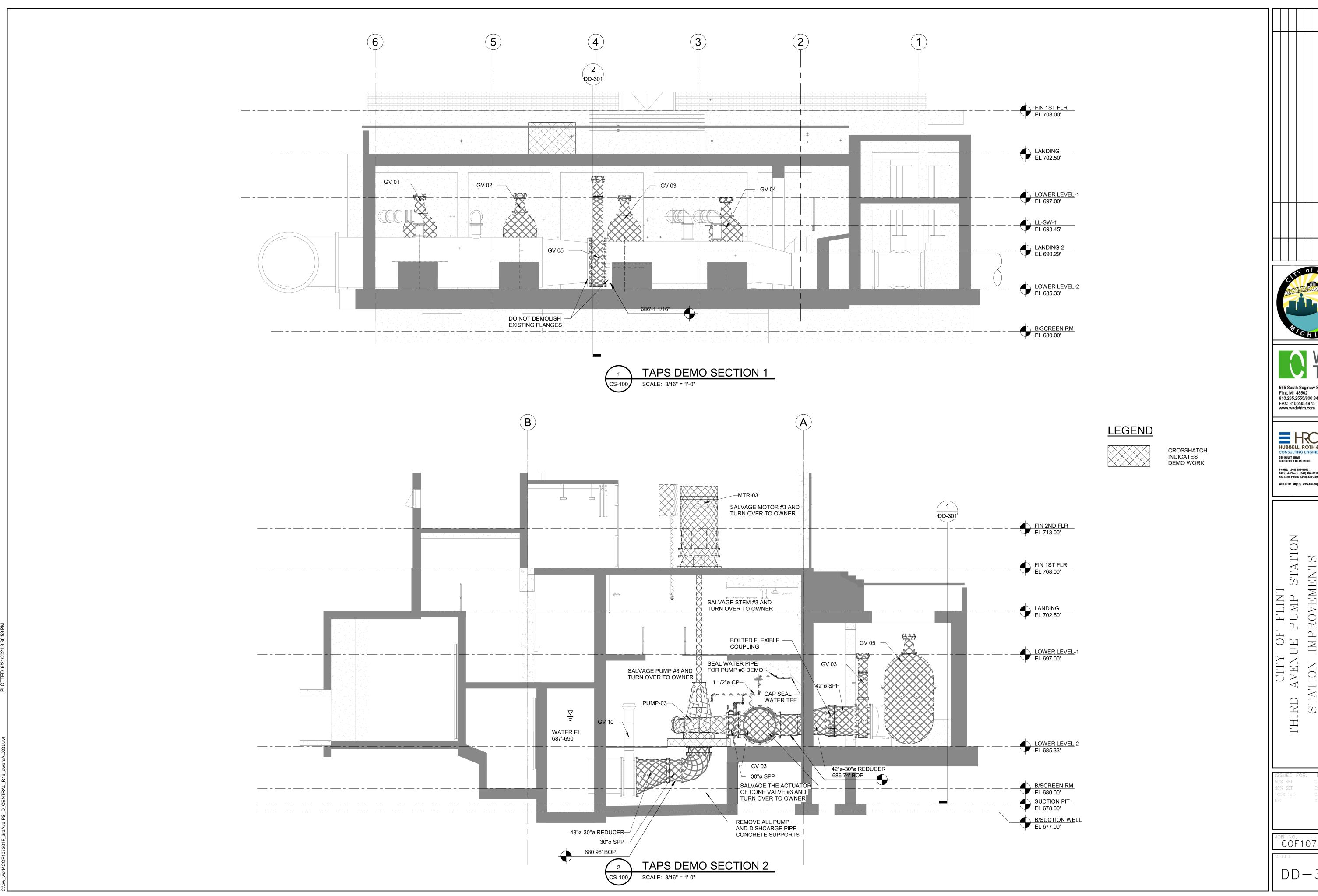
STATION IMPROVEMENTS

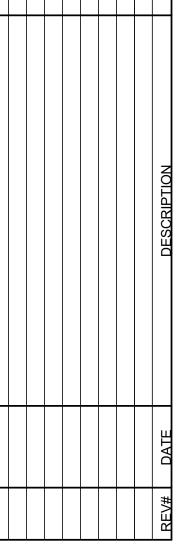
ATION THIRD

05/14/21 JJA 05/28/21 JJA

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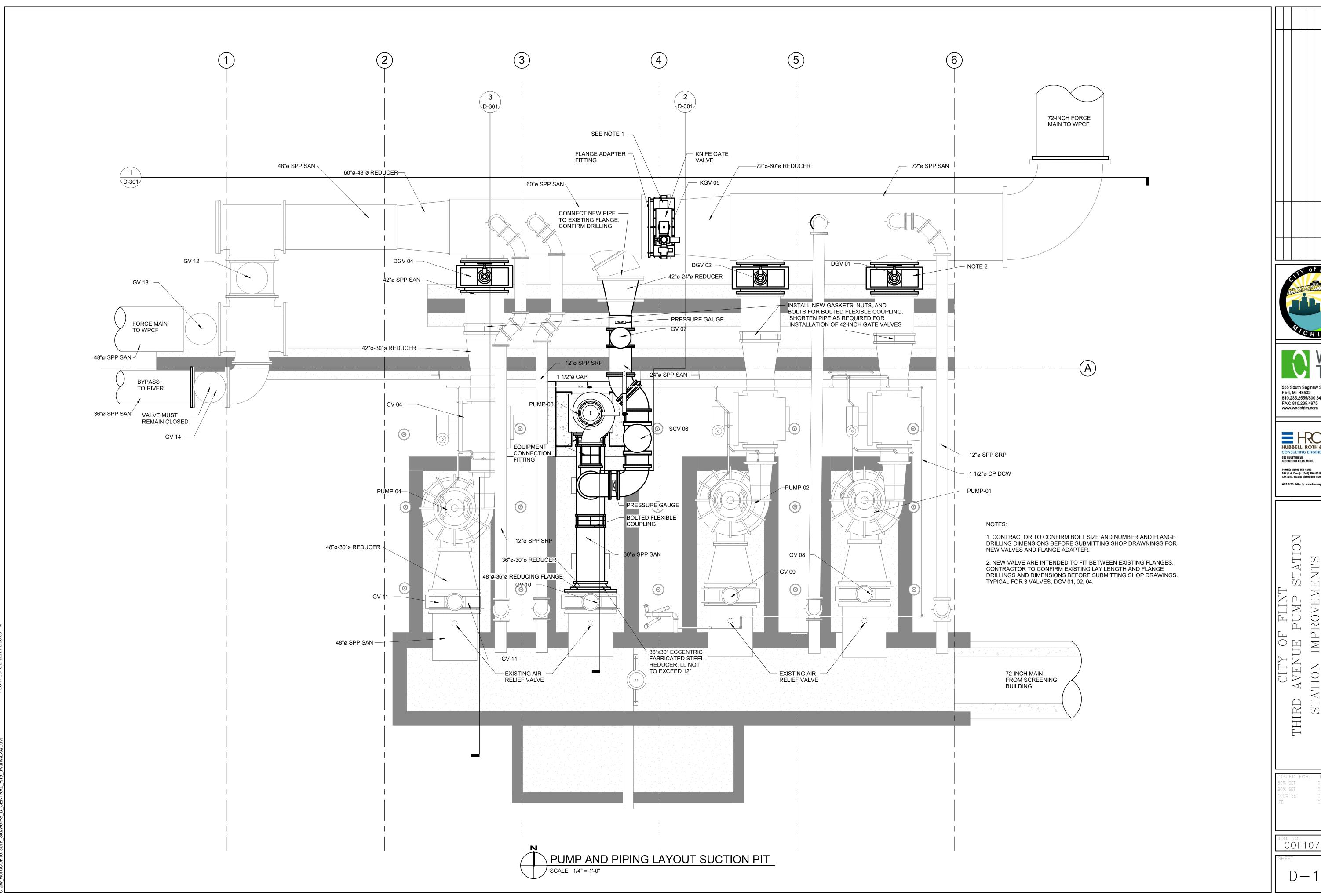
IMPROVEMENTS

