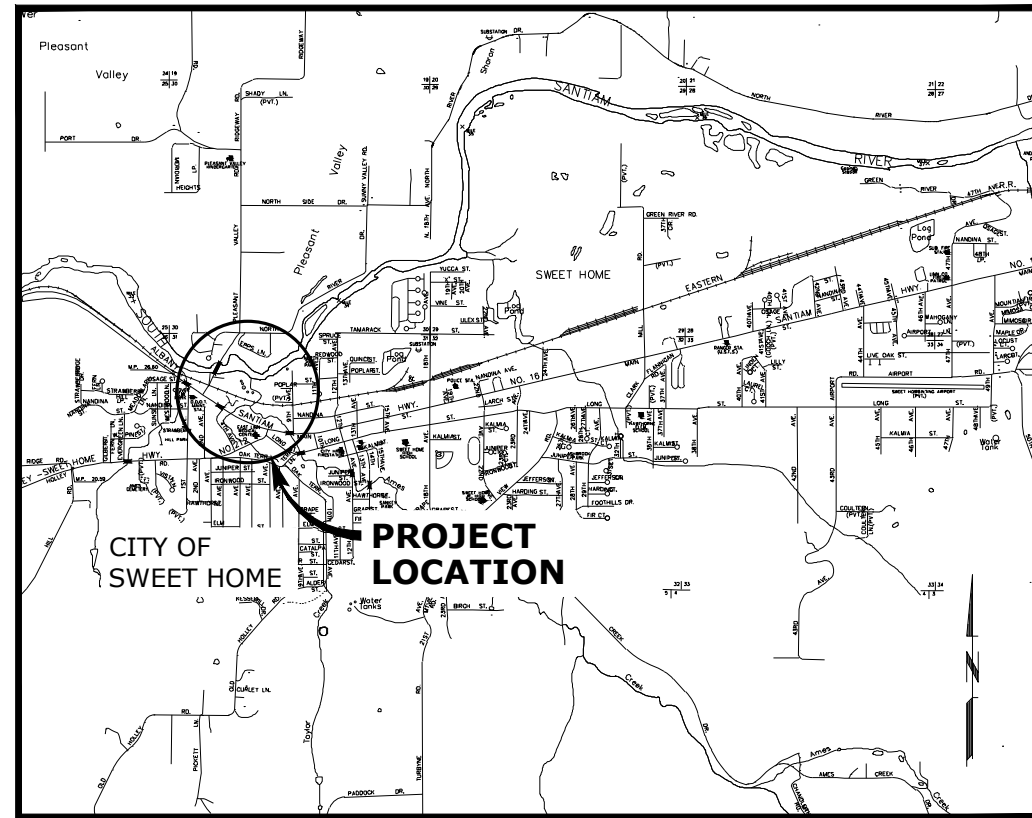




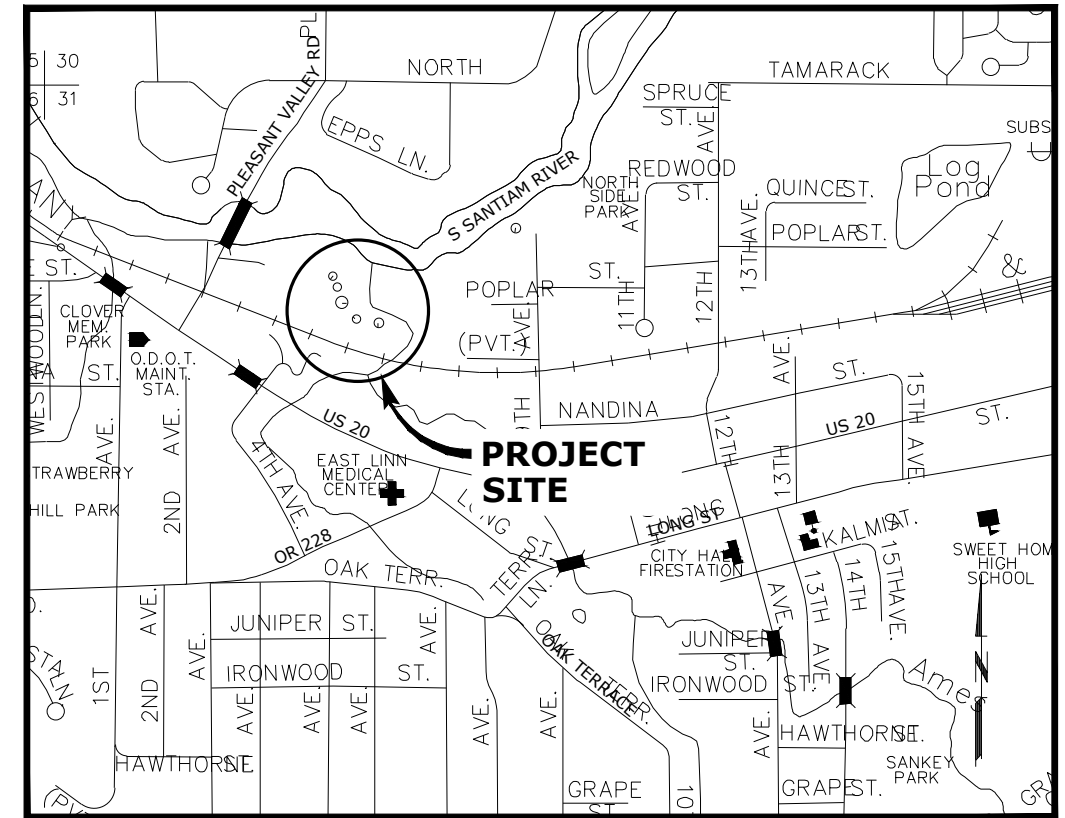
# CITY OF SWEET HOME WWTP IMPROVEMENTS

**JUNE 2020**

**60% SUBMITTAL**



**VICINITY MAP**  
SCALE: 1"=2000'



**LOCATION MAP**  
SCALE: 1"=500'

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888 SW 5TH AVENUE, SUITE 1170  
PORTLAND, OREGON 97204  
P 503.225.9010

ATTENTION: OREGON LAW REQUIRES THE CONTRACTOR TO FOLLOW THE RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. THE CONTRACTOR MAY OBTAIN COPIES OF THE RULES BY CALLING THE UTILITY NOTIFICATION CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 503-246-6699.)







# GENERAL NOTES

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY LOCAL, COUNTY, STATE, AND UTILITY CONSTRUCTION PERMITS, AND SHALL CONTACT EACH PERMITTING AGENCY AT LEAST TWO (2) BUSINESS DAYS PRIOR TO STARTING WORK. CONTRACTOR SHALL OBTAIN ALL REQUIRED LICENSES BEFORE STARTING CONSTRUCTION.
2. THE LOCATIONS OF ALL EXISTING UNDERGROUND FACILITIES SHOWN ON THE PLANS ARE BASED ON A FIELD SURVEY AND INFORMATION SUPPLIED BY UTILITY COMPANIES. LOCATIONS ARE NOT GUARANTEED TO BE COMPLETE OR ACCURATE. THE CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS, TYPE AND SIZES OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTING NEW PIPING/CONDUITS AND SHALL ADJUST NEW PIPING/CONDUITS AS REQUIRED. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY CONFLICTS NOT SHOWN ON THE PLANS AND SHALL KEEP EXISTING UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION. WHERE INTERRUPTION OF EXISTING FACILITIES IS REQUIRED, CONTRACTOR SHALL PROVIDE 72 HOUR NOTICE TO ENGINEER AND THE AFFECTED UTILITY. CONTRACTOR SHALL ARRANGE FOR THE RELOCATION OF ANY IN CONFLICT WITH THE PROPOSED CONSTRUCTION.
3. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF ORS 757.542 TO 757.562. THE CONTRACTOR SHALL NOTIFY EACH UNDERGROUND UTILITY AT LEAST 48 BUSINESS-DAY HOURS, BUT NOT MORE THAN 10 BUSINESS DAYS, PRIOR TO EXCAVATING, BORING, OR POTHOLING.
4. UTILITIES OR INTERFERING PORTIONS OF UTILITIES THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL PLUG THE REMAINING EXPOSED ENDS OF ABANDONED UTILITIES, UNLESS OTHERWISE REQUIRED BY THE ENGINEER.
5. PROVIDE 24-HOUR ACCESS FOR OPERATIONS.
6. TOPOGRAPHIC MAP WAS COMPILED BY UDELL ENGINEERING & LAND SURVEYING. THE HORIZONTAL DATUM IS OREGON STATE PLANE.
7. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE PLANS AND PROJECT SPECIFICATIONS.
8. ANY ALTERATION OR VARIANCE FROM THESE PLANS, EXCEPT MINOR FIELD ADJUSTMENT NEEDED TO MEET EXISTING FIELD CONDITIONS, SHALL FIRST BE APPROVED BY THE ENGINEER. ANY ALTERATIONS OR VARIANCE FROM THESE PLANS SHALL BE DOCUMENTED ON CONSTRUCTION FIELD PRINTS AND TRANSMITTED TO THE ENGINEER. ANY PROPOSED CHANGES IN CONSTRUCTION PLANS MUST BE SUBMITTED IN WRITING AND APPROVED BY ENGINEER PRIOR TO COMMENCING WORK.
9. CONTRACTOR SHALL PROTECT ALL PROPERTY CORNERS, SURVEY MONUMENTS AND CONTROL POINTS. SURVEY MONUMENTS OF THIS TYPE DISTURBED DURING CONSTRUCTION SHALL BE REPLACED AT CONTRACTOR'S EXPENSE, WITH APPROPRIATE SURVEYS FILED WITH THE COUNTY SURVEYOR.
10. THE CONTRACTOR SHALL DISPOSE OF ALL REMOVED OR REPLACED MATERIAL AND EQUIPMENT IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS, EXCEPT THOSE ITEMS DESIGNATED BY THE OWNER FOR SALVAGING. SALVAGED ITEMS SHALL REMAIN THE PROPERTY OF THE OWNER, AND SHALL BE CAREFULLY REMOVED AND STORED AS DIRECTED.
11. ALL STRUCTURES, LOTS, SWALES, DITCHES, CURBS, FENCES, WALLS, MAILBOXES, SIGNS, POLES, GUY WIRES, PIPING, AND UTILITIES DISTURBED DURING CONSTRUCTION TO BE RESTORED TO EXISTING CONDITION UNLESS OTHERWISE SPECIFIED.
12. CONTRACTOR SHALL PROTECT TRAFFIC AT ALL TIMES DURING CONSTRUCTION. ALL TRAFFIC CONTROL MEASURES SHALL BE APPROVED BY CITY, COUNTY AND STATE AS REQUIRED AND IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLANS TO THE ENGINEER PRIOR TO COMMENCING ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
13. CONTRACTOR SHALL KEEP AND MAINTAIN A CURRENT SET OF DRAWINGS ON SITE. CONTRACTOR TO KEEP ACCURATE "AS-BUILT" RECORD COPY OF PLANS. "AS-BUILT" PLANS TO BE RETURNED TO ENGINEER AT COMPLETION OF PROJECT.
14. THE CITY OF SWEET HOME WASTEWATER FACILITIES IMPROVEMENTS REQUIRES DETAILED PLANNING OF CONSTRUCTION SEQUENCING, SPECIAL COORDINATION AND COMPREHENSIVE PROGRAMMING, COMBINED WITH OTHER SPECIAL WORK ACTIVITIES. CONTRACTOR SHALL PREPARE AND SUBMIT A DETAILED WORK SEQUENCE PLAN TO THE ENGINEER FOR REVIEW AT THE PRE-CONSTRUCTION CONFERENCE.
15. CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER 48 HOURS BEFORE STARTING CONSTRUCTION, AND 24 HOURS BEFORE RESUMING WORK AFTER SHUTDOWNS EXCEPT FOR NORMAL RESUMPTION OF WORK FOLLOWING SATURDAYS, SUNDAYS, OR HOLIDAYS. CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 48 HOURS PRIOR TO ANY TESTING OR REQUIRED INSPECTION.
16. THE LIMITS OF THE SITE THAT MAY BE USED FOR CONSTRUCTION, STORAGE, MATERIALS HANDLING, PARKING OF VEHICLES AND OTHER OPERATIONS RELATED TO THE PROJECT ARE SHOWN ON THE PLANS. LIMITS OF WORK ALSO INCLUDE RIGHTS OF ACCESS OBTAINED BY THE CONTRACTOR, SUBJECT TO ALL PUBLIC LAWS AND REGULATIONS AND RIGHTS OF ACCESS BY UTILITY COMPANIES AND OTHER HOLDERS OF EASEMENT RIGHTS.
17. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL HOMES AND BUSINESSES AT ALL TIMES. PROVIDE WRITTEN NOTICE TO ALL PROPERTY OWNERS AT LEAST TWO BUSINESS DAYS IN ADVANCE OF WORK IN AND/OR CROSSING OF DRIVEWAYS.
18. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS NECESSARY TO OBTAIN SUFFICIENT WATER, POWER AND LIGHTING FOR CONSTRUCTION PURPOSES.

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NOTICE

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JUNE 2020

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**CITY OF SWEET HOME**  
**WWTP IMPROVEMENTS**

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| <b>GENERAL</b>       |           |        |          |
| <b>GENERAL NOTES</b> |           |        |          |
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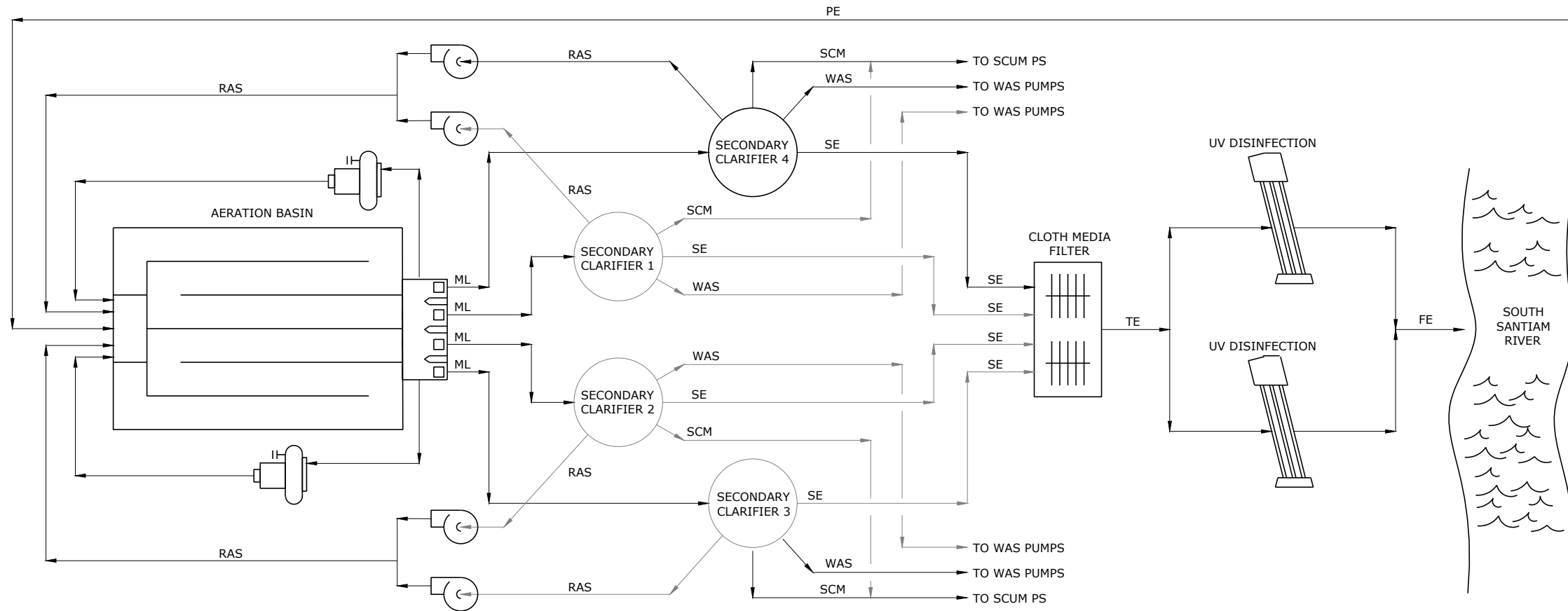
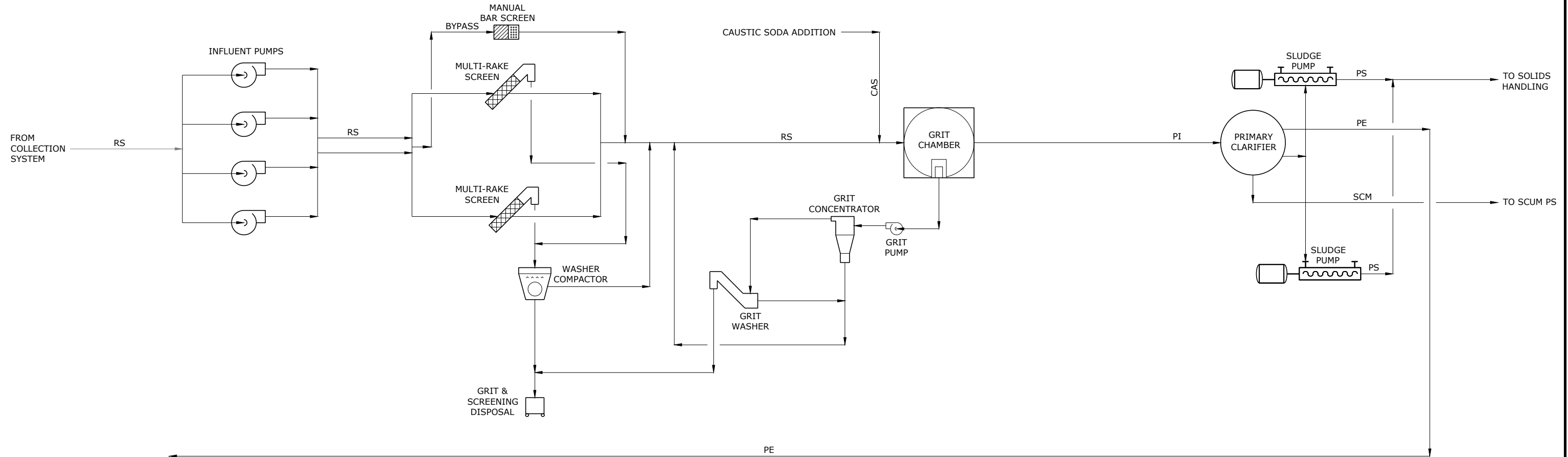
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**CITY OF SWEET HOME**  
WWTP IMPROVEMENTS

**GENERAL**

**PROCESS FLOW SCHEMATIC - LIQUID STREAM**

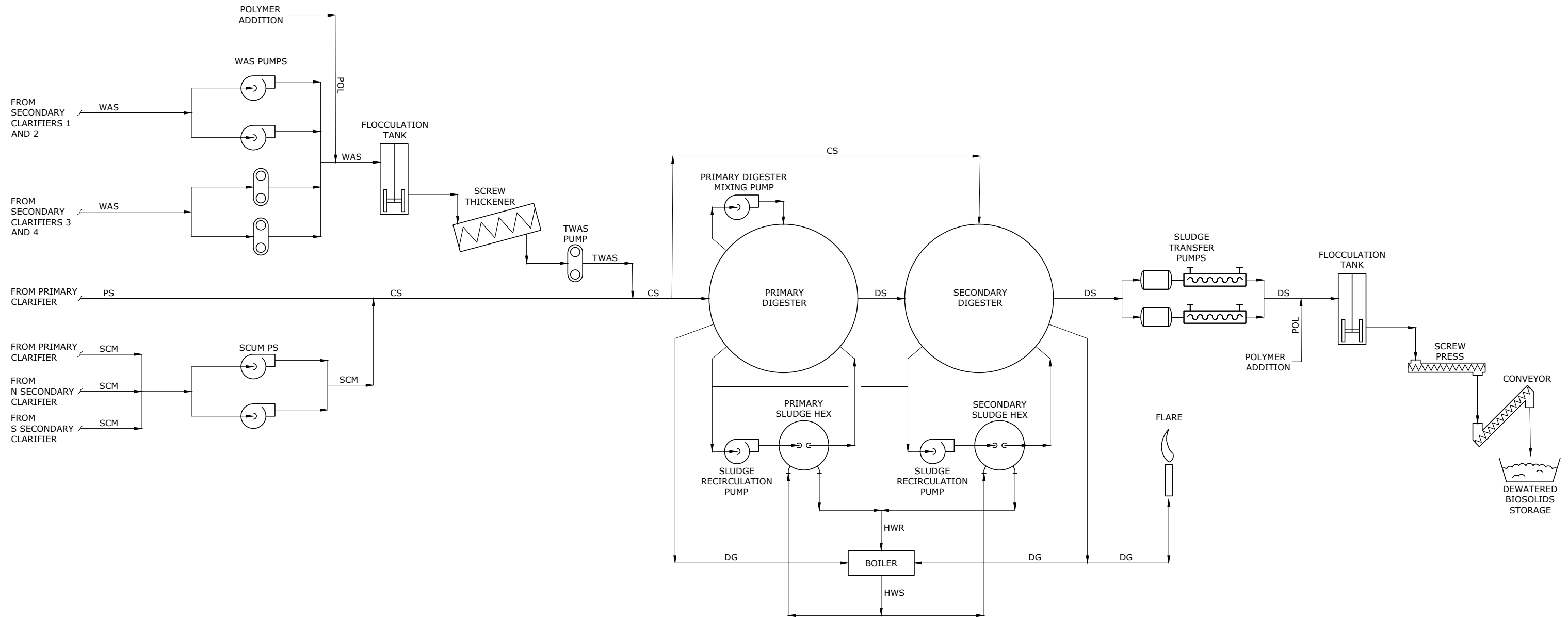
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 WWTP IMPROVEMENTS**

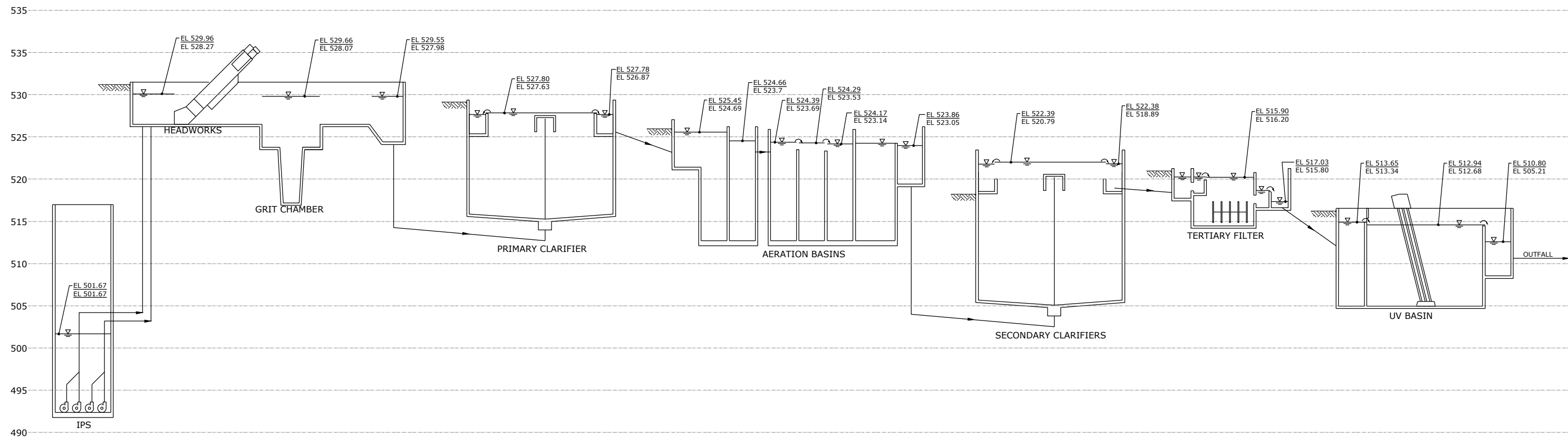
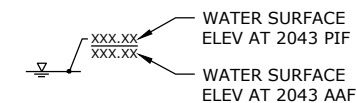
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| <b>PROCESS FLOW SCHEMATIC -<br/>SOLID STREAM</b> |           |        |     |
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 9 of 354



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**LEGEND**



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**CITY OF SWEET HOME**  
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**GENERAL**  
**HYDRAULIC PROFILE**  
 PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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**G-009**  
 10 of 354

# GENERAL NOTES

1. LOCATIONS OF EXISTING UTILITIES ARE BASED ON INFORMATION SUPPLIED BY THE UTILITIES AND CONSIDERED APPROXIMATE ONLY. THE CONTRACTOR SHALL POTHOLE AND VERIFY LOCATIONS, ELEVATIONS, TYPES, AND SIZES OF ALL EXISTING UTILITY CROSSINGS OR CONNECTION LOCATIONS.

2. ALL SEWAGE FORCE MAIN JOINTS SHALL BE RESTRAINED. RESTRAIN ALL VALVES, TEES, BENDS, AND FITTINGS WITH MECHANICAL JOINT RESTRAINTS AND INSTALL CONCRETE THRUST BLOCKS WHERE SHOWN. ALL FITTINGS TO BE MECHANICAL JOINT UNLESS OTHERWISE NOTED.

3. CONTRACTOR TO OBTAIN AND COMPLY WITH ALL APPLICABLE CITY OF SWEET HOME AND LINN COUNTY PERMITS AND REQUIREMENTS.

4. DO NOT REMOVE TREES UNLESS THEY HAVE BEEN IDENTIFIED IN THE PLANS FOR REMOVAL.

5. CONTRACTOR TO PROVIDE "AS CONSTRUCTED" DRAWINGS INDICATING FINAL LOCATION AND ELEVATION, GRADE, ALIGNMENT, FITTINGS AND MATERIALS INSTALLED AND ALL OTHER UTILITIES OR OBSTACLES SHOWN ON THESE PLANS AND SHALL BE UPDATED CONTINUOUSLY THROUGHOUT CONSTRUCTION. AS CONSTRUCTED DRAWINGS SHALL BE "RED LINES" OF THE DESIGN DRAWINGS.

6. AT THE END OF EACH WORKDAY, ALL OPEN TRENCHES SHALL BE BACKFILLED OR COVERED AND SECURED WITH PINNED PLATES. ALL TRENCHES IN TRAFFIC AREAS SHALL BE PAVED WITH TEMPORARY HOT MIX ASPHALT.

7. CONTRACTOR SHALL COMPLY WITH ALL OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) REQUIREMENTS IN THE DISPOSAL OF CHLORINATED WATER. SEE SPECIFICATIONS.

8. SEE SPECIFICATION SECTION 011216 WORK SEQUENCE FOR PROJECT SPECIFIC WORK CONSTRAINTS.

9. SEWAGE FORCE MAINS SHALL MAINTAIN A MINIMUM OF 36 INCHES OF COVER FROM FINISHED GRADE UNLESS OTHERWISE SHOWN ON PLANS. VALVE OPERATOR EXTENSION ARE REQUIRED ON ALL VALVES THAT ARE DEEPER THAN 48 INCHES. A MINIMUM SLOPE OF 0.5% TOWARD HIGH AND LOW POINTS SHOWN SHALL BE MAINTAINED. DEFLECT PIPE JOINTS UP TO 50% OF ALLOWABLE MANUFACTURER'S LIMITS TO MAINTAIN ALIGNMENT SHOWN OR AS SPECIFIED.

10. CONTRACTOR SHALL MAINTAIN SEWAGE FORCE MAIN SEPARATION FROM THE EXISTING WATER LINES IN ACCORDANCE WITH OAR 333-061-0050(9).

11. CONTRACTOR SHALL RESTORE ALL EXISTING FEATURES, INCLUDING BUT NOT LIMITED TO, ROADWAYS, STRUCTURES, CURBS, SIDEWALKS, FENCES, WALLS, PLANTINGS, MAILBOXES, SIGNS, PIPING, AND UTILITIES DISTURBED DURING CONSTRUCTION TO EXISTING CONDITIONS UNLESS OTHERWISE SPECIFIED. SUCH RESTORATION WILL BE CONSIDERED INCIDENTAL.

12. ALL SURVEY AND STAKING NECESSARY FOR CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR. THE CONTRACTOR SHALL DEVELOP AND MAKE ALL DETAIL SURVEYS NECESSARY TO ESTABLISH PRINCIPAL LINES AND GRADES. SURVEY CONTROL BENCHMARKS ARE PROVIDED ON SHT C-101.

13. PROTECT FRESHLY POURED CONCRETE FROM VANDALISM OR OTHER DAMAGE FOR A MINIMUM OF TWENTY-FOUR (24) HOURS OR UNTIL CURED ENOUGH TO SUPPORT TYPICAL USE, WHICHEVER IS LONGER. ANY CONCRETE DAMAGED BY VANDALISM OR OTHER CAUSES SHALL BE REPLACED AT NO COST TO THE CITY.

14. THE CONTRACTOR SHALL SUBMIT A DETAILED PLAN THREE WEEKS PRIOR TO THE PROPOSED INFLUENT PUMP STATION SHUTDOWN. TEMPORARY PUMPING EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR DURING THE PROPOSED SHUTDOWN. SEE SECTION 015719.11 - TEMPORARY SEWAGE CONTROL AND BYPASS PUMPING, AND SECTION 011216 WORK SEQUENCE FOR ADDITIONAL REQUIREMENTS.

# TOPOGRAPHIC LEGEND

|                           | EXISTING     | PROPOSED      |
|---------------------------|--------------|---------------|
| WATERLINE                 | --- 10"W --- | — 12"DI W —   |
| ELECTRICITY               | --- E ---    | — E —         |
| GAS                       | --- 4"G ---  | — 4"G —       |
| TELEPHONE/TELEMETRY       | --- T ---    | — T —         |
| CABLE TELEVISION          | --- CATV --- | — CATV —      |
| SANITARY SEWER LINE       | --- 8"SS --- | — 8"SS —      |
| SANITARY SEWER FORCE MAIN | --- 6"FM --- | — 6"FM —      |
| STORM DRAIN               | --- 8"SD --- | — 8"SD —      |
| CULVERT                   | ≡≡≡≡≡≡       | — 18"D —      |
| ABANDON PIPE              |              | +++++//////// |
| DRAINAGE DITCH            | .....        | .....         |
| CHAIN LINK FENCE          | ○-○-○-○-○    | ○-○-○-○-○     |
| TEMPORARY SILT FENCE      |              | □ □ □         |
| GUARDRAIL                 | ●●●●●●●●●●   |               |
| ROCK WALL                 | =====        |               |
| TREE/BUSH LINE            | ~~~~~        |               |
| CENTERLINE                | -----        | -----         |
| EASEMENT/PROPERTY LINE    | -----        | -----         |
| RIGHT-OF-WAY              | -----        | -----         |
| EDGE OF PAVEMENT/AC       | .....        | .....         |
| EDGE OF GRAVEL            | -----        | -----         |
| CURB                      | =====        | =====         |
| SIDEWALK                  | .....        | .....         |
| STRUCTURE OR FACILITY     | ▭            | ▭             |
| CONTOUR MINOR             | - - - - -    | - - - - -     |
| CONTOUR MAJOR             | ~ 200 ~      | ~ 200 ~       |
| MANHOLE                   | ○            | ●             |
| CLEAN-OUT                 | ○            | ○             |
| CATCH BASIN/FIELD INLET   | ▭            | ▭             |
| THRUST BLOCK              | △            | ▲             |
| VALVE                     | ⊗            | ⊙             |
| AIR RELEASE ASSEMBLY      | ⊕            | ⊕             |
| FIRE HYDRANT ASSEMBLY     | ⊙            | ⊙             |
| WATER METER               | ⊕            | ⊕             |
| PULL BOX/JUNCTION BOX     | ⊕            | ⊕             |
| UTILITY POLE              | ○            | ●             |
| GUY WIRE                  | ↖            |               |
| LIGHT POST                | ☆            |               |
| MAILBOX                   | ⊕            |               |
| SIGN                      | +            |               |
| BENCHMARK                 | ⊕            |               |
| TREE DECIDUOUS            | ☼            | ☼             |
| TREE CONIFEROUS           | ☼            | ☼             |
| TREE TO BE REMOVED        |              | ☼             |
| SURFACE ELEVATION         | + 176.63     | + 176.63      |

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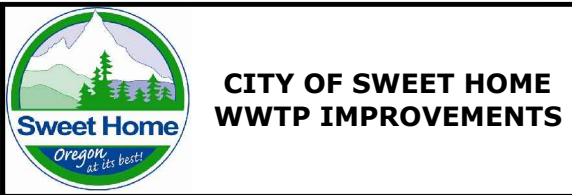
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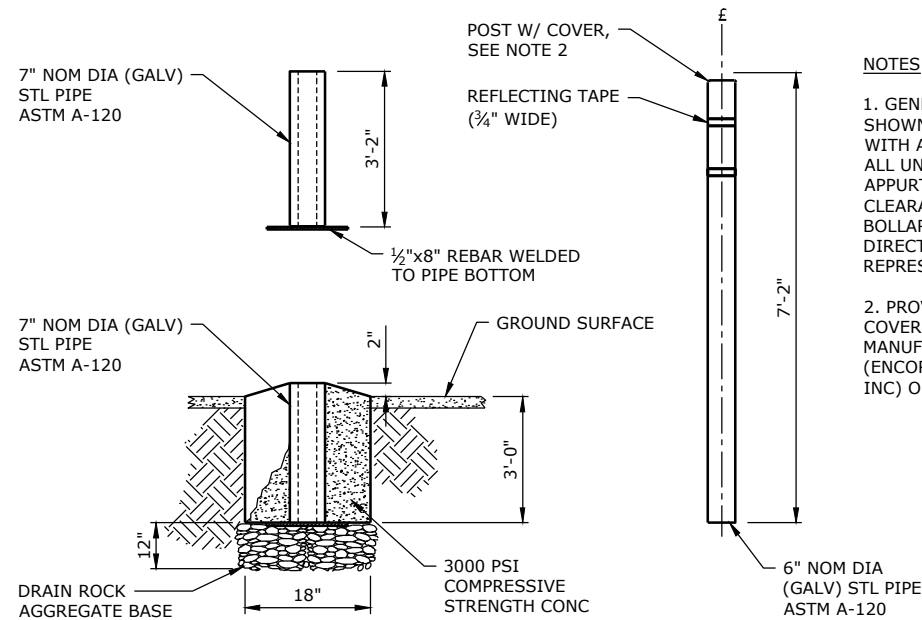
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**CIVIL SITE**  
**GENERAL AND CIVIL LEGENDS, SYMBOLS AND ABBREVIATIONS**  
 PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

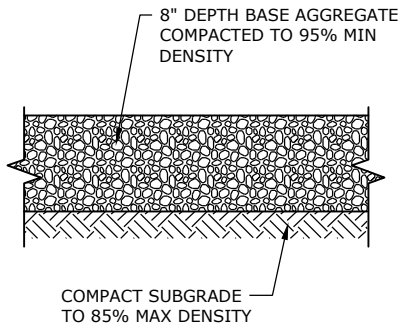
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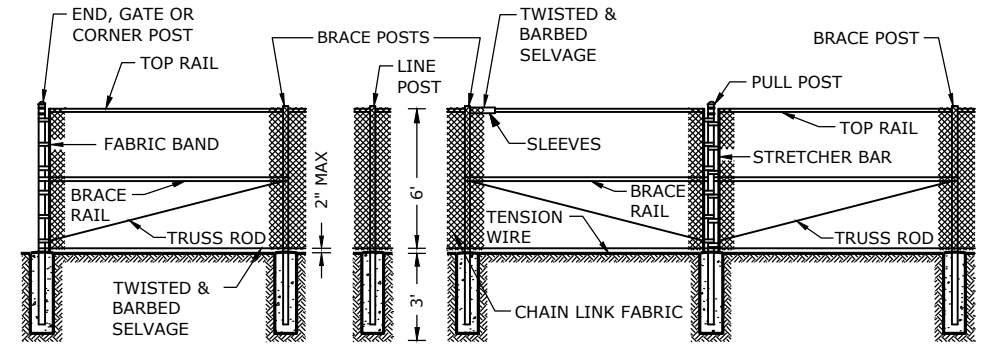
**6" REMOVABLE BOLLARD** 1  
SCALE: NTS

**NOTES:**

1. GENERAL LOCATION OF BOLLARDS SHOWN ON PLANS. LOCATE BOLLARDS WITH A MINIMUM 3' CLEARANCE FROM ALL UNDERGROUND PIPING AND APPURTENANCES AND A MINIMUM 2' CLEARANCE FROM ALL STRUCTURES. BOLLARD LOCATIONS SHALL BE AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
2. PROVIDE YELLOW HDPE BOLLARD COVER WITH RED REFLECTIVE TAPE MANUFACTURED BY POST GUARD, (ENCORE COMMERCIAL PRODUCTS, INC) OR APPROVED EQUAL.



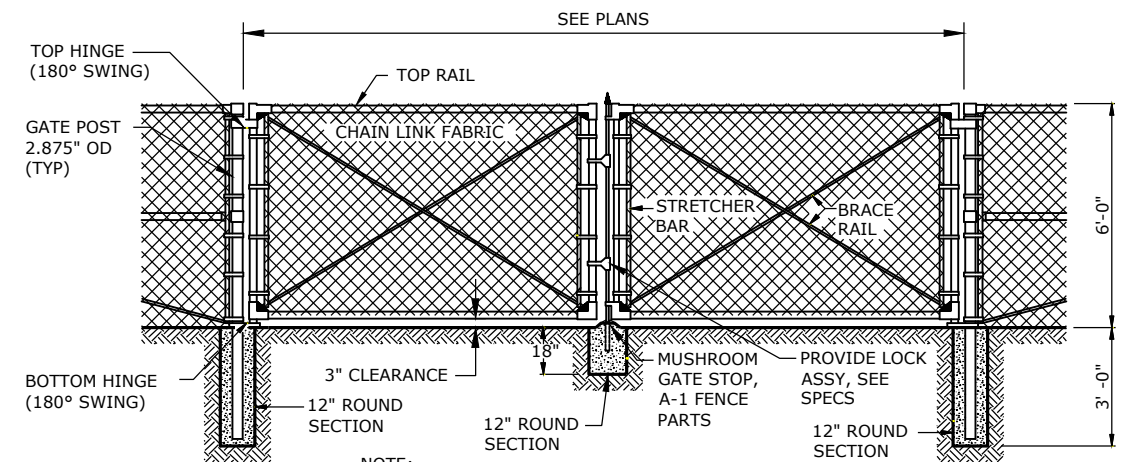
**GRAVEL SECTION** 2  
SCALE: NTS



**NOTE:**

1. LAYOUT AND INSTALL FENCE POSTS TO MAINTAIN MAXIMUM 2" SPACE BETWEEN BOTTOM OF FENCE AND GROUND SURFACE.

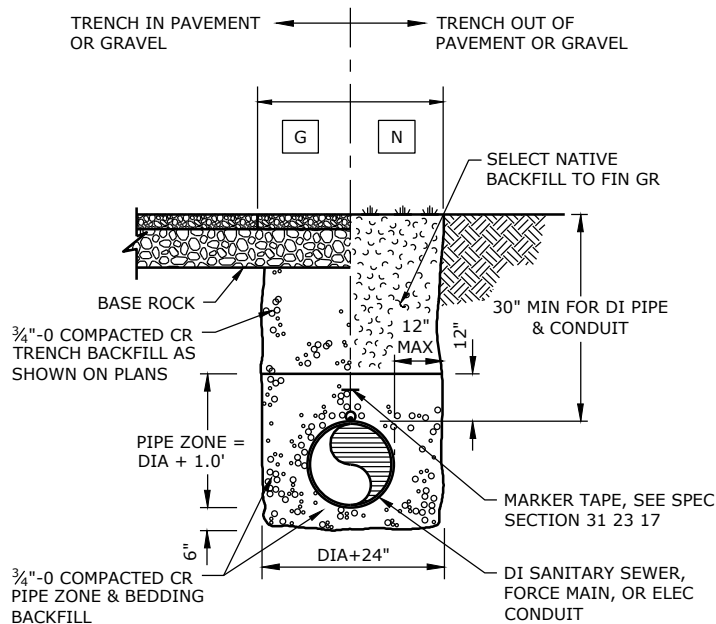
**CHAIN LINK FENCE** 3  
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**NOTE:**

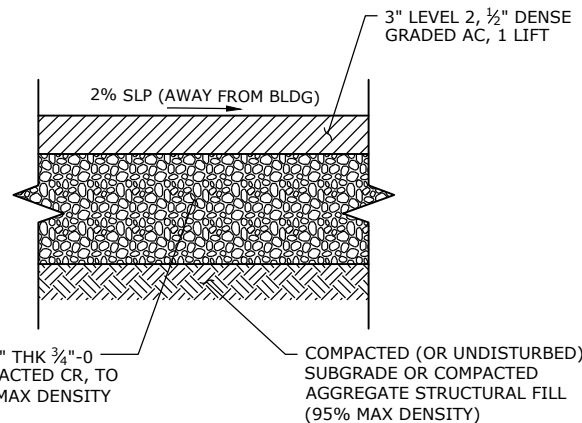
1. PROVIDE LOCK ASSEMBLY AND GATE STOP FOR EACH GATE, SEE SPECIFICATIONS.

**DOUBLE SWING GATE** 4  
SCALE: NTS

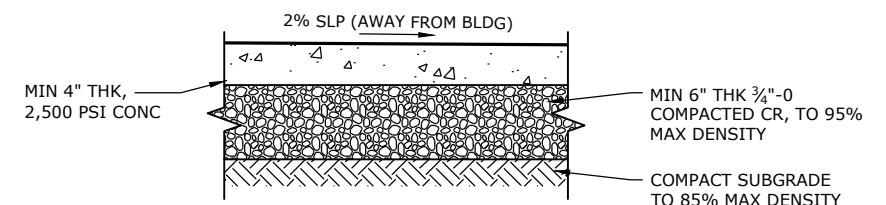


**SYMBOL BACKFILL REQUIREMENTS**

- |   |   |
|---|---|
| G | FURNISH & INSTALL CRUSHED ROCK BEDDING & PIPE ZONE & CRUSHED ROCK TRENCH BACKFILL AS SHOWN ON PLANS, TO DRIVEWAY BASE. COMPACT MATERIAL IN LIFTS TO ACHIEVE 90% OF MAX DENSITY IN ACCORDANCE W/ AASHTO T-99.  |
| N | FURNISH & INSTALL CRUSHED ROCK BEDDING & PIPE ZONE BACKFILL COMPACTED TO 90% OF MAX DENSITY PER AASHTO T-99. FURNISH & INSTALL NATIVE TRENCH BACKFILL. REPLACE TOPSOIL & BACKFILL W/ NATIVE MATERIAL. FINISH TRENCH SURFACE TO MATCH ORIGINAL CONTOURS. |



**AC PAVEMENT SECTION** 6  
SCALE: NTS



**CONCRETE SIDEWALK SECTION** 7  
SCALE: NTS

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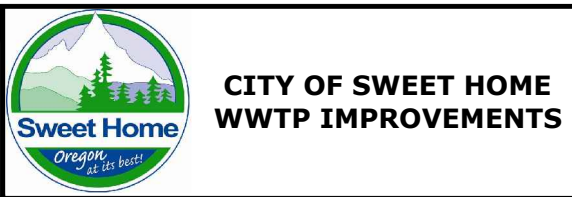
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| <b>CIVIL SITE</b>      |           | SHEET           |
| <b>CIVIL DETAILS 1</b> |           | C-002           |
| PROJECT NO.:           | 19-2605   | SCALE: AS SHOWN |
| DATE:                  | June 2020 | 12 of 354       |

**SHALLOW TRENCH SERVICE**

**WASTEWATER SERVICE TAP**

**NOTES:**

- Pipe and fittings shall be compatible. Only manufactured fittings shall be used.
- Minimum depth at right of way or easement line shall be 4'.
- Marker posts and blocking shall be treated wood. Post shall be 2"x4" in. Post to extend 12" minimum above finish grade and exposed area shall be painted green.
- When required, a cleanout shall be installed where directed.
- Lay building sewer at max. 4% from horizontal to achieve required depth at property line when minimum slope results in excessive depth.
- For bedding and backfill, see Std. Dwg. RD300.
- See Std. Dwg. RD336 for tracer wire details.

**NOTES:**

- See tee in place to fit outside surface of carrier pipe and to form watertight seal.
- Type of tapping tee shall be watertight and conform to standard specification requirements.
- Tapping tee shall not penetrate into pipe except as approved by the engineer.
- For bedding and backfill, see Std. Dwg. RD300.
- See Std. Dwg. RD336 for tracer wire details.

**OREGON STANDARD DRAWINGS**  
**SHALLOW/TRENCH SERVICE CONNECTION, BLOCKING AND MARKERS**  
2018  
RD310

Effective Date: June 1, 2020 - November 30, 2020

**DETAIL "A" TRACER WIRE**

**DETAIL "B" MANHOLE STEPS**

**DETAIL "C" PRECAST FLAT SLAB TOP OR MANHOLE STEPS ORIENTATION**

**GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:**

- All precast products shall conform to requirements of ASTM C478.
- Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
- See Std. Dwg. RD345 for pipe to manhole connections.
- See Std. Dwg. RD344 for manhole base section.
- Adjust 24" maximum.
- All connecting pipes shall have a tracer wire, or approved alternate. Place tracer wire directly over pipe centerline and on top of the pipe zone material.
- Steps shall conform to requirements of ASTM C478. When H=42" or less, omit steps.
- See Detail "C" for alignment of steps, and manhole cover and frame.
- See Std. Dwg. RD335 for details not shown.
- See Std. Dwg. RD336 for manhole covers and frames, manhole adjustment rings, etc.
- Max. pipe diameter varies with pipe material.
- See Std. Dwg. RD342 for shallow manholes.
- See project plans for details not shown.

**OREGON STANDARD DRAWINGS**  
**STANDARD MANHOLE DETAILS**  
2018  
RD336

Effective Date: June 1, 2020 - November 30, 2020

**MANHOLE WITH PRECAST CONICAL TOP**

**MANHOLE WITH PRECAST FLAT SLAB TOP**

**GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:**

- All precast products shall conform to requirements of ASTM C478.
- Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
- See Std. Dwg. RD345 for pipe to manhole connections.
- See Std. Dwg. RD344 for manhole base section.
- Adjust 24" maximum.
- All connecting pipes shall have a tracer wire, or approved alternate.
- See Std. Dwg. RD336 for manhole steps.
- See Std. Dwg. RD336 for details not shown.
- See Std. Dwg. RD336 for manhole covers and frames, manhole adjustment rings, etc.
- Max. pipe diameter varies with pipe material.
- See Std. Dwg. RD342 for shallow manholes.
- Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
- This detail limited to interior drop of 24".
- See Std. Dwg. RD350 or RD352 for drop manhole details for drops in excess of 24".

**OREGON STANDARD DRAWINGS**  
**STANDARD SANITARY SEWER MANHOLE**  
2018  
RD338

Effective Date: June 1, 2020 - November 30, 2020

**CAST IN PLACE MANHOLE BASE**

**PRECAST MANHOLE BASE**

**GENERAL NOTES FOR ALL DETAILS:**

- All concrete shall be commercial grade concrete.
- Channels shall be constructed to provide smooth slopes and radii to outlet pipe.
- Bases may be precast or cast in place.
- Max. pipe diameter varies with pipe material.
- Use on 42" and 48" diameter manhole.
- Extend pipe into manhole and grout smooth. Pipe(s) may extend 2" max. beyond the interior manhole wall.
- Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
- All precast products shall conform to the requirements of ASTM C478.
- See Std. Dwg. RD345 for pipe to manhole connections.
- See Std. Dwg. RD336 for manhole steps details.
- See Std. Dwg. RD336 for tracer wire details.
- At spring line of pipe, extend channel up to crown line on 12:1 batter.

**OREGON STANDARD DRAWINGS**  
**STANDARD MANHOLE BASE SECTION**  
2018  
RD344

Effective Date: June 1, 2020 - November 30, 2020

**CAST IRON TAMPERPROOF & WATERTIGHT COVER**

**MANHOLE ADJUSTMENT RING**

**STANDARD MANHOLE COVER & FRAME**

**GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:**

- Tamperproof covers required on sanitary or storm drain manholes where located in pedestrian ways or easement areas. Covers for sanitary manholes shall have 2 holes maximum.
- Watertight covers required if located where cover may be submerged (in holes).
- Covers and frames shall be stamped with manufacturer's initials, heat number and point of origin.
- See Std. Dwg. RD336 for manhole steps.
- See Std. Dwg. RD360 for manhole frame adjustment.
- See ODOT's OPL for alternate manhole adjustment rings.
- Manhole gaskets allowed only in locations not subject to bicycle or pedestrian use.
- See ODOT's OPL for alternate bolt down products.

**OREGON STANDARD DRAWINGS**  
**MANHOLE COVERS AND FRAMES**  
2018  
RD356

Effective Date: June 1, 2020 - November 30, 2020

**CAST IRON COVER**

**CLEANOUT**

**GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:**

- Cast outside of frame with asphalt, where frame is to be placed in conc. pipe, cast, grout, or seal.
- See Std. Dwg. RD360 for manhole frame adjustment.
- See ODOT's OPL for alternate manhole adjustment rings.
- Manhole gaskets allowed only in locations not subject to bicycle or pedestrian use.
- See ODOT's OPL for alternate bolt down products.

**OREGON STANDARD DRAWINGS**  
**SANITARY CLEANOUT**  
2018  
RD362

Effective Date: June 1, 2020 - November 30, 2020

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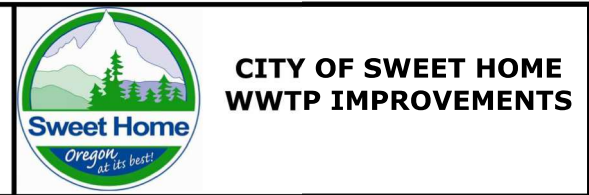
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**CIVIL SITE**

**CIVIL DETAILS 2**

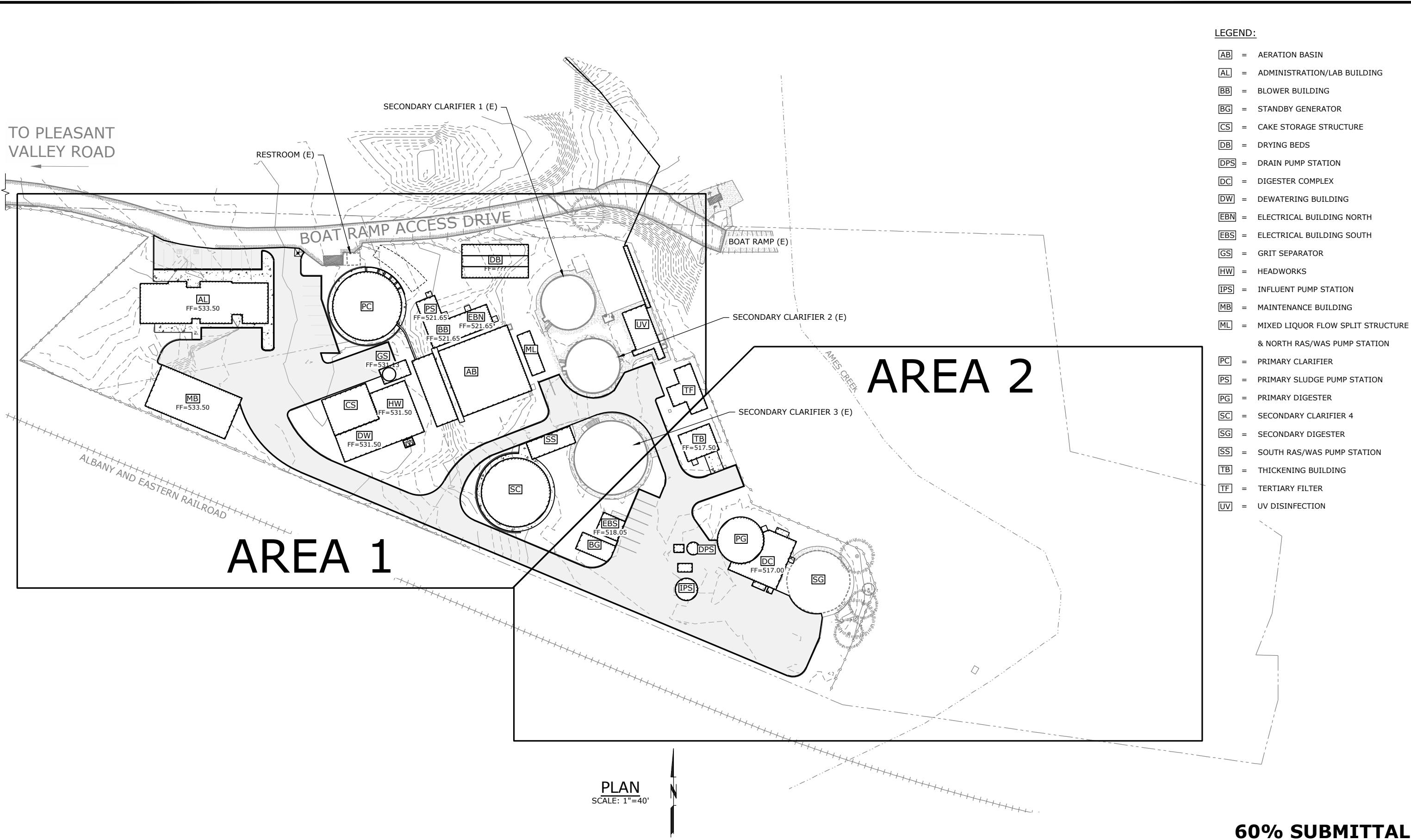
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET

**C-003**

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- LEGEND:**
- [AB] = AERATION BASIN
  - [AL] = ADMINISTRATION/LAB BUILDING
  - [BB] = BLOWER BUILDING
  - [BG] = STANDBY GENERATOR
  - [CS] = CAKE STORAGE STRUCTURE
  - [DB] = DRYING BEDS
  - [DPS] = DRAIN PUMP STATION
  - [DC] = DIGESTER COMPLEX
  - [DW] = DEWATERING BUILDING
  - [EBN] = ELECTRICAL BUILDING NORTH
  - [EBS] = ELECTRICAL BUILDING SOUTH
  - [GS] = GRIT SEPARATOR
  - [HW] = HEADWORKS
  - [IPS] = INFLUENT PUMP STATION
  - [MB] = MAINTENANCE BUILDING
  - [ML] = MIXED LIQUOR FLOW SPLIT STRUCTURE & NORTH RAS/WAS PUMP STATION
  - [PC] = PRIMARY CLARIFIER
  - [PS] = PRIMARY SLUDGE PUMP STATION
  - [PG] = PRIMARY DIGESTER
  - [SC] = SECONDARY CLARIFIER 4
  - [SG] = SECONDARY DIGESTER
  - [SS] = SOUTH RAS/WAS PUMP STATION
  - [TB] = THICKENING BUILDING
  - [TF] = TERTIARY FILTER
  - [UV] = UV DISINFECTION

PLAN  
SCALE: 1"=40'



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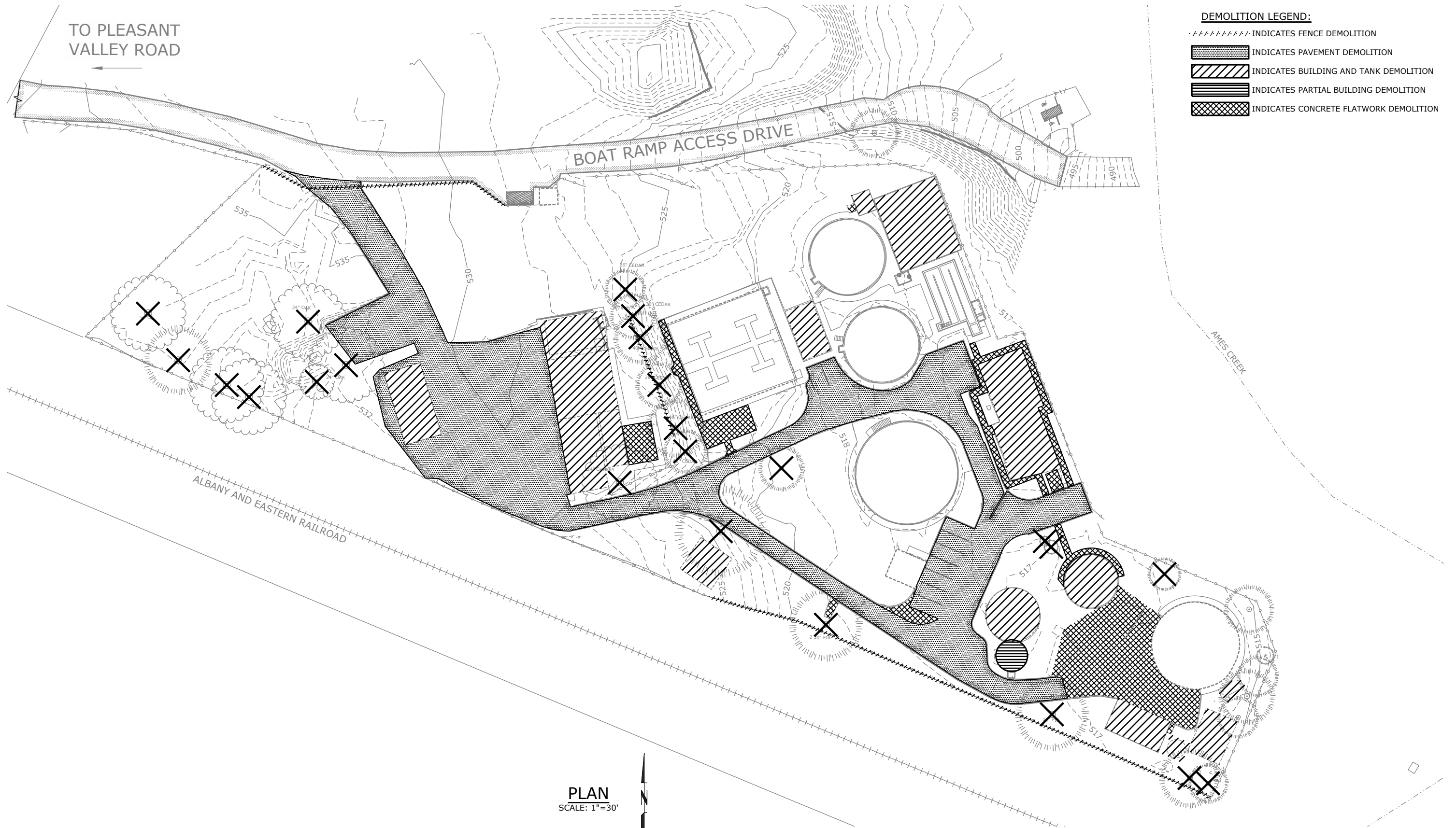


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**WWTP IMPROVEMENTS**

| CIVIL SITE         |           |        |          |
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| <b>SHEET INDEX</b> |           |        |          |
| PROJECT NO.:       | 19-2605   | SCALE: | 1" = 40' |
| DATE:              | June 2020 |        |          |

SHEET  
**C-101**  
18 of 354

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- DEMOLITION LEGEND:**
- INDICATES FENCE DEMOLITION
  - [Stippled Pattern] INDICATES PAVEMENT DEMOLITION
  - [Diagonal Lines] INDICATES BUILDING AND TANK DEMOLITION
  - [Horizontal Lines] INDICATES PARTIAL BUILDING DEMOLITION
  - [Cross-hatch Pattern] INDICATES CONCRETE FLATWORK DEMOLITION

PLAN  
SCALE: 1"=30'

