

# CITY OF FLINT

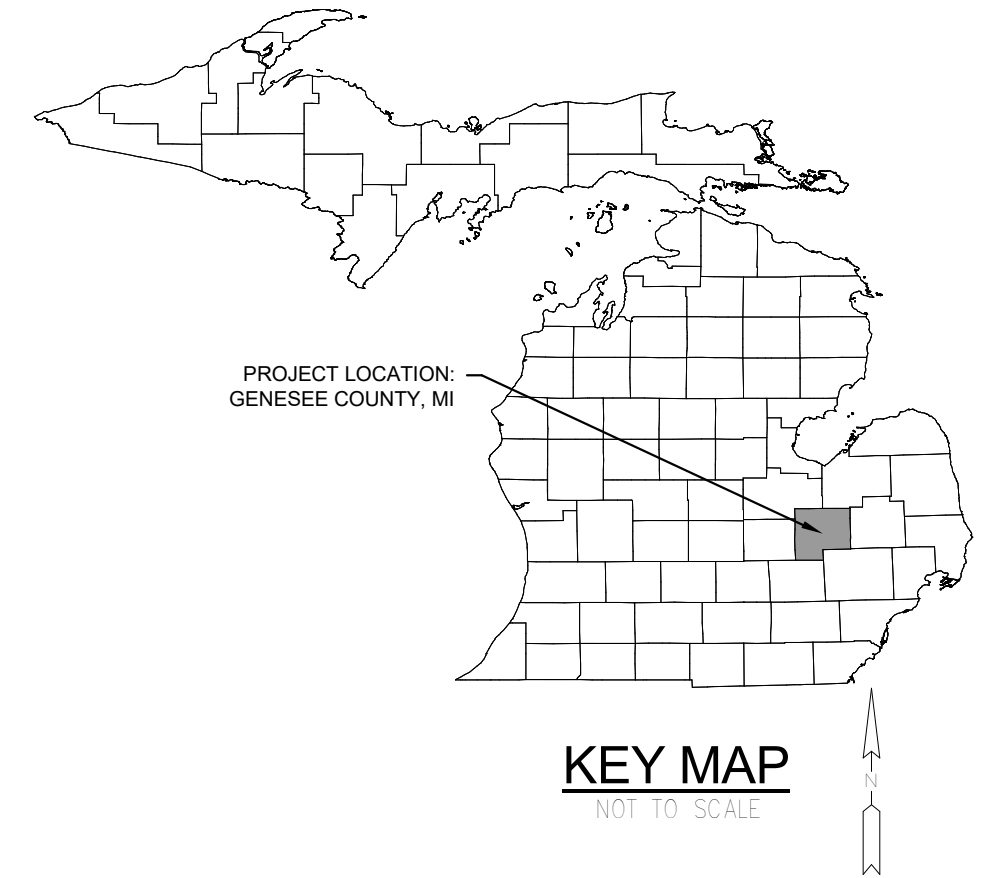
## GENESEE COUNTY, MICHIGAN

### CONSTRUCTION PLANS FOR

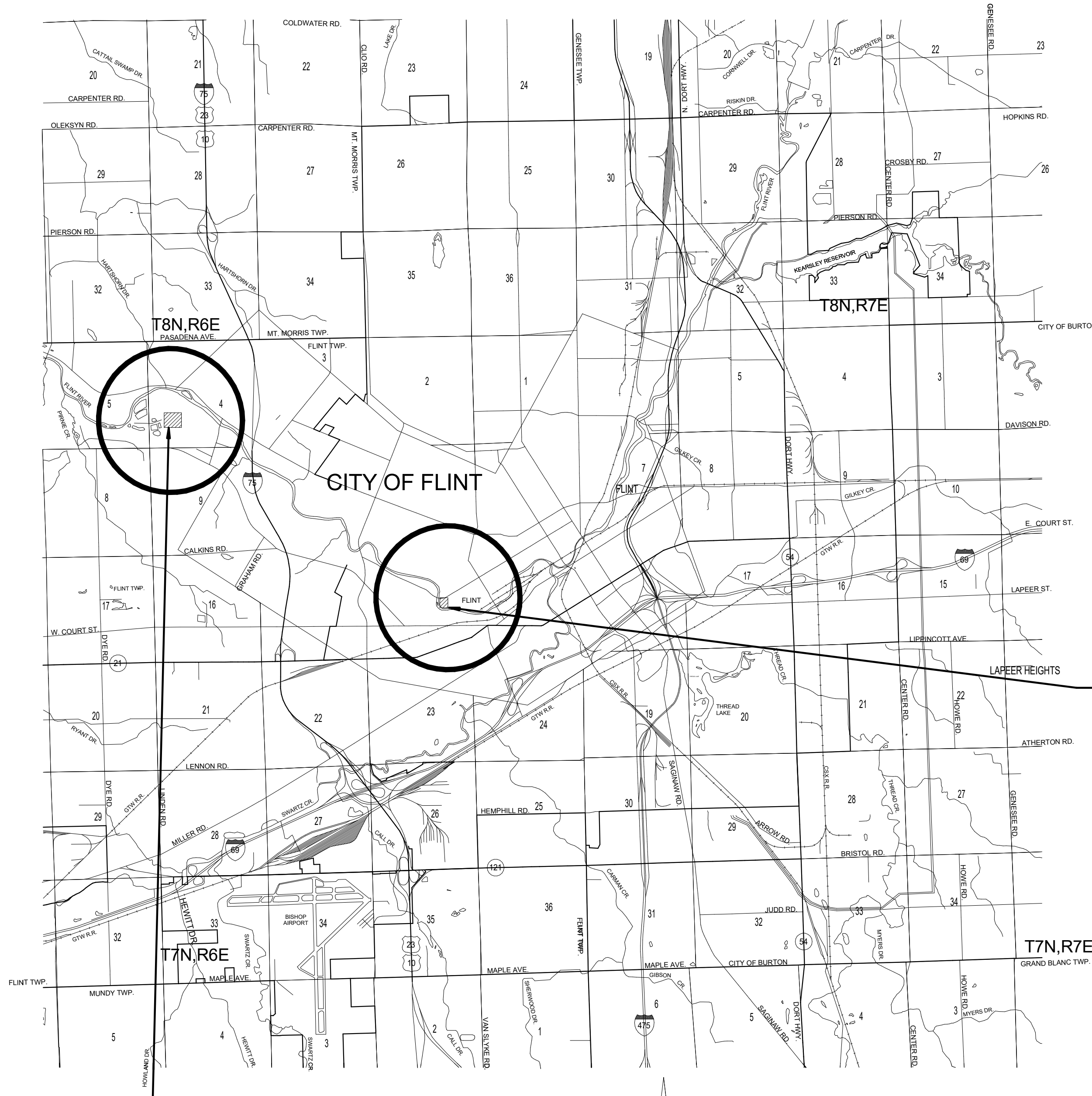
# WPCF THIRD AVENUE

# PUMPING STATION IMPROVEMENTS

## SRF #5709-01






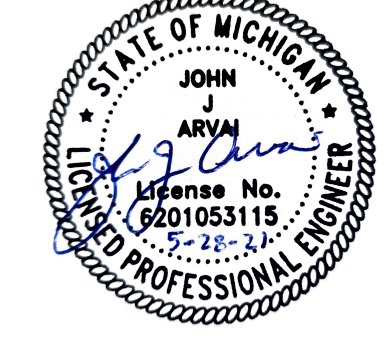
DRAWING INDEX	
Sheet Number	Sheet Name
GENERAL	
G-001	COVER SHEET
CIVIL	
C-001	CIVIL LEGEND
C-100	GENERAL CIVIL NOTES
C-101	THIRD AVE EXISTING SITE PLAN
C-102	FLINT WPCF EXISTING SITE PLAN
C-103	THIRD AVE PROPOSED SITE PLAN
C-104	FLINT WPCF PROPOSED SITE PLAN
C-105	THIRD AVE SESC PLAN
C-106	FLINT WPCF SESC PLAN
C-107	SESC DETAILS
C-108	GENERAL CIVIL DETAILS
STRUCTURAL	
S-001	STRUCTURAL NOTES
S-002	TYPICAL STRUCTURAL DETAILS
S-003	TYPICAL STRUCTURAL DETAILS
S-004	TYPICAL STRUCTURAL DETAILS
SD-101	THIRD AVENUE PUMPING STATION EXISTING SLAB/VAULT DEMO PLAN AND SECTION
SD-102	THIRD AVENUE PUMPING STATION EX. EQUIP. PAD, WALL & SLAB DEMO PLAN AND SECTIONS
S-101	THIRD AVENUE PUMPING STATION VALVE ACCESS STRUCTURES PLAN LAYOUTS AND 3D VIEW
S-102	THIRD AVENUE PUMPING STATION PUMP NO. 3 TRENCH EXTENSION PLANS AND SECTIONS
S-103	THIRD AVENUE PUMPING STATION FRP VALVE ACCESS PLATFORM FRAMING PLAN EL. 693.45
S-104	THIRD AVENUE PUMPING STATION FRP VALVE ACCESS PLATFORM PLAN EL. 693.45
S-110	WPCF VALVE VAULT GRADE PLAN (EL. 714.33) AND ROOF LEVEL PLAN (EL. 529.66)
S-111	WPCF VALVE VAULT FOUNDATION PLAN AND 3D VIEWS
S-301	THIRD AVENUE PUMPING STATION VALVE ACCESS STRUCTURE SECTIONS
S-303	THIRD AVENUE PUMPING STATION FRP VALVE ACCESS PLATFORM SECTIONS
S-310	WPCF VALVE VAULT SECTIONS
S-311	WPCF VALVE VAULT SECTIONS
S-501	THIRD AVENUE PUMPING STATION VALVE ACCESS STRUCTURE SECTIONS
S-502	THIRD AVENUE PUMPING STATION CONNECTION DETAILS
S-510	WPCF VALVE REINFORCEMENT SECTIONAL DETAILS
S-601	HATCH SCHEDULE
ARCHITECTURAL	
AD-101	THIRD AVENUE PUMPING STATION ROOF DEMO
AD-102	THIRD AVENUE PUMPING STATION SCREENING BUILDING ROOF DEMO
A-001	GENERAL NOTES AND DETAILS
A-101	THIRD AVENUE PUMPING STATION FLOOR PLAN
A-102	THIRD AVENUE PUMPING STATION ROOF PLANS
A-103	THIRD AVENUE PUMPING STATION SCREENING BUILDING ROOF PLAN
A-110	WPCF VALVE PLANS
A-201	THIRD AVENUE PUMPING STATION ELEVATIONS
A-210	WPCF VALVE ELEVATIONS
A-310	WPCF VALVE SECTIONS AND DETAILS
A-501	THIRD AVENUE PUMPING STATION AND WPCF VALVE ROOF DETAILS
A-901	THIRD AVENUE PUMPING STATION REFERENCE PHOTOS
A-902	THIRD AVENUE PUMPING STATION SCREENING BUILDING REFERENCE PHOTOS
PROCESS	
D-001	PROCESS SYMBOLS AND ABBREVIATIONS
DD-101	DEMOLITION PLAN - TAPS PIPING LAYOUT PLAN
DD-301	DEMOLITION PLAN - TAPS PIPING LAYOUT SECTIONS
D-101	TAPS SUCTION PIT PIPING LAYOUT PLAN
D-102	TAPS PUMP FLOOR PIPING LAYOUT PLAN
D-110	WPCF VALVE VAULT PLAN
D-301	TAPS PIPING LAYOUT SECTIONS
D-310	WPCF VALVE VAULT SECTIONS
ELECTRICAL	
ED-101	THIRD AVENUE PUMPING STATION ELECTRICAL DEMO
ED-102	THIRD AVENUE PUMPING STATION ELECTRICAL DEMO
E-101	THIRD AVENUE PUMPING STATION MOTOR ROOM POWER PLAN
E-102	THIRD AVENUE PUMPING STATION INTERMEDIATE FLOOR POWER PLAN
E-103	THIRD AVENUE PUMPING STATION LOWER LEVEL POWER PLAN
E-110	WPCF VALVE ELECTRICAL PARTIAL SITE PLAN
E-111	WPCF FERROUS BUILDING POWER PLAN
E-112	WPCF VALVE POWER & LIGHTING PLANS
E-501	THIRD AVENUE PUMP STATION AND WPCF VALVE ELECTRICAL DETAILS
E-502	THIRD AVENUE PUMP STATION AND WPCF VALVE ELECTRICAL WIRING DIAGRAMS



#### 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

JOB NO.: COF107301F		SHEET: G-001	
 HUBBELL, ROTH & CLARK, INC. CONSULTING ENGINEERS SINCE 1915 155 NILET DRIVE BLOOMFIELD HILLS, MICH. PHONE: (248) 454-6300 FAX (1st Floor): (248) 454-6312 FAX (2nd Floor): (248) 539-2592 WEB SITE: <a href="http://www.hrc-eng.com">http://www.hrc-eng.com</a>		 WADE TRIM 555 South Saginaw Street, Suite 201 Flint, MI 48502 810.235.2555/800.841.0342 FAX: 810.235.4975	
			

CITY OF FLINT WATER  
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




















































































































































































Know what's below.  
Call before you dig.



PROJECT: MANAGER: Tiffany L. Harrison, PE FIELD BOOK INFORMATION: CA:\PW\WORK\WADE-TRIM\TDAWDEK\0110473\CSP\_PITS\_G-001\_CIVIL\_LEGEND.DWG - LAYOUT1 - PLOTTED 6/21/2021 3:13 PM BY: DAVIDEK, TYLER

EXISTING	PROPOSED	
CABLE TV		
CABLE TV POLE		
CABLE TV PEDESTAL		
OVERHEAD CABLE TELEVISION	—CTV—CTV—	—CTV—CTV—
UNDERGROUND CABLE TELEVISION	—UCTV—UCTV—	—UCTV—UCTV—
ELECTRICAL		
CIRCUIT BREAKER PANEL		
HANDHOLE		
MANHOLE		
OUTLET		
PEDESTAL		
TRANSFORMER BOX		
METER		
POWER POLE		
TRANSFORMER TOWER		
OVERHEAD ELECTRIC	—E—E—	—E—E—
UNDERGROUND ELECTRIC	—UE—UE—	—UE—UE—
GAS		
VENT		
BLOW OFF		
FILLER PIPE		
MANHOLE		
METER		
STOP BOX		
SHUTOFF VALVE		
GAS	—G—G—	—G—G—
MONUMENTS		
IRON (FOUND)		
IRON (SET)		
BENCH MARK		
BRASS PLATE		
CONCRETE NAIL		
DRILL HOLE		
GOVERNMENT CORNER		
GPS MONUMENT		
IRON PIPE		
MONUMENT BOX		
MONUMENT		
MERE STONE		
NGS MONUMENT		
NAIL & TAG		
PINCH IRON		
PK NAIL		
RAILROAD SPIKE		
RIGHT-OF-WAY MARKER		
SPIKE		
SHIPS SPIKE		
T-IRON		
USGS MONUMENT		
CROSS CUT		
CROSS CUT IN MONUMENT		
WOOD STAKE		
OVERHEAD UTILITIES		
DEADMAN ANCHOR		
FLOOD LIGHT		
GUY WIRE ANCHOR		
GUY POLE		
LAMP POLE		
METAL LIGHT POLE		
ORNAMENTAL LIGHT		
POLE BOX		
POWER & LIGHT POLE		
POWER & TELEPHONE POLE		
TELE, CTV, PWR & LIGHT POLE		
TELE, CTV, & POWER POLE		
TELE, & CTV POLE		
TELE, CTV, & LIGHT POLE		
TELE, & LIGHT POLE		
TELE, POWER, & LIGHT POLE		
UTILITY POLE		
OVERHEAD CABLE TV & TELEPHONE	—CTV&T—	—CTV&T—
OVERHEAD ELECTRIC & CABLE TV	—E&CTV—	—E&CTV—
OVERHEAD ELECTRIC, CABLE TV AND TELEPHONE	—E&CTV&T—	—E&CTV&T—

<b><u>SANITARY SEWER</u></b>		
CLEAN OUT		
PUMPSTATION MANHOLE		
SANITARY MANHOLE		
SEPTIC TANK		
SEWER VENT		
SEWER VALVE		
FORCEMAIN		
SANITARY SEWER	—FM—FM—	—FM—FM—
<b><u>SITE (MISCELLANEOUS)</u></b>		
ABANDON ITEM		
ACCESSIBLE SYMBOL		
ADJUST ITEM		
FINISH GRADE		
FLOW ARROW		
PARKING COUNT		
RECONSTRUCT ITEM		
RELOCATE ITEM		
REMOVE ITEM		
SLOPE LABEL		
SPOT GRADE		
FLOOD LIGHT		
LAMP POLE		
LIGHT POLE (SINGLE LAMP)		
LIGHT POLE (DOUBLE LAMP 180°)		
LIGHT POLE (DOUBLE LAMP 90°)		
LIGHT POLE (THREE LAMP)		
LIGHT POLE (FOUR LAMP)		
ORNAMENTAL LIGHT POLE		
METAL LIGHT POLE		
<b><u>STORM SEWER/DRAINAGE</u></b>		
CATCH BASIN (ROUND GRATE)		
CATCH BASIN (SQUARE GRATE)		
CISTERN		
BOX CULVERT		
CULVERT HEADWALL		
CULVERT END SECTION		
DOWN SPOUT		
ROUND INLET		
SQUARE INLET		
STORM MANHOLE		
STORM SEWER STUB		
DITCH CENTERLINE		
FLOOD PLAIN		
STORM SEWER	—FLP—FLP—	—FLP—FLP—
<b><u>TELEPHONE</u></b>		
TELEPHONE POLE		
TELEPHONE MANHOLE		
TELEPHONE PEDESTAL		
COMMUNICATIONS HANDHOLE		
FIRE CALL		
POLICE CALL		
PHONE BOOTH		
OVERHEAD TELEPHONE	—T—T—	—T—T—
UNDERGROUND TELEPHONE	—UT—UT—	—UT—UT—
<b><u>TOPOGRAPHIC FEATURES</u></b>		
AIR CONDITION UNIT UNIT		
ANTENNA		
BASKET BALL POST		
BATTERY BOX		
BILLBOARD SIGN BASE		
CAMERA TOWER		
CLIMBING BARS		
COLUMN		
FENCE CORNER		
FILL PORT		
FLAG POLE		
FOUNTAIN		
GAS PUMP		
GAS TANK (UNDERGROUND)		
HEAT PUMP		

TOPOGRAPHIC FEATURES (CONT.)	
HIGHWAY DELINEATOR	
LIGHT POLE BASE	
MAIL BOX	
MERRY-GO-ROUND	
MONITORING WELL	
NEWSPAPER BOX	
OIL WELL	
PARKING METER	
PIER	
PILING	
POST (ROUND)	
POST (SQUARE)	
ROCK	
RAILROAD SIGNAL	
SATELLITE DISH	
SIGN POST	
SLIDE (SPIRAL)	
SLIDE (STRAIGHT)	
SLIDE END	
SLIDE STEPS	
SPRINKLER HEAD	
SPRINKLER JUNCTION BOX	
STATUE	
SWING SET END	
TETHER BALL POLE	
TRAFFIC SIGNAL	
UNDERGROUND MARKER	
U/G MARKER CABLE	
U/G MARKER ELECTRIC	
U/G MARKER FIBER OPTIC	
U/G MARKER GAS	
U/G MARKER TELEPHONE	
VOLLEY BALL POST	
WOOD STAKE	
<u>UNDERGROUND UTILITIES</u>	
UTILITY MANHOLE	
FIBER OPTIC	
OIL	
UNDERGROUND CTV & TELEPHONE	
UNDERGROUND ELEC. & CABLE TV	
UNDERGROUND ELEC. & TELEPHONE	
UNDERGROUND ELECTRIC, CABLE TV AND TELEPHONE	
<u>VEGETATION</u>	
CONIFEROUS BUSH	
CONIFEROUS TREE	
DECIDUOUS BUSH	
DECIDUOUS TREE	
MULTI-STEM CONIFEROUS TREE	
MULTI-STEM DECIDUOUS TREE	
PALM TREE	
STUMP	
BRUSH LINE	
EDGE OF WOODS	
HEDGE	
TREE ROW	





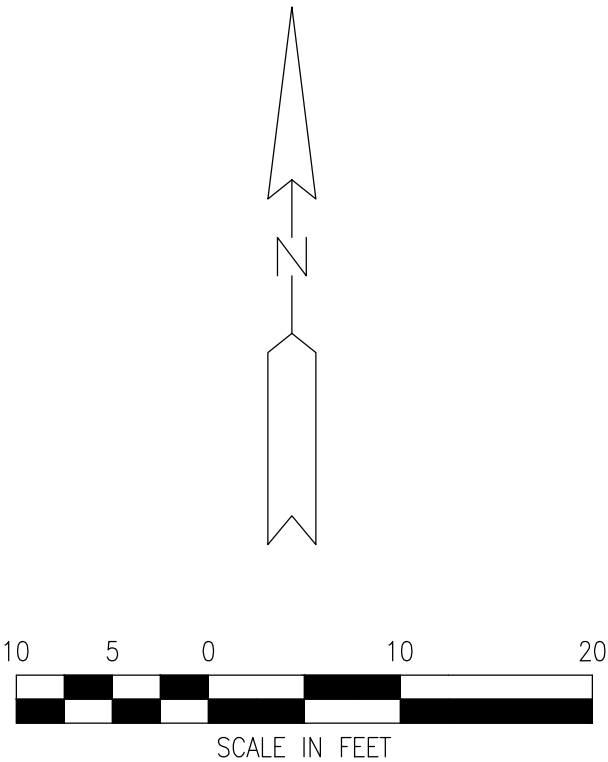












**NOTES:**

1. THE CONTRACTOR WILL PRESERVE THE OWNERS ACCESS TO ALL SITES FOR OPERATION AND MAINTENANCE AT ALL TIMES.
2. CONTRACTOR TO EXCAVATE MATERIAL ABOVE EXISTING BASEMENT AREA; MATERIAL TO BE STORED ON SITE AND REPLACED AT THE COMPLETION OF THE BASEMENT WORK.
3. CONTRACTOR RESPONSIBLE FOR THE DESIGN AND ROUTE OF BYPASS PUMPING SYSTEM PER SECTION 01 8933.

The logo of the City of Flint, Michigan, is a circular emblem. It features a stylized city skyline in the foreground, with a bridge spanning a body of water in the background. The sun is rising behind the bridge, and the text "CITY OF FLINT" is arched across the top, and "MICHIGAN" is arched across the bottom. The year "1855" is inscribed on the bridge.


**HRC**  
**HUBBELL, ROTH & CLARK, INC.**  
CONSULTING ENGINEERS SINCE 1915

555 HULET DRIVE  
BLOOMFIELD HILLS, MICH.

P.O. BOX 824  
48303 - 0824

PHONE: (248) 454-6300  
FAX (1st Floor): (248) 454-6312  
FAX (2nd Floor): (248) 338-2592

WEB SITE: [http:// www.hrc-engr.com](http://www.hrc-engr.com)



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90% SET	5/14/21	JJA
100% SET	5/28/21	JJA
IFB	6/22/21	JJA

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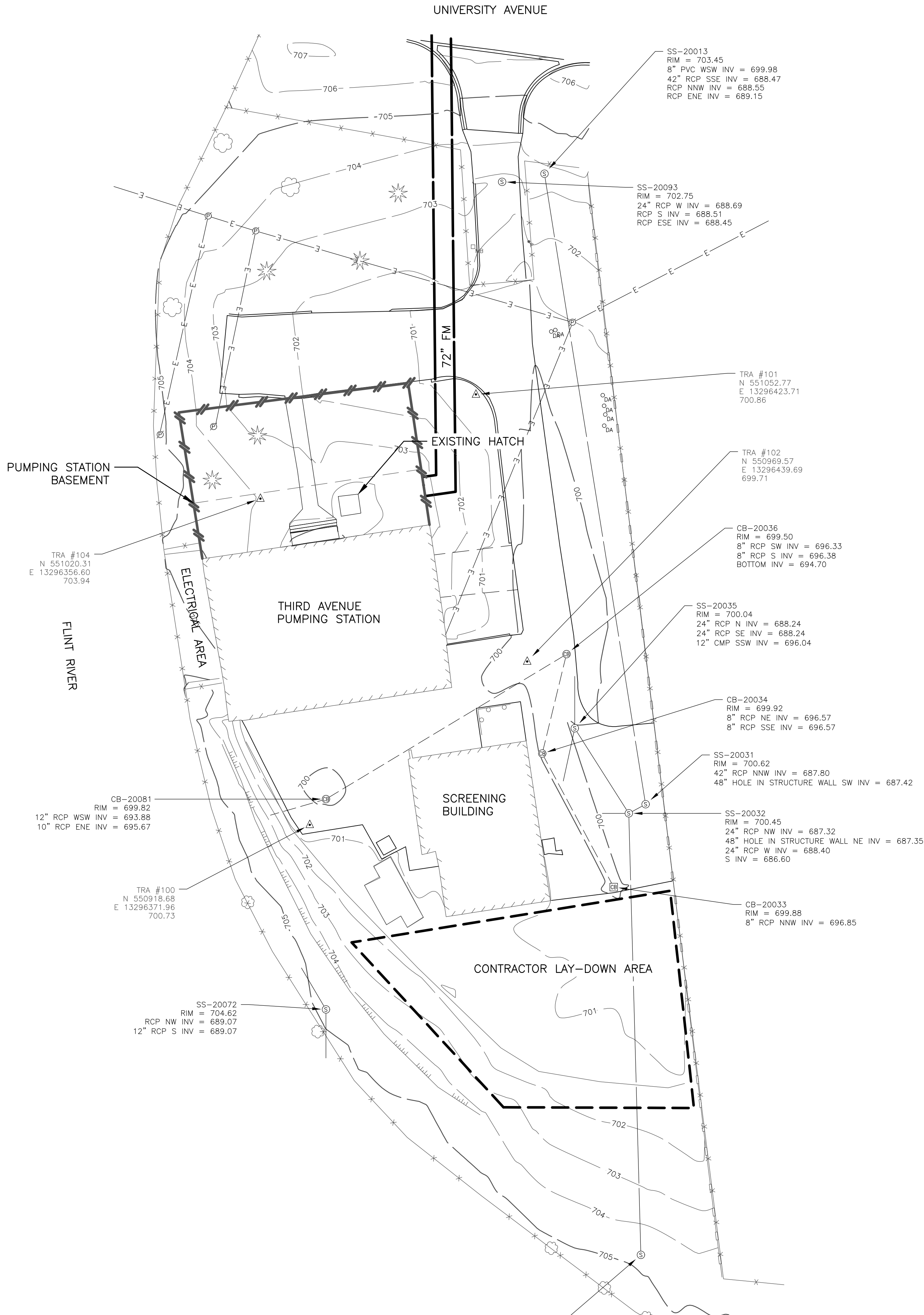
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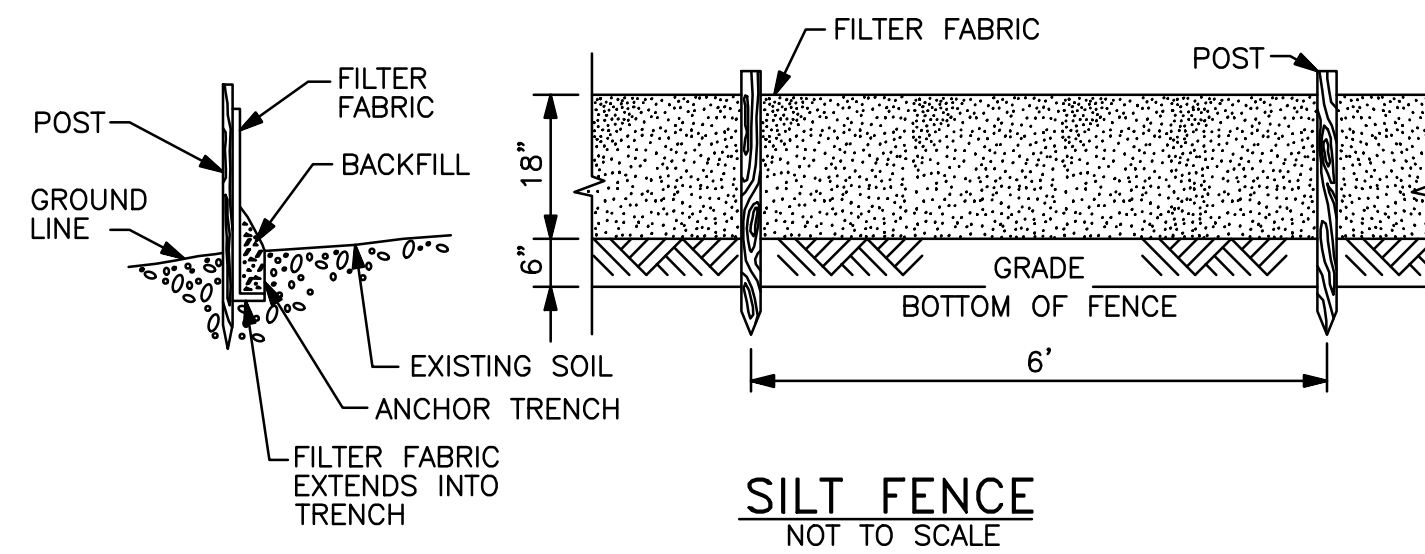
PROJECT: MANAGER: Tiffney L. Harrison, PE FIELD BOOK INFORMATION: - PLOTTED 6/21/2021 3:30 PM BY: DAVIDEK, TYLER  
C:\PW\WORK\WADE-TRIM\DAVIDEK\110473\CSP\_PLTS\_C-105\_THIRD\_AVE\_SESS\_PLAN.DWG - LAYOUT1











## DESIGN

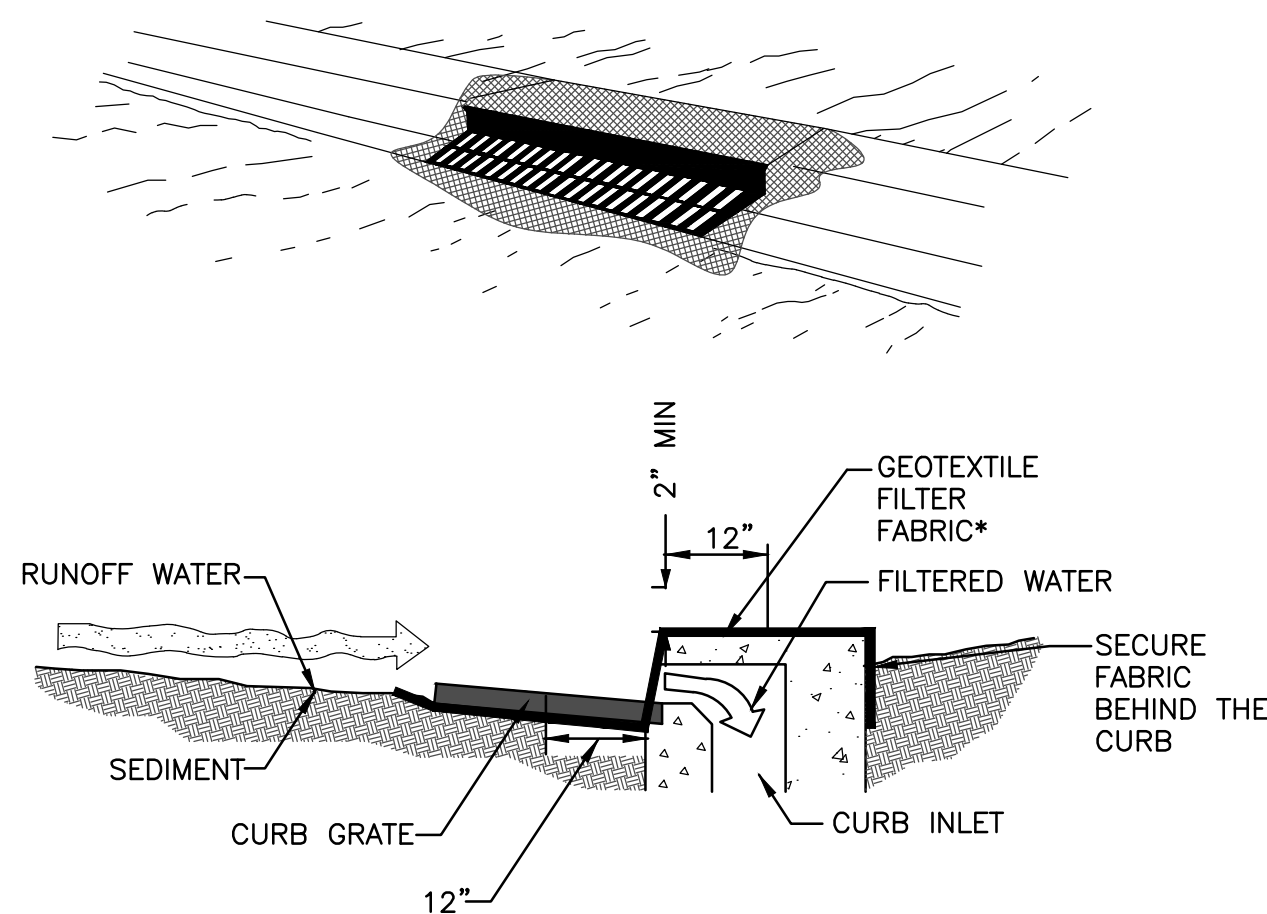
- |  |  |
|--|--|
| <p>1. INLETS WITH DRAINAGE OF 1 ACRE OR LESS AND SLOPES LESS THEN 5%.</p> <p>2. SERVICE, CLEAN AND REPAIR AFTER EACH STORM EVENT.</p> <p><u>* NOTE *</u></p> <p>DO NOT USE SILT FENCE IN LIEU OF FILTER FABRIC FOR THIS APPLICATION.</p> | <p>1. FILTER BAGS MAY BE PLACED IN THE MANHOLE TO INCREASE THE EFFECTIVENESS OF THIS DEVICE.</p> <p>2. IN SOME CASES FILTER BAGS IN THE MANHOLE MAY BE USED ALONE.</p> <p>3. WARNING! THIS DEVICE MAY CAUSE FLOODING OF ADJACENT PROPERTY!</p> <p>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.</p> |
|--|--|

\* NOTE \*

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

## CATCH BASIN INLET PROTECTION

NOT TO SCALE



## APPLICATION

1. INLETS AT CURB OPENINGS.

## DESIGN

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

\* NOTE \*

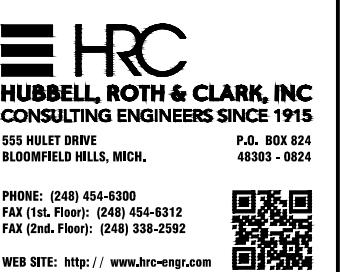
DO NOT USE SILT FENCE IN LIEU OF FILTER FABRIC FOR THIS APPLICATION.