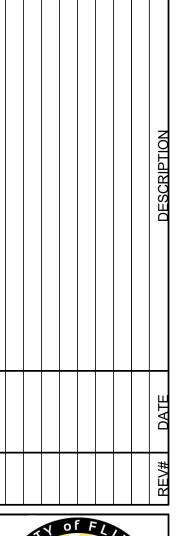
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05/14/21 JJA 05/28/21 JJA

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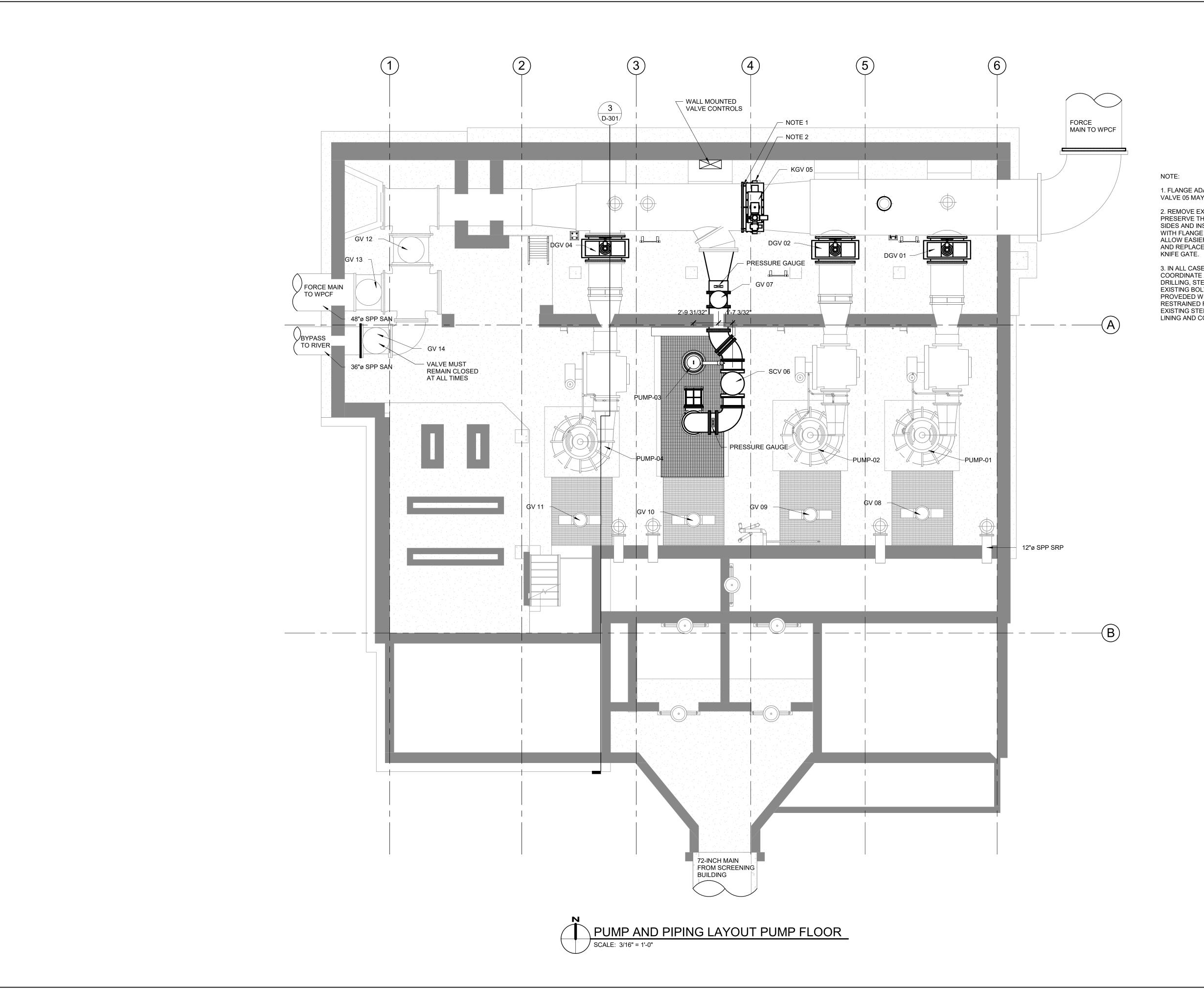
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STATION

IMPROVEMENTS STATION
SRF
S SUCTION P THIRD

05/14/21 JJA 05/28/21 JJA 06/22/21 JJA

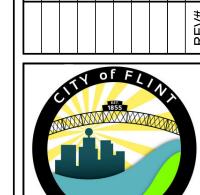
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1. FLANGE ADAPTER FITTING FOR KNIFE GATE VALVE 05 MAY NEED TO BE CUSTOM.

2. REMOVE EXISTING GATE VALVE 05 AND PRESERVE THE EXISTING FLANGES ON BOTH SIDES AND INSTALL NEW KNIFE GATE VALVE WITH FLANGE ADAPTER AND F x PE PIPE TO ALLOW EASIER REMOVAL OF EXISTING VALVE, AND REPLACE WITH BFC, F x PE 60" STEEL AND

3. IN ALL CASES, THE CONTRACTOR SHALL COORDINATE AND PROVIDE CORRECT FLANGE DRILLING, STEEL PIPE, ADAPTERS, CONFIRM EXISTING BOLT NUMBERS AND SIZES, AND PROVEDED WITH RESTRAINING RODS OR RESTRAINED FITTINGS. ANY CUTTING OR EXISTING STEEL PIPE SHALL REQUIRE REPAIR OF LINING AND COATING.