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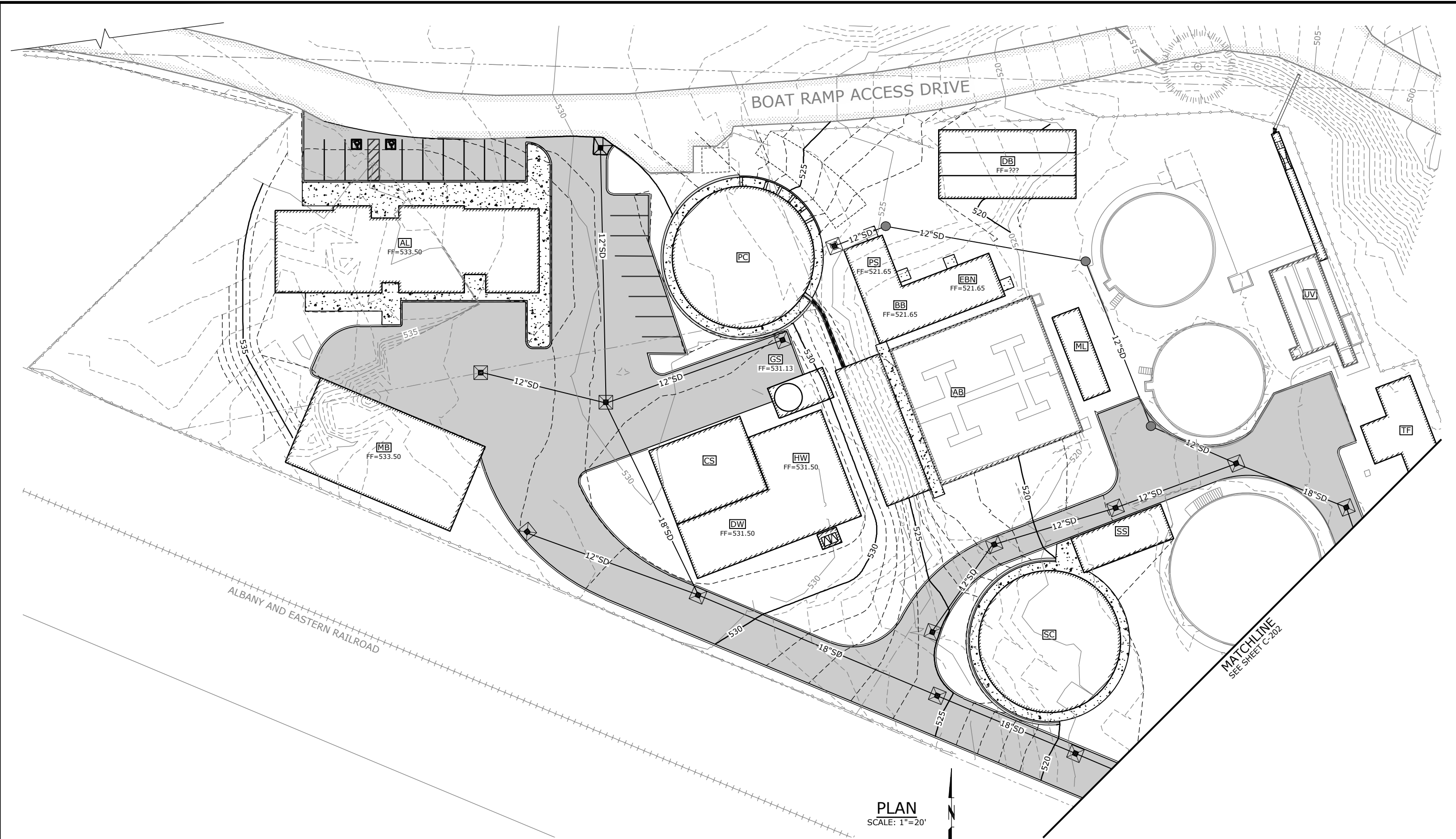
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**CIVIL SITE  
DEMOLITION PLAN**

PROJECT NO.: 19-2605 SCALE: 1" = 30' DATE: June 2020

SHEET  
C-102  
19 of 354

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PLAN  
SCALE: 1"=20'

MATCHLINE  
SEE SHEET C-202

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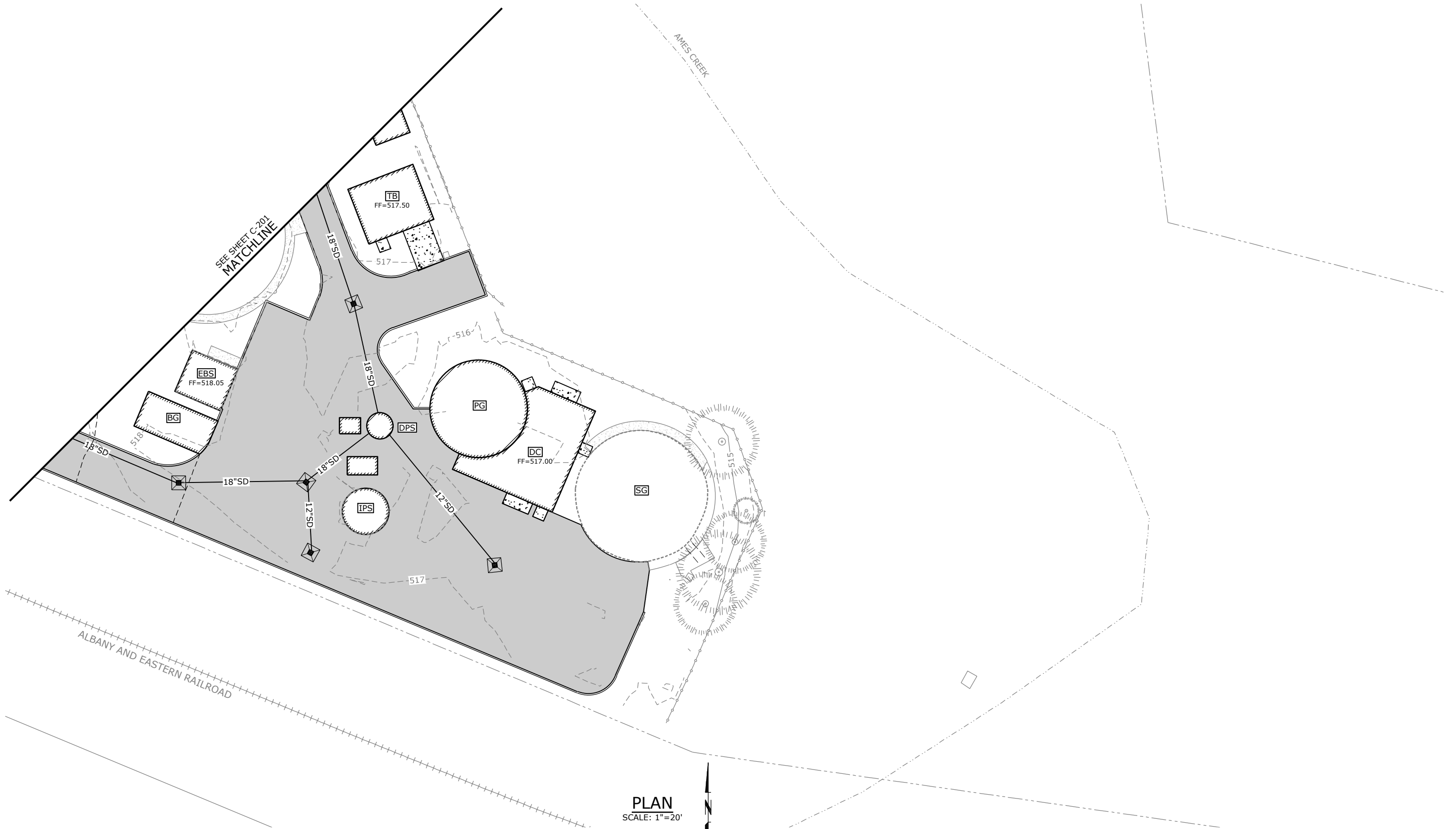


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**CIVIL SITE**  
**GRADING, DRAINAGE AND PAVING PLAN - AREA 1**  
PROJECT NO.: 19-2605 SCALE: 1" = 20' DATE: June 2020

SHEET  
C-201  
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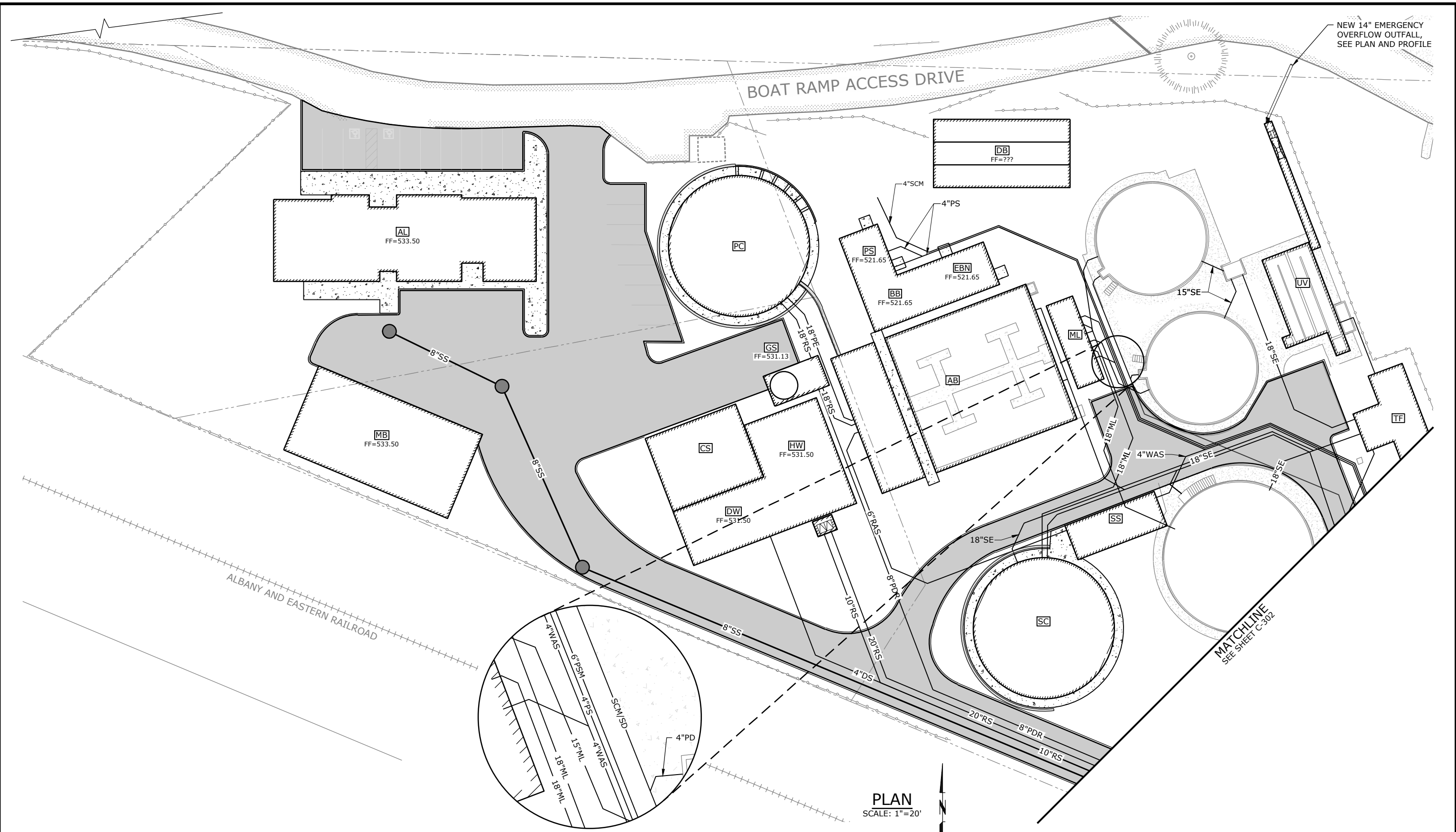
**CIVIL SITE  
GRADING, DRAINAGE AND  
PAVING PLAN - AREA 2**

SHEET  
C-202  
21 of 354

PROJECT NO.: 19-2605 SCALE: 1" = 20' DATE: June 2020

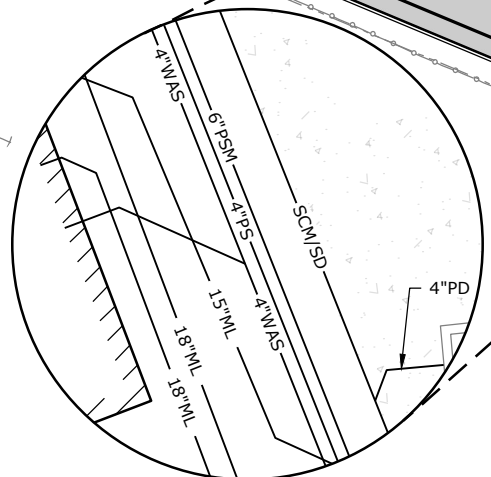


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NEW 14" EMERGENCY OVERFLOW OUTFALL, SEE PLAN AND PROFILE

MATCHLINE SEE SHEET C-302



**DETAIL PLAN**  
SCALE: 1"=5'

**PLAN**  
SCALE: 1"=20'

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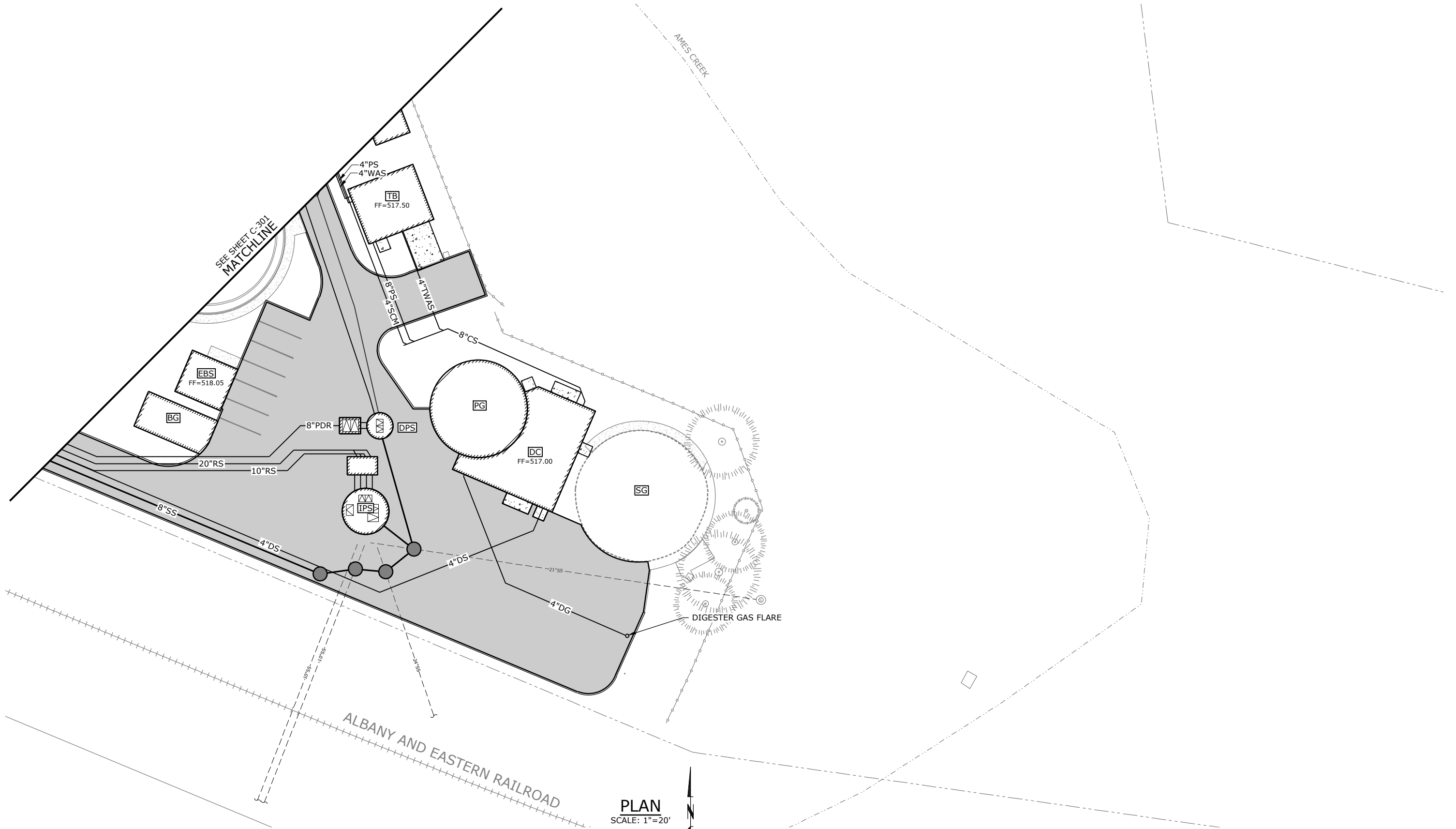


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**WWTP IMPROVEMENTS**

**CIVIL SITE**  
**YARD PIPING PLAN - AREA 1**  
PROJECT NO.: 19-2605 SCALE: 1" = 20' DATE: June 2020

SHEET  
C-301  
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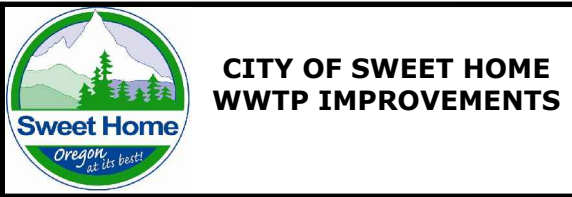
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**CIVIL SITE**  
**YARD PIPING PLAN - AREA 2**  
 PROJECT NO.: 19-2605 SCALE: 1" = 20' DATE: June 2020

SHEET  
**C-302**  
 23 of 354

TO PLEASANT VALLEY ROAD

BOAT RAMP ACCESS DRIVE

AMES CREEK

ALBANY AND EASTERN RAILROAD

ELECTRICAL DUCT BANK AND VAULTS, SEE ELECTRICAL SITE PLAN

PLAN  
SCALE: 1"=30'

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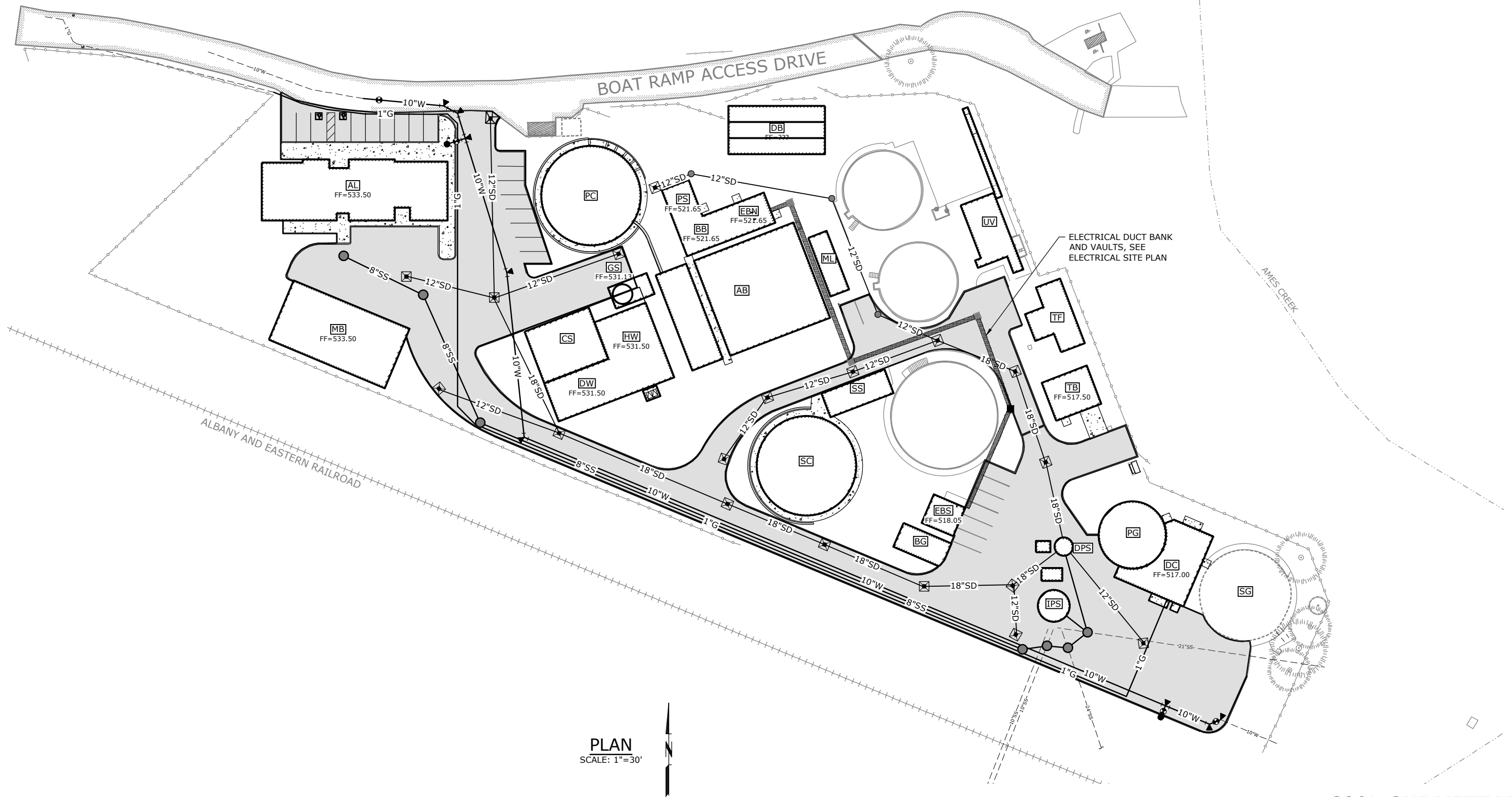
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CIVIL SITE  
UTILITY PLAN  
PROJECT NO.: 19-2605 SCALE: 1" = 30' DATE: June 2020

SHEET  
C-401  
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| ABBREVIATIONS |  |
|---------------|--|
| ABV           | ABOVE                                      |
| ACC           | ACCESSORY                                  |
| AFF           | ABOVE FINISHED FLOOR                       |
| ALUM          | ALUMINUM                                   |
| BLKG          | BLOCKING                                   |
| CLST          | CLOSET                                     |
| C.I.          | CONTINUOUS INSULATION                      |
| DBL           | DOUBLE                                     |
| DN            | DOWN                                       |
| MSTR          | MASTER                                     |
| CL            | CENTERLINE                                 |
| CFCI          | CONTRACTOR FURNISHED CONTRACTOR INSTALLED  |
| CONC          | CONCRETE                                   |
| CONT          | CONTINUOUS                                 |
| CPT           | COMMON PATH OF TRAVEL                      |
| DEMO          | DEMOLISH/DEMOLITION                        |
| DS            | DOWNSPOUT                                  |
| (E)           | EXISTING                                   |
| EQ            | EQUAL                                      |
| EN            | END NAIL                                   |
| ETD           | EXIT TRAVEL DISTANCE                       |
| FLR           | FLOOR                                      |
| GC            | GENERAL CONTRACTOR                         |
| GLZ           | GLAZING                                    |
| GYP           | GYPSUM WALL BOARD                          |
| HM            | HOLLOW METAL                               |
| HT            | HEIGHT                                     |
| HR            | HOUR                                       |
| INFO          | INFORMATION                                |
| LYR           | LAYER                                      |
| MAX           | MAXIMUM                                    |
| MFR           | MANUFACTURER                               |
| MIN           | MINIMUM                                    |
| MTL           | METAL                                      |
| (N)           | NEW  |
| NTS           | NOT TO SCALE                               |
| NFPA          | NATIONAL FIRE PROTECTION ASSOCIATION       |
| NRCA          | NATIONAL ROOFING CONTRACTORS ASSOCIATION   |
| OFOI          | OWNER FURNISHED OWNER INSTALLED            |
| OFCI          | OWNER FURNISHED OWNER CONTRACTOR INSTALLED |
| PRE-MFR       | PRE-MANUFACTURED                           |
| PT            | PRESSURE TREATED                           |
| REQ'D         | REQUIRED                                   |
| R.O.          | ROUGH OPENING                              |
| (S)           | SIMPSON                                    |
| SFR           | SINGLE FAMILY RESIDENCE                    |
| SOG           | SLAB ON GRADE                              |
| SPEC          | SPECIFICATION                              |
| T.O.          | TOP OF                                     |
| TYP           | TYPICAL                                    |
| UNO           | UNLESS NOTED OTHERWISE                     |
| VFY           | VERIFY                                     |
| V.O.S.        | VERIFY ON SITE                             |
| WIN           | WINDOW                                     |
| WRB           | WEATHER RESISTIVE BARRIER                  |

| LEGEND |  |
|--------|--|
|        | ROOM TAG   |
|        | ROOM NUMBER  |
|        | ROOM NAME  |
|        | AREA   |
|        | OCCUPANCY CATEGORY   |
|        | NUMBER OF OCCUPANTS  |
|        | 36" WIDE EXIT EGRESS ROUTE WITH ILLUMINATED EXIT SIGN<br>CPT: COMMON PATH OF TRAVEL<br>ETD: EXIT TRAVEL DISTANCE |
|        | HORIZONTAL OR VERTICAL ASSEMBLY  |
|        | DETAIL MARKER  |
|        | WINDOW/ DOOR/ LOUVER MARKER  |
|        | INDICATES DIRECTIONAL ARROW  |
|        | EXIT SIGN  |
|        | SHADED AREA INDICATES SIGNAGE FACE   |
|        | FIRE EXTINGUISHER  |

**APPLICABLE CODES**  
 2019 OREGON STRUCTURAL SPECIALTY CODE (OSSC)  
 2019 OREGON ZERO ENERGY READY COMMERCIAL CODE (OZERCC)

**HEIGHTS AND AREAS**  
 PER OSSC TABLES 504.3, 504.4, 506.2

ADMINISTRATION BUILDING ONLY:  
 B OCCUPANCY, TYPE V-B CONSTRUCTION (NON SPRINKLERED)  
 2 STORIES ALLOWED, 40FT ABOVE GRADE, 9,000 SF MAX

ALL OTHER BUILDINGS:  
 F-1 OCCUPANCY, TYPE V-B CONSTRUCTION (NON SPRINKLERED)  
 1-STORY ALLOWED, 40FT ABOVE GRADE, 8,500 SF MAX

| TYPES OF CONSTRUCTION BUILDING               | TYPE |
|--|------|
| 210 (HEADWORKS AND DEWATERING):              | V-B  |
| 410 (PS PUMP / BLOWER / NORTH ELECTRICAL RM) | V-B  |
| 710 (THICKENING BUILDING)                    | V-B  |
| 730 (DIGESTER COMPLEX BUILDING)              | V-B  |
| 810 (MAINTENANCE BUILDING)                   | V-B  |
| 840 (ADMINISTRATION)                         | V-B  |
| 870 (SOUTH ELECTRICAL BLDG)                  | V-B  |

**REQUIRED SEPARATION**  
 NONE REQUIRED

**FIRE PROTECTION**  
 SPRINKLERS NOT REQUIRED  
 FIRE ALARMS NOT REQUIRED  
 FIRE EXTINGUISHER PER FIRE CODE

**DEFERRED SUBMITTALS**  
 --

**AMERICAN'S WITH DISABILITIES ACT (ADA)**  
 BUILDING 840 (ADMINISTRATION) REQUIRED TO MEET CHAPTER 11 OSSC

THE FOLLOWING BUILDINGS ARE EXEMPT FROM ADA REQUIREMENTS PER OSSC 1103.2.9 "EQUIPMENT SPACES"  
 210 (HEADWORKS AND DEWATERING)  
 410 (PS PUMP / BLOWER / NORTH ELECTRICAL RM)  
 711 (THICKENING BUILDING)  
 730 (DIGESTER COMPLEX BUILDING)  
 810 (MAINTENANCE BUILDING)  
 870 (SOUTH ELECTRICAL BLDG)

**THERMAL ENVELOPE**

**840 ADMINISTRATION BUILDING:**  
 SLAB EDGE INSULATION:  
 R-15 FOR 24"  
 EXTERIOR WALLS:  
 R-8 CONTINUOUS INSULATION  
 R-21 CAVITY INSULATION  
 ROOF:  
 R-30 CONTINUOUS INSULATION ABOVE STRUCTURAL DECK  
 NOTE: THERMAL ENVELOPE MEETS BUILDING SYSTEMS PRESCRIPTIVE COMPLIANCE PATH, PER TABLE 5.5-4 (STANDARD ASHRAE 90.1-2016)

**810 MAINTENANCE BUILDING (PMEB):**  
 SLAB EDGE INSULATION:  
 NOT REQUIRED  
 EXTERIOR WALLS:  
 R-15.8 CONTINUOUS INSULATION  
 ROOF:  
 R-19 + R-11 L'S (MIN)  
 NOTE: THERMAL ENVELOPE MEETS BUILDING SYSTEMS COMPLIANCE PATH PER COM-CHECK ANALYSIS

**210 (HEADWORKS AND DEWATERING), 410 (NORTH ELECTRICAL RM) 711 (THICKENING BUILDING), 870 (SOUTH ELECTRICAL BLDG):**  
 SLAB EDGE INSULATION:  
 NOT REQUIRED  
 EXTERIOR WALLS:  
 R-8 CONTINUOUS INSULATION  
 ROOF:  
 R-30 CONTINUOUS INSULATION ABOVE STRUCTURAL DECK  
 NOTE: THERMAL ENVELOPE MEETS BUILDING SYSTEMS COMPLIANCE PATH PER COM-CHECK ANALYSIS

**410 (PS PUMP / BLOWER ROOMS), 730 (DIGESTER COMPLEX BUILDING):**  
 THESE STRUCTURES ARE "UNCONDITIONED SPACES", THERMAL ENVELOPE NOT REQUIRED

**ALL BUILDINGS:**

|                          |                           |  |
|--------------------------|---------------------------|--|
| DOORS:                   |                           |  |
| OPAQUE DOORS:            | U 0.37 MAX                |  |
| ROLL UP DOORS:           | U 0.31 MAX                |  |
| WINDOWS:                 |                           |  |
| METAL FRAMING, FIXED:    | U 0.38 MAX, SHGC 0.36 MAX |  |
| METAL FRAMING, OPERABLE: | U 0.46 MAX, SHGC 0.36 MAX |  |
| METAL FRAMING, ENTRANCE: | U 0.68 MAX, SHGC 0.36 MAX |  |

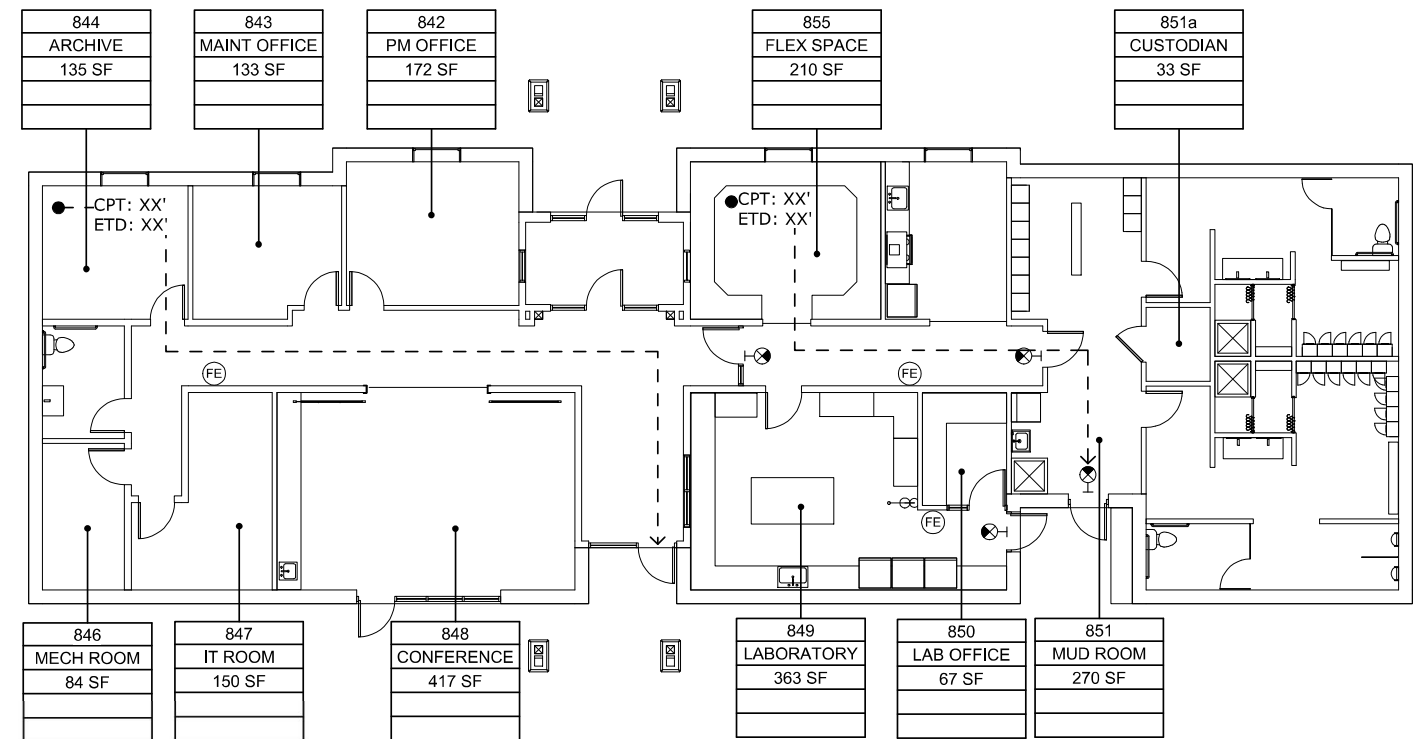
OZERCC SECTION 5.4.3.1 AIR BARRIER COMPLIANCE:  
 BUILDING ENVELOPE PER SECTION 5.4.3.1.3(b) and (c)  
 FENESTRATION AND DOORS PER 5.4.3.2

**AREA SUMMARY**

| BUILDING                                   | OVERALL DIMS     | GROSS AREA | NET AREA |
|--|------------------|------------|----------|
| 210 HEADWORKS AND DEWATERING BLDG          |                  | 3174 SF    |          |
| 410 PS PUMP / BLOWER / NORTH ELECTRICAL RM |                  | 1592 SF    |          |
| 710 SOLIDS THICKENING BLDG                 |                  | 828 SF     |          |
| 730 DIGESTER COMPLEX BLDG                  |                  | 1616 SF    |          |
| 830 MAINTENANCE BUILDING                   | 78'-0" x 40'-0"  | 3071 SF    |          |
| 840 ADMINISTRATION BUILDING                | 115'-4" x 38'-0" | 4101 SF    |          |
| 870 SOUTH ELECTRICAL BLDG                  |                  | 440 SF     |          |

**OCCUPANCY TABLE - 810 ADMINISTRATION BUILDING**

| SPACE               | OCC CLASS | SF/OCC | AREA    | OCCS |
|---------------------|-----------|--------|---------|------|
| ARCHIVE             |           |        | 135 SF  |      |
| BATHROOM            |           |        | 64 SF   |      |
| BREAK ROOM          |           |        | 134 SF  |      |
| CONFERENCE          |           |        | 417 SF  |      |
| CUSTODIAN           |           |        | 33 SF   |      |
| FLEX SPACE          |           |        | 210 SF  |      |
| HALL                |           |        | 447 SF  |      |
| HALL                |           |        | 129 SF  |      |
| IT ROOM             |           |        | 150 SF  |      |
| LAB OFFICE          |           |        | 67 SF   |      |
| LABORATORY          |           |        | 363 SF  |      |
| MAINT OFFICE        |           |        | 133 SF  |      |
| MECH ROOM           |           |        | 84 SF   |      |
| MEN LOCKERS         |           |        | 375 SF  |      |
| MUD ROOM            |           |        | 270 SF  |      |
| PM OFFICE           |           |        | 172 SF  |      |
| VESTIBULE           |           |        | 96 SF   |      |
| WOMEN LOCKERS       |           |        | 277 SF  |      |
| TOTAL F-1 OCCUPANCY |           |        | 3556 SF |      |



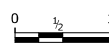
LIFE SAFETY PLAN - 100 ADMIN  
 1/8" = 1'-0"

60% SUBMITTAL

STRONGWORK ARCHITECTURE

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GENERAL ARCHITECTURAL LEGEND AND CODE INFORMATION

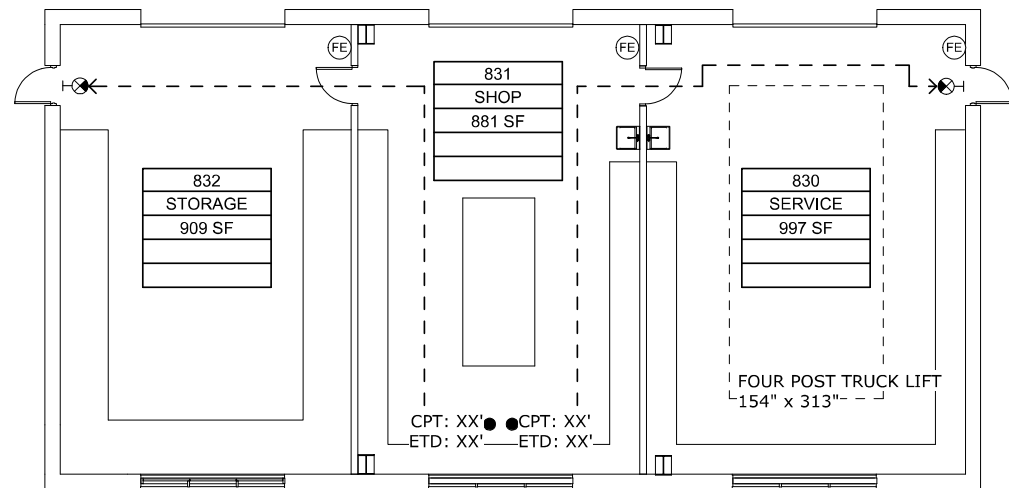
SHEET

A-001

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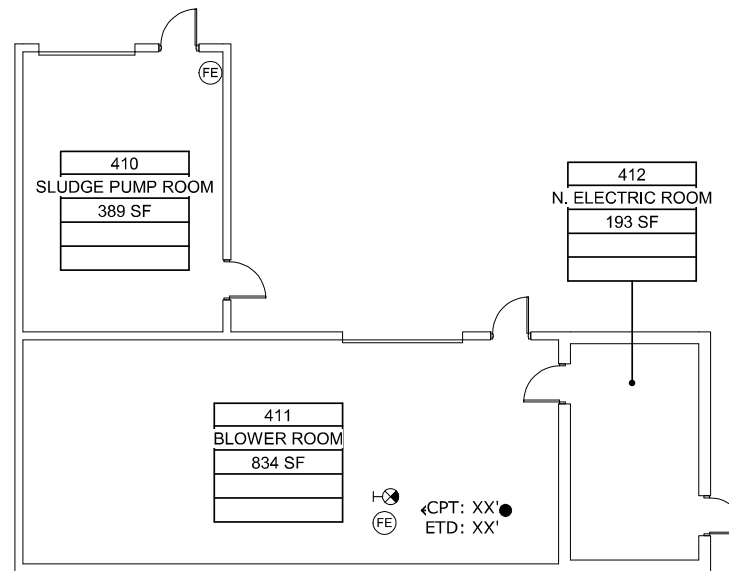
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

| NO. | DATE | BY | REVISION |
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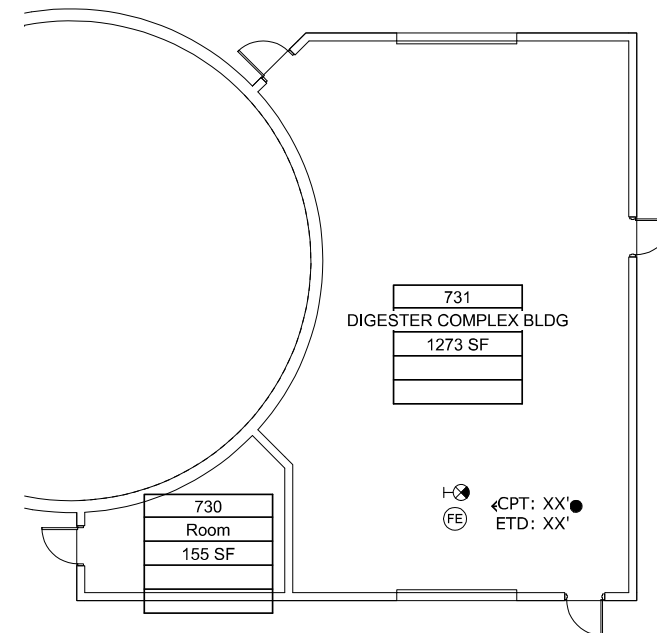
LIFE SAFETY PLAN - 830 MAINTENANCE BUILDING  
1/8" = 1'-0"

1



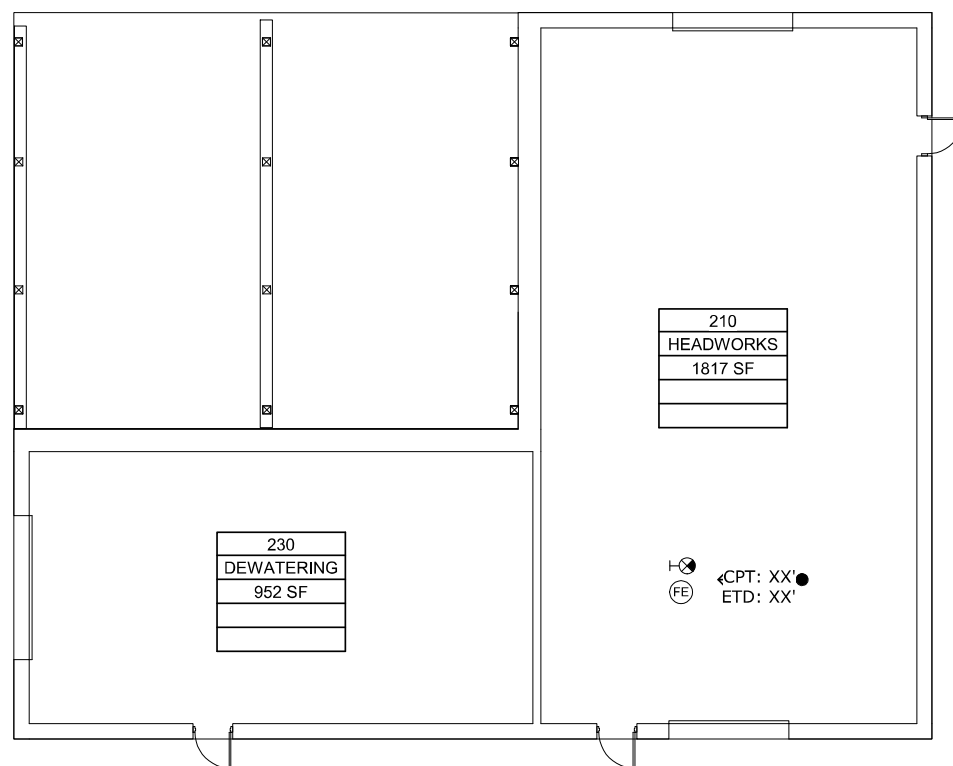
LIFE SAFETY PLAN - 410 PS PUMP, BLOWER, NORTH ELECT BLDG  
1/8" = 1'-0"

3



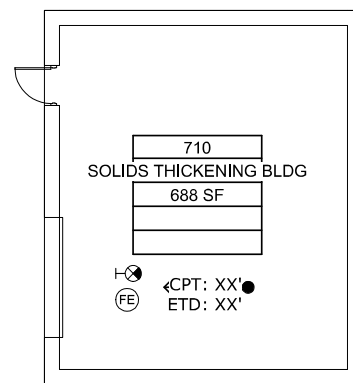
LIFE SAFETY PLAN - 730 DIGESTER COMPLEX BUILDING  
1/8" = 1'-0"

5



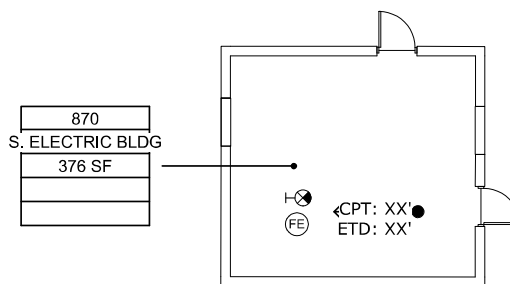
LIFE SAFETY PLAN - 210 HEADWORKS AND DEWATERING  
1/8" = 1'-0"

2



LIFE SAFETY PLAN - 710 SOLIDS THICKENING BLDG  
1/8" = 1'-0"

4



LIFE SAFETY PLAN - 870 SOUTH ELECT RM  
1/8" = 1'-0"

6

OCCUPANCY TABLE - 210 HEADWORKS & DEWATERING BUILDING

| SPACE               | OCC CLASS | SF/OCC | AREA    | OCCS |
|---------------------|-----------|--------|---------|------|
| DEWATERING          |           |        | 952 SF  |      |
| HEADWORKS           |           |        | 1817 SF |      |
| TOTAL F-1 OCCUPANCY |           |        | 2769 SF |      |

OCCUPANCY TABLE - 410 PS PUMP / BLOWER / NORTH ELECTRIC BLDG

| SPACE               | OCC CLASS | SF/OCC | AREA    | OCCS |
|---------------------|-----------|--------|---------|------|
| BLOWER ROOM         |           |        | 834 SF  |      |
| N. ELECTRIC ROOM    |           |        | 193 SF  |      |
| SLUDGE PUMP ROOM    |           |        | 389 SF  |      |
| TOTAL F-1 OCCUPANCY |           |        | 1416 SF |      |

OCCUPANCY TABLE - 710 SOLIDS THICKENING BUILDING

| SPACE                  | OCC CLASS | SF/OCC | AREA   | OCCS |
|------------------------|-----------|--------|--------|------|
| SOLIDS THICKENING BLDG |           |        | 688 SF |      |
| TOTAL F-1 OCCUPANCY    |           |        | 688 SF |      |

OCCUPANCY TABLE - 730 DIGESTER COMPLEX BUILDING

| SPACE                 | OCC CLASS | SF/OCC | AREA    | OCCS |
|-----------------------|-----------|--------|---------|------|
| DIGESTER COMPLEX BLDG |           |        | 1273 SF |      |
| Room                  |           |        | 155 SF  |      |
| TOTAL F-1 OCCUPANCY   |           |        | 1428 SF |      |

OCCUPANCY TABLE - 830 MAINTENANCE BUILDING

| SPACE               | OCC CLASS | SF/OCC | AREA    | OCCS |
|---------------------|-----------|--------|---------|------|
| SERVICE             |           |        | 997 SF  |      |
| SHOP                |           |        | 881 SF  |      |
| STORAGE             |           |        | 909 SF  |      |
| TOTAL F-1 OCCUPANCY |           |        | 2787 SF |      |

OCCUPANCY TABLE - 870 SOUTH ELECTRICAL BUILDING

| SPACE               | OCC CLASS | SF/OCC | AREA   | OCCS |
|---------------------|-----------|--------|--------|------|
| S. ELECTRIC BLDG    |           |        | 376 SF |      |
| TOTAL F-1 OCCUPANCY |           |        | 376 SF |      |

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DRAWN  
AA  
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**LIFE SAFETY PLANS AND CODE**  
INFORMATION

SHEET

A-002

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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

ADMINISTRATION BUILDING DOOR SCHEDULE

| MARK | SIZE (FIELD VFY)   | TYPE | DOOR MAT'L | FRAME MAT'L | PAINT | THICKNESS | TRANSOM |    | GLAZING | HARDWARE SET | NOTES |
|------|--------------------|------|------------|-------------|-------|-----------|---------|----|---------|--------------|-------|
|      |                    |      |            |             |       |           | TYPE    | HT |         |              |       |
| 110  | 3' - 0" x 6' - 8"  | 66   |            |             |       |           |         |    |         |              |       |
| 111A | 3' - 0" x 6' - 8"  | J    |            |             |       | 0' - 2"   |         |    |         |              |       |
| 116B | 3' - 0" x 6' - 8"  | J    |            |             |       | 0' - 2"   |         |    |         |              |       |
| 840A | 3' - 0" x 6' - 8"  | 66   |            |             |       |           |         |    |         |              |       |
| 840B | 3' - 0" x 6' - 8"  | 66   |            |             |       |           |         |    |         |              |       |
| 841B | 3' - 0" x 6' - 8"  | 66   |            |             |       |           |         |    |         |              |       |
| 842  | 2' - 10" x 6' - 8" | N    |            |             |       | 0' - 2"   |         |    |         |              |       |
| 843  | 2' - 10" x 6' - 8" | N    |            |             |       | 0' - 2"   |         |    |         |              |       |
| 844  | 2' - 10" x 6' - 8" | N    |            |             |       | 0' - 2"   |         |    |         |              |       |
| 845  | 2' - 10" x 6' - 8" | N    |            |             |       | 0' - 2"   |         |    |         |              |       |
| 846  | 3' - 0" x 6' - 8"  | J    |            |             |       | 0' - 2"   |         |    |         |              |       |
| 846A | 3' - 0" x 6' - 8"  | 66   |            |             |       |           |         |    |         |              |       |
| 847  | 3' - 0" x 6' - 8"  | J    |            |             |       | 0' - 2"   |         |    |         |              |       |
| 848A | 0' - 0" x 0' - 0"  | K    |            |             |       | 0' - 0"   |         |    |         |              |       |
| 848B | 3' - 0" x 6' - 8"  | 66   |            |             |       |           |         |    |         |              |       |
| 849A | 3' - 0" x 6' - 8"  | J    |            |             |       | 0' - 2"   |         |    |         |              |       |
| 849B | 3' - 0" x 6' - 8"  | 66   |            |             |       |           |         |    |         |              |       |
| 851B | 3' - 0" x 6' - 8"  | 66   |            |             |       |           |         |    |         |              |       |
| 853  | 3' - 0" x 6' - 8"  | J    |            |             |       | 0' - 2"   |         |    |         |              |       |

MAINTENANCE BUILDING DOOR SCHEDULE

| MARK | SIZE (FIELD VFY)    | TYPE | DOOR MAT'L | FRAME MAT'L | PAINT | THICKNESS | TRANSOM |     | GLAZING | HARDWARE SET | NOTES        |
|------|---------------------|------|------------|-------------|-------|-----------|---------|-----|---------|--------------|--------------|
|      |                     |      |            |             |       |           | TYPE    | HT  |         |              |              |
| 830A | 12' - 0" x 14' - 0" |      |            |             |       | 0' - 3"   |         |     |         |              |              |
| 831A | 12' - 0" x 12' - 0" |      |            |             |       | 0' - 3"   |         |     |         |              |              |
| 831B | 3' - 0" x 7' - 0"   |      | HM         |             |       | 0' - 2"   | N/A     | N/A | N/A     |              | DOUBLE SWING |
| 832A | 12' - 0" x 12' - 0" |      |            |             |       | 0' - 3"   |         |     |         |              |              |
| 832B | 3' - 0" x 6' - 8"   |      |            |             |       | 0' - 2"   |         |     |         |              |              |
| 832C | 3' - 0" x 7' - 0"   |      | HM         |             |       | 0' - 2"   | N/A     | N/A | N/A     |              | DOUBLE SWING |

HEADWORKS / DEWATERING BUILDING DOOR SCHEDULE

| MARK | SIZE (FIELD VFY)    | TYPE | DOOR MAT'L | FRAME MAT'L | PAINT | THICKNESS | TRANSOM |     | GLAZING | HARDWARE SET | NOTES |
|------|---------------------|------|------------|-------------|-------|-----------|---------|-----|---------|--------------|-------|
|      |                     |      |            |             |       |           | TYPE    | HT  |         |              |       |
| 210A | 10' - 0" x 10' - 0" |      |            |             |       | 0' - 3"   |         |     |         |              |       |
| 210B | 3' - 0" x 7' - 0"   |      | HM         |             |       | 0' - 2"   | N/A     | N/A | N/A     |              |       |
| 210C | 10' - 0" x 10' - 0" |      |            |             |       | 0' - 3"   |         |     |         |              |       |
| 210D | 3' - 0" x 6' - 8"   |      |            |             |       | 0' - 2"   |         |     |         |              |       |
| 230A | 3' - 0" x 6' - 8"   |      |            |             |       | 0' - 2"   |         |     |         |              |       |
| 230B | 12' - 0" x 10' - 0" |      |            |             |       | 0' - 3"   |         |     |         |              |       |

PS PUMP / BLOWER / NORTH ELECTRIC BUILDING DOOR SCHEDULE

| MARK | SIZE (FIELD VFY)    | TYPE | DOOR MAT'L | FRAME MAT'L | PAINT | THICKNESS | TRANSOM |     | GLAZING | HARDWARE SET | NOTES |
|------|---------------------|------|------------|-------------|-------|-----------|---------|-----|---------|--------------|-------|
|      |                     |      |            |             |       |           | TYPE    | HT  |         |              |       |
| 400B | 3' - 0" x 6' - 8"   |      |            |             |       | 0' - 2"   |         |     |         |              |       |
| 410A | 3' - 0" x 7' - 0"   |      | HM         |             |       | 0' - 2"   | N/A     | N/A | N/A     |              |       |
| 410C | 8' - 0" x 10' - 0"  |      |            |             |       | 0' - 3"   |         |     |         |              |       |
| 411A | 3' - 0" x 6' - 8"   |      |            |             |       | 0' - 2"   |         |     |         |              |       |
| 411B | 10' - 0" x 10' - 0" |      |            |             |       | 0' - 3"   |         |     |         |              |       |
| 412A | 3' - 0" x 7' - 0"   |      | HM         |             |       | 0' - 2"   | N/A     | N/A | N/A     |              |       |
| 412B | 3' - 0" x 7' - 0"   |      | HM         |             |       | 0' - 2"   | N/A     | N/A | N/A     |              |       |

SOUTH ELECTRIC ROOM DOOR SCHEDULE

| MARK | SIZE (FIELD VFY)  | TYPE | DOOR MAT'L | FRAME MAT'L | PAINT | THICKNESS | TRANSOM |     | GLAZING | HARDWARE SET | NOTES          |
|------|-------------------|------|------------|-------------|-------|-----------|---------|-----|---------|--------------|----------------|
|      |                   |      |            |             |       |           | TYPE    | HT  |         |              |                |
| 871A | 3' - 0" x 6' - 4" |      | HM         |             |       | 0' - 2"   | N/A     | N/A | N/A     |              | PANIC HARDWARE |
| 871B | 3' - 0" x 6' - 4" |      | HM         |             |       | 0' - 2"   | N/A     | N/A | N/A     |              | PANIC HARDWARE |

SOLIDS THICKENING BUILDING DOOR SCHEDULE

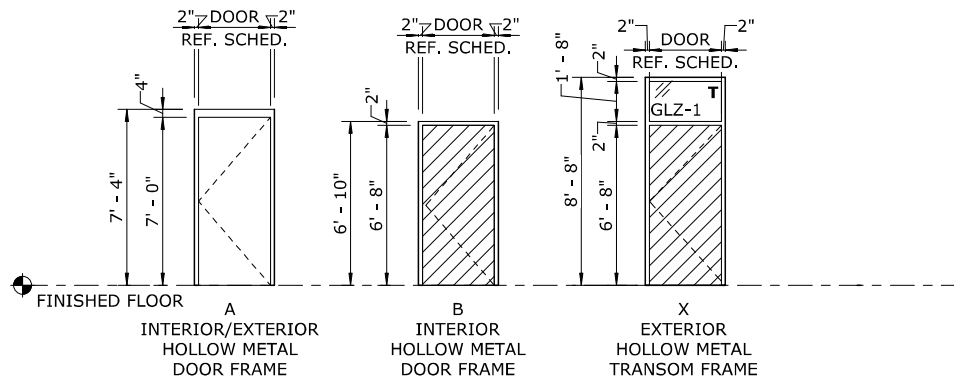
| MARK | SIZE (FIELD VFY)    | TYPE | DOOR MAT'L | FRAME MAT'L | PAINT | THICKNESS | TRANSOM |    | GLAZING | HARDWARE SET | NOTES |
|------|---------------------|------|------------|-------------|-------|-----------|---------|----|---------|--------------|-------|
|      |                     |      |            |             |       |           | TYPE    | HT |         |              |       |
| 710A | 3' - 0" x 6' - 8"   |      |            |             |       | 0' - 2"   |         |    |         |              |       |
| 710B | 10' - 0" x 10' - 0" |      |            |             |       | 0' - 3"   |         |    |         |              |       |

DIGESTER COMPLEX BUILDING DOOR SCHEDULE

| MARK | SIZE (FIELD VFY)    | TYPE | DOOR MAT'L | FRAME MAT'L | PAINT | THICKNESS | TRANSOM |     | GLAZING | HARDWARE SET | NOTES |
|------|---------------------|------|------------|-------------|-------|-----------|---------|-----|---------|--------------|-------|
|      |                     |      |            |             |       |           | TYPE    | HT  |         |              |       |
| 730  | 3' - 0" x 7' - 0"   |      | HM         |             |       | 0' - 2"   | N/A     | N/A | N/A     |              |       |
| 731A | 10' - 0" x 10' - 0" |      |            |             |       | 0' - 3"   |         |     |         |              |       |
| 731B | 3' - 0" x 6' - 8"   |      |            |             |       | 0' - 2"   |         |     |         |              |       |
| 731C | 3' - 0" x 6' - 8"   |      |            |             |       | 0' - 2"   |         |     |         |              |       |
| 731D | 10' - 0" x 10' - 0" |      |            |             |       | 0' - 3"   |         |     |         |              |       |
| 731E | 3' - 0" x 7' - 0"   |      | HM         |             |       | 0' - 2"   | N/A     | N/A | N/A     |              |       |

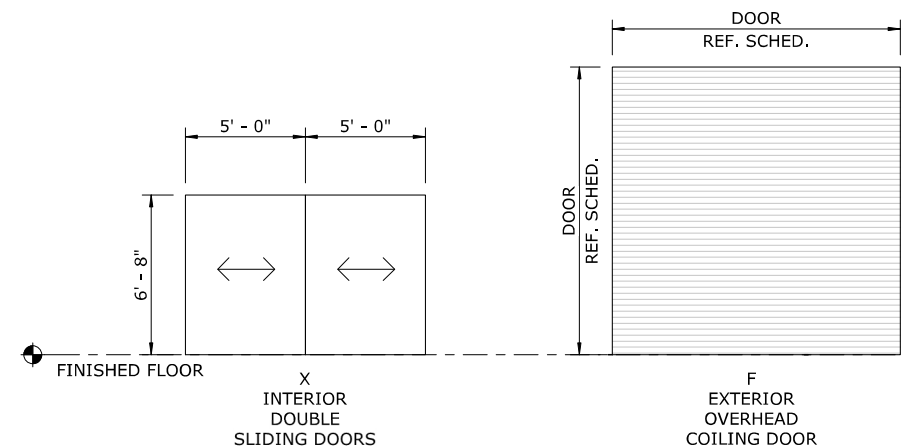
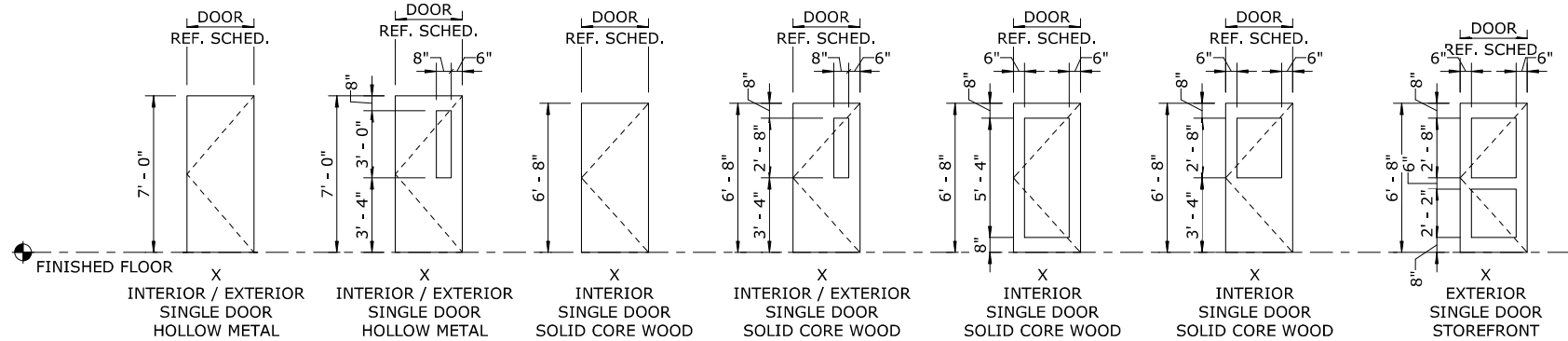
DOOR NOTES

1. SEE SPECIFICATION SECTION 08 80 00 FOR GLAZING.
2. SEE SPECIFICATION SECTION 08 71 00 FOR DOOR HARDWARE
3. SEE WINDOW STYLES FOR TRANSOM TYPES.
4. SEE PLANS FOR CONTROL VALVE VAULT AND STORAGE BUILDING DOOR INFORMATION
5. VERIFY EXISTING DOOR SIZE, REPLACE DOOR AND HARDWARE



DOOR FRAME TYPES

1/4" = 1'-0"

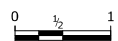


DOOR TYPES

1/4" = 1'-0"

**STRONGWORK ARCHITECTURE**

NOTICE



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DESIGNED  
SD  
DRAWN  
AA  
CHECKED

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**CITY OF SWEET HOME WWTP IMPROVEMENTS**