FABRIC FILTER  
CURB INLET PROTECTION 39  
NOT TO SCALE

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 OR 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 SEEDER AREAS WITH UNWEATHERED SMALL GRAIN STRAW OR HAY SPREAD UNIFORMLY AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE. AVOID 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 SEDIMENTATION 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.

[illegible]

CITY OF FLINT  
WPCF THIRD AVENUE PUMP  
STATION IMPROVEMENTS

SRF # 5709-01  
GENERAL CIVIL DETAILS  
PROJECTIONS

ISSUED FOR:	DATE:	BY:
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0% SET	5/14/21	JJA
00% SET	5/28/21	JJA
FB	6/22/21	JJA

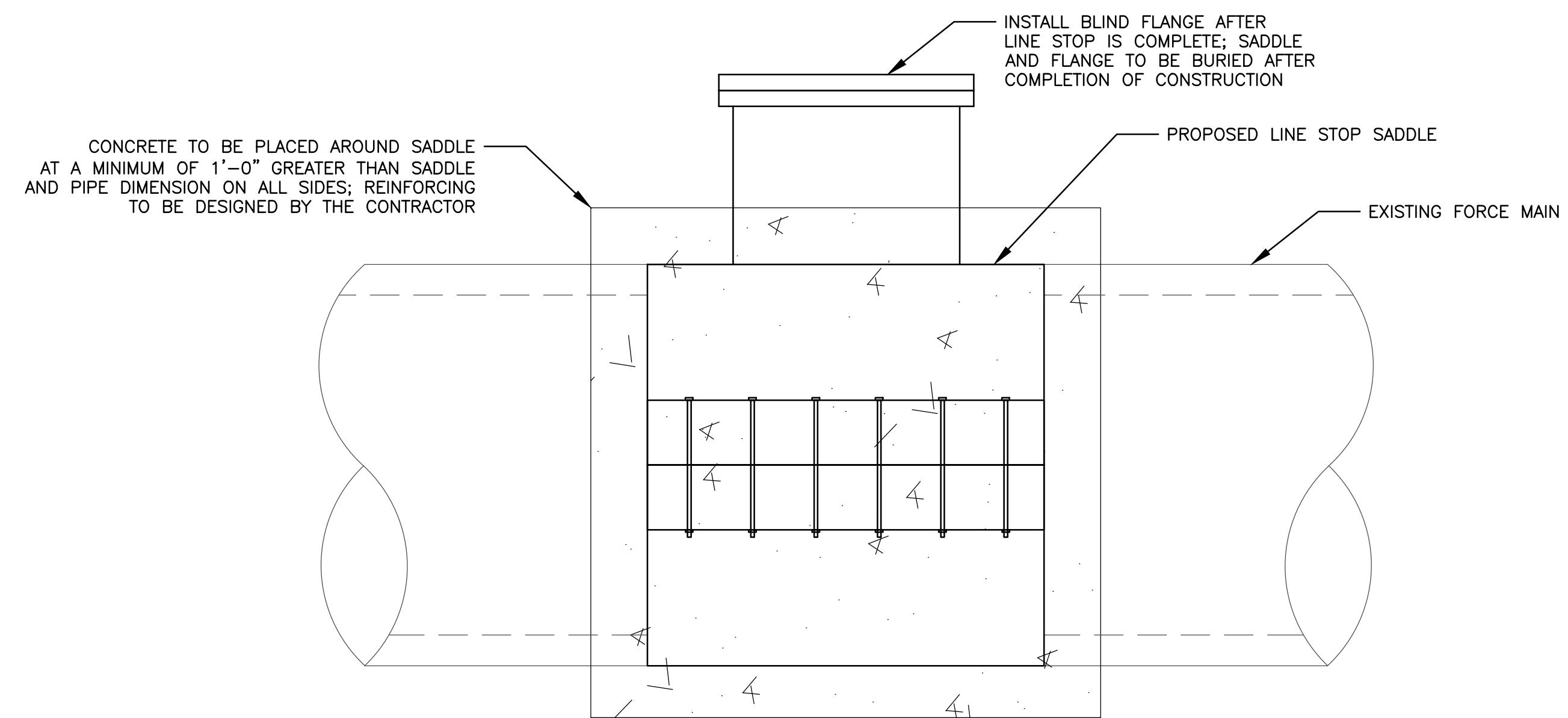
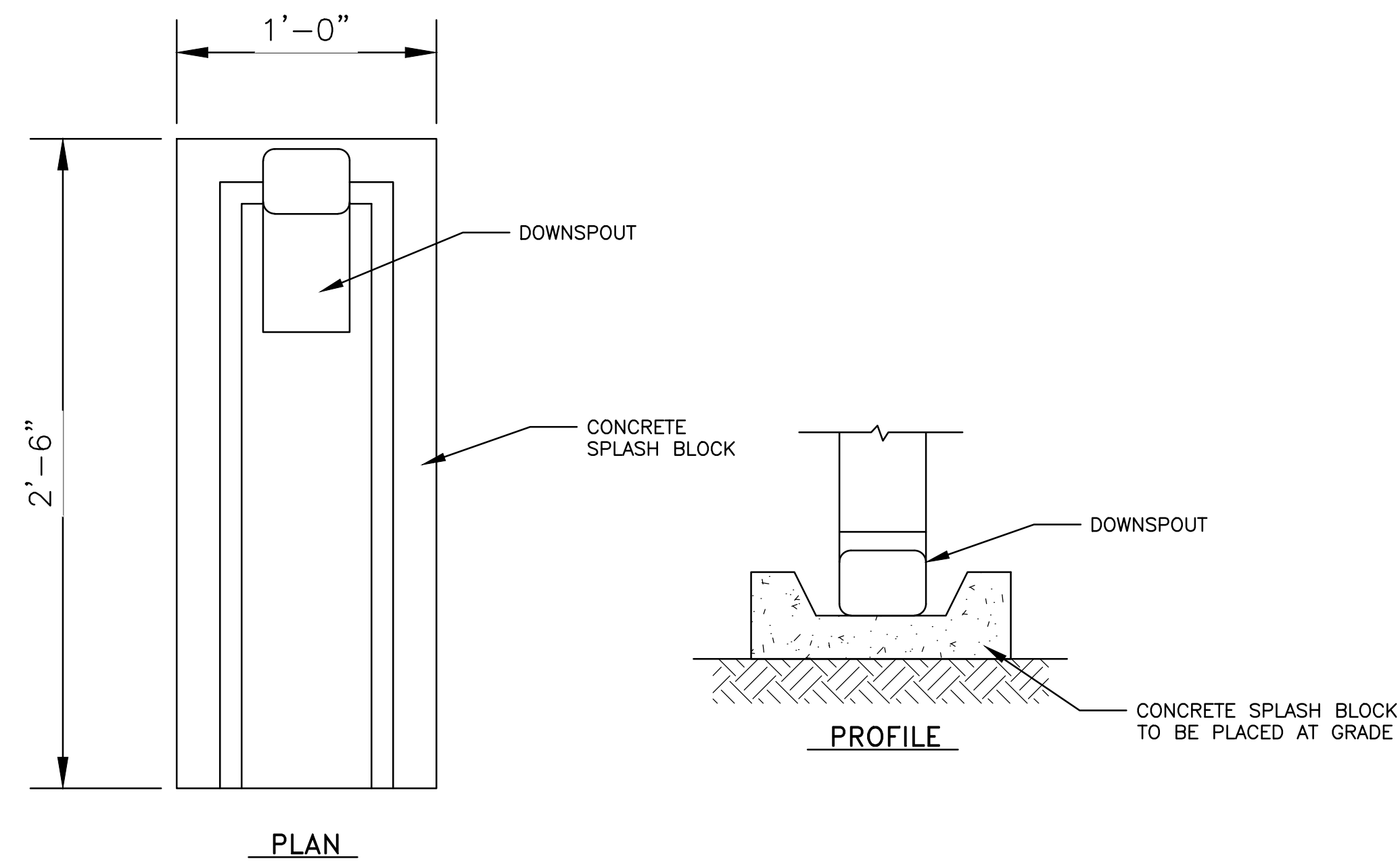
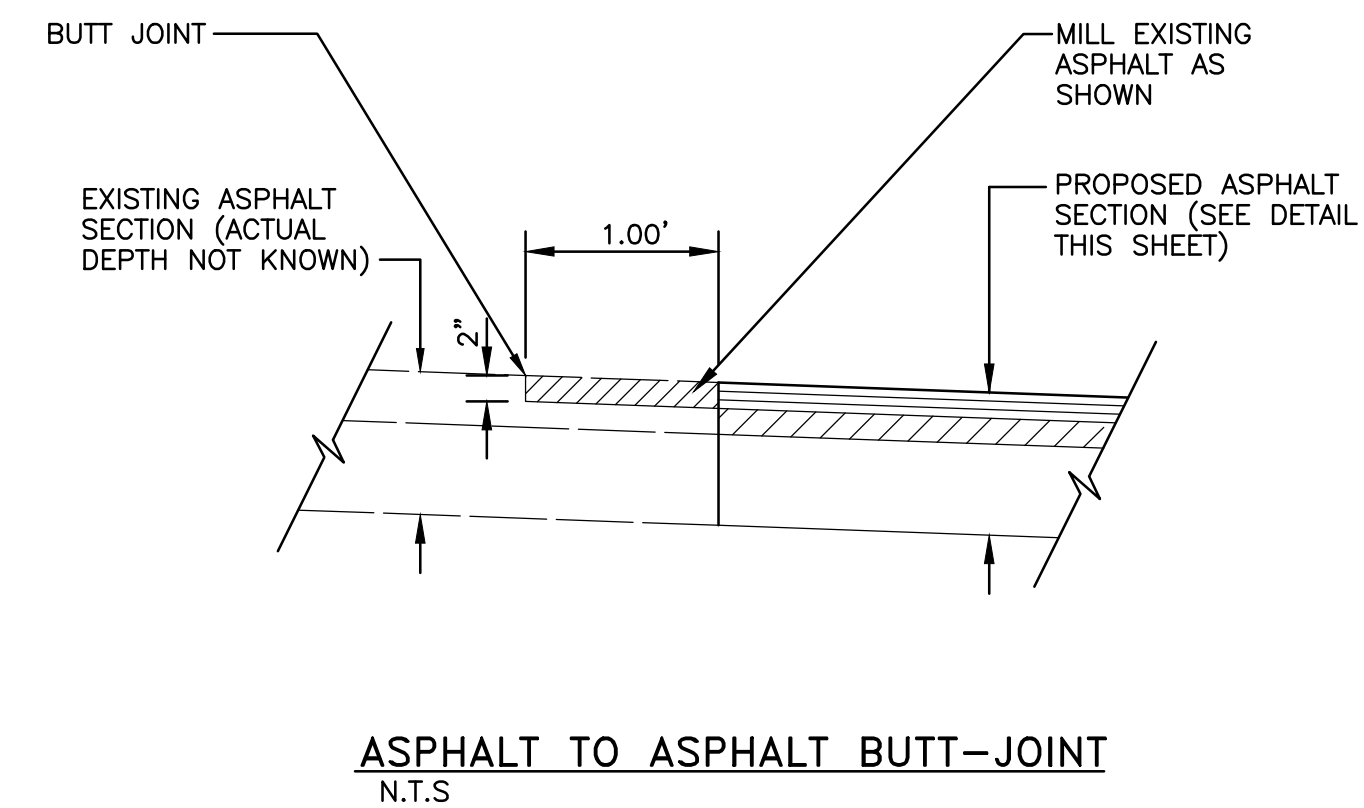
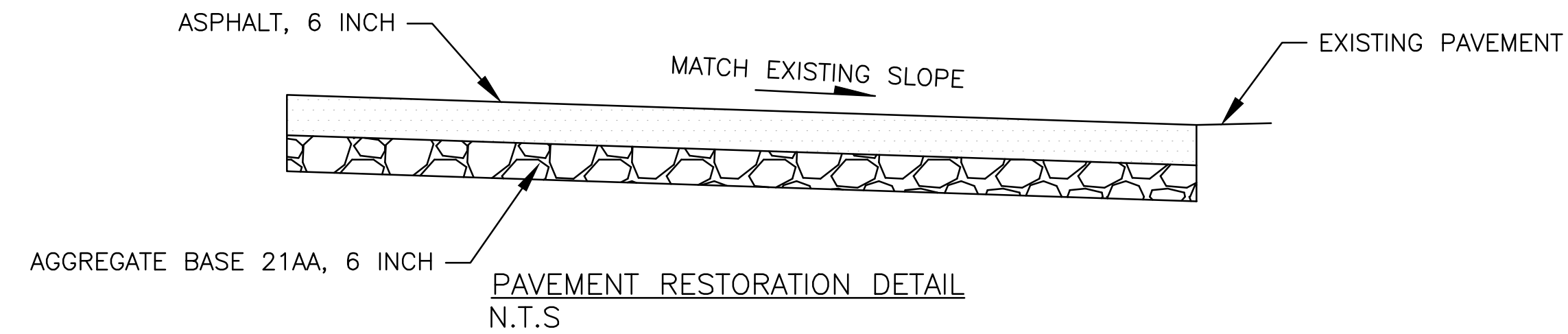
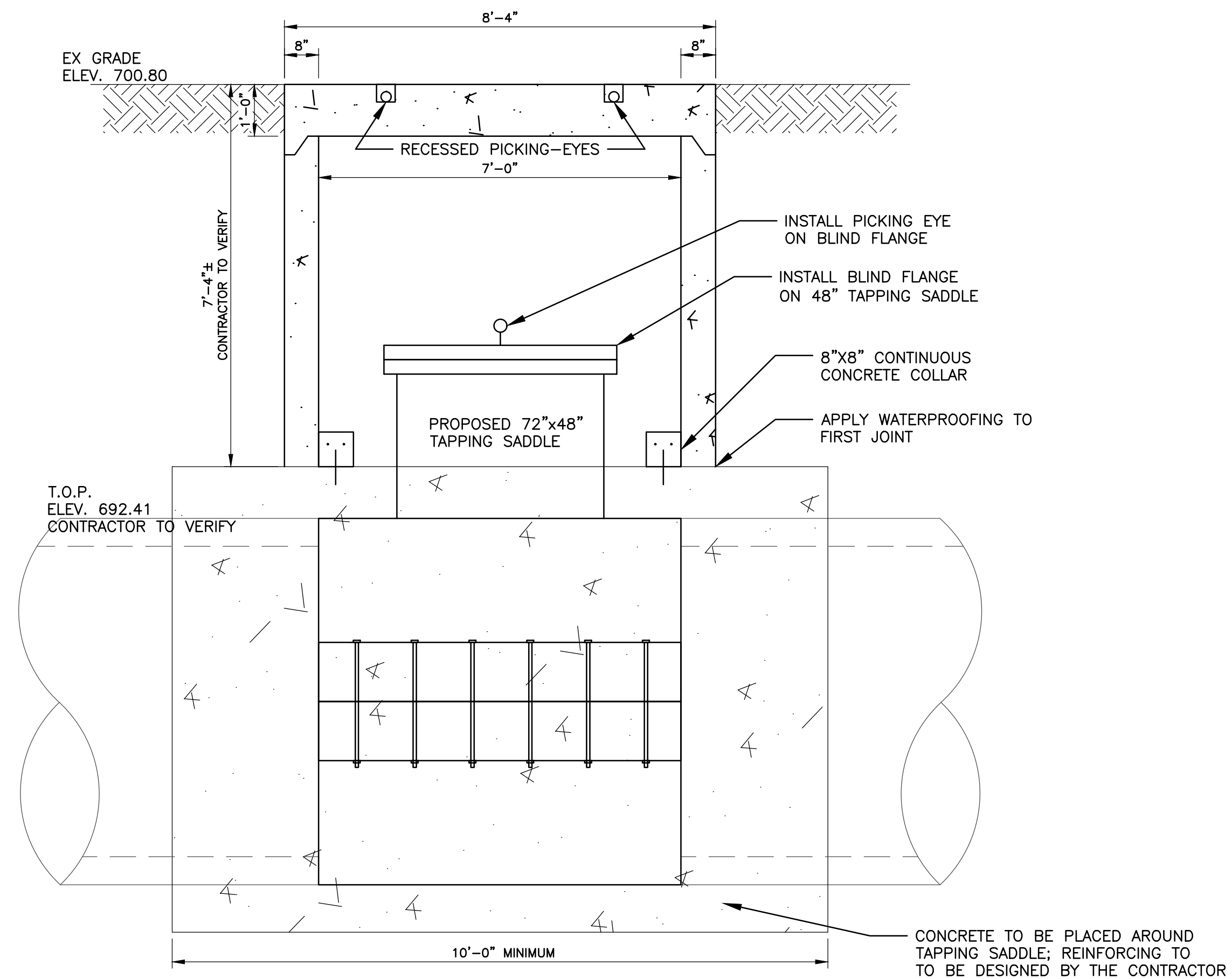
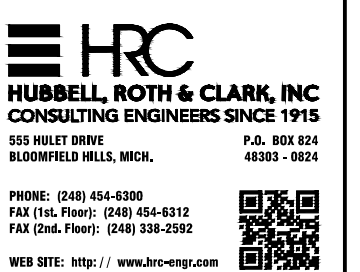
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C-107

©Nade Irrm Group, Inc. WPCF THIRD AVE PUMPING STATION IMPROVEMENTS



[illegible]

CITY OF FLINT  
WPCF THIRD AVENUE PUMP  
STATION IMPROVEMENTS  
SRF # 5709-01  
GENERAL CIVIL DETAILS

ISSUED FOR:	DATE:	BY:
60% SET	4/23/21	JJA
90% SET	5/14/21	JJA
100% SET	5/28/21	JJA
FB	6/22/21	JJA

JOB NO.  
COF107301F

SHEET

C-108

PROJECT MANAGER: Tiffany L. Harrison, PE  
 FIELD BOOK INFORMATION: --  
 C:\PW\WORK\WADE--TRIM\_TDAVIDEK\1110473\CSP\_PLTS\_C-108\_GENERAL CIVIL DETAILS.DWG -- LAYOUT1 -- PLOTTED 6/21/2021 3:45 PM BY DAVIDEK, TYLER



1. 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.
2. MATERIALS FOR THE FOLLOWING FACILITY COMPONENTS SHALL BE AS INDICATED BELOW UNLESS NOTED OTHERWISE:
  - A. PLATFORM FRAMING AT NEW VALVE VAULT . . . GALV STEEL
  - B. UNDER TUNNELL 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
  - F. NEW LADDERS . . . FRP
3. 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.

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 - AMERICAN SOCIETY OF CIVIL ENGINEERS" ASCE 7 -10
  - D. CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES - AMERICAN CONCRETE ASSOCIATION ACI 350 (CONCRETE

1. 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.
2. 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 THEM.
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.
4. 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.
5. 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 EXCAVATION AND WALL COVER THE SLAB HAVE ACHIEVED THE DESIGN 28 DAY STRENGTH INDICATED.
6. 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.
5. 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.

1. 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.

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 ONE 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.
7. 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.
8. 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.
9. 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.)

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).

ALL PULTRUDED COMPOSITE STRUCTURAL MEMBERS (FRP) SHALL BE TYPE 1 SERIES WITH FIBERGLASS REINFORCEMENT ADDITIVES (OR APPROVED EQUAL) WITH MINIMUM MODULUS OF ELASTICITY OF 2,500,000 PSI.

ALL CONNECTION ANGLES 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).

1. ALL 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.
4. ALL STRUCTURAL PIPE SHALL CONFORM TO ASTM A53, GRADE B, TYPE E OR S.
5. 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.
7. 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.
8. 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-GRATING AND SHALL HAVE A MINIMUM ALLOWABLE WORKING STRESS OF 12,000 PSI WITH THE FOLLOWING MINIMUM SECTION PROPERTIES:  
 $S_x = 0.90 \text{ IN}^3/\text{FT}$   
 $I_x = 0.675 \text{ IN}^4/\text{FT}$
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.

1. 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 DAMAGED.
2. ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF IN AN APPROVED MANNER. ALL EXCAVATIONS SHALL CONFORM TO OSHA REQUIREMENTS.
3. 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.
5. 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.
6. 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 ADEQUATELY BACKFILLED.
7. 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.

1. 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.
2. CONTRACTOR IS RESPONSIBLE TO IDENTIFY AND ACCOMMODATE OPENING; AND EMBEDDED ITEMS SHOWN ON OTHER DRAWINGS.
3. ALL ADHESIVE ANCHORING SYSTEMS FOR POST INSTALLED ANCHORS AND/OR REINFORCING DOWELS IN CONCRETE AND MASONRY SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION. THE TYPE, SIZE AND SPACING INDICATED ON DRAWINGS (OR APPROVED EQUAL).

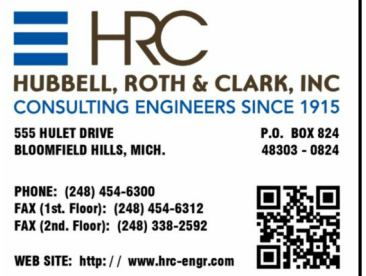
ALT	ALTERNATE	HPC	HIGH
ALUM	ALUMINUM	HK	HOLE
B	BOTTOM	HT	HEIGHT
BLDG	BUILDING	ID	IDENTIFY
BM	BEAM	IE	INTEREST
BSMT	BASEMENT	IF	IF
CJ	CONSTRUCTION JOINT	IN	INCH
CL	CENTERLINE	INT	INTERIOR
CLR	CLEAR	JT	JOINT
COL	COLUMN	KIP	THOUSAND
CONC	CONCRETE	KSI	THOUSAND
CONST	CONSTANT	KB	KNIGHT
CONSTR	CONSTRUCTION	LE	LENGTH
CONT	CONTINUOUS	LP	LOAD
CLSM	CONTROLLED LOW STRENGTH MATERIAL	LGHT	LENGTH
CMU	CONCRETE MASONRY UNIT	MAX	MAXIMUM
COR	CORNER	MIN	MINIMUM
CY	CUBIC YARD	MCP	MUDDY
DBR	DOWEL BAR REPLACEMENT	MO	MOISTURE
DET	DETAIL	NA	NOT
DIA	DIAMETER	NF	NEAR
DIAG	DIAGONAL	NS	NEAR
DISC	DISCONTINUOUS	NTS	NOT
DWLS	DOWELS	NIC	NOT
EJ	EXPANSION JOINT	OC	ON
EE	EACH END	OD	OUT
EF	EACH FACE	OF	OUT
ES	EACH SIDE	OPNG	OPEN
EQ	EQUAL	PSF	POUND
EW	EACH WAY	PO	POUND
EA	EACH	PT	POINT
EL	ELEVATION	REINF	REINFORCE
EX	EXISTING	RE	REINFORCE
EXT	EXTERIOR/ EXTENSION	REM	REMAIN
FC	FILLET CONCRETE	SHTS	SHOULDER
FD	FLOOR DRAIN	SIM	SIMILAR
FF	FAR FACE	SJ	SLAB
FS	FAR SIDE	STR	STRUT
FIN	FINISH	STIR	STIR
FL	FLOOR	STRUCT	STRUCTURE
FND	FOUNDATION	T/	TOTAL
FTNG	FOOTING	TERS	TERMINATE
FT	FEET	THK	THICK
FV	FIELD VERIFIED	TOS	ELEVATION
GALV	GALVANIZED	TYP	TYPE
GR	GRADE	UNO	UNIT
GW	GROSS VEHICLE WEIGHT	V	VEHICLE
H	HORIZONTAL	W	WEIGHT
HCH	HOLLOW CORE	WP	WATER
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"	
<b>NOTES:</b> 1. 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 ON DRAWINGS. 2. CONFIRM REQUIRED EMBEDMENT DEPTHS WITH MANUFACTURERS REQUIREMENTS FOR DEVELOPING THE TENSION CAPACITY OF THE ANCHOR RODS (TYP).		

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 STANDARD WEIGHT CONCRETE;  $f'_c = 6000$  PSI AND REINFORCING STEEL;  $f_y = 60,000$  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 THEM.
5. USE TENSION LAP LENGTHS FOR HORIZONTAL & VERTICAL WALL BARS.

[illegible]

CITY OF FLINT  
 THIRD AVENUE PUMP STATION  
 REHABILITATION  
 SRF # 5079-01  
 STRUCTURAL NOTES

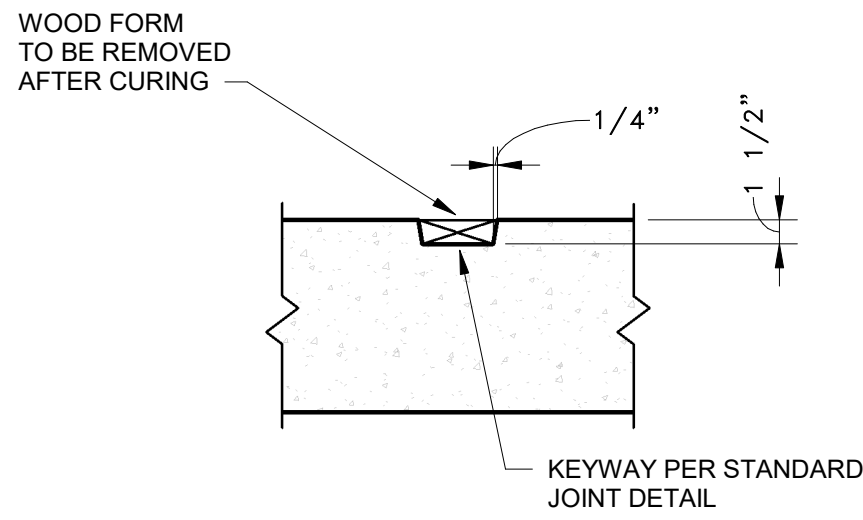
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90% SET	04/14/21	JKW
100% SET	05/28/21	JKW
IFB	06/22/21	JKW

JOB NO.  
COF1073.01F

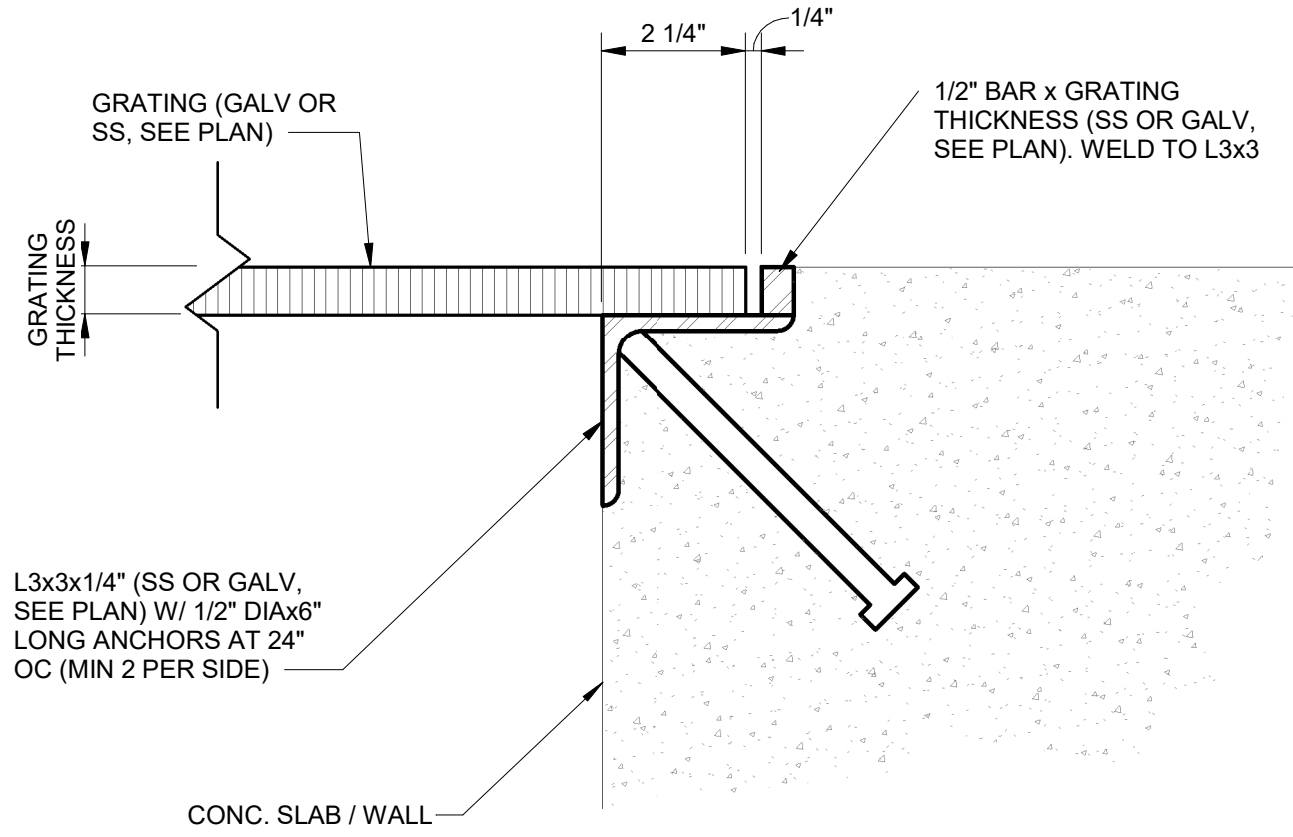
SHEET

S-001

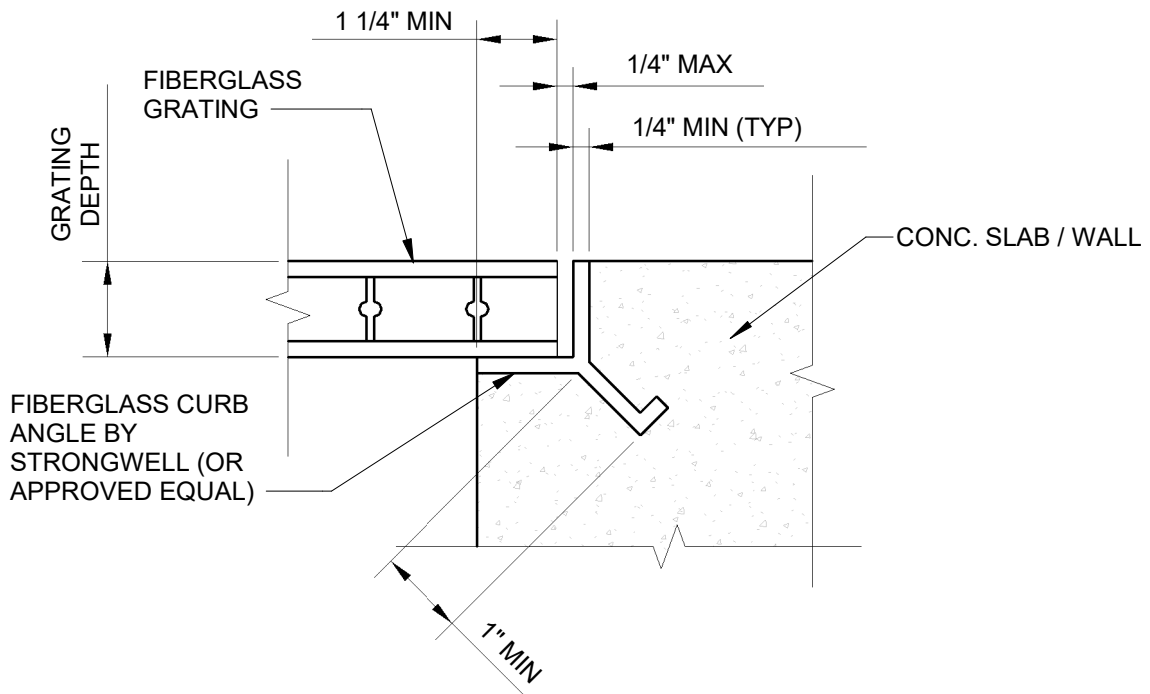




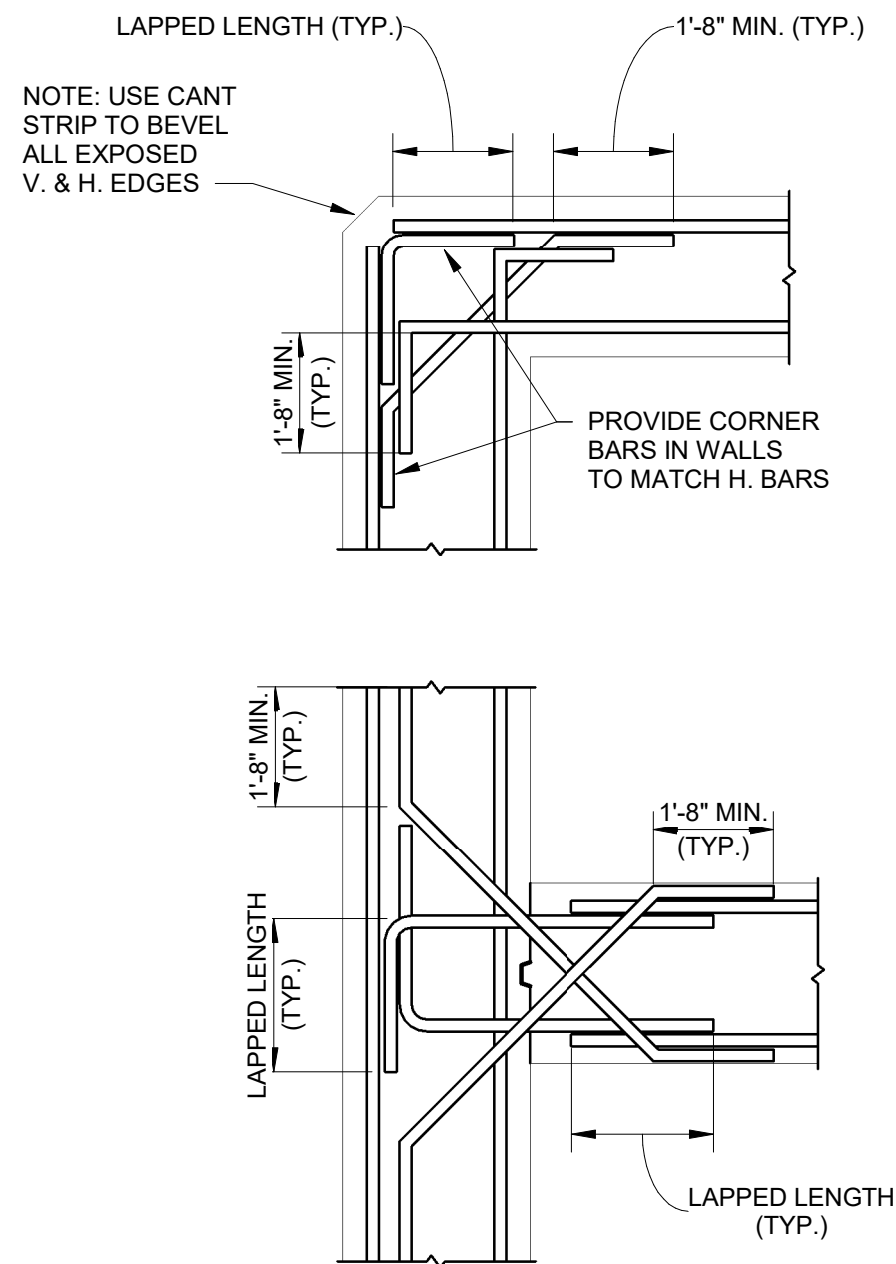
1 TYP. FORMED KEYWAY  
SCALE: 1" = 1'-0"