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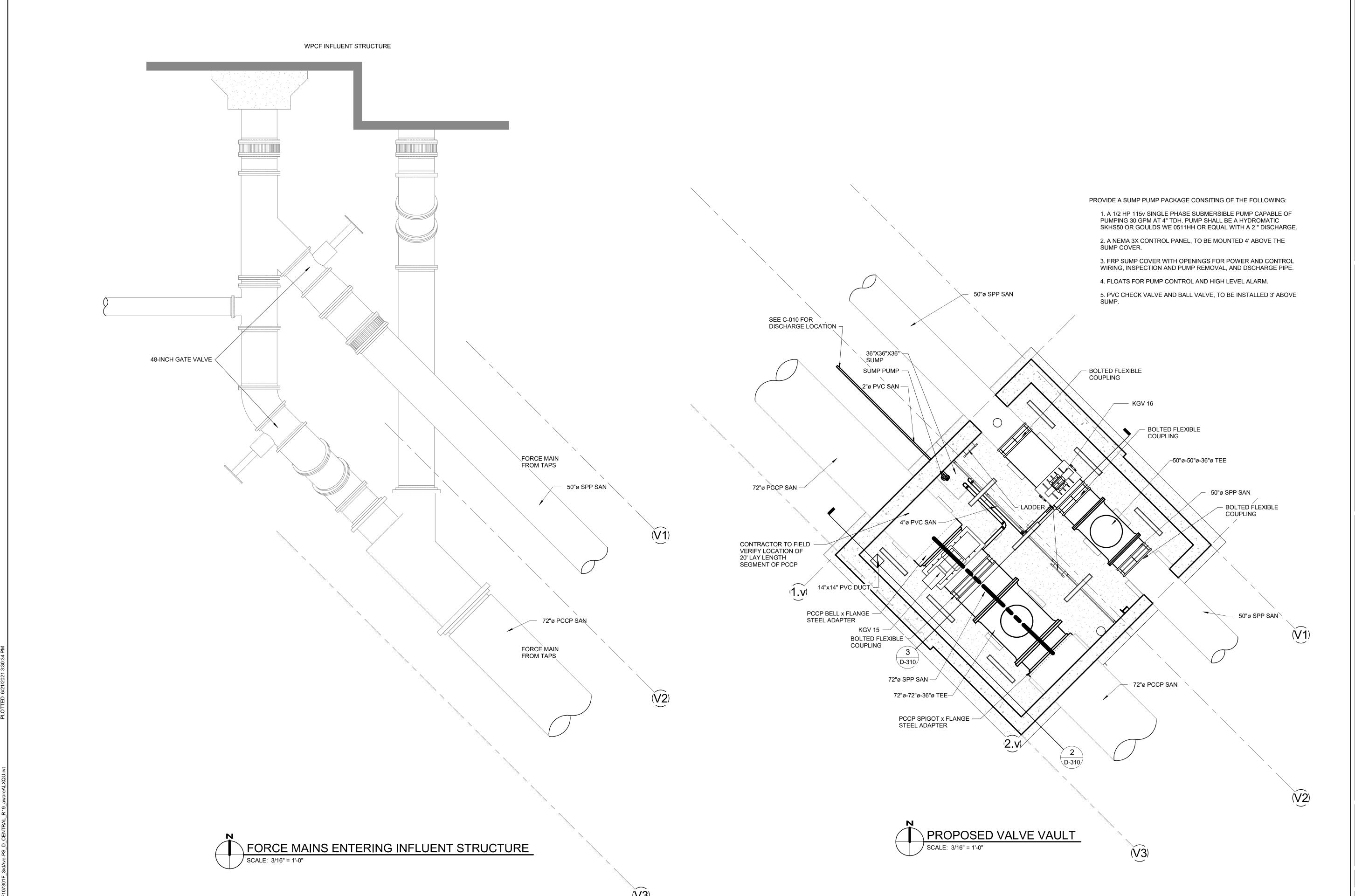
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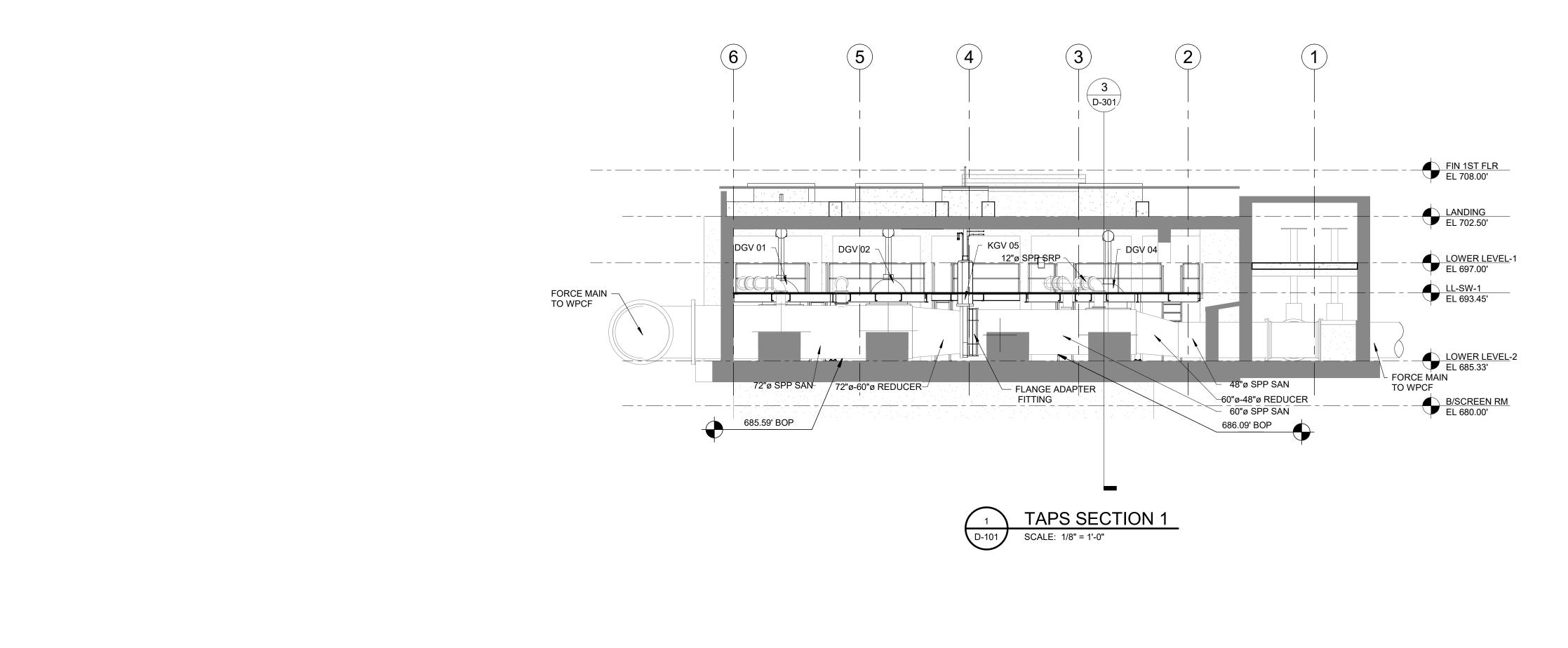
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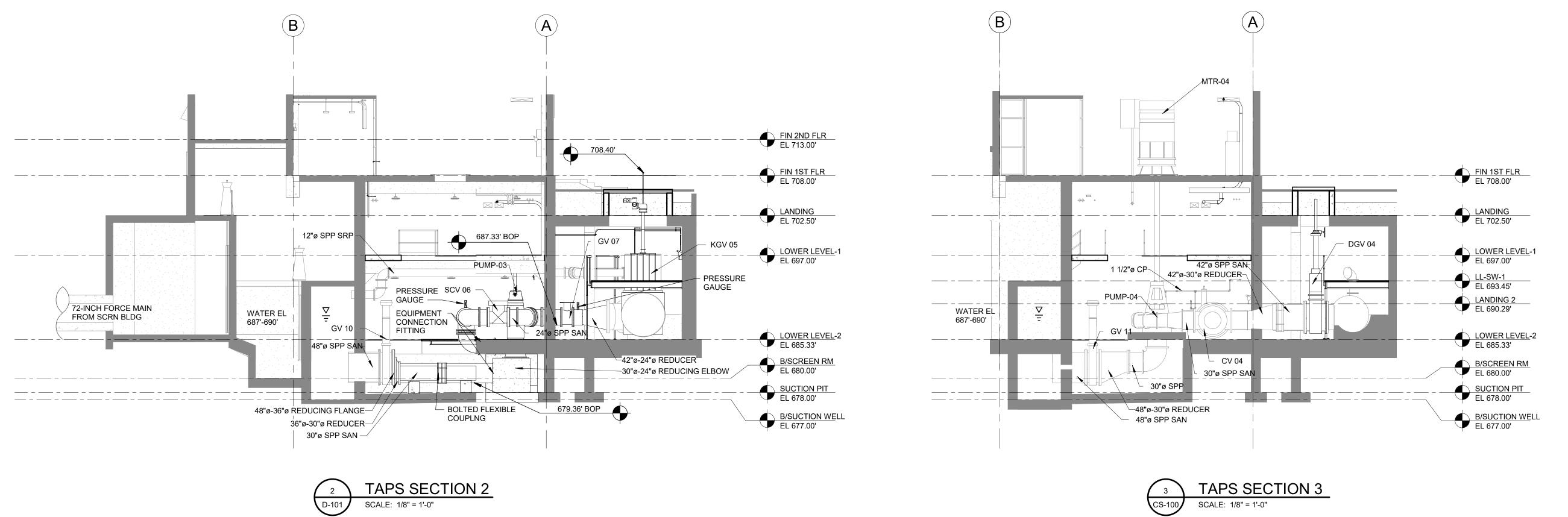
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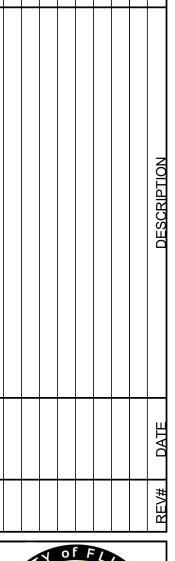
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05/28/21 JJA