**ARCHITECTURAL DOOR SCHEDULES**

SHEET

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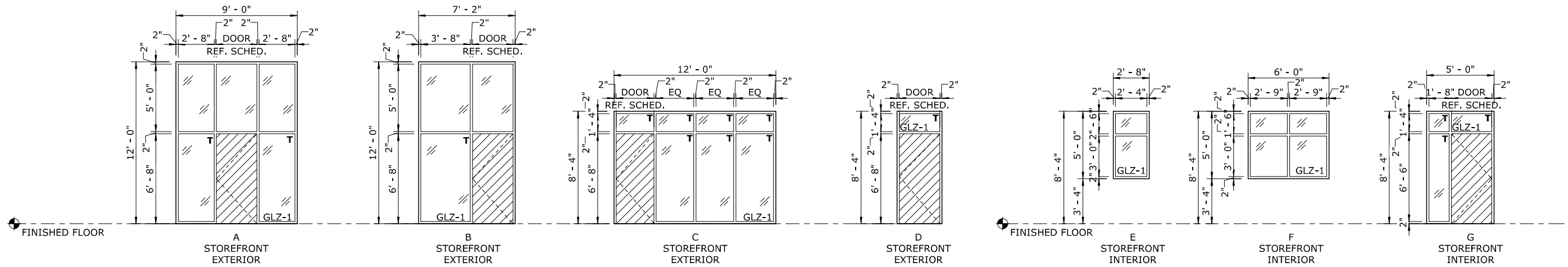
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

**50% SUBMITTAL**

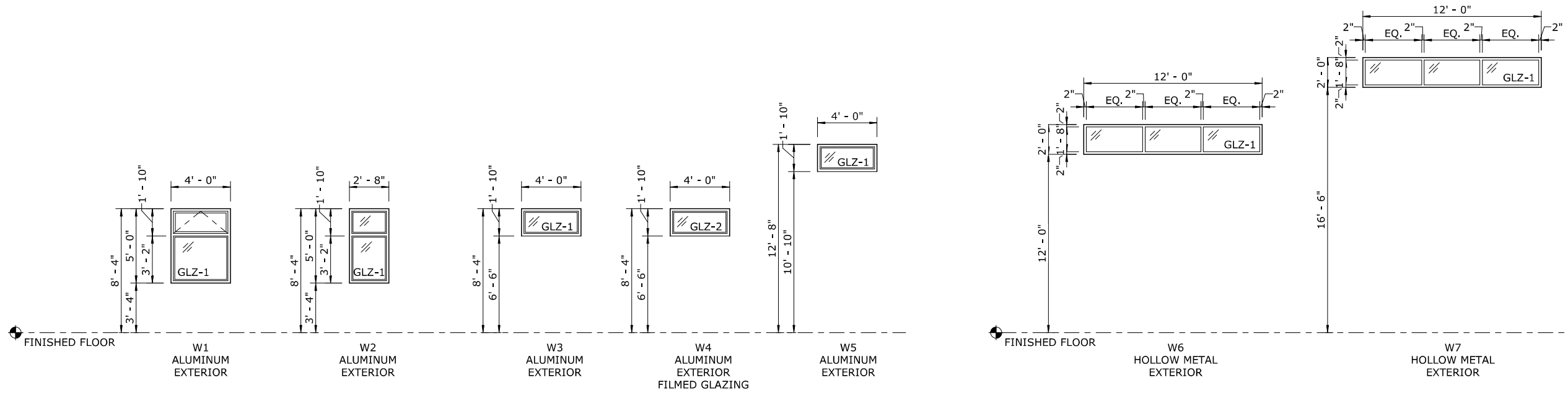
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| NO.      | DATE | BY       | REVISION |
|----------|------|----------|----------|
| 2/6/2020 | AA   | ADDENDUM |          |



STOREFRONT TYPES  
1/4" = 1'-0"

2



WINDOW TYPES  
1/4" = 1'-0"

1

- WINDOW AND STOREFRONT NOTES
1. SEE SPECIFICATION SECTION 08 80 00 FOR GLAZING
  2. T=TEMPERED GLAZING
  3. SEE SPECIFICATION SECTION 08 43 13 FOR STOREFRONT WINDOWS AND ENTRANCES
  4. SEE SPECIFICATION SECTION XX XX XX FOR HOLLOW METAL WINDOWS
  5. SEE SPECIFICATION SECTION XX XX XX FOR ALUMINUM FRAMED WINDOWS
  6. SEE GEN-A-3 FOR DOOR INFORMATION

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**STRONGWORK**  
ARCHITECTURE

NOTICE  
0 1/2 1  
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SD  
DRAWN  
AA  
CHECKED



**CITY OF SWEET HOME**  
WWTP IMPROVEMENTS

**WINDOW AND STOREFRONT TYPES**

SHEET

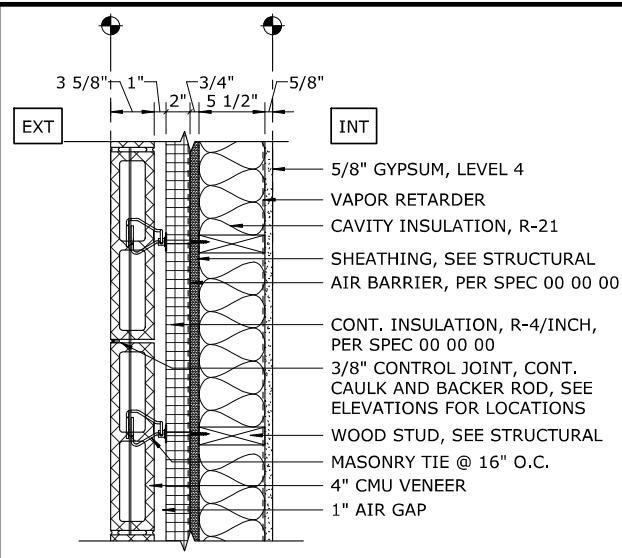
A-004

| NO. | DATE | BY | REVISION |
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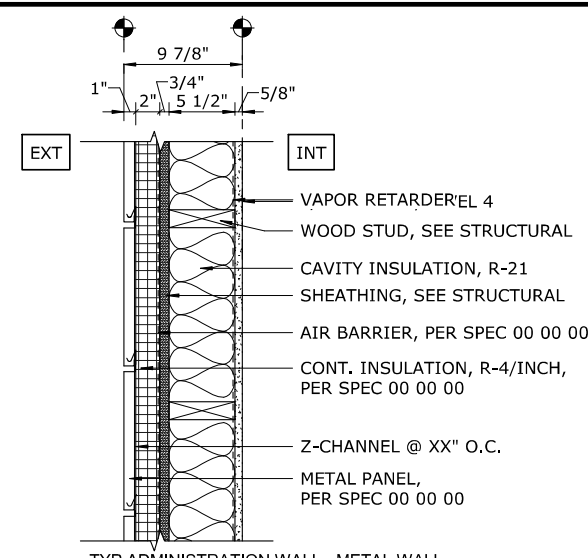
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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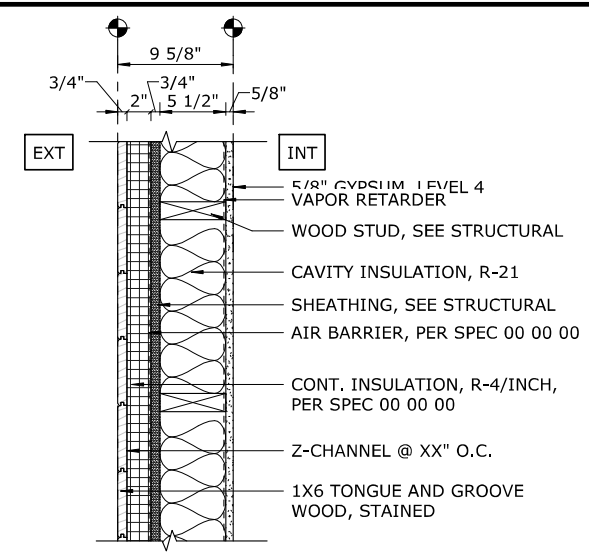
**50% SUBMITTAL**



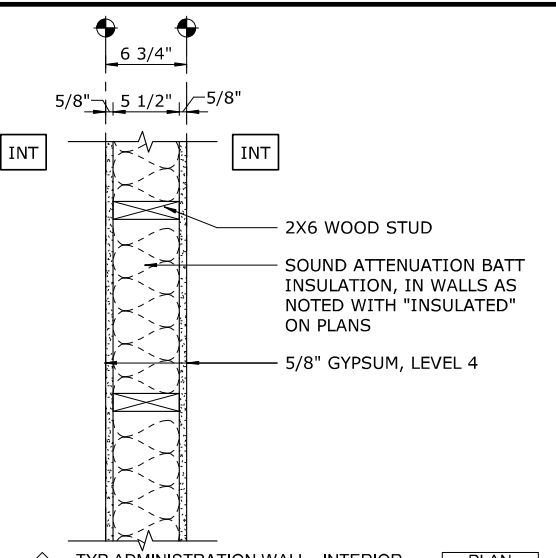
V1 TYP ADMINISTRATION WALL - CMU PLAN



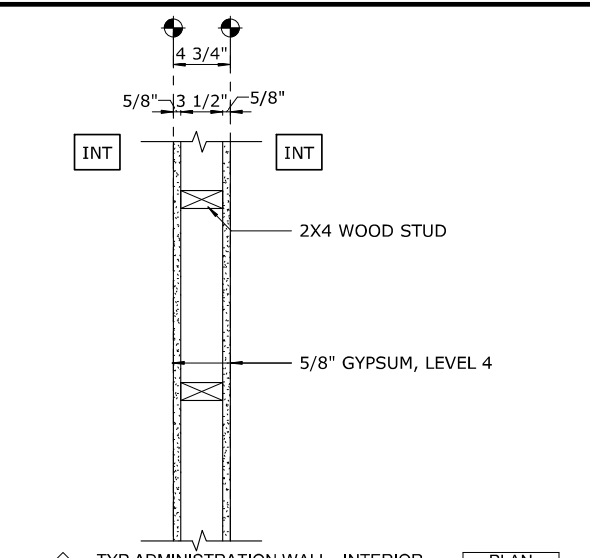
V2 TYP ADMINISTRATION WALL - METAL WALL PANEL PLAN



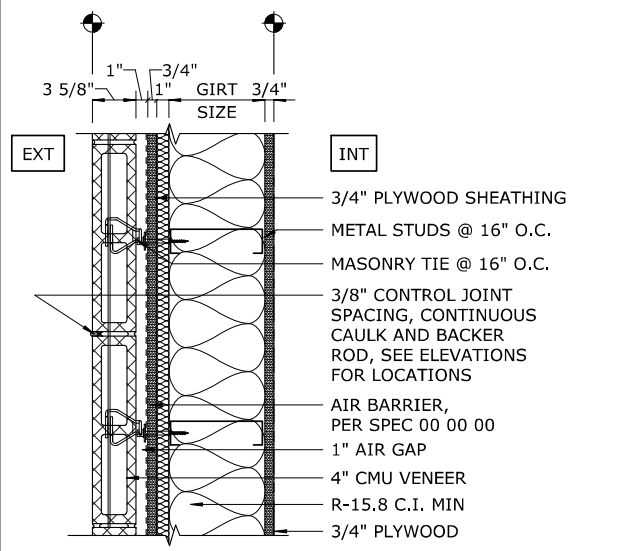
V3 TYP ADMINISTRATION WALL - WOOD PANEL PLAN



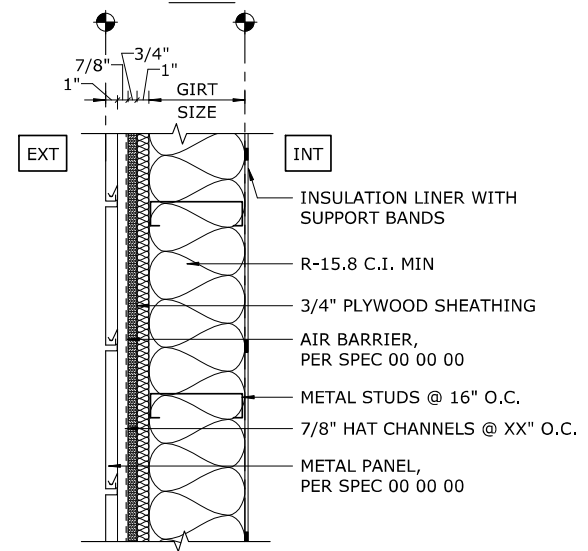
V4 TYP ADMINISTRATION WALL - INTERIOR PLAN



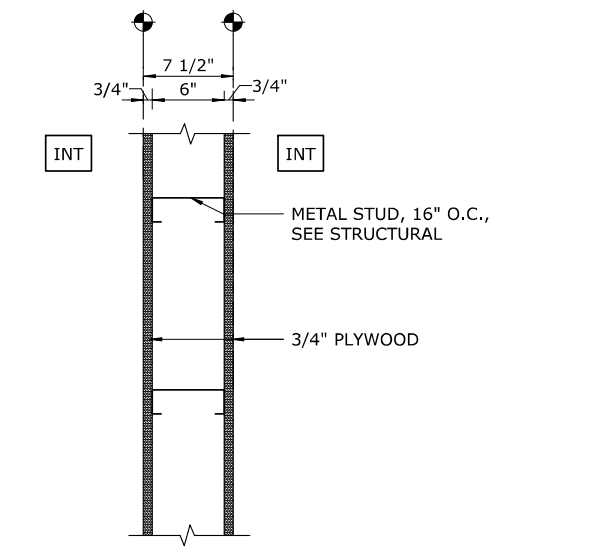
V5 TYP ADMINISTRATION WALL - INTERIOR PLAN



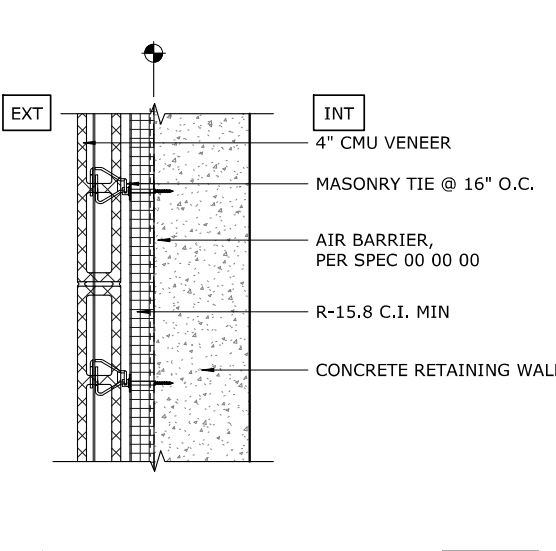
V6 TYP MAINTENANCE/SHOP WALL - CMU PLAN



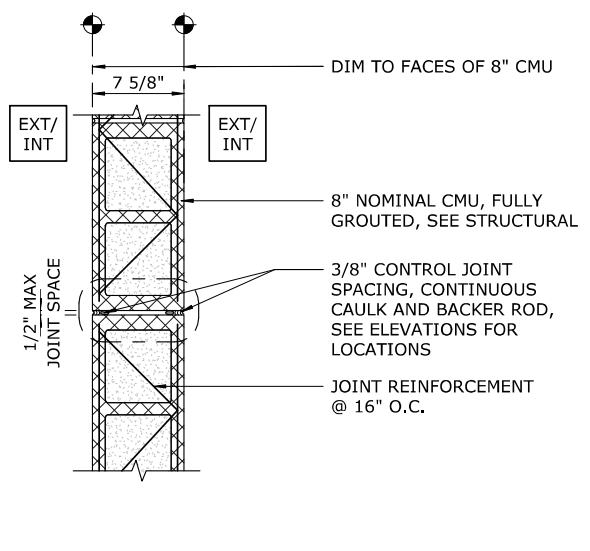
V7 TYP MAINTENANCE/SHOP WALL - METAL PANEL PLAN



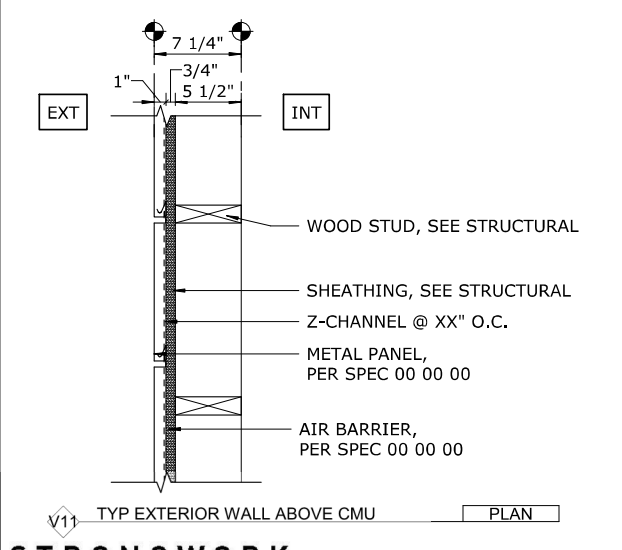
V8 TYP MAINTENANCE WALL - INTERIOR PLAN



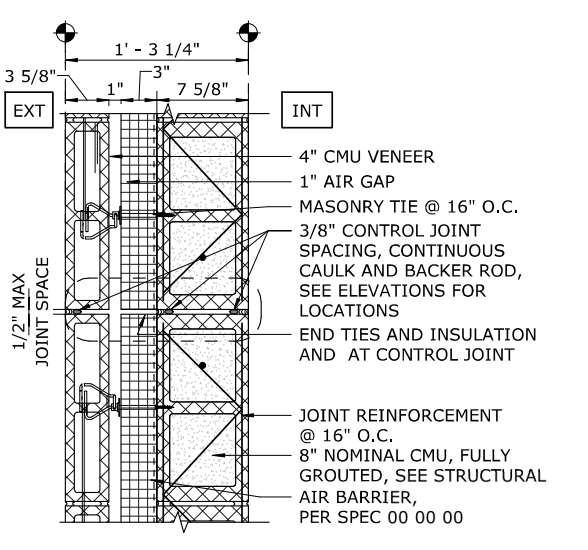
V9 MAINTENANCE/SHOP RETAINING WALL PLAN



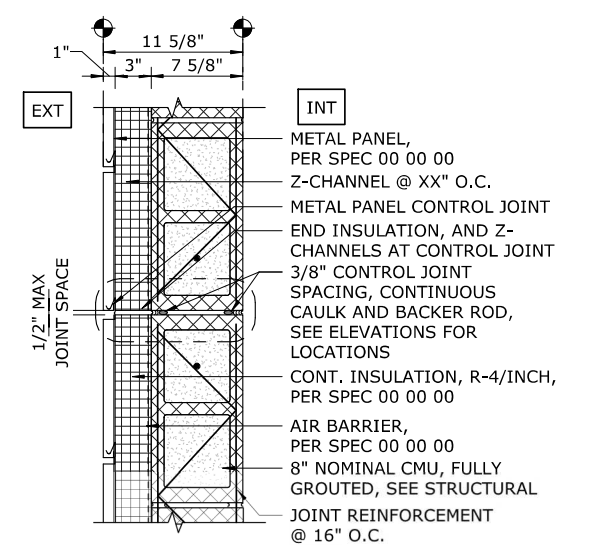
V10 TYP INTERIOR/EXTERIOR NON INSULATED CMU WALL PLAN



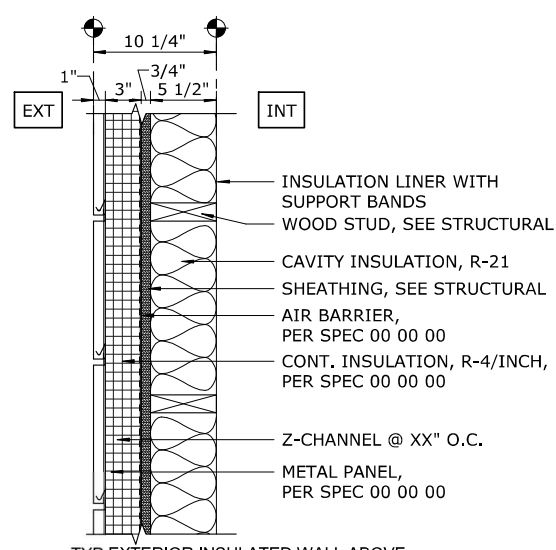
V11 TYP EXTERIOR WALL ABOVE CMU PLAN



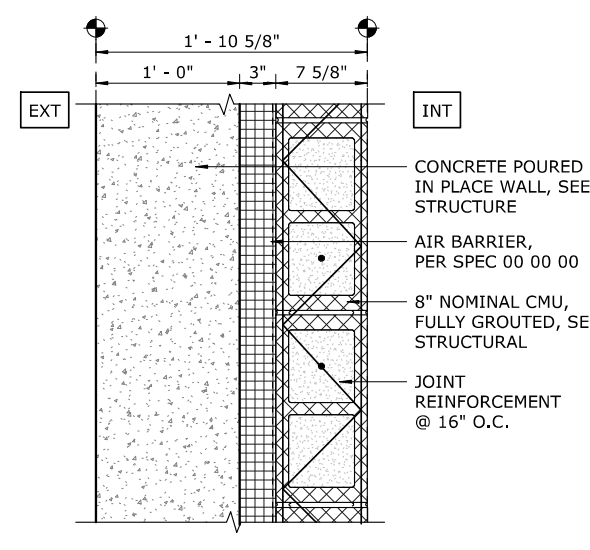
V12 TYP EXTERIOR INSULATED CMU WALL PLAN



V13 TYP EXTERIOR INSULATED CMU WALL PLAN



V14 TYP EXTERIOR INSULATED WALL ABOVE CMU PLAN



V15 TYP EXTERIOR INSULATED CMU WALL PLAN

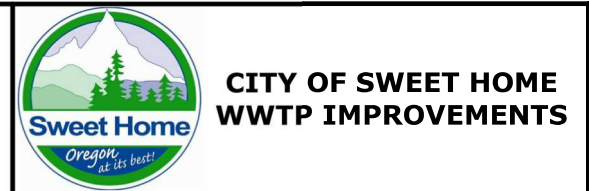
**STRONGWORK ARCHITECTURE**

**60% SUBMITTAL**

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**NOTICE**  
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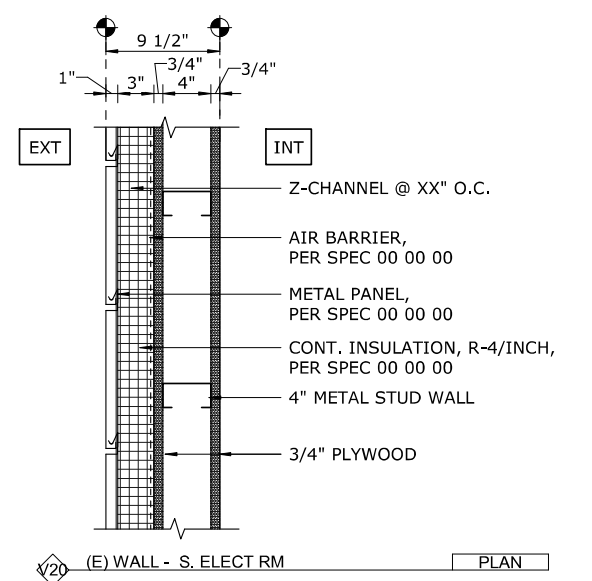
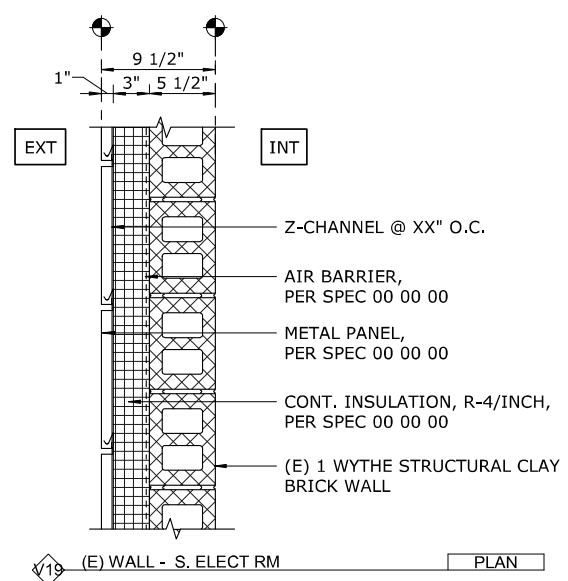
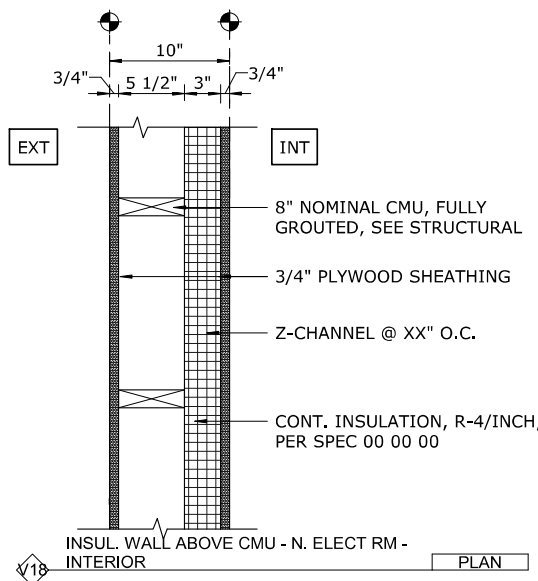
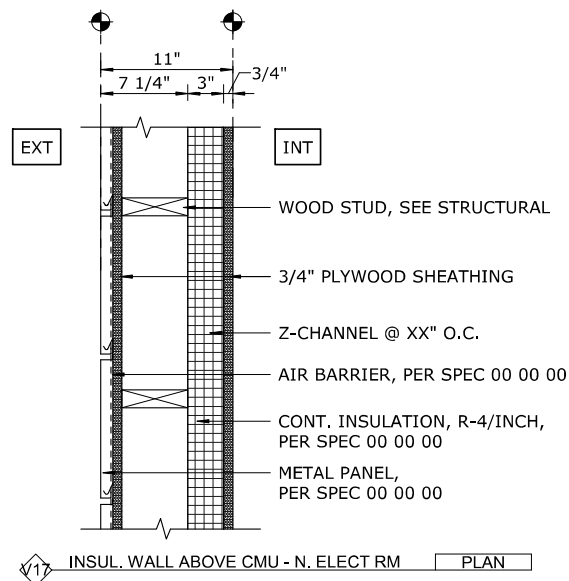
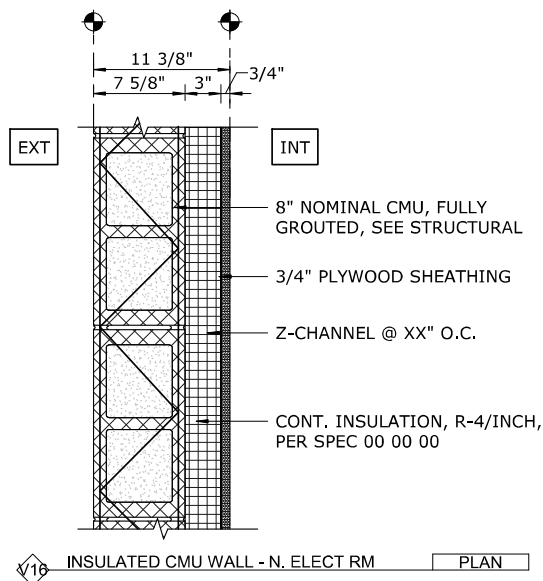


**GENERAL ARCHITECTURAL DETAILS - VERTICAL ASSEMBLIES**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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**GENERAL NOTES**  
1. SEE PLANS, SECTIONS, AND DETAILS FOR ASSEMBLY LOCATIONS

**STRONGWORK ARCHITECTURE**

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NOTICE  
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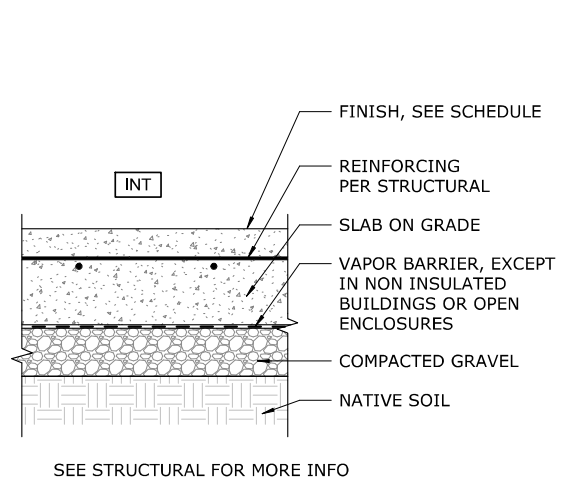
AA / SD  
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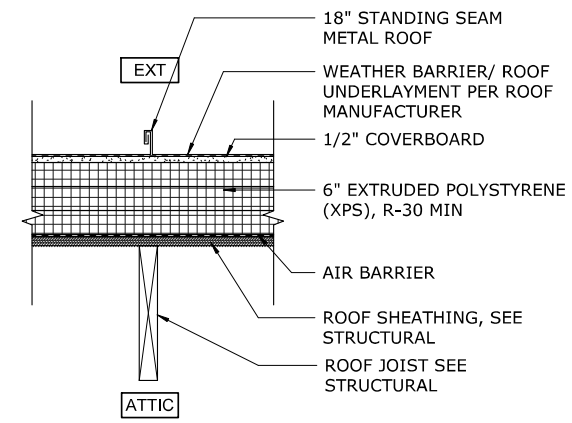
**CITY OF SWEET HOME WWTP IMPROVEMENTS**

**GENERAL ARCHITECTURAL DETAILS - VERTICAL ASSEMBLIES**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

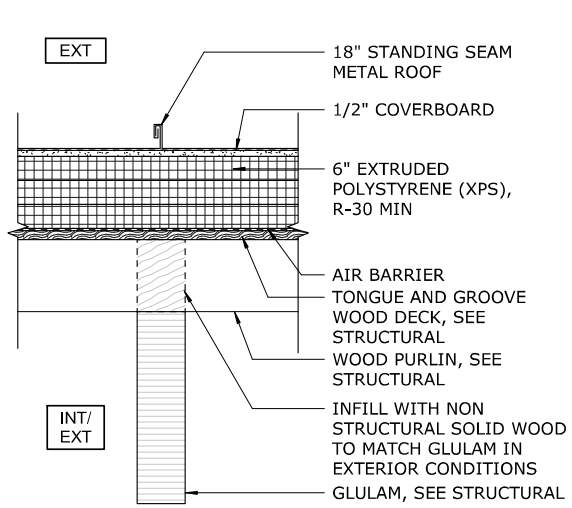
SHEET  
**A-006**  
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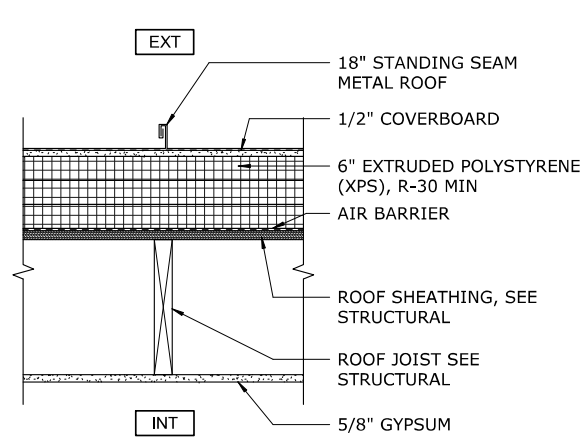
H1 SLAB ON GRADE SECTION



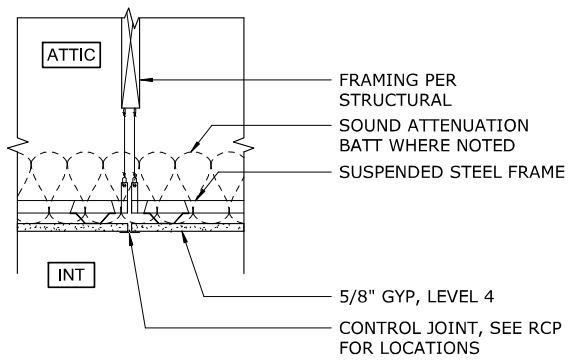
H3 ROOF - ADMIN LOW ROOF SECTION



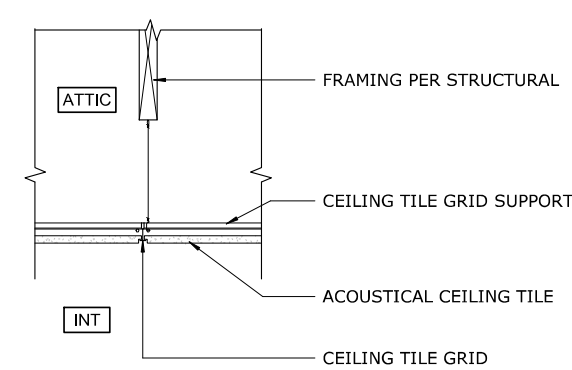
H3 ROOF - ADMIN HIGH ROOF SECTION



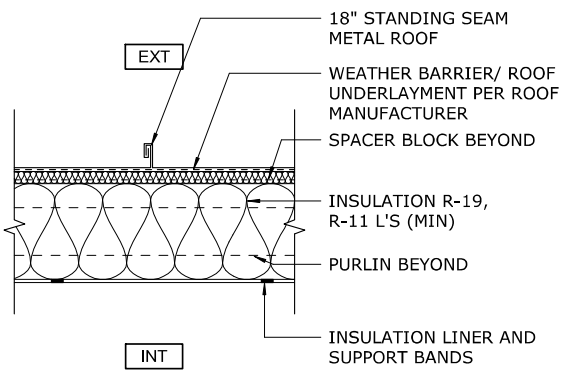
H3 ROOF - ADMIN ROOF OVER HALLWAY SECTION



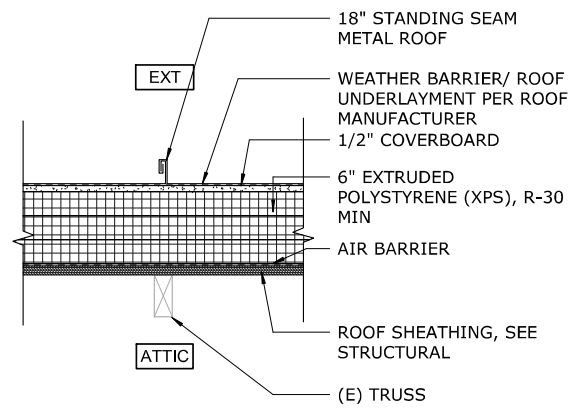
H3 GYPSUM CEILING FINISH SECTION



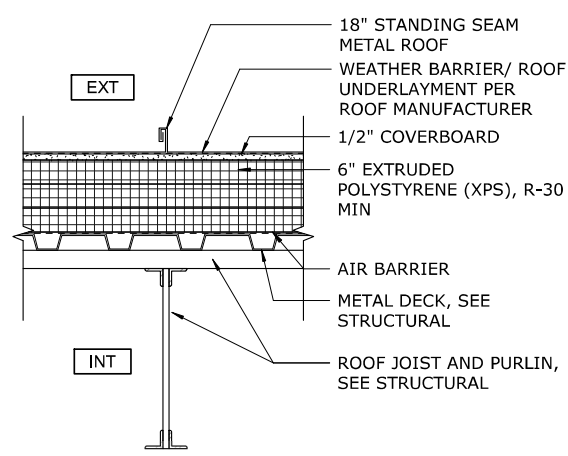
H2 ACCOUSTICAL TILE CEILING SECTION



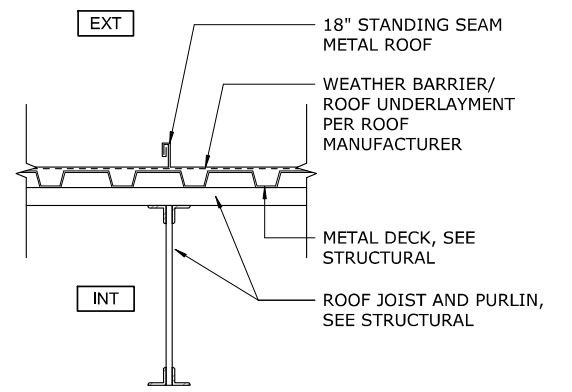
H3 PEMB ROOF SECTION



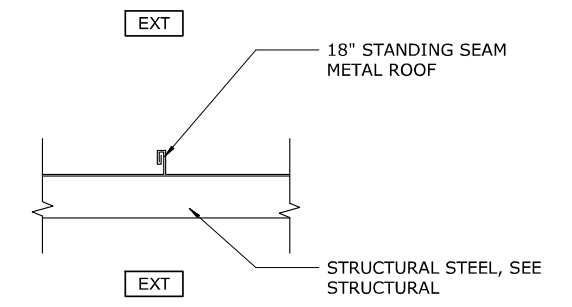
H3 SOUTH ELECTRIC BUILDING SECTION



H3 ROOF - INSULATED PROCESS BUILDINGS SECTION



H3 ROOF - NON INSULATED PROCESS BUILDING SECTION



H3 ROOF - CANOPY SECTION

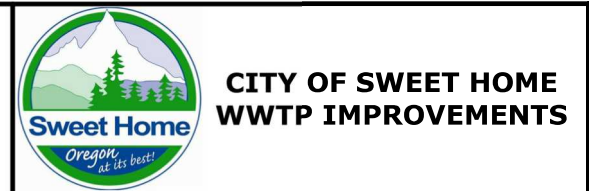
**STRONGWORK ARCHITECTURE**

**60% SUBMITTAL**

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**NOTICE**  
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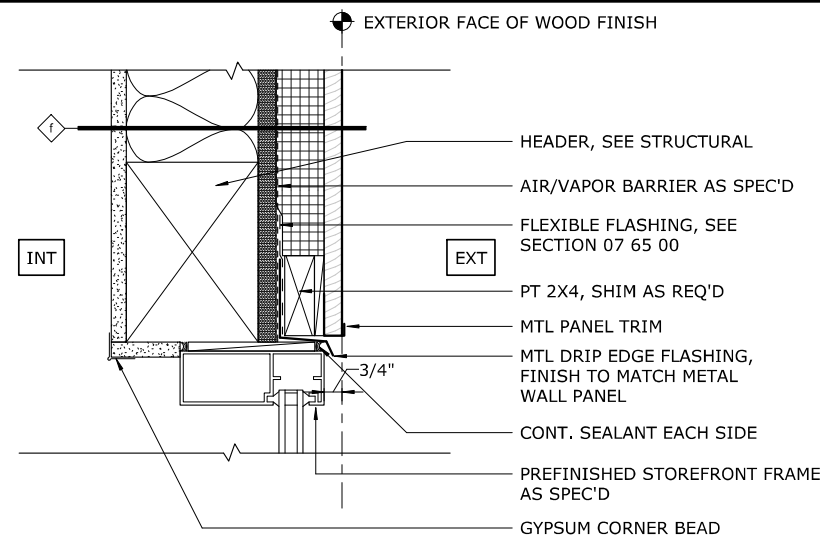
AA / SD  
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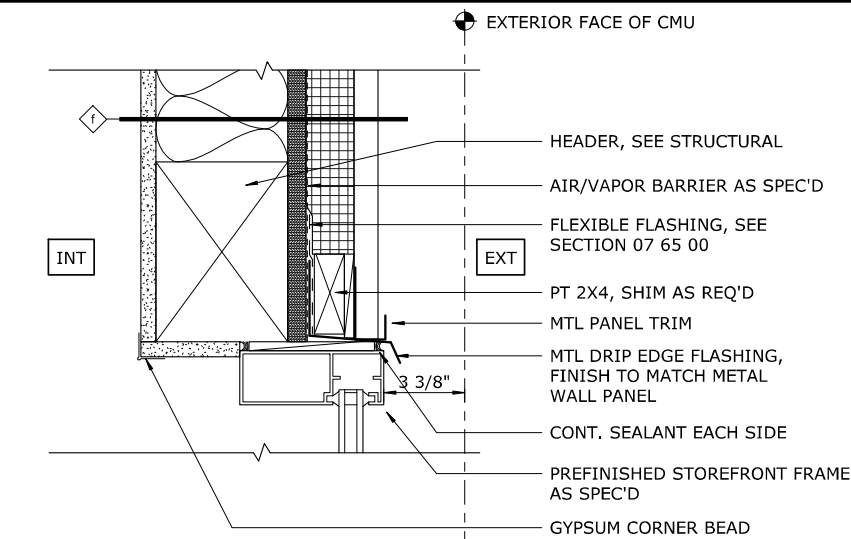
**GENERAL ARCHITECTURAL DETAILS - HORIZONTAL ASSEMBLIES**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

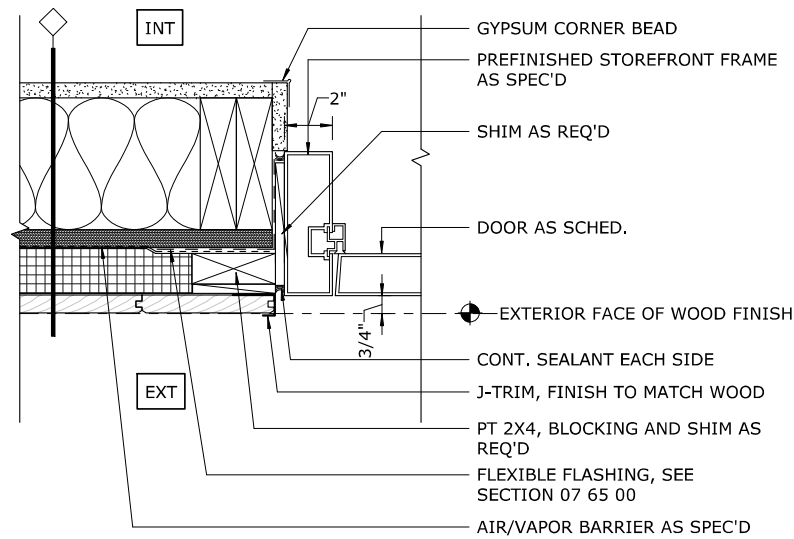
SHEET  
**A-007**  
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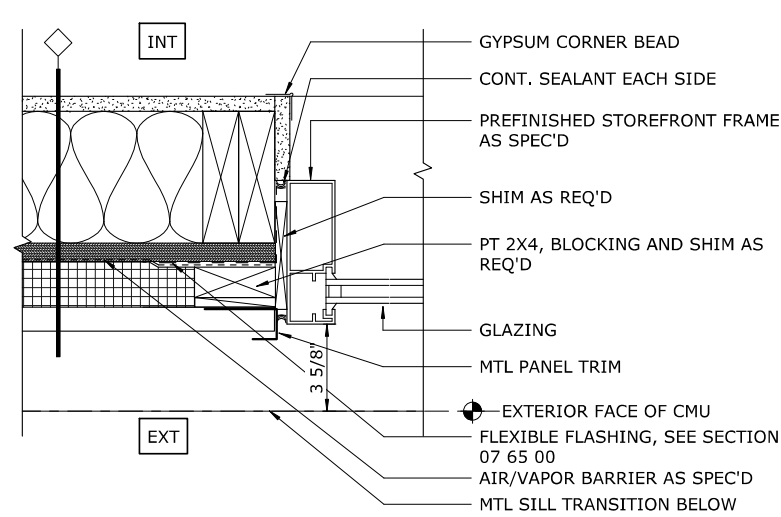
HEADER - EXTERIOR STOREFRONT THROUGH WOOD SIDING  
3" = 1'-0"



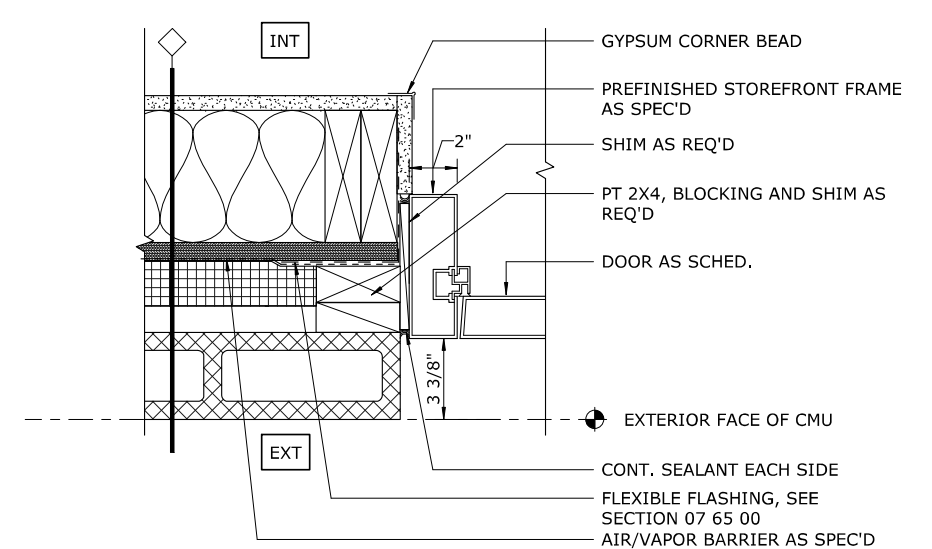
HEADER - EXTERIOR STOREFRONT THROUGH METAL PANEL  
3" = 1'-0"



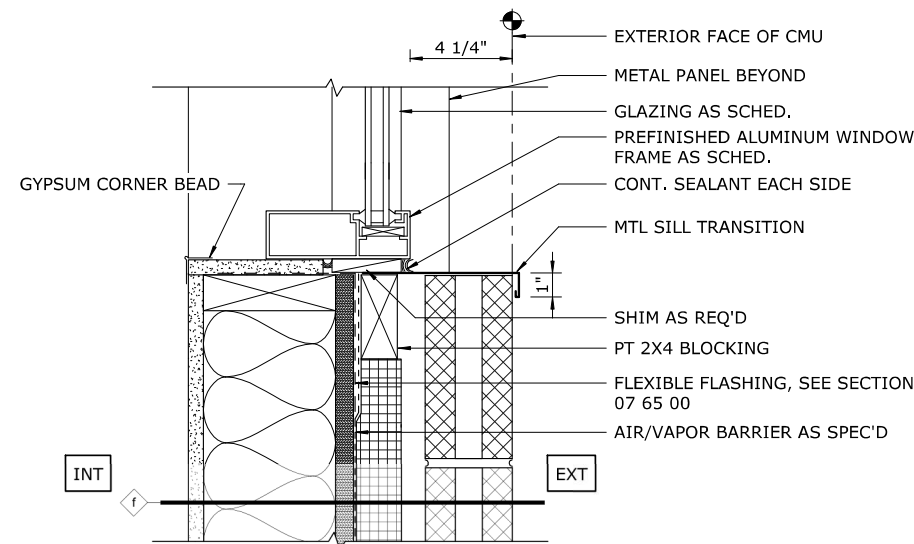
DOOR JAMB - EXTERIOR STOREFRONT THROUGH WOOD SIDING  
3" = 1'-0"



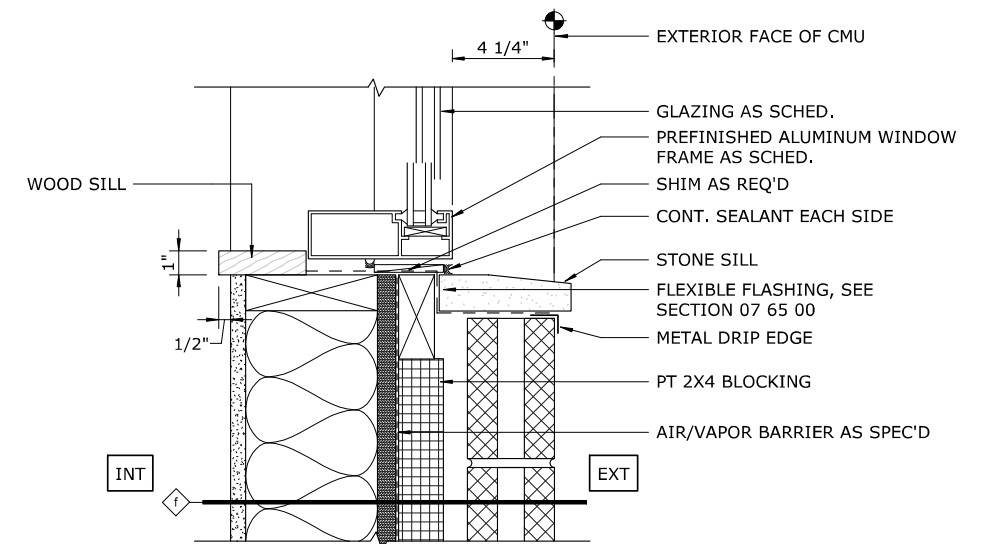
WINDOW JAMB - STOREFRONT  
3" = 1'-0"



DOOR JAMB - EXTERIOR STOREFRONT THROUGH CMU  
3" = 1'-0"



WINDOW SILL - ALUM FRAME  
3" = 1'-0"



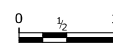
WINDOW SILL - ALUM FRAME 2  
3" = 1'-0"

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**STRONGWORK**  
ARCHITECTURE

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**GENERAL ARCHITECTURAL DETAILS -**  
**STOREFRONT DETAILS**

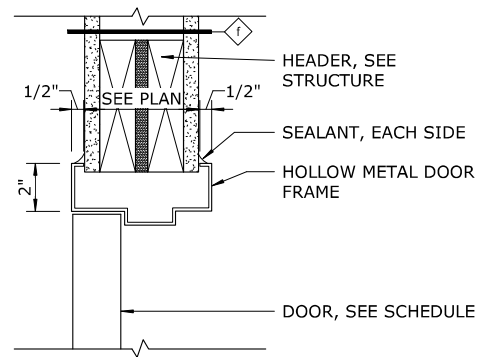
SHEET

A-008

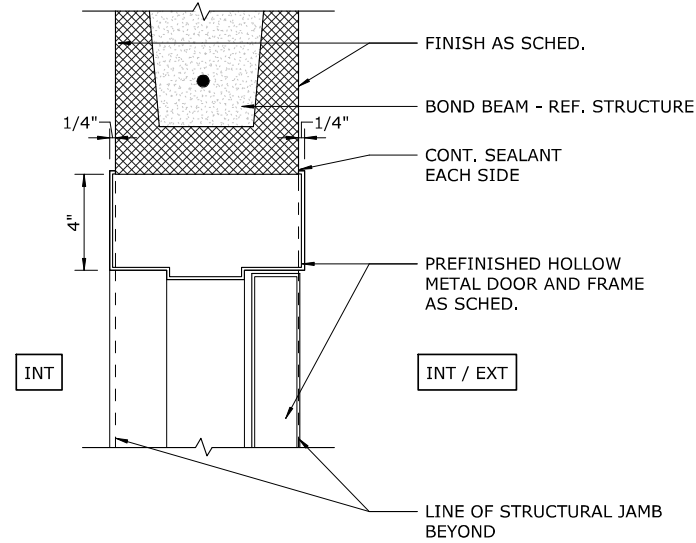
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

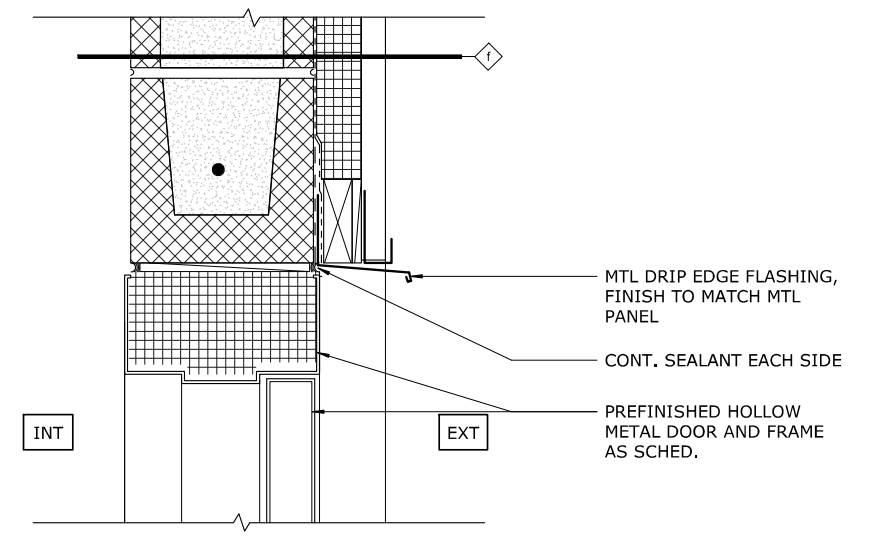
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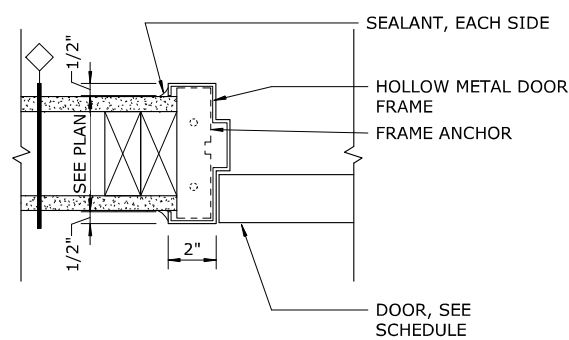
HM DOOR HEADER - INTERIOR WOOD STUD WALL  
3" = 1'-0"



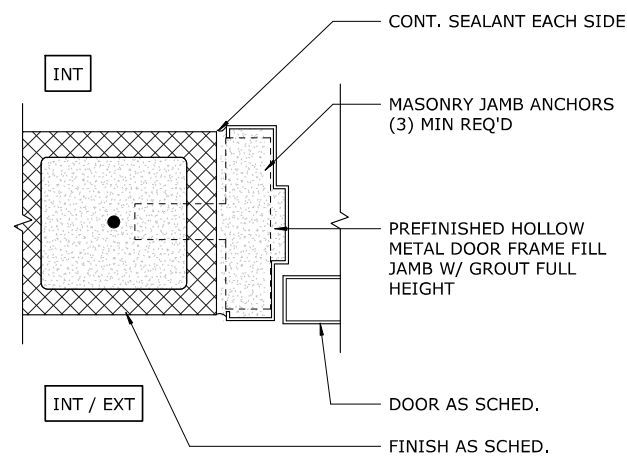
HM DOOR HEADER - INTERIOR / EXTERIOR CMU WALL  
3" = 1'-0"



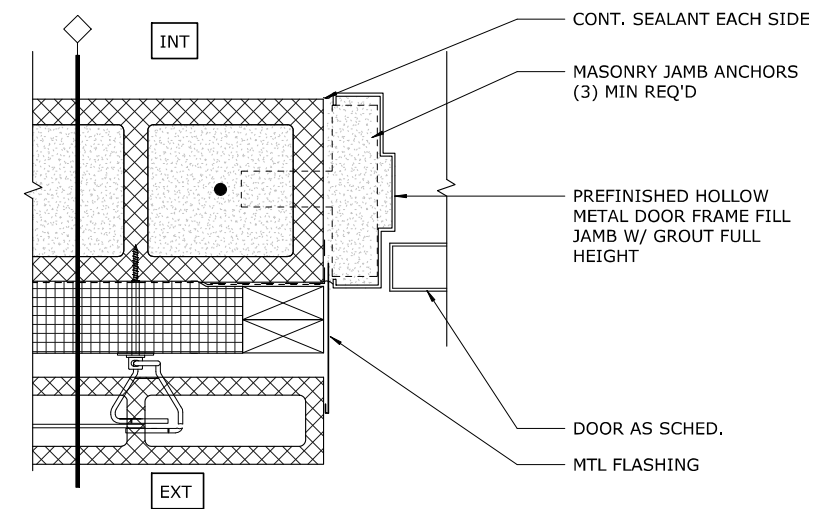
HM DOOR HEADER - INSULATED PROCESS BUILDING  
3" = 1'-0"



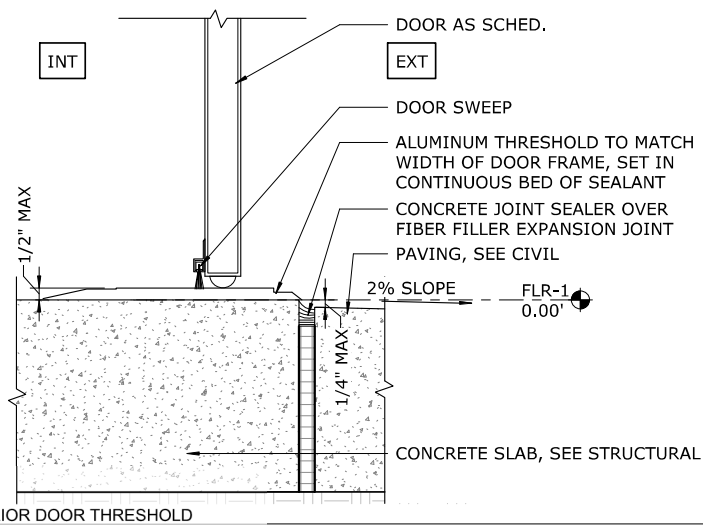
HM DOOR JAMB - INTERIOR WOOD STUD WALL  
3" = 1'-0"



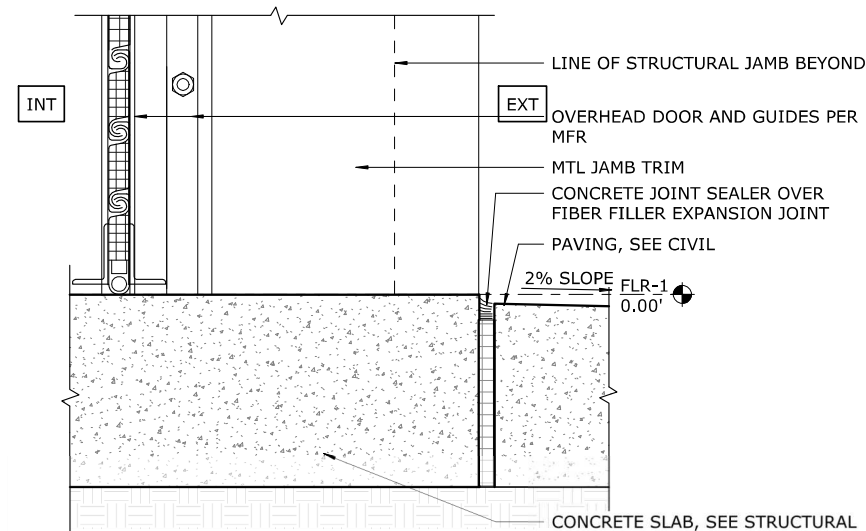
HM DOOR JAMB - INTERIOR / EXTERIOR CMU WALL  
3" = 1'-0"



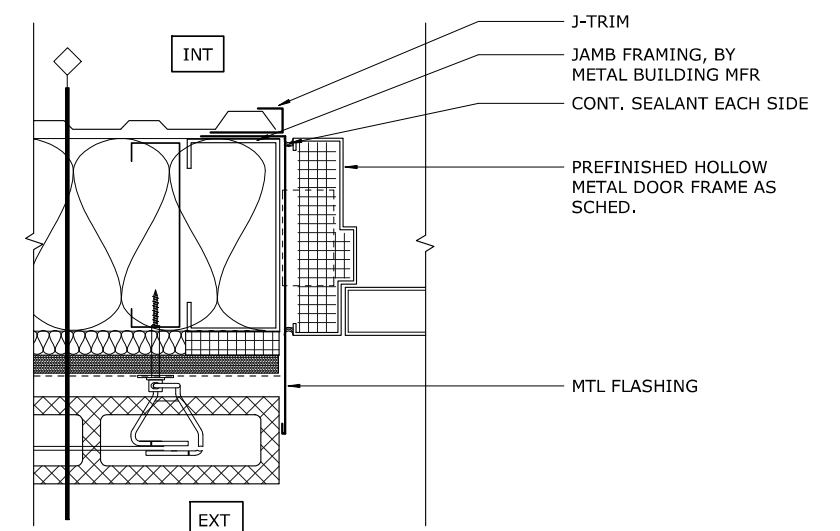
HM DOOR JAMB - INSULATED PROCESS BUILDING  
3" = 1'-0"



EXTERIOR DOOR THRESHOLD  
3" = 1'-0"



OVERHEAD DOOR THRESHOLD  
3" = 1'-0"



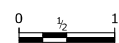
HM DOOR JAMB - METAL BUILDING  
3" = 1'-0"

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**STRONGWORK**  
ARCHITECTURE