2 TYPICAL STEEL GRATING FRAME  
SCALE: 1" = 3"

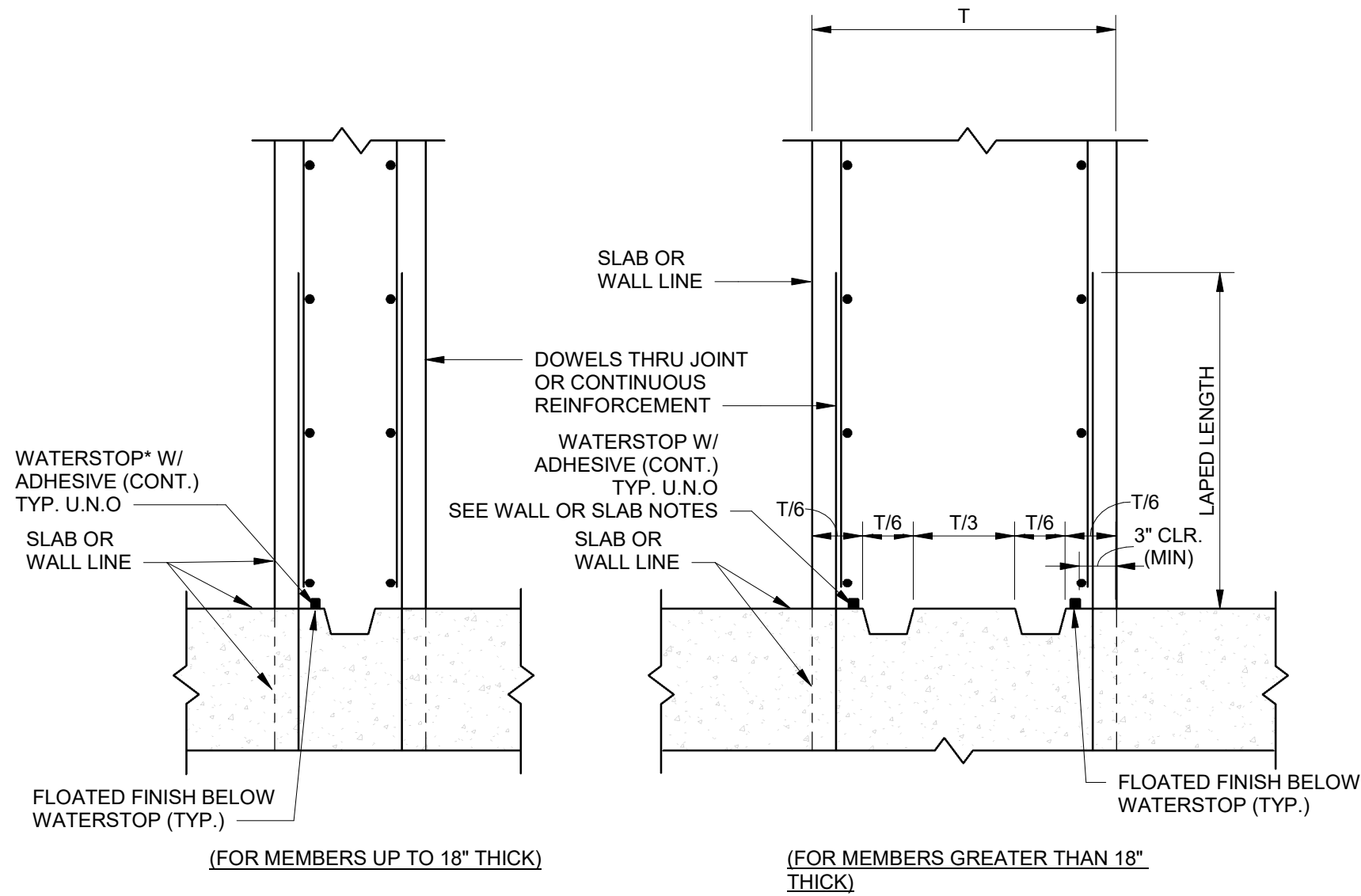


3 TYPICAL FRP GRATING CURB ANGLE  
SCALE: 1" = 1'-0"



SECTIONAL PLAN  
OF WALLS DETAIL

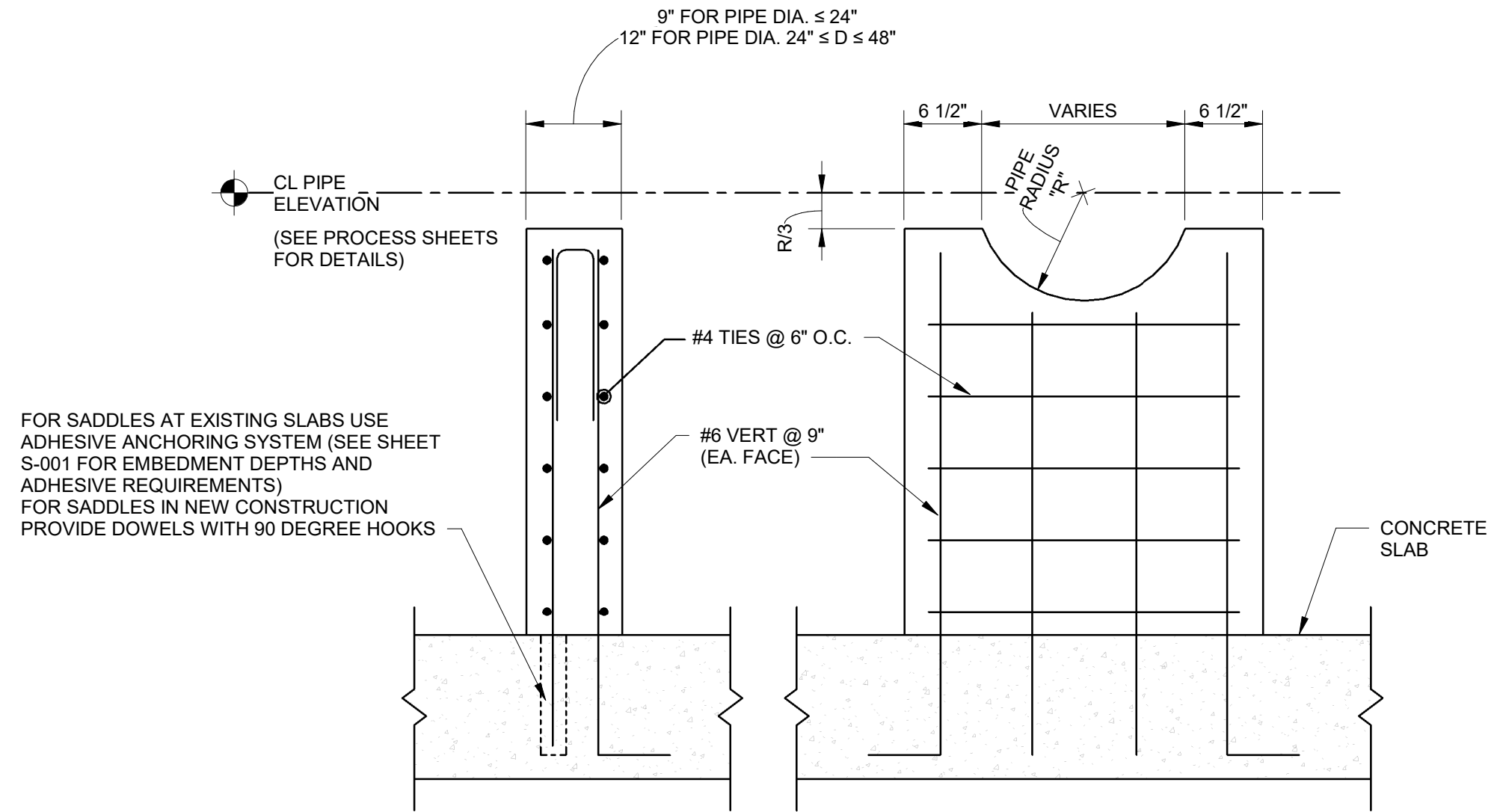
4 TYPICAL REINFORCING DETAIL AT WALL  
INTERSECTIONS  
SCALE: 3/8" = 1'-0"



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.

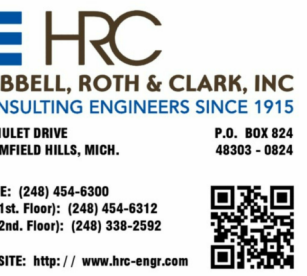
5 STANDARD WALL TO WALL OR WALL TO  
SLAB JOINT DETAIL  
SCALE: 1" = 1'-0"



6 CONCRETE PIPE SADDLE DETAIL  
SCALE: 1" = 1'-0"



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REHABILITATION  
SRF # 5079-01  
TYPICAL STRUCTURAL DETAILS

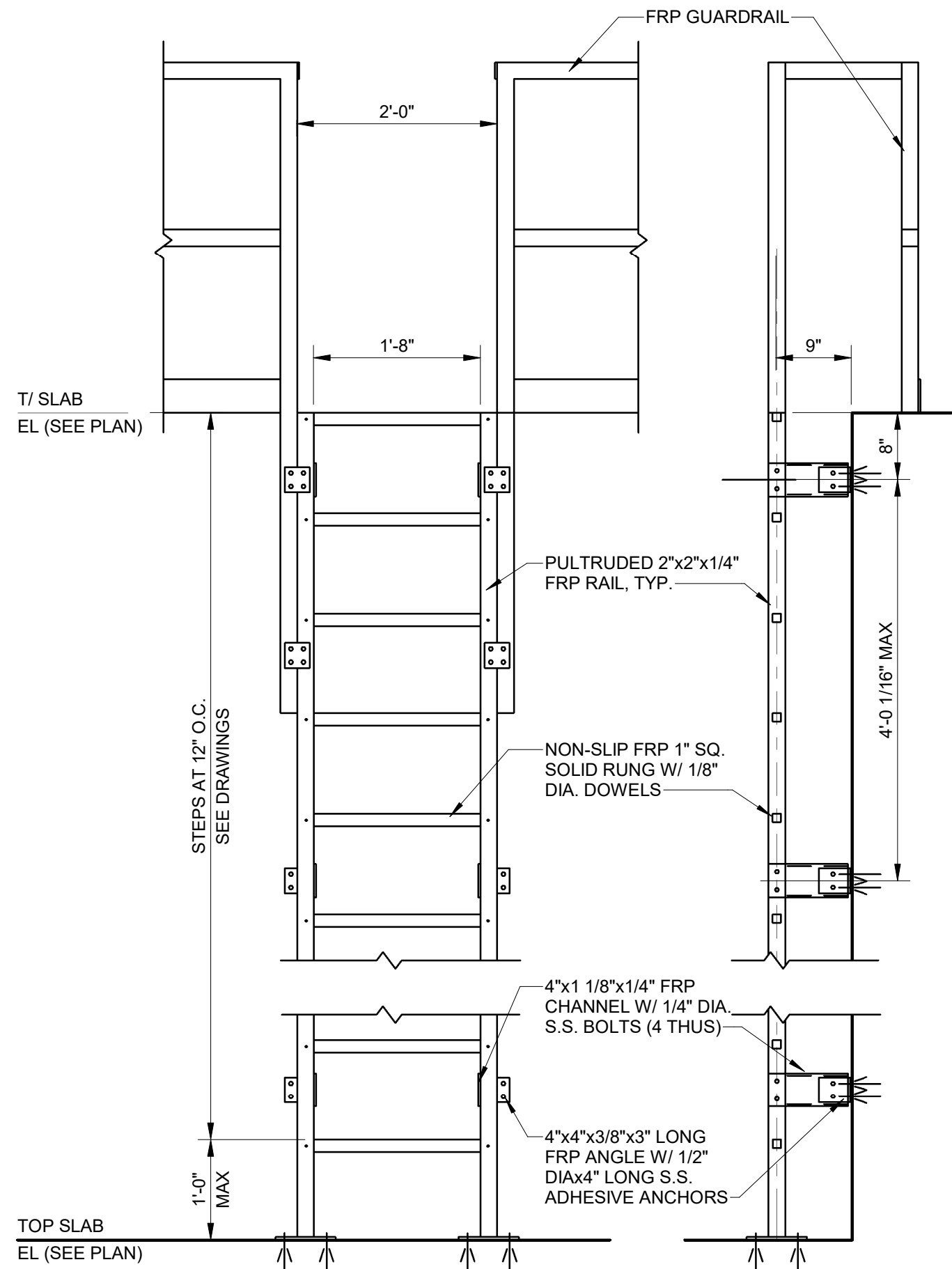
ISSUED FOR: DATE: BY:  
90% SET 05/14/21 JKW  
100% SET 05/28/21 JKW  
P/B 06/22/21 JKW

JOB NO.  
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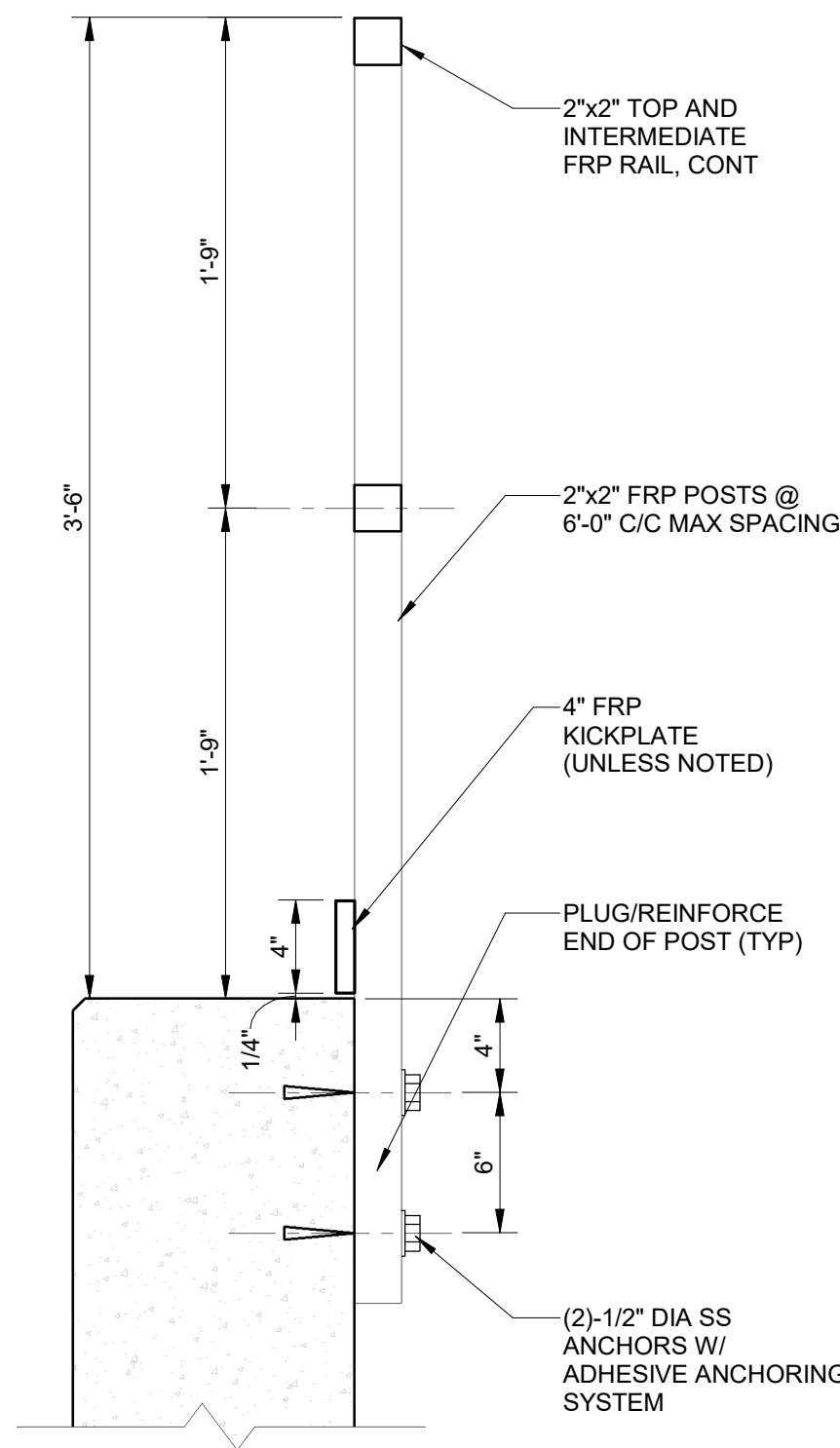
SHEET

S-002

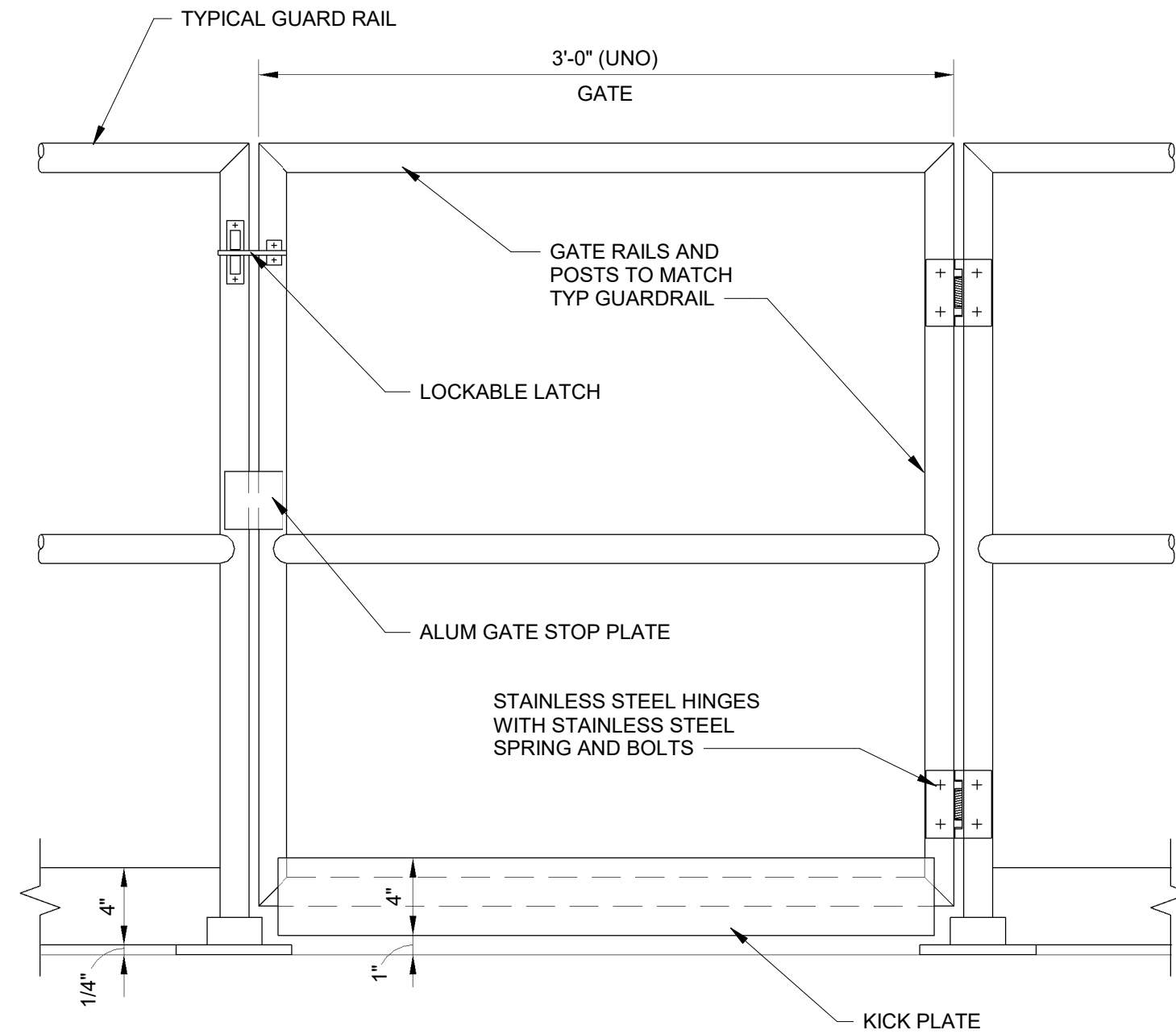




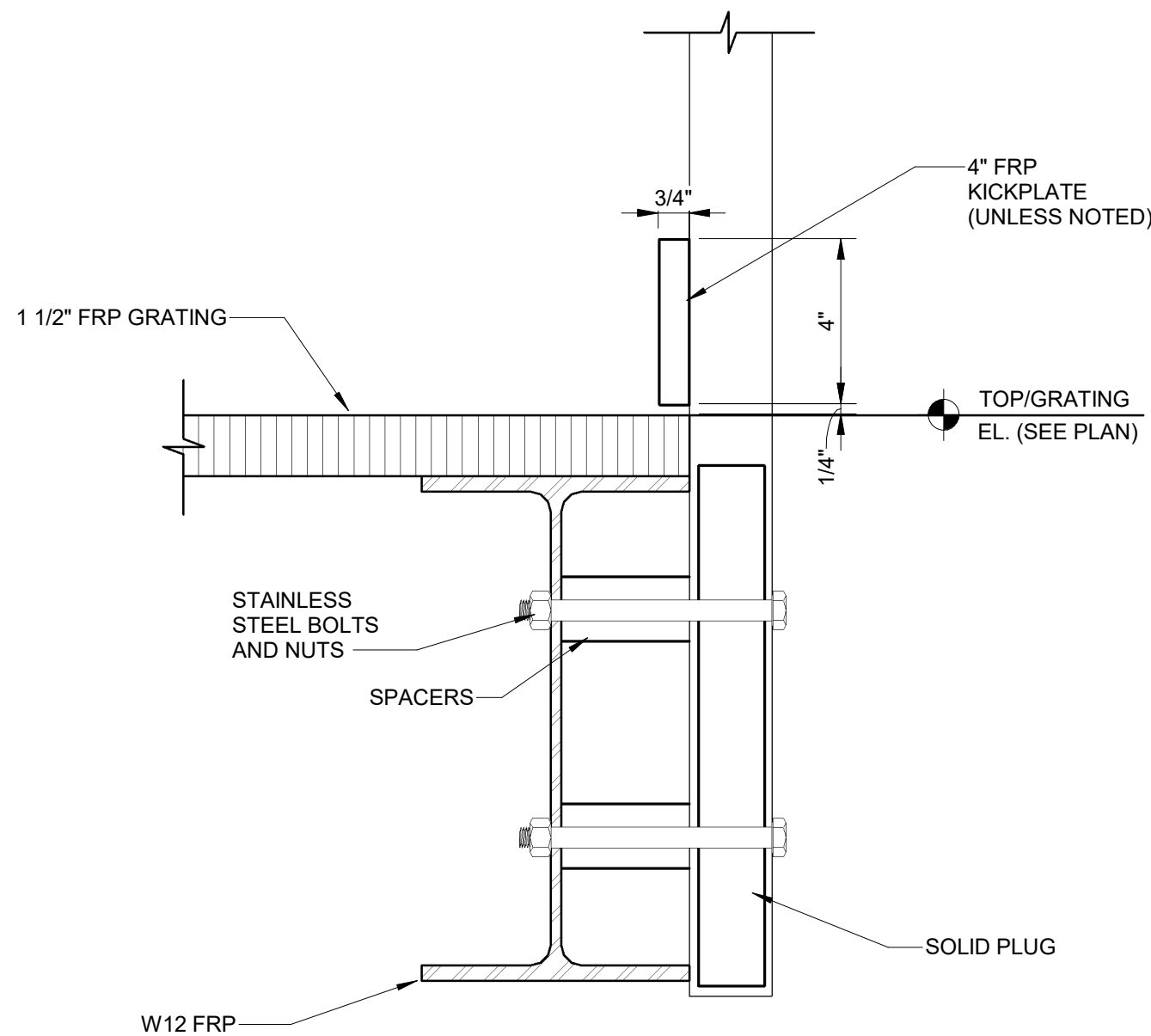
**1 FRP LADDER**  
SCALE: 3/4" = 1'-0"



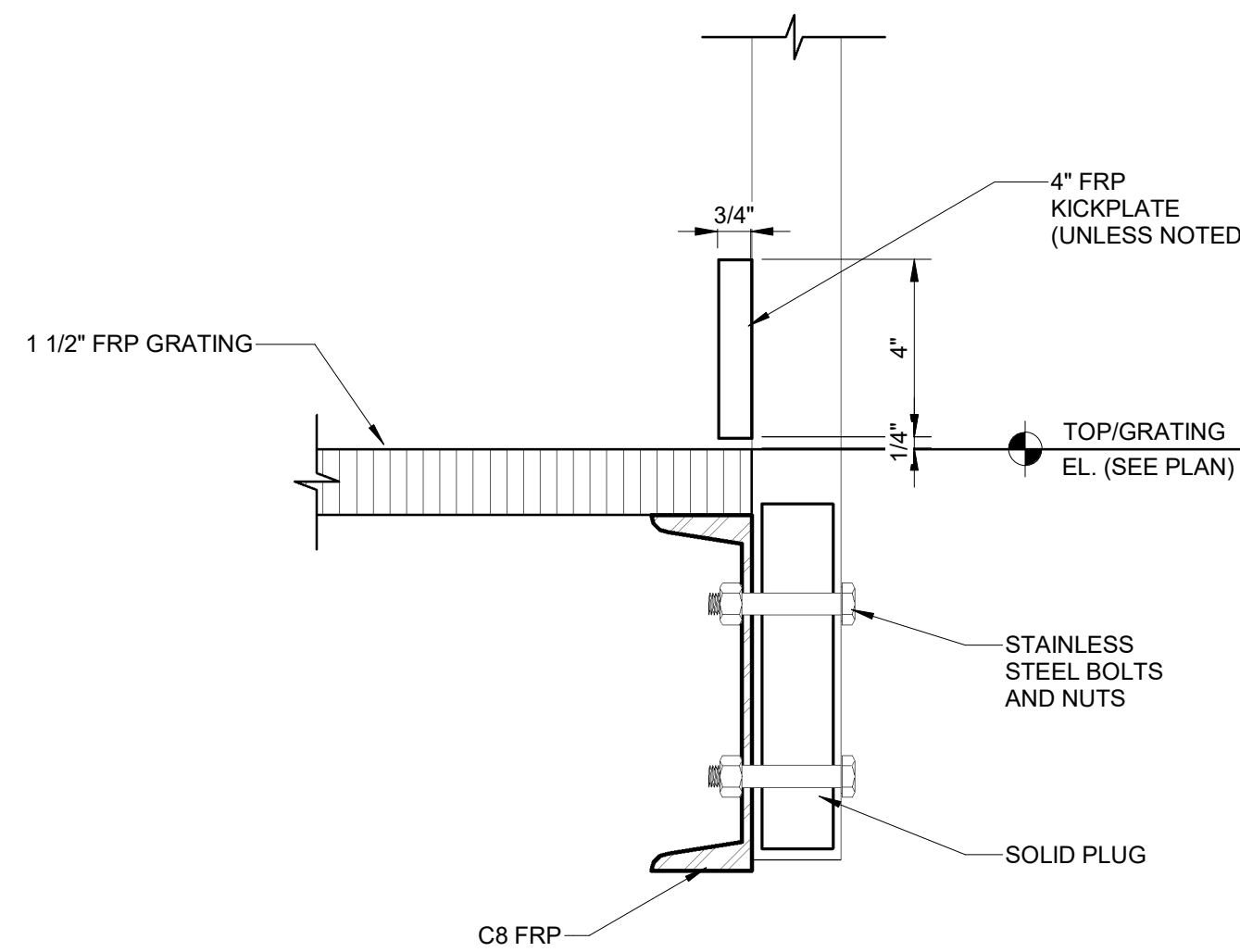
**2 FRP GUARDRAIL DETAIL - SIDE MOUNT**  
SCALE: 1 1/2" = 1'-0"



**3 GUARDRAIL SWING GATE**  
SCALE: 1" = 1'-0"



**4 2 A**  
SCALE: 3" = 1'-0"



**5 2 B**  
SCALE: 3" = 1'-0"



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SRF # 5079-01  
TYPICAL STRUCTURAL DETAILS

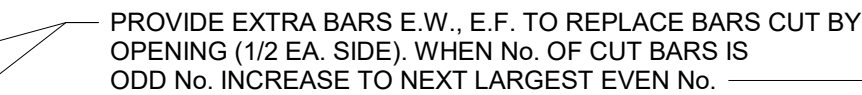
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100% SET 05/28/21 JKW  
FB 06/22/21 JKW









FOR NO. COF1073.01F

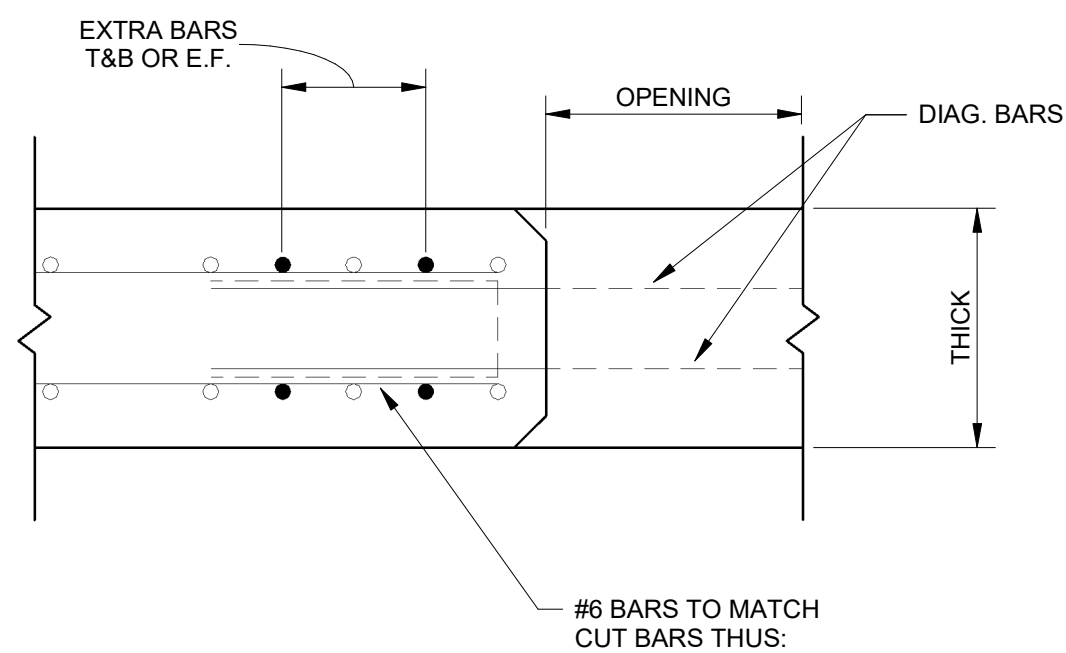
SHEET

S-003





LENGTH OF EXTRA BARS			
CENTERED OF C OF OPENING			
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"



SLAB OPENING DETAIL OR  
WALL JAMB PLAN  
NO SCALE

OPENING REINFORCEMENT SCHEDULE				
TYPE OF OPENING	THICKNESS	REINFORCEMENT REQUIRED		
		EXTRA	DIAGONAL	[ - BARS
UNFRAMED	16" OR LESS	YES	YES	NO
	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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SRF # 5079-01  
TYPICAL STRUCTURAL DETAILS