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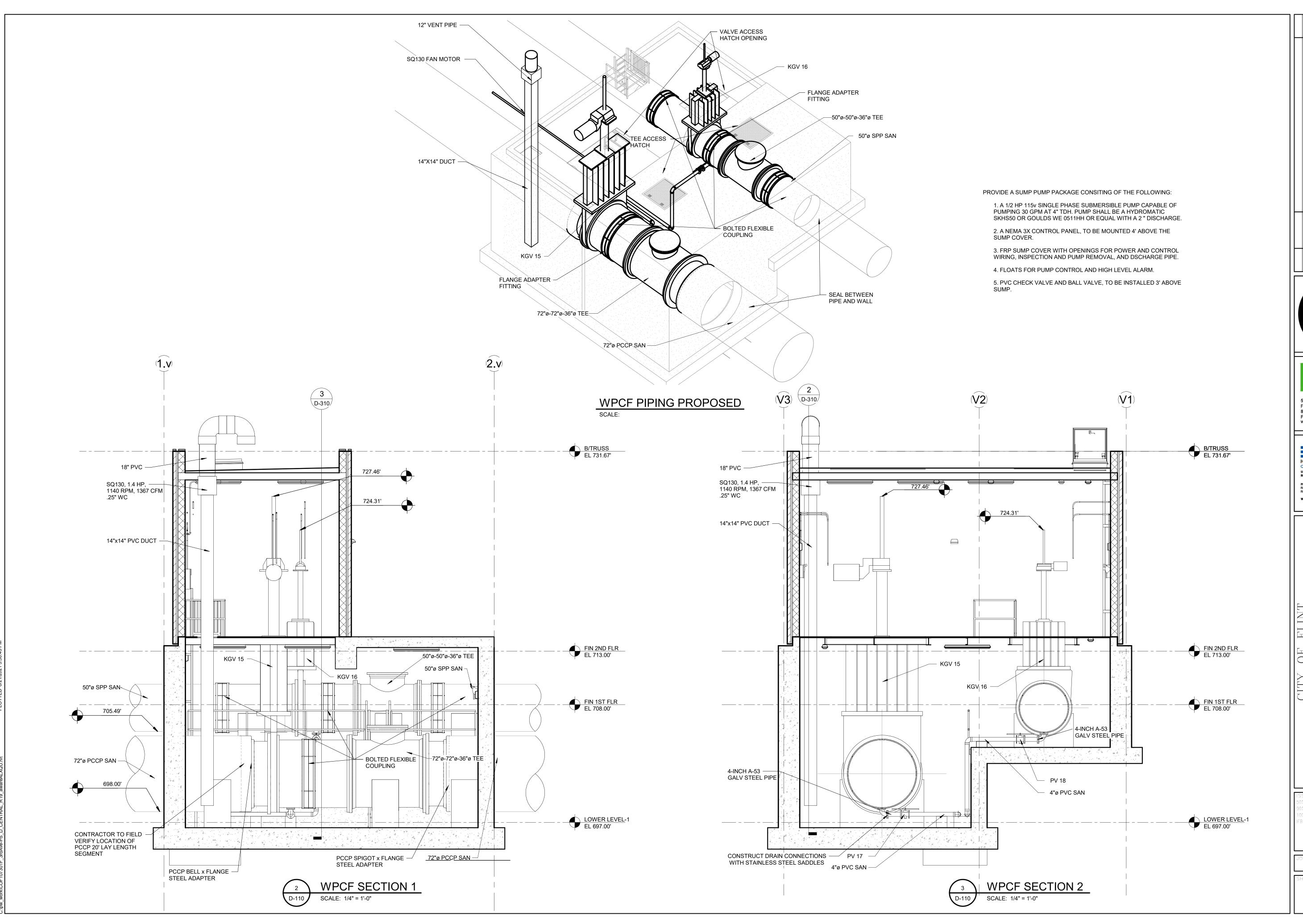
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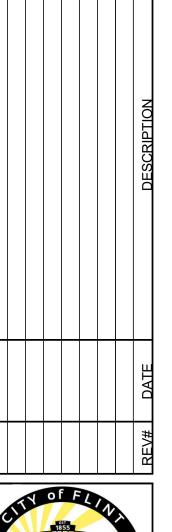
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NUE PUMP STATION IMPROVEMENTS FLINT PUMP CITY OF AVENUE STATION II SRF †
TAPS PIPING THIRD

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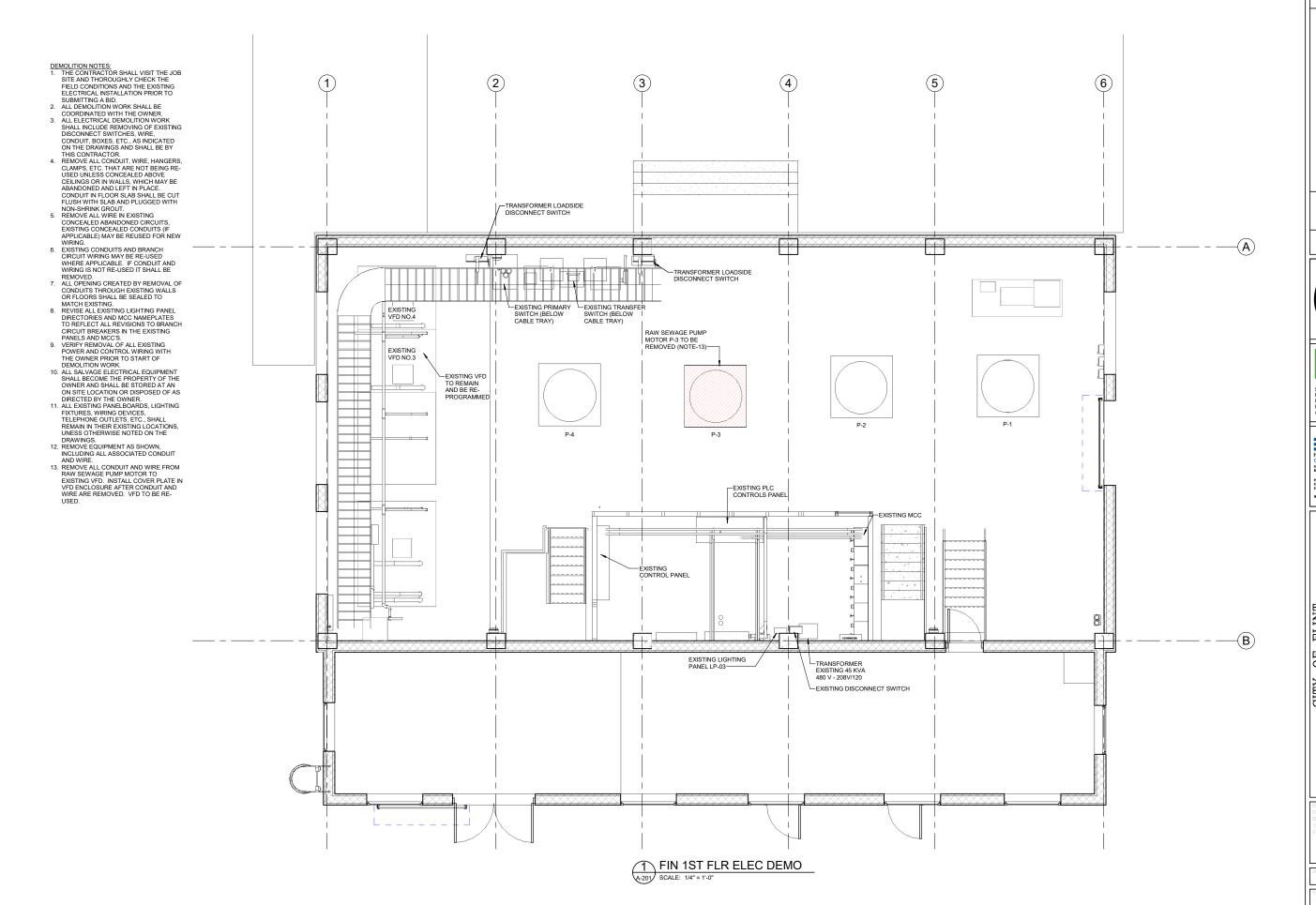
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STATION IMPROVEMENTS STATION