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CHECKED

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**GENERAL ARCHITECTURAL DETAILS -**  
**DOOR DETAILS**

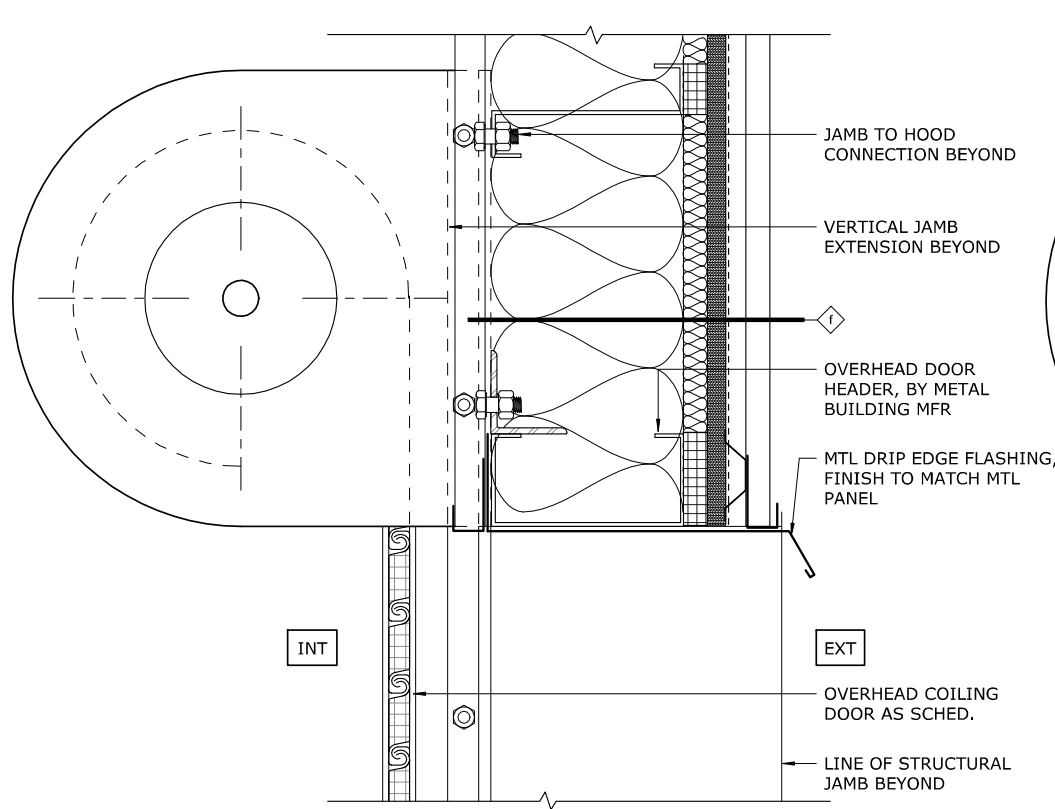
SHEET

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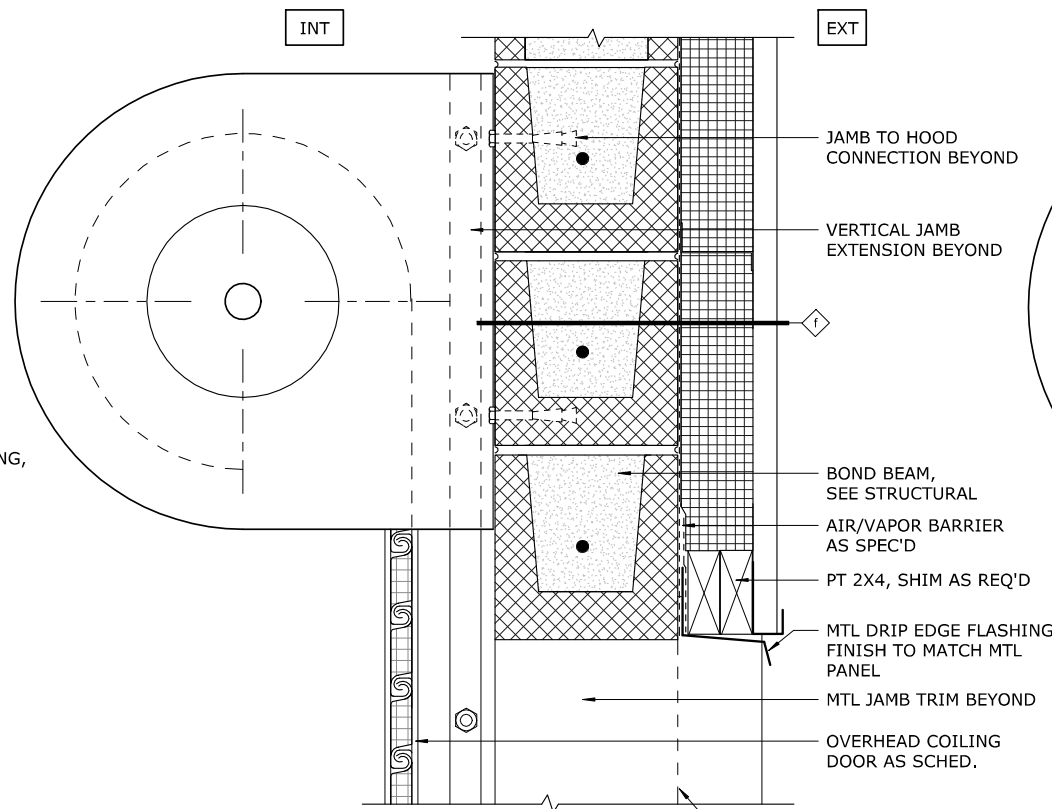
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

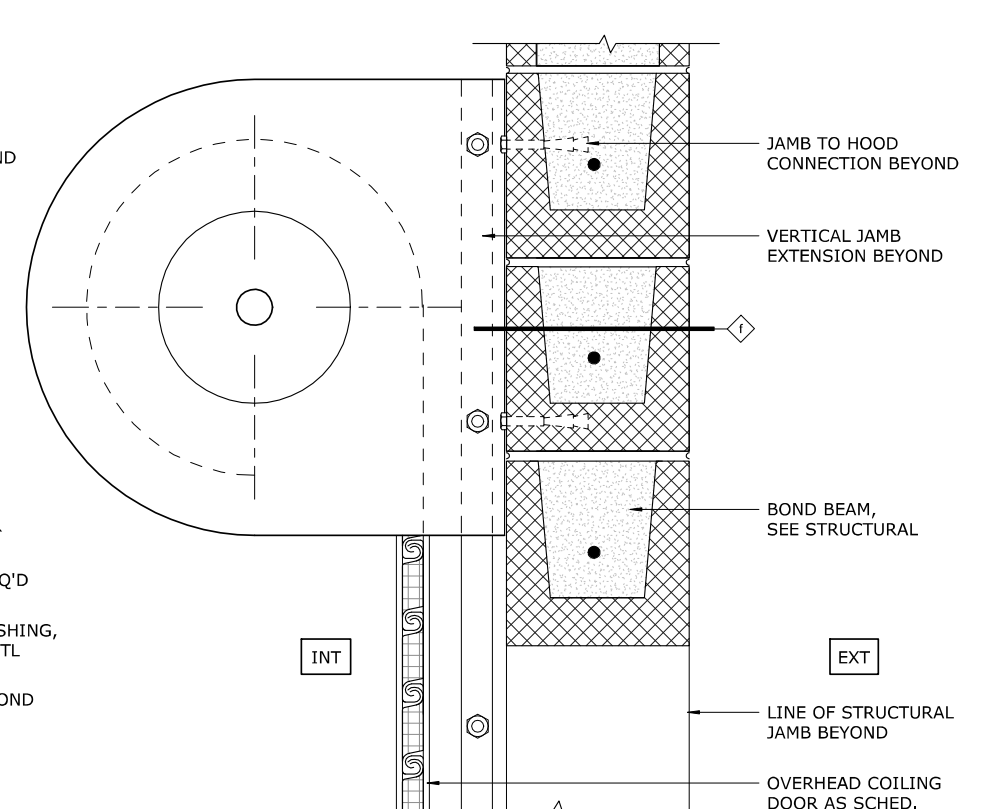
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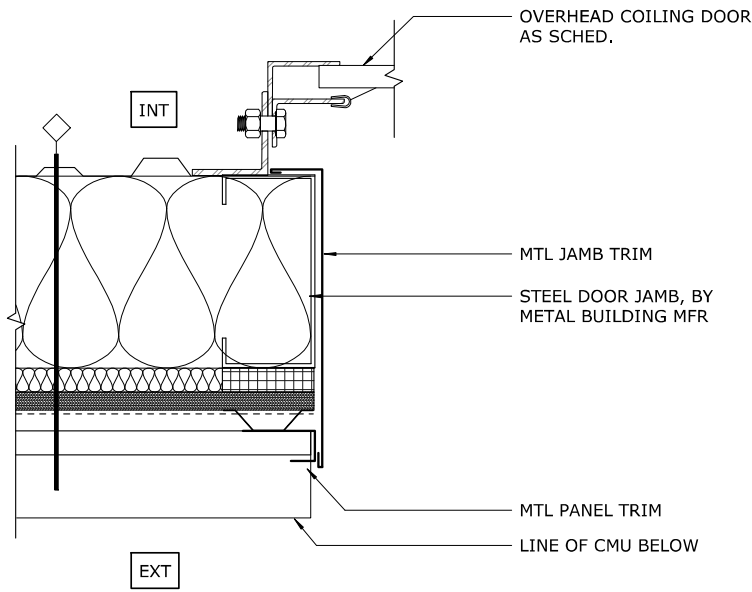
OVERHEAD DOOR HEAD - MAINTENANCE BLDG  
3" = 1'-0" ①



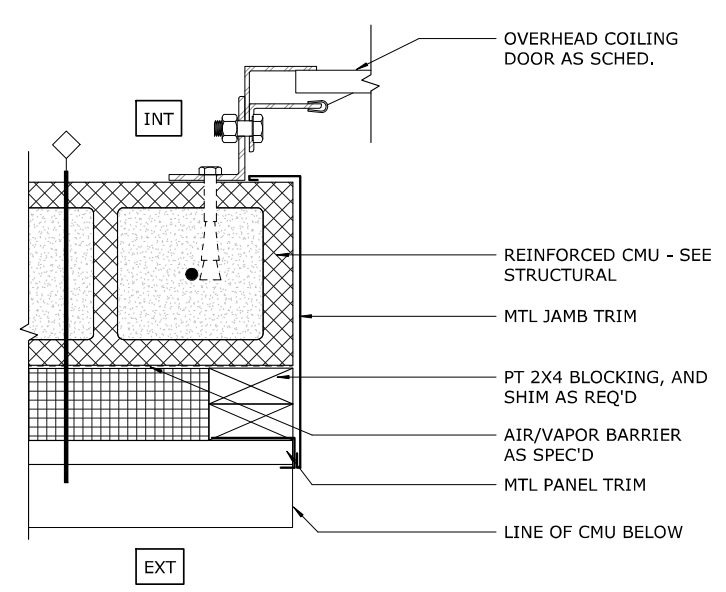
OVERHEAD DOOR HEAD - INSULATED PROCESS BUILDING  
3" = 1'-0" ②



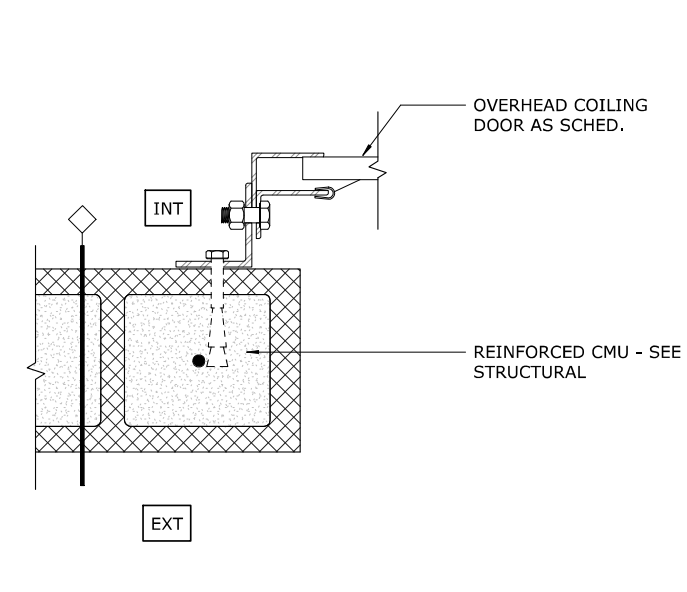
OVERHEAD DOOR HEAD - NON INSULATED PROCESS BUILDING  
3" = 1'-0" ③



OVERHEAD DOOR JAMB - MAINTENANCE BLDG  
3" = 1'-0" ④



OVERHEAD DOOR JAMB - INSULATED PROCESS BUILDING  
3" = 1'-0" ⑤



OVERHEAD DOOR JAMB - NON INSULATED PROCESS BUILDING  
3" = 1'-0" ⑥

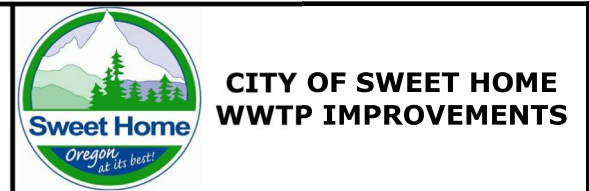
**STRONGWORK ARCHITECTURE**

**60% SUBMITTAL**

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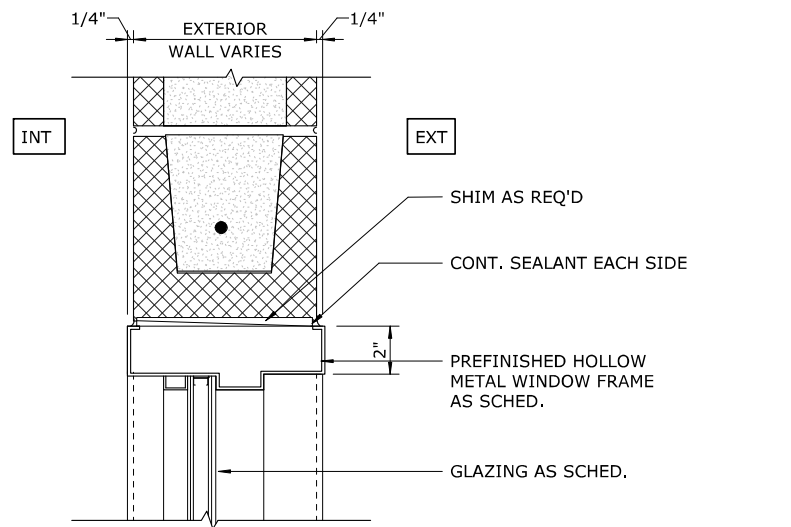
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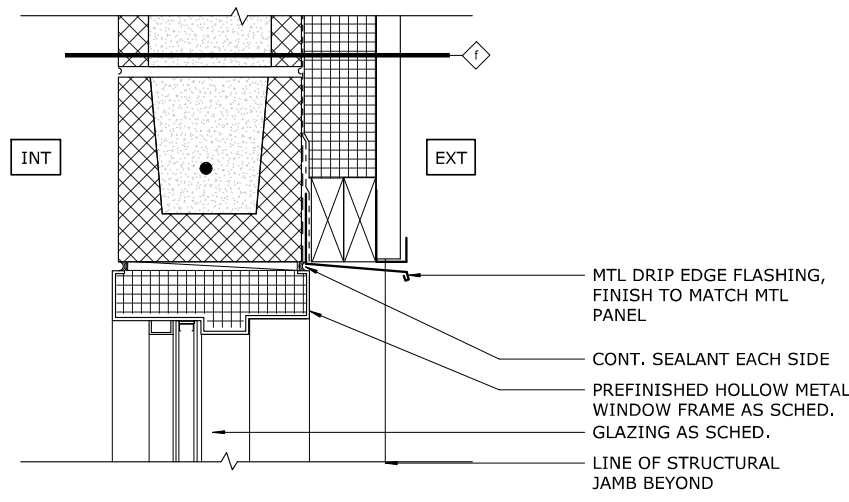
**GENERAL ARCHITECTURAL DETAILS -  
OVERHEAD DOOR DETAILS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

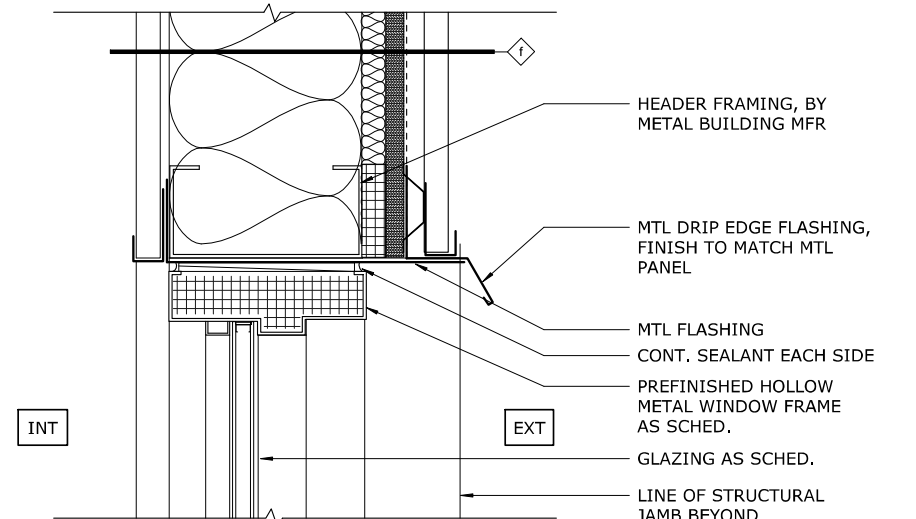
SHEET  
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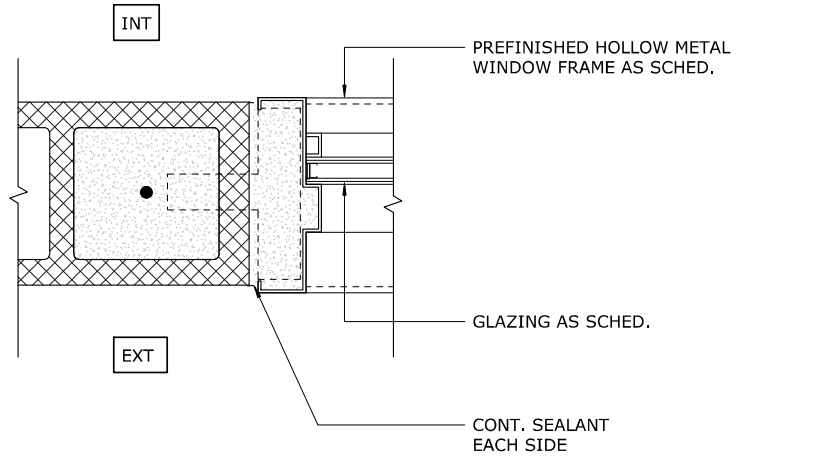
WINDOW HEAD - HM CMU  
3" = 1'-0"



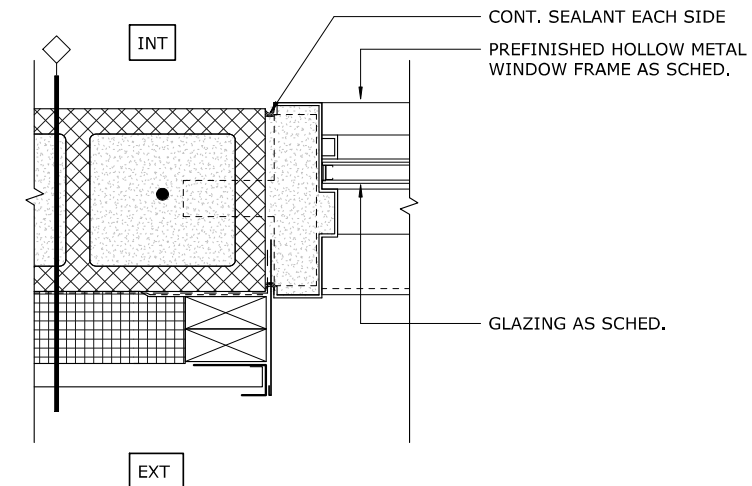
WINDOW HEAD - HM INSULATED CMU  
3" = 1'-0"



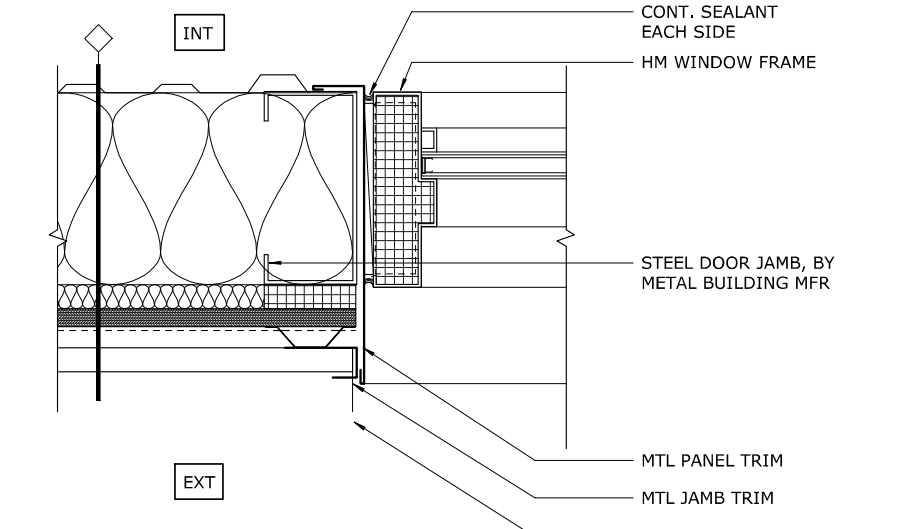
WINDOW HEAD - METAL BUILDING  
3" = 1'-0"



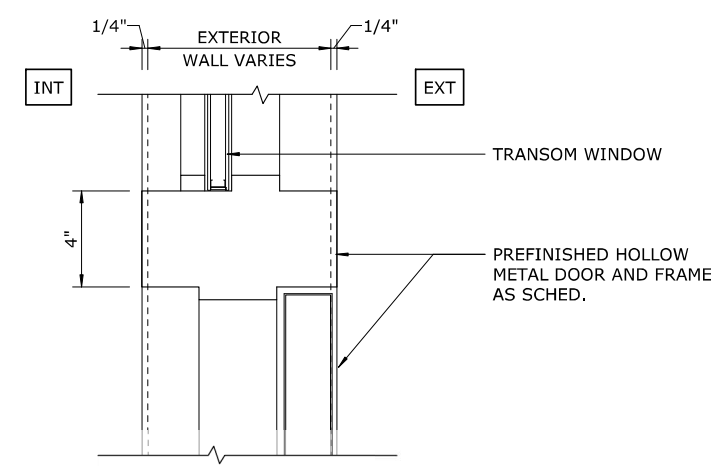
WINDOW JAMB - HM CMU  
3" = 1'-0"



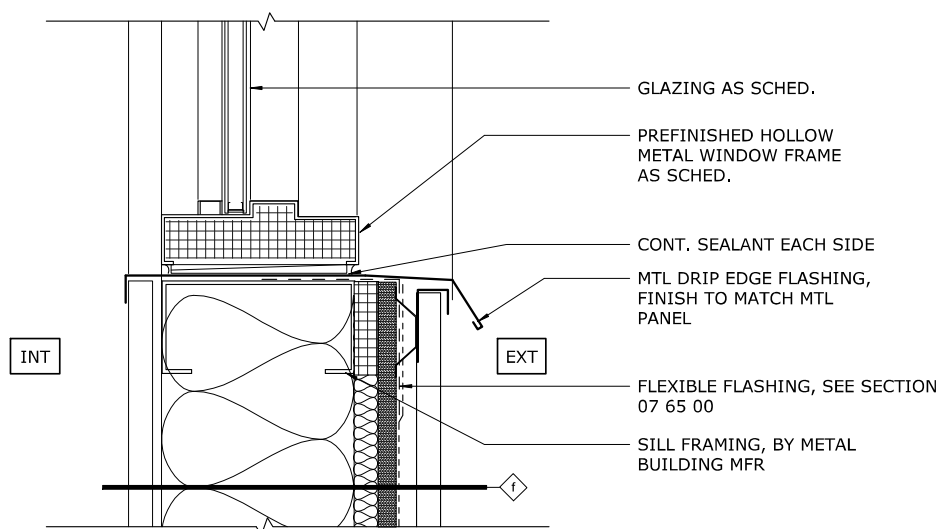
WINDOW JAMB - HM INSULATED CMU  
3" = 1'-0"



WINDOW JAMB - METAL BUILDING  
3" = 1'-0"



HM DOOR HEADER AT TRANSOM  
3" = 1'-0"



WINDOW SILL - METAL BUILDING  
3" = 1'-0"

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STRONGWORK ARCHITECTURE

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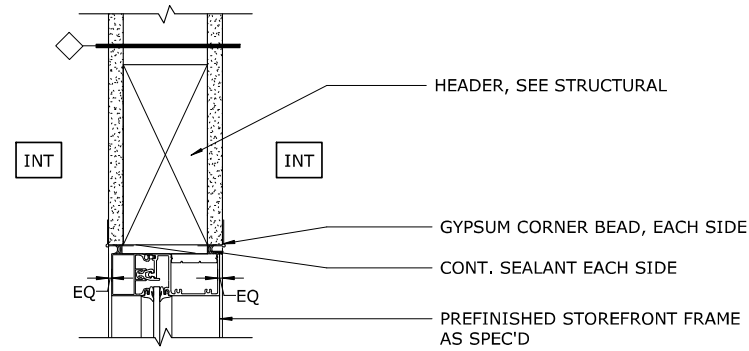


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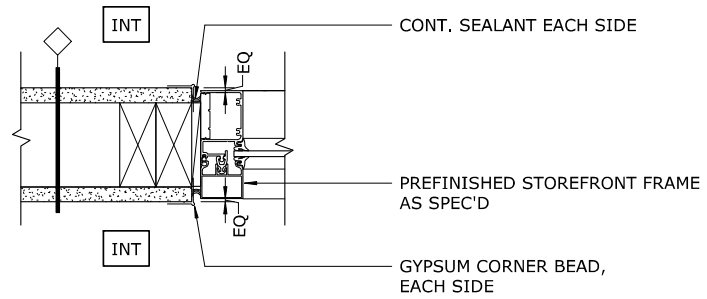
GENERAL ARCHITECTURAL DETAILS - WINDOW DETAILS

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

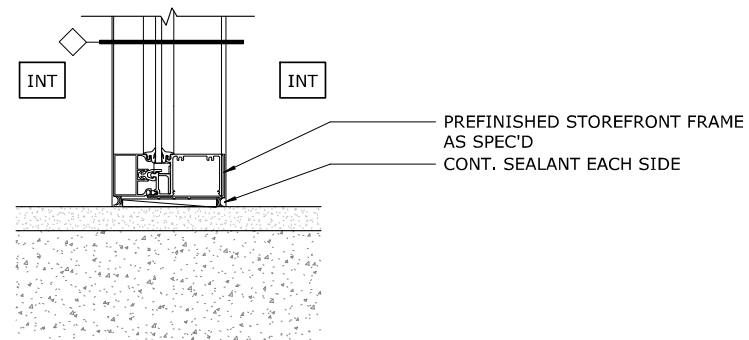
SHEET A-011  
45 of 354



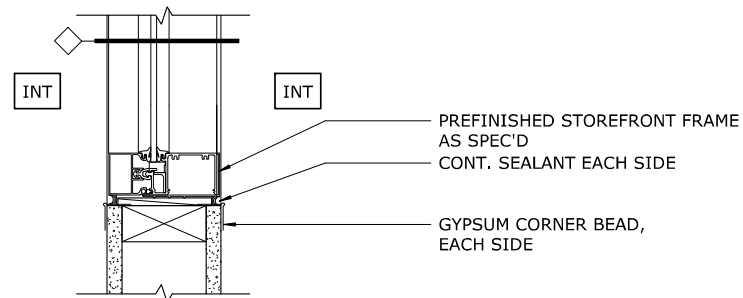
INTERIOR STOREFRONT - HEADER  
3" = 1'-0" ①



INTERIOR STOREFRONT - JAMB  
3" = 1'-0" ②



INTERIOR STOREFRONT - FLOOR SILL  
3" = 1'-0" ③

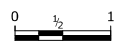


INTERIOR STOREFRONT - SILL  
3" = 1'-0" ④

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**STRONGWORK ARCHITECTURE**

NOTICE



IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

AA / SD  
DESIGNED  
SD  
DRAWN  
AA  
CHECKED

**murraysmith**



**CITY OF SWEET HOME  
WWTP IMPROVEMENTS**

**GENERAL ARCHITECTURAL DETAILS -  
WINDOW DETAIL**

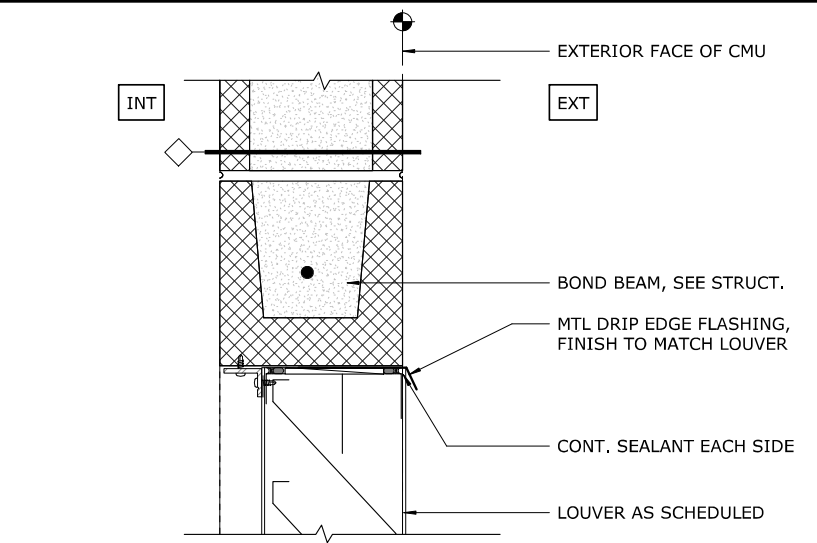
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

SHEET

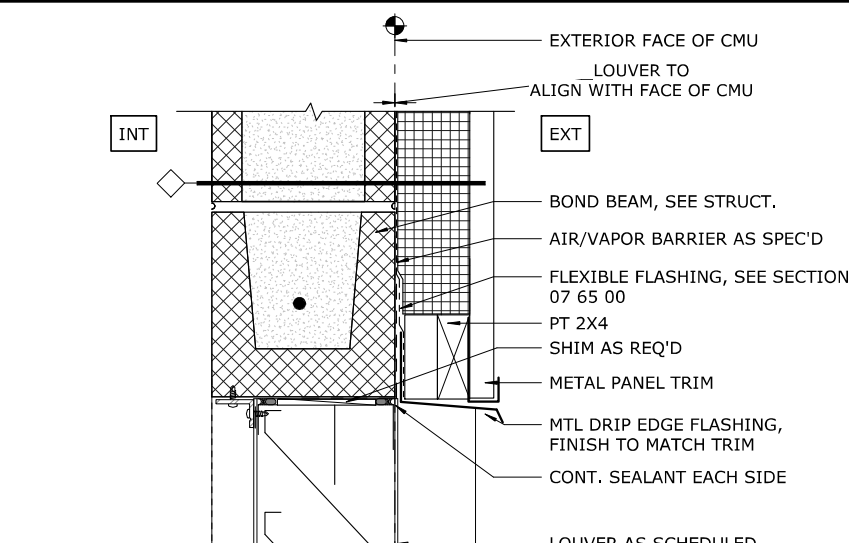
A-012

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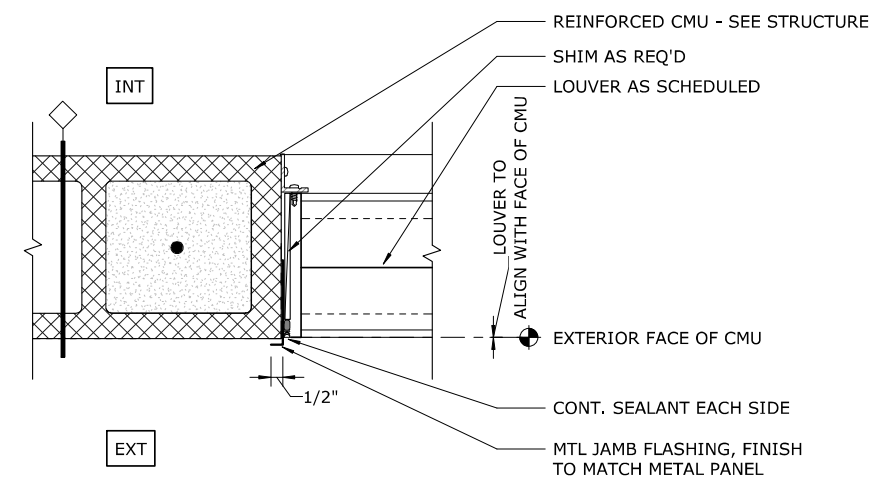
**60% SUBMITTAL**



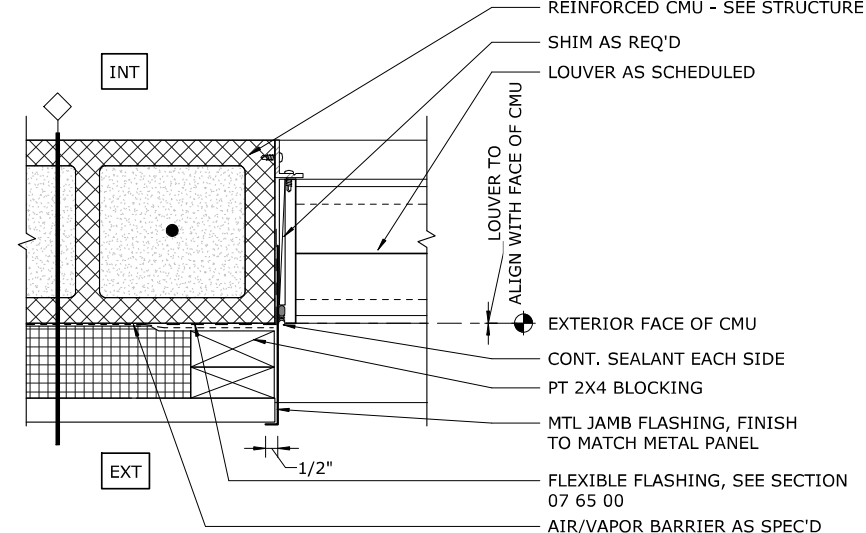
LOUVER HEAD - NON INSULATED WALL  
3" = 1'-0" 1



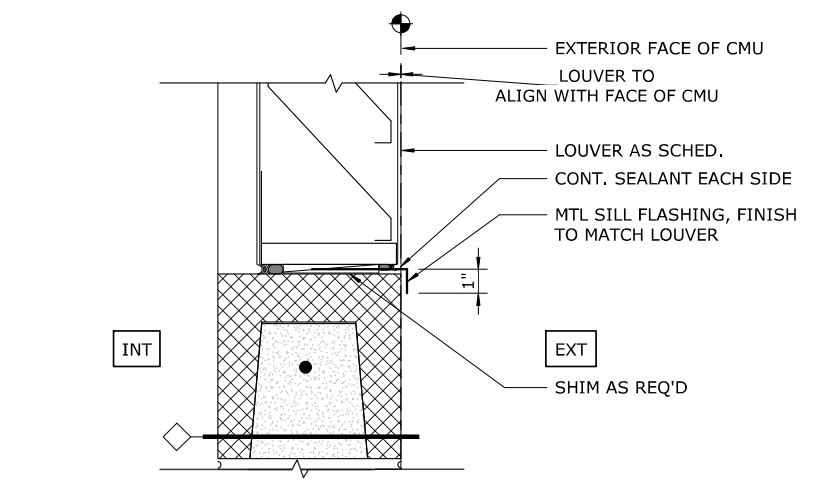
LOUVER HEAD - INSULATED BUILDING  
3" = 1'-0" 2



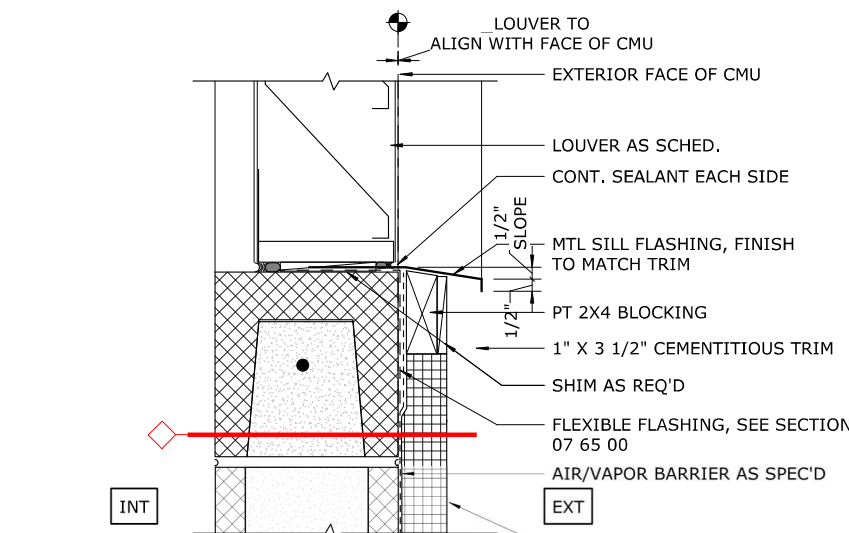
LOUVER JAMB - NON INSULATED  
3" = 1'-0" 3



LOUVER JAMB - INSULATED PROCESS BUILDING  
3" = 1'-0" 4



LOUVER SILL - NON INSULATED  
3" = 1'-0" 5



LOUVER SILL - INSULATED BUILDING  
3" = 1'-0" 6

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**STRONGWORK ARCHITECTURE**

| NO. | DATE | BY | REVISION |
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NOTICE  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

AA / SD  
DESIGNED  
SD  
DRAWN  
AA  
CHECKED



**CITY OF SWEET HOME WWTP IMPROVEMENTS**

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| <b>GENERAL ARCHITECTURAL DETAILS - LOUVER DETAILS</b> |           |        |          |
| PROJECT NO.:  | 19-2605   | SCALE: | AS SHOWN |
| DATE:   | JUNE 2020 |        |          |

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SHEET  
**A-013**  
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4X4 BOX  
 2X8 WOOD FASCIA  
 METAL DRIP EDGE  
 2X4 OUTRIGGER OR RIPPED  
 1X6 WOOD FASCIA  
 METAL DRIP EDGE  
 J-TRIM  
 7/8" HAT CHANNELS  
 INTERLOCKING METAL WALL  
 BLOCKING, AS REQ'D  
 BATT INSULATION TO ROOF  
 DECK  
 ACOUSTICAL TILE, OR GYP SEE  
 RCP

TYPICAL LOW EAVE - ADMIN  
 1 1/2" = 1'-0"

1

2X8 WOOD FASCIA BOARD  
 METAL DRIP EDGE  
 2X4 OUTRIGGER OR RIPPED  
 1X6 WOOD FASCIA  
 METAL DRIP EDGE  
 J-TRIM  
 7/8" HAT CHANNELS  
 INTERLOCKING METAL WALL  
 PANEL AS REQ'D  
 BLOCKING AS NEEDED  
 BATT INSULATION TO  
 ROOF DECK  
 SEE ROOF PLAN

TYPICAL HIGH EAVE - ADMIN  
 1 1/2" = 1'-0"

2

2X8 WOOD FASCIA  
 METAL DRIP  
 EDGE  
 2X4 OUTRIGGER  
 1X6 WOOD FASCIA  
 METAL DRIP  
 EDGE  
 J-TRIM  
 7/8" HAT CHANNELS  
 INTERLOCKING METAL WALL  
 PANEL AS REQ'D  
 BATT INSULATION TO  
 ROOF DECK  
 SEE ROOF PLAN  
 CEILING AS SHOWN IN  
 RCP

TYPICAL GABLE - ADMIN  
 1 1/2" = 1'-0"

3

4X4 BOX  
 2X8 WOOD FASCIA  
 METAL DRIP EDGE  
 WOOD PURLIN

TYPICAL LOW EAVE - ADMIN HIGH ROOF  
 1 1/2" = 1'-0"

4

2X8 WOOD FASCIA  
 METAL DRIP EDGE  
 WOOD PURLIN  
 SEE ROOF PLAN

TYPICAL HIGH EAVE - ADMIN HIGH ROOF  
 1 1/2" = 1'-0"

5

2X8 WOOD FASCIA  
 METAL DRIP EDGE  
 SEE ROOF PLAN

TYPICAL GABLE - ADMIN HIGH ROOF  
 1 1/2" = 1'-0"

6

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**STRONGWORK  
 ARCHITECTURE**

NOTICE



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 NOT MEASURE 1"  
 THEN DRAWING IS  
 NOT TO SCALE

AA / SD  
 DESIGNED  
 SD  
 DRAWN  
 AA  
 CHECKED

**murraysmith**



**CITY OF SWEET HOME  
 WWTP IMPROVEMENTS**

**GENERAL ARCHITECTURAL DETAILS -  
 MISC BUILDING DETAILS**

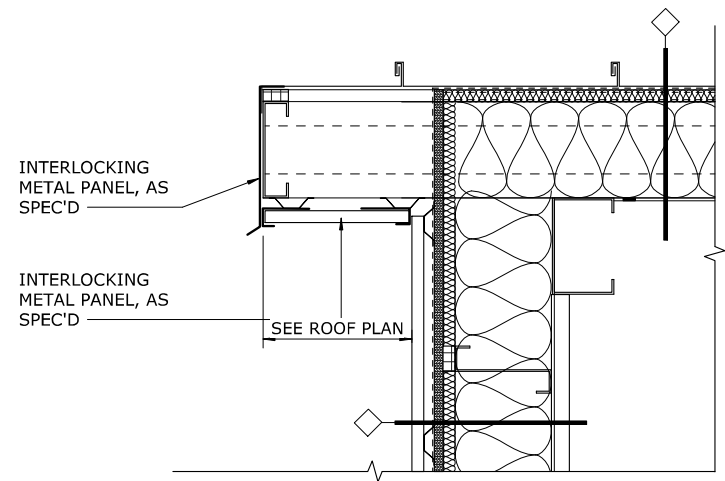
SHEET

A-014

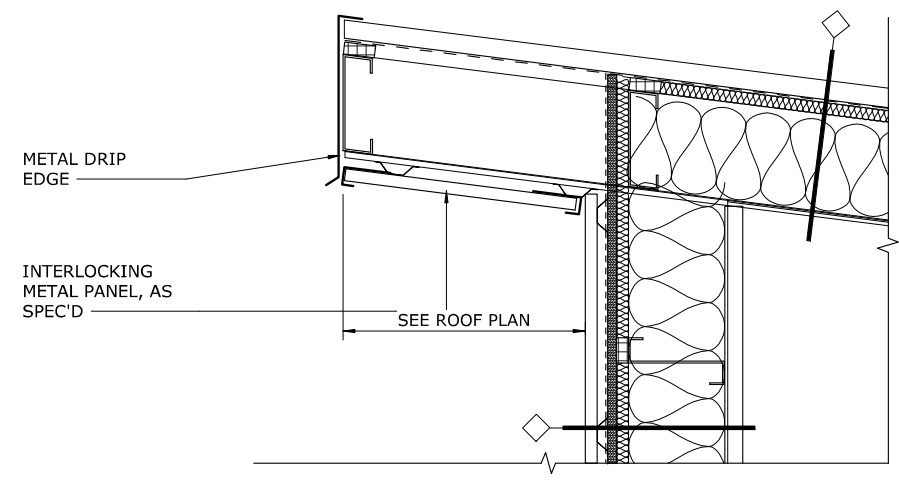
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

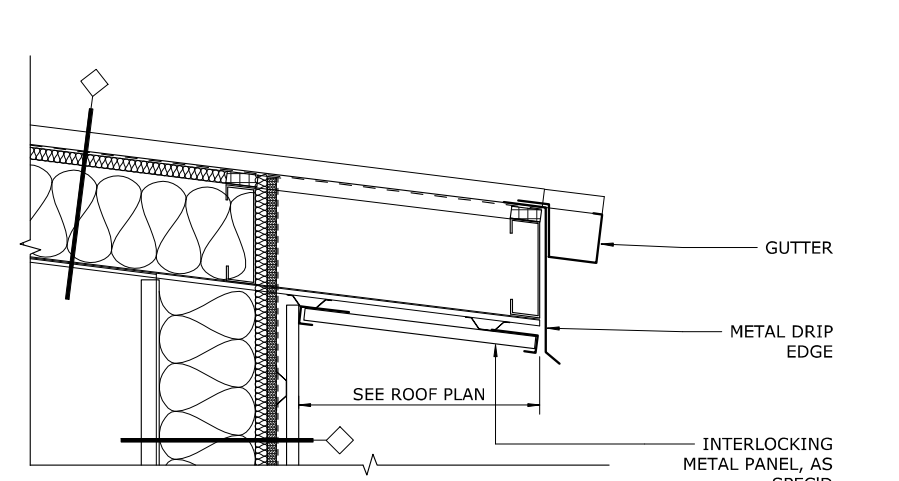
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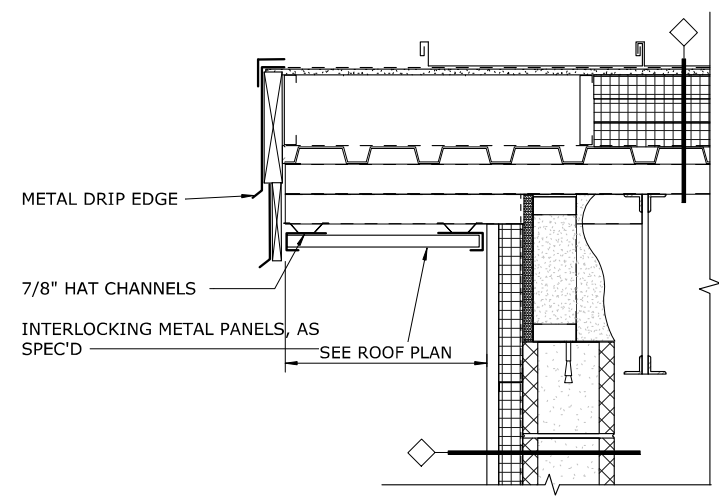
TYPICAL GABLE - MAINTENANCE BLDG  
1 1/2" = 1'-0"



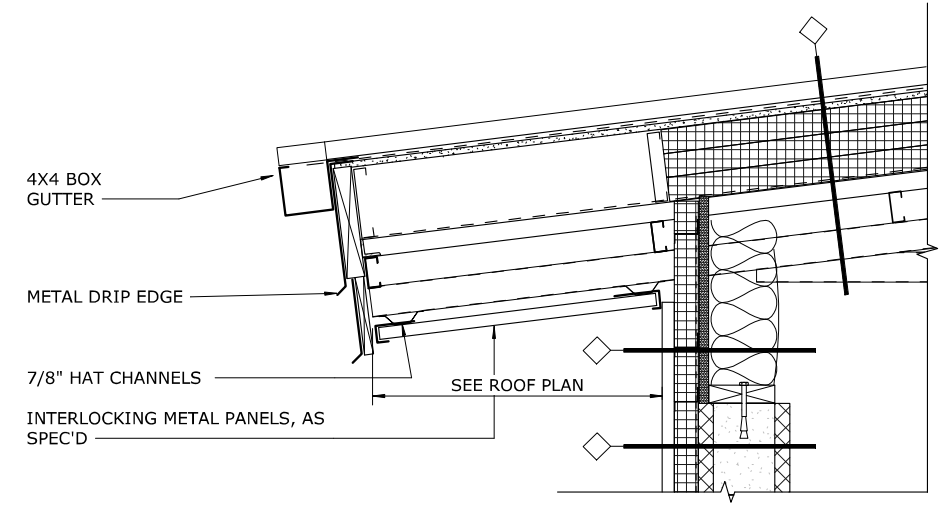
TYPICAL HIGH EAVE - MAINTENANCE BLDG  
1 1/2" = 1'-0"



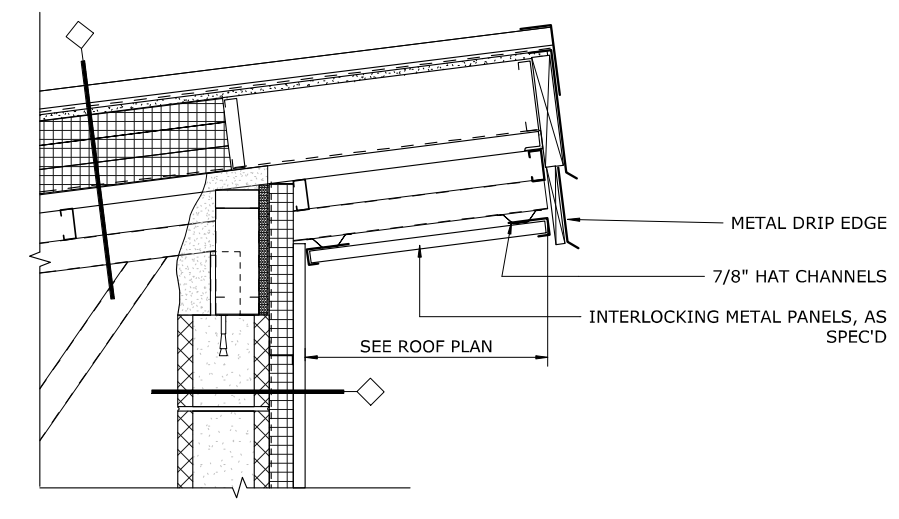
TYPICAL LOW EAVE - MAINTENANCE BLDG  
1 1/2" = 1'-0"



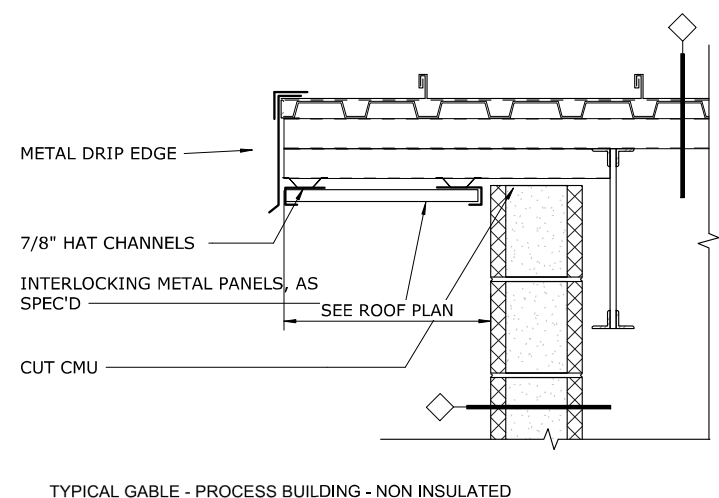
TYPICAL GABLE - PROCESS BUILDING - INSULATED  
1 1/2" = 1'-0"



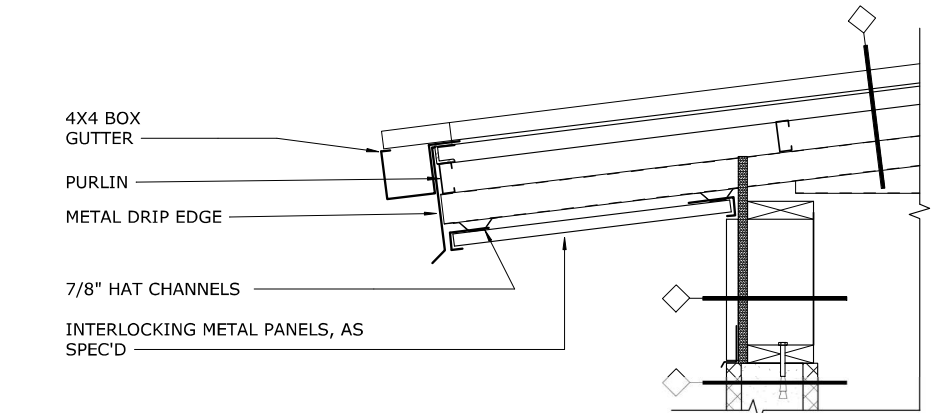
TYPICAL LOW EAVE - PROCESS BUILDING - INSULATED  
1 1/2" = 1'-0"



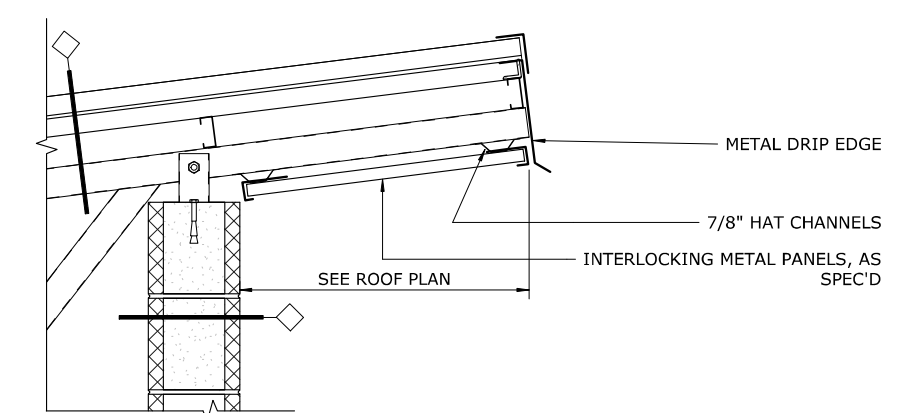
TYPICAL HIGH EAVE - PROCESS BUILDING - INSULATED  
1 1/2" = 1'-0"



TYPICAL GABLE - PROCESS BUILDING - NON INSULATED  
1 1/2" = 1'-0"



TYPICAL LOW EAVE - PROCESS BUILDING - NON INSULATED  
1 1/2" = 1'-0"



TYPICAL HIGH EAVE - PROCESS BUILDING - NON INSULATED  
1 1/2" = 1'-0"

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**STRONGWORK**  
ARCHITECTURE

NOTICE  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

AA / SD  
DESIGNED  
SD  
DRAWN  
AA  
CHECKED



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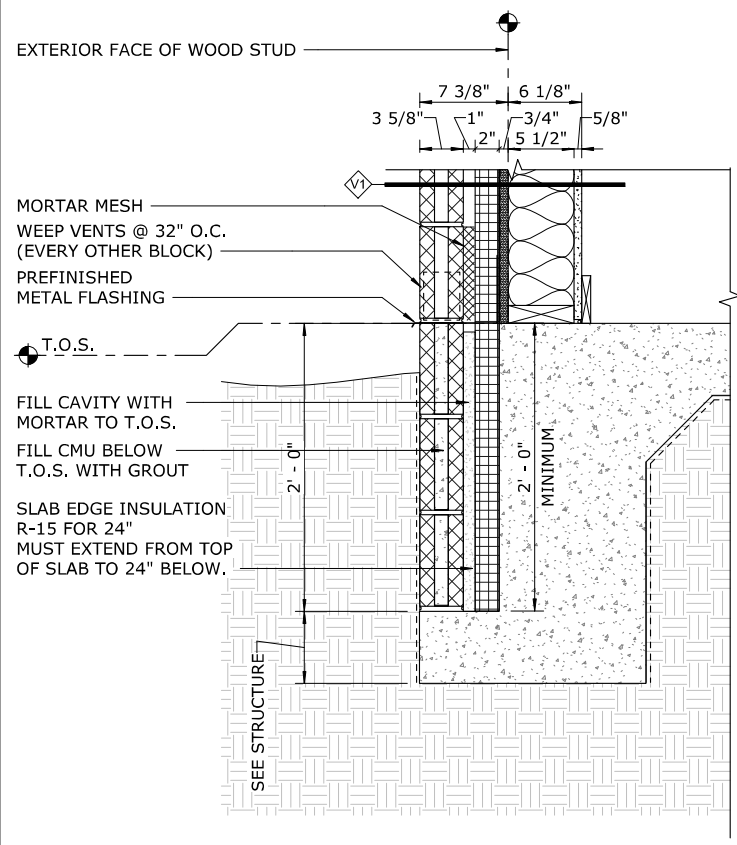
**GENERAL ARCHITECTURAL DETAILS - MISC BUILDING DETAILS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

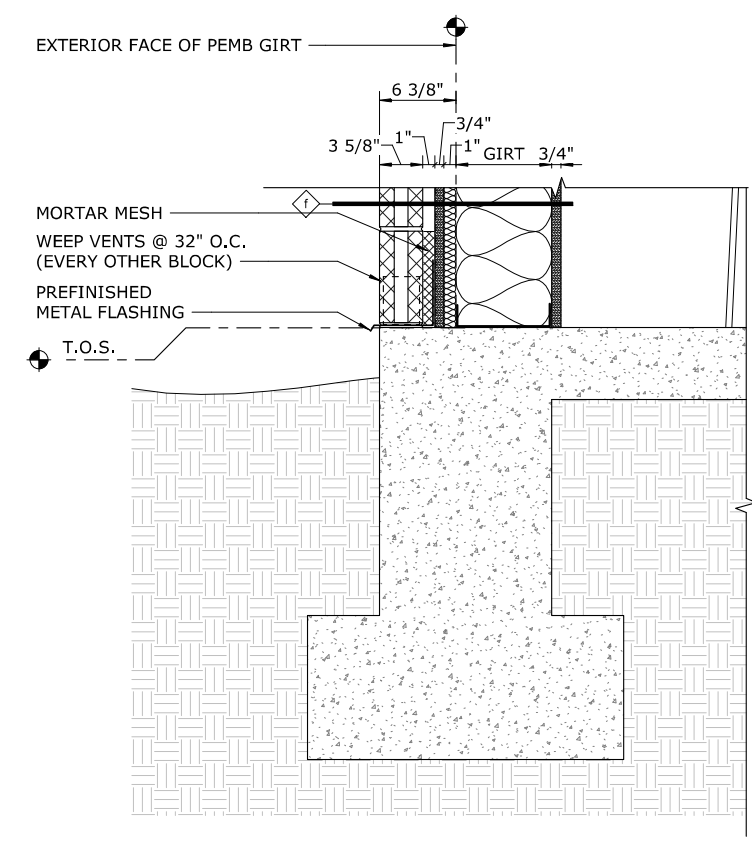
SHEET  
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**60% SUBMITTAL**

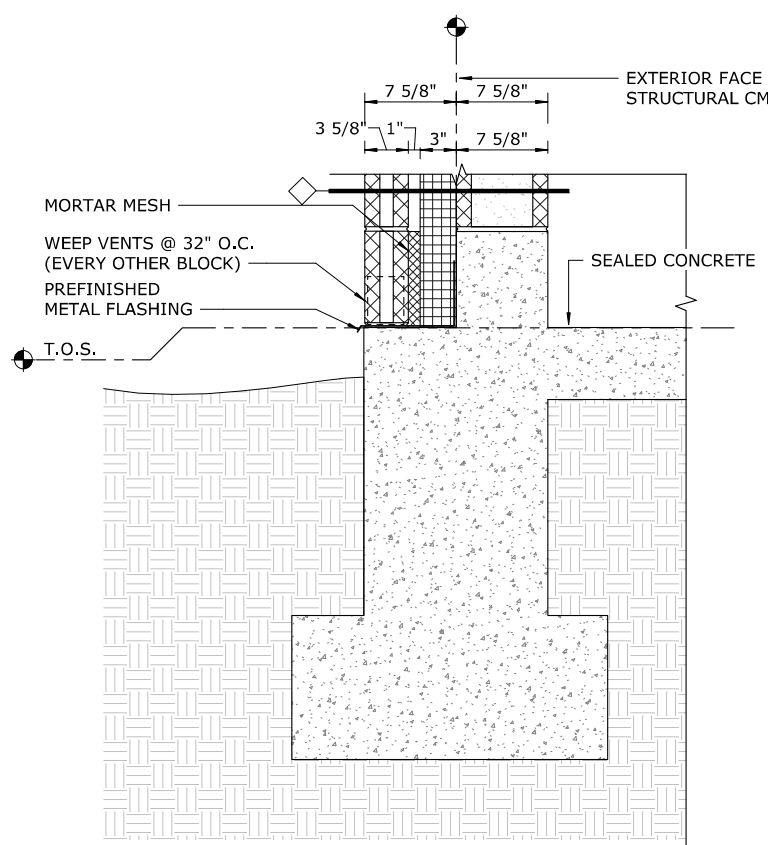
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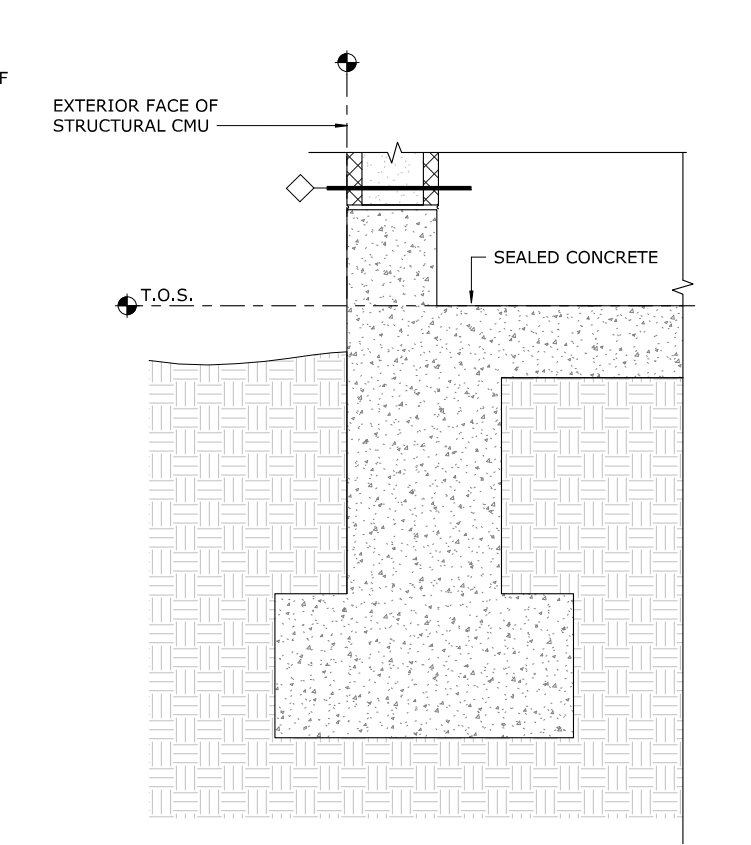
FOUNDATION EDGE DETAIL - ADMIN  
1 1/2" = 1'-0"