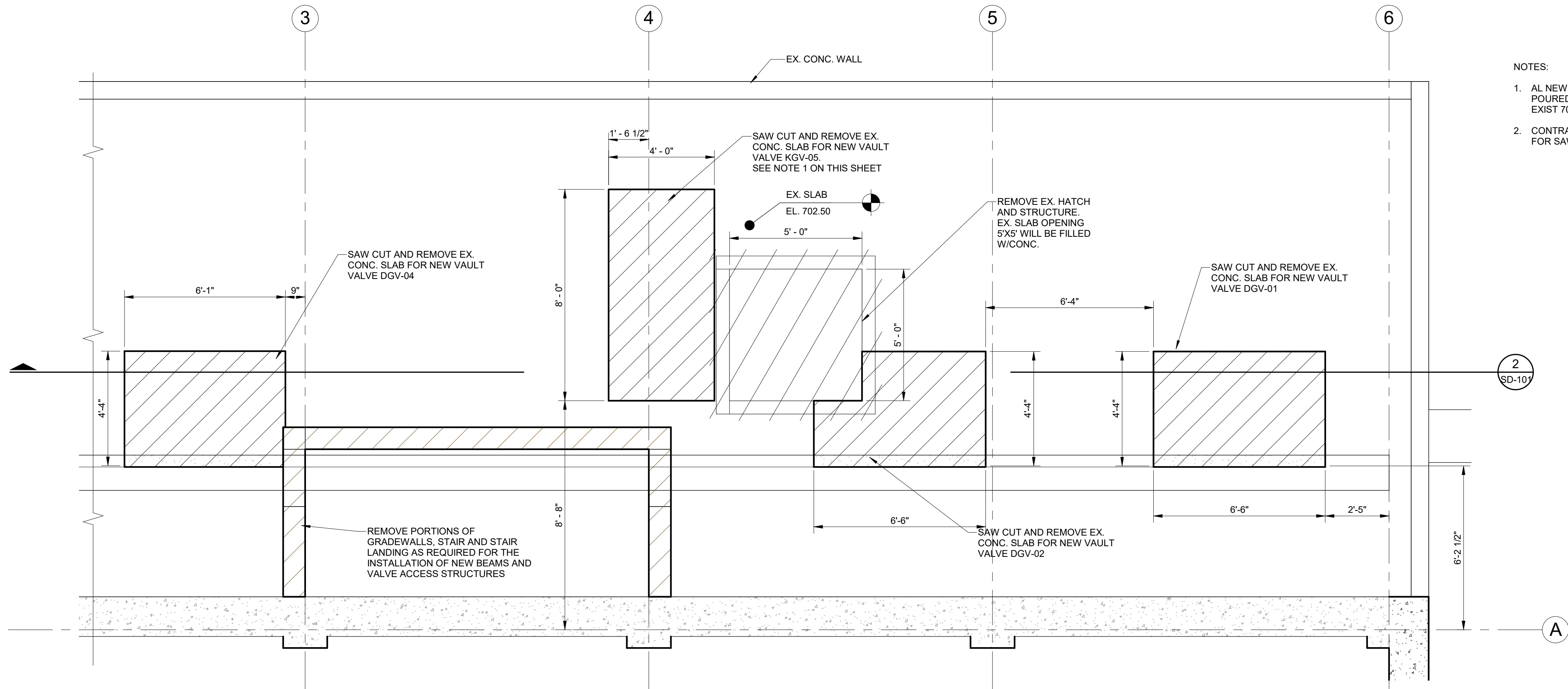
ISSUED FOR:	DATE:	BY:
90% SET	05/14/21	JKW
100% SET	05/28/21	JKW
IFB	06/22/21	JKW

JOB NO.  
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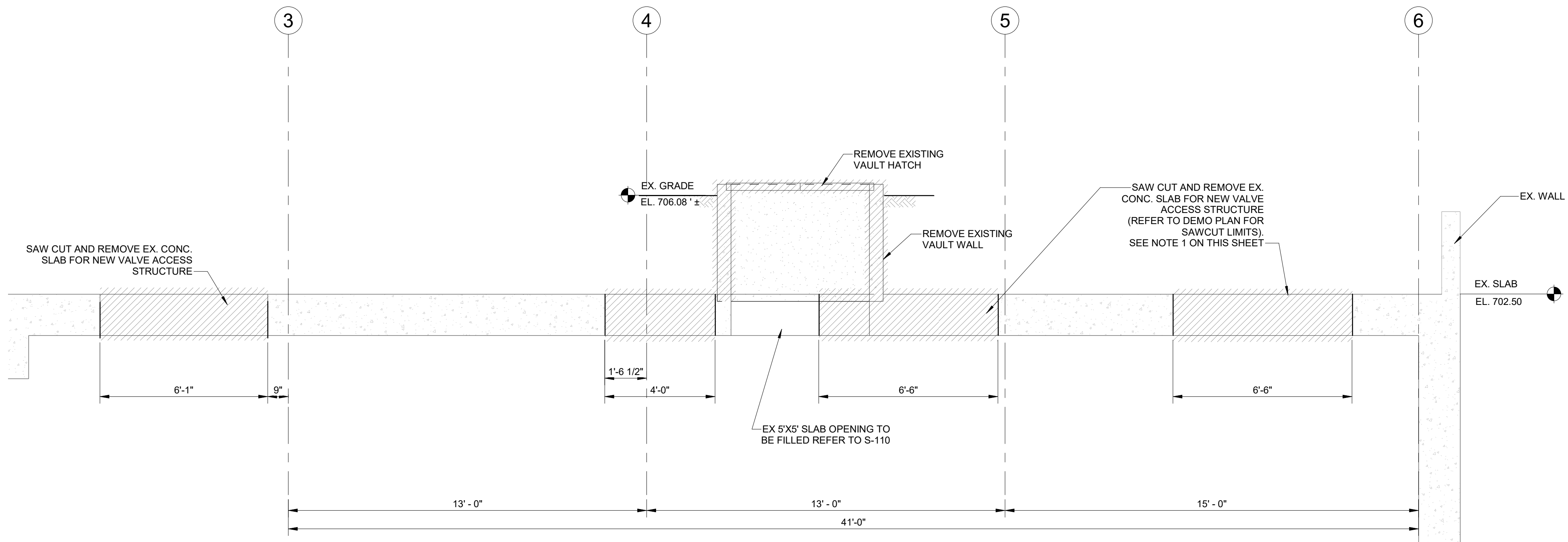
SHEET

S-004





N VALVE ACCESS STRUCTURE 702.50 SLAB  
DEMOLITION PLAN  
SCALE: 3/8" = 1'-0"



EXISTING CONC SLAB AND VAULT  
DEMOLITION SECTION  
SCALE: 3/8" = 1'-0"

- NOTES:
1. ALL NEW CONCRETE BEAMS AND VAULT WALLS SHALL BE POURED AND CURED PRIOR TO CUTTING OPENINGS IN EXIST 702.24 SLAB.
  2. CONTRACTOR SHALL NOT OVERCUT DIMENSIONS SHOWN FOR SAW CUTS.



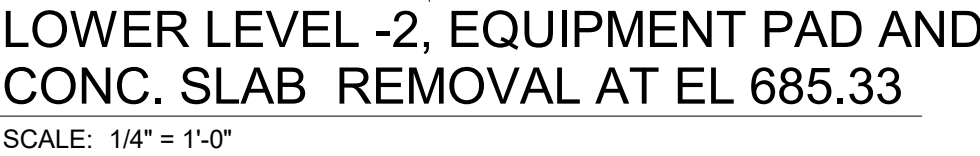
CITY OF FLINT  
THIRD AVENUE PUMP STATION  
REHABILITATION  
SRF # 5079-01  
THIRD AVENUE PUMP STATION EXISTING  
SLAB/VAULT DEMO PLAN AND SECTION

ISSUED FOR:	DATE:	BY:
50 SET	04/21/21	JKW
90% SET	05/14/21	JKW
100% SET	05/28/21	JKW
FB	06/22/21	JKW


JOB NO.  
COF1073.01F

SHEET  
SD-101





- NOTES:**
- MECHANICAL EQUIPMENT ARE NOT SHOWN FOR CLARITY.
- REFER TO MECHANICAL DRAWINGS FOR EQUIPMENT REMOVAL PLANS AND DETAILS.


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CITY OF FLINT  
THIRD AVENUE PUMP STATION  
REHABILITATION  
SRF # 5079-01  
THIRD AVENUE PUMPING STATION EX. EQUIP.  
PAD, WALL & SLAB DEMO PLAN AND SECTIONS

ISSUED FOR:	DATE:	BY:
90% SET	05/14/21	JKW
100% SET	05/28/21	JKW
IFB	06/22/21	JKW

JOB NO.  
COF1073.01F

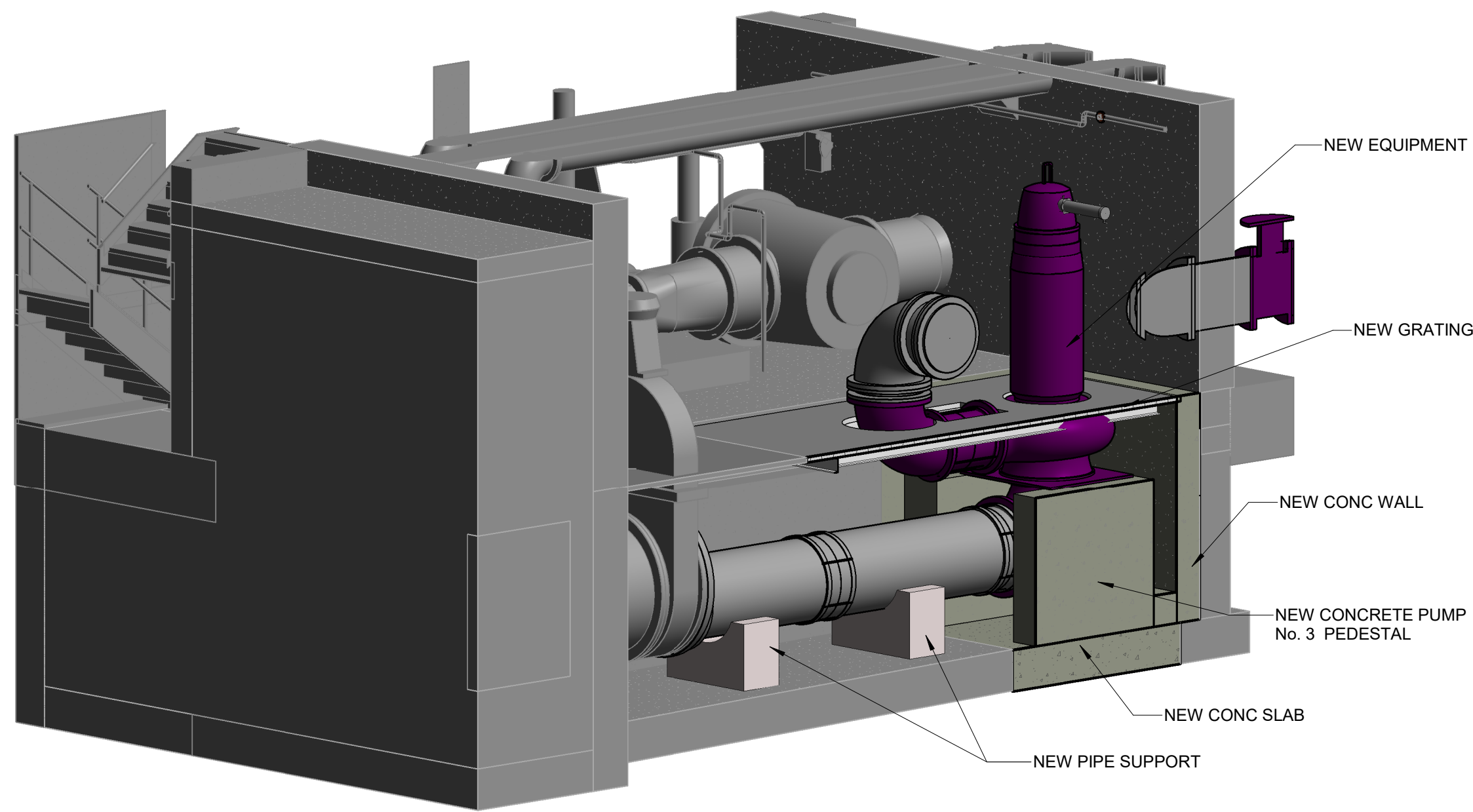
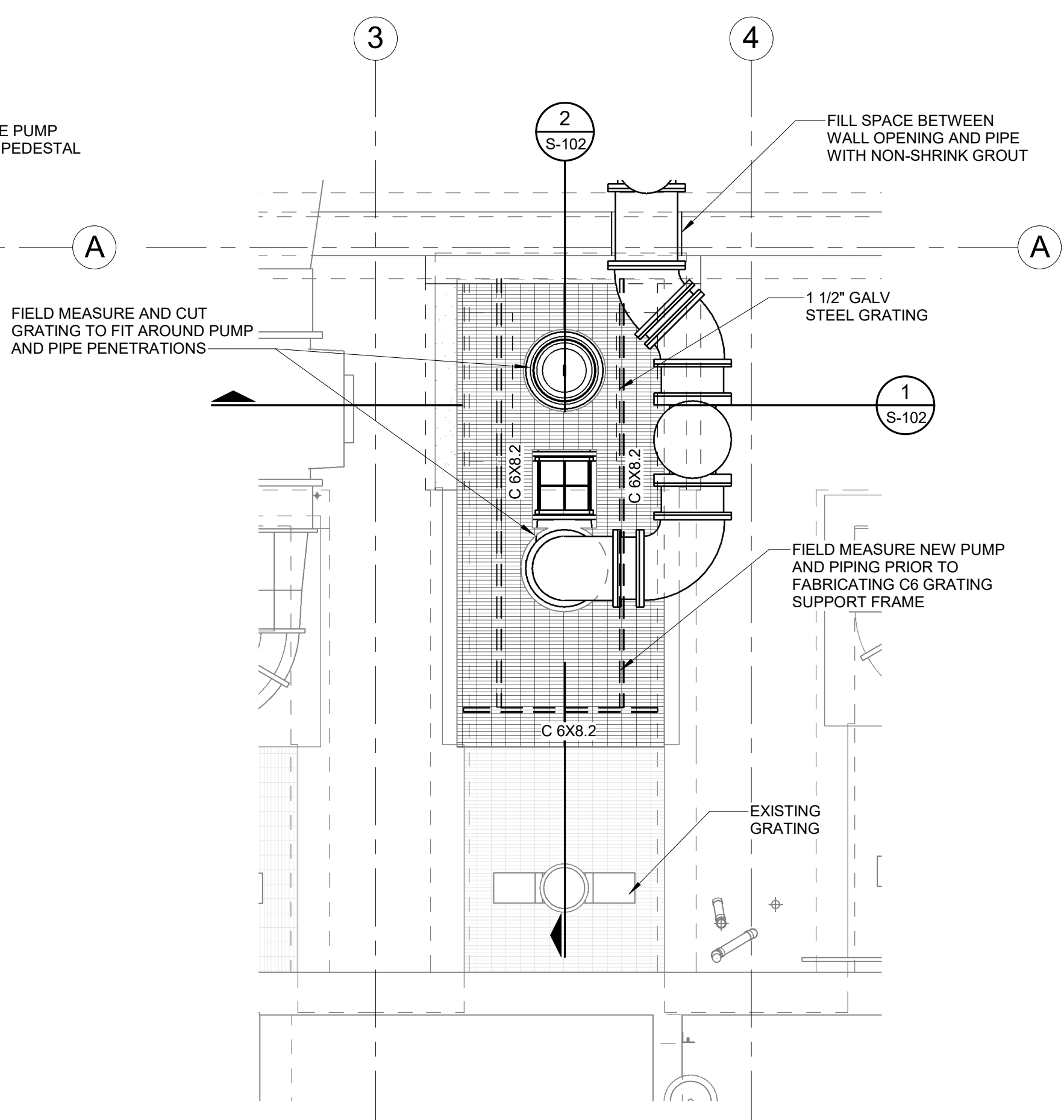
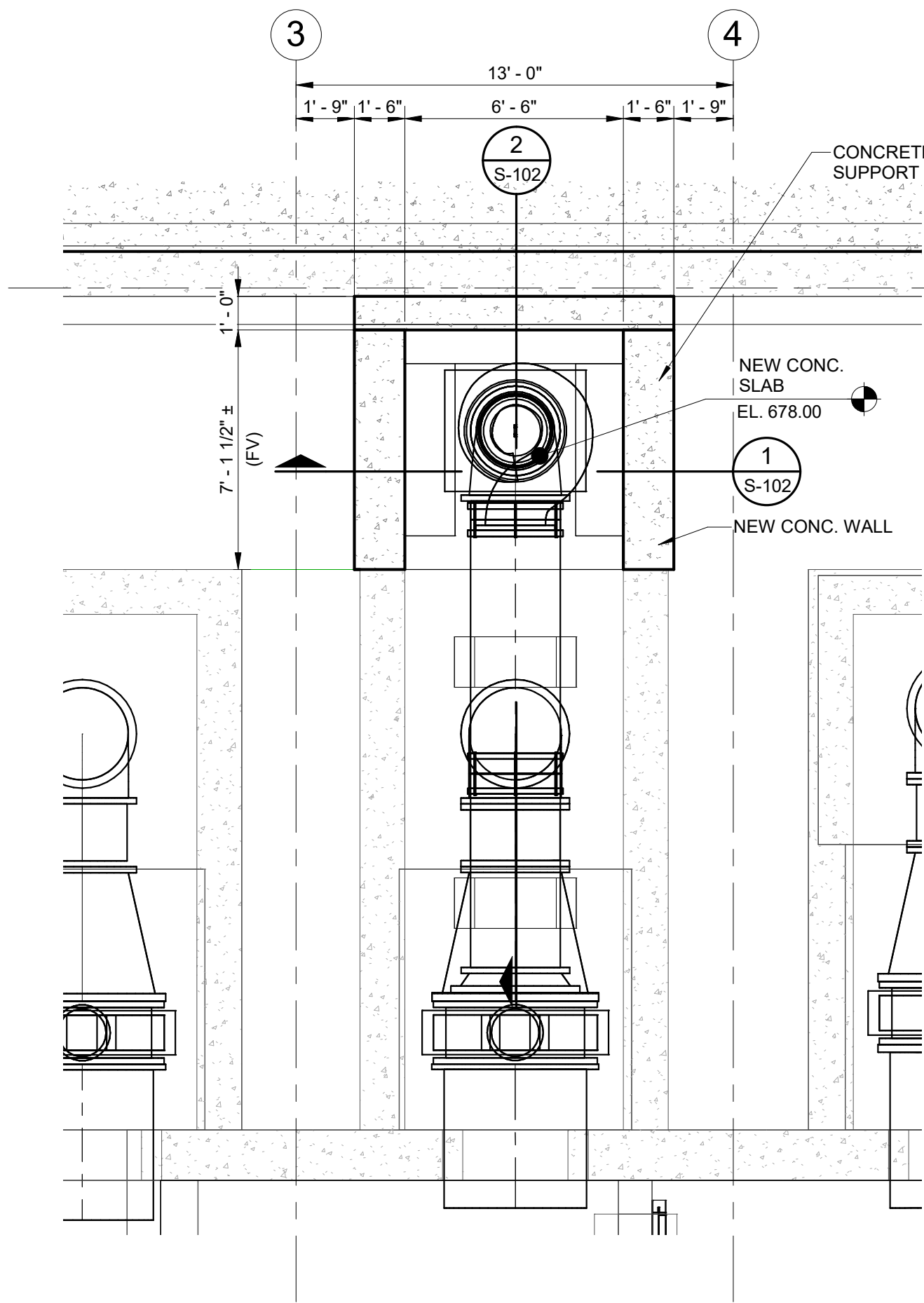
SHEET

SD-102





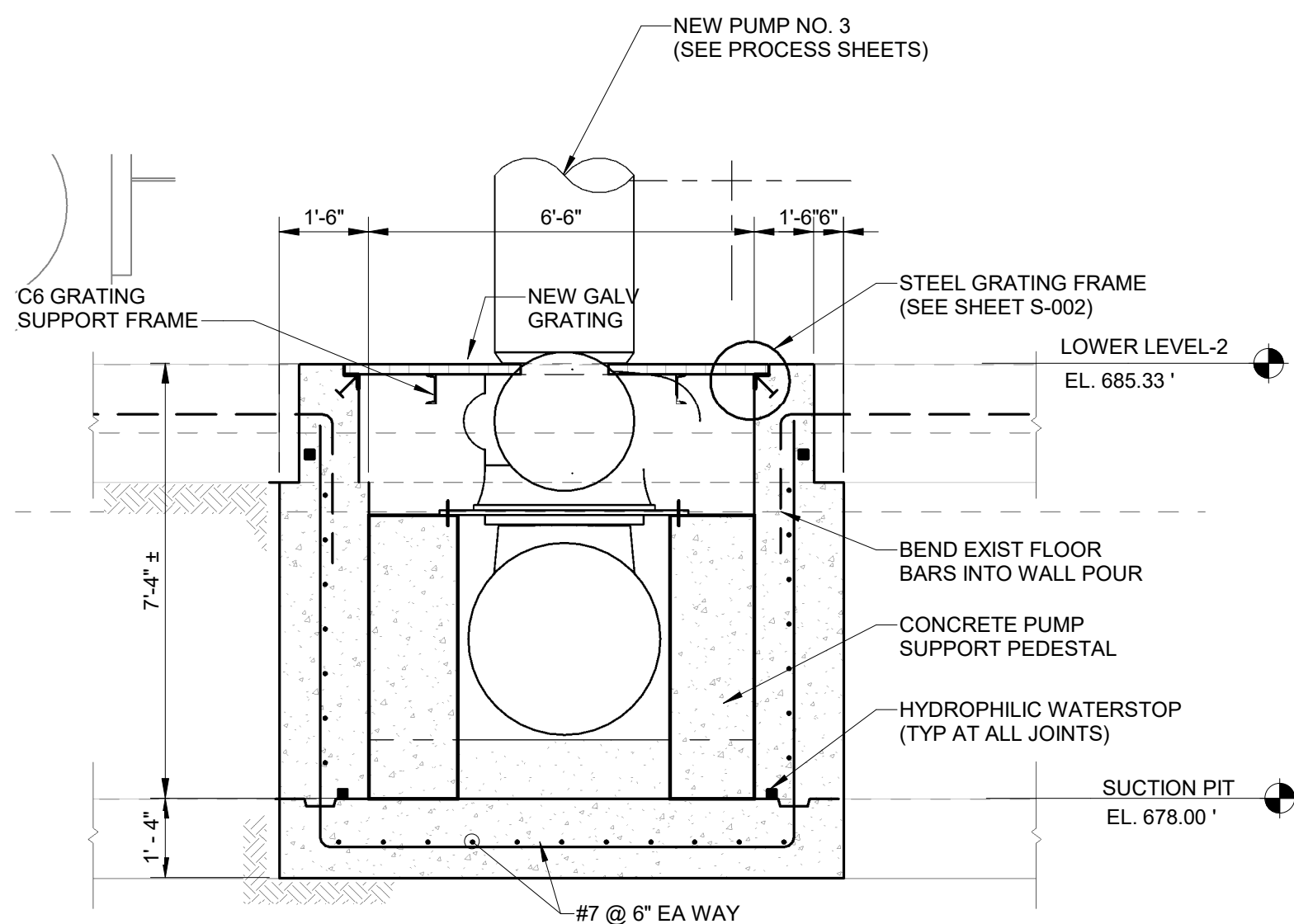




ISO - PUMP NO. 3 TRENCH MODIFICATION  
SCALE: NONE

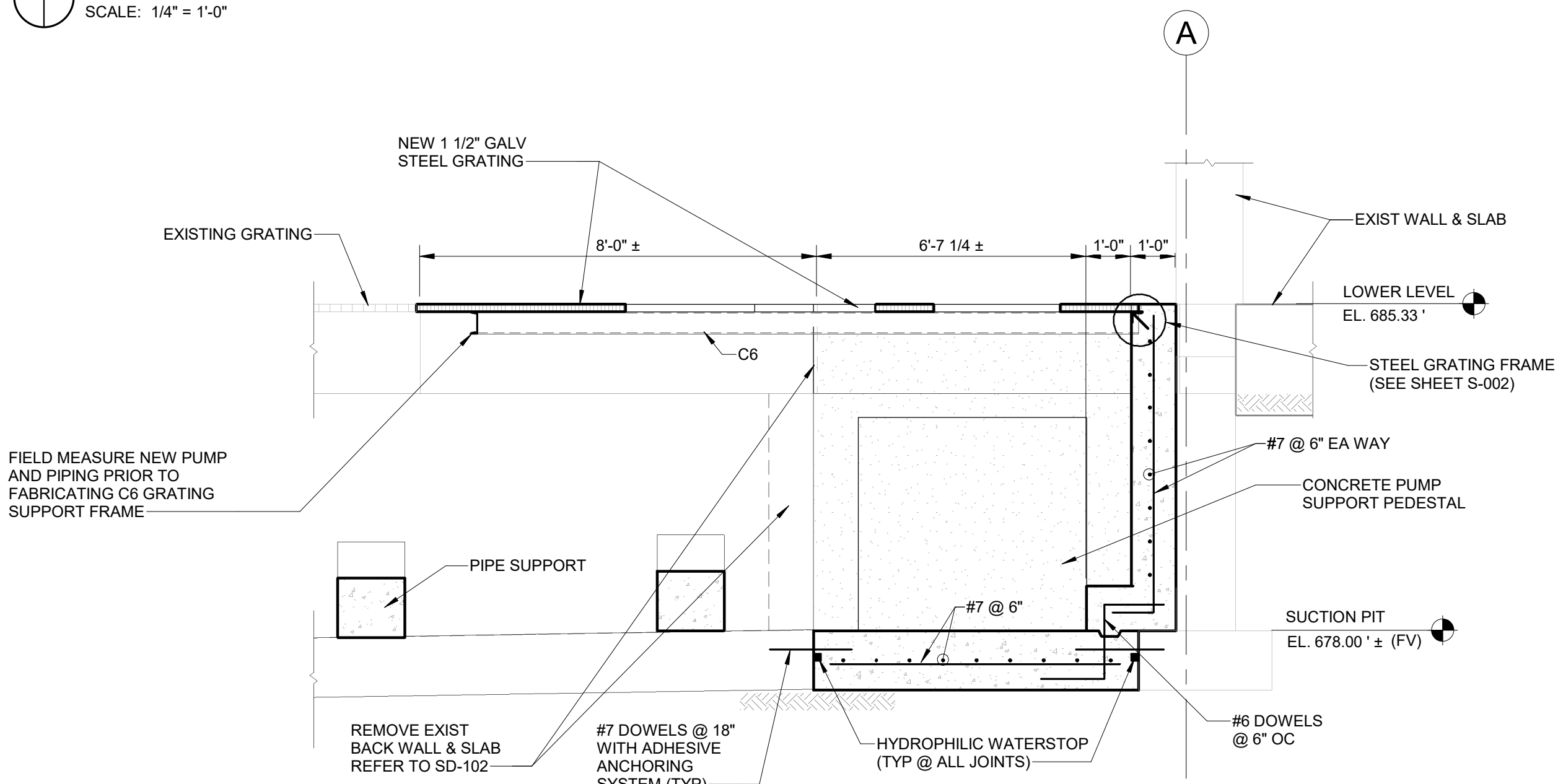
N  
NEW TRENCH EXTENSION PLAN AT EL.  
677.00  
SCALE: 1/4" = 1'-0"

N  
NEW GRATING PLAN AT EL. 685.33  
SCALE: 1/4" = 1'-0"



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

1  
NEW TRENCH EXTENSION CROSS SECTION  
SCALE: 3/8" = 1'-0"



NOTE:  
PIPES AND VALVE ARE NOT SHOWN FOR CLARITY

2  
NEW TRENCH EXTENSION - LONGITUDINAL  
SECTION  
SCALE: 3/8" = 1'-0"

- NOTES:
1. FIELD VERIFY ALL EXISTING DIMENSIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.
  2. CONTRACTOR SHALL DE-WATER/DE-PRESSURIZE GROUNDWATER TABLE PRIOR TO DEMOLITION OF TRENCH SLAB AND WALLS



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CITY OF FLINT  
THIRD AVENUE PUMP STATION  
REHABILITATION  
SRF # 5079-01  
THIRD AVENUE PUMP STATION PUMP NO. 3  
TRENCH EXTENSION PLANS AND SECTIONS

ISSUED FOR: 30% SET  
DATE: 05/14/21  
BY: JKW  
100% SET: 05/28/21  
JRW  
#B: 06/22/21

JOB NO.  
COF1073.01F

SHEET

S-102









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CITY OF FLINT  
THIRD AVENUE PUMP STATION  
REHABILITATION  
SRF # 5079-01  
THIRD AVENUE PUMPING STATION FRP VALVE  
ACCESS PLATFORM PLAN EL. 693.45

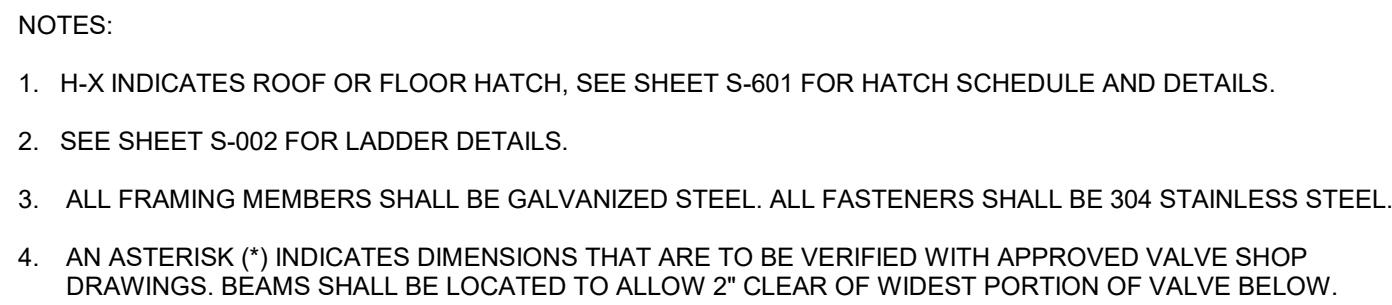
ISSUED FOR:	DATE:	BY:
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FB	06/22/21	JKW

OB NO.  
COF1073.01F

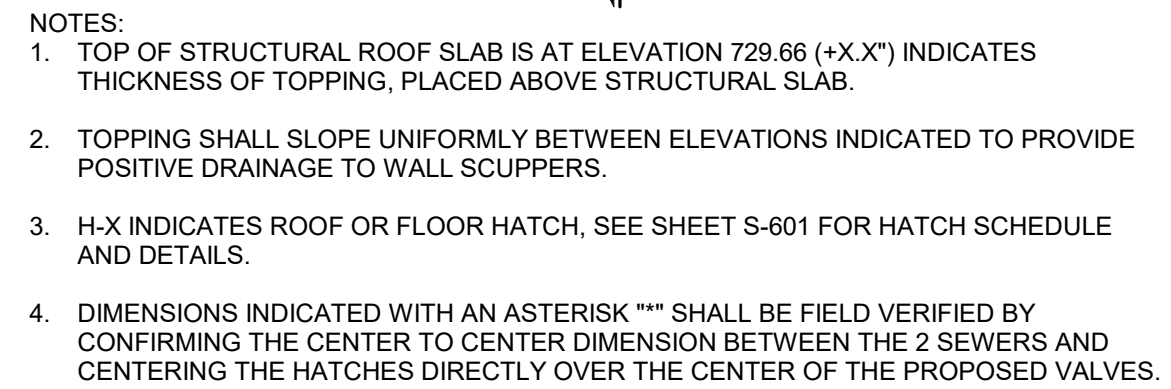
SHEET

S-104





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



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

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A QR CODE is located to the right of the text.