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ELECTRICAL

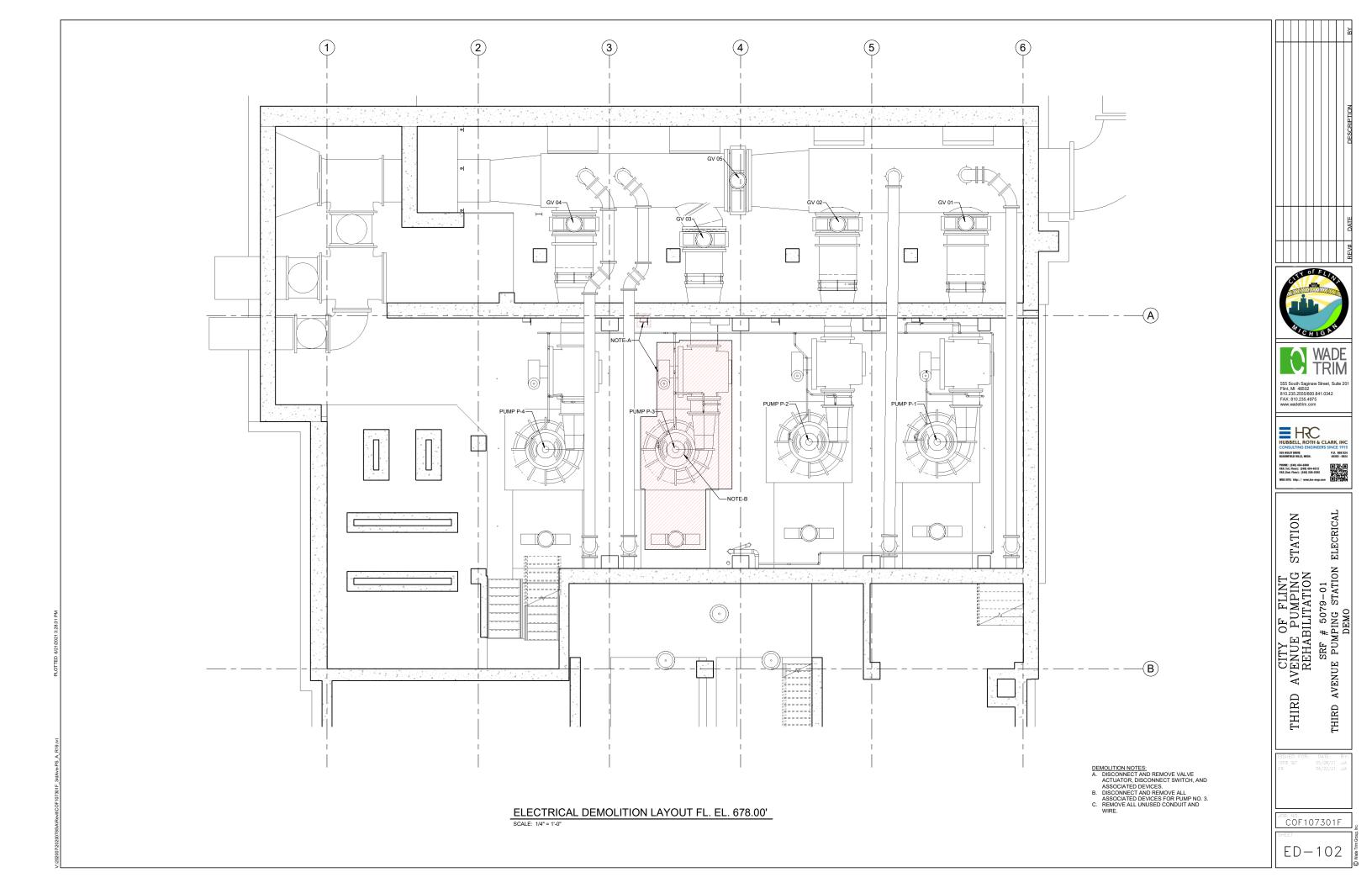
STATION SRF # 5079-01 PUMPING STATION DEMO CITY OF FLINT AVENUE PUMPING REHABILITATION