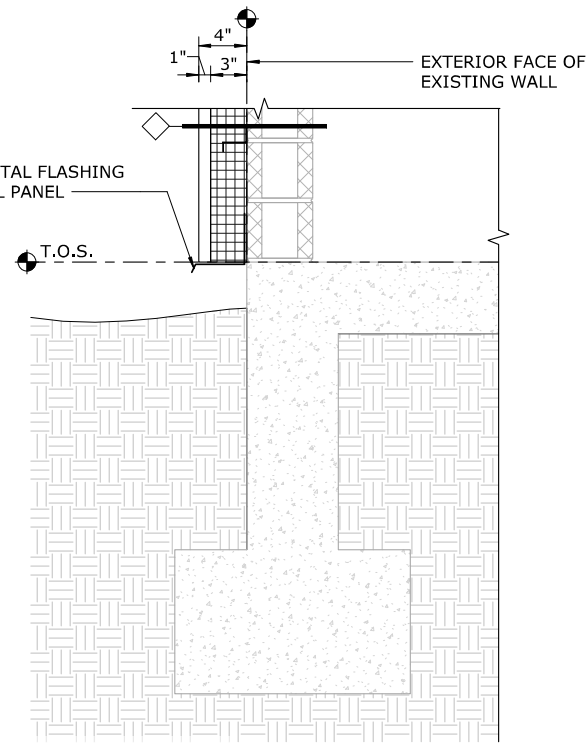
FOUNDATION EDGE DETAIL - MAINTENANCE BLDG  
1 1/2" = 1'-0"



FOUNDATION EDGE DETAIL - INSULATED PROCESS BUILDING  
1 1/2" = 1'-0"



FOUNDATION EDGE DETAIL - NON INSULATED PROCESS BUILDING  
1 1/2" = 1'-0"



FOUNDATION EDGE DETAIL - LOWER PLANT ELECTRICAL ROOM  
1 1/2" = 1'-0"

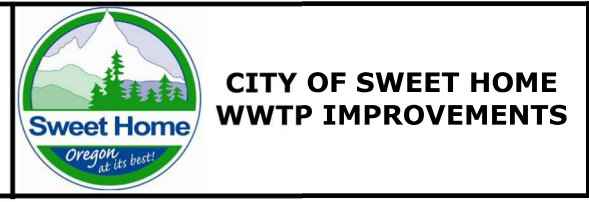
STRONGWORK ARCHITECTURE

60% SUBMITTAL

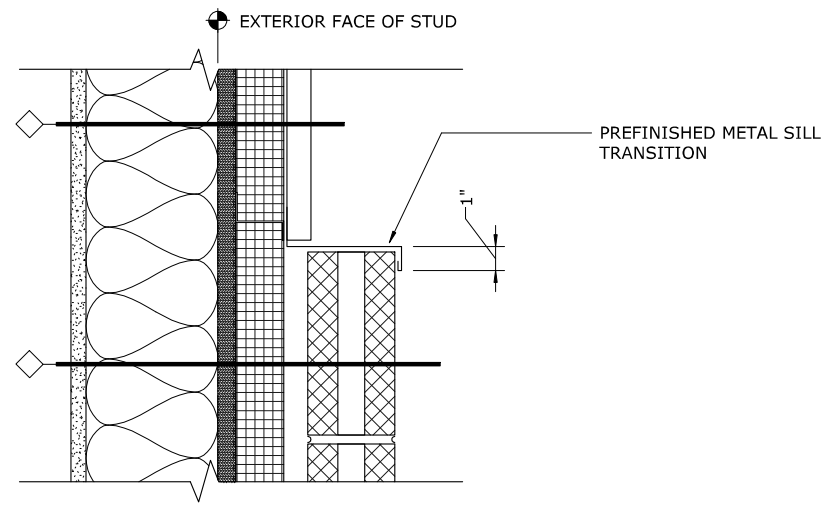
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NOTICE  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

AA / SD  
DESIGNED  
SD  
DRAWN  
AA  
CHECKED

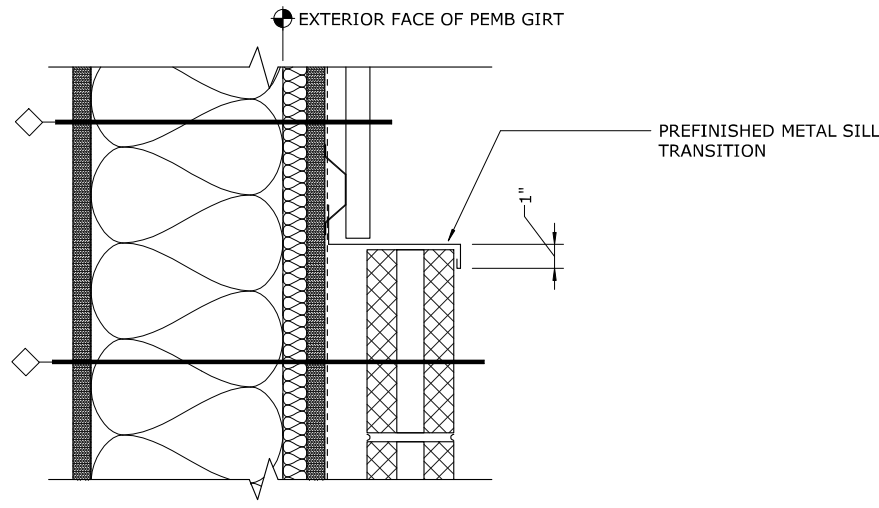


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| PROJECT NO.: 19-2605                                  |  | SCALE: AS SHOWN | DATE: JUNE 2020 |
| GENERAL ARCHITECTURAL DETAILS - MISC BUILDING DETAILS |  |                 | SHEET A-016     |
| 50 of 354   |  |                 |                 |



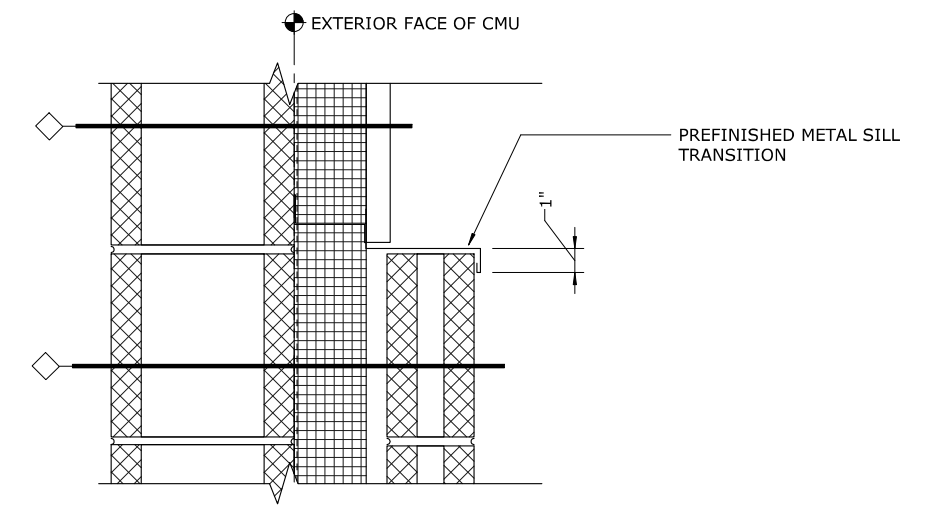
CMU VENEER TO METAL PANEL TRANSITION - ADMIN  
3" = 1'-0"

1



CMU VENEER TO METAL PANEL TRANSITION - MAINTENANCE BLDG  
3" = 1'-0"

2



CMU VENEER TO METAL PANEL TRANSITION - INSULATED PROCESS BUILDING  
3" = 1'-0"

3

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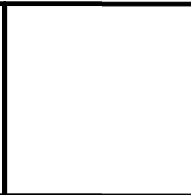
**STRONGWORK**  
ARCHITECTURE

**60% SUBMITTAL**

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NOTICE  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

AA / SD  
DESIGNED  
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DRAWN  
AA  
CHECKED



**CITY OF SWEET HOME**  
WWTP IMPROVEMENTS

**GENERAL ARCHITECTURAL DETAILS -**  
**MISC BUILDING DETAILS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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TO BE UPDATED

INTERIOR SIGNAGE DETAIL  
1 1/2" = 1'-0"

2

TO BE UPDATED

TYPICAL SIGNAGE DETAIL AND LOCATION ON PROCESS BUILDINGS  
1 1/2" = 1'-0"

1

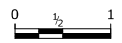
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**STRONGWORK  
ARCHITECTURE**

**60% SUBMITTAL**

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NOTICE



IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

AT  
DESIGNED

SD  
DRAWN

AA  
CHECKED



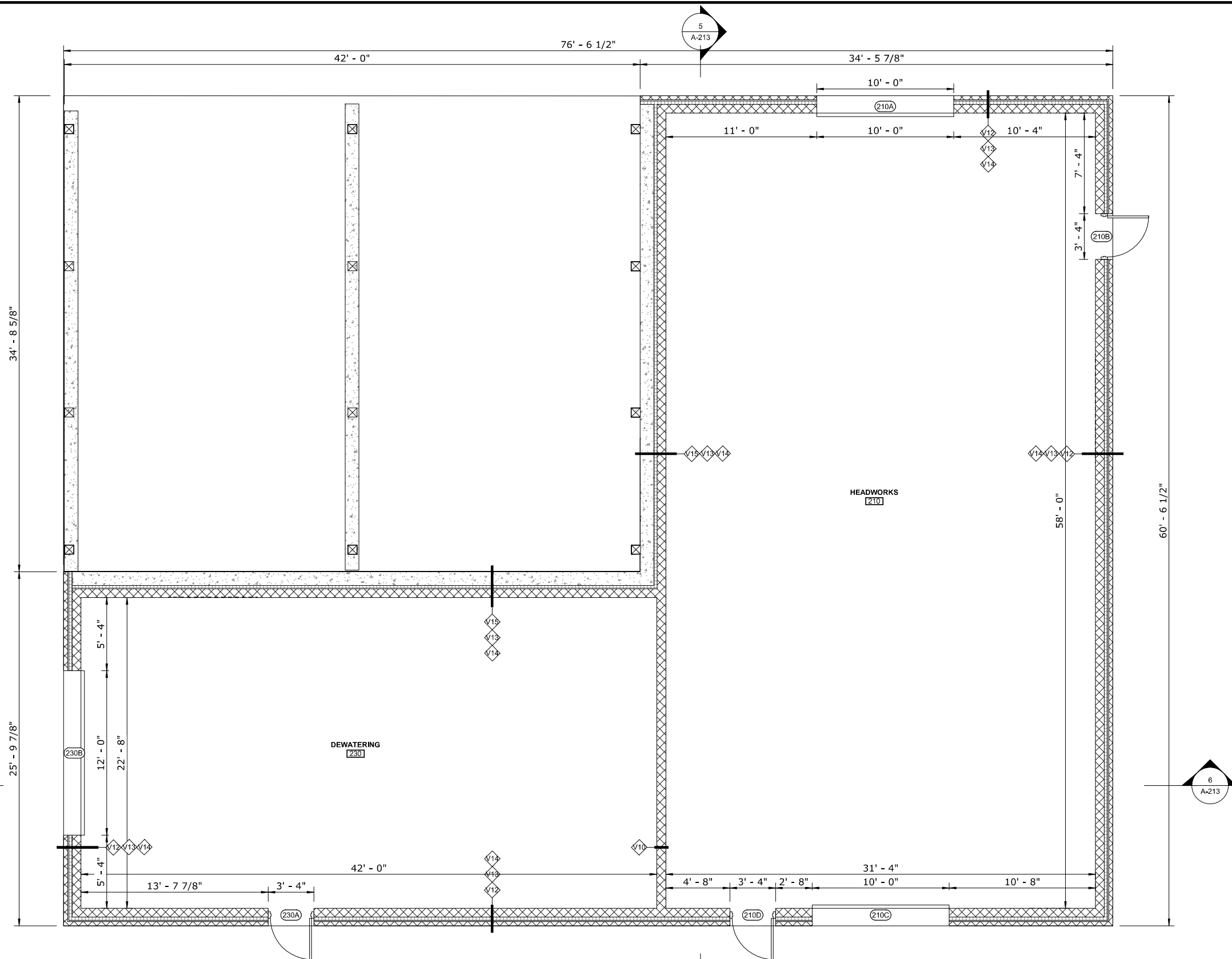
**CITY OF SWEET HOME  
WWTP IMPROVEMENTS**

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|---|-----------|--------|----------|
| <b>GENERAL ARCHITECTURAL DETAILS -<br/>FINISH DETAILS</b> |           |        |          |
| PROJECT NO.:  | 19-2605   | SCALE: | AS SHOWN |
| DATE:   | JUNE 2020 |        |          |

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FLOOR PLAN - 210 HEADWORKS AND DEWATERING  
1/4" = 1'-0"

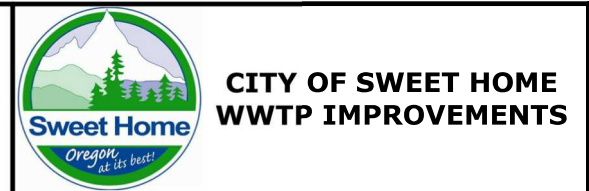
1

60% SUBMITTAL

STRONGWORK ARCHITECTURE

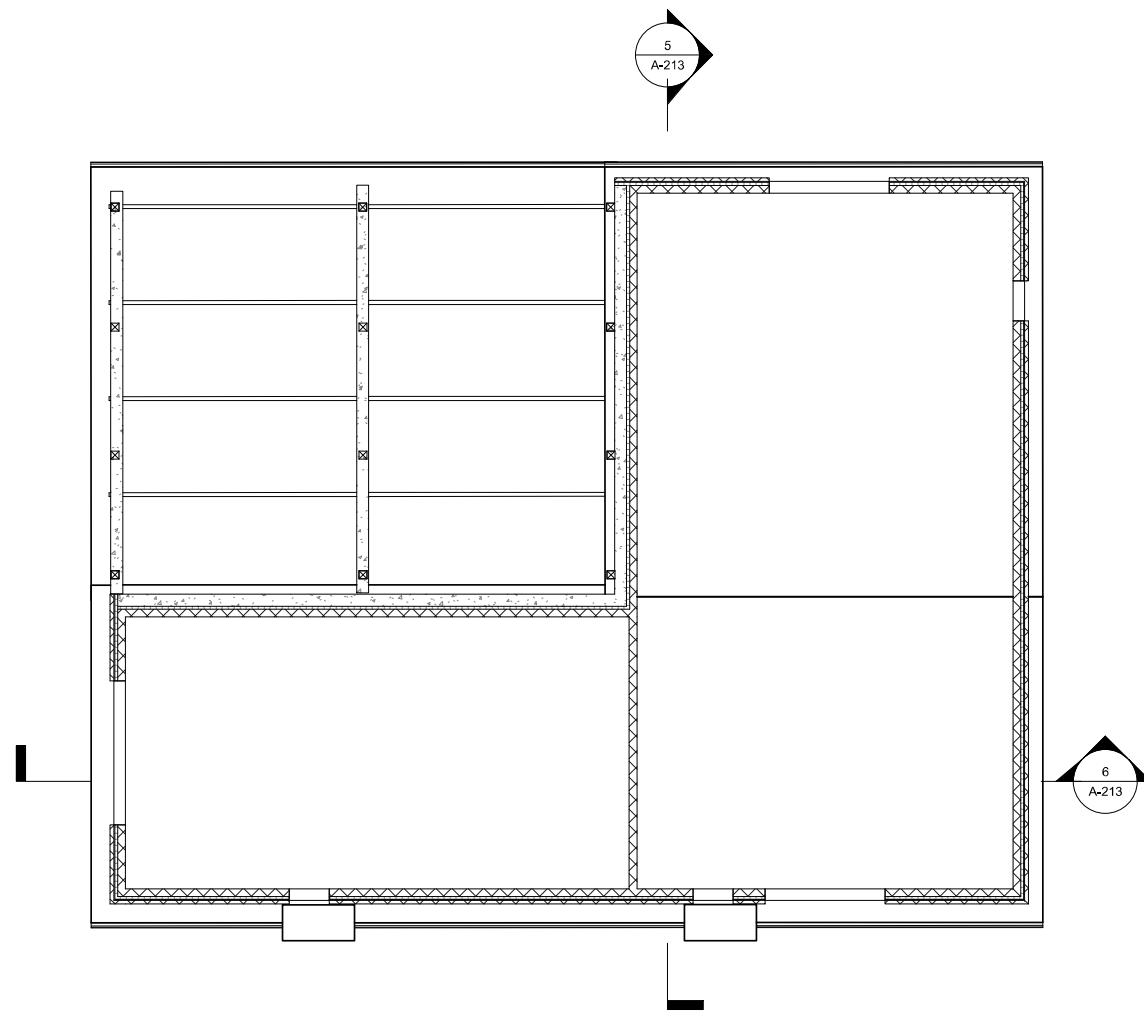
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| NOTICE   | AA / SD  |
| 0 1/2 1  | DESIGNED |
| IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE | SD       |
|  | DRAWN    |
|  | AA       |
|  | CHECKED  |



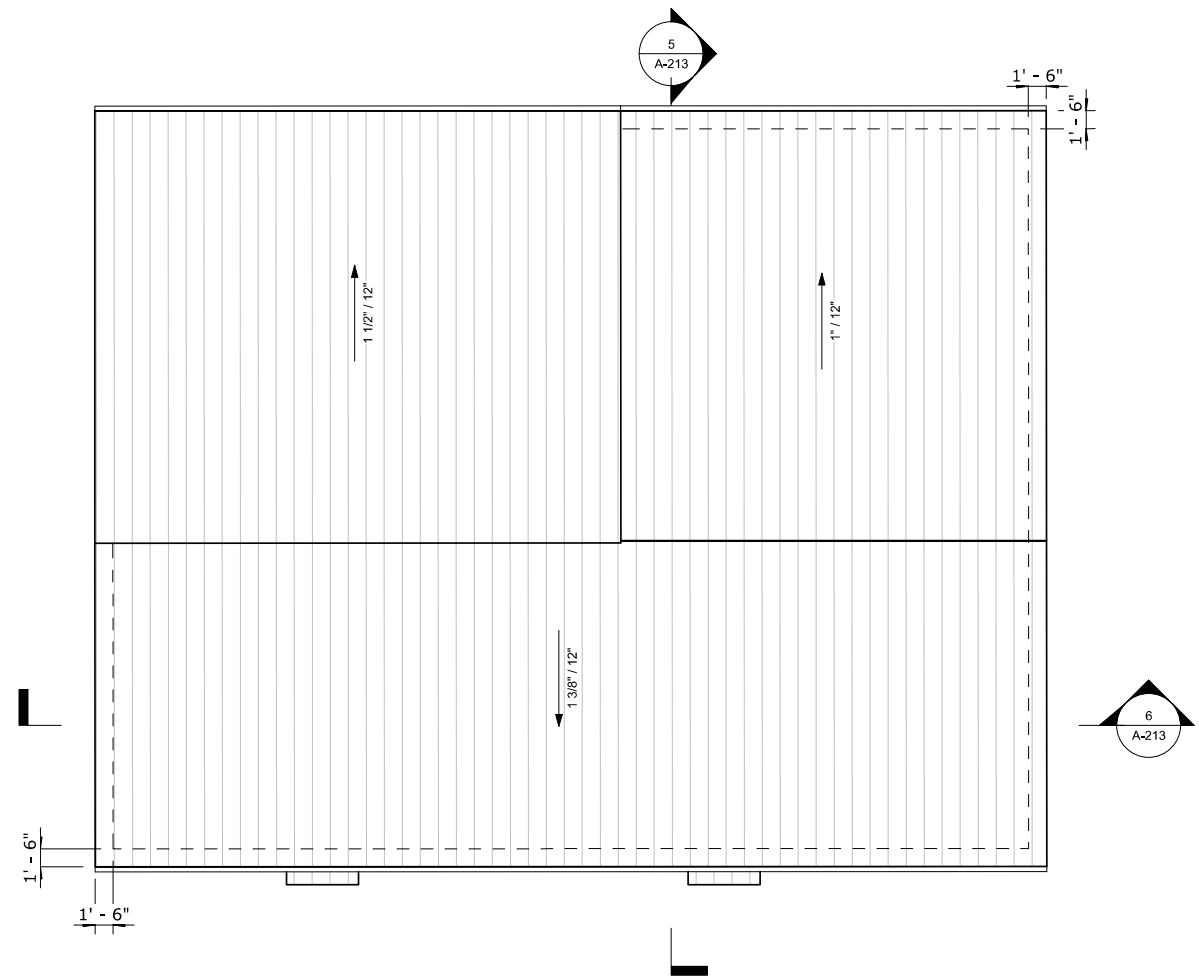
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| CITY OF SWEET HOME WWTP IMPROVEMENTS                     |           |        |          |
| HEADWORKS/DEWATERING BUILDING & CAKE STORAGE COVER PLANS |           |        |          |
| PROJECT NO.:   | 19-2605   | SCALE: | AS SHOWN |
| DATE:  | JUNE 2020 |        |          |

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RCP - 210 HEADWORKS AND DEWATERING BUILDING  
1/8" = 1'-0"

1



ROOF PLAN - 210 HEADWORKS AND DEWATERING BUILDING  
1/8" = 1'-0"

2

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**STRONGWORK  
ARCHITECTURE**

**60% SUBMITTAL**

| NO. | DATE | BY | REVISION |
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NOTICE  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

AA / SD  
DESIGNED  
SD  
DRAWN  
AA  
CHECKED

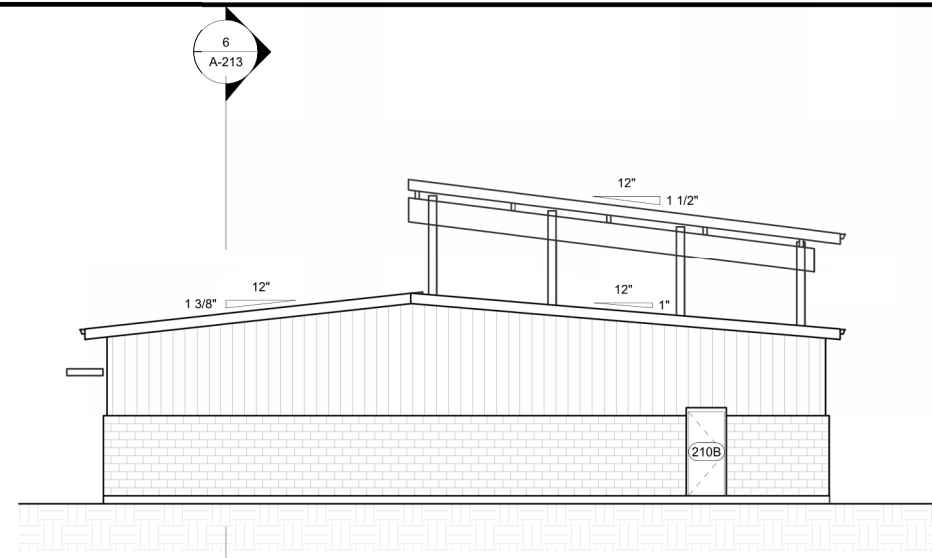


**CITY OF SWEET HOME  
WWTP IMPROVEMENTS**

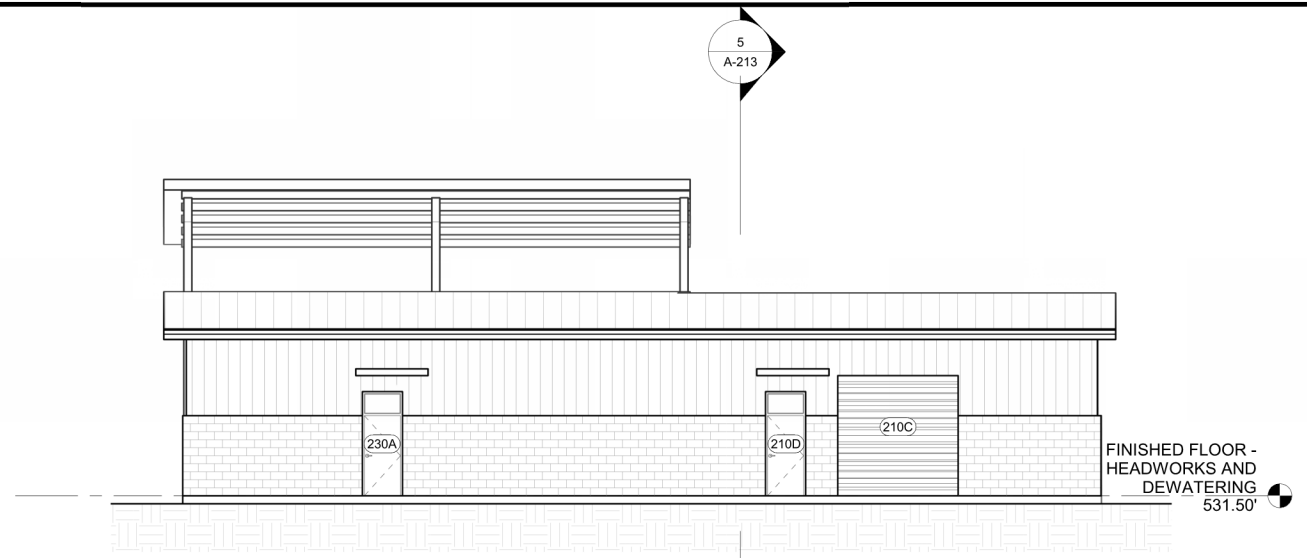
**HEADWORKS/DEWATERING BUILDING &  
CAKE STORAGE COVER RCP & ROOF PLAN**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

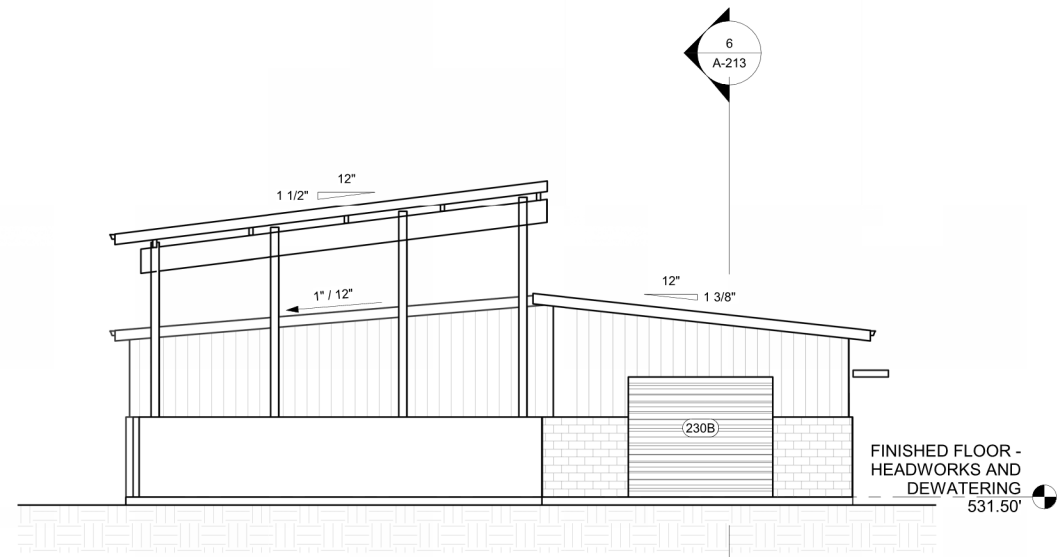
SHEET  
A-212  
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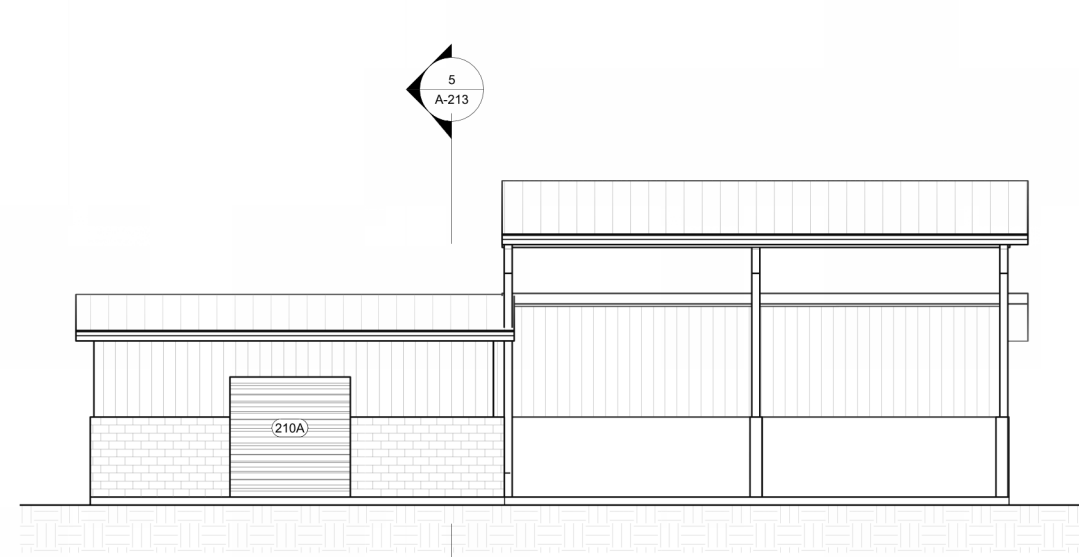
EXTERIOR ELEVATION - HEADWORKS/DEWATERING BUILDING & CAKE STORAGE - NORTH EAST  
1/8" = 1'-0"



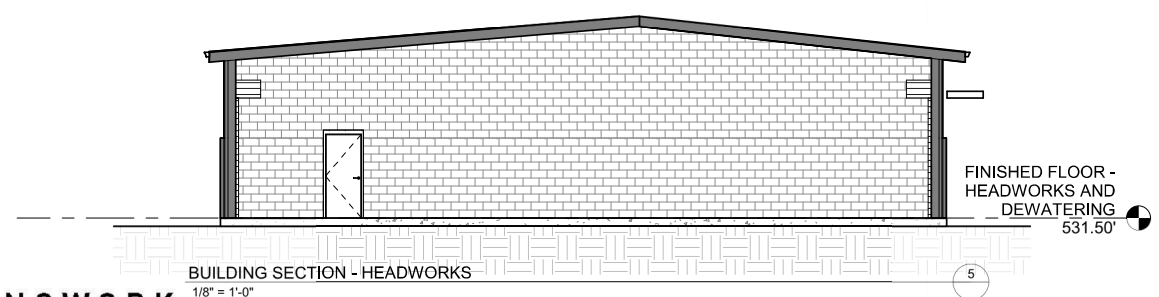
EXTERIOR ELEVATION - HEADWORKS/DEWATERING BUILDING & CAKE STORAGE - SOUTH EAST  
1/8" = 1'-0"



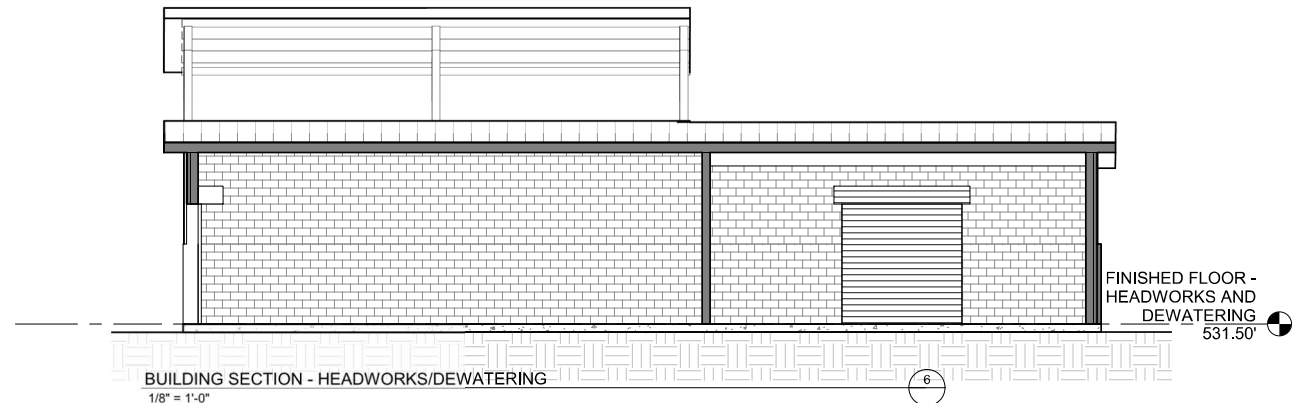
EXTERIOR ELEVATION - HEADWORKS/DEWATERING BUILDING & CAKE STORAGE - SOUTH WEST  
1/8" = 1'-0"



EXTERIOR ELEVATION - HEADWORKS/DEWATERING BUILDING & CAKE STORAGE - NORTH WEST  
1/8" = 1'-0"



BUILDING SECTION - HEADWORKS  
1/8" = 1'-0"



BUILDING SECTION - HEADWORKS/DEWATERING  
1/8" = 1'-0"

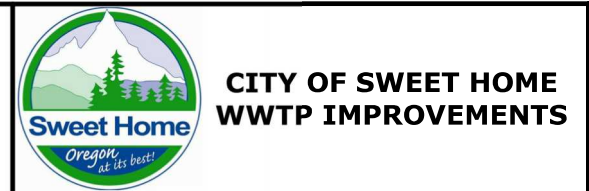
STRONGWORK ARCHITECTURE

60% SUBMITTAL

| NO. | DATE | BY | REVISION |
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NOTICE  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

AA / SD  
DESIGNED  
SD  
DRAWN  
AA  
CHECKED

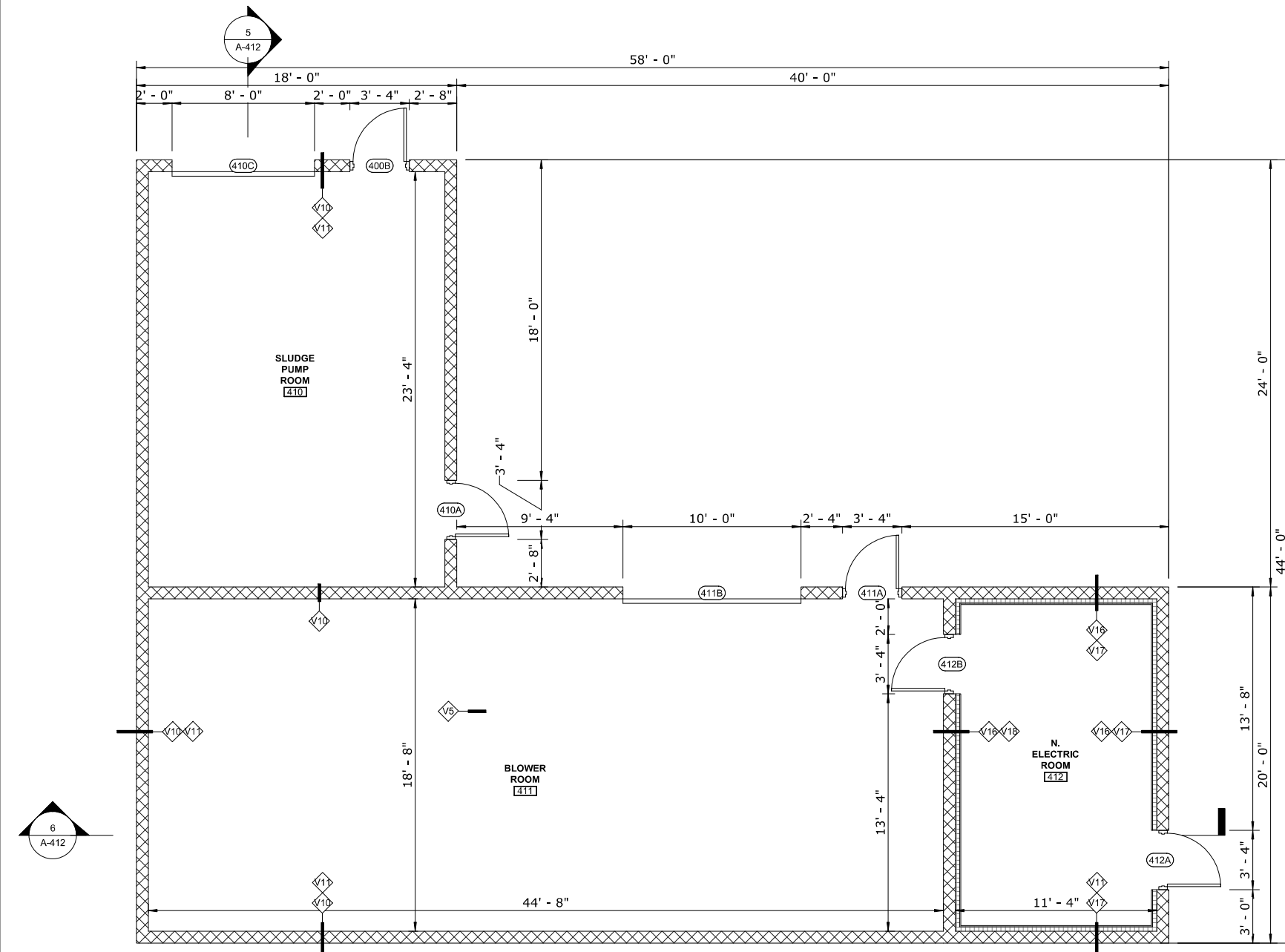


HEADWORKS/DEWATERING BUILDING & CAKE STORAGE EXTERIOR ELEVATIONS AND SECTIONS

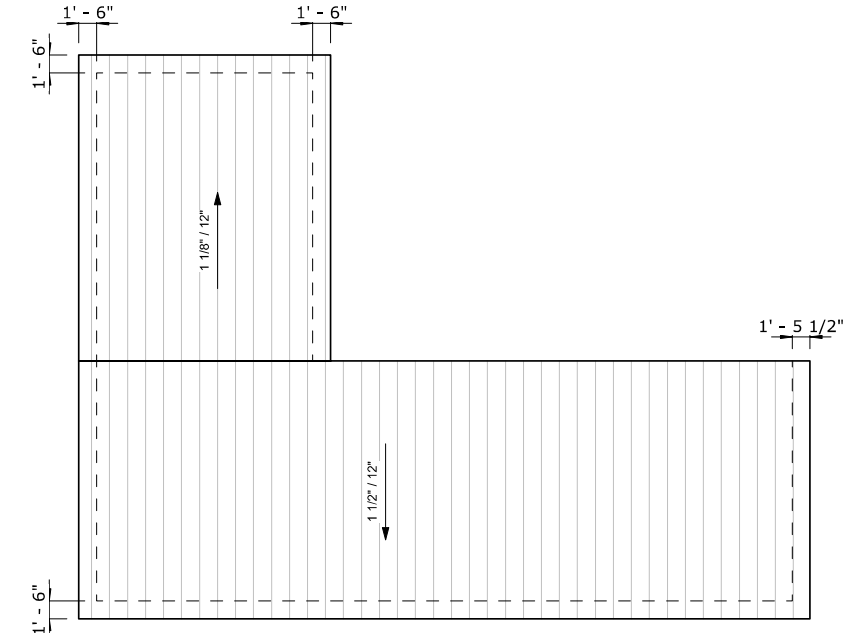
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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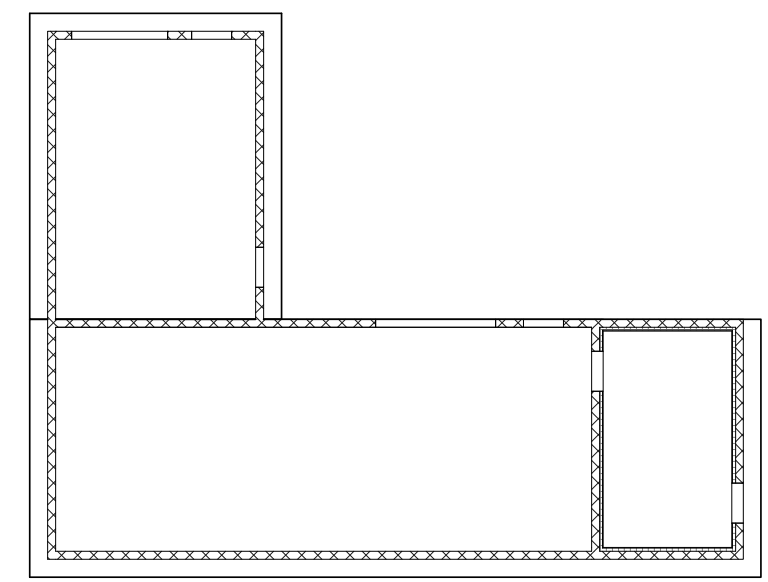




FLOOR PLAN - 410 PS PUMP, BLOWER, ELECT BUILDING  
1/4" = 1'-0" ①



ROOF PLAN - 410 PS PUMP, BLOWER, ELECT BUILDING  
1/8" = 1'-0" ②



RCP - 410 PS PUMP, BLOWER, ELECT BUILDING  
1/8" = 1'-0" ③

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**STRONGWORK**  
ARCHITECTURE

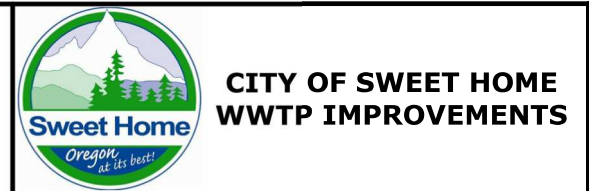
**60% SUBMITTAL**

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**NOTICE**

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

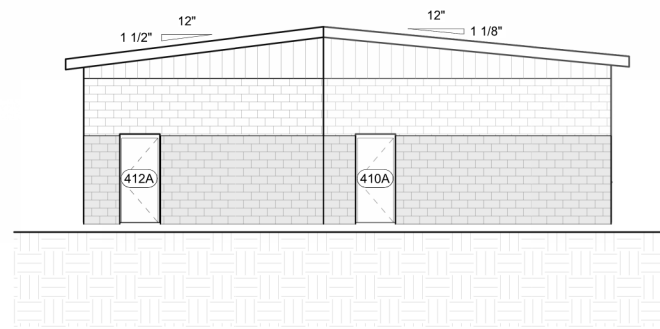
AA / SD  
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**PS PUMP/BLOWER/ELECTRICAL BUILDING PLANS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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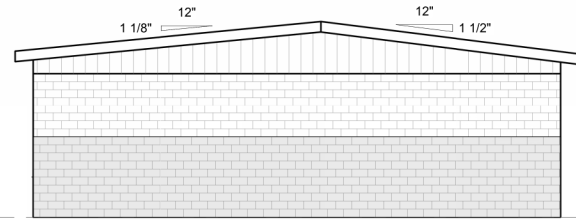


EXTERIOR ELEVATION - PS PUMP / BLOWER / N. ELECT BLDG - NORTH EAST  
1/8" = 1'-0"



EXTERIOR ELEVATION - PS PUMP / BLOWER / N. ELECT BLDG - NORTH WEST  
1/8" = 1'-0"

FINISHED FLOOR -  
PC PUMP,  
BLOWER, ELECT  
521.65'



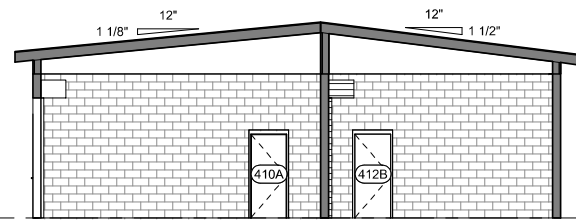
EXTERIOR ELEVATION - PS PUMP / BLOWER / N. ELECT BLDG - SOUTH WEST  
1/8" = 1'-0"

FINISHED FLOOR -  
PC PUMP,  
BLOWER, ELECT  
521.65'



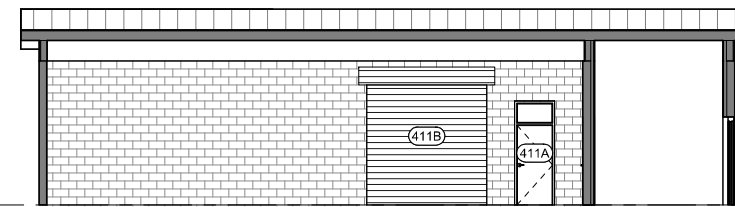
EXTERIOR ELEVATION - PS PUMP / BLOWER / N. ELECT BLDG - SOUTH EAST  
1/8" = 1'-0"

FINISHED FLOOR -  
PC PUMP,  
BLOWER, ELECT  
521.65'



BUILDING SECTION - PS PUMP ROOM / BLOWER ROOM  
1/8" = 1'-0"

FINISHED FLOOR -  
PC PUMP,  
BLOWER, ELECT  
521.65'



BUILDING SECTION 1 - BLOWER ROOM / N. ELECTRICAL ROOM  
1/8" = 1'-0"

FINISHED FLOOR -  
PC PUMP,  
BLOWER, ELECT  
521.65'

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**STRONGWORK  
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**60% SUBMITTAL**

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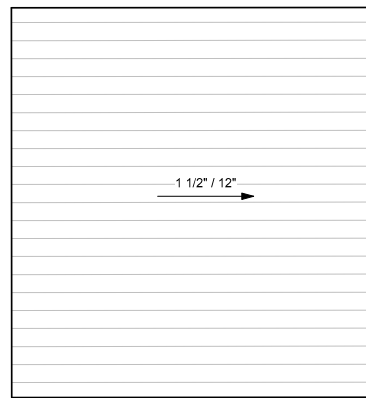
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**CITY OF SWEET HOME  
WWTP IMPROVEMENTS**

**PS PUMP/BLOWER/ELECTRICAL  
BUILDING ELEVATIONS AND SECTIONS**

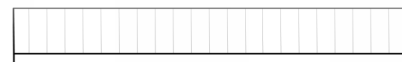
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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FLOOR PLAN - TERTIARY FILTER COMPLEX  
1/8" = 1'-0"

ROOF PLAN - TERTIARY FILTER COMPLEX  
1/8" = 1'-0"



TERTIARY FILTER COMPLEX  
517.50'

TERTIARY FILTER COMPLEX  
517.50'

TERTIARY FILTER COMPLEX  
517.50'

TERTIARY FILTER COMPLEX  
517.50'

EXTERIOR ELEVATION - TERTIARY FILTER COMPLEX - NORTH EAST  
1/8" = 1'-0"

EXTERIOR ELEVATION - TERTIARY FILTER COMPLEX - NORTH WEST  
1/8" = 1'-0"

EXTERIOR ELEVATION - TERTIARY FILTER COMPLEX - SOUTH EAST  
1/8" = 1'-0"

EXTERIOR ELEVATION - TERTIARY FILTER COMPLEX - SOUTH WEST  
1/8" = 1'-0"

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**STRONGWORK ARCHITECTURE**

**60% SUBMITTAL**

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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AA  
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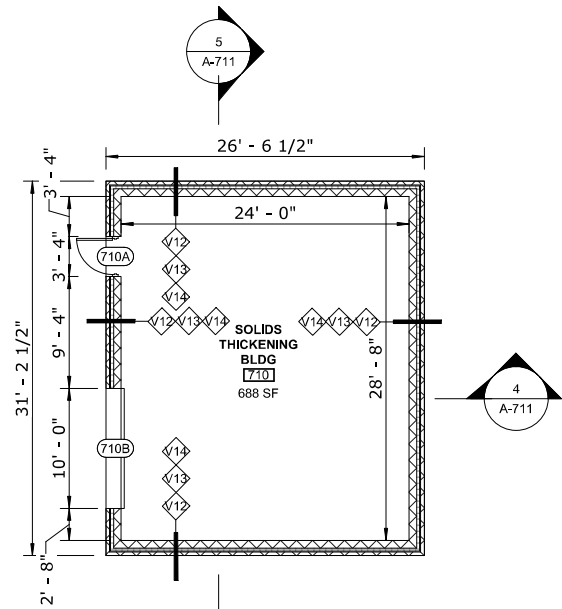


**CITY OF SWEET HOME WWTP IMPROVEMENTS**

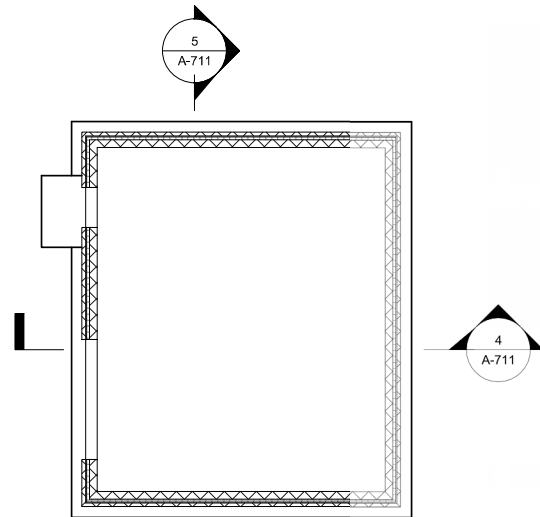
**TERTIARY FILTER COMPLEX COVER PLANS & ELEVATIONS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

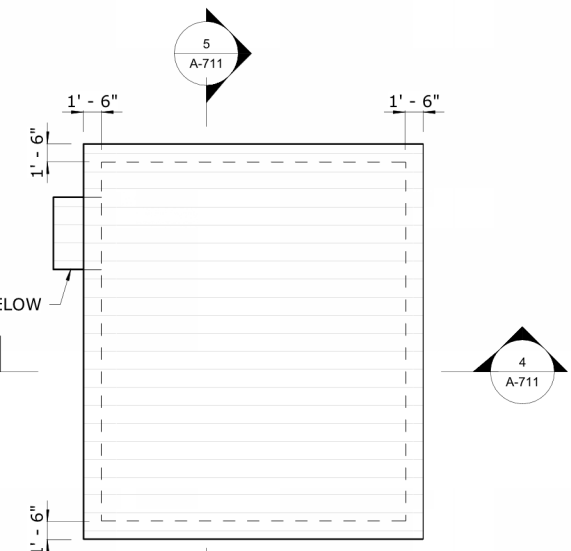
SHEET  
**A-511**  
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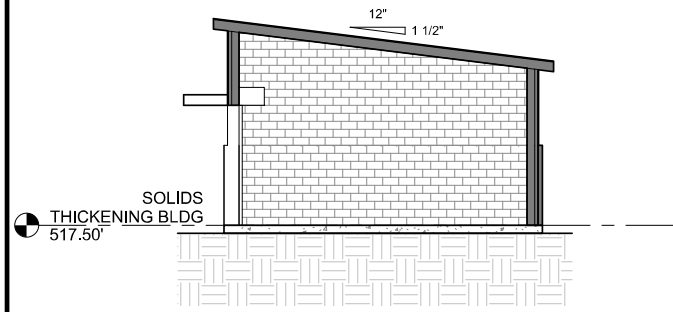
FLOOR PLAN - THICKENING BLDG  
1/8" = 1'-0"



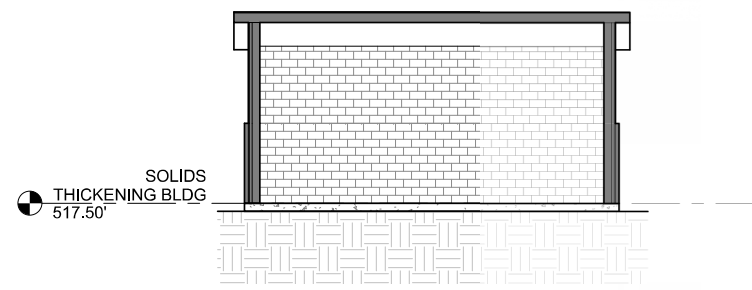
RCP - THICKENING BLDG  
1/8" = 1'-0"



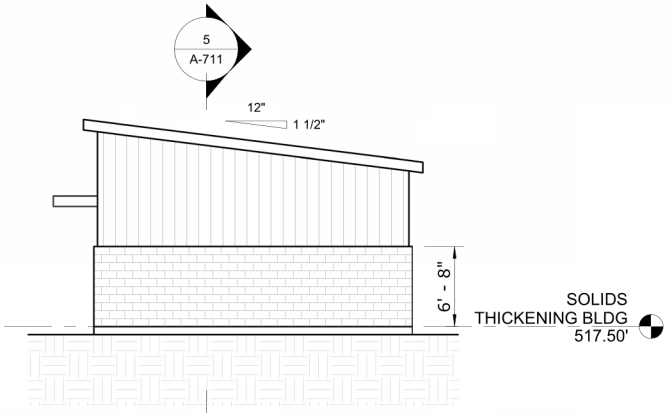
ROOF PLAN - THICKENING BLDG  
1/8" = 1'-0"



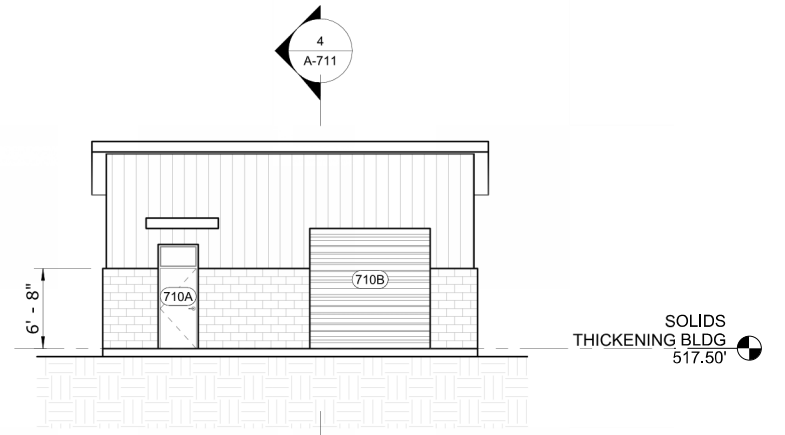
BUILDING SECTION 2 - THICKENING  
1/8" = 1'-0"



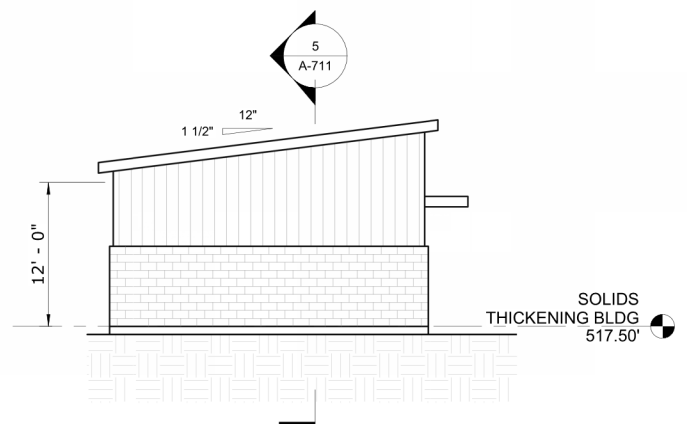
BUILDING SECTION 1 - THICKENING  
1/8" = 1'-0"



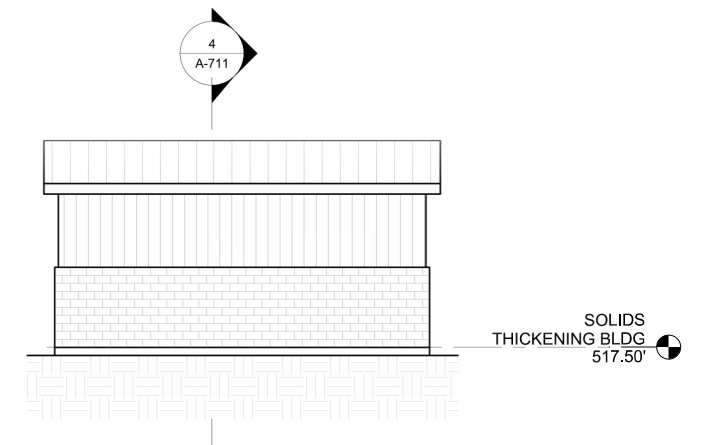
EXTERIOR ELEVATION - THICKENING BLDG - SOUTH EAST  
1/8" = 1'-0"



EXTERIOR ELEVATION - THICKENING BLDG - SOUTH WEST  
1/8" = 1'-0"



EXTERIOR ELEVATION - THICKENING BLDG - NORTH WEST  
1/8" = 1'-0"



EXTERIOR ELEVATION - THICKENING BLDG - NORTH EAST  
1/8" = 1'-0"

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**STRONGWORK ARCHITECTURE**

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NOTICE  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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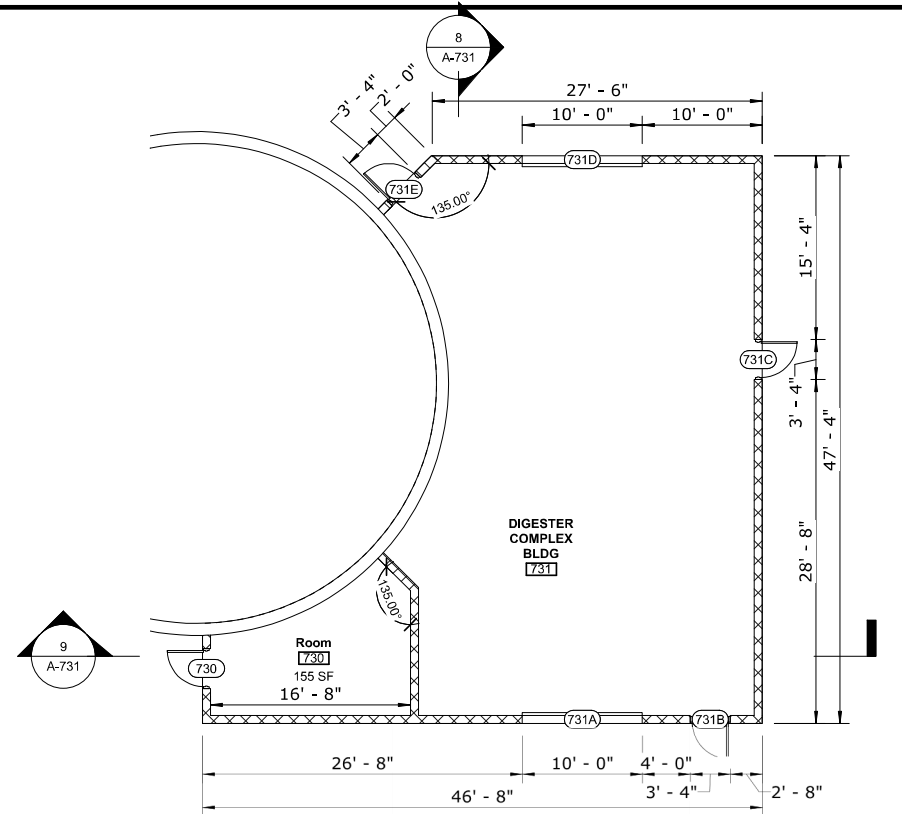