S-110

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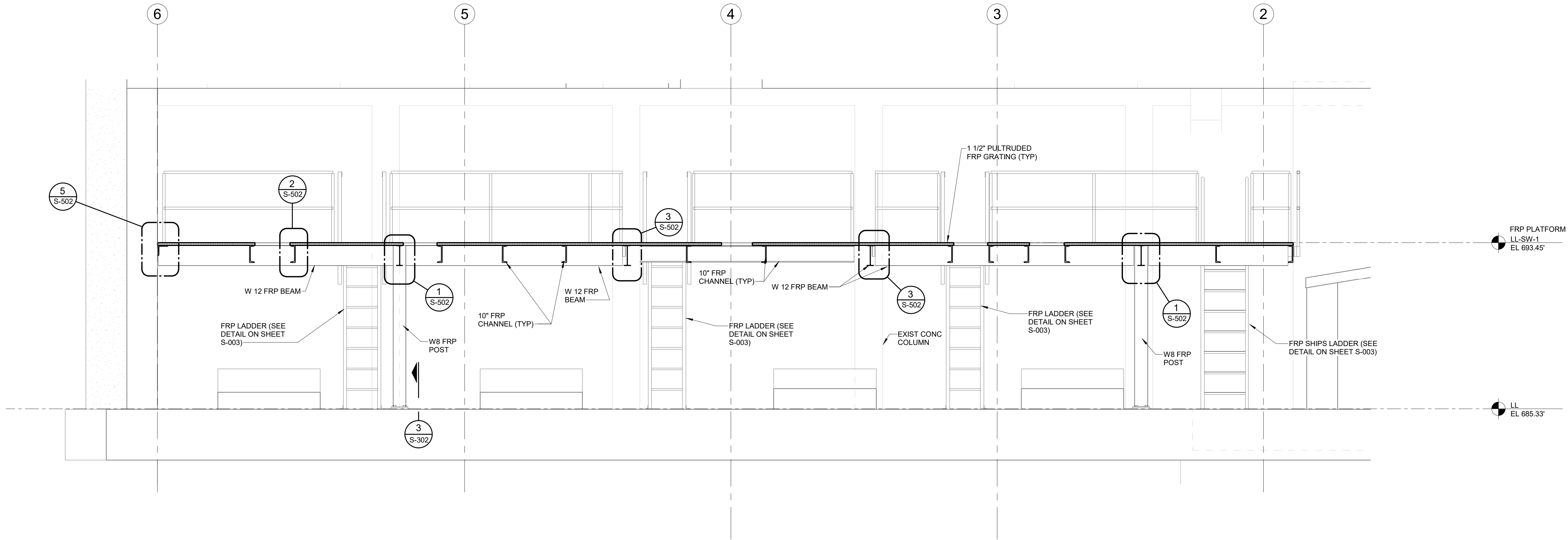




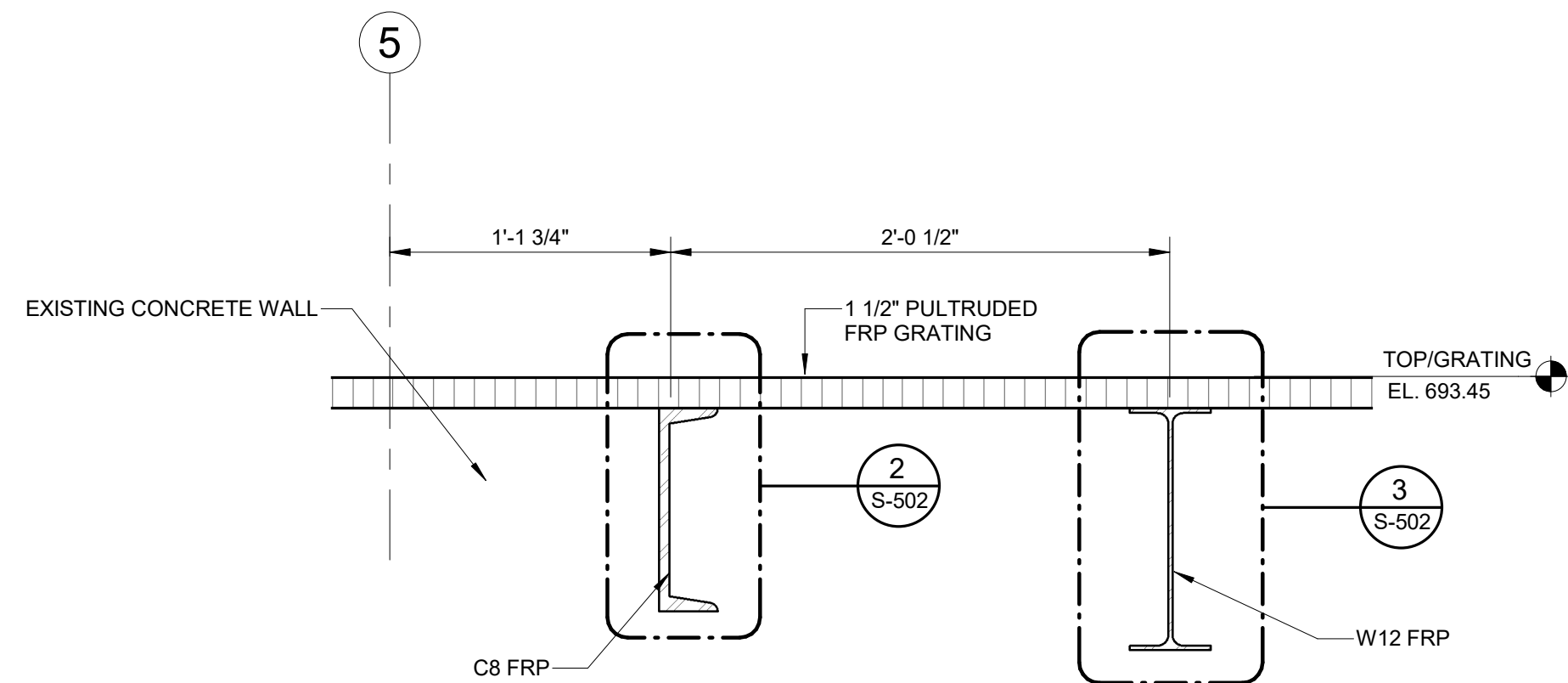


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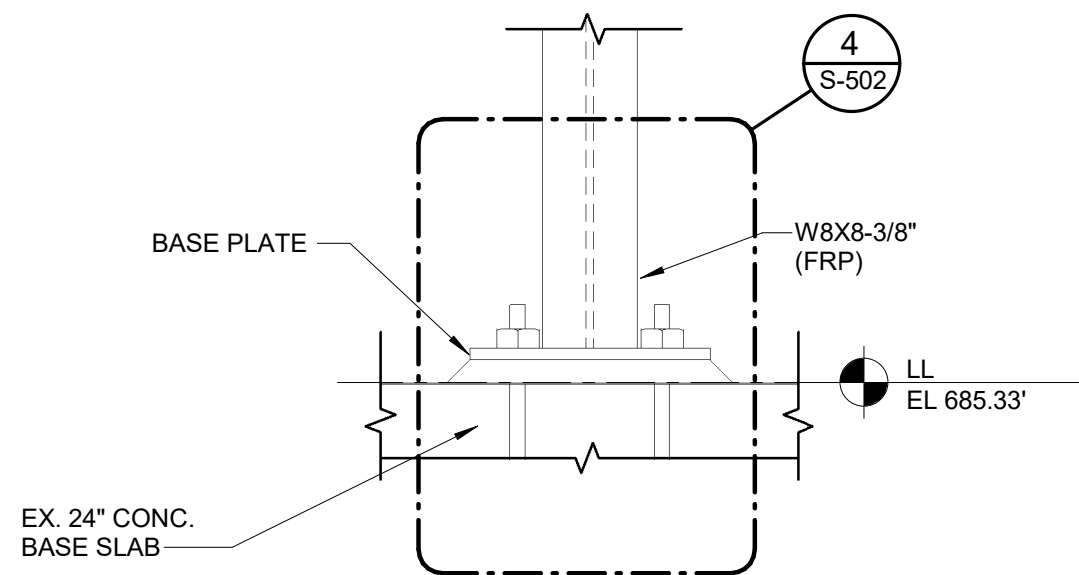
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1 FRP VALVE ACCESS PLATFORM SECTION  
 S-103 SCALE: 3/8" = 1'-0"



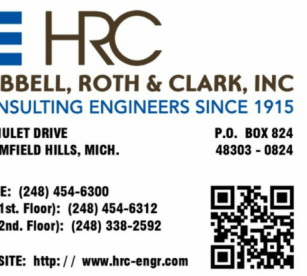
2 FRP PLATFORM BEAMS SECTION  
 S-103 SCALE: 1 1/2" = 1'-0"



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



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 SRF # 5079-01  
 THIRD AVENUE PUMPING STATION FRP VALVE  
 ACCESS PLATFORM SECTION

ISSUED FOR: DATE: BY:  
 50% SET 04/21/21 JKW  
 90% SET 05/14/21 JKW  
 100% SET 05/28/21 JKW  
 FB 06/22/21 JKW

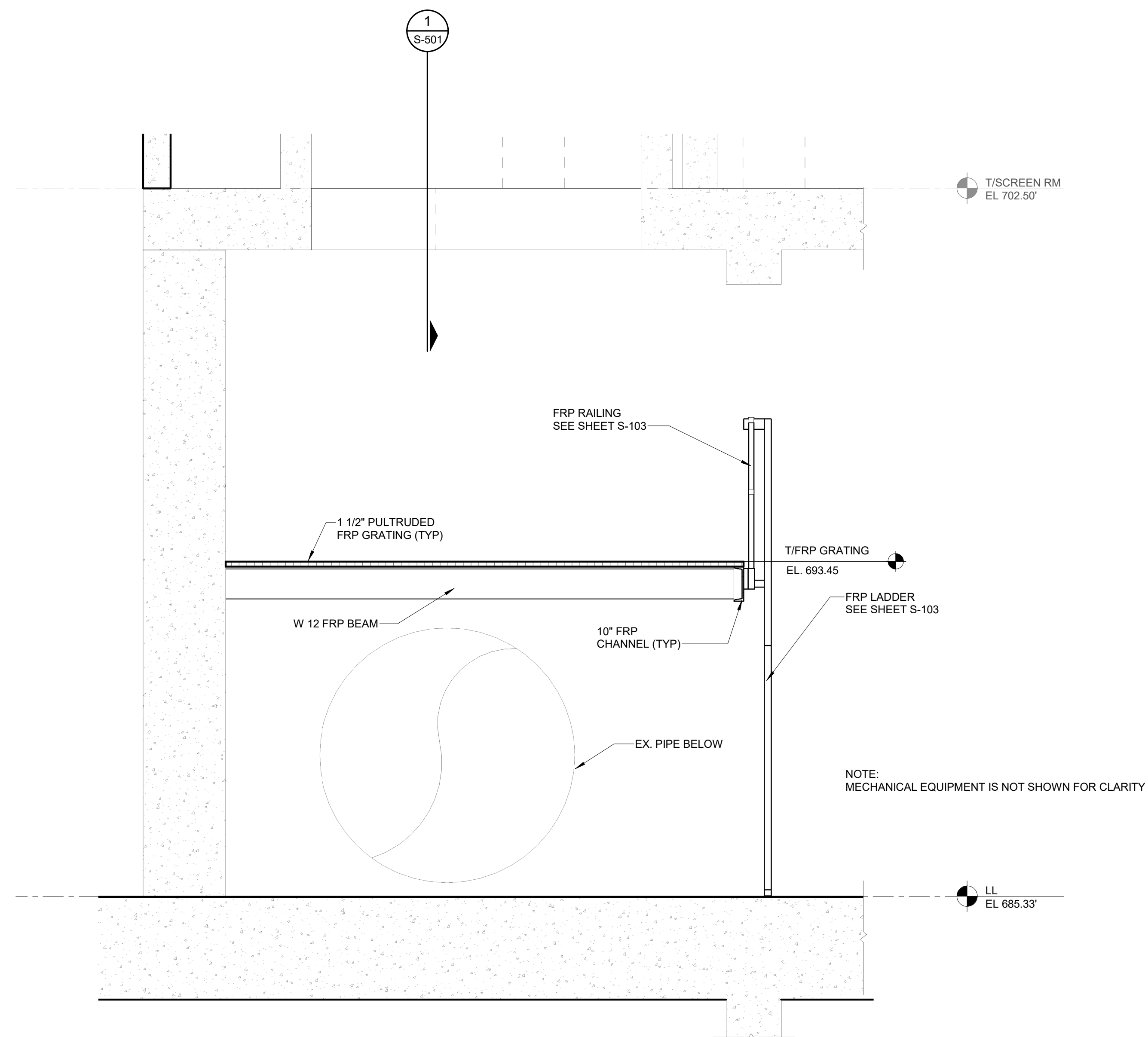
JOB NO.  
 COF1073.01F

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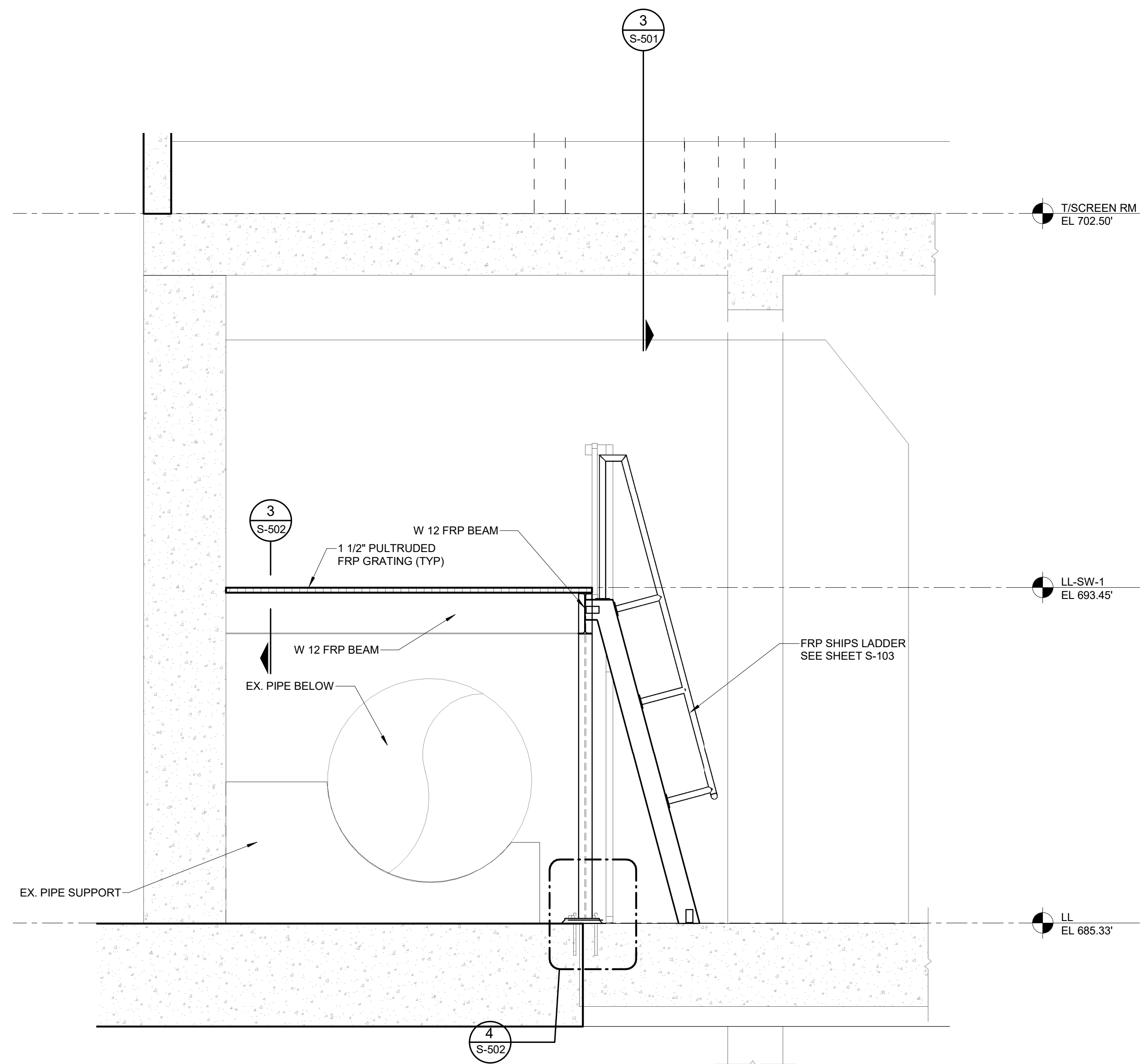
S-302

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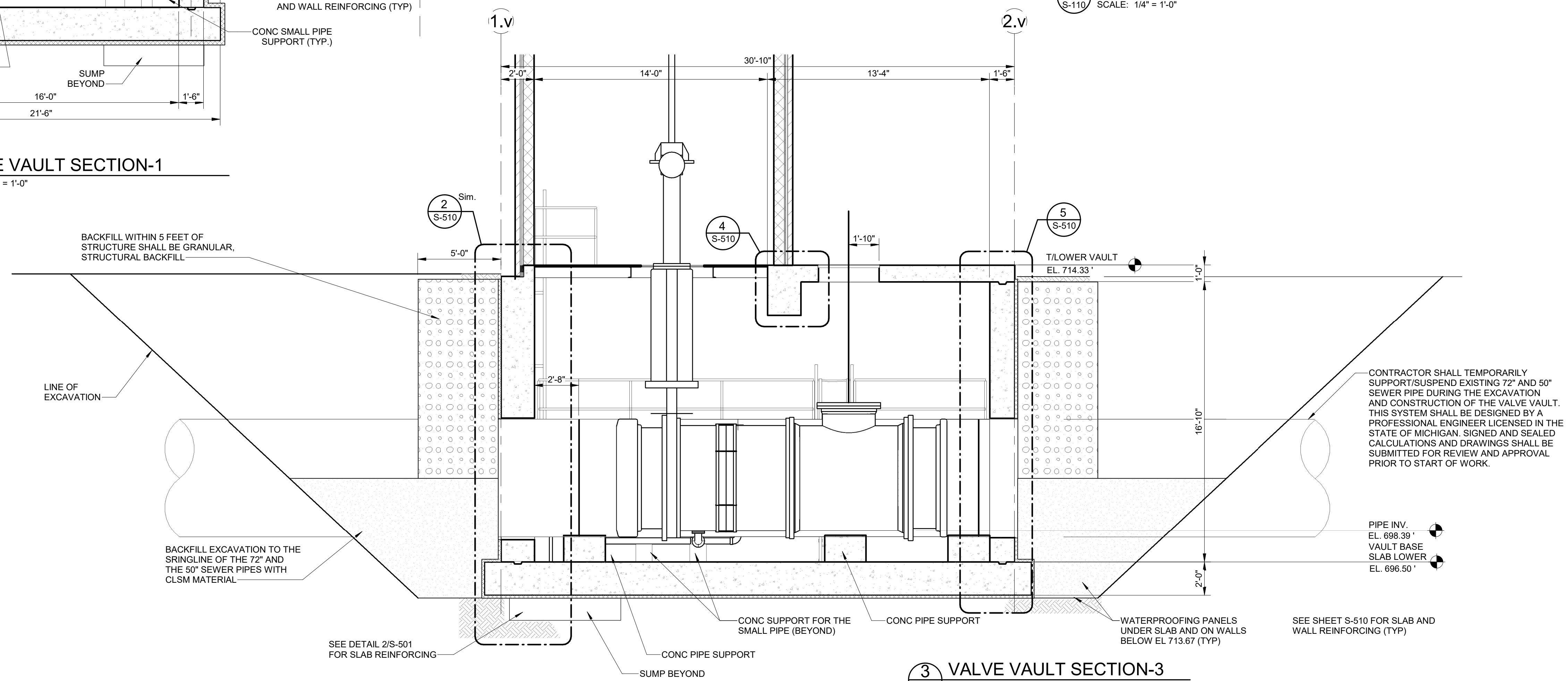
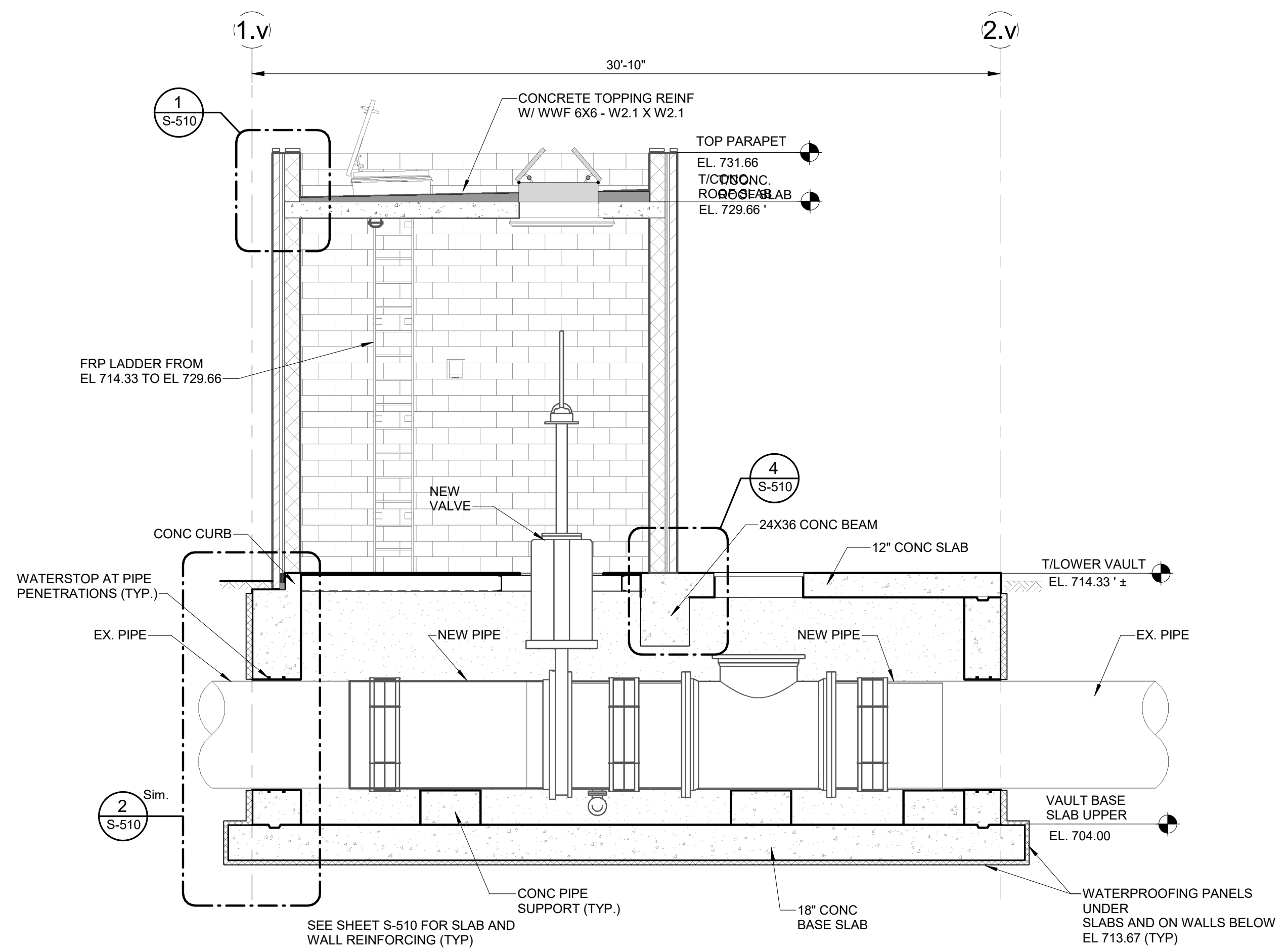
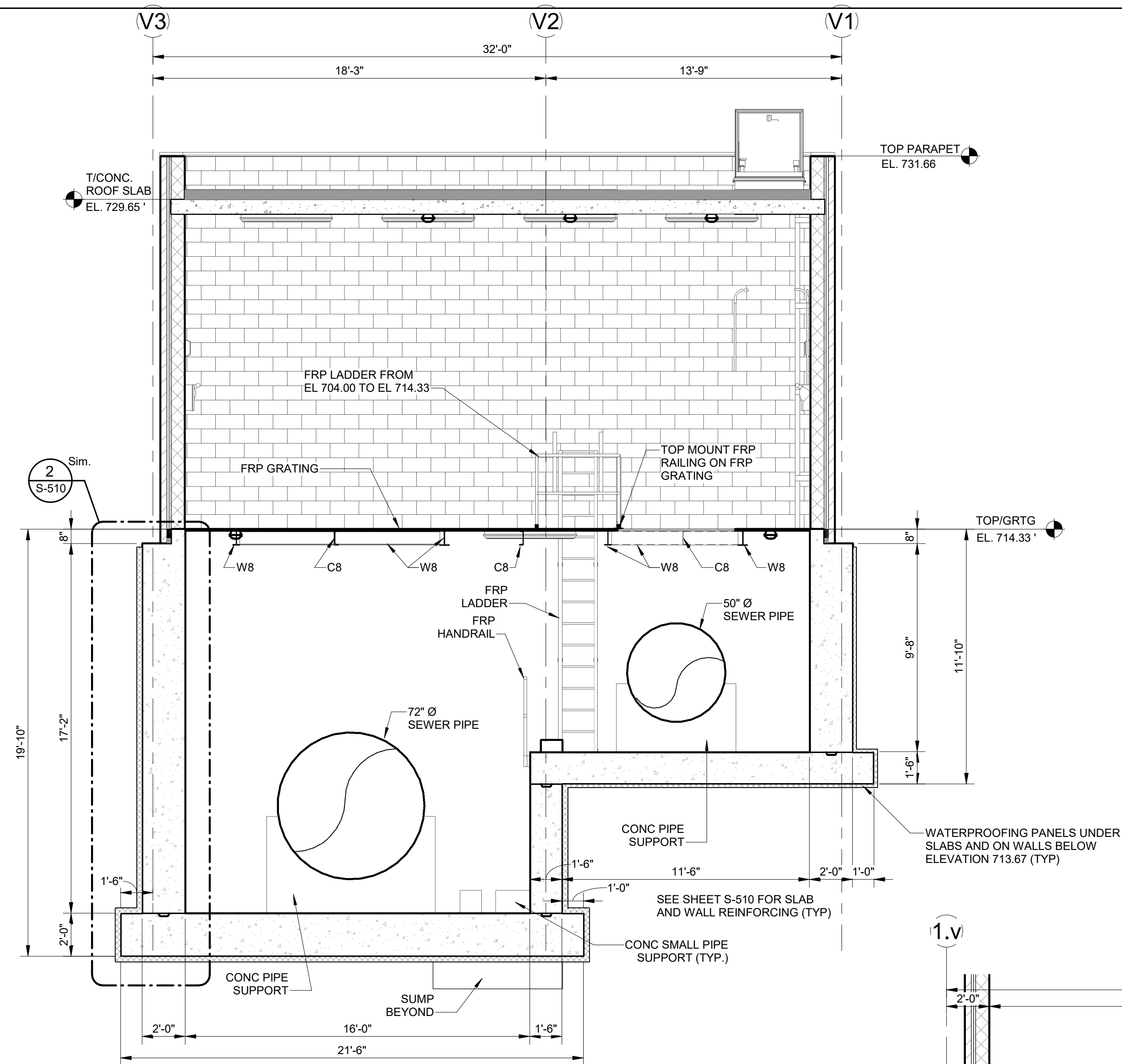


1 FRP PLATFORM SECTION-2  
S-103 SCALE: 1/2" = 1'-0"



2 FRP PLATFORM SECTION-3  
S-103 SCALE: 1/2" = 1'-0"

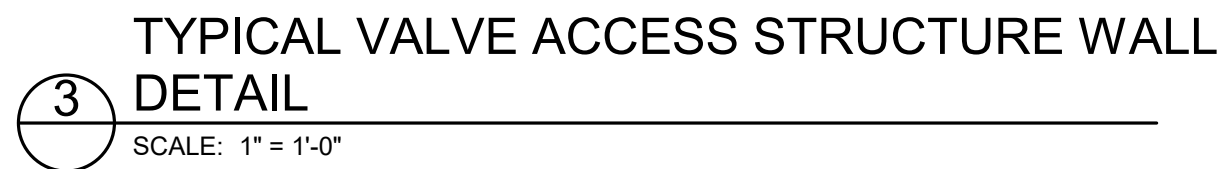












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CITY OF FLINT  
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REHABILITATION  
SRF # 5079-01  
THIRD AVENUE PUMPING STATION VALVE  
ACCESS STRUCTURE SECTIONS

ISSUED FOR:	DATE:	BY:
100% SET	05/28/21	JKW
IFB	06/22/21	JKW

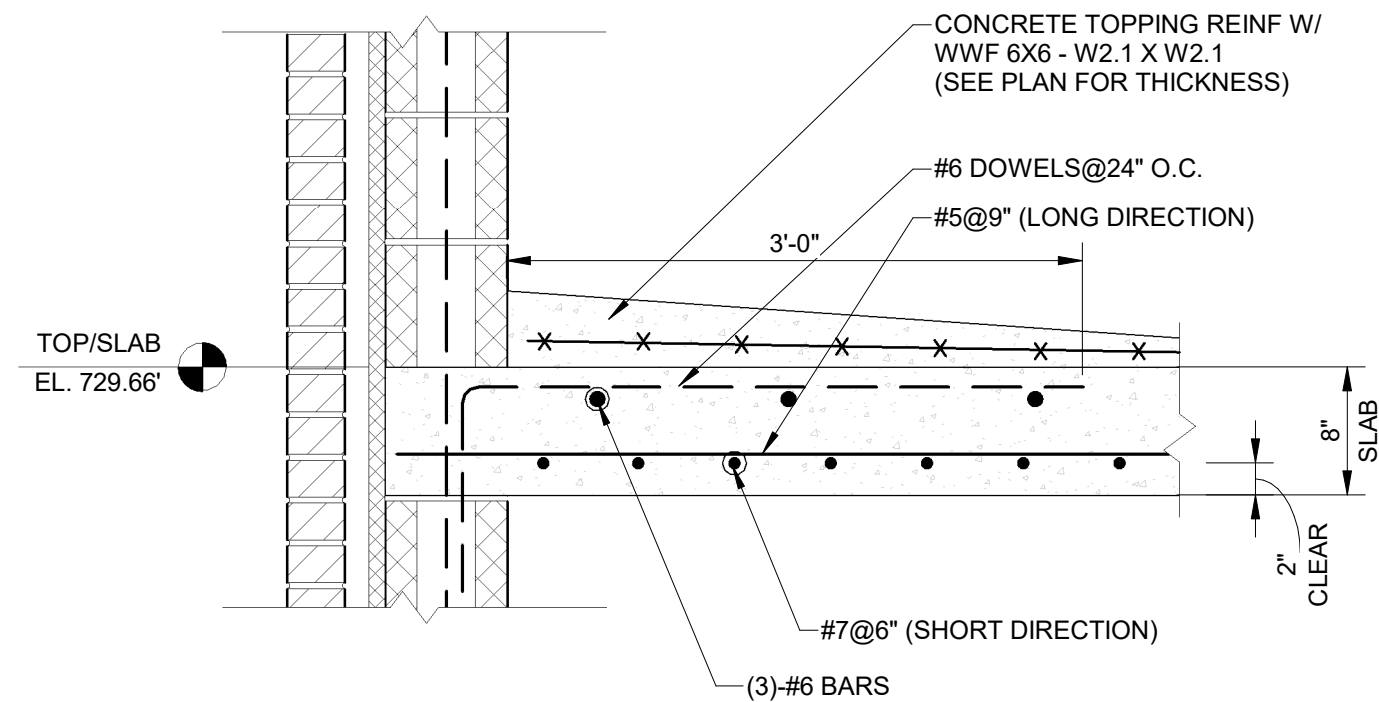
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COF1073.01F

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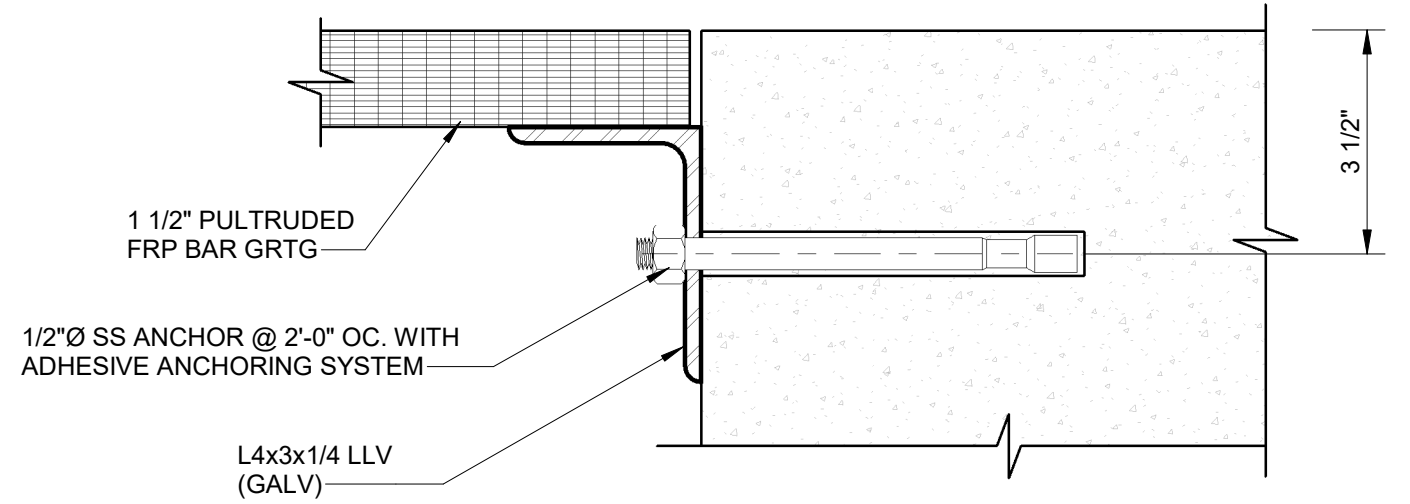
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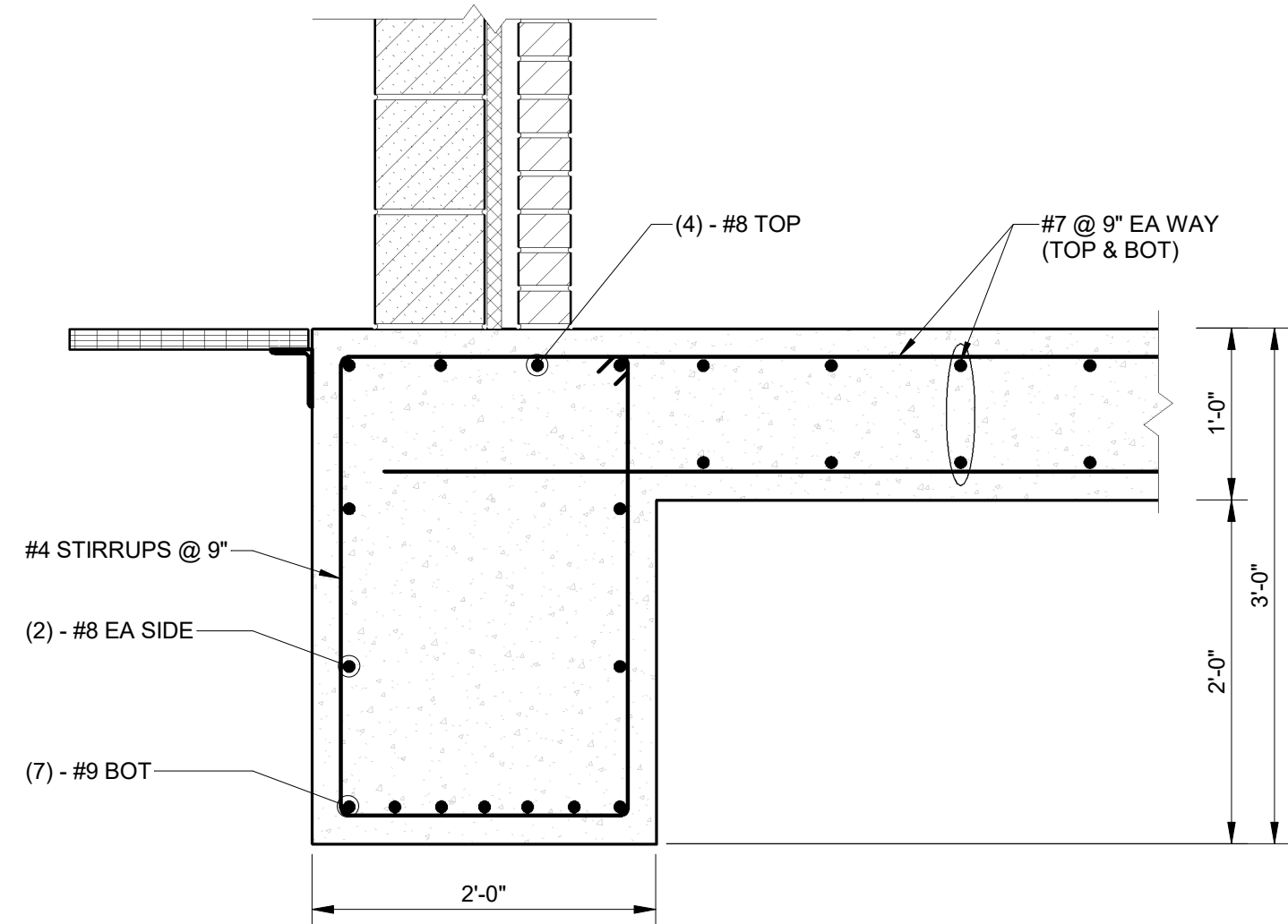