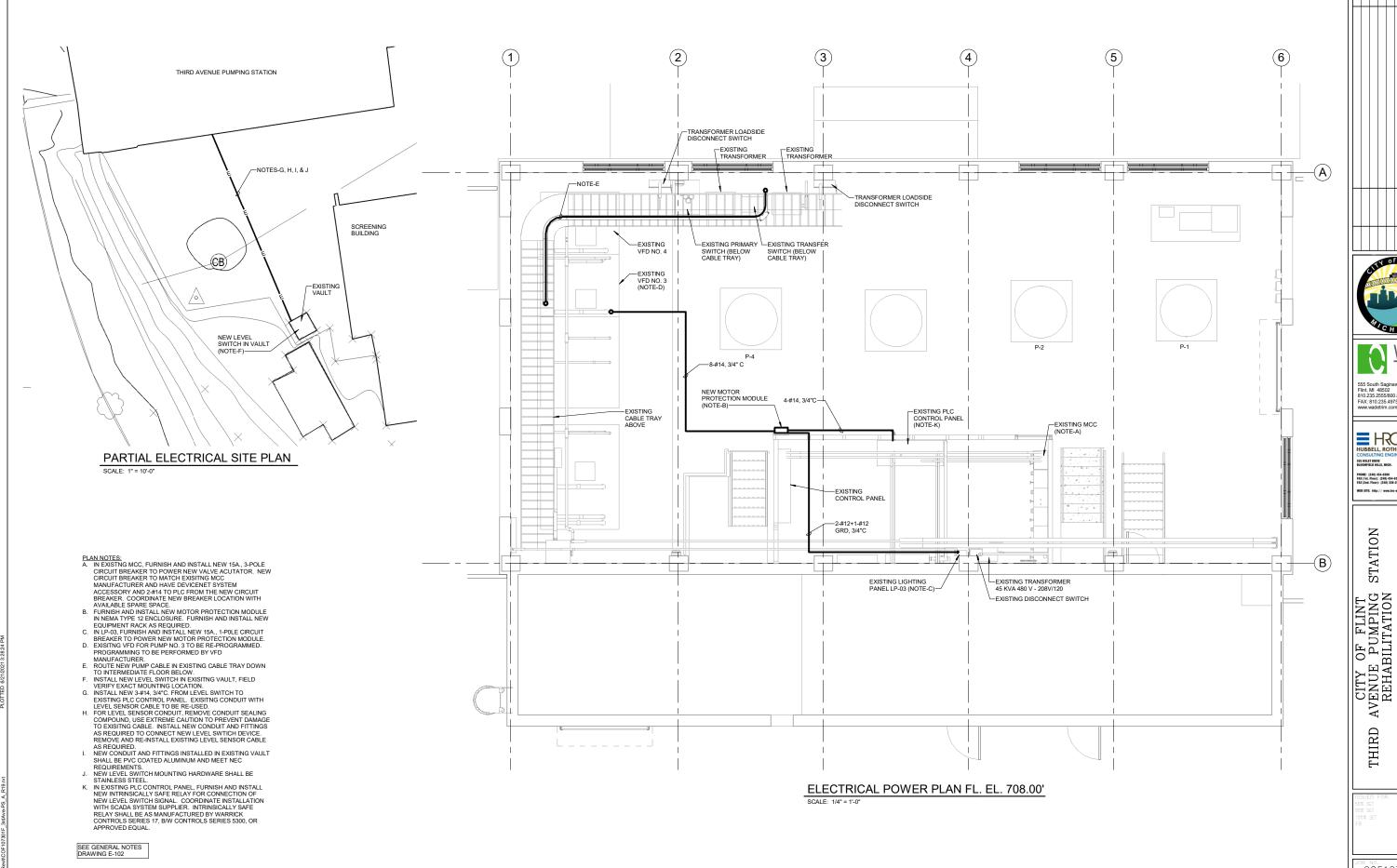
AVENUE THIRD

THIRD

COF107301F

ED - 101





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STATION

MOTOR

ROOM

SRF # 5079-01 PUMPING STATION DOWER PLAN AVENUE

THIRD

COF107301F

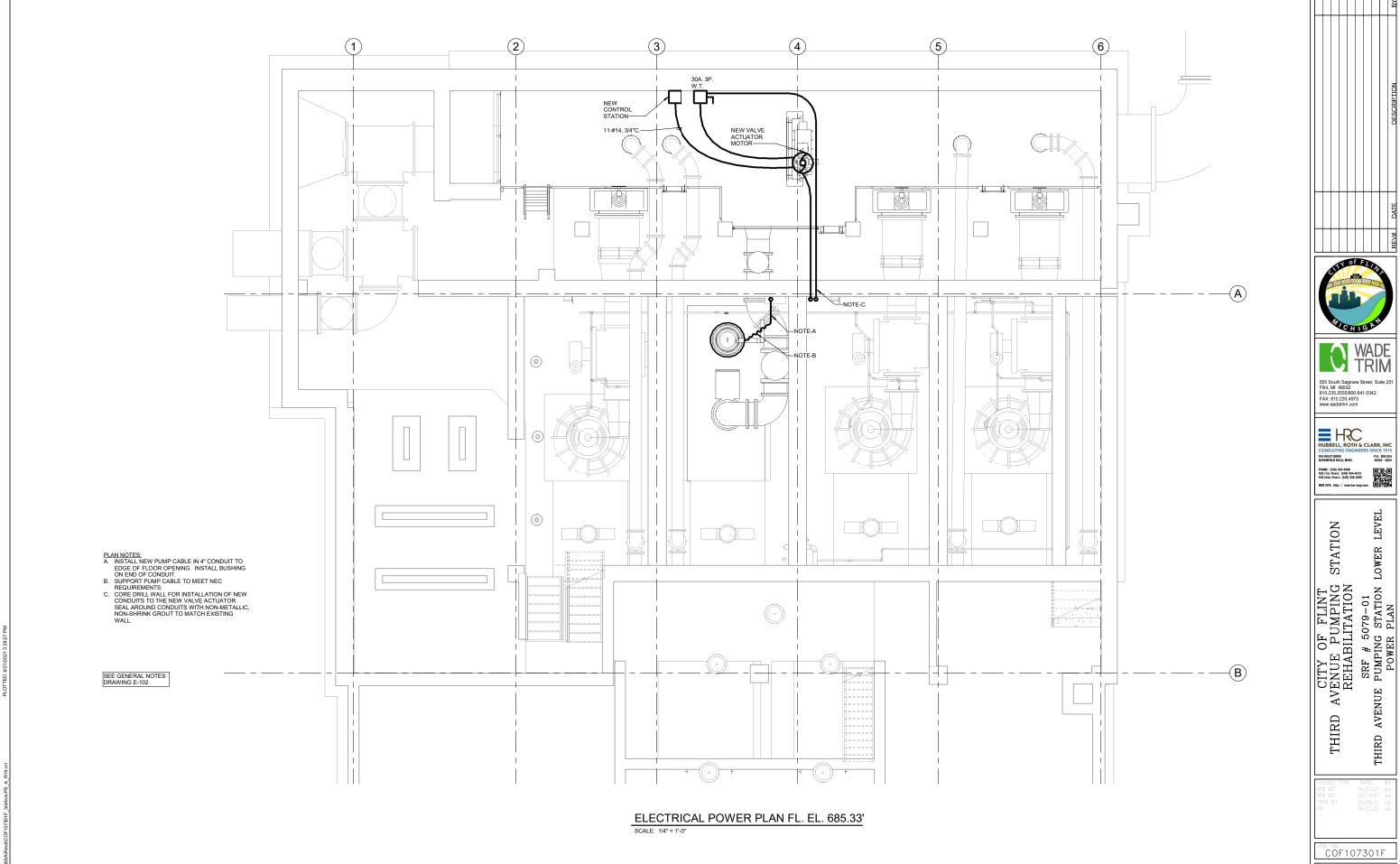
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> AVEN THIRD

SRF # 5079-01 PUMPING STATION | FLOOR POWER PLAN

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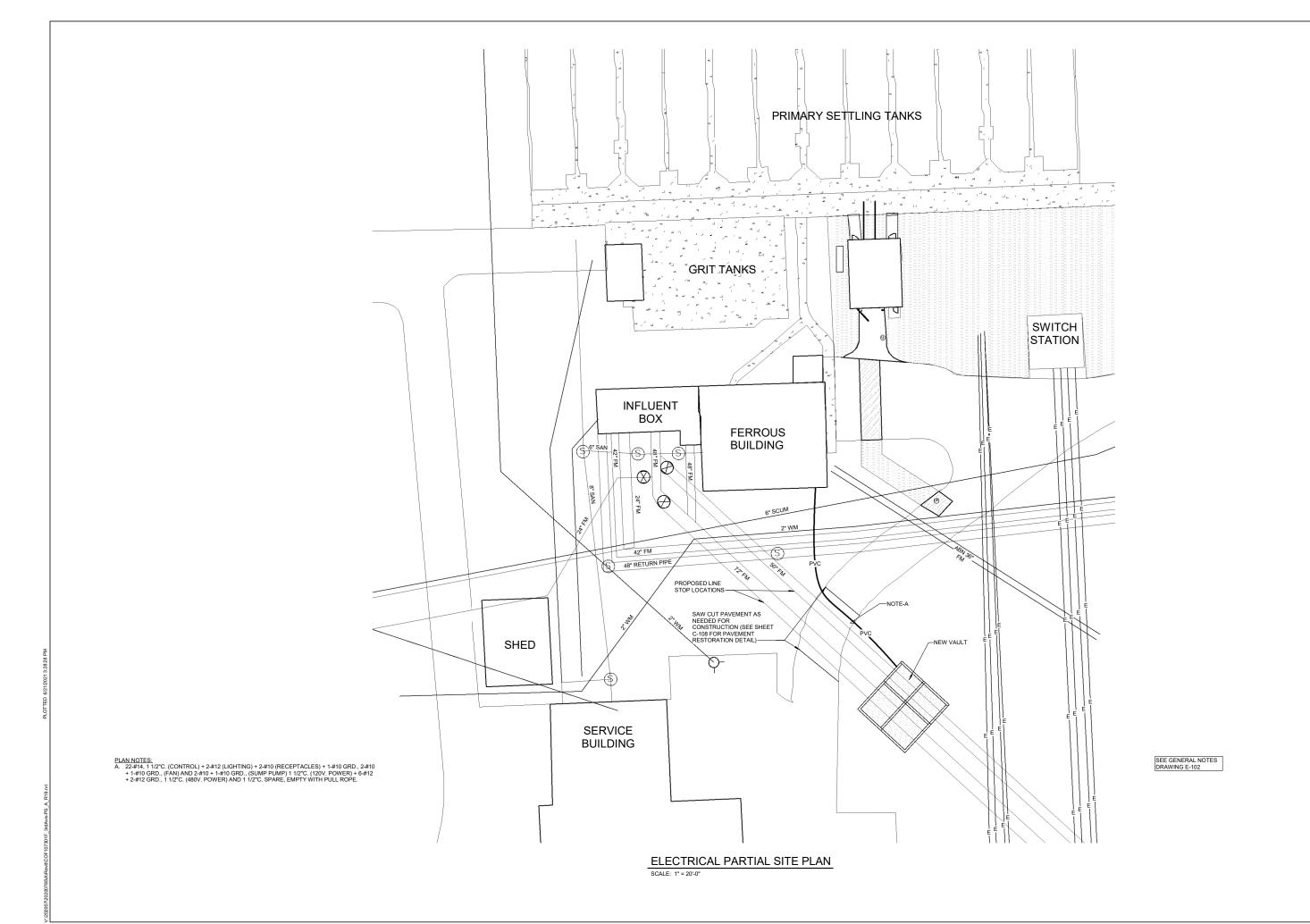
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LOWER