**CITY OF SWEET HOME WWTP IMPROVEMENTS**

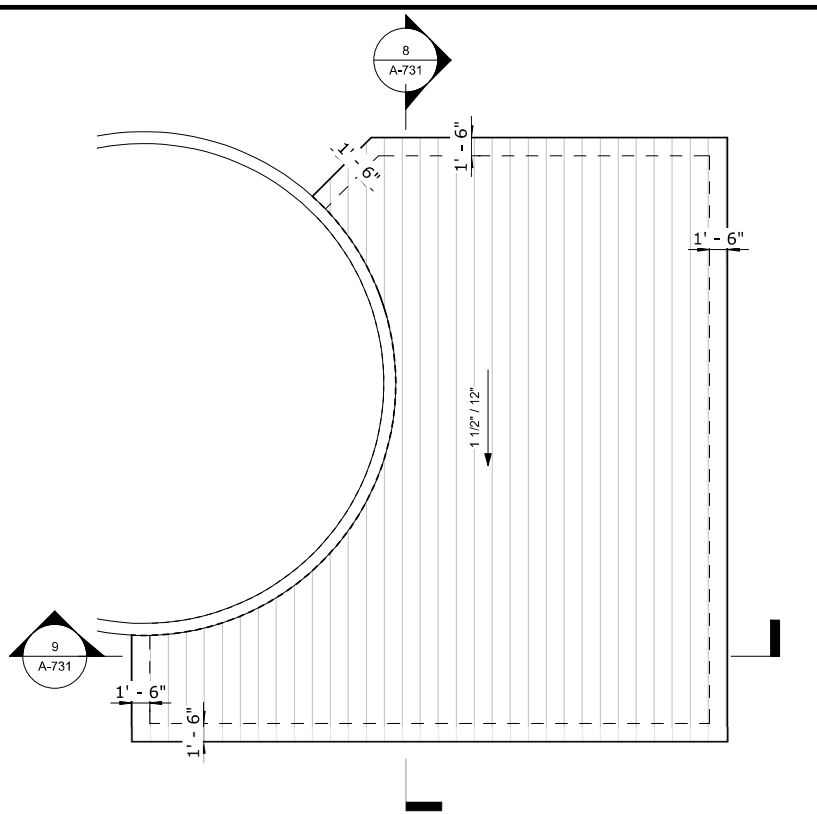
**THICKENING BUILDING PLANS, ELEVATIONS AND SECTIONS**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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**A-711**  
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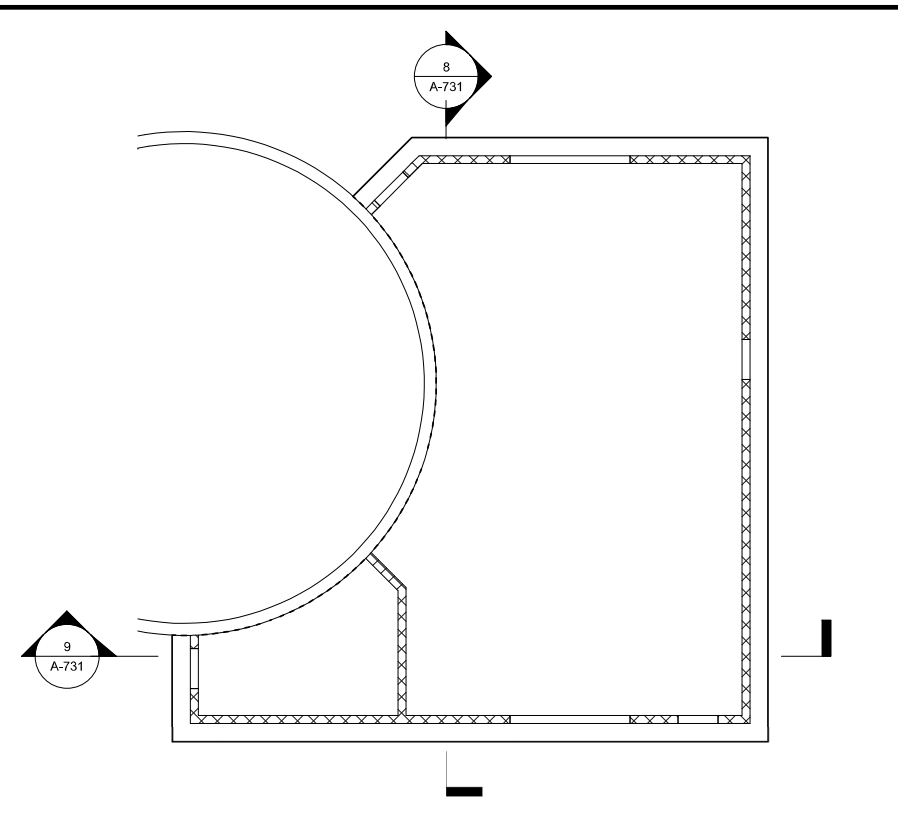
**60% SUBMITTAL**



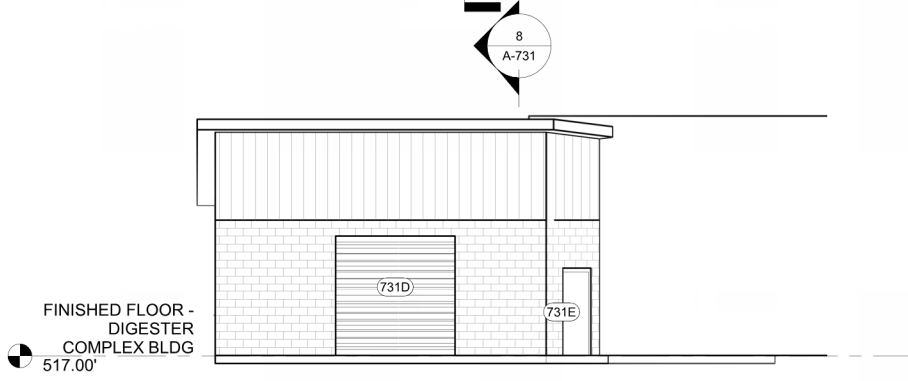
FLOOR PLAN - 600 DIGESTER COMPLEX BUILDING  
1/8" = 1'-0"



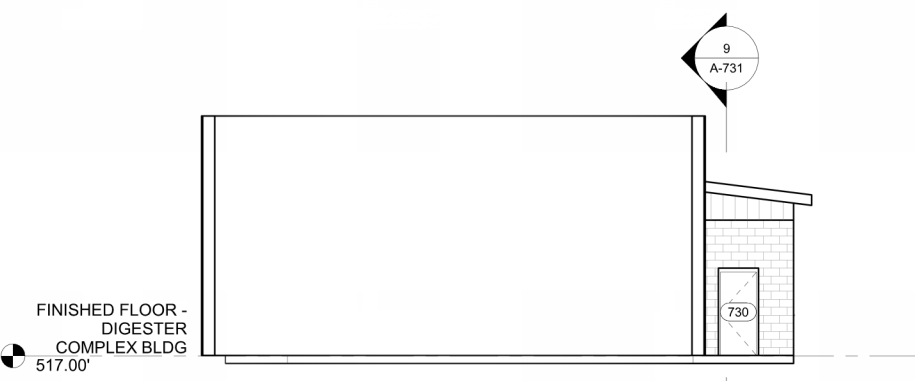
ROOF PLAN - DIGESTER COMPLEX BLDG  
1/8" = 1'-0"



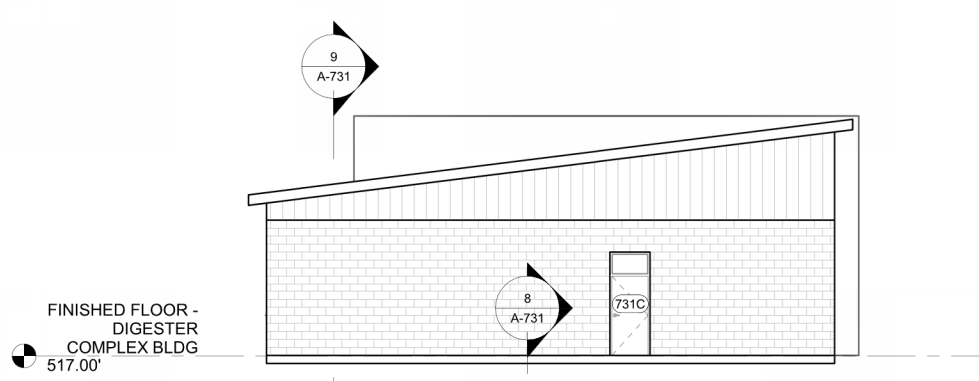
RCP - DIGESTER COMPLEX BUILDING  
1/8" = 1'-0"



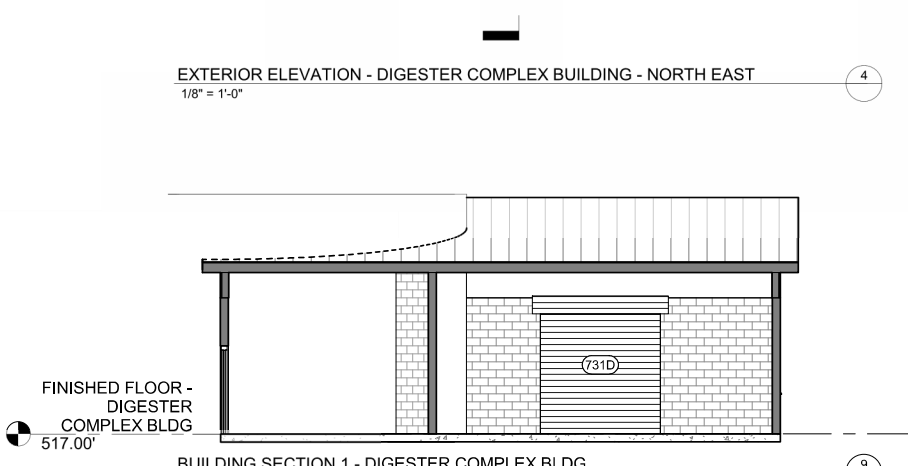
EXTERIOR ELEVATION - DIGESTER COMPLEX BUILDING - NORTH EAST  
1/8" = 1'-0"



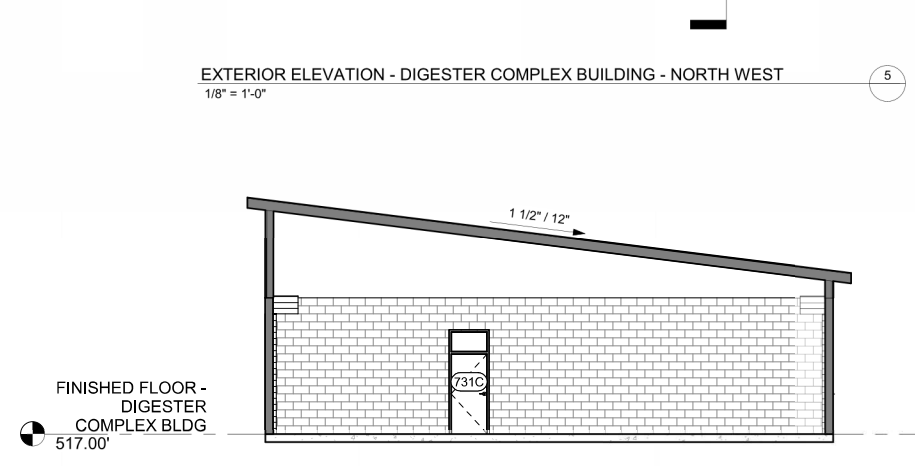
EXTERIOR ELEVATION - DIGESTER COMPLEX BUILDING - NORTH WEST  
1/8" = 1'-0"



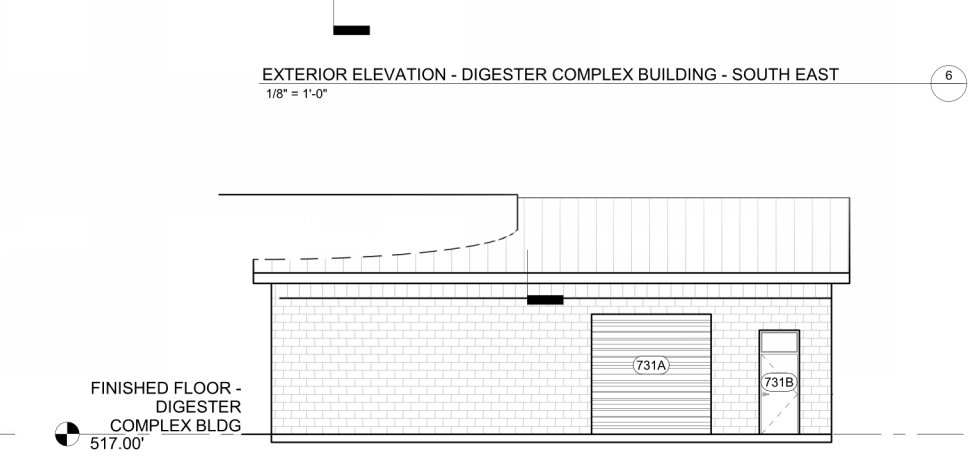
EXTERIOR ELEVATION - DIGESTER COMPLEX BUILDING - SOUTH EAST  
1/8" = 1'-0"



BUILDING SECTION 1 - DIGESTER COMPLEX BLDG  
1/8" = 1'-0"



BUILDING SECTION 2 - DIGESTER COMPLEX BLDG  
1/8" = 1'-0"



EXTERIOR ELEVATION - DIGESTER COMPLEX BUILDING - SOUTH WEST  
1/8" = 1'-0"

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**STRONGWORK ARCHITECTURE**

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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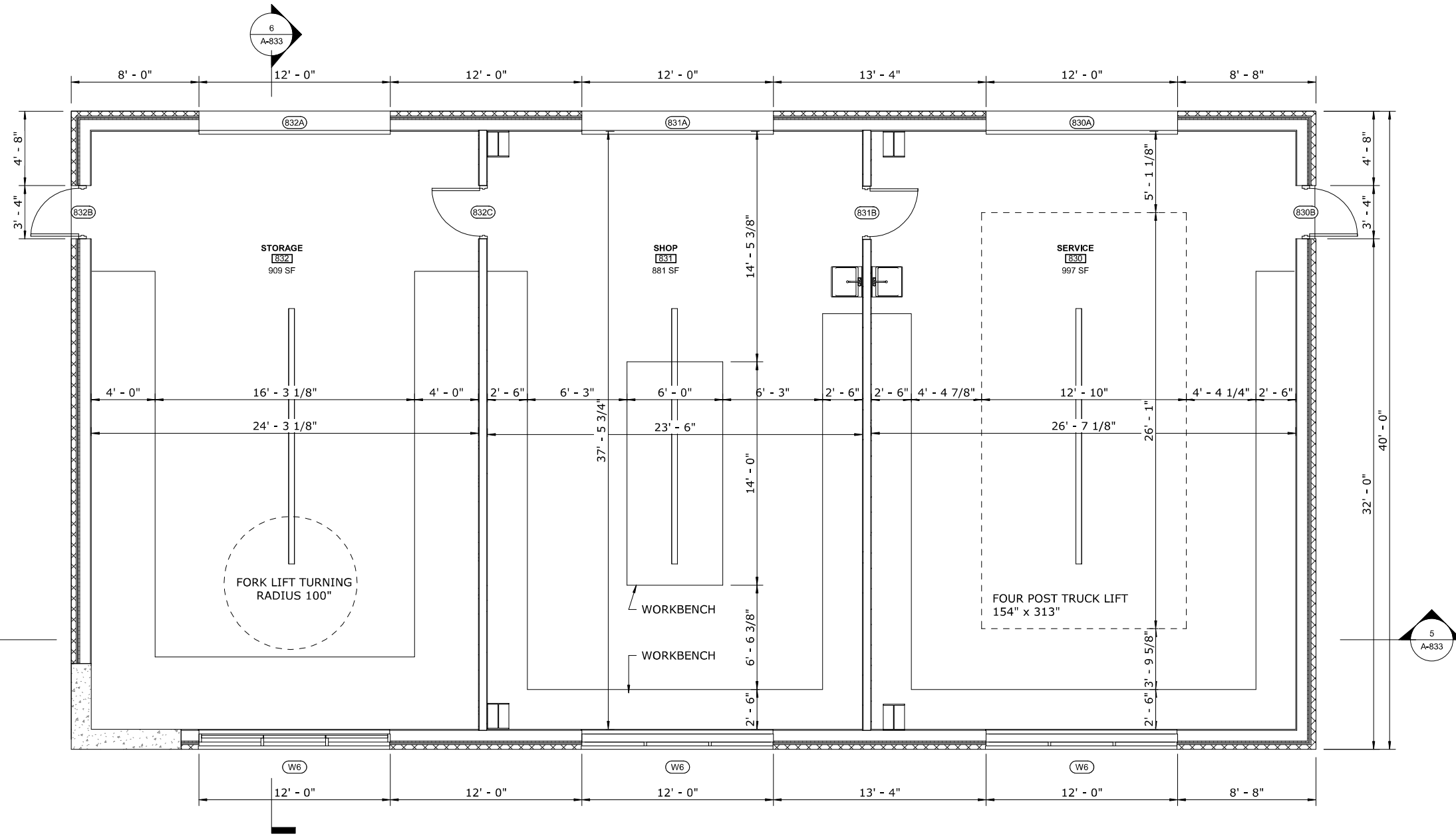
**CITY OF SWEET HOME WWTP IMPROVEMENTS**

**DIGESTER COMPLEX PLANS, ELEVATIONS AND SECTIONS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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**60% SUBMITTAL**



FLOOR PLAN - 200 MAINTENANCE BUILDING  
 1/4" = 1'-0"

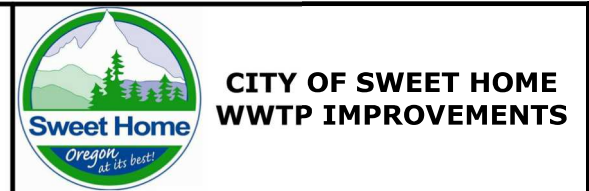
STRONGWORK ARCHITECTURE

60% SUBMITTAL

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NOTICE  
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 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

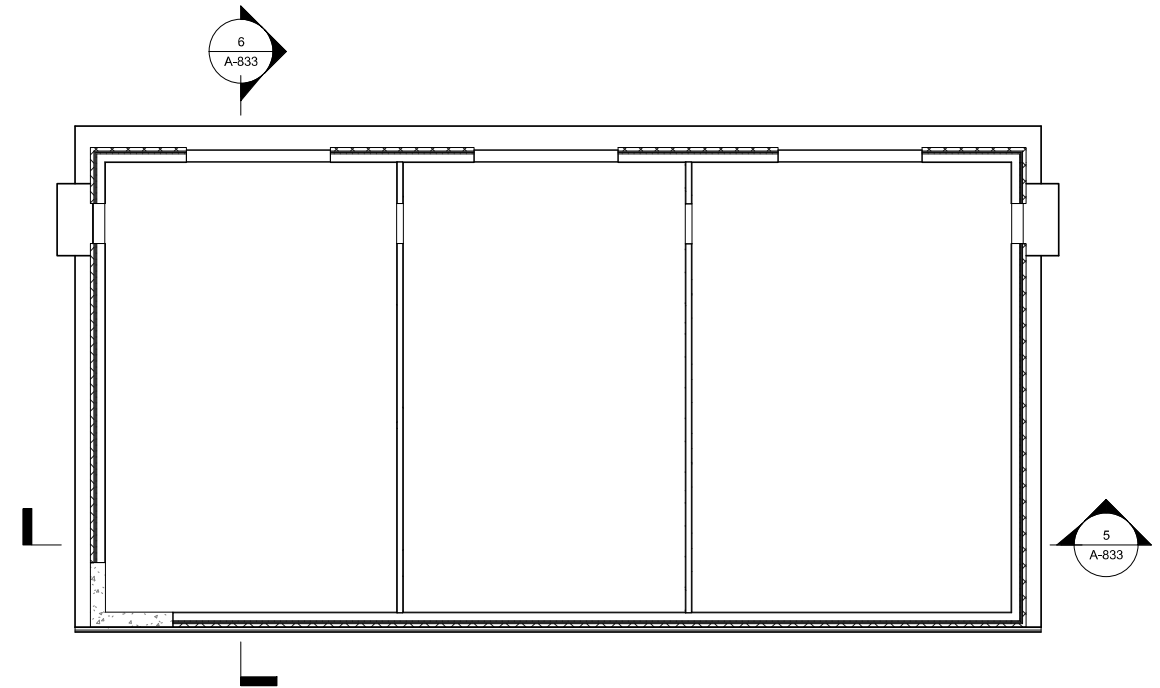
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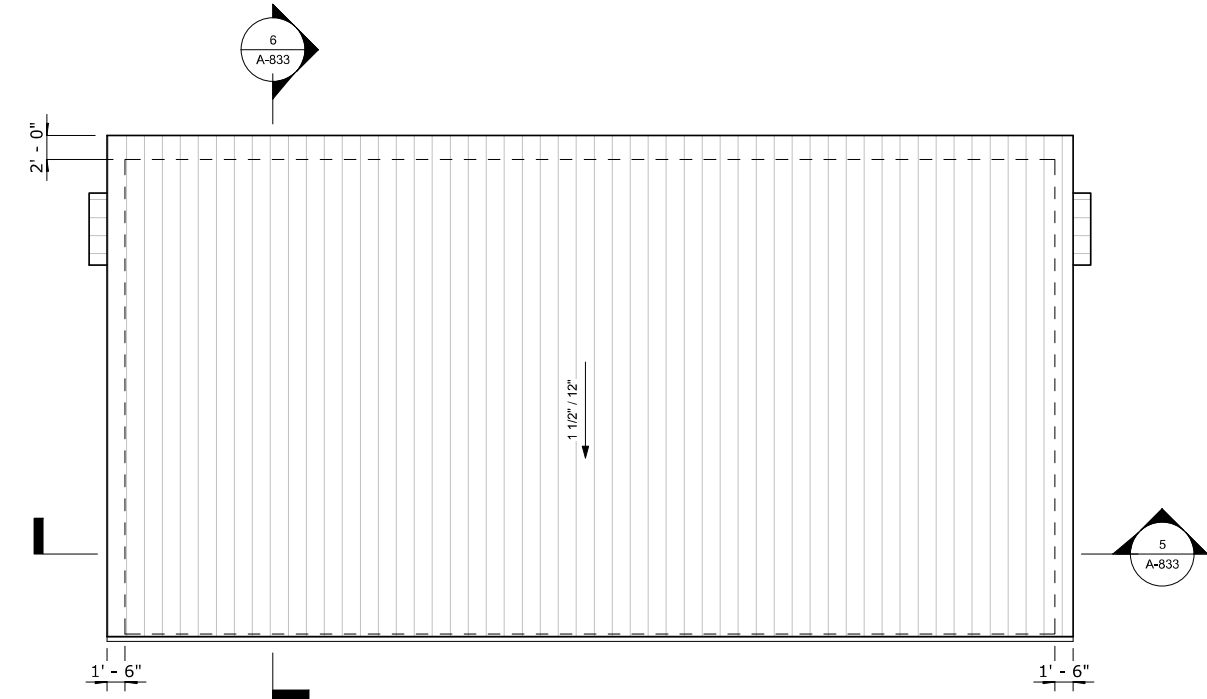
MAINTENANCE BUILDING FLOOR PLAN

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RCP - MAINTENANCE BUILDING  
1/8" = 1'-0" ①



ROOF PLAN - MAINTENANCE BLDG  
1/8" = 1'-0" ②

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**STRONGWORK  
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**60% SUBMITTAL**

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NOTICE  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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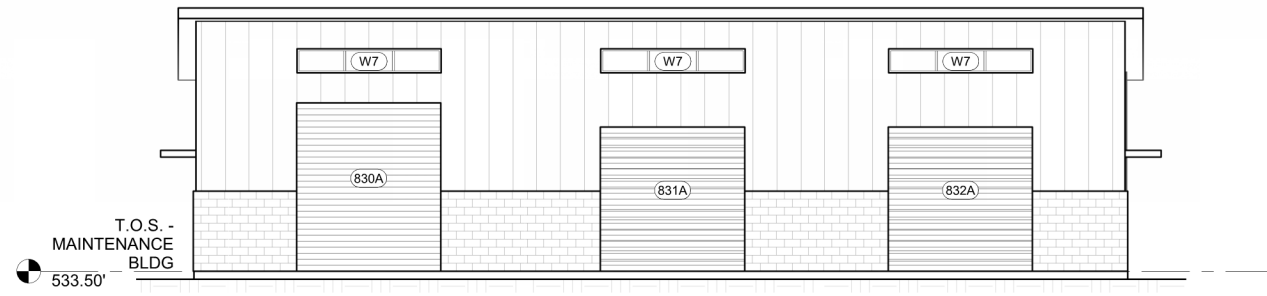


**CITY OF SWEET HOME  
WWTP IMPROVEMENTS**

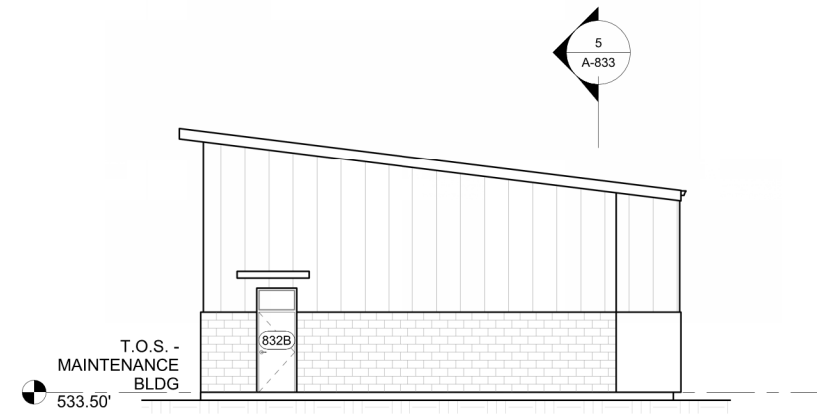
**MAINTENANCE BUILDING RCP & ROOF  
PLANS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

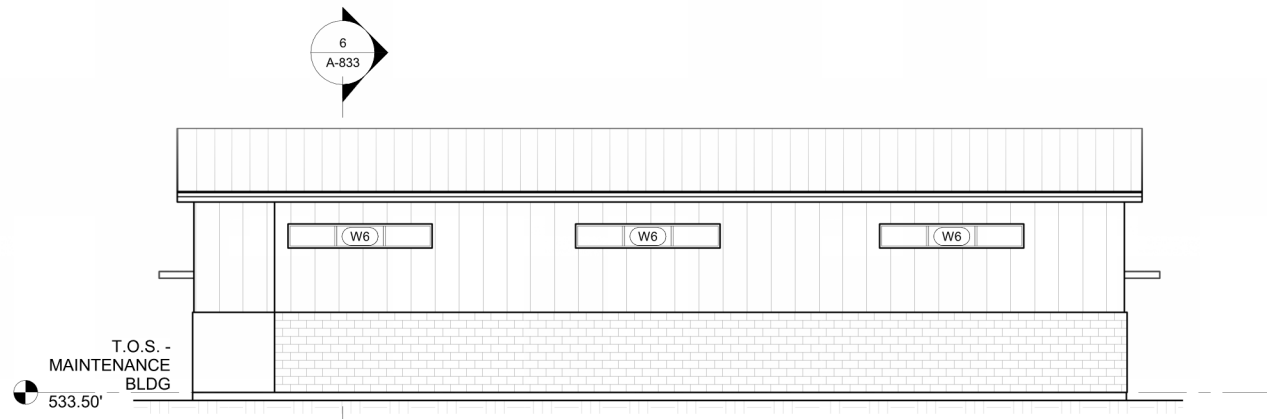
SHEET  
**A-832**  
64 of 354



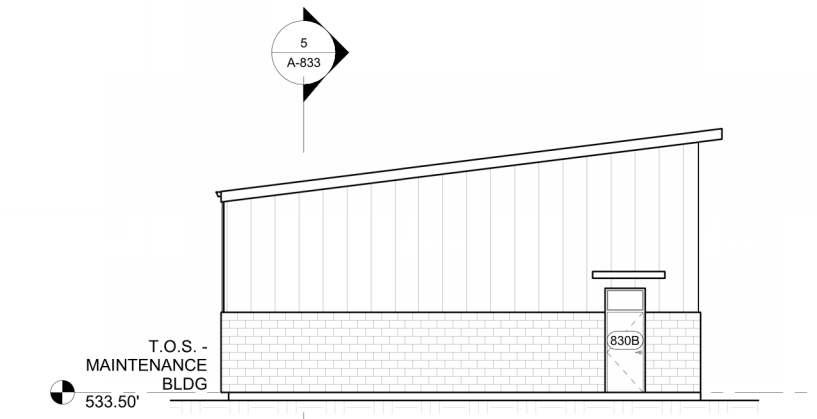
EXTERIOR ELEVATION - MAINTENANCE - NORTH EAST 1  
1/8" = 1'-0"



EXTERIOR ELEVATION - MAINTENANCE - NORTH WEST 2  
1/8" = 1'-0"



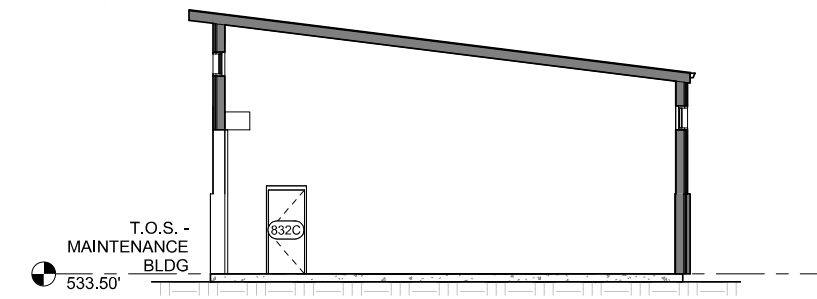
EXTERIOR ELEVATION - MAINTENANCE - SOUTH WEST 3  
1/8" = 1'-0"



EXTERIOR ELEVATION - MAINTENANCE - SOUTH EAST 4  
1/8" = 1'-0"



BUILDING SECTION 1 - MAINTENANCE 5  
1/8" = 1'-0"



BUILDING SECTION 2 - MAINTENANCE 6  
1/8" = 1'-0"

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**STRONGWORK ARCHITECTURE**

**60% SUBMITTAL**

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NOTICE

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**CITY OF SWEET HOME WWTP IMPROVEMENTS**

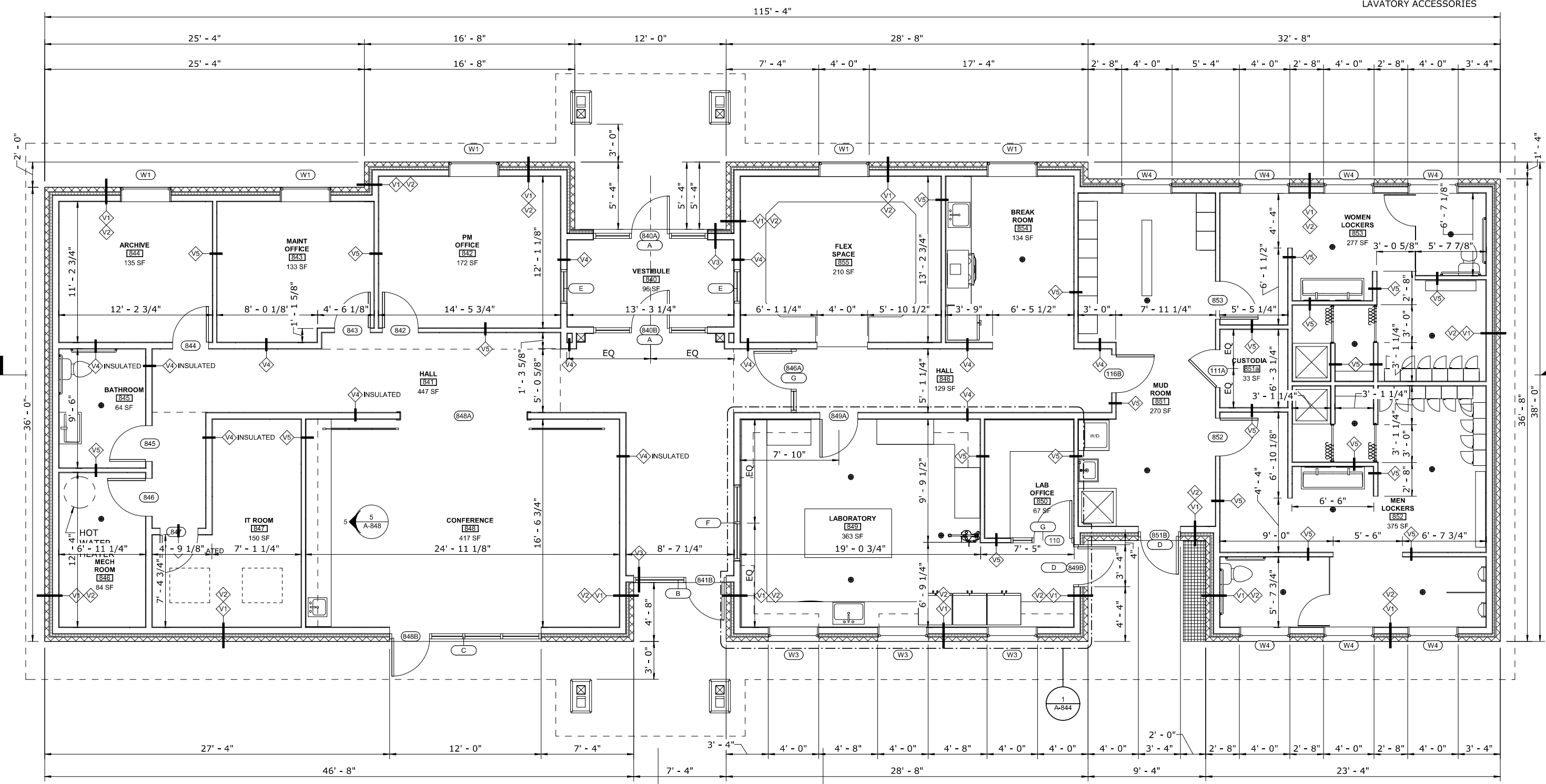
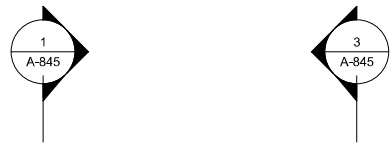
**MAINTENANCE BUILDING EXTERIOR ELEVATIONS AND SECTIONS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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- GENERAL NOTES**
1. SEE GEN-A-2 FOR FINISH SCHEDULE.
  2. SEE SPECIFICATION SECTION 22 00 00 FOR PLUMBING FIXTURE INFORMATION
  3. SEE SPECIFICATION SECTIONS 06 41 16 AND 12 36 23.13 FOR CASEWORK AND COUNTERTOP INFORMATION
  4. SEE SPECIFICATION SECTION 10 28 00 FOR LAVATORY ACCESSORIES



FLOOR PLAN - 100 ADMIN  
1/4" = 1'-0"

**STRONGWORK ARCHITECTURE**

**60% SUBMITTAL**

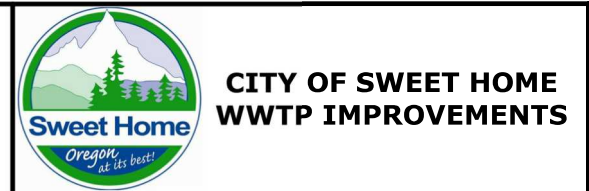
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**NOTICE**

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

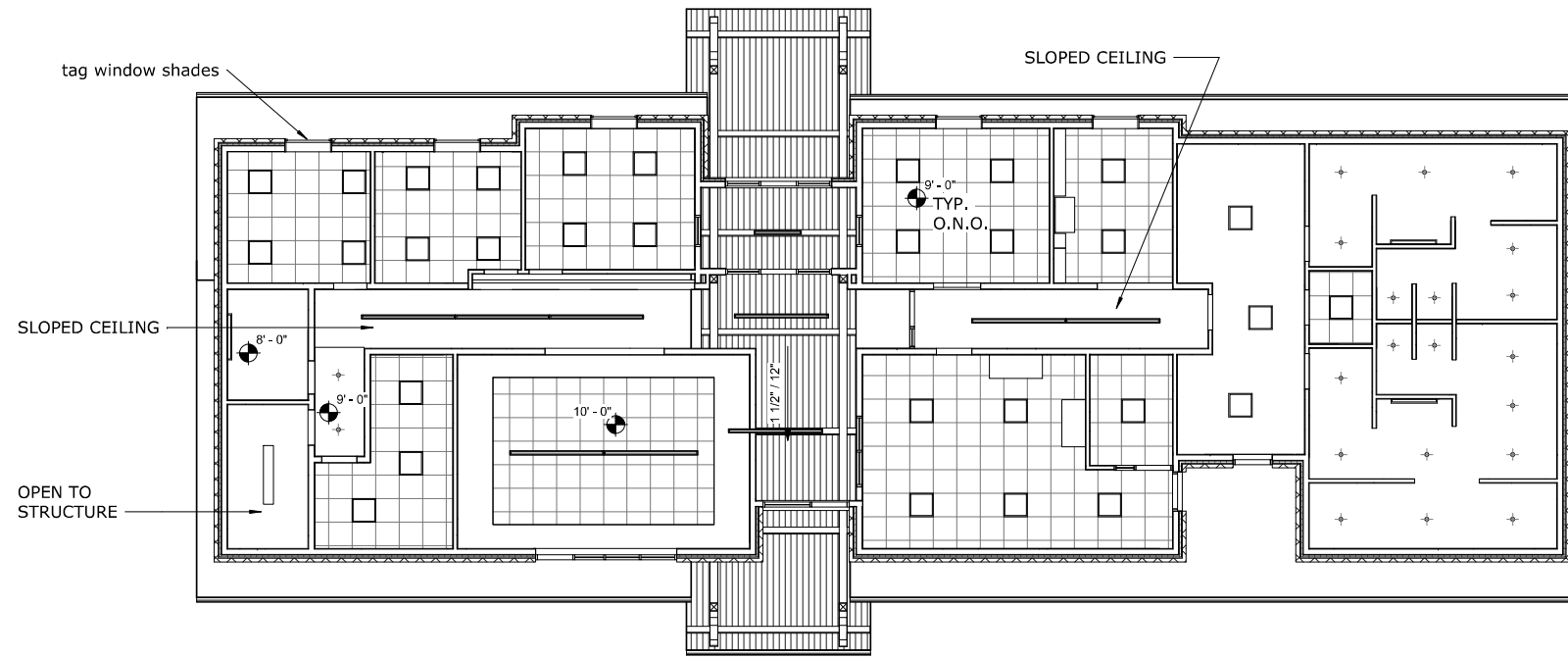
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**ADMIN BUILDING FLOOR PLAN**

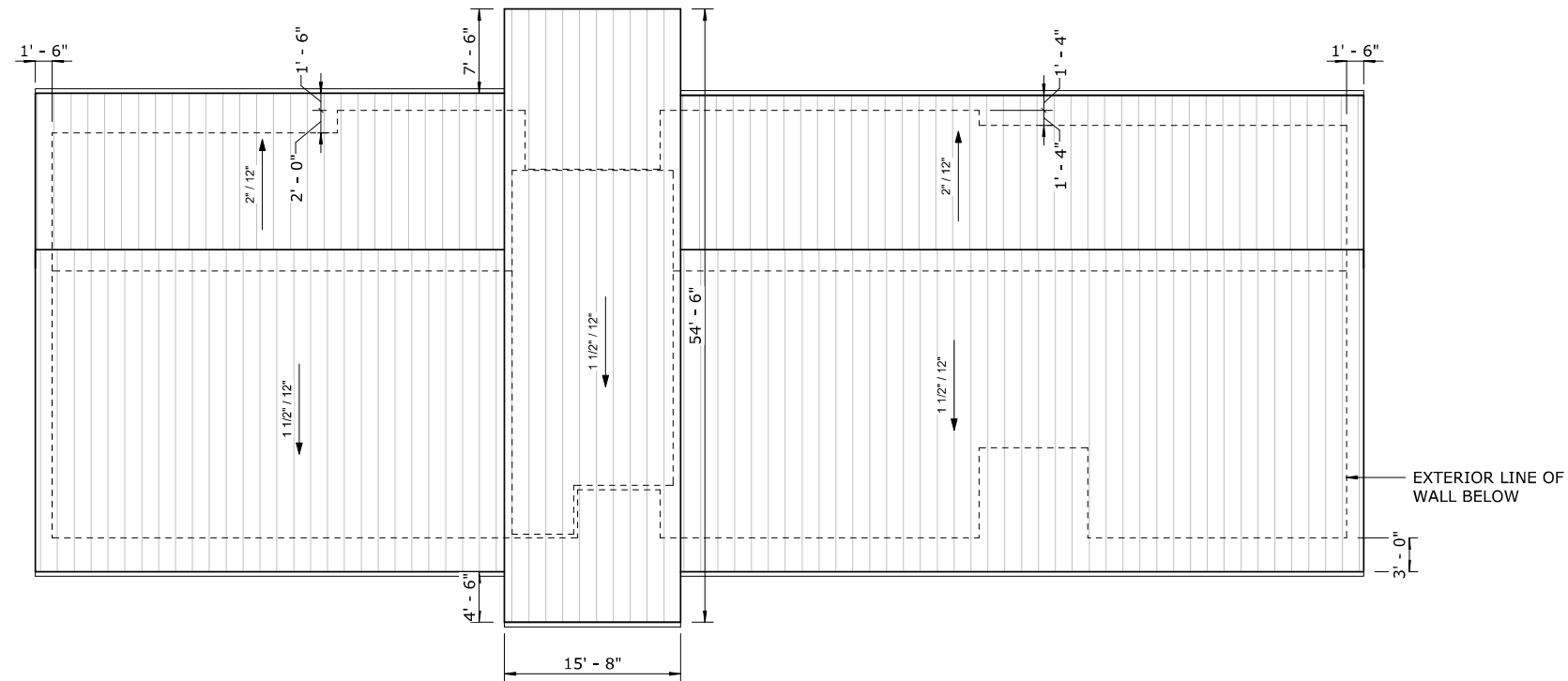
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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RCP - ADMIN  
1/8" = 1'-0"

2



ROOF PLAN - ADMIN  
1/8" = 1'-0"

1

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**STRONGWORK**  
ARCHITECTURE

**60% SUBMITTAL**

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NOTICE  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

AA / SD  
DESIGNED  
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**CITY OF SWEET HOME**  
WWTP IMPROVEMENTS

**ADMIN BUILDING RCP & ROOF PLAN**

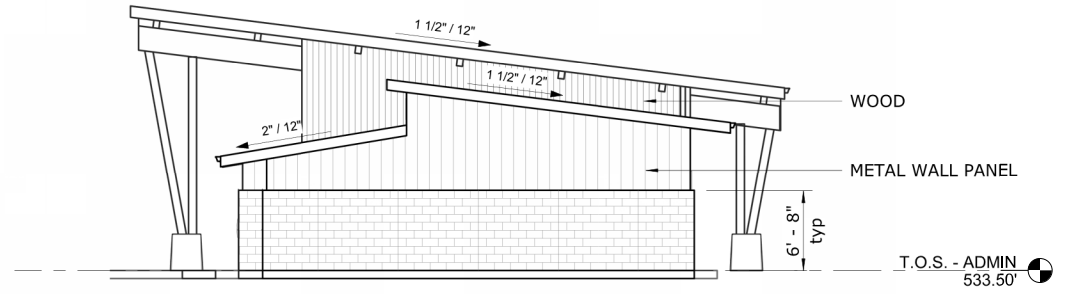
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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A-841  
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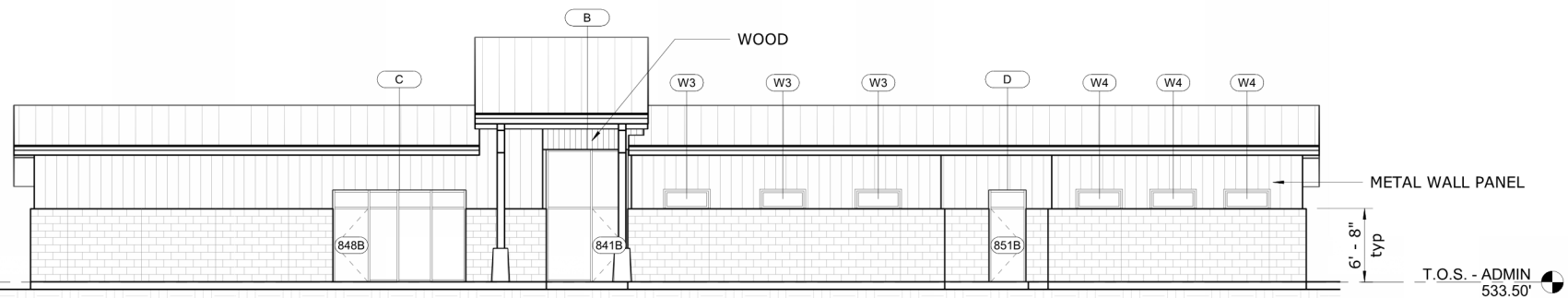
EXTERIOR ELEVATION - ADMIN - NORTH  
1/8" = 1'-0"

2



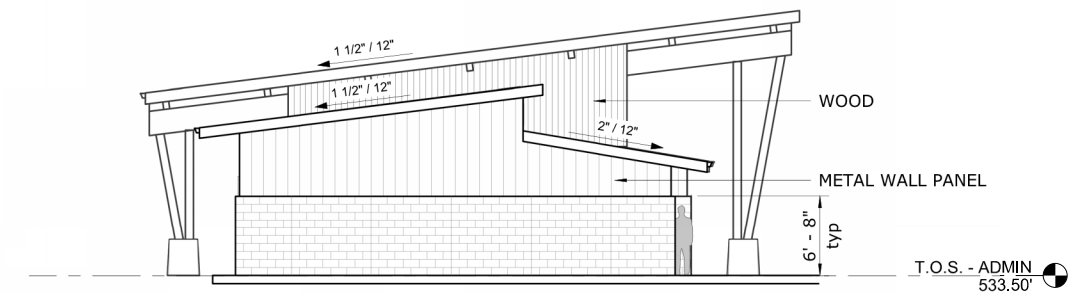
EXTERIOR ELEVATION - ADMIN - WEST  
1/8" = 1'-0"

4



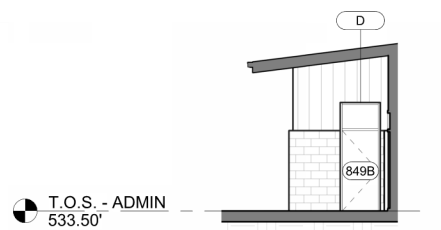
EXTERIOR ELEVATION - ADMIN - SOUTH  
1/8" = 1'-0"

3



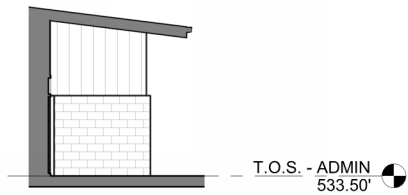
EXTERIOR ELEVATION - ADMIN - EAST  
1/8" = 1'-0"

1



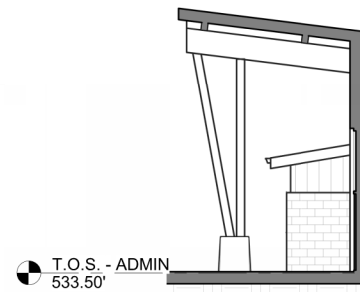
EXT ELEVATION - ADMIN - OPERATOR ENTRY - EAST  
1/8" = 1'-0"

8



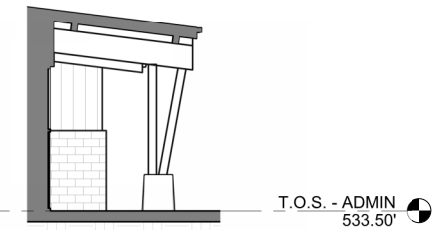
EXT ELEVATION - ADMIN - OPERATOR ENTRY - WEST  
1/8" = 1'-0"

7



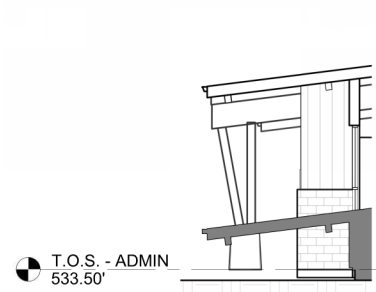
EXTERIOR ELEVATION - ADMIN - ENTRY WEST  
1/8" = 1'-0"

6



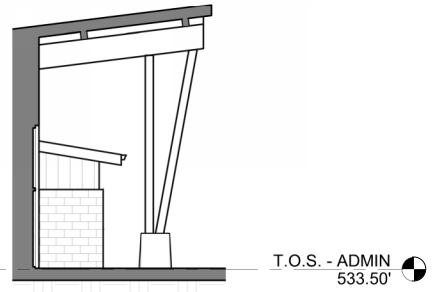
EXTERIOR - ADMIN - EXIT WEST  
1/8" = 1'-0"

9



EXTERIOR ELEVATION - ADMIN - EXIT EAST  
1/8" = 1'-0"

10



EXTERIOR ELEVATION - ADMIN - ENTRY WEST  
1/8" = 1'-0"

9

STRONGWORK ARCHITECTURE

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NOTICE  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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ADMIN BUILDING EXTERIOR  
ELEVATIONS

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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60% SUBMITTAL

**ADMIN FINISH SCHEDULE**

| SPACE      | FLOOR FINISH | WALL BASE | WALL | CEILING | NOTES |
|------------|--------------|-----------|------|---------|-------|
| ARCHIVE    |              |           |      |         |       |
| BATHROOM   |              |           |      |         |       |
| BREAK ROOM |              |           |      |         |       |
| CONFERENCE |              |           |      |         |       |
| CUSTODIAN  |              |           |      |         |       |
| FLEX SPACE |              |           |      |         |       |
| HALL       |              |           |      |         |       |
| HALL       |              |           |      |         |       |
| IT ROOM    |              |           |      |         |       |

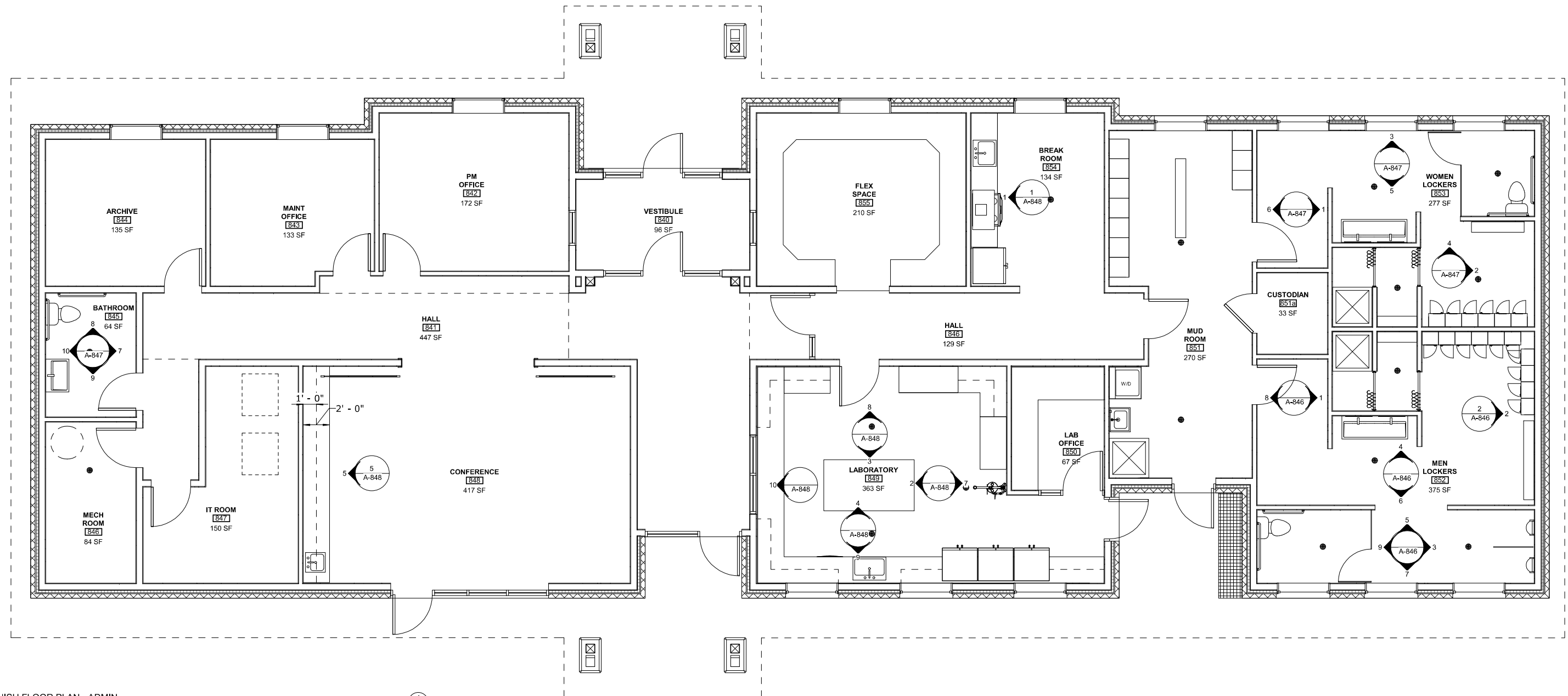
**FINISH NOTES**  
1. FOR PAINT FINISH SCHEDULE SEE SPECIFICATION SECTION 09 90 00

**FINISH KEY**  
FLR-1 SEALED CONCRETE SLAB  
CMU-1 SEALED CMU WALL, PAINT SYSTEM 305  
CLG-1 GYP LEVEL 4, PAINT SYSTEM 302

**ADMIN FINISH SCHEDULE**

| SPACE         | FLOOR FINISH | WALL BASE | WALL | CEILING | NOTES |
|---------------|--------------|-----------|------|---------|-------|
| LAB OFFICE    |              |           |      |         |       |
| LABORATORY    |              |           |      |         |       |
| MAINT OFFICE  |              |           |      |         |       |
| MECH ROOM     |              |           |      |         |       |
| MEN LOCKERS   |              |           |      |         |       |
| MUD ROOM      |              |           |      |         |       |
| PM OFFICE     |              |           |      |         |       |
| VESTIBULE     |              |           |      |         |       |
| WOMEN LOCKERS |              |           |      |         |       |

**PAINT COLOR KEY**  
P-1 PANTONE 1815C (CRIMSON)  
P-2 PANTONE 11-0602 TPG (SNOW WHITE)  
P-3 TO MATCH STOREFRONT FRAME (DARK BRONZE)



FINISH FLOOR PLAN - ADMIN  
1/4" = 1'-0"

1

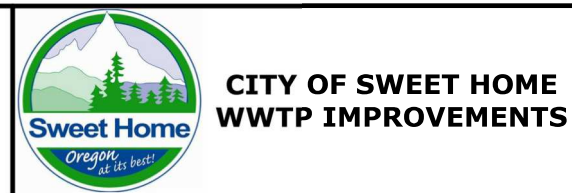
**STRONGWORK ARCHITECTURE**

**60% SUBMITTAL**

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**NOTICE**  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

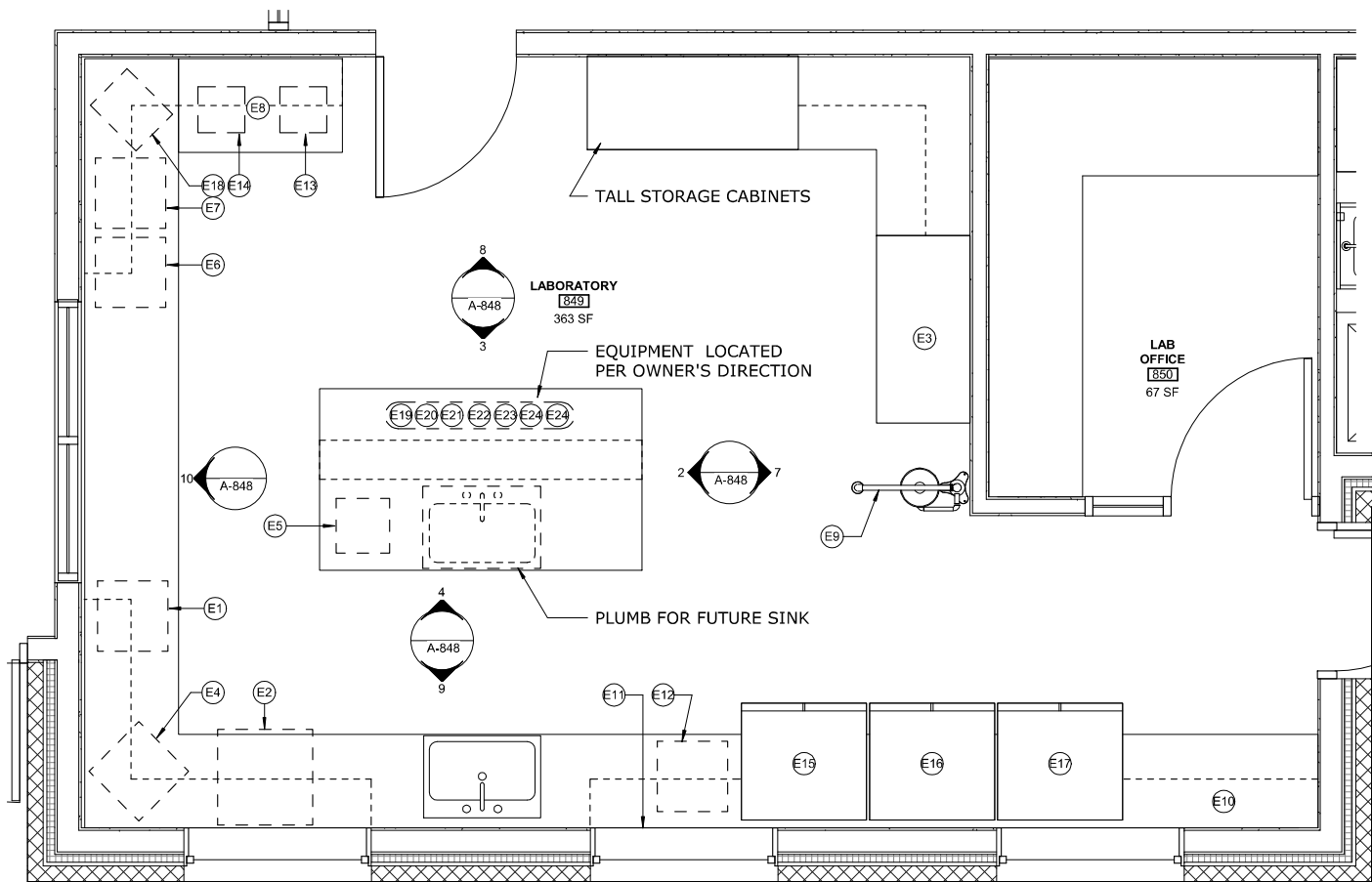
AA / SD  
DESIGNED  
SD  
DRAWN  
AA  
CHECKED



**ADMIN BUILDING FINISH PLAN AND FINISH SCHEDULE**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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ENLARGED PLAN - LABORATORY & LAB OFFICE  
1/2" = 1'-0"

**LAB EQUIPMENT SCHEDULE**

| MARK | EQUIPMENT  | DIMENSIONS |
|------|--|------------|
| E1   | INCUBATOR 35C  |            |
| E2   | BOD AND GLASSWARE DW                                 |            |
| E3   | FUME HOOD  |            |
| E4   | AUTOCLAVE  |            |
| E5   | CENTIRFUGE, (VERIFY - 110V POWER REQ)                |            |
| E6   | DRYING OVEN  |            |
| E7   | MUFFLE FURNACE                                       |            |
| E8   | WIEGHTED BALANCE TABLE                               |            |
| E9   | EYE WASH / FULL DRENCH SHOWER                        |            |
| E10  | DEIONIZATION WATER PURIFICATION SYSTEM UNDER COUNTER |            |
| E11  | DRYING RACK - WALL MOUNTED                           |            |
| E12  | INCUBATOR 30C  |            |
| E13  | BALANCE  |            |
| E14  | SOLIDS DRYING BALANCE                                |            |
| E15  | REFRIGERATOR, REGENT/TESKITS, 10 CUFT OR MORE        |            |
| E16  | FREEZER, FULL SIZE                                   |            |
| E17  | REFRIGERATOR, FULL SIZE                              |            |
| E18  | DESSICATOR CABINET                                   |            |
| E19  | SPECTOPHOTOMETER                                     |            |
| E20  | PH METER   |            |
| E21  | STIR PLATE   |            |
| E22  | THERMOMETERS   |            |
| E23  | BLACKLIGHT   |            |
| E24  | QUANTITRAY SEALER FOR IDEXX SYSTEM                   |            |