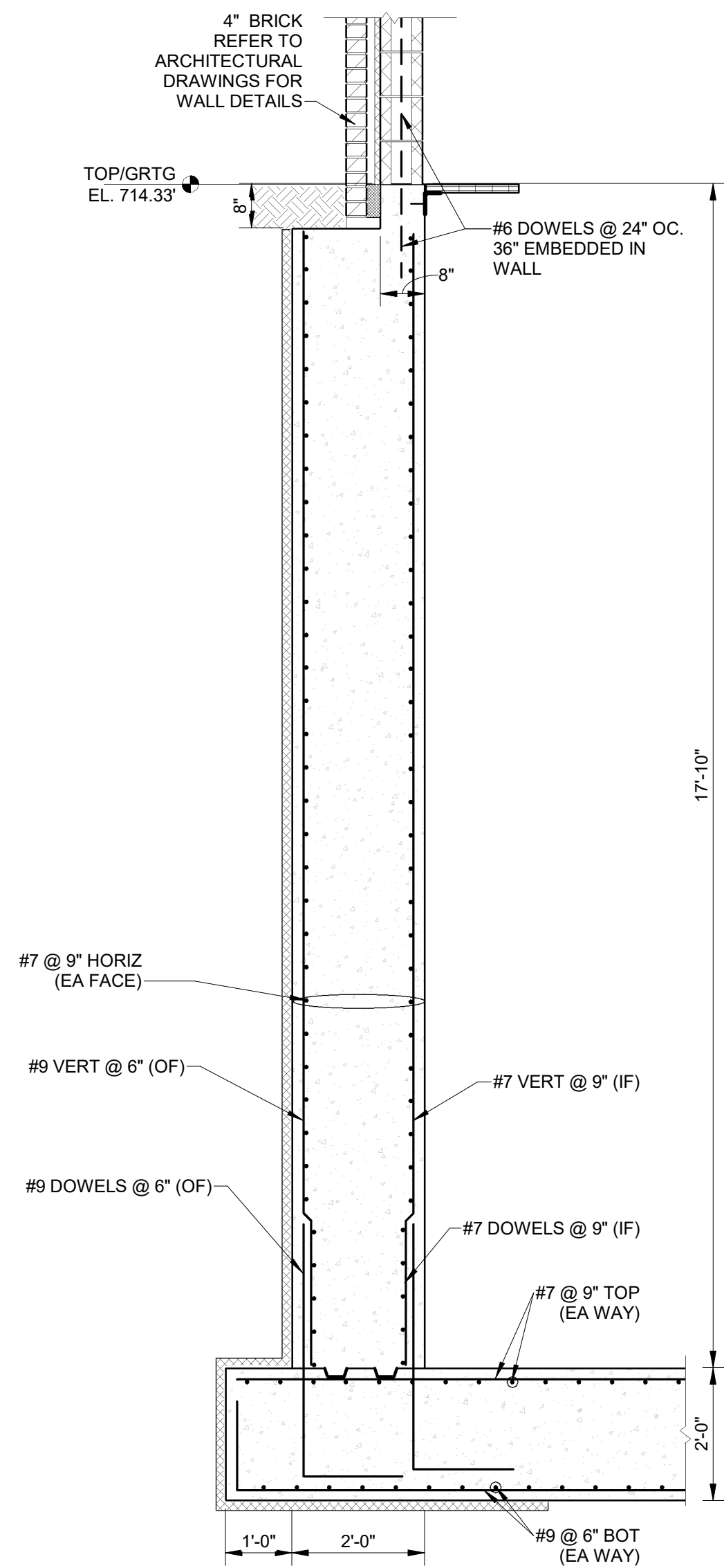
1 VALVE VAULT ROOF SLAB DETAIL  
S-310 SCALE: 1" = 1'-0"



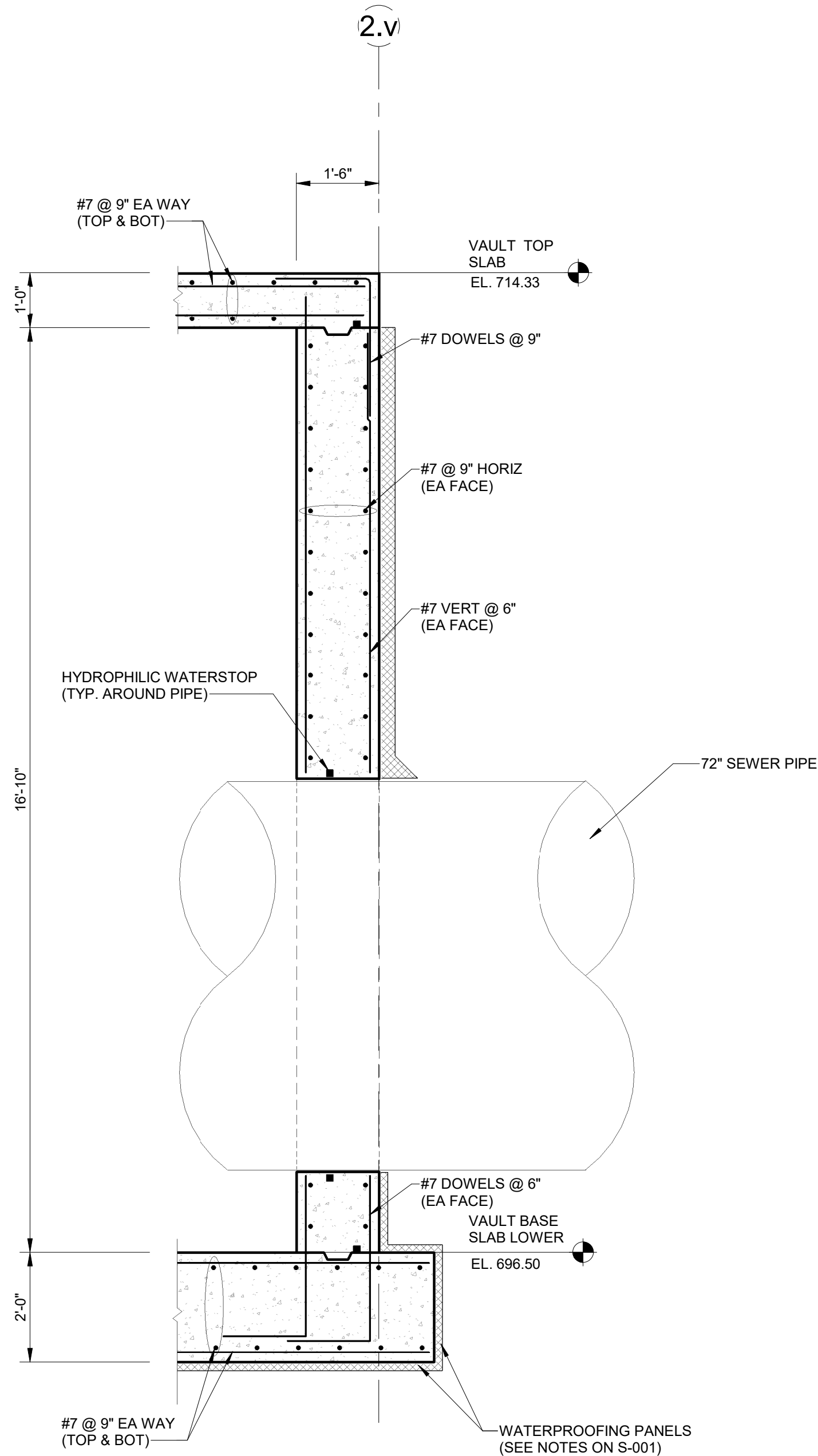
3 GRATING LEDGE ANGLE DETAIL  
SCALE: 4" = 1'-0"



4 VALVE VAULT SUPPORTING BEAM DETAIL  
S-310 SCALE: 1" = 1'-0"



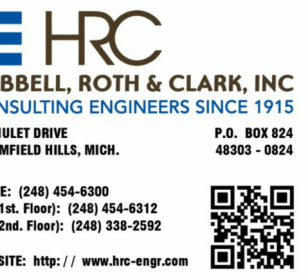
2 VAULT WALL / SLAB REINFORCEMENT  
DETAIL  
S-310 SCALE: 1/2" = 1'-0"



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



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THIRD AVENUE PUMP STATION  
REHABILITATION  
SRF # 5079-01  
WPCF VAULT REINFORCEMENT SECTIONAL DETAILS

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90% SET 04/21/21 JKW  
100% SET 05/14/21 JKW  
90% SET 05/28/21 JKW  
90% SET 05/22/21 JKW

JOB NO.  
COF1073.01F

SHEET

S-510







1. SEE SPECIFICATIONS FOR ADDITIONAL NOTES.

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.

5. PROTECT EXISTING FACILITIES IN A MANNER AS TO NOT ADVERSELY AFFECT THE EXISTING FACILITIES OPERATIONS.

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④

5

⑥



10  
A-901

EXISTING STONE COPING  
TO REMAIN - EXISTING  
JOINTS TO BE ROUTERED  
OUT AND NEW SEALANT  
APPLIED (TYP.)

11 A-901

06 A-901

07

08  
A-901

09 A-

— REMOVE EXISTING ACCESS CURB CAP

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

[illegible]

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

ISSUED FOR:	DATE:	BY:
60% SET	04/23/21	JJA
60% SET	05/14/21	JJA
60% SET	05/28/21	JJA

COF107301F

AD-101



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 CARED FOR. CEMENT OR SAUSAGE 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.)



AD-102





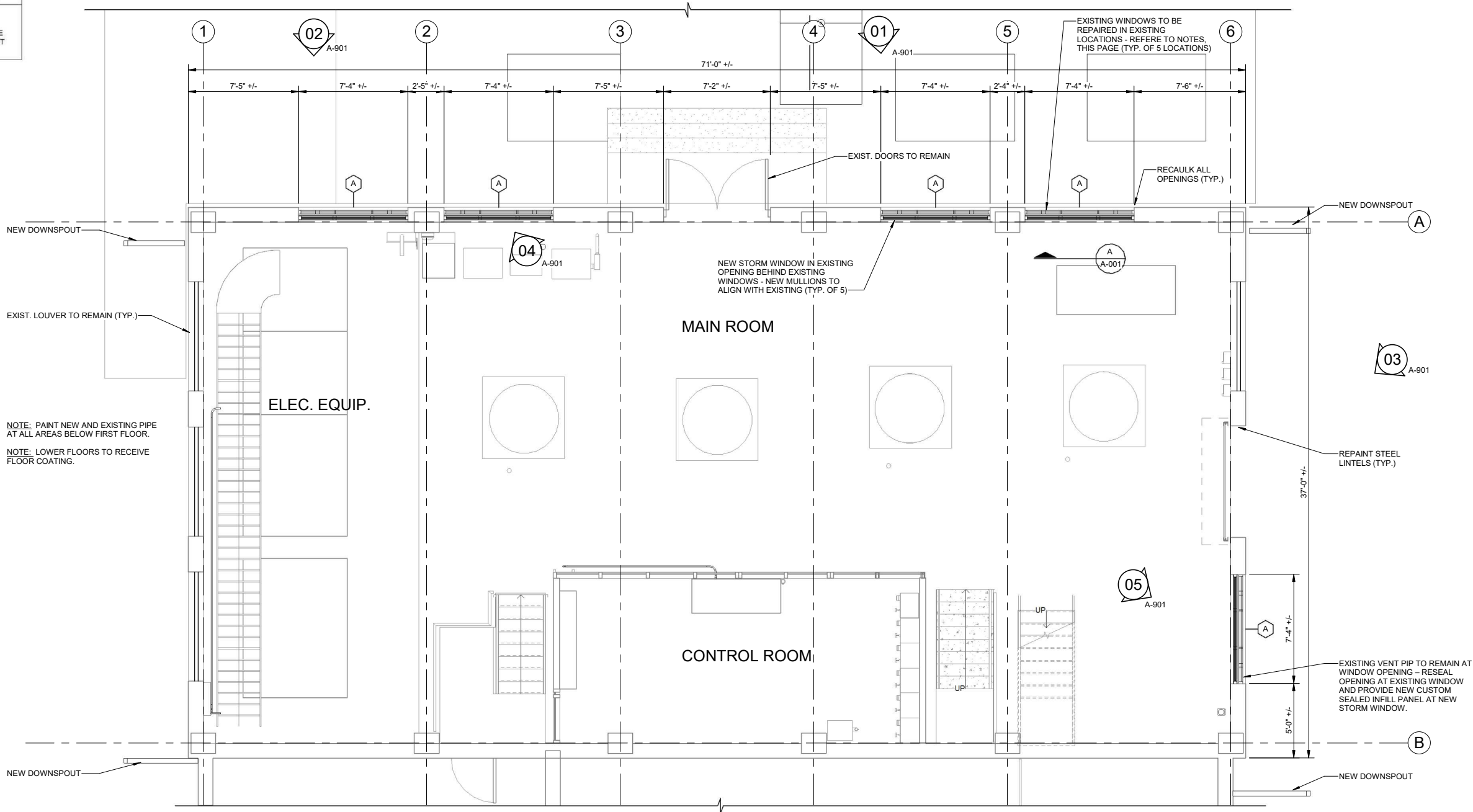


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## PUMP STATION SCOPE ITEMS

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	--	--
BRICK & LIMESTONE CLEANING/RESTORATION	LS	1

NOTES:  
THE QUANTITIES 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.



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 REPLACED IN KIND - 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 REPAINT 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).  
6. 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.  
7. RECAULK PERIMETER OF EXISTING FRAMES AT OPENINGS PER SPEC 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.



PUMP STATION FLOOR PLAN - 708.00'

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



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REHABILITATION  
SRF # 5079-01  
THIRD AVENUE PUMPING STATION FLOOR PLAN

ISSUED FOR: DATE: BY:  
30% SET 04/23/21 JJA  
90% SET 05/14/21 JJA  
100% SET 05/28/21 JJA  
1/B 06/22/21 JJA

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A-101

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

**NOTES:**  
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EXISTING BUILDING MASONRY NOTES:

- EXISTING MORTAR AT MASONRY JOINTS TO BE REPOINTED AT CRACKED AND/OR DAMAGED LOCATIONS. EXACT (A-106) TYPE 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.).

The logo of the City of Flint, Michigan, is a circular emblem. It features a stylized bridge with a train crossing it, set against a background of radiating sunbeams. Below the bridge is a silhouette of a castle or fortress. The words "CITY OF FLINT" are written in a semi-circle at the top, and "MICHIGAN" is written in a semi-circle at the bottom.


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100% SET	05/28/21	JJA
IFB	06/22/21	JJA

SHEET

A-103





<u>REPOINTING UNIT PRICING QUANTITIES</u>					
WORK		FAÇADE WALLS			
	NORTH	WEST	SOUTH	EAST	
A1 BRICK	200	150	150	50	
A2 L-STONE	50	30	N/A	30	

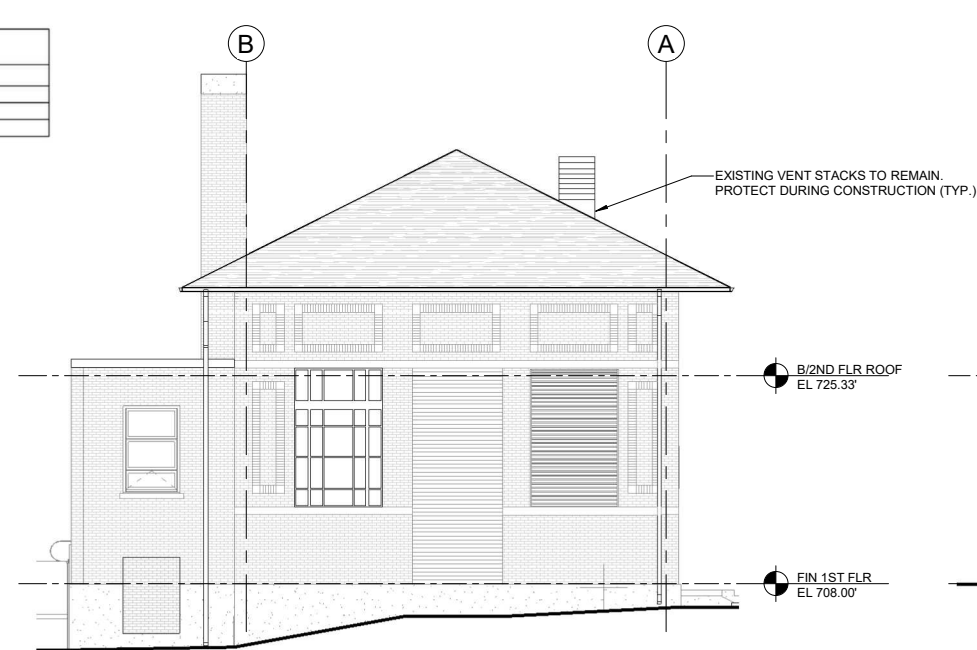
ALL QUANTITIES TO BE FIELD VERIFIED W/ OWNER AND ARCHITECT

EXISTING BUILDING MASONRY NOTES:

- EXISTING MORTAR AT MASONRY JOINTS TO BE REPOINTED AT CRACKED AND/OR DAMAGED LOCATIONS. EXACT QUANTITY 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.

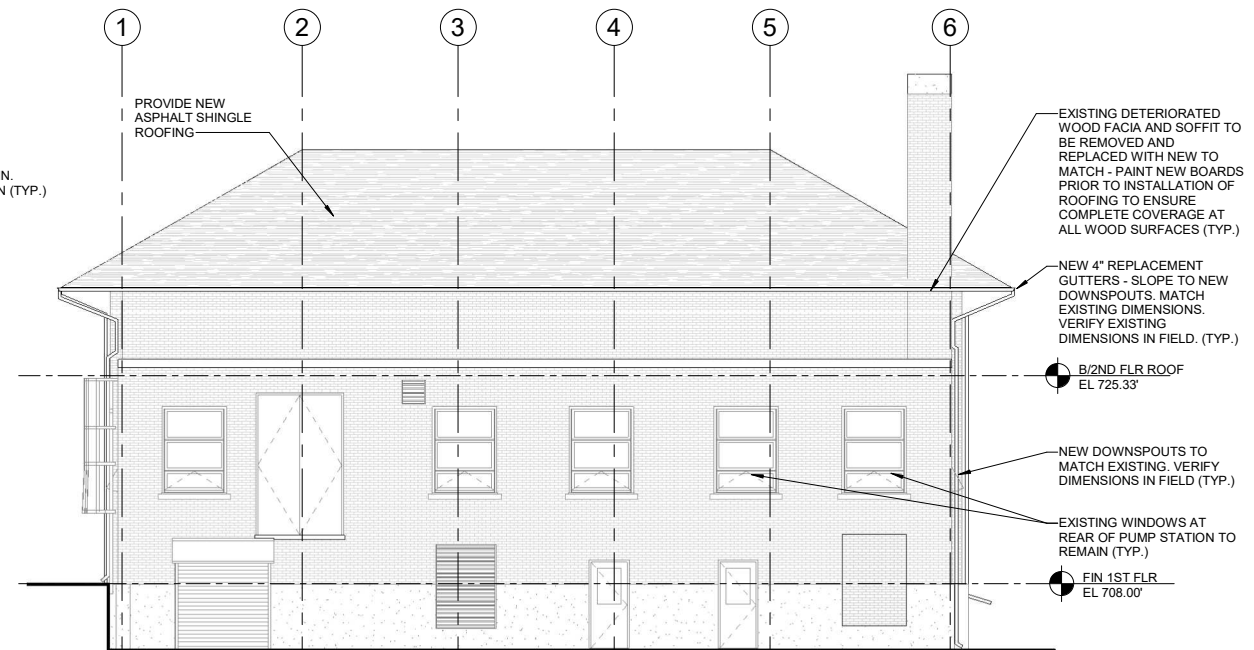
### FINISH NOTES:

1. REFER TO SPEC SECTION 09 9000 FOR PAINTING REQUIREMENTS.
2. DO NOT PAINT FRP, STAINLESS STEEL OR ALUMINUM (U.N.O.).



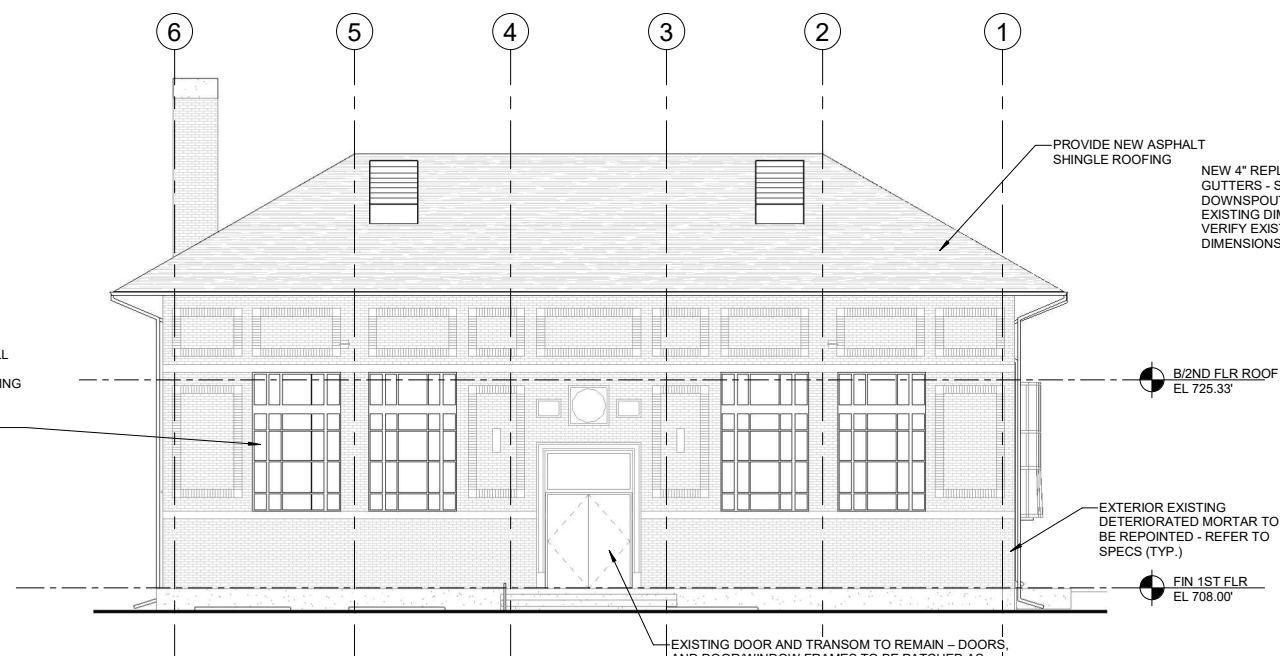
### EAST ELEVATION PUMP STATION

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

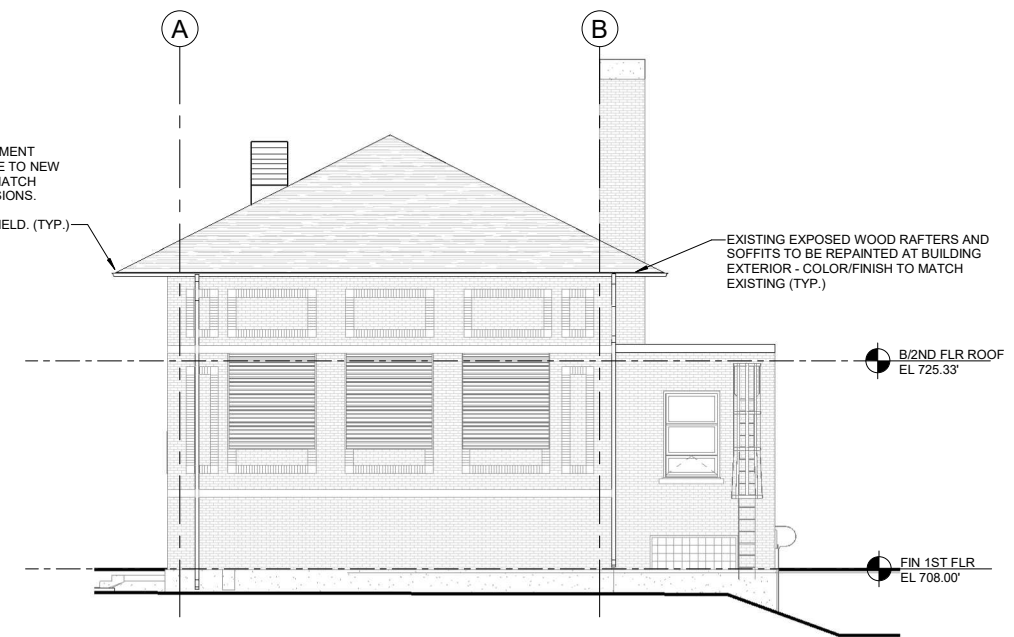


**SOUTH ELEVATION PUMP STATION**  
SCALE: 1/8" = 1'-0"

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



**NORTH ELEVATION PUMP STATION**

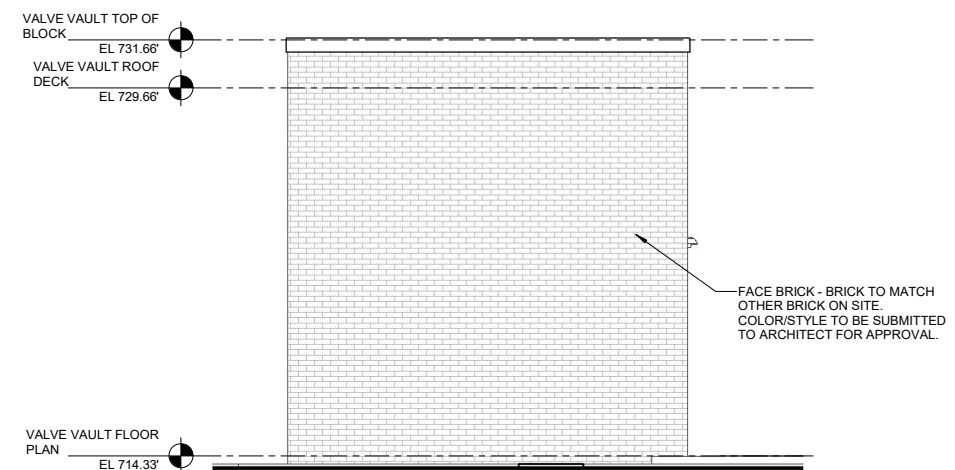
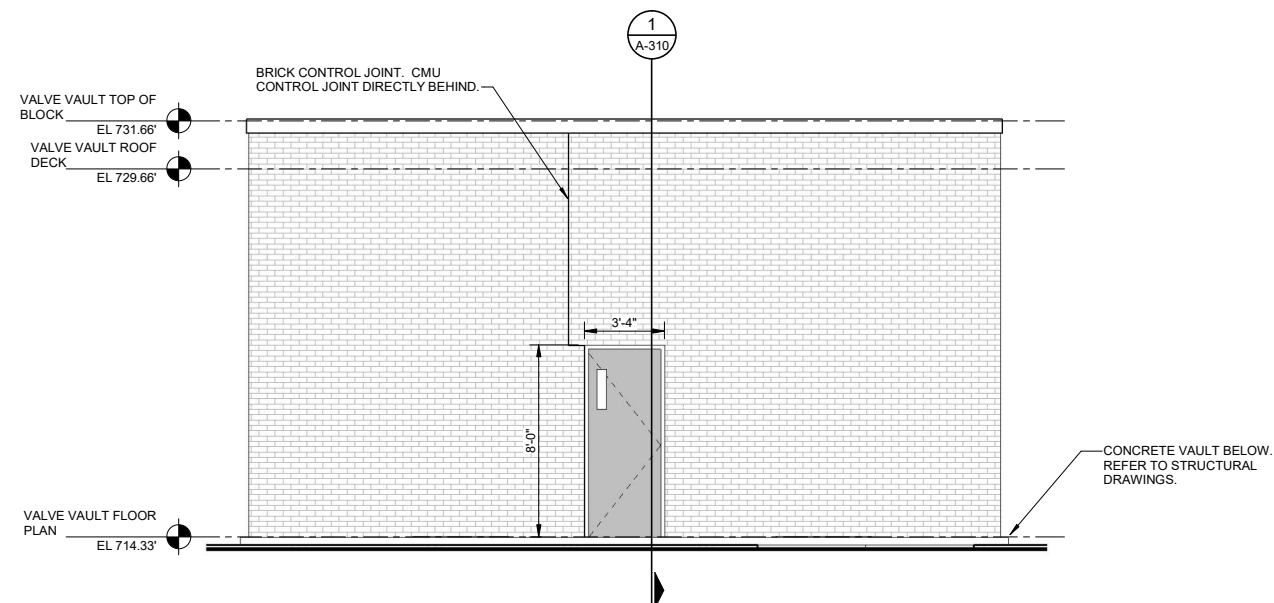
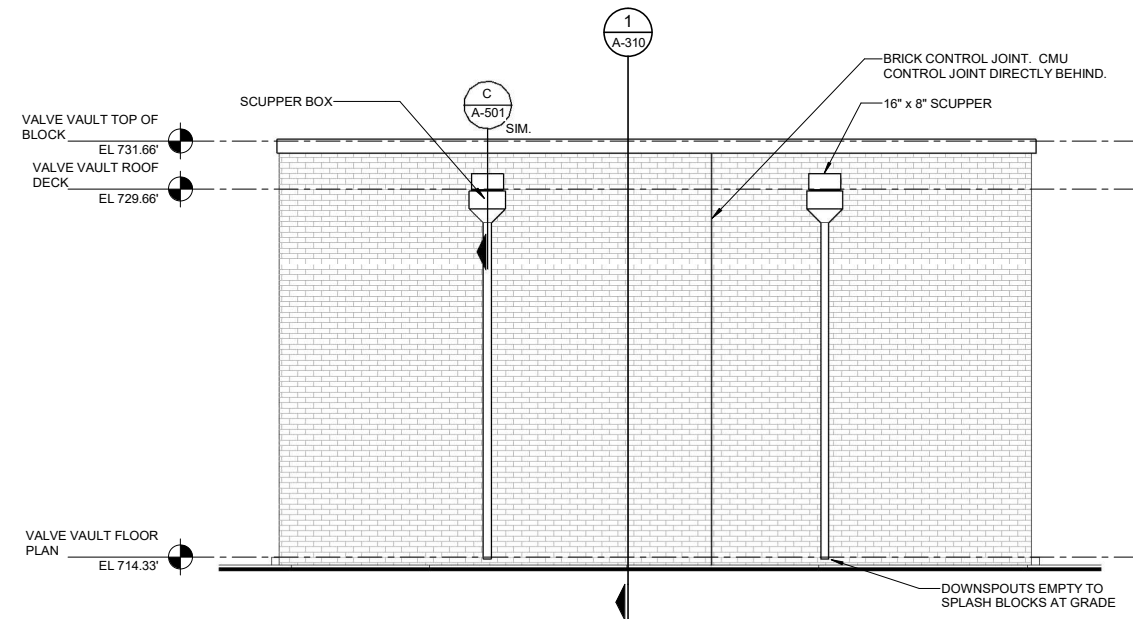
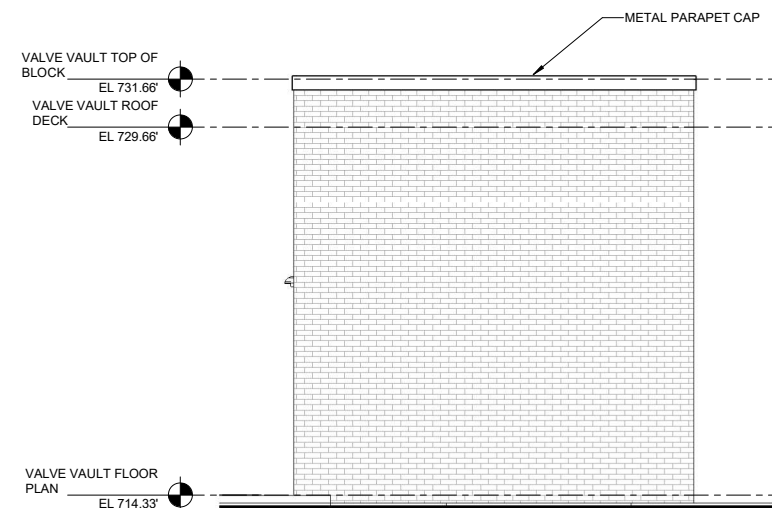


## WEST ELEVATION PUMP STATION

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

EXISTING GLAZING TO BE REMOVED AND REPLACED PER  
SPECS. EXISTING FRAMES TO BE REPAIRED AS REQ'D TO REINSTALL  
GLAZING -- PREP AND REPAINT FRAME PRIOR TO INSTALLATION OF  
NEW GLAZING. ADJUST/REPAIR 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. \_\_\_\_\_