AVENUE

THIRD

COF107301F



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STATION

CITY OF FLINT AVENUE PUMPING S REHABILITATION

THIRD

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PLAN

SITE

SRF # 5079-01 ELECTRICAL PARTIAL

VAULT

E-110

- A. 22-#14, 1 1/2"C. FROM CONTROL PANEL TO VALVE VAULT. 2-#14 FOR VAULT FLOODING FLOAT SWITCH, AND 10-#14 FOR EACH VALVE ACTUATOR. ROUTE THROUGH CONTROL PULL BOX IN VAULT.
- B. 2-#12 (LIGHTING) + 2-#10 (RECEPTACLES) + 1-#10 GRD., 2-#10 + 1-#10 GRD., (SUMP PUMP) 1 1/2"C. FROM LIGHTING PANEL TO VALVE VAULT. ROUTE THROUGH POWER PULL BOX IN VAULT.
- C. 6-#12 + 2-#12 GRD, 1 1/2"C. FROM MCC TO VALVE VAULT FOR VALVE ACTUATORS. ROUTE 3-#12 + 1-#12 GRD. TO EACH VALVE ACTUATOR. ROUTE THROUGH POWER PULL BOX IN VALVE VAULT.
- D. INSTALL NEW SECTION OF MCC ON EXISTING CONCRETE PAD TO MATCH EXISTING. EXISTING MCC IS ALLEN-BRADLEY CENTERLINE 2100.
- E. FURNISH AND INSTALL ONE (1) NEW 15A, 3-POLE CIRCUIT BREAKER IN THE MCC. EACH CIRCUIT BREAKER TO HAVE AUXILIARY CONTACT/DEVICENET SYSTEM ACCESSORY AND BE CONNECTED BACK TO PLC. INSTALL 2-#14 FROM EACH CIRCUIT BREAKER TO MCC PLC.
- F. IN THE EXISTING LIGHTING PANEL, FURNISH AND INSTALL ONE (3) NEW 20A., 1-POLE CIRCUIT BREAKERS FOR THE NEW LIGHTS, RECEPTACLE, AND FAN IN THE VAULT. INSTALL ONE (1) NEW 25A., 2-POLE CIRCUIT BREAKER FOR THE SUMP PUMP.
- G. 1 1/2"C. SPARE, EMPTY WITH PULL ROPE FROM WALL ABOVE MCC TO VALVE VAULT. CAP CONDUIT AT BOTH ENDS.
- H. EXISTING CONTROL PANEL TO BE MODIFIED AS PART OF THE SCADA ALLOWANCE. FINAL CONNECTION OF WIRES IN CONTROL PANEL SHALL BE BY THE SCADA CONTRACTOR.
- CORE DRILL EXISTING WALL, SEAL AROUND CONDUITS WITH NON-METALLIC, NON-SHRINK GROUT TO MATCH EXISTING WALL. ROUTE CONDUITS DOWN WALL AND UNDERGROUND TO NEW VALVE VAULT.

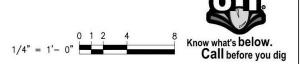
WPCF FERROUS BUILDING

POWER PLAN

SCALE: 1/4" =1'-0"



SEE GENERAL NO DRAWING E-102



REV# DATE DESCRIPTION





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STATION

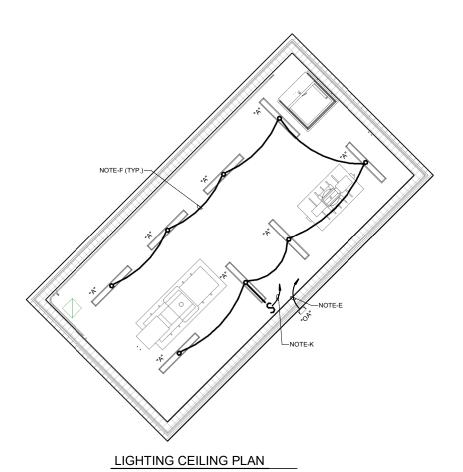
CITY OF FLINT
AVENUE PUMPING S
REHABILITATION
SRF # 5079-01
FERROUS BUILDING POWEF

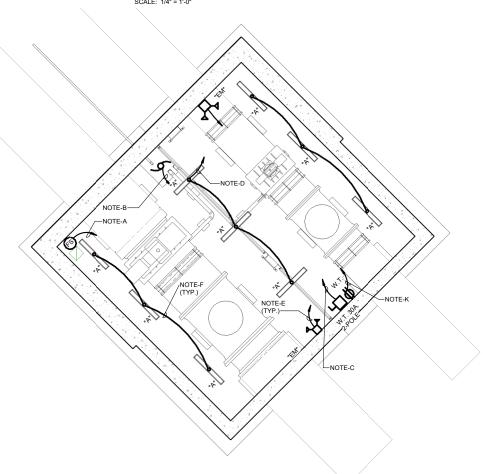
PLAN

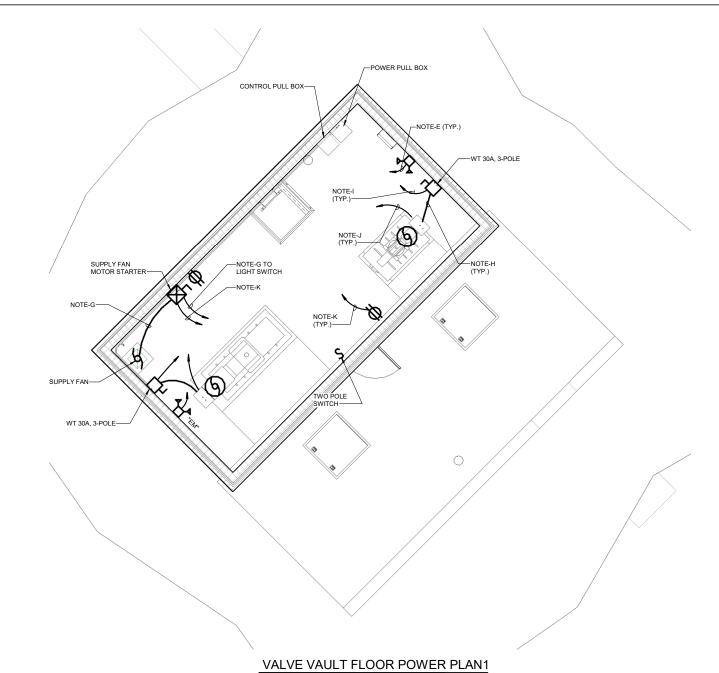
JED FOR: DATE: BY:
SET 04/23/21 JJA
SET 05/14/21 JJA
K SET 05/28/21 JJA
66/22/21 JJA

COF107301F

E-111







PLAN NOTES:
A. 2-#14, 3/4°C. TO CONTROL PANEL, ROUTE THROUGH CONTROL PULL BOX.

- B. 2-#10 + 1-#10 GRD., 3/4"C. TO SUMP PUMP DISCONNECT SWITCH.
- C. 2-#10 + 1-#10 GRD., 3/4°C. TO LIGHTING PANEL, ROUTE THROUGH POWER PULL BOX.
- D. 2-#12 + 1-#12 GRD., 3/4"C. TO LIGHTING CIRCUIT ABOVE.
- E. 2-#12 + 1-#12 GRD., 3/4"C. TO UNSWITCHED "HOT" LEG OF LIGHTING CIRCUIT.
- F. 2-#12 + 1-#12 GRD., 3/4"C.
- G. 2-#12 + 1-#12 GRD., 3/4"C. TO SUPPLY FAN MOTOR STARTER.
- H. 3-#12 + 1-#12 GRD., 3/4"C.
- I. TO MCC, ROUTE THROUGH POWER PULL BOX.
- J. 10-#12, 3/4"C. TO CONTROL PANEL, ROUTE THROUGH CONTROL
- K. 2-#12 + 1-#12 GRD., 3/4°C. CONNECTION TO LIGHTING PANEL. ROUTE THROUGH POWER PULL BOX.
- L. FIELD ADJUST LIGHT FIXTURES TO COORDINATE WITH NEW EQUIPMENT IN VALVE VAULT.