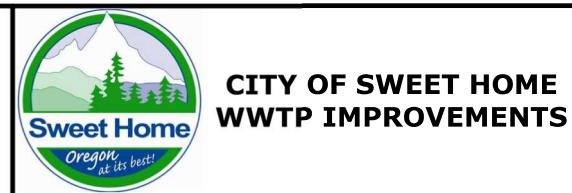
STRONGWORK  
ARCHITECTURE

60% SUBMITTAL

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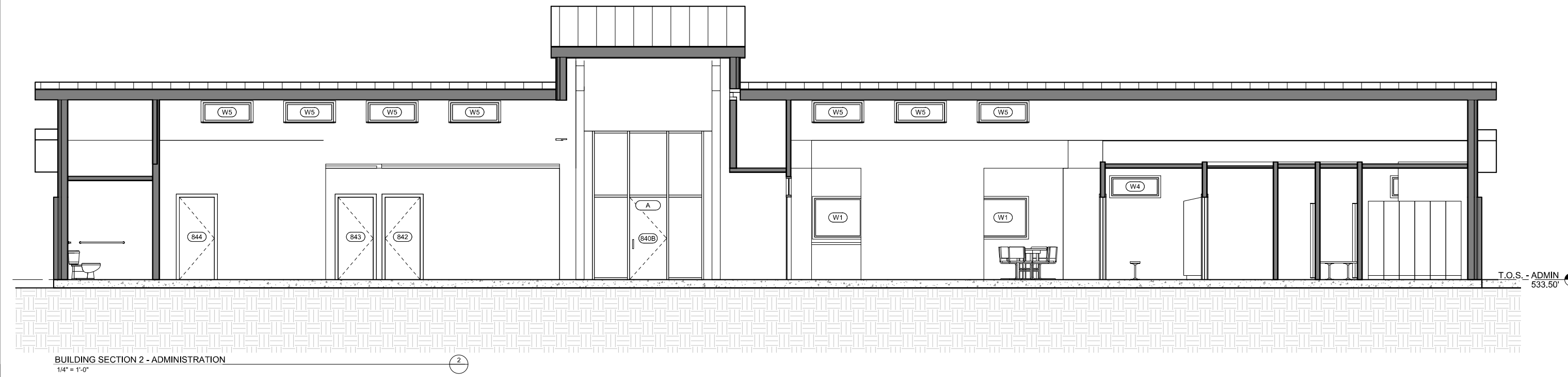
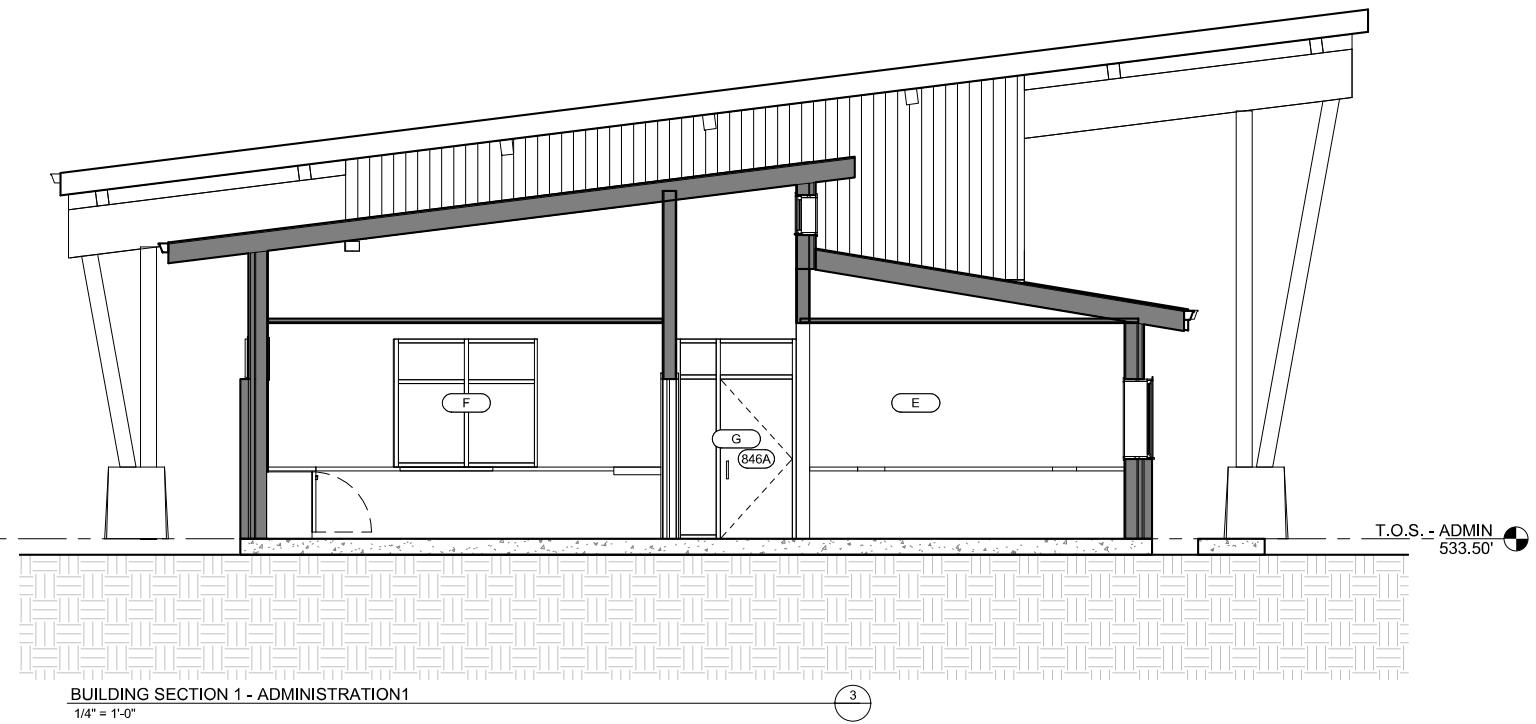
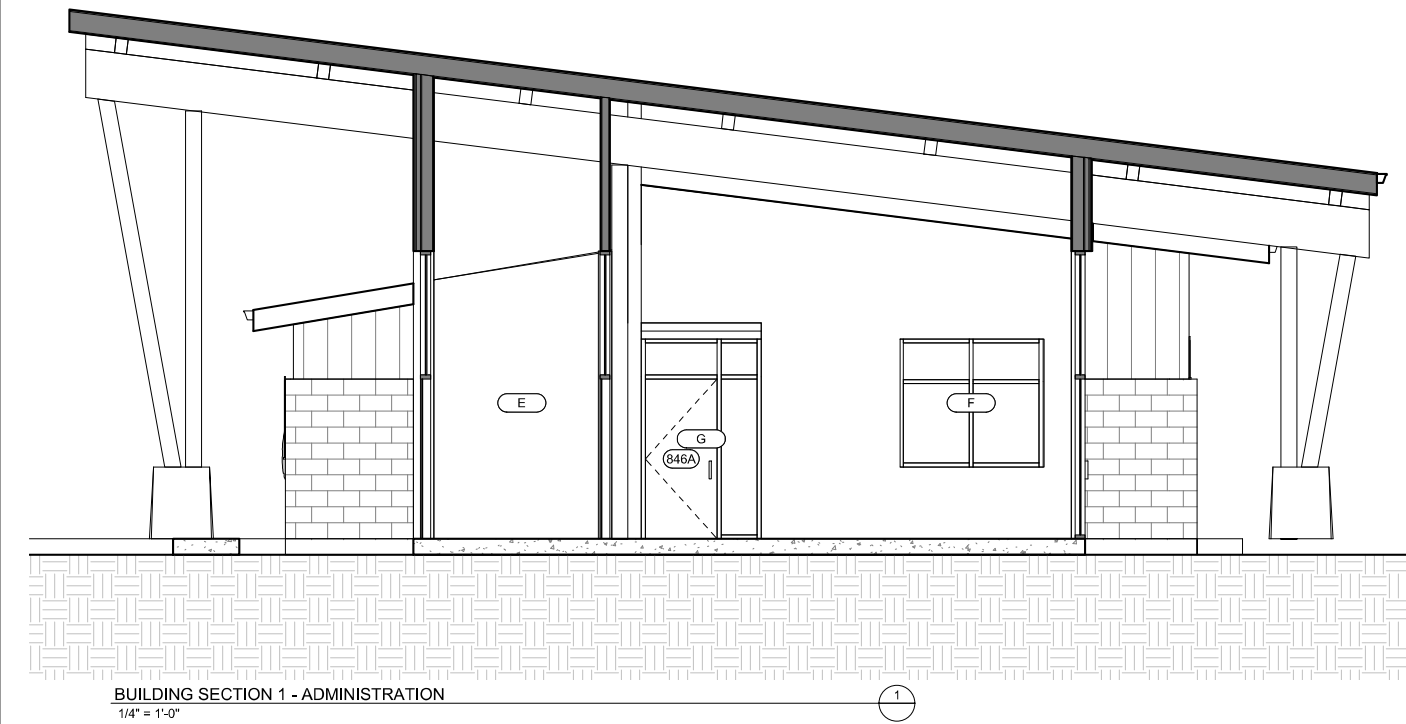
AA / SD  
DESIGNED  
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CHECKED



ADIMIN BUILDING ENLARGED LAB PLAN,  
AND LAB EQUIPMENT SCHEDULE

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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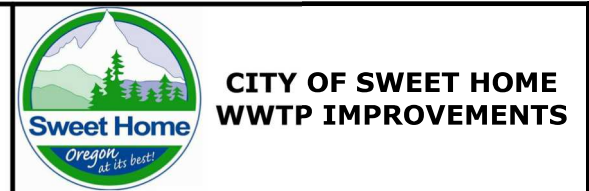
**STRONGWORK  
ARCHITECTURE**

**60% SUBMITTAL**

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NOTICE  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

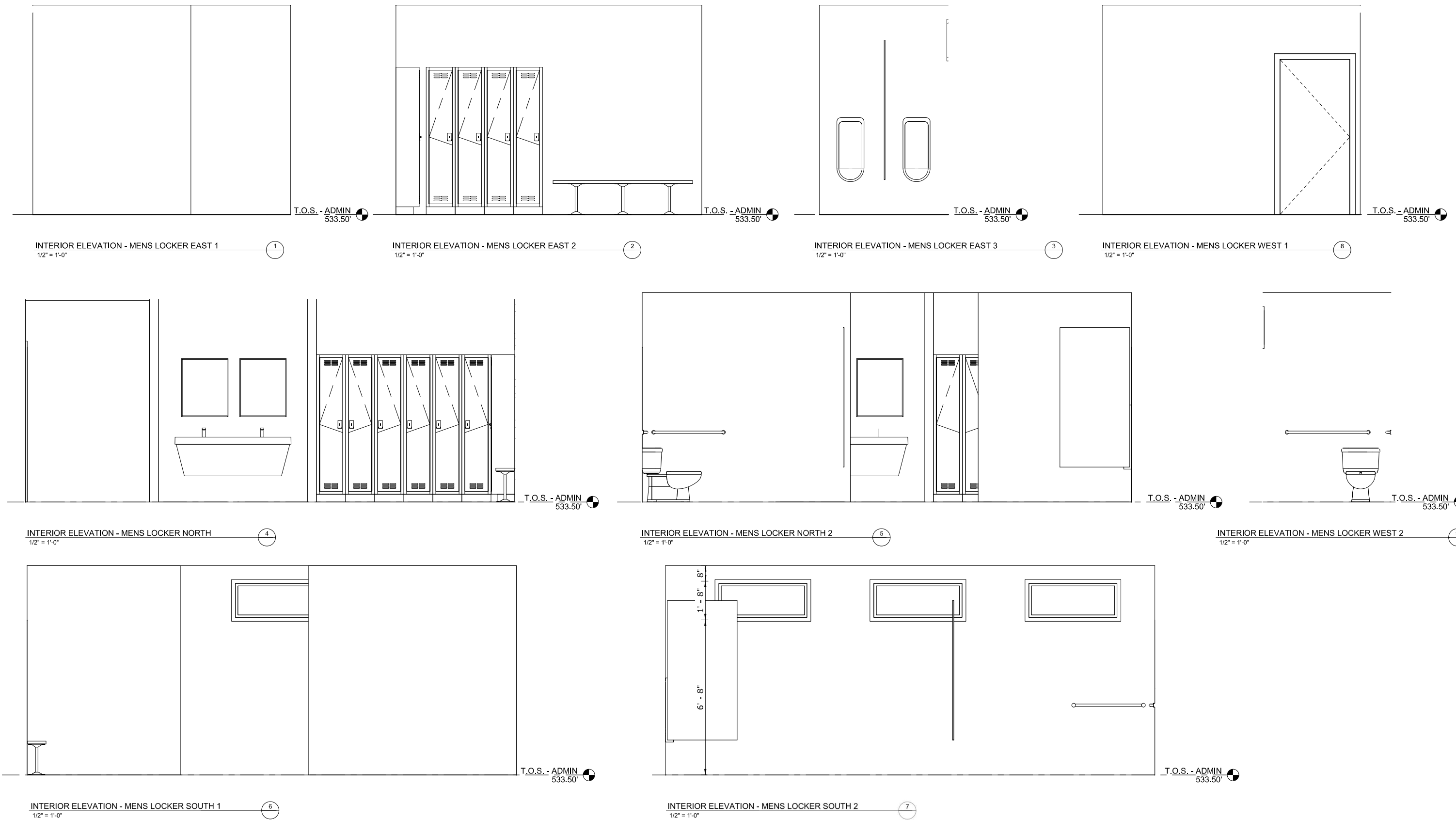
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SD  
DRAWN  
AA  
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**ADMIN BUILDING SECTIONS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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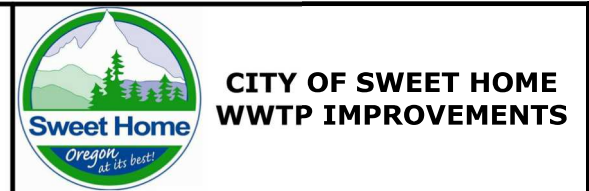
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**STRONGWORK**  
 ARCHITECTURE

**60% SUBMITTAL**

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NOTICE  
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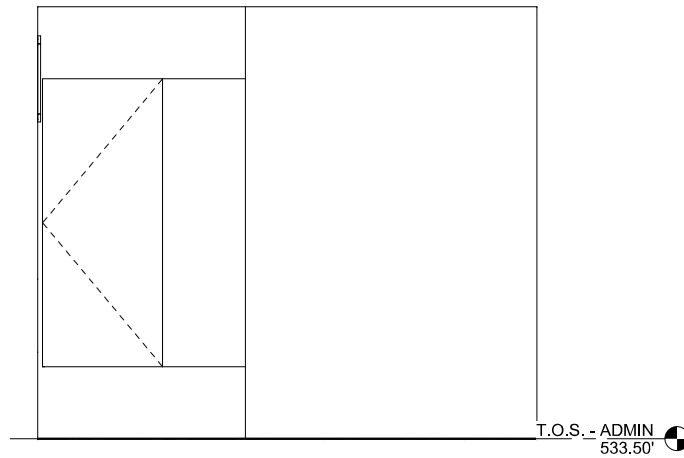
AA / SD  
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**ADMIN BUILDING INTERIOR ELEVATIONS**

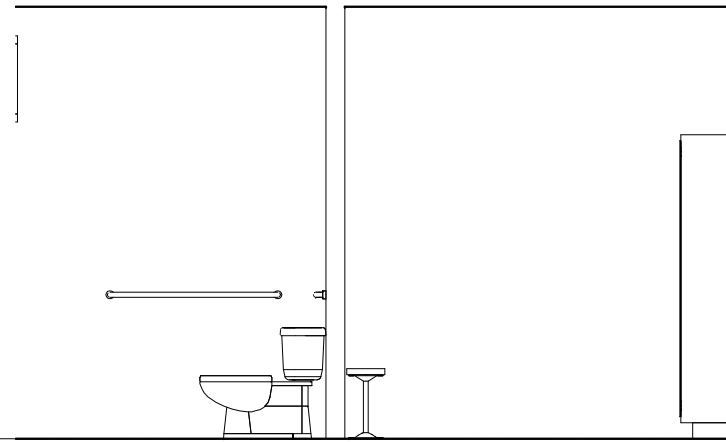
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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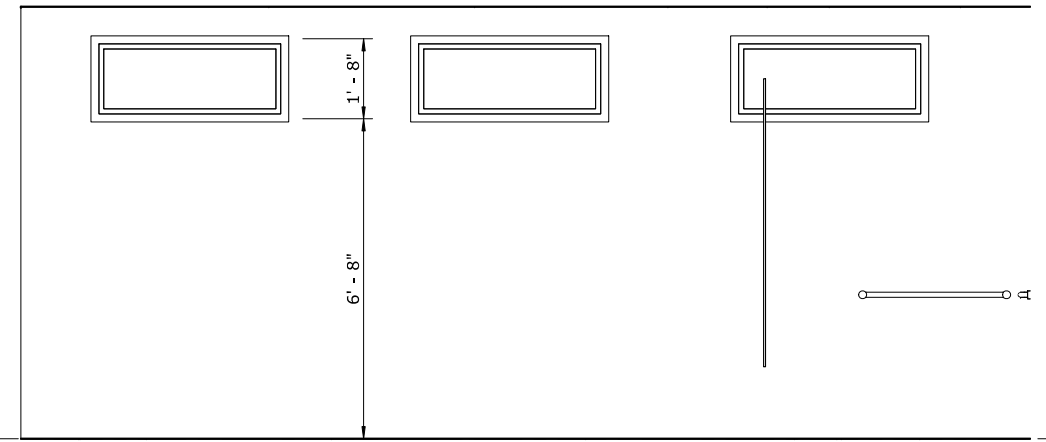
T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - WOMENS LOCKER EAST 1  
1/2" = 1'-0"



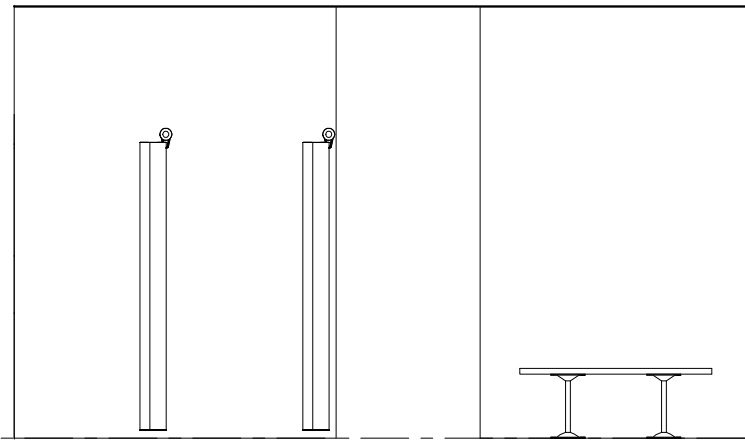
T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - WOMENS LOCKER EAST 2  
1/2" = 1'-0"



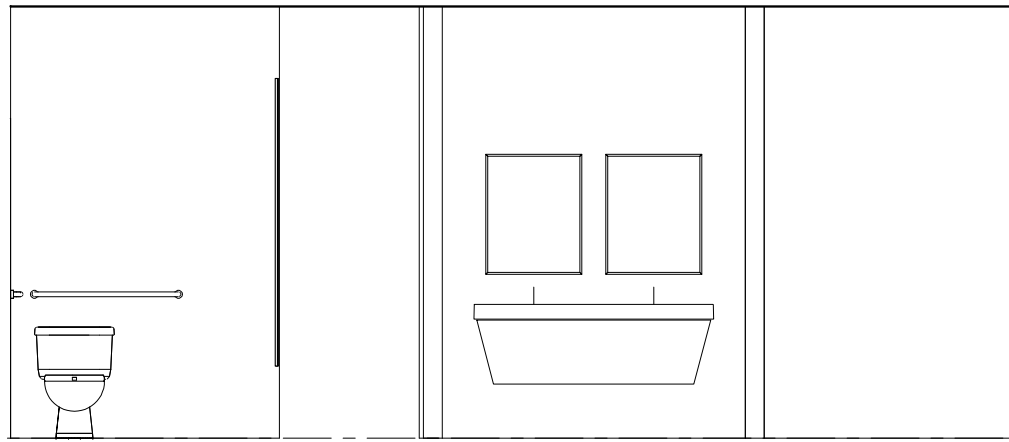
T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - WOMENS LOCKER NORTH 1  
1/2" = 1'-0"



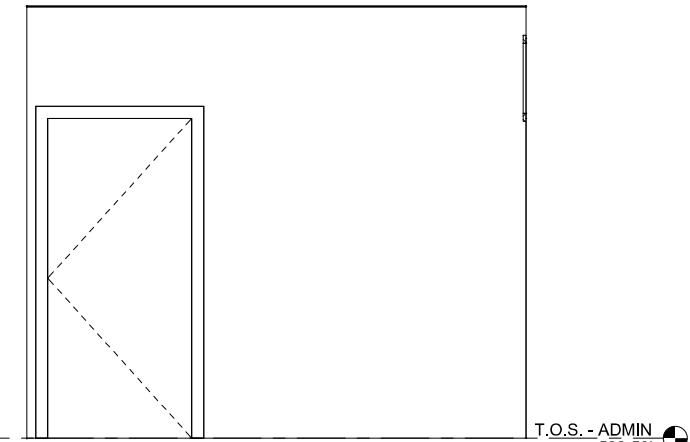
T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - WOMENS LOCKER NORTH 2  
1/2" = 1'-0"



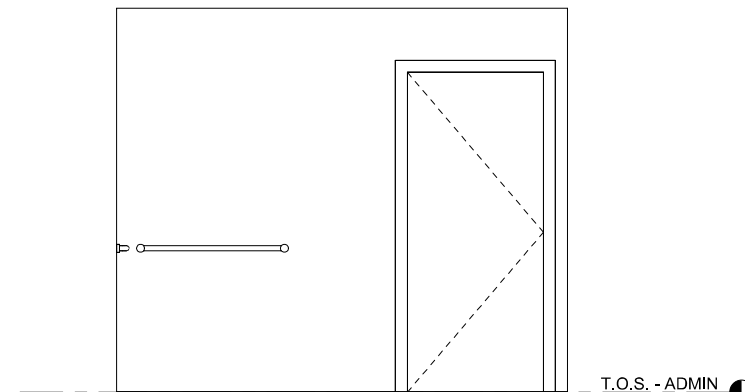
T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - WOMENS LOCKER SOUTH  
1/2" = 1'-0"



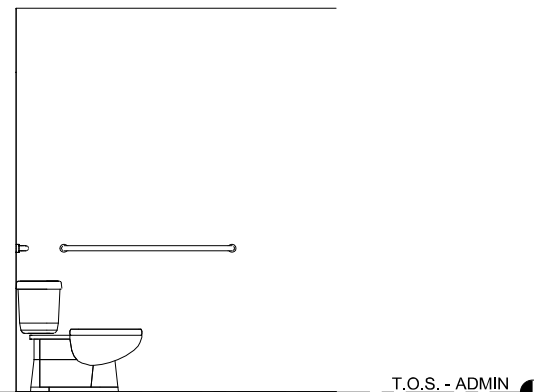
T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - WOMENS LOCKER WEST 1  
1/2" = 1'-0"



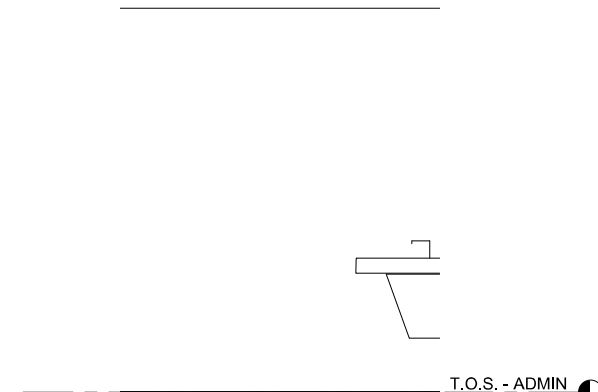
T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - RESTROOM EAST  
1/2" = 1'-0"



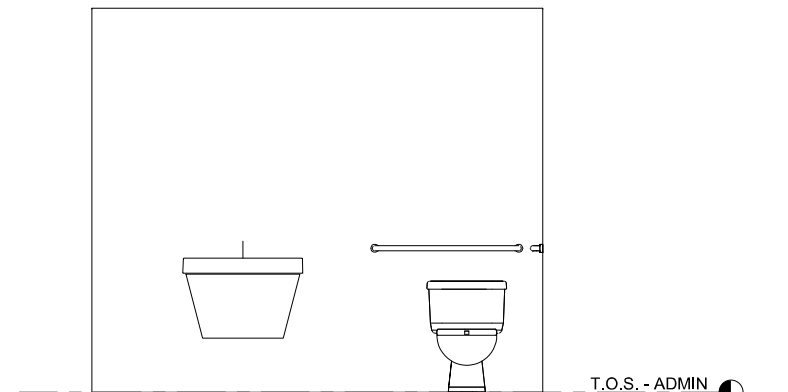
T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - RESTROOM NORTH  
1/2" = 1'-0"



T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - RESTROOM SOUTH  
1/2" = 1'-0"



T.O.S. - ADMIN  
533.50'

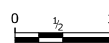
INTERIOR ELEVATION - RESTROOM WEST  
1/2" = 1'-0"

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**STRONGWORK**  
ARCHITECTURE

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NOTICE



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DESIGNED  
SD  
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CHECKED

**murraysmith**



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**ADMIN BUILDING INTERIOR**  
ELEVATIONS

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

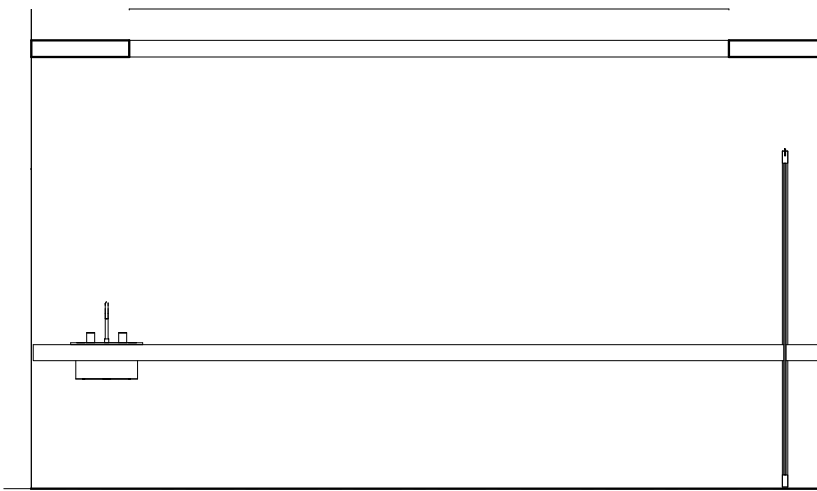
**60% SUBMITTAL**

SHEET

A-847

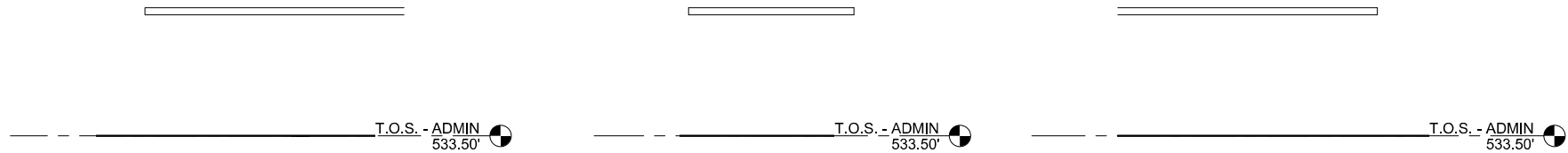
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T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - CONFERENCE WEST  
1/2" = 1'-0"



T.O.S. - ADMIN  
533.50'

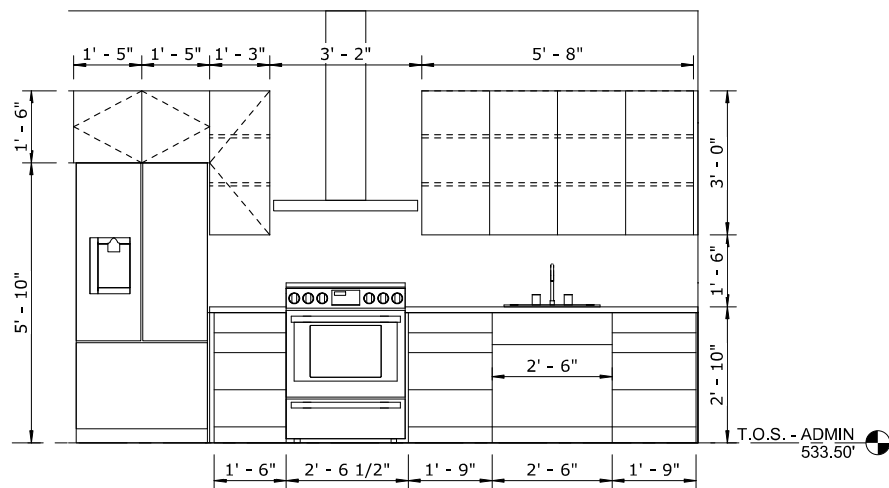
INTERIOR ELEVATION - LAB ISLAND SOUTH  
1/2" = 1'-0"

T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - LAB ISLAND EAST & WEST  
1/2" = 1'-0"

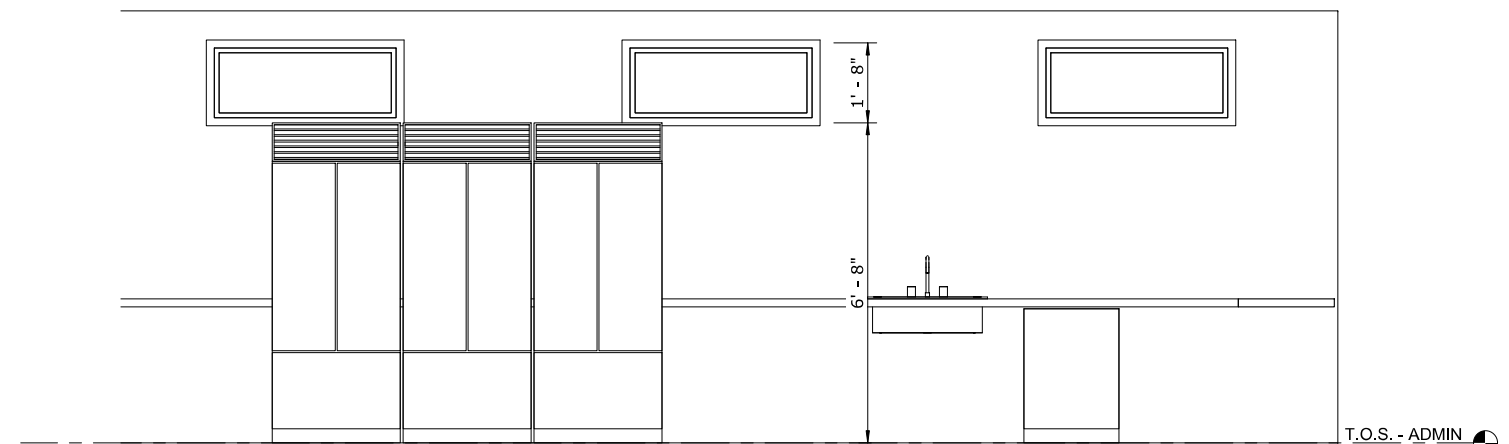
T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - LAB ISLAND NORTH  
1/2" = 1'-0"



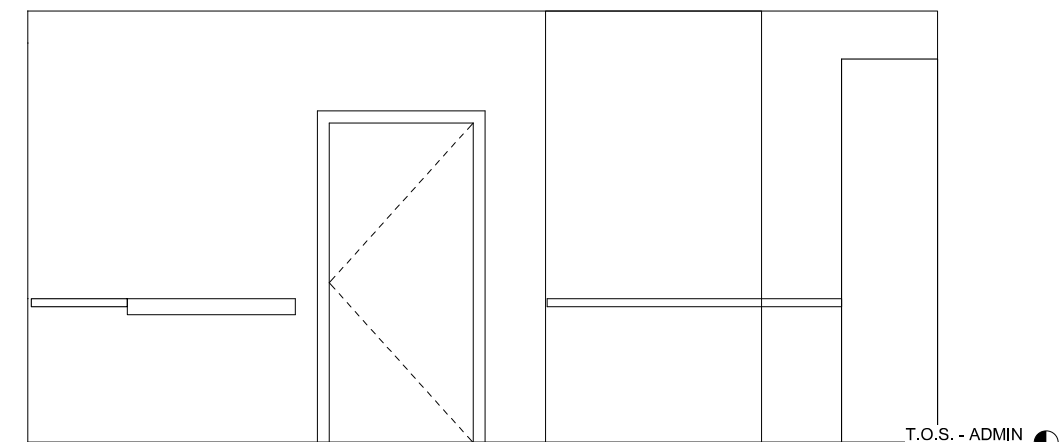
T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - BREAK ROOM  
1/2" = 1'-0"



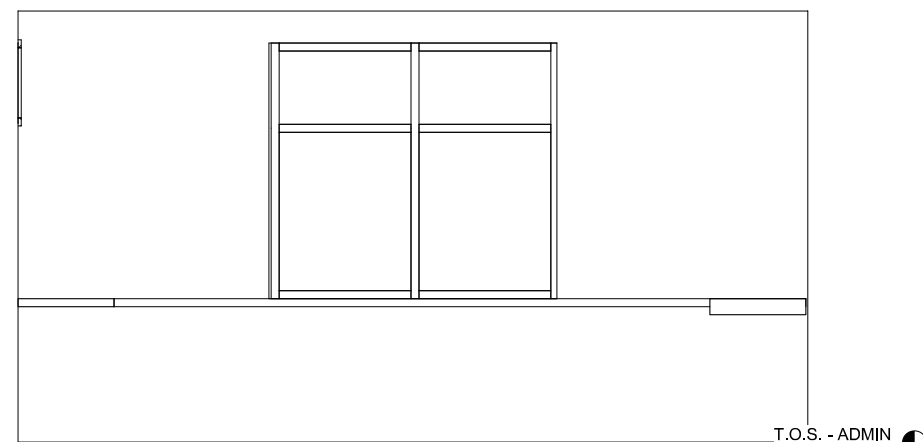
T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - LABORATORY SOUTH  
1/2" = 1'-0"



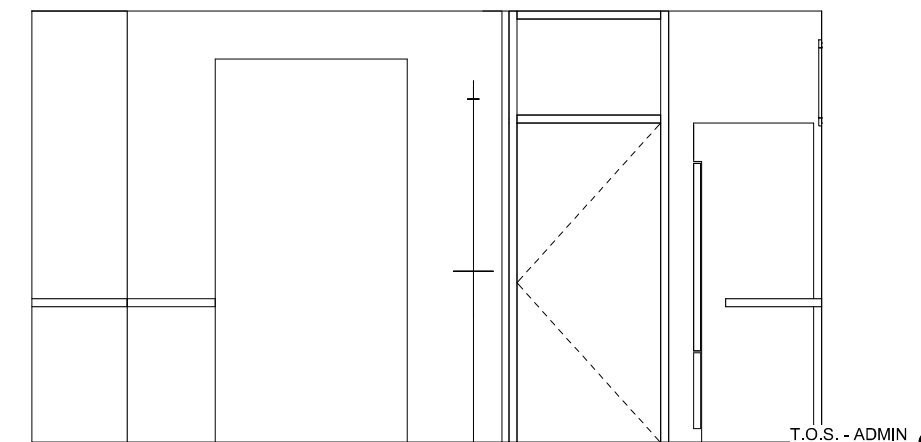
T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - LABORATORY NORTH  
1/2" = 1'-0"



T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - LABORATORY WEST  
1/2" = 1'-0"



T.O.S. - ADMIN  
533.50'

INTERIOR ELEVATION - LABORATORY EAST2  
1/2" = 1'-0"

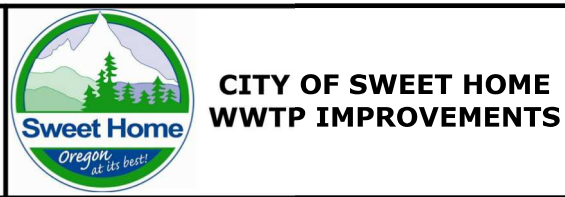
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**STRONGWORK**  
ARCHITECTURE

**60% SUBMITTAL**

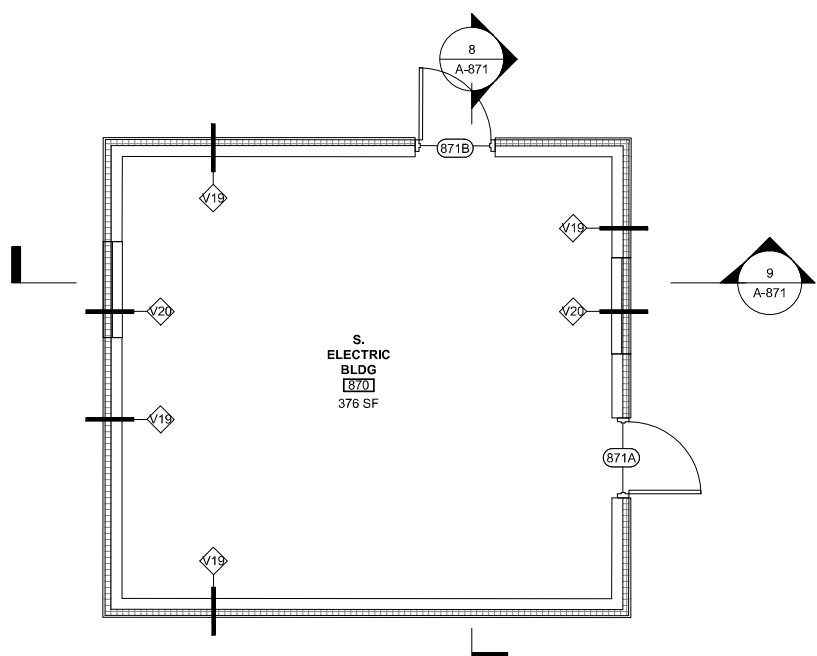
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| NOTICE   | AA / SD  |
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| IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE | SD       |
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|  | CHECKED  |

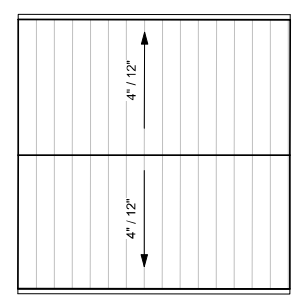


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| ADMIN BUILDING INTERIOR ELEVATIONS |           |        |          |
| PROJECT NO.:                       | 19-2605   | SCALE: | AS SHOWN |
| DATE:                              | JUNE 2020 |        |          |

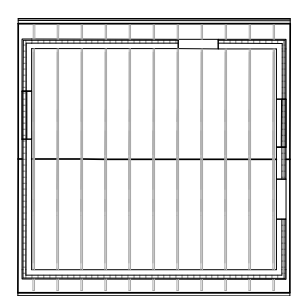
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| SHEET     | A-848 |
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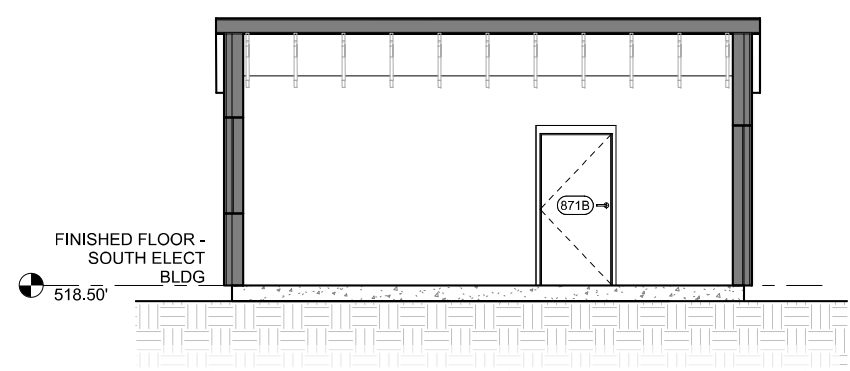
FLOOR PLAN - 870 SOUTH ELECT BLDG  
1/4" = 1'-0"



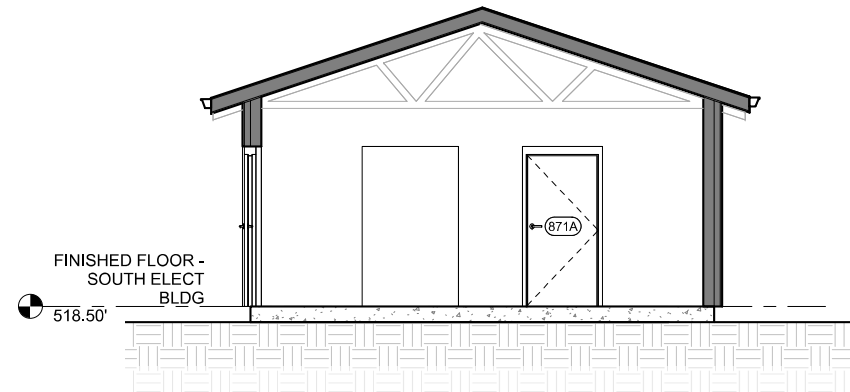
ROOF PLAN - SOUTH ELECT BLDG  
1/8" = 1'-0"



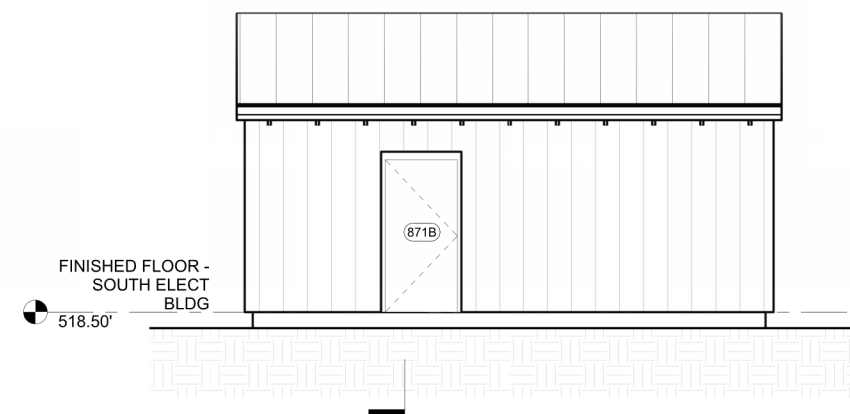
RCP - SOUTH ELECT BLDG  
1/8" = 1'-0"



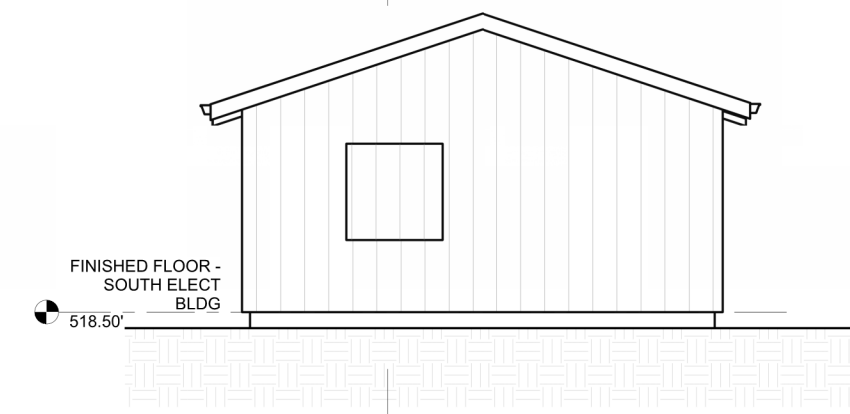
BUILDING SECTION 2 - SOUTH ELECT BLDG  
1/4" = 1'-0"



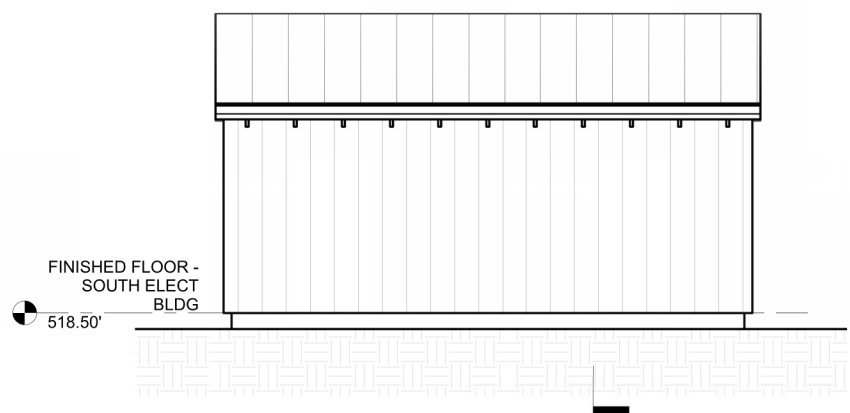
BUILDING SECTION 1 - SOUTH ELECT BLDG  
1/4" = 1'-0"



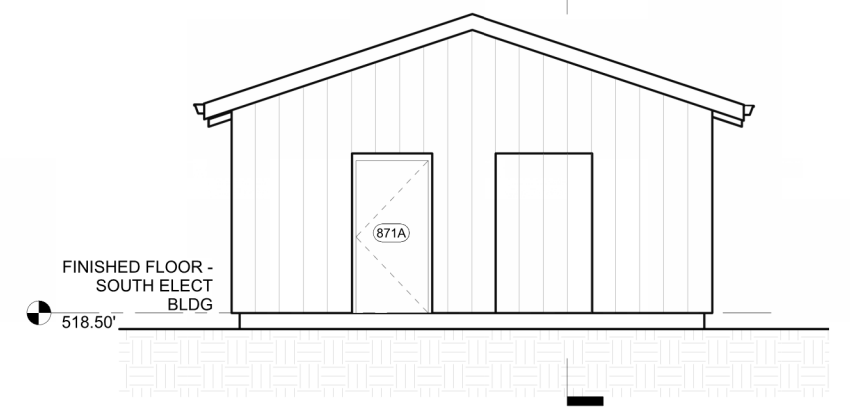
EXTERIOR ELEVATION - SOUTH ELECT BLDG - NORTH EAST  
1/4" = 1'-0"



EXTERIOR ELEVATION - SOUTH ELECT BLDG - NORTH WEST  
1/4" = 1'-0"



EXTERIOR ELEVATION - SOUTH ELECT BLDG - SOUTH WEST  
1/4" = 1'-0"



EXTERIOR ELEVATION - SOUTH ELECT BLDG - SOUTH EAST  
1/4" = 1'-0"

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**STRONGWORK ARCHITECTURE**

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**CITY OF SWEET HOME WWTP IMPROVEMENTS**

**GEN BLDG/LOWER PLANT ELEC ROOM PLAN/ELEVATIONS/SECTIONS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

**60% SUBMITTAL**

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## STRUCTURAL LEGENDS

|                                     | EXISTING | PROPOSED |
|-------------------------------------|----------|----------|
| CONCRETE                            |          |          |
| CELLULAR CONCRETE FILL              |          |          |
| CMU WALL                            |          |          |
| GROUT FILL                          |          |          |
| TYPE 2 GRATING                      |          |          |
| CRUSHED ROCK                        |          |          |
| GALV STEEL PAN DECK                 |          |          |
| BAR GRATING                         |          |          |
| LOW STRENGTH CELLULAR CONCRETE FILL |          |          |

## STRUCTURAL ABBREVIATIONS

|        |                                       |        |                            |
|--------|---------------------------------------|--------|----------------------------|
| ABV    | ABOVE                                 | LLBB   | LONG LEG BACK TO BACK      |
| ALT    | ALTERNATE                             | LLV    | LONG LEG VERTICAL          |
| AB     | ANCHOR BOLT                           | MB     | MACHINE BOLT               |
| AL     | ALUMINUM                              | MFR    | MANUFACTURER               |
| @      | AT                                    | MAX    | MAXIMUM                    |
| AVG    | AVERAGE                               | MIN    | MINIMUM                    |
| B-B    | BACK TO BACK                          | MISC   | MISCELLANEOUS              |
| BM     | BEAM                                  | MOD    | MODIFY, MODIFIED           |
| BRG    | BEARING                               | NS     | NEAR SIDE                  |
| BOT    | BOTTOM                                | (N)    | NEW                        |
| CIP    | CAST-IN-PLACE                         | N      | NORTH                      |
| CC     | CENTER TO CENTER                      | NTS    | NOT TO SCALE               |
| CTR    | CENTERED                              | O.C.   | ON CENTER                  |
| CL     | CENTERLINE                            | OD     | OUTSIDE DIAMETER           |
| CLR    | CLEAR, CLEARANCE                      | PJP    | PARTIAL JOINT PENETRATION  |
| CJP    | COMPLETE JOINT PENETRATION            | PL     | PLATE                      |
| CONC   | CONCRETE                              | R      | RADIUS                     |
| CONST  | CONSTRUCTION                          | REINF  | REINFORCEMENT, REINFORCING |
| CJ     | CONSTRUCTION JOINT                    | REQD   | REQUIRED                   |
| CONT   | CONTINUOUS                            | REV    | REVISED                    |
| CTRSK  | COUNTERSINK                           | RT     | RIGHT                      |
| DEG    | DEGREE                                | SEC    | SECTION                    |
| DET    | DETAIL                                | SLBB   | SHORT LEG BACK TO BACK     |
| DIAG   | DIAGONAL                              | SLV    | SHORT LEG VERTICAL         |
| DIA    | DIAMETER                              | SC     | SLIP CRITICAL              |
| DBL    | DOUBLE                                | S      | SOUTH                      |
| EA     | EACH                                  | SHTG   | SHEATING, SHEATHING        |
| E      | EAST                                  | SMS    | SHEET METAL SCRE           |
| EF     | EACH FACE                             | SP     | SPIRAL                     |
| EG     | EXISTING GRADE                        | SQ     | SQUARE                     |
| ELEV   | ELEVATION                             | SS     | STAINLESS STEEL            |
| ENGR   | ENGINEER                              | STD    | STANDARD                   |
| (E)    | EASTING                               | STA    | STATION                    |
| EW     | EACH WAY                              | STIFF  | STIFFENER                  |
| EXP JT | EXPANSION JOINT                       | STR    | STRUCTURE                  |
| EXT    | EXTERIOR                              | STRUCT | STRUCTURAL                 |
| FS     | FAR SIDE                              | SYN    | SYMMETRICAL                |
| FG     | FINISH GRADE                          | TEMP   | TEMPORARY                  |
| FOF    | FACE OF FINISH                        | T&B    | TOP AND BOTTOM             |
| FOS    | FACE OF STUD                          | TOC    | TOP OF CONCRETE            |
| FTG    | FOOTING                               | TOS    | TOP OF STEEL BEAM          |
| GALV   | GALVANIZED                            | TOT    | TOTAL                      |
| GA     | GAUGE                                 | TRANS  | TRANSVERSE                 |
| HSB    | HIGH STRENGTH BOLT                    | TYP    | TYPICAL                    |
| HORIZ  | HORIZONTAL                            | UON    | UNLESS OTHERWISE NOTED     |
| IN     | INCH                                  | VFY    | VERIFY                     |
| INT    | INTERIOR                              | W      | WEST                       |
| ID     | INTERIOR DIAMETER, INTERIOR DIMENSION | W/     | WITH                       |
| LT     | LEFT                                  |        |                            |

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NOTICE  
  
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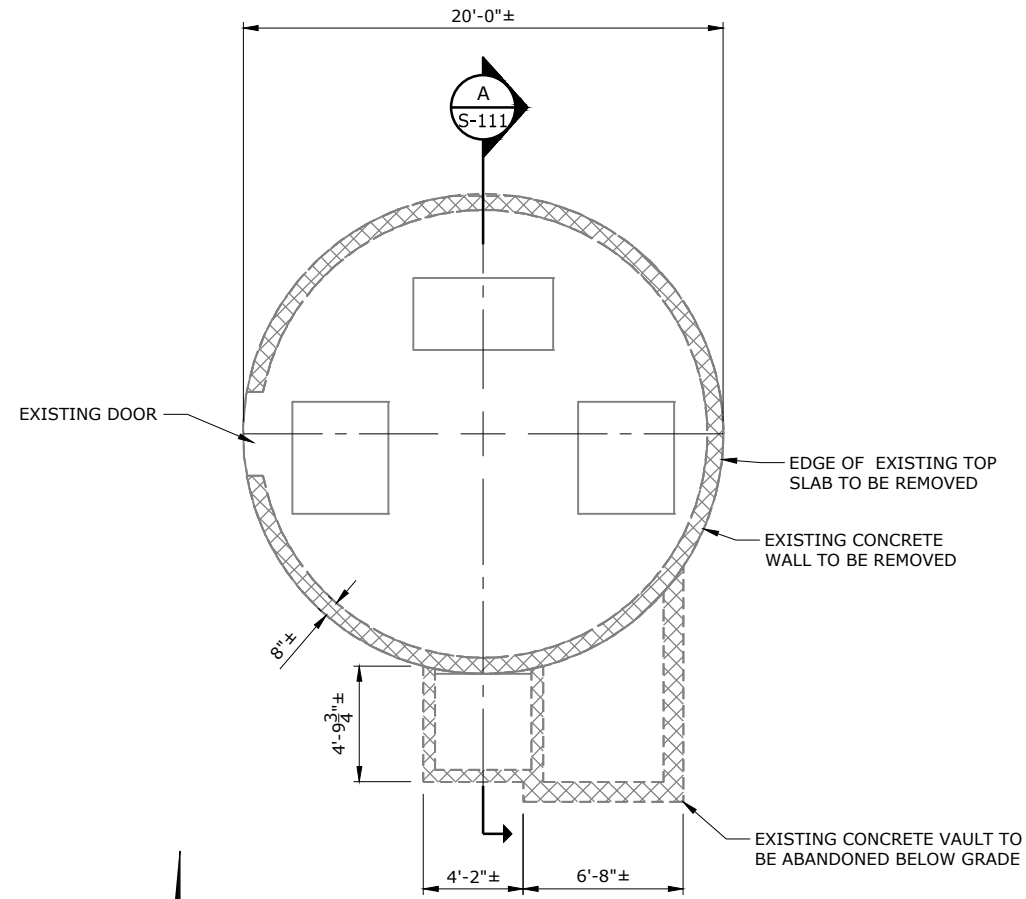


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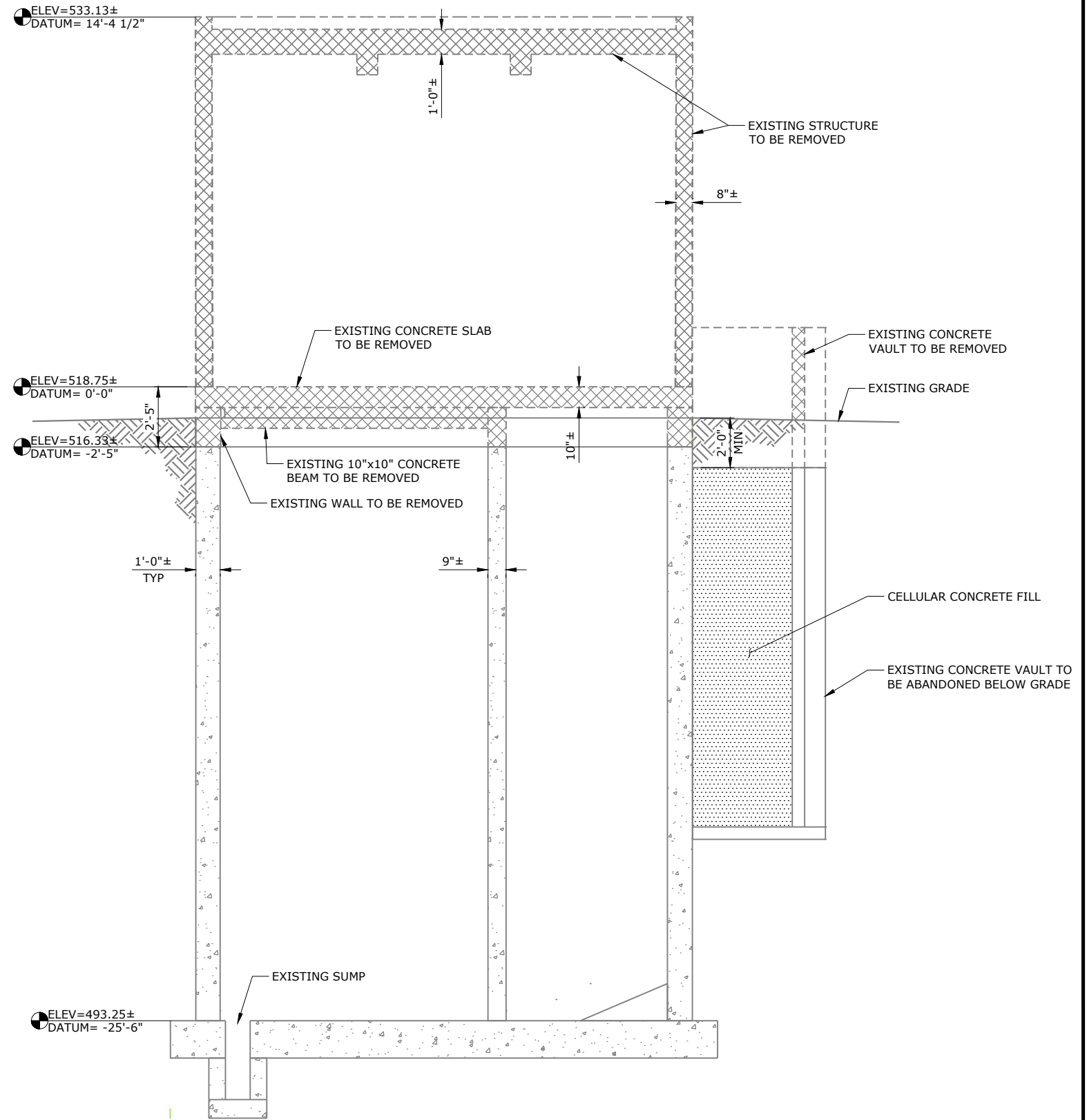
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**S-001**  
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**DEMOLITION PLAN**  
SCALE: 1/4" = 1'-0"



**BUILDING SECTION** A  
SCALE: 3/8" = 1'-0" S-111

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**INFLUENT PUMP STATION  
DEMOLITION PLAN AND SECTION**

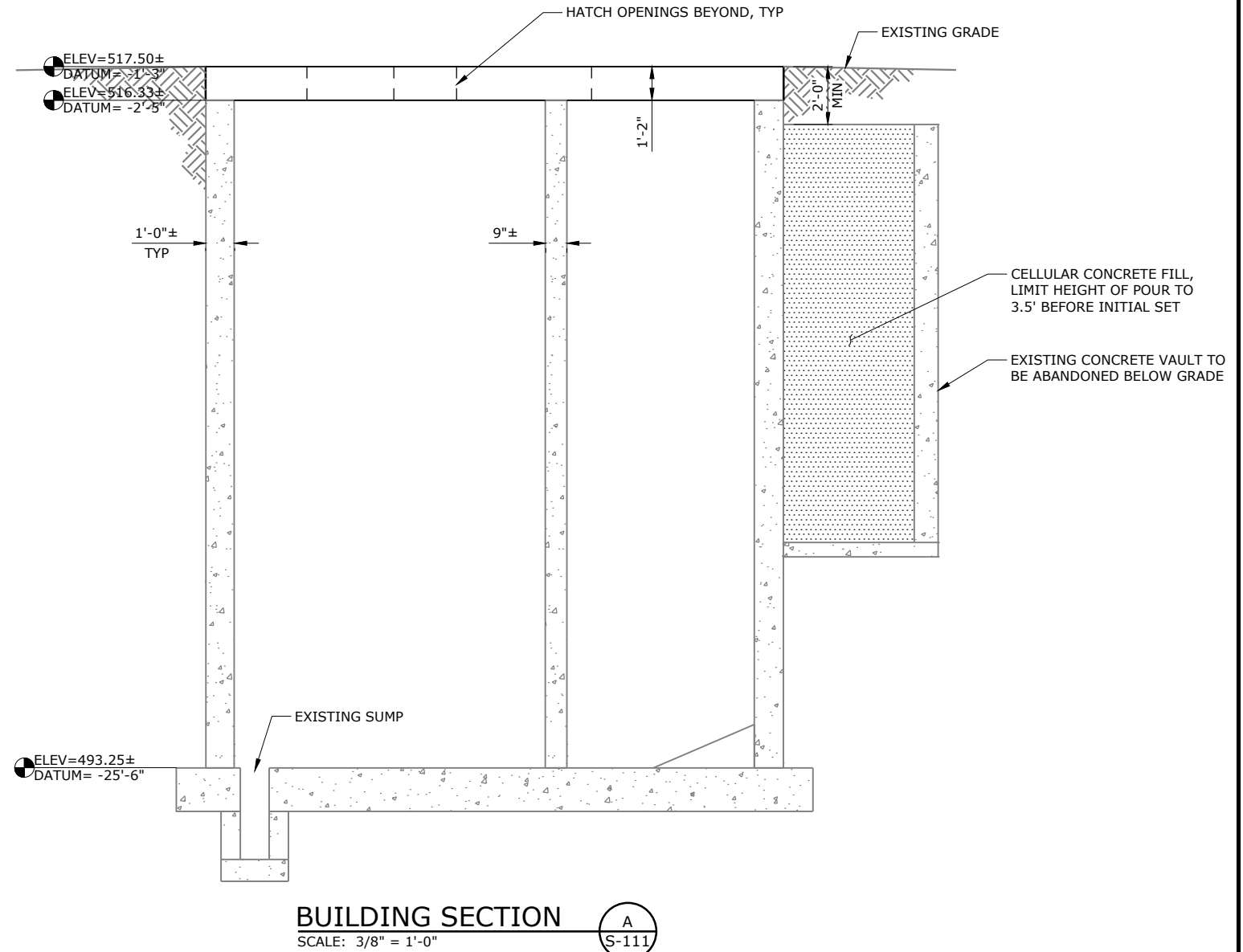
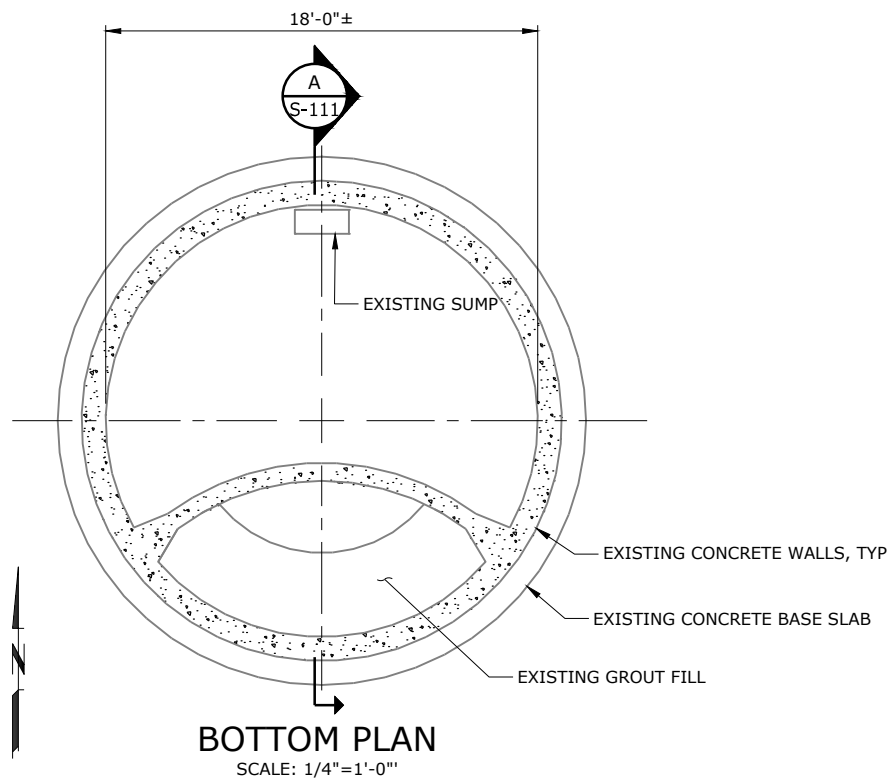
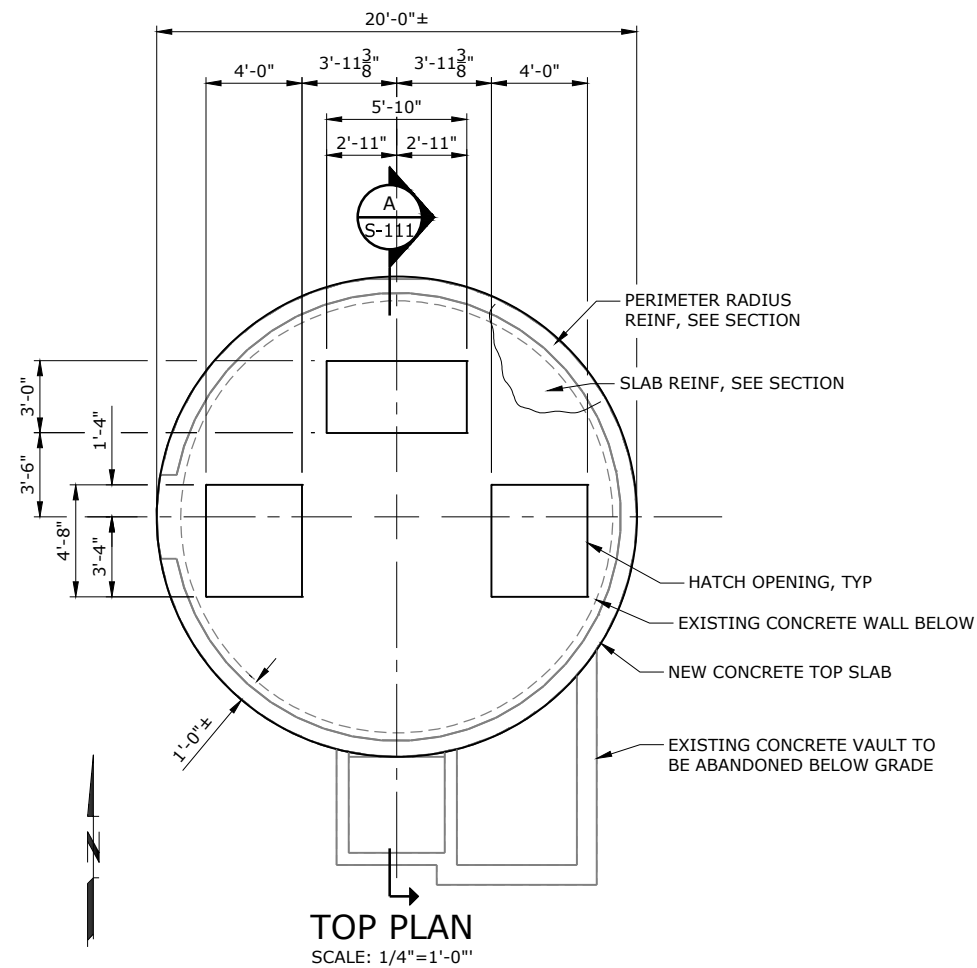
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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**INFLUENT PUMP STATION**