[illegible]

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

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10% SET	05/14/21	JJA
100% SET	05/28/21	JJA
FB	06/22/21	JJA

COF107301F

A-210

**B** PARAPET DETAIL  
A-310 SCALE: 1 1/2" = 1'-0"

**A WALL BASE DETAIL**  
A-310 SCALE: 1 1/2" = 1'-0"

**VALVE VAULT WALL SECTION**  
SCALE: 3/4" = 1'-0"

## VALVE VAULT BUILDING SECTION

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

[illegible]

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THIRD AVENUE PUMPING STATION  
REHABILITATION  
SRF # 5079-01  
WPCF VAULT SECTIONS AND DETAILS

USED FOR:	DATE:	BY:
% SET	05/28/21	JJA
	06/22/21	JJA

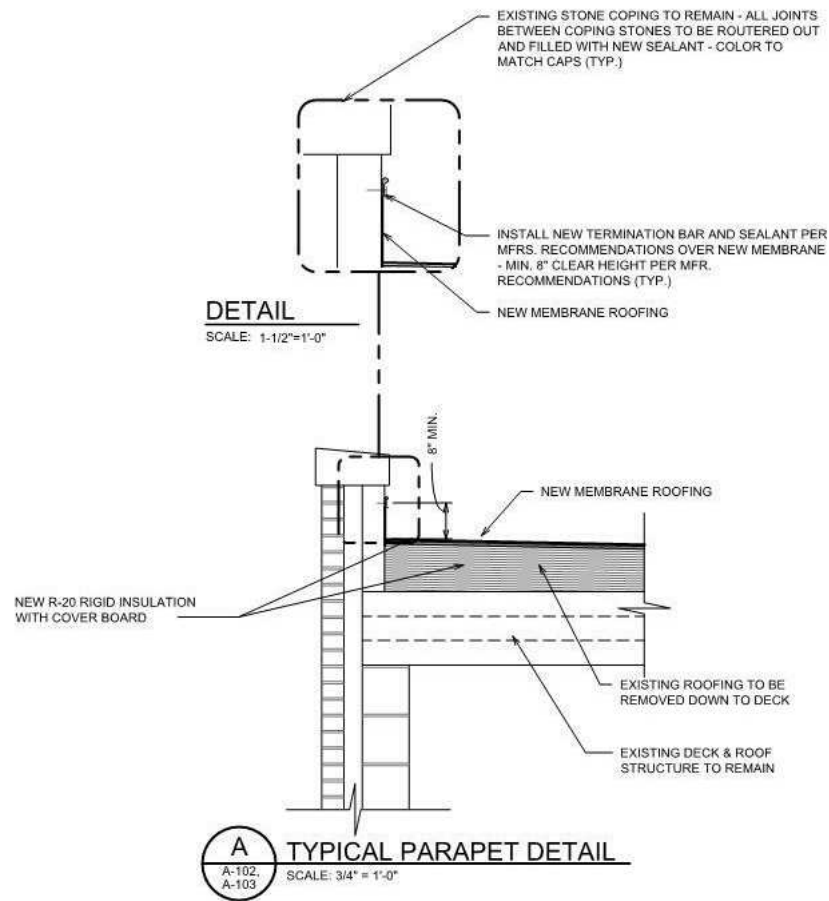
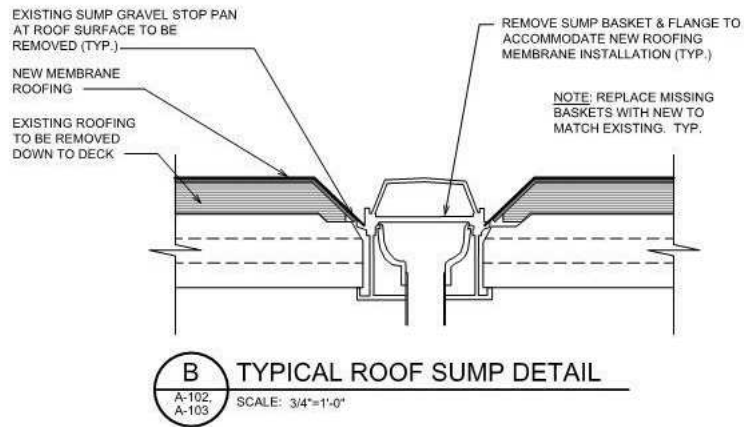
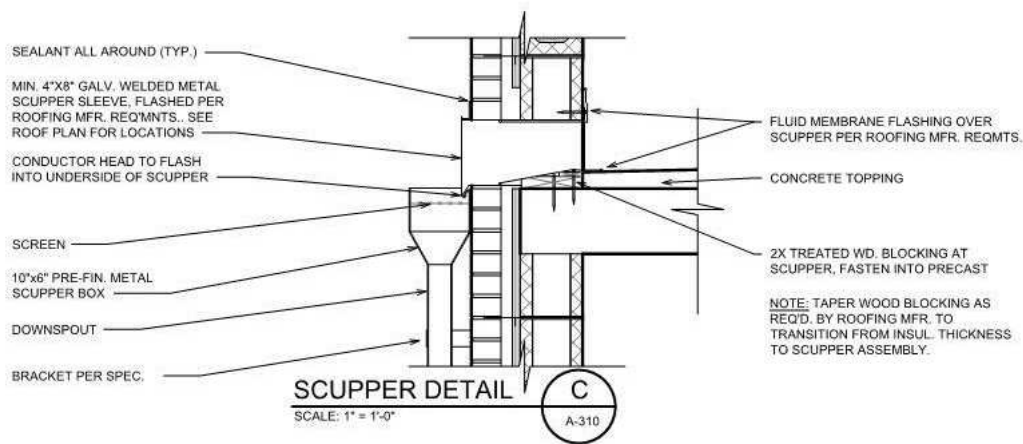
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CITY OF FLINT  
THIRD AVENUE PUMPING STATION  
REHABILITATION  
SRF # 5079-01  
THIRD AVENUE PUMPING STATION AND WPCF  
VAULT ROOF DETAILS

ISSUED FOR:	DATE:	BY:
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90% SET	05/14/21	JJA
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A-501



-AFTER REPOINTING, EXISTING BRICK AND LIMESTONE TO BE CLEANED/ RESTORED IN ACCORDANCE WITH SPEC SECTION 04 0120-92 - TYP. AT PUMP STATION BUILDING

A photograph of a brick building with a large window and a light fixture. The building is constructed of red brick with white mortar. A large, multi-paned window with a blue metal frame is visible. A black light fixture is mounted on the wall above the window. The building is surrounded by bare trees and a sidewalk.

RECAULK PIPE THROUGH WINDOW  
AND OPENINGS (TYP.)

A photograph of a two-story brick building. The ground floor features a large white roll-up door on the left and a black louvered door on the right. A small, light-colored rectangular object is mounted on the brick wall to the right of the louvered door. The second floor has a multi-paned window on the left. A white downspout runs vertically along the left side of the building. A black light fixture is mounted on the roofline above the roll-up door. The building is constructed of red brick with light-colored mortar.

A photograph showing the interior of a brick building. On the left is a large, closed, corrugated metal roll-up door. To its right is a tall, narrow window with a dark frame and multiple small panes. The walls are made of reddish-brown bricks. On the right wall, there is a smaller window with a grid pattern. A blue vertical pipe or support structure is visible near the large window. A white pipe runs horizontally along the upper part of the right wall.

—ACCOMDATE PIPE THAT PENETRATES WINDOW  
(THIS LOCATION ONLY)

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

— 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.)

A close-up photograph of a brick chimney and the roofline of a building. The chimney is constructed of red bricks with dark mortar. The roof is covered in dark shingles. A white, curved decorative element, possibly a corbel or part of a gutter, is visible on the left side of the roofline. The sky is overcast and grey. The overall condition appears to be poor, with visible signs of aging and potential water damage.

—REPAINT WOOD RAFTERS AND SOFFIT.  
TYP. AT PUMP STATION OVERHANG.

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

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

—ENSURE PROPER  
DRAINAGE FROM CORNER  
AT NEW ROOF

[illegible]

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

ISSUED FOR:	DATE:	BY:
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90% SET	05/14/21	JJA
100% SET	05/28/21	JJA
FB	06/22/21	JJA

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A-901

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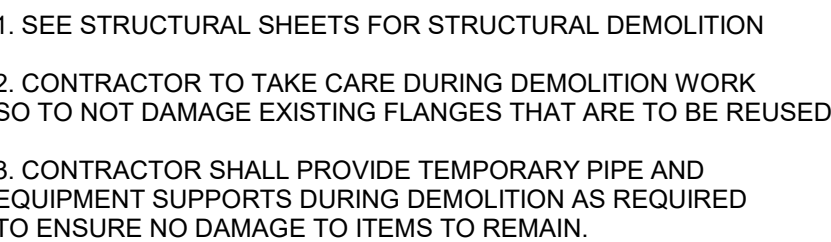






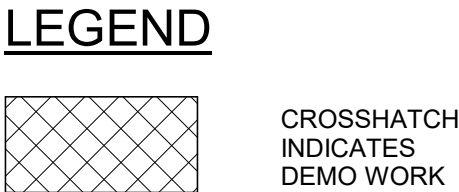






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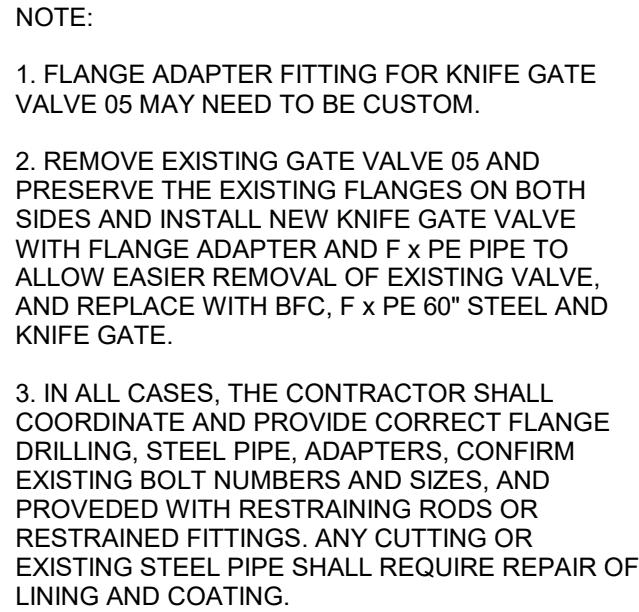




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CITY OF FLINT  
THIRD AVENUE PUMP STATION  
STATION IMPROVEMENTS  
SRF # 5079-01  
TAPS PUMP FLOOR PIPING LAYOUT PLAN

ISSUED FOR:	DATE:	BY:
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90% SET	05/14/21	JJA
100% SET	05/28/21	JJA
IFB	06/22/21	JJA

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D-102



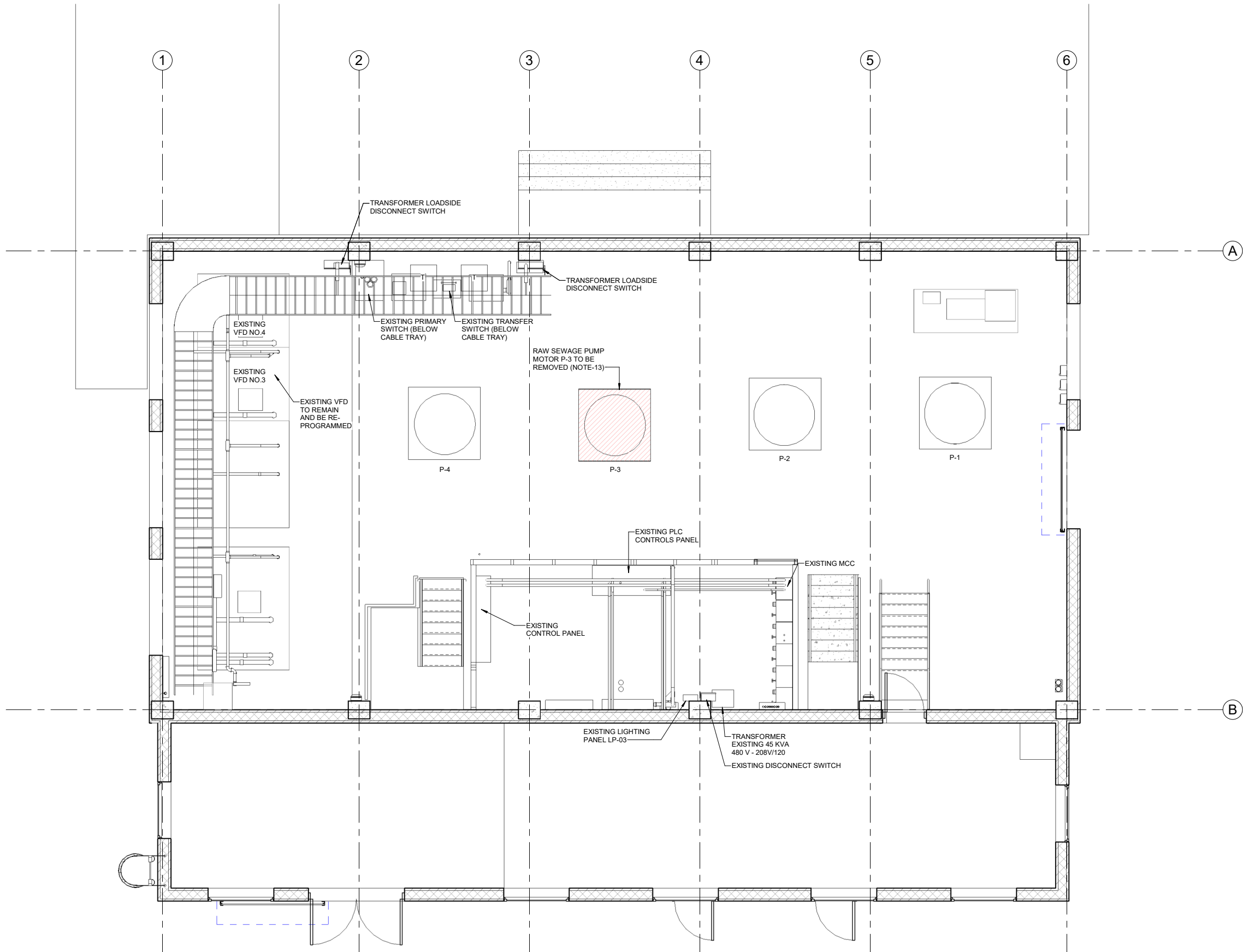








- DEMOLITION NOTES:
1. THE CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY CHECK THE FIELD CONDITIONS AND THE EXISTING ELECTRICAL INSTALLATION PRIOR TO SUBMITTING A BID.
  2. ALL DEMOLITION WORK SHALL BE COORDINATED WITH THE OWNER.
  3. ALL ELECTRICAL DEMOLITION WORK SHALL INCLUDE REMOVING OF EXISTING DISCONNECT SWITCHES, WIRE, CONDUIT, BOXES, ETC., AS INDICATED ON THE DRAWINGS AND SHALL BE BY THIS CONTRACTOR.
  4. REMOVE ALL CONDUIT, WIRE, HANGERS, CLAMPS, ETC. THAT ARE NOT BEING RE-USED UNLESS CONCEALED ABOVE CEILINGS OR IN WALLS, WHICH MAY BE ABANDONED AND LEFT IN PLACE. CONDUIT IN FLOOR SLAB SHALL BE CUT FLUSH WITH SLAB AND PLUGGED WITH NON-SHRINK GROUT.
  5. REMOVE ALL WIRE IN EXISTING CONCEALED ABANDONED CIRCUITS. EXISTING CONCEALED CONDUITS (IF APPLICABLE) MAY BE REUSED FOR NEW WIRING.
  6. EXISTING CONDUITS AND BRANCH CIRCUIT WIRING MAY BE RE-USED WHERE APPLICABLE. IF CONDUIT AND WIRING IS NOT RE-USED IT SHALL BE REMOVED.
  7. ALL OPENING CREATED BY REMOVAL OF CONDUITS THROUGH EXISTING WALLS OR FLOORS SHALL BE SEALED TO MATCH EXISTING.
  8. REVISE ALL EXISTING LIGHTING PANEL DIRECTORIES AND MCC NAMEPLATES TO REFLECT ALL REVISIONS TO BRANCH CIRCUIT BREAKERS IN THE EXISTING PANELS AND MCC'S.
  9. VERIFY REMOVAL OF ALL EXISTING POWER AND CONTROL WIRING WITH THE OWNER PRIOR TO START OF DEMOLITION WORK.
  10. ALL SALVAGE ELECTRICAL EQUIPMENT SHALL BECOME THE PROPERTY OF THE OWNER AND SHALL BE STORED AT AN ON SITE LOCATION OR DISPOSED OF AS DIRECTED BY THE OWNER.
  11. ALL EXISTING PANELBOARDS, LIGHTING FIXTURES, WIRING DEVICES, TELEPHONE OUTLETS, ETC., SHALL REMAIN IN THEIR EXISTING LOCATIONS, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
  12. REMOVE EQUIPMENT AS SHOWN, INCLUDING ALL ASSOCIATED CONDUIT AND WIRE.
  13. REMOVE ALL CONDUIT AND WIRE FROM RAW SEWAGE PUMP MOTOR TO EXISTING VFD. INSTALL COVER PLATE IN VFD ENCLOSURE AFTER CONDUIT AND WIRE ARE REMOVED. VFD TO BE RE-USED.



1 FIN 1ST FLR ELEC DEMO  
A-201 SCALE: 1/4" = 1'-0"



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REHABILITATION  
SRF # 5079-01  
THIRD AVENUE PUMPING STATION ELECTRICAL  
DEMO

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100% SET 05/28/21 JUA  
11B 06/22/21 JUA

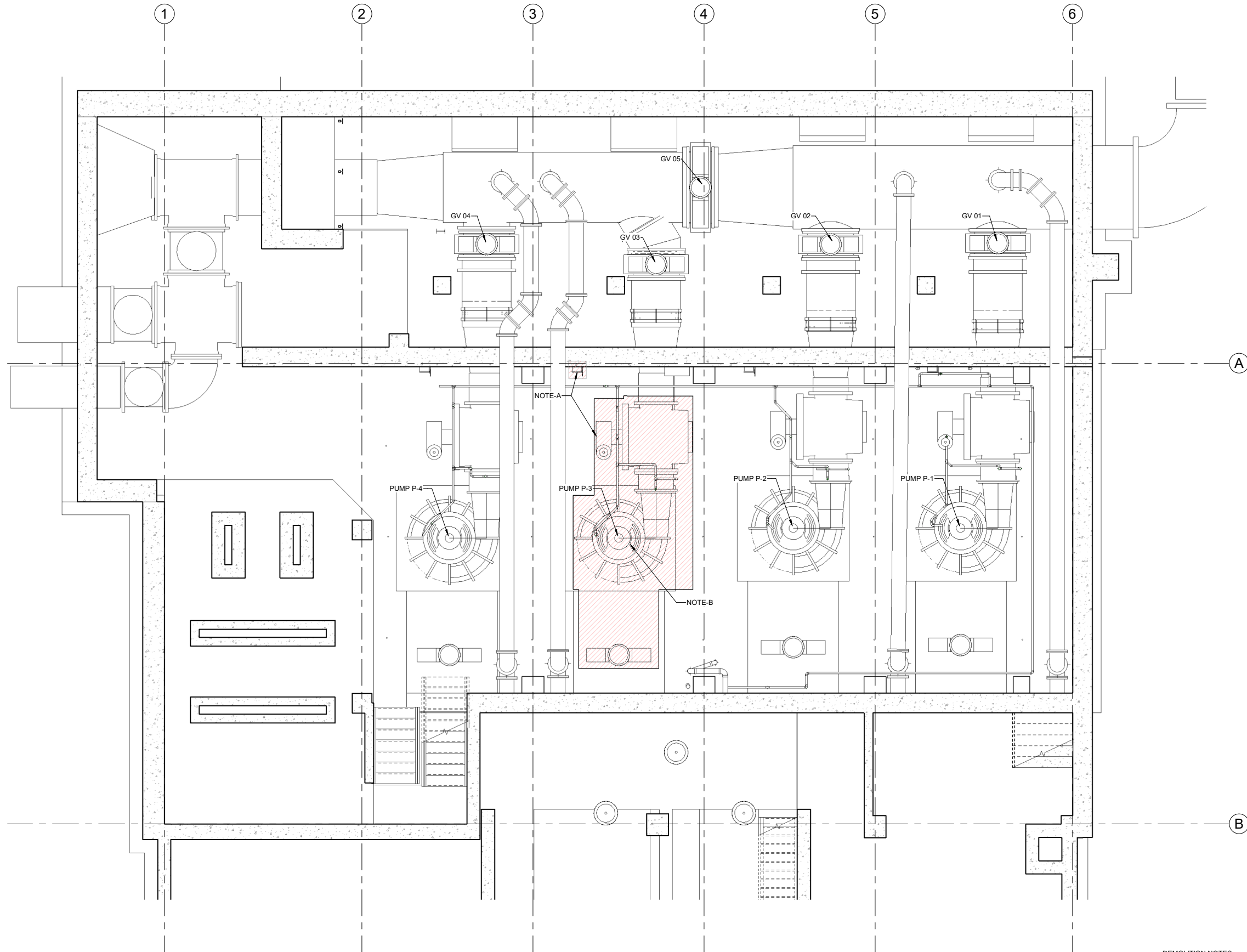
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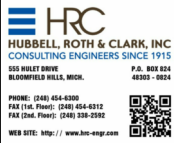
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**ELECTRICAL DEMOLITION LAYOUT FL. EL. 678.00'**  
SCALE: 1/4" = 1'-0"

- DEMOLITION NOTES:**
- A. DISCONNECT AND REMOVE VALVE ACTUATOR, DISCONNECT SWITCH, AND ASSOCIATED DEVICES.
  - B. DISCONNECT AND REMOVE ALL ASSOCIATED DEVICES FOR PUMP NO. 3.
  - C. REMOVE ALL UNUSED CONDUIT AND WIRE.



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

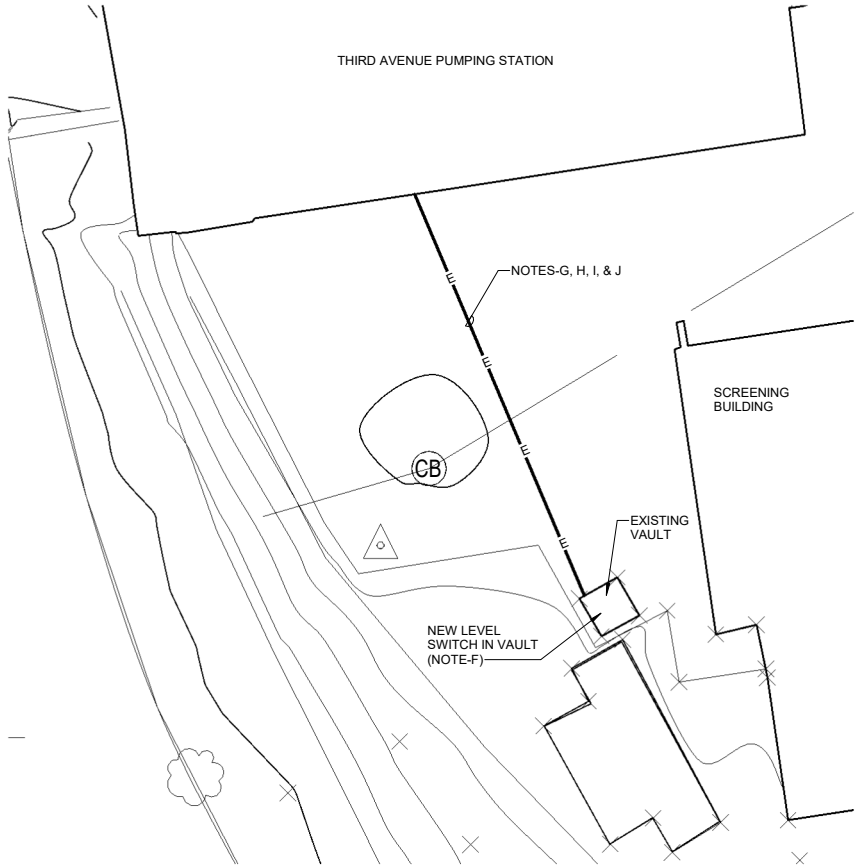
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BY: JJA  
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OR NO:  
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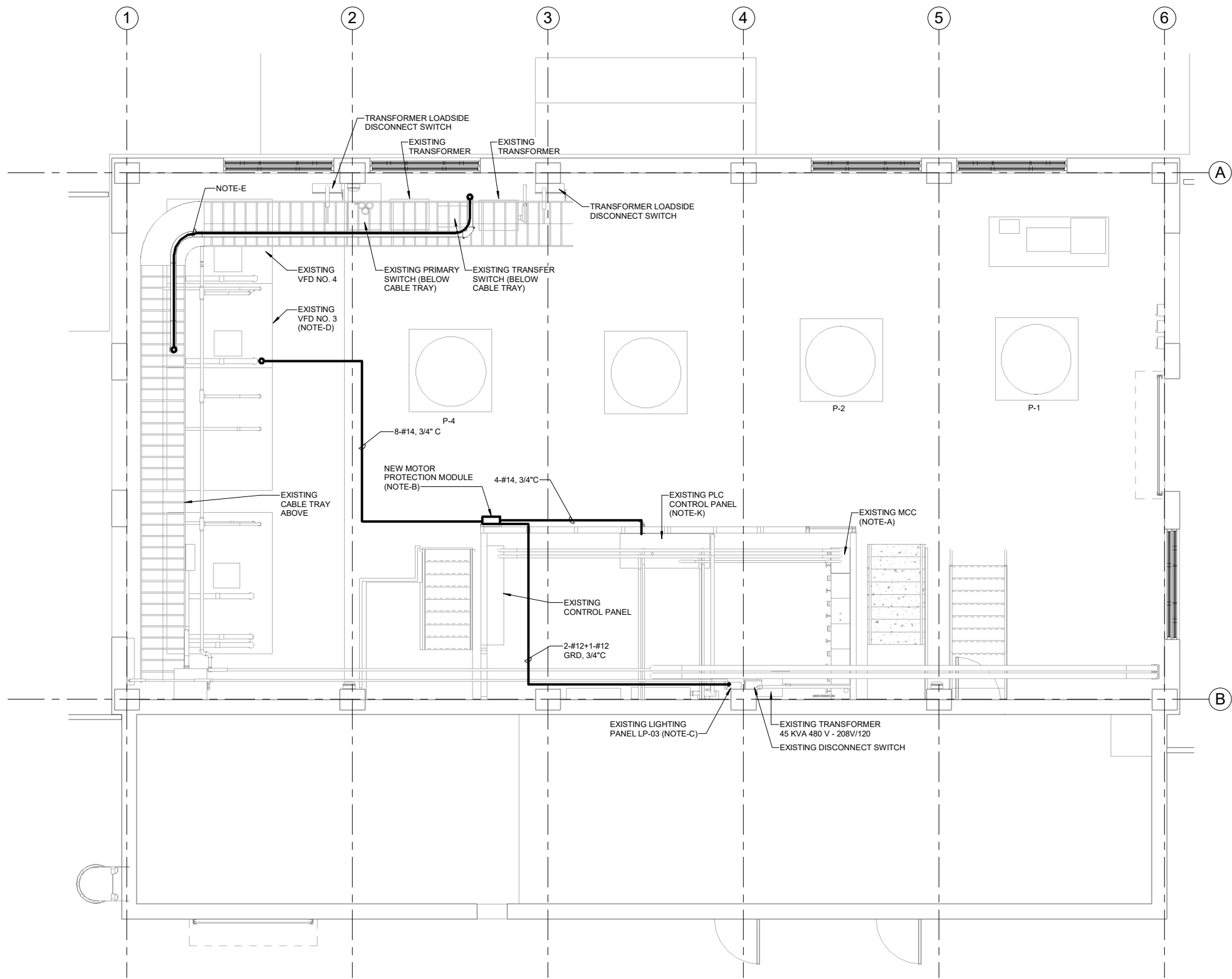
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PARTIAL ELECTRICAL SITE PLAN  
SCALE: 1" = 10'-0"

- PLAN NOTES:
- A. IN EXISTING MCC, FURNISH AND INSTALL NEW 15A, 3-POLE CIRCUIT BREAKER TO POWER NEW VALVE ACUTATOR. NEW CIRCUIT BREAKER TO MATCH EXISTING MCC MANUFACTURER AND HAVE DEVICENET SYSTEM ACCESSORY AND 2-#14 TO PLC FROM THE NEW CIRCUIT BREAKER. COORDINATE NEW BREAKER LOCATION WITH AVAILABLE SPARE SPACE.
  - B. FURNISH AND INSTALL NEW MOTOR PROTECTION MODULE IN NEMA TYPE 12 ENCLOSURE. FURNISH AND INSTALL NEW EQUIPMENT RACK AS REQUIRED.
  - C. IN LP-03, FURNISH AND INSTALL NEW 15A, 1-POLE CIRCUIT BREAKER TO POWER NEW MOTOR PROTECTION MODULE.
  - D. EXISTING VFD FOR PUMP NO. 3 TO BE RE-PROGRAMMED. PROGRAMMING TO BE PERFORMED BY VFD MANUFACTURER.
  - E. ROUTE NEW PUMP CABLE IN EXISTING CABLE TRAY DOWN TO INTERMEDIATE FLOOR BELOW.
  - F. INSTALL NEW LEVEL SWITCH IN EXISTING VAULT, FIELD VERIFY EXACT MOUNTING LOCATION.
  - G. INSTALL NEW 3-#14, 3/4"C. FROM LEVEL SWITCH TO EXISTING PLC CONTROL PANEL. EXISTING CONDUIT WITH LEVEL SENSOR CABLE TO BE RE-USED.
  - H. FOR LEVEL SENSOR CONDUIT, REMOVE CONDUIT SEALING COMPOUND, USE EXTREME CAUTION TO PREVENT DAMAGE TO EXISTING CABLE. INSTALL NEW CONDUIT AND FITTINGS AS REQUIRED TO CONNECT NEW LEVEL SWITCH DEVICE. REMOVE AND RE-INSTALL EXISTING LEVEL SENSOR CABLE AS REQUIRED.
  - I. NEW CONDUIT AND FITTINGS INSTALLED IN EXISTING VAULT SHALL BE PVC COATED ALUMINUM AND MEET NEC REQUIREMENTS.
  - J. NEW LEVEL SWITCH MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
  - K. IN EXISTING PLC CONTROL PANEL, FURNISH AND INSTALL NEW INTRINSICALLY SAFE RELAY FOR CONNECTION OF NEW LEVEL SWITCH SIGNAL. COORDINATE INSTALLATION WITH SCADA SYSTEM SUPPLIER. INTRINSICALLY SAFE RELAY SHALL BE AS MANUFACTURED BY WARRICK CONTROLS SERIES 17, B/W CONTROLS SERIES 5300, OR APPROVED EQUAL.