SEE GENERAL NOTES DRAWING E-102 OF FL



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BLOOMFIELD HILLS, MICH.

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STATION

CITY OF FLINT
AVENUE PUMPING ST.
REHABILITATION
SRF # 5079-01
VAULT POWER & LIGHTING F

THIRD

FOR: DATE: BY: T 05/28/21 JJA 06/22/21 JJA

COF107301F

E-112

PROVIDE SPACER WITH

WASHER & LOCK NUTS

INSIDE AND OUT (TYP.

ADJACENT FIXTURE

CONDUIT TO

FIXTURE SCHEDULE NOTES:

1/4" THREADED STAINLESS STEEL

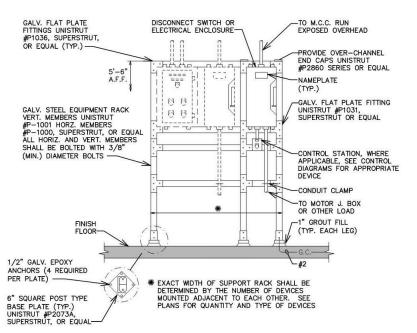
CONCRETE

SLAB

LED FIXTURE

ALL LED FIXTURES MUST HAVE SURGE SUPPRESION

IF CATALOG NUMBER DOES NOT MEET THE FOLLOWING CRITERIA, THE CONTRACTOR OR MFR. SHALL REVISE CATALOG NUMBER AS REQUIRED.



EQUIPMENT SUPPORT RACK ON CONCRETE SLAB DETAIL

-"I B" FITTING OR CAST —"LB" FITTING OR CAS'
BOX WITH GASKETED
COVER SUITABLE TO
WET LOCATION, SEE
SITE PLAN FOR TYPE
OF CONDUIT FITTING

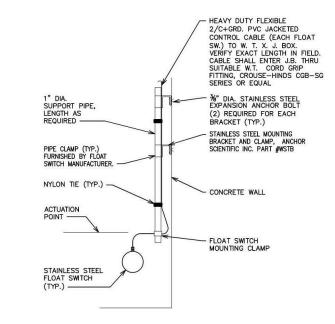
RIGID GAI VANIZED

-RIGID GALVANIZED
STEEL CONDUIT,
CONTINUE WITH R.G.S.
DOWN EXTERIOR WALL
AND TO 5'-0" (MIN.)
FROM BLDG., PAINT TO

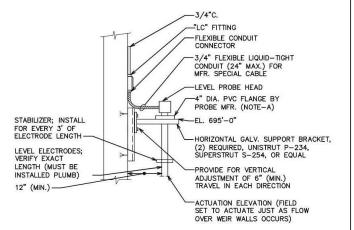
MATCH EXTERIOR TRIM

SEAL WATERTIGHT WITH NON-METALLIC

2" R.G.S. CONDUIT TO LTG. PANEL—



FLOAT SWITCH PIPE MTG. DETAIL



EXPANSION COUPLING SHALL BE USED AT ALL CONDUIT RISER LEAVING A DUCT BANK SYSTEM AT WALL AND CONDUIT TRESTLE LOCATIONS APPLETON ELECTRIC CO. SERIES OR AS APPROVED RIGID METAL CONDUIT EXPANSION COUPLING AND BONDING DETAIL

-BONDING
JUMPER

EXPANSION COUPLING SHALL

BE AS MANUFACTURED BY

8" MOVEMENT

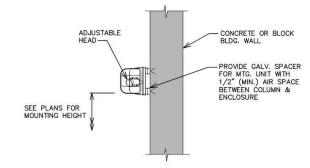
NOTE:

EXPANSION COUPLING

WALL PENETRATION DETAIL

LEVEL SWITCH / PROBE MOUNTING DETAIL

A. ALL MOUNTING HARDWARE (NUTS, BOLTS AND WASHERS) SHALL BE 3/4" DIA. (MIN.) 300 SERIES STAINLESS STEEL



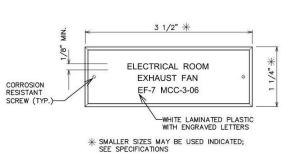
TYPE "A" CONCRETE SLAB

MOUNTING DETAIL

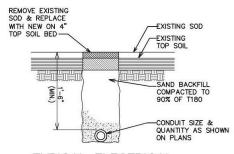
N.T.S.

EMERGENCY LIGHTING FIXTURE TYPE "EM" MOUNTING DETAIL

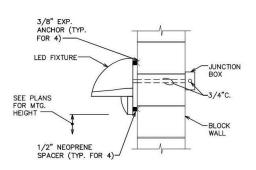
(CEILING MOUNT SIMILAR)



NAMEPLATE DETAIL FULL SCALE

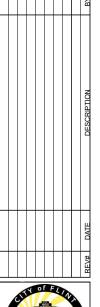


TYPICAL ELECTRICAL TRENCH DETAIL



TYPE "OA" MOUNTING DETAIL









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VAULT STATION WPCF

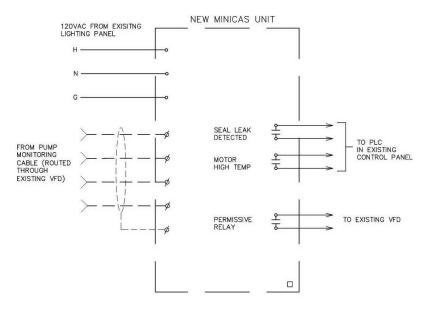
CITY OF FLINT VENUE PUMPING REHABILITATION

AVENUE THIRD

ΑV

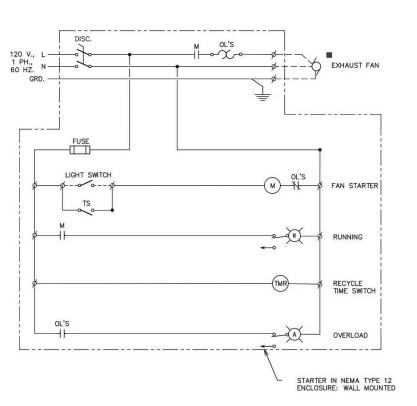
THIRD

COF107301F



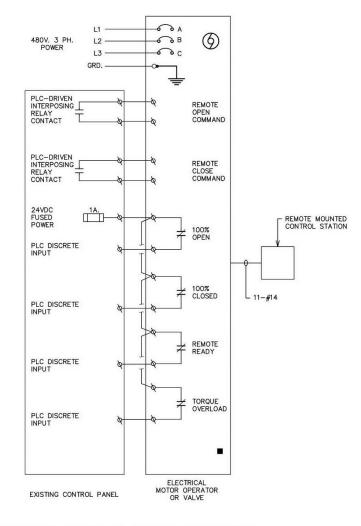
MOTOR MONITORING UNIT WIRING DIAGRAM

NO SCALE (LOCATED IN NEMA TYPE 12 REMOTE ENCLOSURE)



TYPICAL 120V EXHAUST FAN WIRING DIAGRAM

(■= LOCATED REMOTELY)



ELECTRIC GATE OR VALVE OPERATOR TYPICAL CONNECTION DIAGRAM

NO SCALE (MANUAL OVERRIDE LOCAL/REMOTE SELECTOR SW. BUILT INTO ACTUATOR)



Know what's below.
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COF107301F E - 502

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STATION

CITY OF FLINT AVENUE PUMPING S REHABILITATION

P.O. BOX 824 48303 - 0824

VAULT

SRF # 5079-01
AVENUE PUMP STATION AND WPCF
ELECTRICAL WIRING DIAGRAMS

THIRD