SEE GENERAL NOTES  
DRAWING E-102



ELECTRICAL POWER PLAN FL. EL. 708.00'  
SCALE: 1/4" = 1'-0"

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CITY OF FLINT  
THIRD AVENUE PUMPING STATION  
REHABILITATION  
SRF # 5079-01  
THIRD AVENUE PUMPING STATION MOTOR ROOM  
POWER PLAN

ISSUED FOR:	DATE:	BY:
50% SET	04/23/21	JJA
90% SET	05/14/21	JJA
100% SET	05/28/21	JJA
11B	06/22/21	JJA

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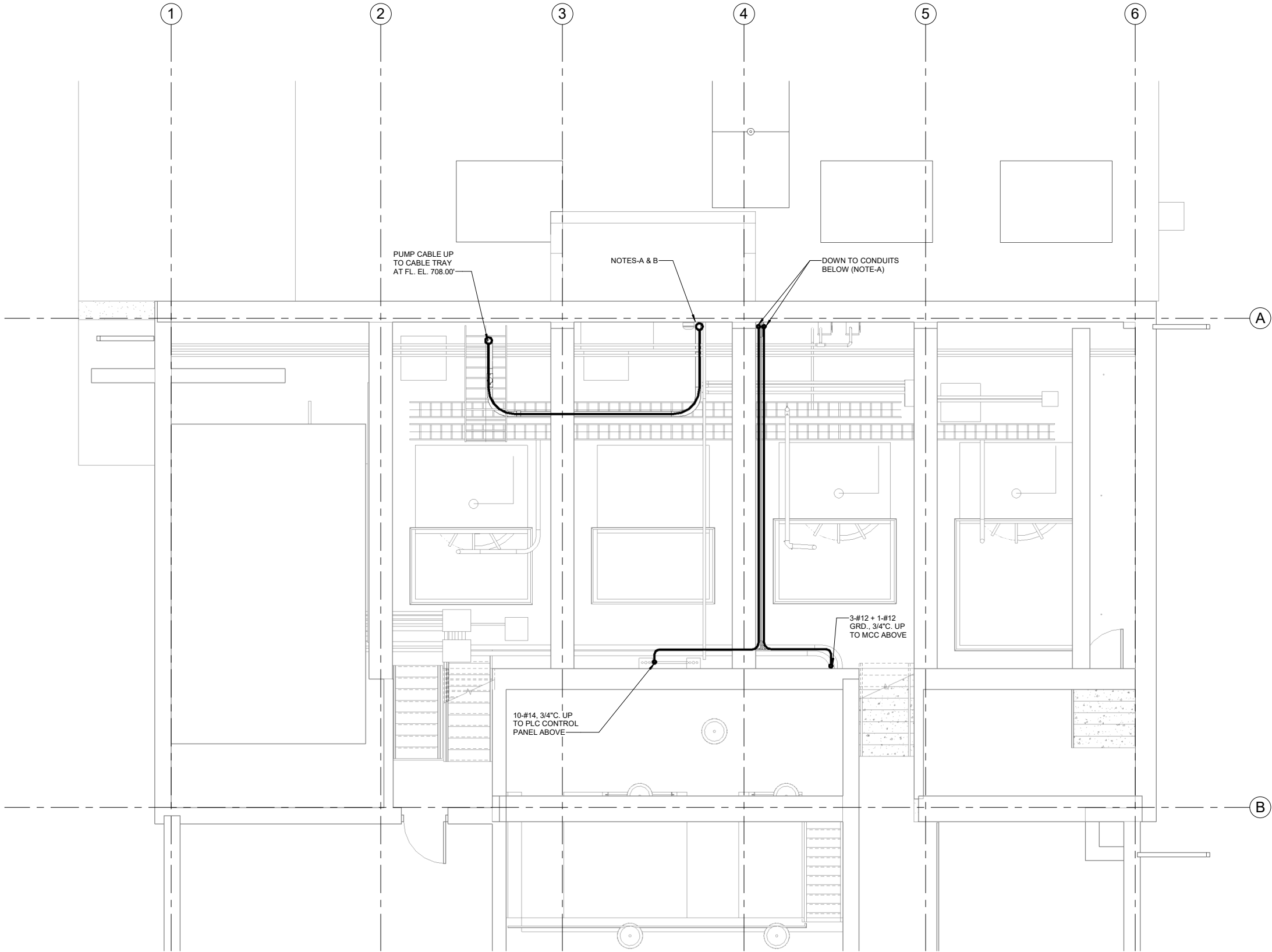
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GENERAL ELECTRICAL NOTES:  
(APPLY TO ALL DRAWINGS)

1. THE CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY CHECK THE FIELD CONDITIONS AND THE EXISTING ELECTRICAL INSTALLATION AND UTILITIES (ELECTRICAL AND TELEPHONE) PRIOR TO SUBMITTING HIS BID.
2. OTHER PROJECTS ARE, OR MAY BE, UNDER CONSTRUCTION AT THIS SITE, AND THIS CONTRACTOR SHALL COORDINATE WITH THEM SO AS NOT TO DELAY THEIR SCHEDULES OR IMPEDE THEIR WORK.
3. COORDINATE ALL NEW ELECTRICAL UNDERGROUND WORK WITH NEW AND EXISTING UNDERGROUND UTILITIES BEFORE INSTALLATION.
4. ALL EMPTY CONDUITS AND/OR EMPTY DUCTS IN DUCT BANKS SHALL BE PROVIDED WITH A FISH LINE.
5. ALL DIRECT BURIED CONDUITS SHALL BE 30" BELOW GRADE (MIN.), AND SHALL SLOPE (MINIMUM 3" PER 100') TO MANHOLES, HANDHOLES, CABLE VAULTS, OR OTHER STRUCTURES.
6. ALL UNDERGROUND CONDUITS AND/OR DUCTS IN DUCT BANKS SHALL BE P.V.C., EXCEPT WHERE ENTERING MANHOLES, HANDHOLES, BUILDINGS, LIGHT POLE BASES, AND TRANSFORMER PAD. UNDERGROUND CONDUITS AND/OR DUCTS SHALL BE RIGID ALUMINUM WITHIN 10'-0" OF THE STRUCTURE. ALL CONDUITS AND/OR DUCTS UNDER BUILDINGS SHALL BE RIGID ALUMINUM.
7. PROVIDE WATERTIGHT HUBS AT CONDUIT ENTRANCES TO ALL ENCLOSURES MOUNTED OUTDOORS AND AT ALL WATERTIGHT (NEMA TYPE 4 & 4X) ENCLOSURES MOUNTED INDOORS. ALL NEMA TYPE 4 & 4X ENCLOSURES, EXCEPT THOSE IN CORROSIVE AREAS, SHALL BE EQUIPPED WITH A DRAIN/BREATHER FITTING.
8. EXPANSION OR EXPANSION/DEFLECTION FITTINGS SHALL BE PROVIDED FOR ALL CONDUITS CROSSING BUILDING EXPANSION JOINTS.
9. ALL POWER FEEDERS SHALL BE RUN IN INDIVIDUAL CONDUITS, FROM SOURCE TO LOAD, AS INDICATED IN SCHEDULES, WIRING DIAGRAMS, OR BY HOME RUNS ON THE PLANS.
10. ALL CONDUITS SHALL BE ROUTED TO AVOID OPENINGS IN FLOORS, ROOFS, AND WALLS. LADDERS UP WALLS SHALL NOT BE CROSSED BY EXPOSED CONDUIT RUNS. PROVIDE THE MINIMUM CLEAR SPACE REQUIRED BY ALL GOVERNING CODES BETWEEN HANDRAILS AND ALL ELECTRICAL ENCLOSURES AND RACEWAYS, WHICH IN NO CASE SHALL BE LESS THAN 1 1/2" CLEAR.
11. ALL CONDUITS FOR 480VAC POWER FEEDERS, BRANCH CIRCUITS, AND INSTRUMENTATION SHALL BE RUN EXPOSED OVERHEAD, UNLESS SHOWN OTHERWISE ON THE PLANS.
12. ALL ELECTRICAL FLOOR MOUNTED EQUIPMENT SUCH AS MOTORS, CONTROL PANELS, AND METALLIC SUPPORT RACKS SHALL HAVE A #2 (UNLESS OTHERWISE NOTED) BARE GROUND CONDUCTOR TIE BETWEEN THE MOTOR FRAME, ENCLOSURE, OR SUPPORT LEG AND THE BUILDING GROUND SYSTEM.
13. GROUND CONDUCTOR SPLICING AND BONDING SHALL BE ACCOMPLISHED BY THE USE OF EXOTHERMIC WELDING.
14. PROVIDE A GREEN GROUND CONDUCTOR IN ALL SYSTEMS CONDUITS, EXCEPT INSTRUMENT SIGNAL AND ALARM CONDUITS, INCLUDING BRANCH CIRCUIT CONDUITS FOR LIGHTING AND RECEPTACLES. GROUND CONDUCTOR SIZING SHALL BE PER N.E.C. TABLE 250-95 (MINIMUM) WHERE NOT SIZED ON THE DRAWINGS.
15. COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS OF ALL LIGHTING FIXTURES AND ELECTRICAL DEVICES WITH MECHANICAL PIPING AND DUCTWORK BEFORE INSTALLATION.
16. ALL THREADED MECHANICAL CONNECTIONS ON ELECTRICAL EQUIPMENT (CONDUIT, COUPLINGS, JUNCTION BOXES, ETC.) INSTALLED WITHIN WET AREAS, HAZARDOUS AREAS, OR OUTDOORS SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.
17. ALL WALL AND RACK MOUNTED CONTROL STATIONS, RECEPTACLES, AND LIGHTING SWITCHES SHALL BE 4'-0" A.F.F., UNLESS NOTED OTHERWISE ON THE PLANS.
18. ALL WALL AND RACK MOUNTED DISCONNECT SWITCHES, CONTROL PANELS, AND LIGHTING PANELS SHALL BE 5'-6" TO TOP, ABOVE FINISHED FLOOR.
19. ALL WEATHERPROOF (W.P.) DUPLEX RECEPTACLES SHALL BE INSTALLED SUCH THAT COVER DOORS OPEN UPWARD.
20. ALL WALL MOUNTED ELECTRICAL EQUIPMENT SHALL HAVE A 1/2" (MINIMUM) AIR SPACE BETWEEN WALL AND EQUIPMENT (PROVIDE NON-CORROSIVE SPACERS OR BRACKETS AS REQUIRED).
21. FOR ALL 120 VAC LIGHTING AND RECEPTACLE CIRCUITS, RUN 2-#12 (MINIMUM) + #12 GRD., 3/4"C. TO THE LIGHTING PANELBOARD INDICATED, UNLESS NOTED OTHERWISE. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR BRANCH CIRCUIT WIRING.
22. 4-20 mA, INSTRUMENT SIGNAL AND DC TOTALIZED PULSE CABLES, MAY BE RUN WITH OTHER INSTRUMENT SIGNAL CABLES IN THE INSTRUMENT CONDUIT SYSTEM. INSTRUMENT SIGNALS SHALL NOT BE RUN IN THE SAME CONDUIT WITH ANY OTHER TYPE OF ALARM, CONTROL AND/OR POWER WIRING.
23. DC ALARM WIRING SHALL BE #14 AWG AND MAY BE RUN WITH OTHER ALARM WIRING IN THE ALARM CONDUIT SYSTEM. ALARM WIRING SHALL NOT BE RUN IN THE SAME CONDUIT WITH ANY OTHER TYPE INSTRUMENT SIGNAL, CONTROL, OR POWER WIRING, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
24. 120VAC CONTROL AND GRAPHIC WIRING SHALL BE #14 AWG MINIMUM AND MAY BE RUN IN THE SAME CONDUIT WITH ASSOCIATED POWER WIRING. 120VAC CONTROL AND GRAPHIC WIRING SHALL NOT BE RUN IN THE SAME CONDUIT WITH ANY OTHER TYPE INSTRUMENT SIGNAL, ALARM, OR UNASSOCIATED CONTROL OR POWER WIRING, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
25. IN AREAS WHERE ELECTRICAL WORK DISTURBS EXISTING SOD, GROUND SHALL BE REGRADED AS REQUIRED AND SOD SHALL BE REPAIRED OR REPLACED, AS REQUIRED, TO RETURN THE SITE TO A CONDITION MEETING OR EXCEEDING THAT PRIOR TO THE BEGINNING OF WORK.



ELECTRICAL POWER PLAN FL. EL. 697.00'

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

PLAN NOTES:

- A. CORE DRILL FLOOR AS REQUIRED FOR NEW CONDUITS. SEAL AROUND CONDUITS WITH NON-METALLIC, NON-SHRINK GROUT TO MATCH EXISTING FLOOR.
- B. PUMP CABLE, 4"C. TO PUMP BELOW. ROUTE IN CONDUIT FROM CABLE TRAY TO FLOOR LEVEL BELOW.

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CITY OF FLINT  
THIRD AVENUE PUMPING STATION  
REHABILITATION  
SRF # 5079-01  
THIRD AVENUE PUMPING STATION INTERMEDIATE  
FLOOR POWER PLAN

ISSUED FOR:	DATE:	BY:
50% SET	04/23/21	JJA
90% SET	05/14/21	JJA
100% SET	05/28/21	JJA
11B	06/22/21	JJA

DR. NO.  
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SHEET

E-102

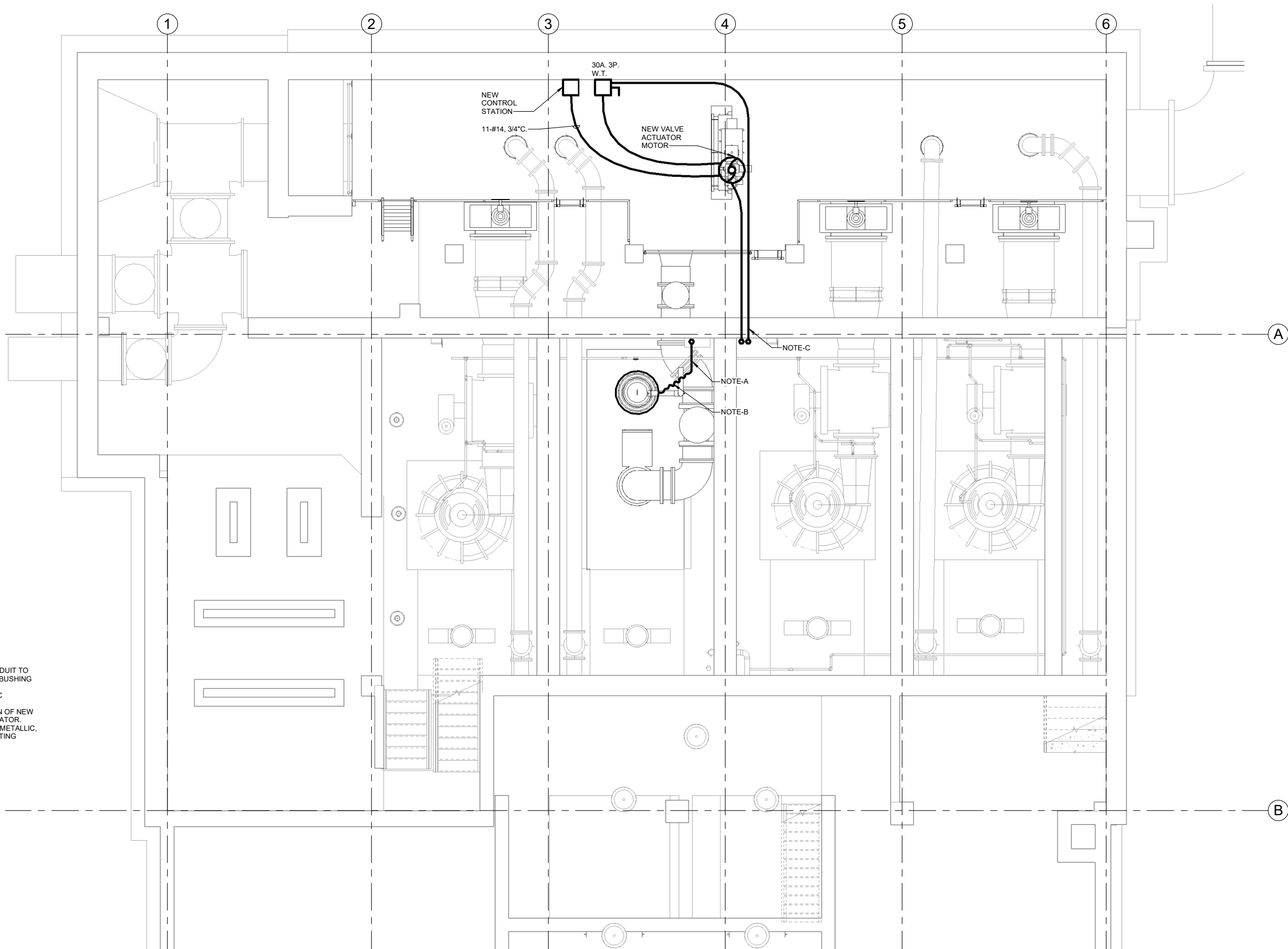
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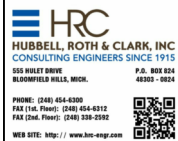
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- PLAN NOTES:
- A. INSTALL NEW PUMP CABLE IN 4" CONDUIT TO EDGE OF FLOOR OPENING. INSTALL BUSHING ON END OF CONDUIT.
  - B. SUPPORT PUMP CABLE TO MEET NEC REQUIREMENTS.
  - C. CORE DRILL WALL FOR INSTALLATION OF NEW CONDUITS TO THE NEW VALVE ACTUATOR. SEAL AROUND CONDUITS WITH NON-METALLIC, NON-SHRINK GROUT TO MATCH EXISTING WALL.

SEE GENERAL NOTES  
DRAWING E-102



**ELECTRICAL POWER PLAN FL. EL. 685.33'**  
SCALE: 1/4" = 1'-0"



**CITY OF FLINT**  
**THIRD AVENUE PUMPING STATION**  
**REHABILITATION**  
**SRF # 5079-01**  
**THIRD AVENUE PUMPING STATION LOWER LEVEL**  
**POWER PLAN**

ISSUED FOR: DATE: BY:  
50% SET 04/23/21 JJA  
90% SET 05/14/21 JJA  
100% SET 05/28/21 JJA  
11B 06/22/21 JJA

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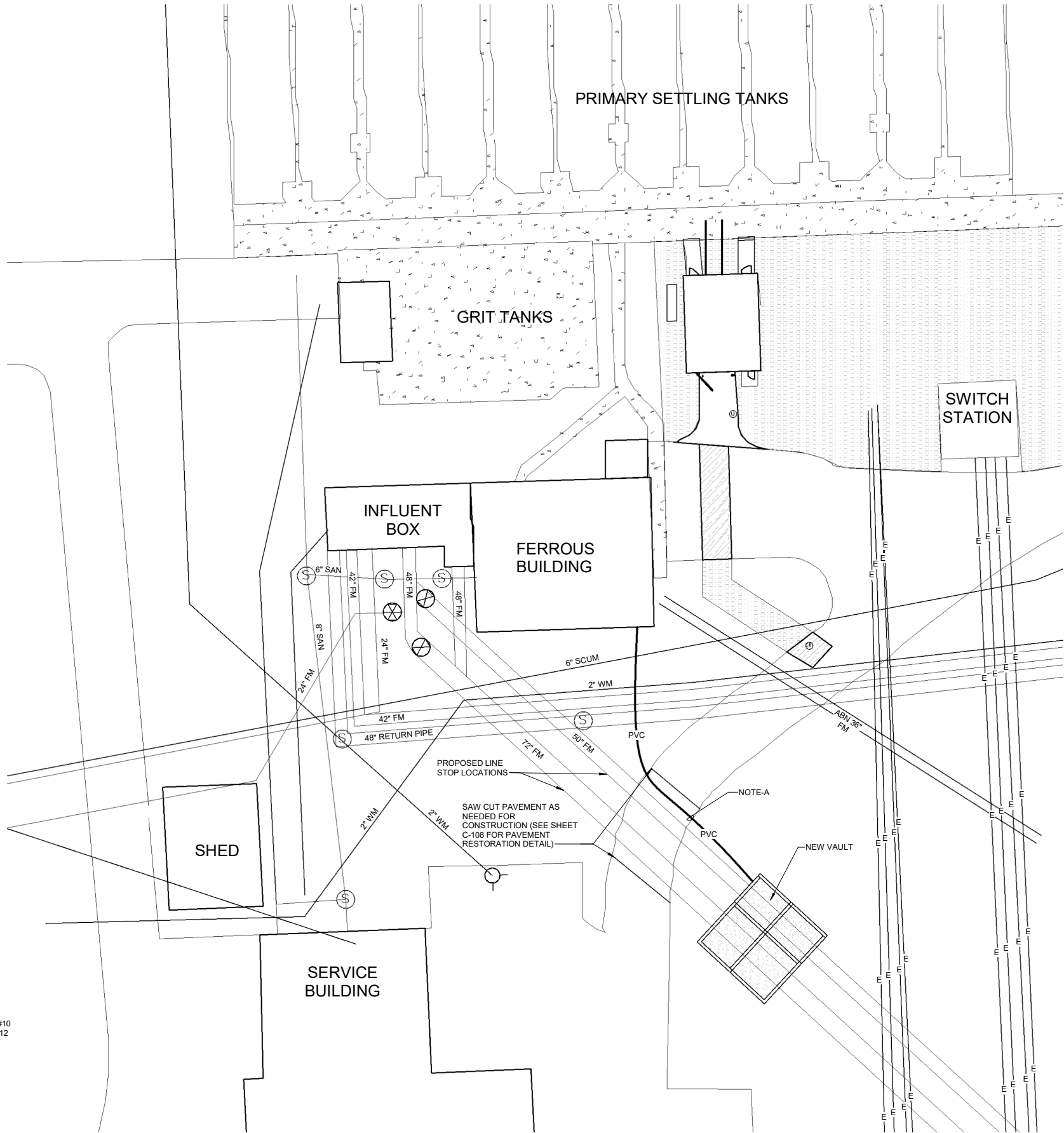
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PLAN NOTES:  
 A. 22-#14, 1 1/2" C. (CONTROL) + 2-#12 (LIGHTING) + 2-#10 (RECEPTACLES) + 1-#10 GRD., 2-#10 + 1-#10 GRD., (FAN) AND 2-#10 + 1-#10 GRD., (SUMP PUMP) 1 1/2" C. (120V. POWER) + 6-#12 + 2-#12 GRD., 1 1/2" C. (480V. POWER) AND 1 1/2" C. SPARE, EMPTY WITH PULL ROPE.



ELECTRICAL PARTIAL SITE PLAN  
 SCALE: 1" = 20'-0"

SEE GENERAL NOTES  
 DRAWING E-102



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CITY OF FLINT  
 THIRD AVENUE PUMPING STATION  
 REHABILITATION  
 SRF # 5079-01  
 WPCF VAULT ELECTRICAL PARTIAL SITE PLAN

ISSUED FOR:	DATE:	BY:
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90% SET	05/14/21	JUA
100% SET	05/28/21	JUA
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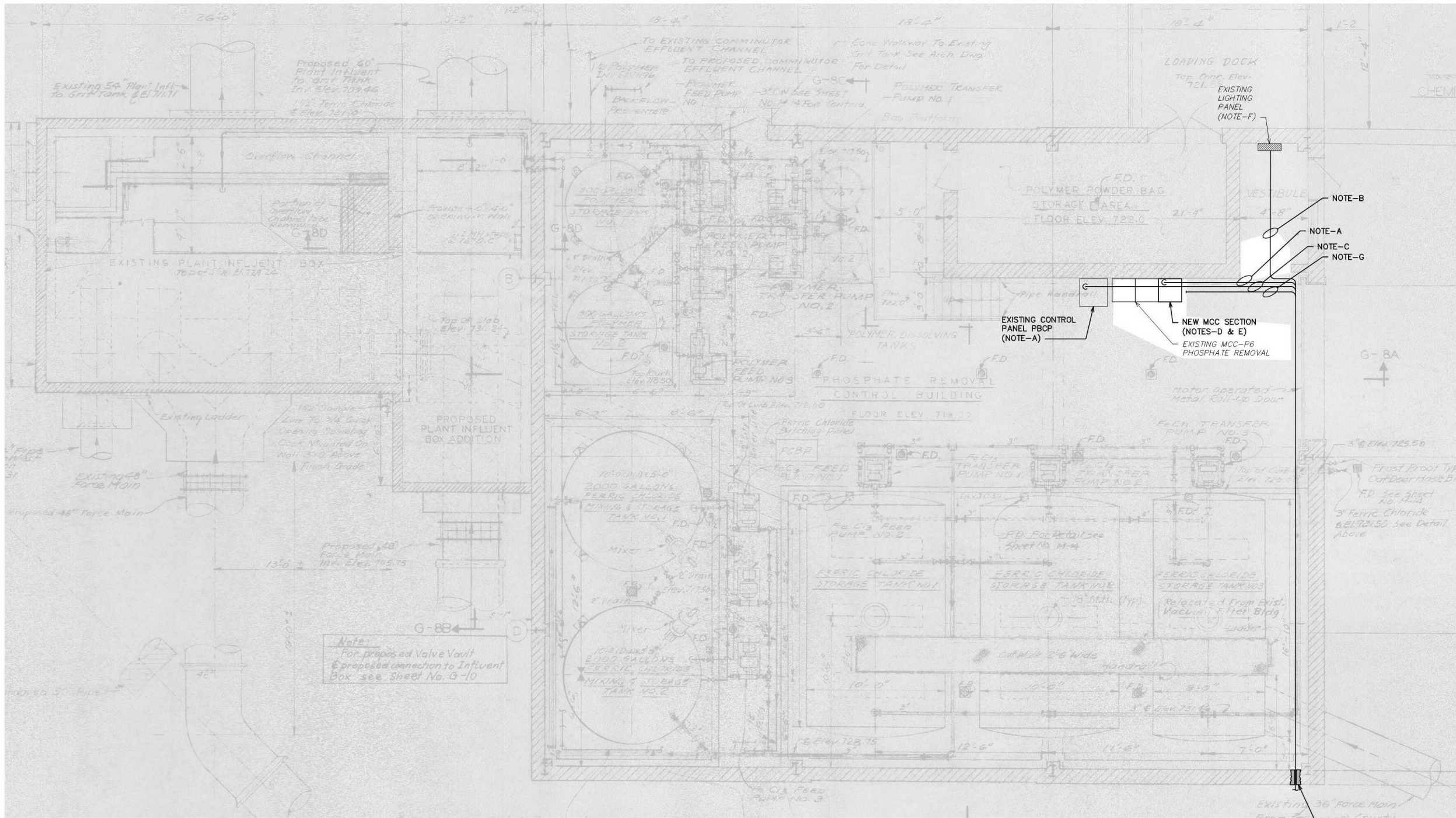
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PLAN NOTES:

- A. 22-#14, 1 1/2". 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. (FAN) AND 2-#10 + 1-#10 GRD., (SUMP PUMP) 1 1/2". FROM LIGHTING PANEL TO VALVE VAULT. ROUTE THROUGH POWER PULL BOX IN VAULT.
- C. 6-#12 + 2-#12 GRD., 1 1/2". 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". 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.
- I. 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 NOTES  
DRAWING E-102

1/4" = 1'-0" 0 1 2 4 8



CITY OF FLINT  
THIRD AVENUE PUMPING STATION  
REHABILITATION  
SRF # 5079-01  
WPCF FERROUS BUILDING POWER PLAN

ISSUED FOR: DATE: BY:  
30% SET 04/23/21 JUA  
90% SET 05/14/21 JUA  
100% SET 05/28/21 JUA  
11B 06/22/21 JUA

DR. NO.  
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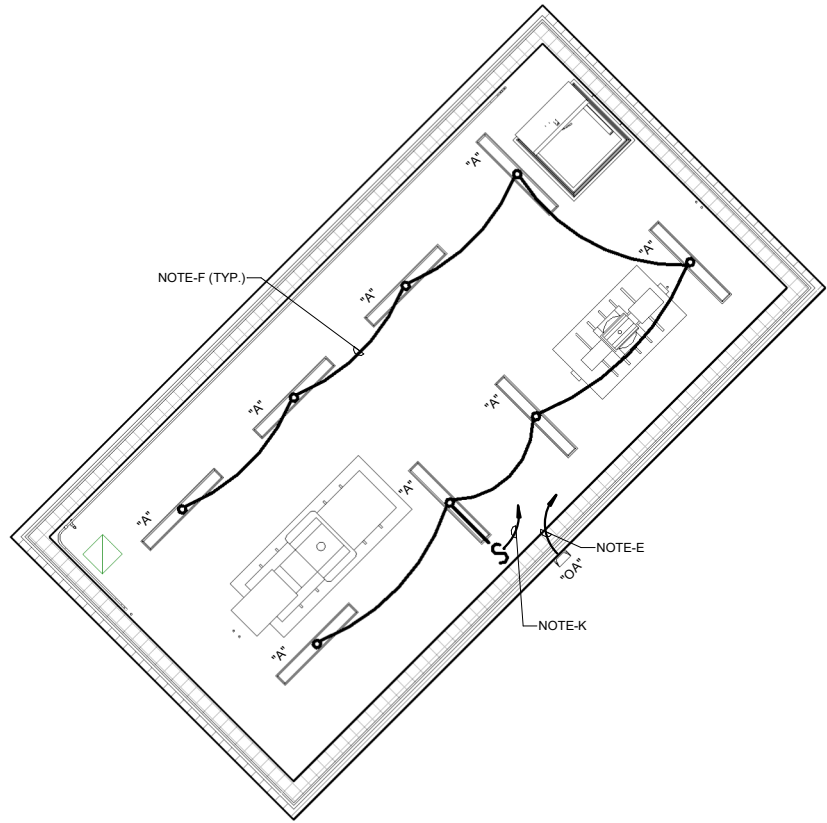


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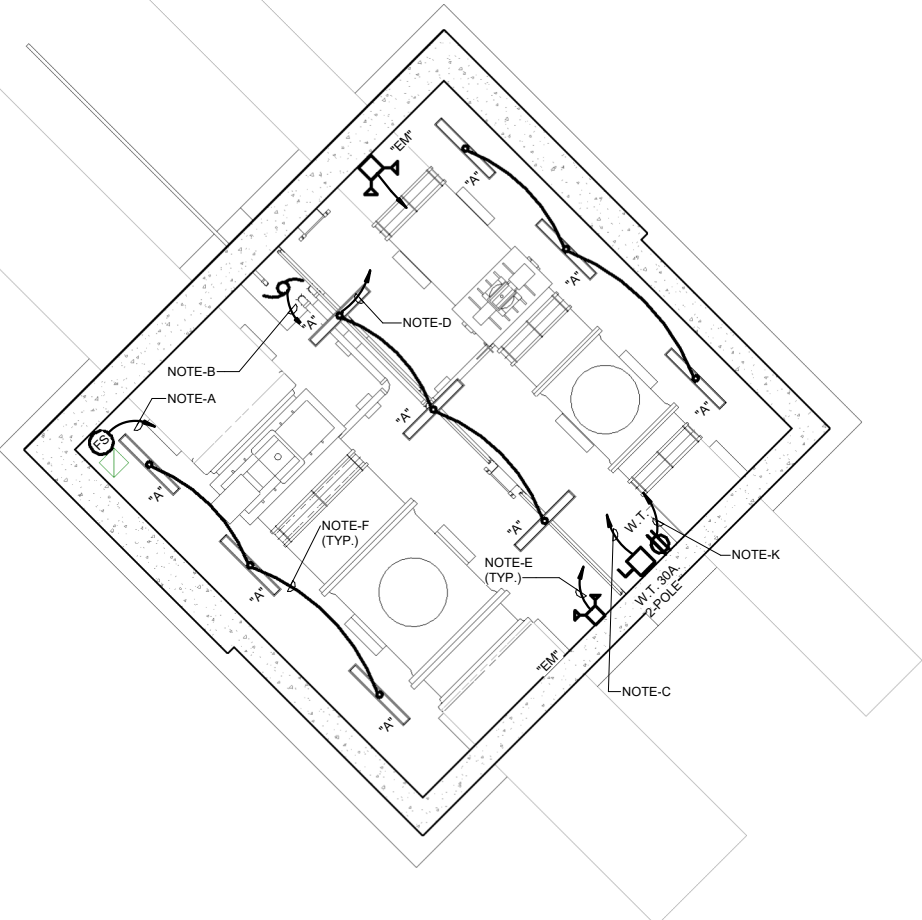
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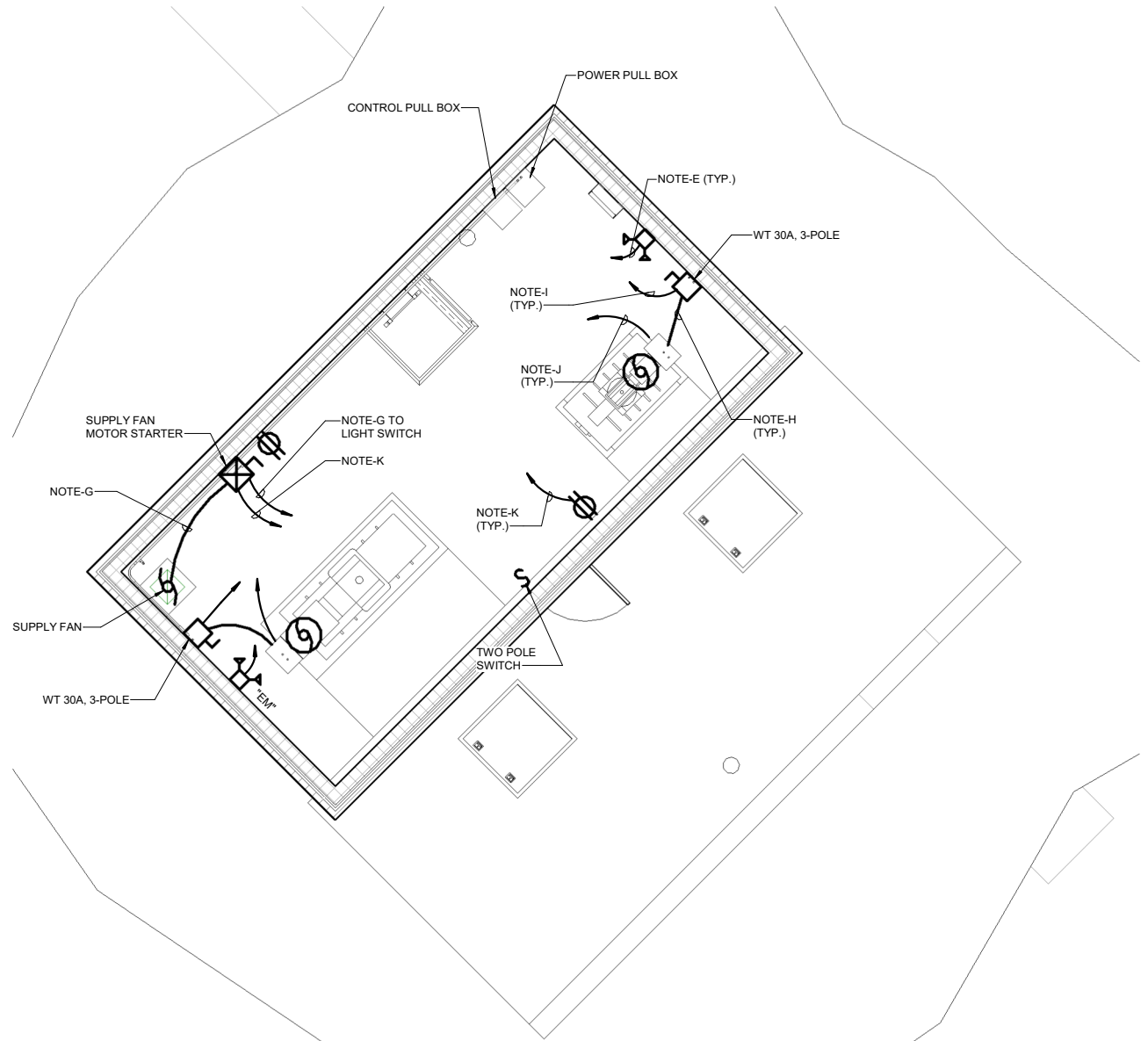
LIGHTING CEILING PLAN

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



VALVE VAULT LOWER LEVEL POWER AND LIGHTING PLAN

SCALE: 3/16" = 1'-0"



VALVE VAULT FLOOR POWER PLAN1

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

- 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 PULL BOX.
  - 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



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CITY OF FLINT  
THIRD AVENUE PUMPING STATION  
REHABILITATION  
SRF # 5079-01  
WPCF VAULT POWER & LIGHTING PLANS

ISSUED FOR: DATE: BY:  
100% SET 05/28/21 JJA  
FB 06/22/21 JJA

DR. NO.  
COF107301F

SHEET

E-112