**PLANS AND SECTIONS**

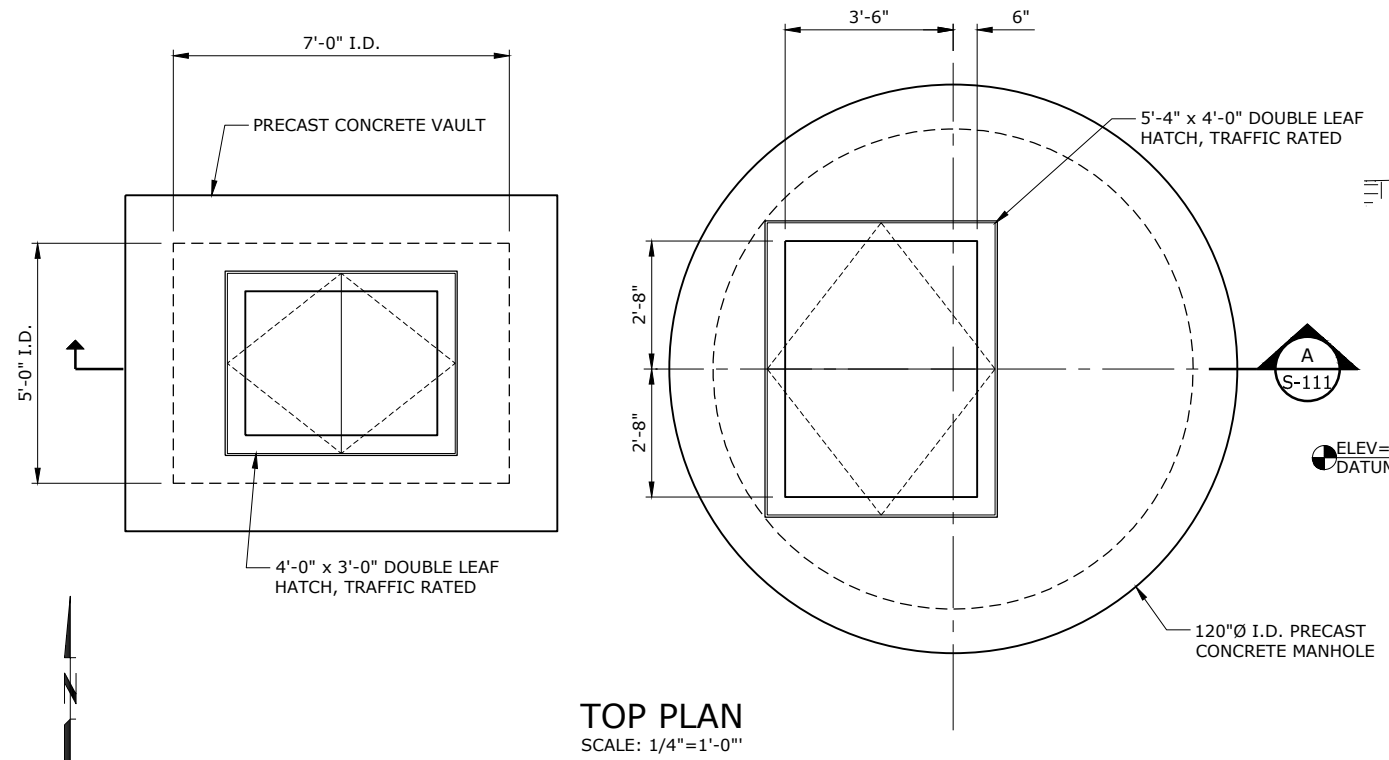
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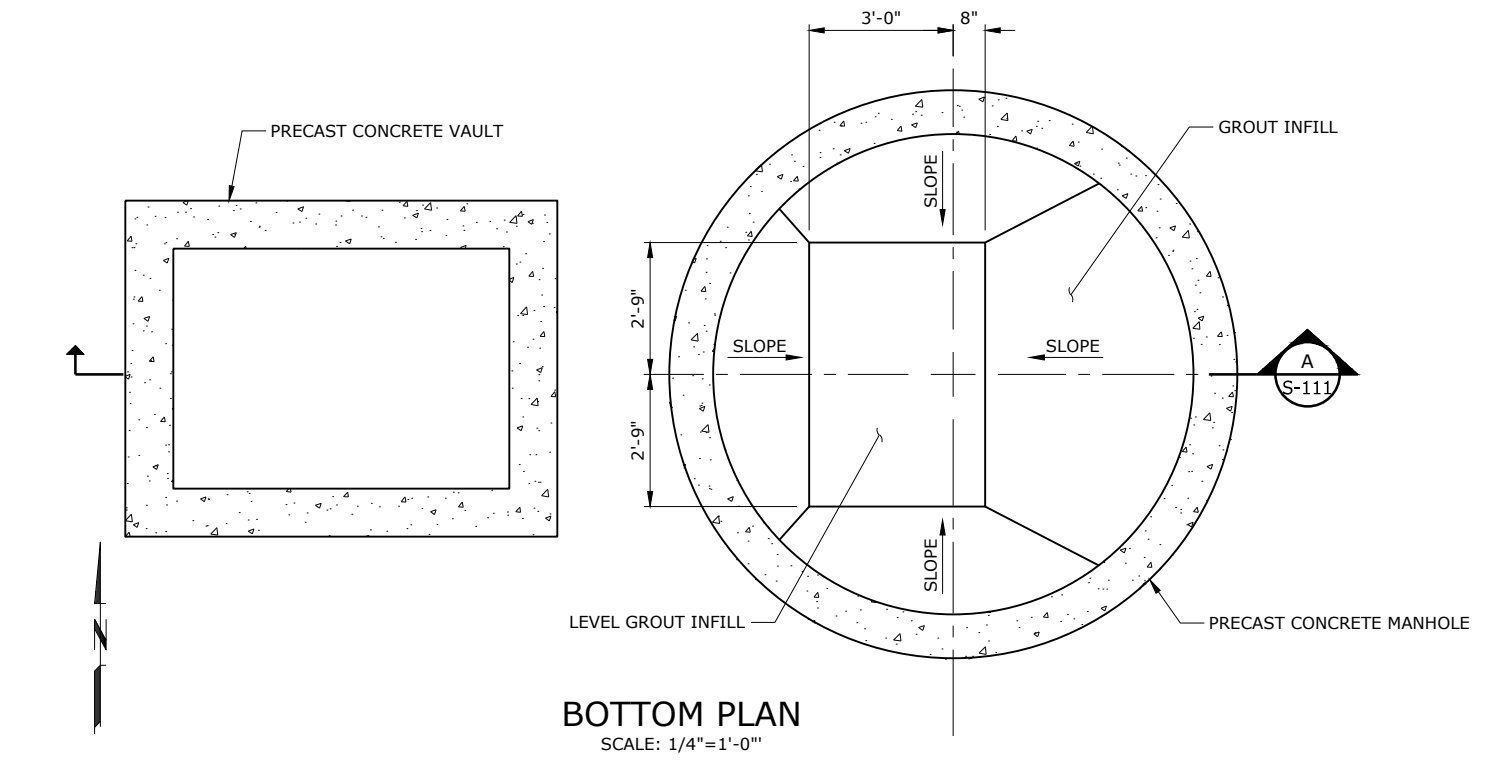
87 of 354

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

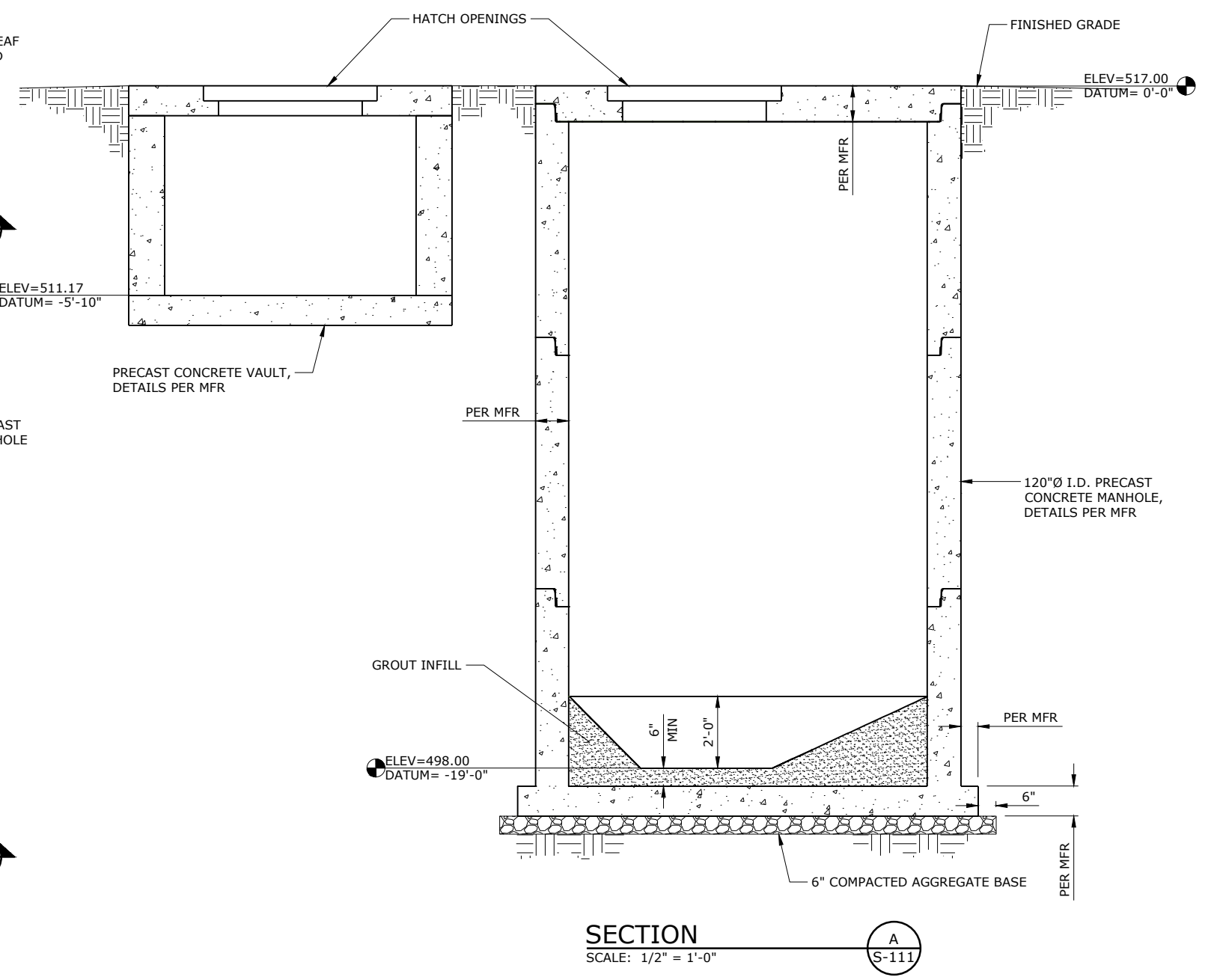
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**TOP PLAN**  
SCALE: 1/4" = 1'-0"



**BOTTOM PLAN**  
SCALE: 1/4" = 1'-0"



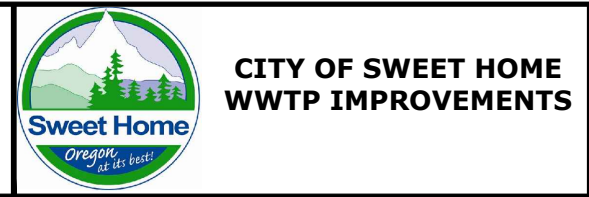
**SECTION**  
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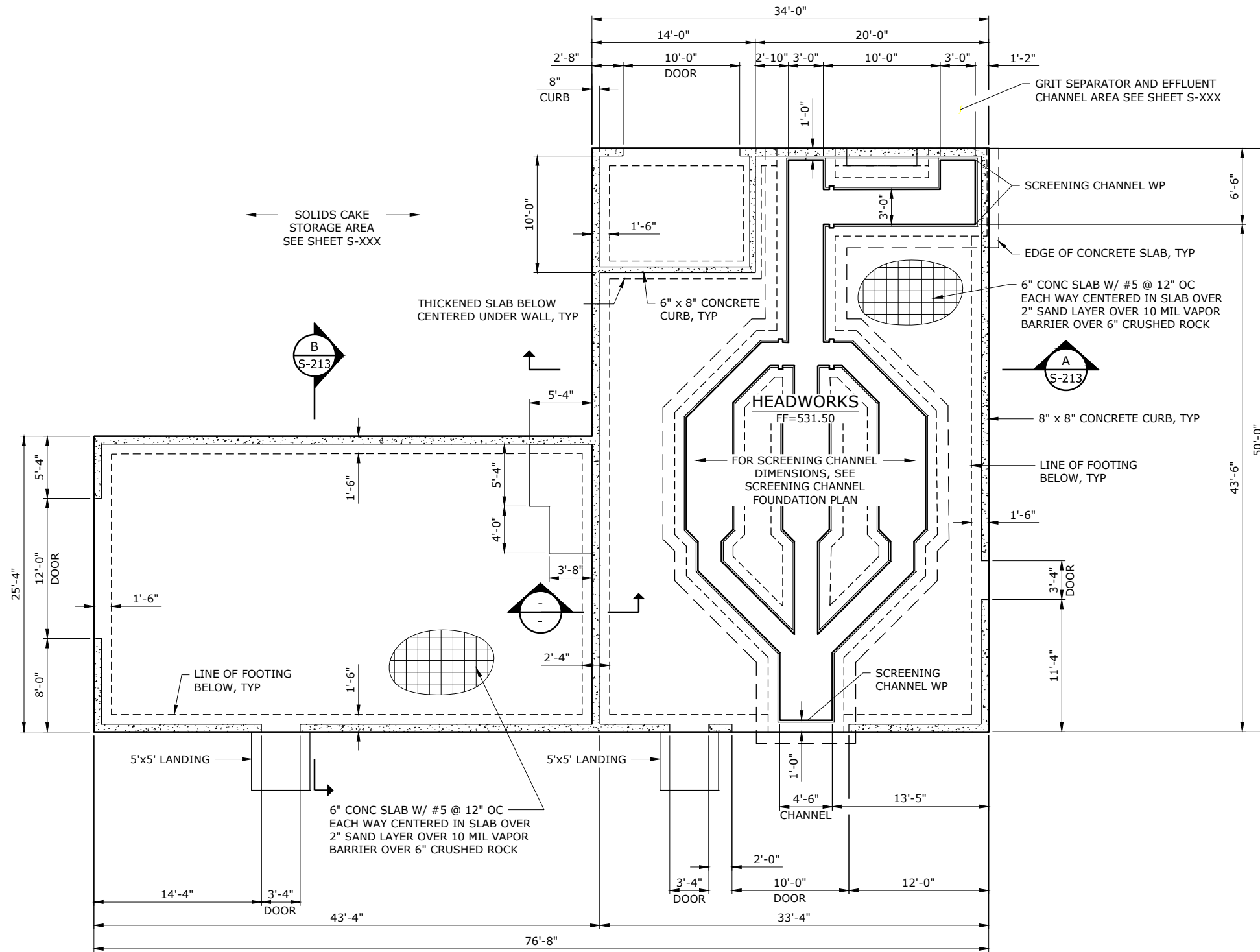
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| <b>DRAIN PUMP STATION</b> |           |        |          |
| <b>PLANS AND SECTION</b>  |           |        |          |
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**S-112**  
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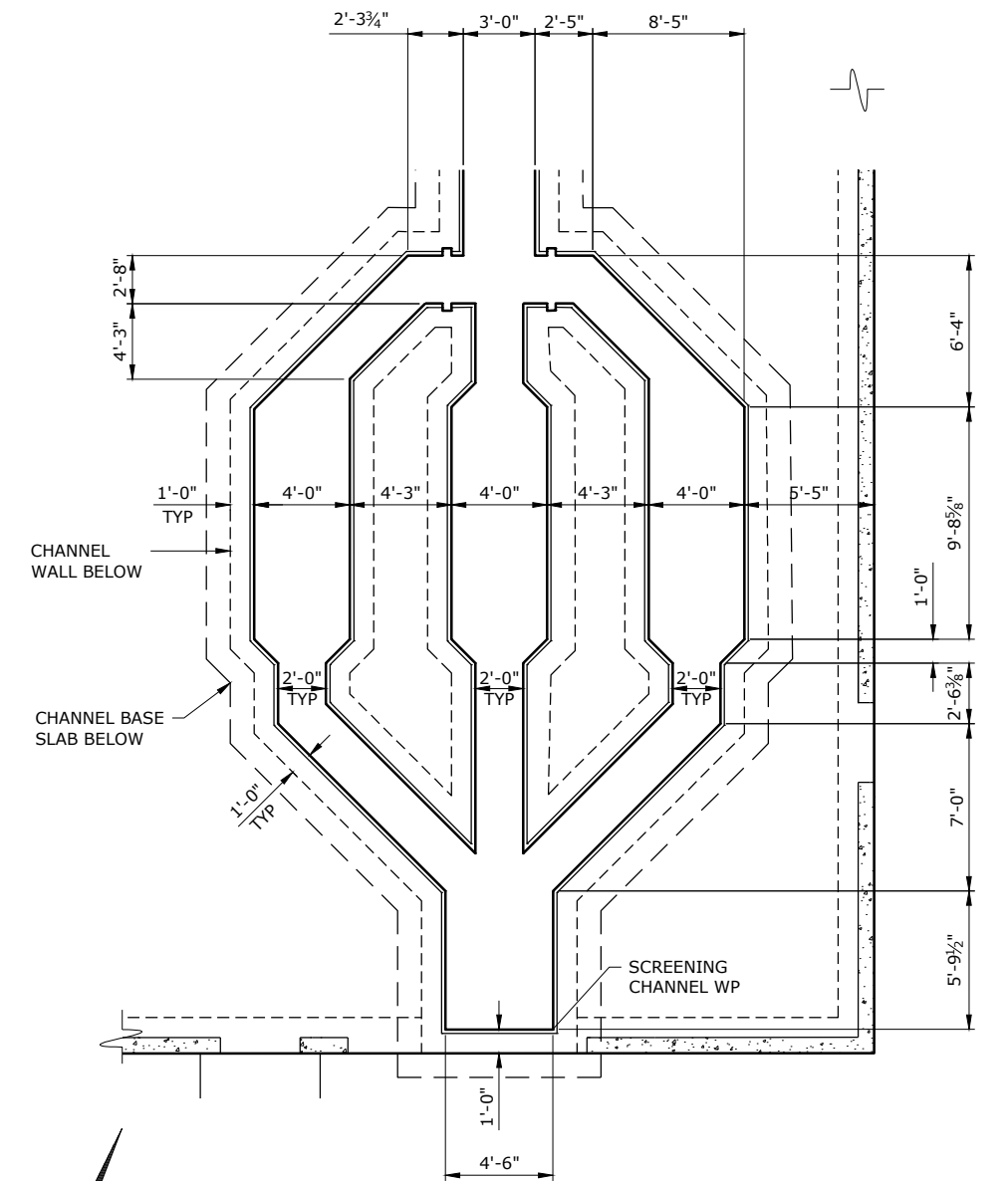
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- LEGEND:
-  INDICATES CMU WALL CONSTRUCTION
  -  INDICATES CAST IN PLACE CONCRETE WALL CONSTRUCTION
  -  INDICATES STEEL STUD FRAMING WALL CONSTRUCTION

NOTES:  
1. NOTES



**FOUNDATION PLAN**  
SCALE: 3/16"=1'-0"



**SCREENING CHANNEL FOUNDATION PLAN**  
SCALE: 1/4"=1'-0"

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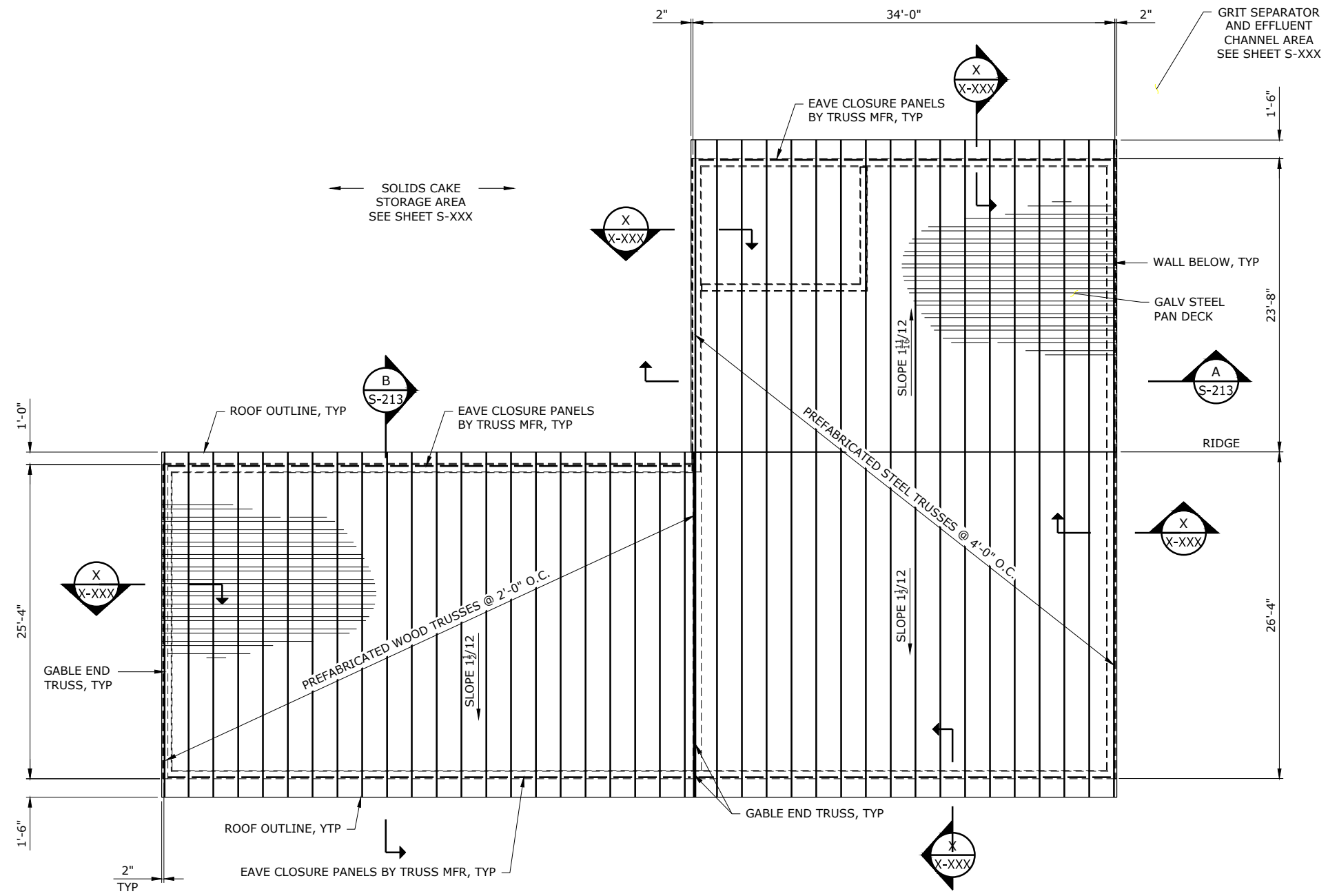
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| <b>HEADWORKS AND DEWATERING BUILDING</b> |           |        | SHEET         |
| <b>FOUNDATION PLAN</b>                   |           |        | S-211         |
| PROJECT NO.:                             | 19-2605   | SCALE: | 3/16" = 1'-0" |
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NOTES:  
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**ROOF FRAMING PLAN**  
SCALE: 3/16"=1'-0"

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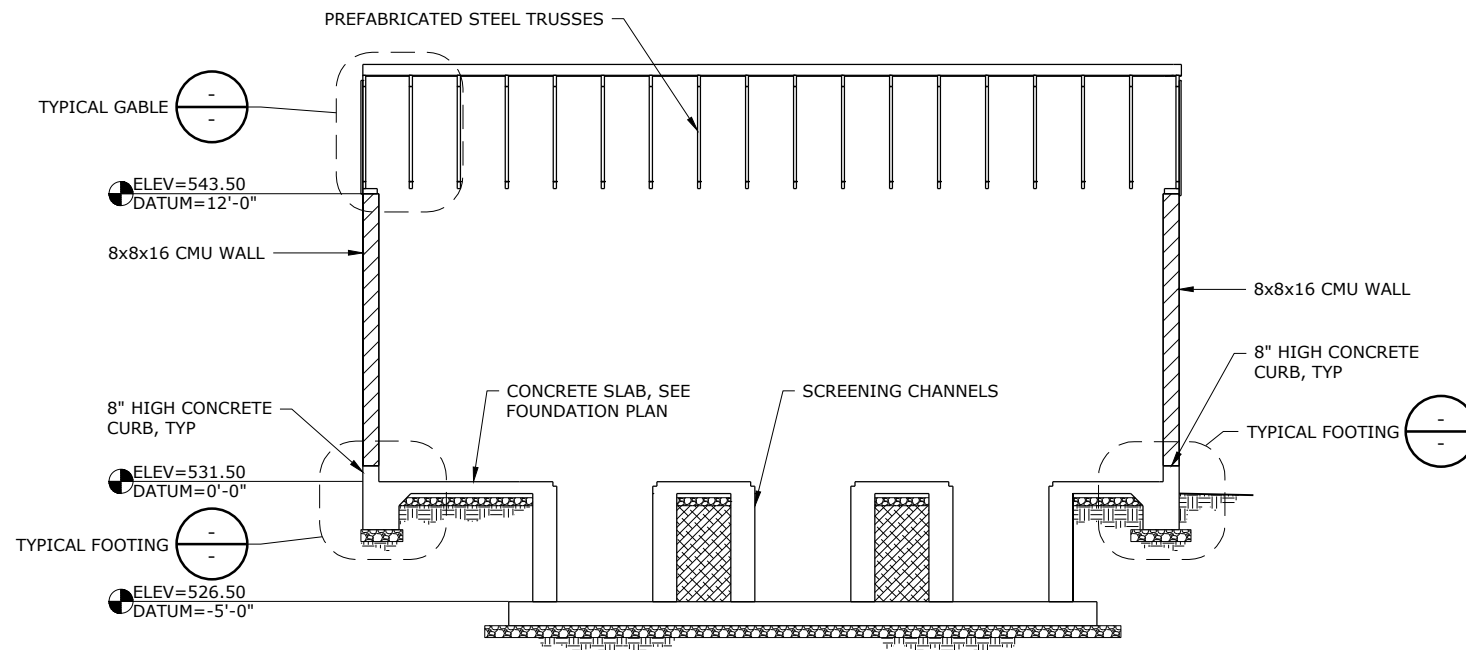
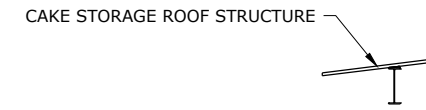
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| <b>HEADWORKS AND DEWATERING BUILDING</b> |           | SHEET                |
| <b>ROOF FRAMING PLAN</b>                 |           | S-212                |
| PROJECT NO.:                             | 19-2605   | SCALE: 3/16" = 1'-0" |
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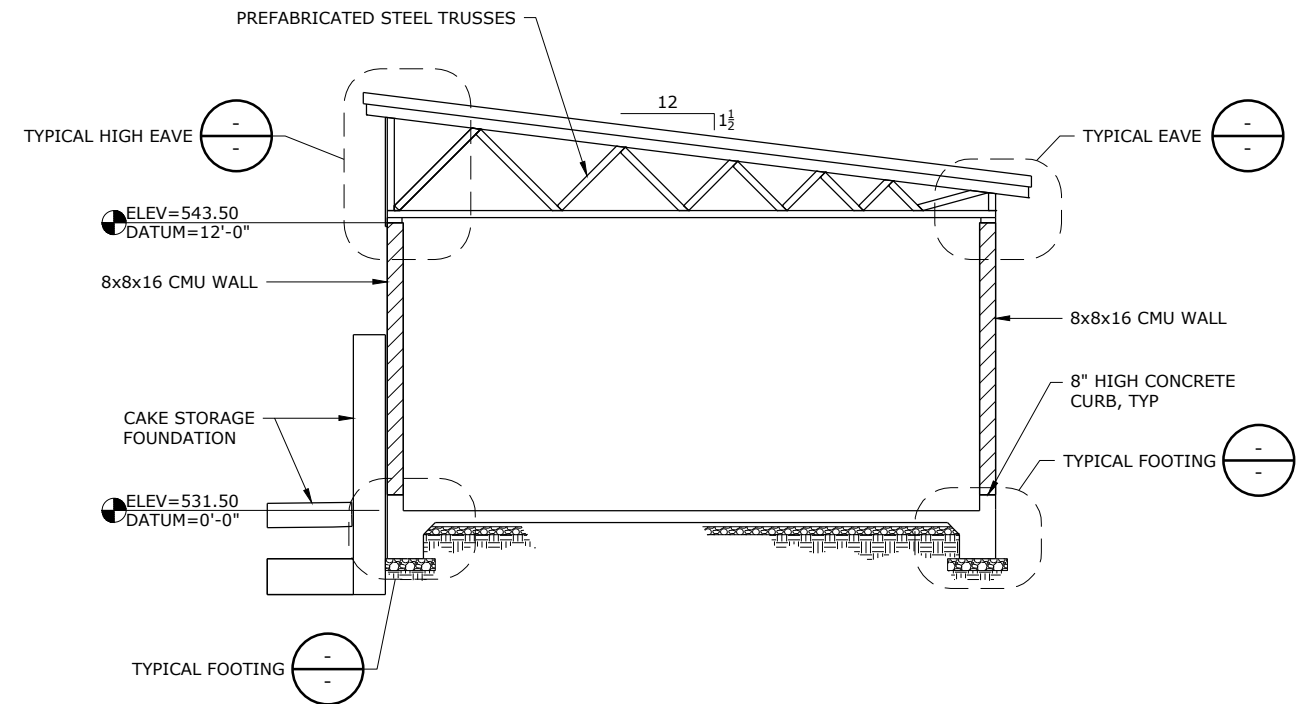
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LEGEND:  
 INDICATES CMU WALL CONSTRUCTION  
 INDICATES CAST IN PLACE CONCRETE WALL CONSTRUCTION

NOTES:  
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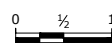
**HEADWORKS SECTION** A  
 SCALE: 1/4" = 1'-0"  
 S-211



**DEWATERING SECTION** B  
 SCALE: 1/4" = 1'-0"  
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**HEADWORKS AND DEWATERING BUILDING**

**BUILDING SECTIONS**

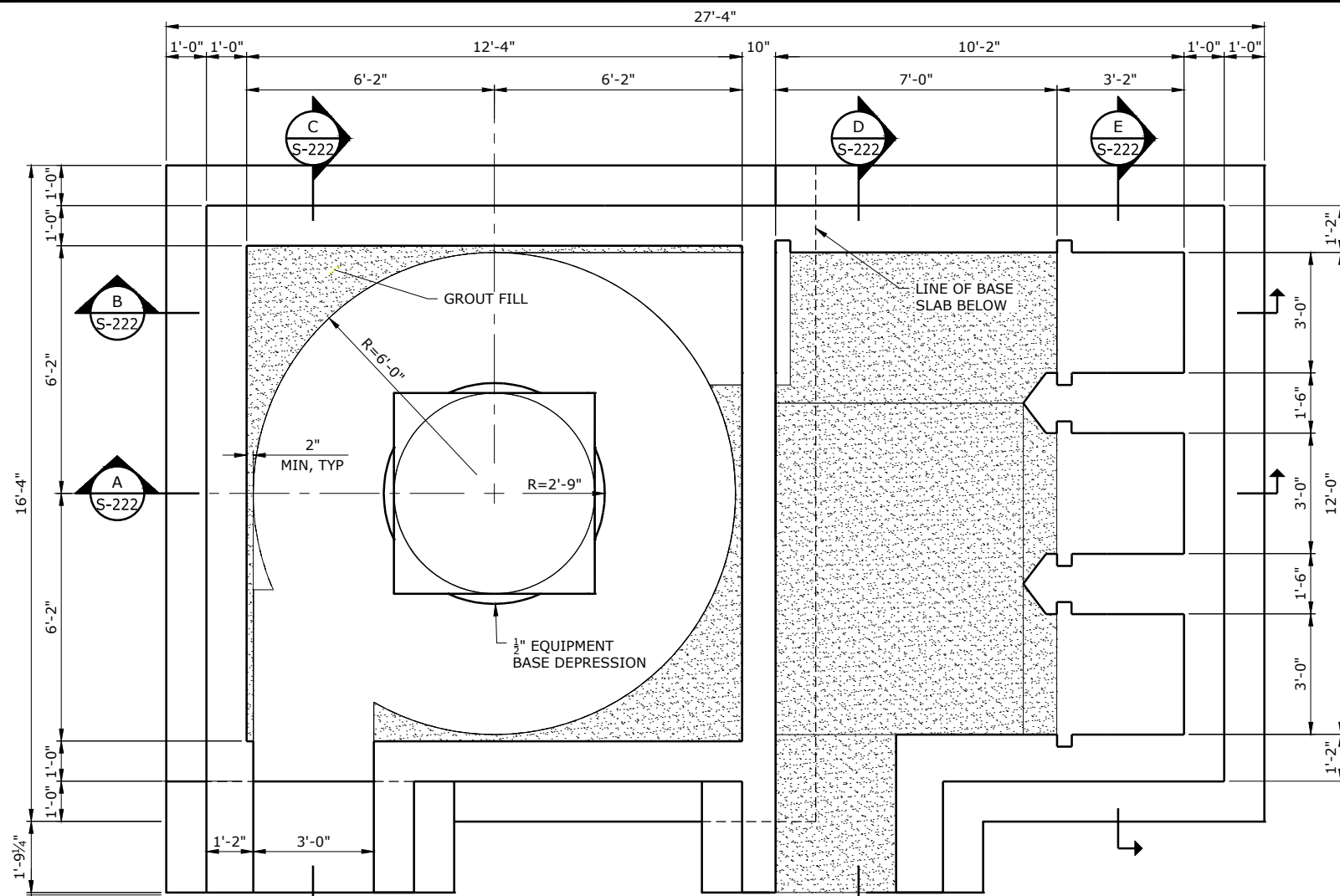
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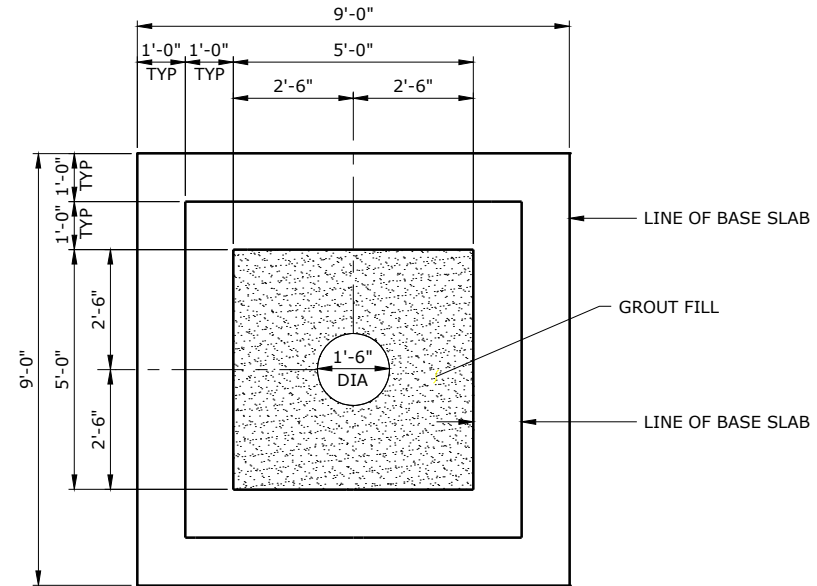
PROJECT NO.: 19-2605 SCALE: 1/4" = 1'-0" DATE: June 2020

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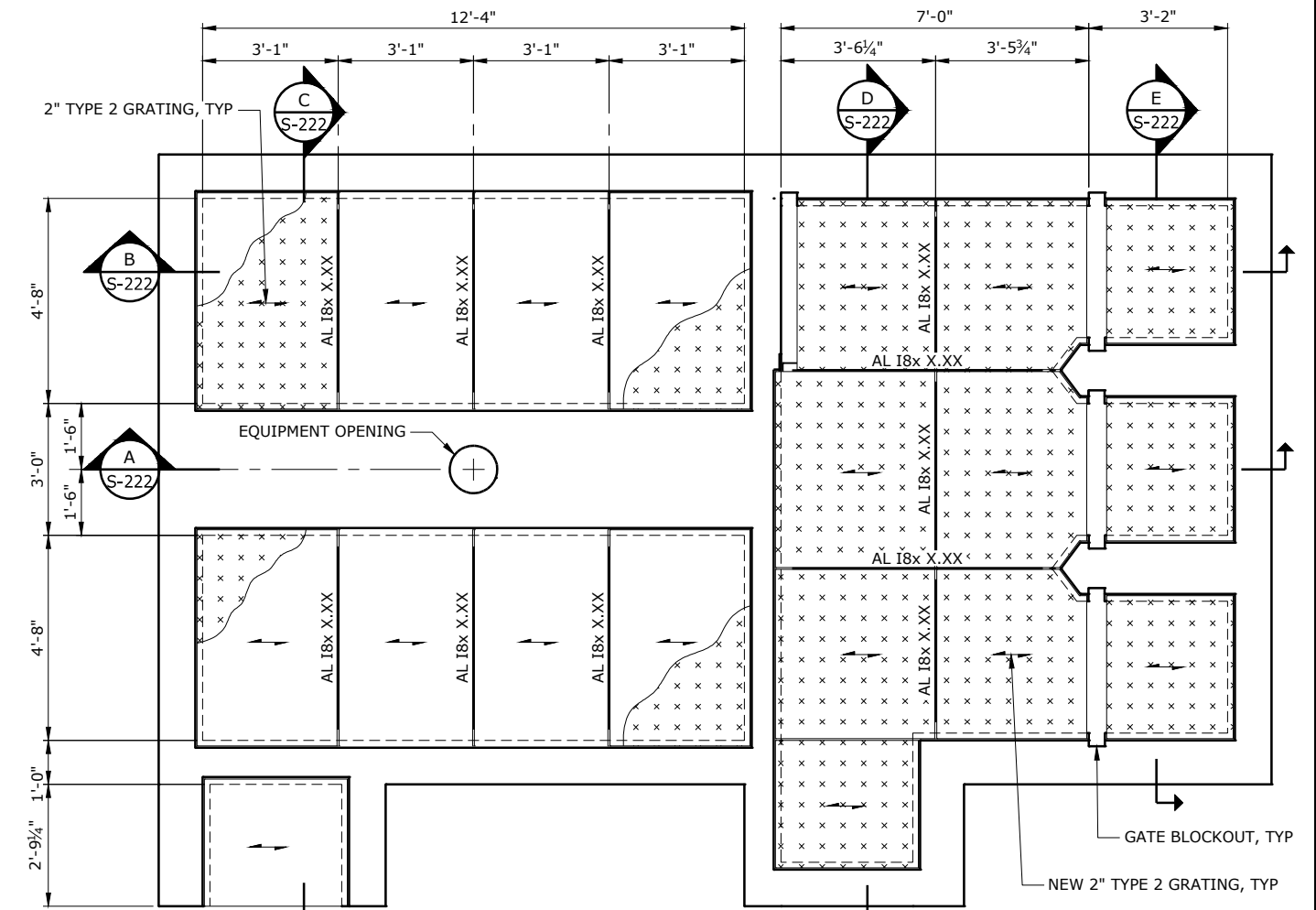
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**UPPER FOUNDATION PLAN**  
SCALE: 1/2"=1'-0"



**LOWER FOUNDATION PLAN**  
SCALE: 1/2"=1'-0"



**TOP PLAN**  
SCALE: 1/2"=1'-0"

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**GRIT REMOVAL AND PRIMARY CONTROL STRUCTURE FOUNDATION AND TOP PLANS**

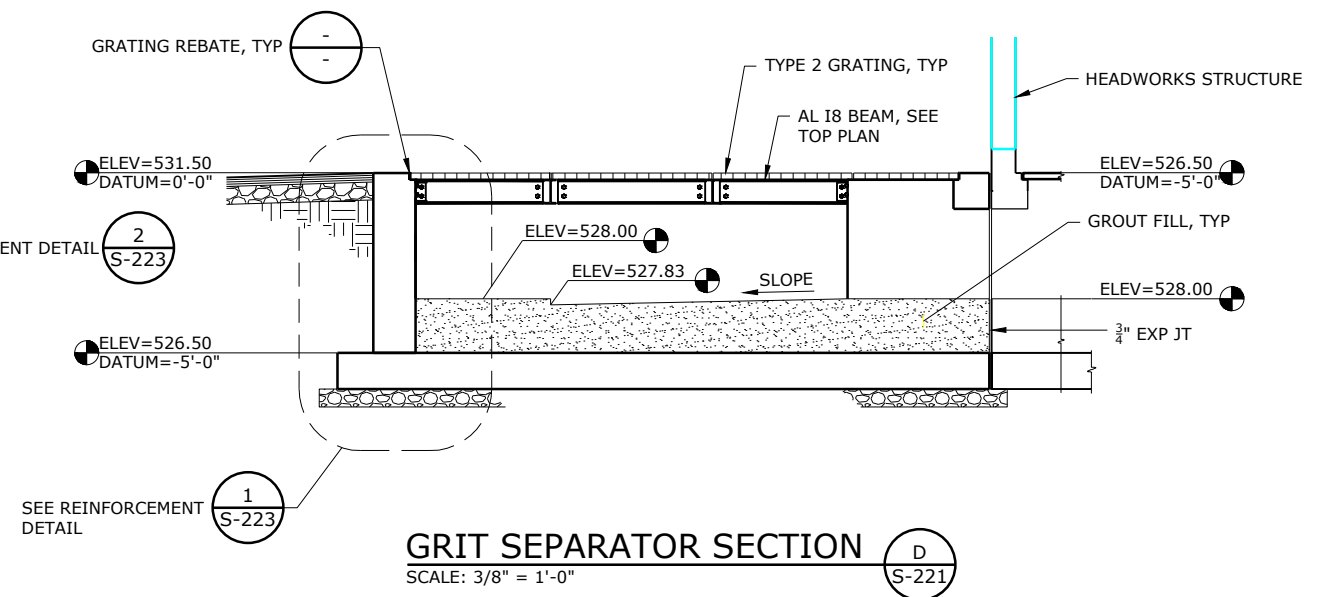
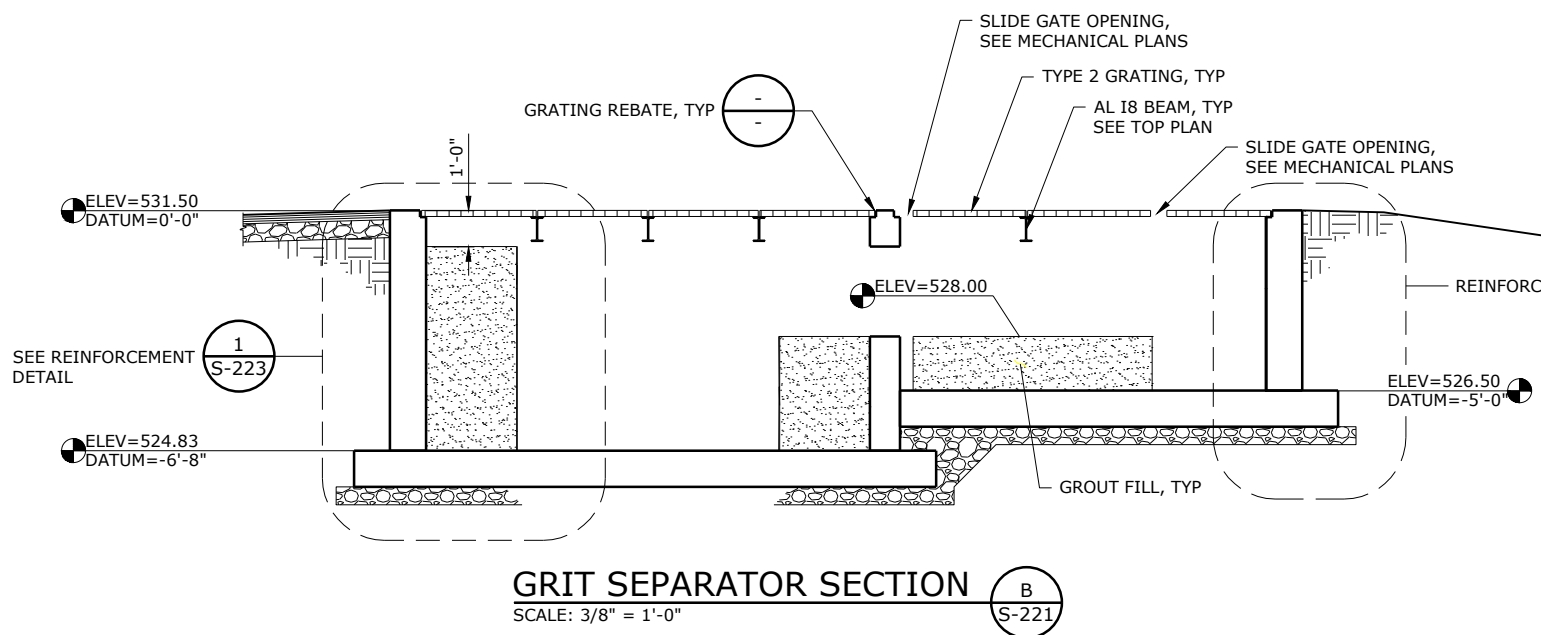
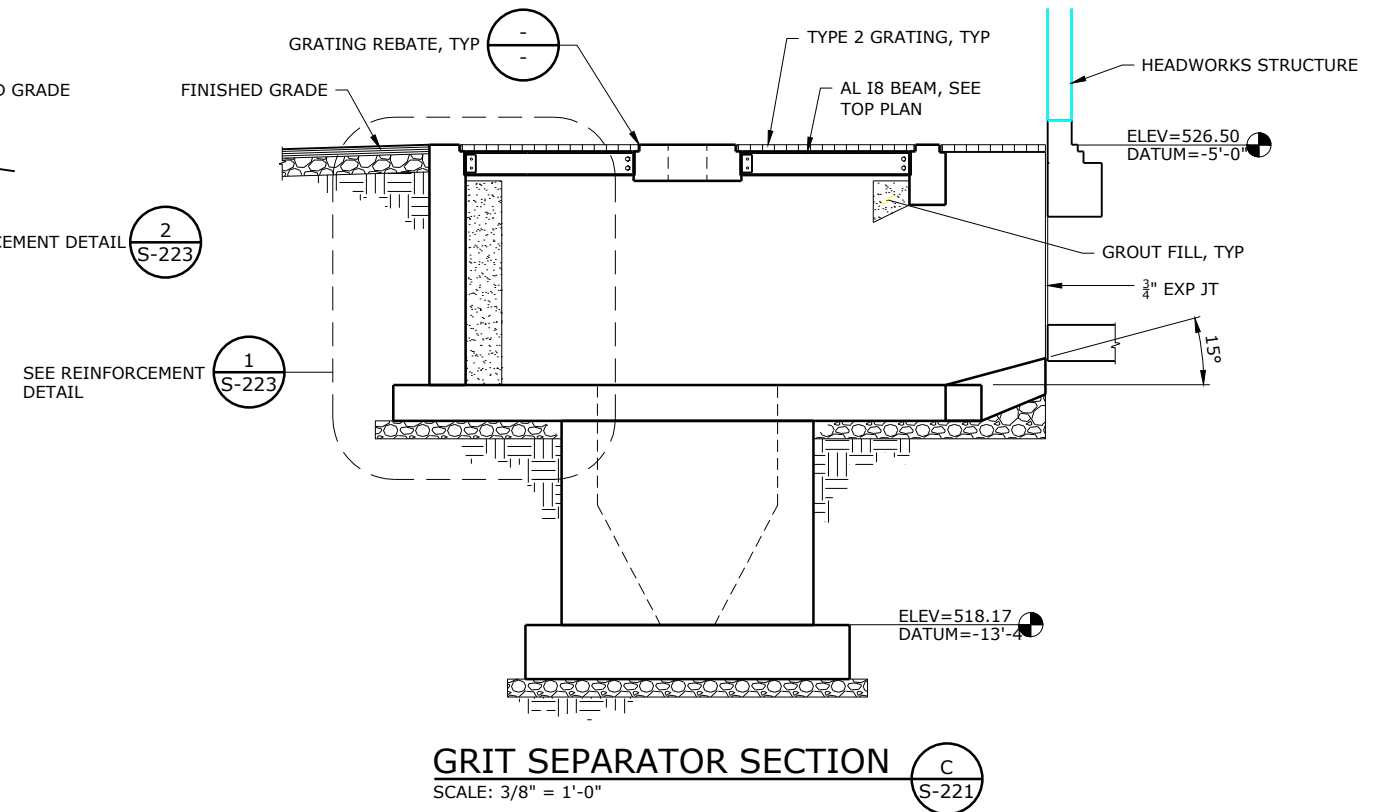
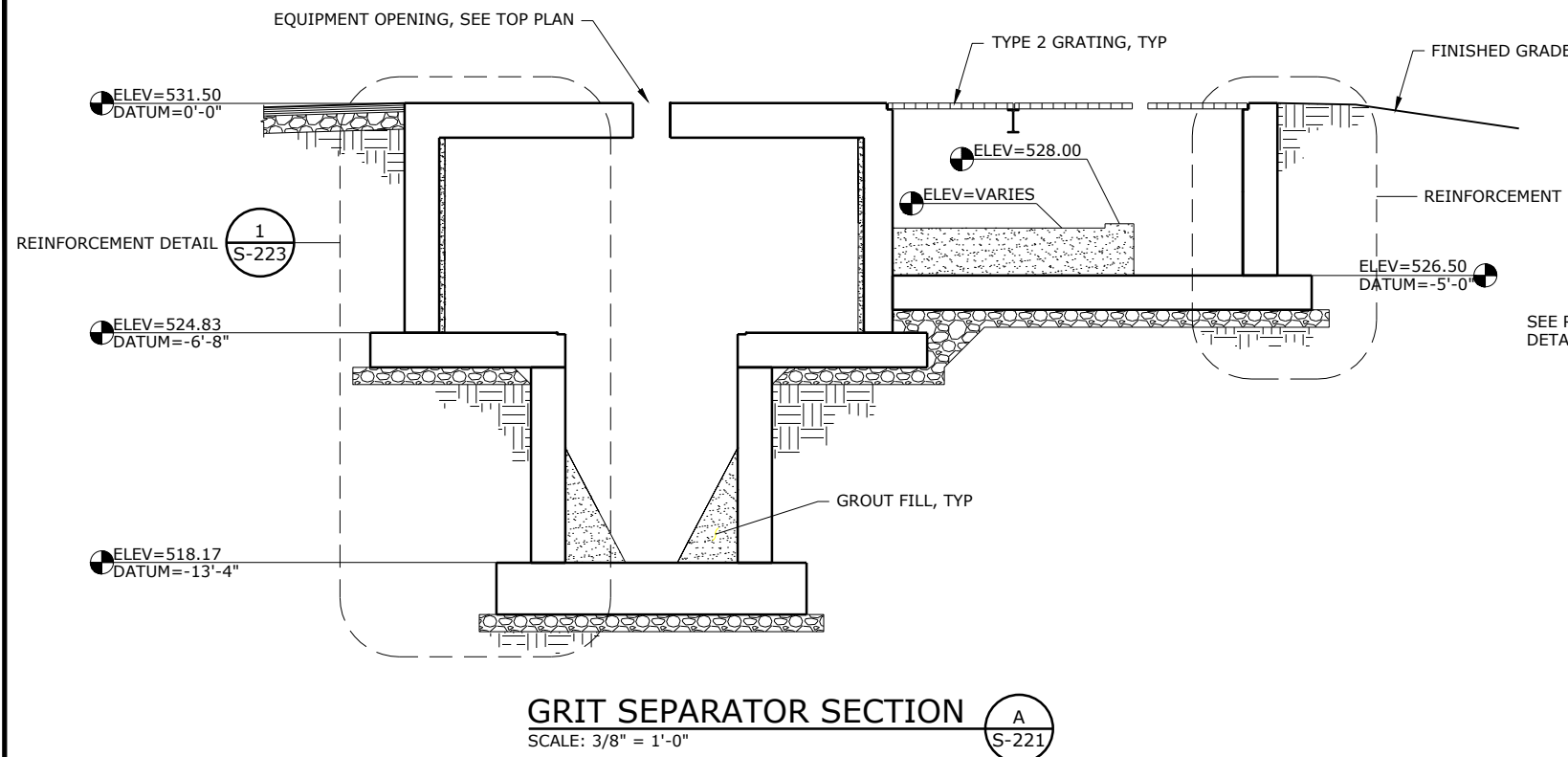
PROJECT NO.: 19-2605 SCALE: 1/2" = 1'-0" DATE: June 2020

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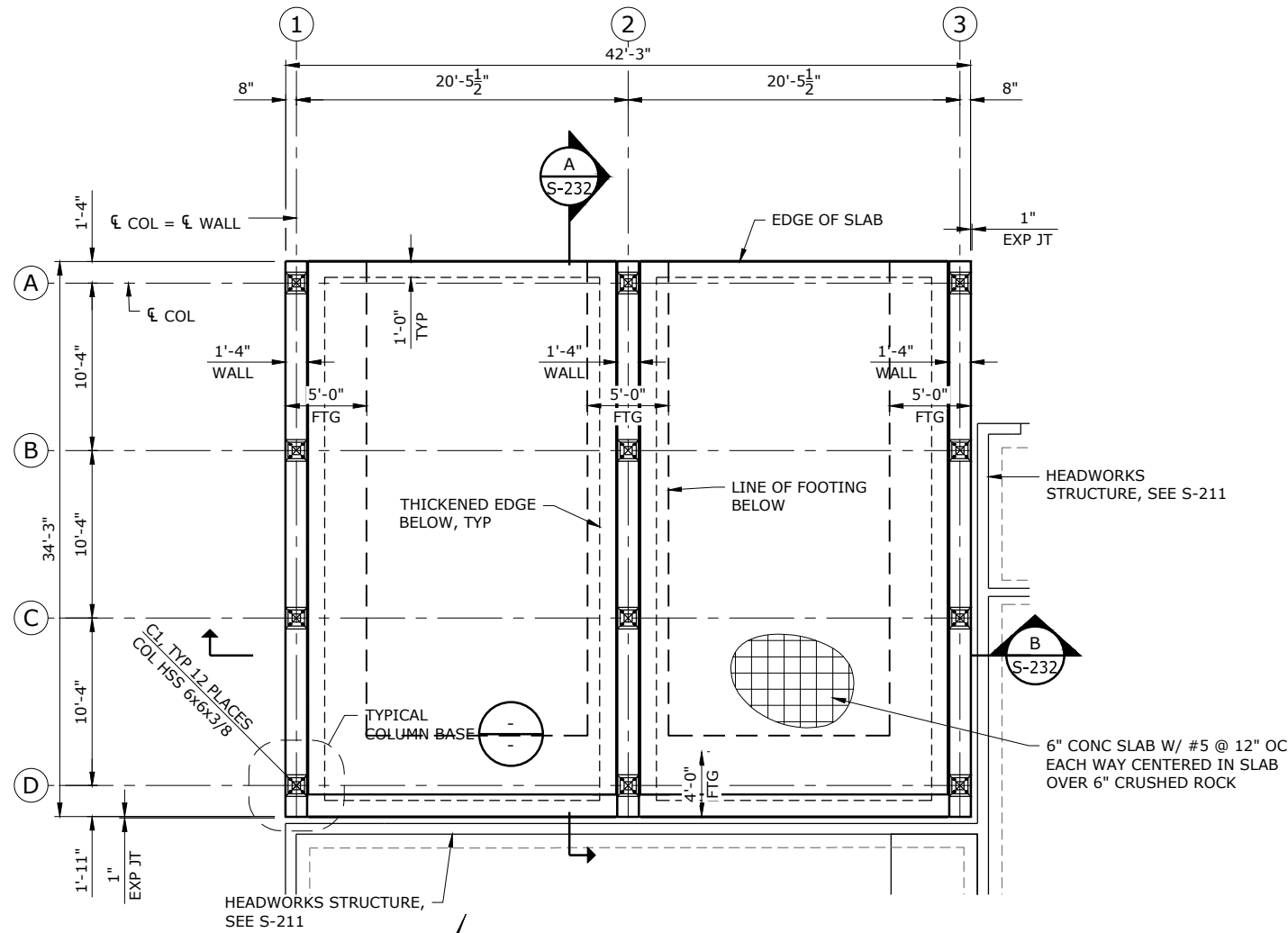


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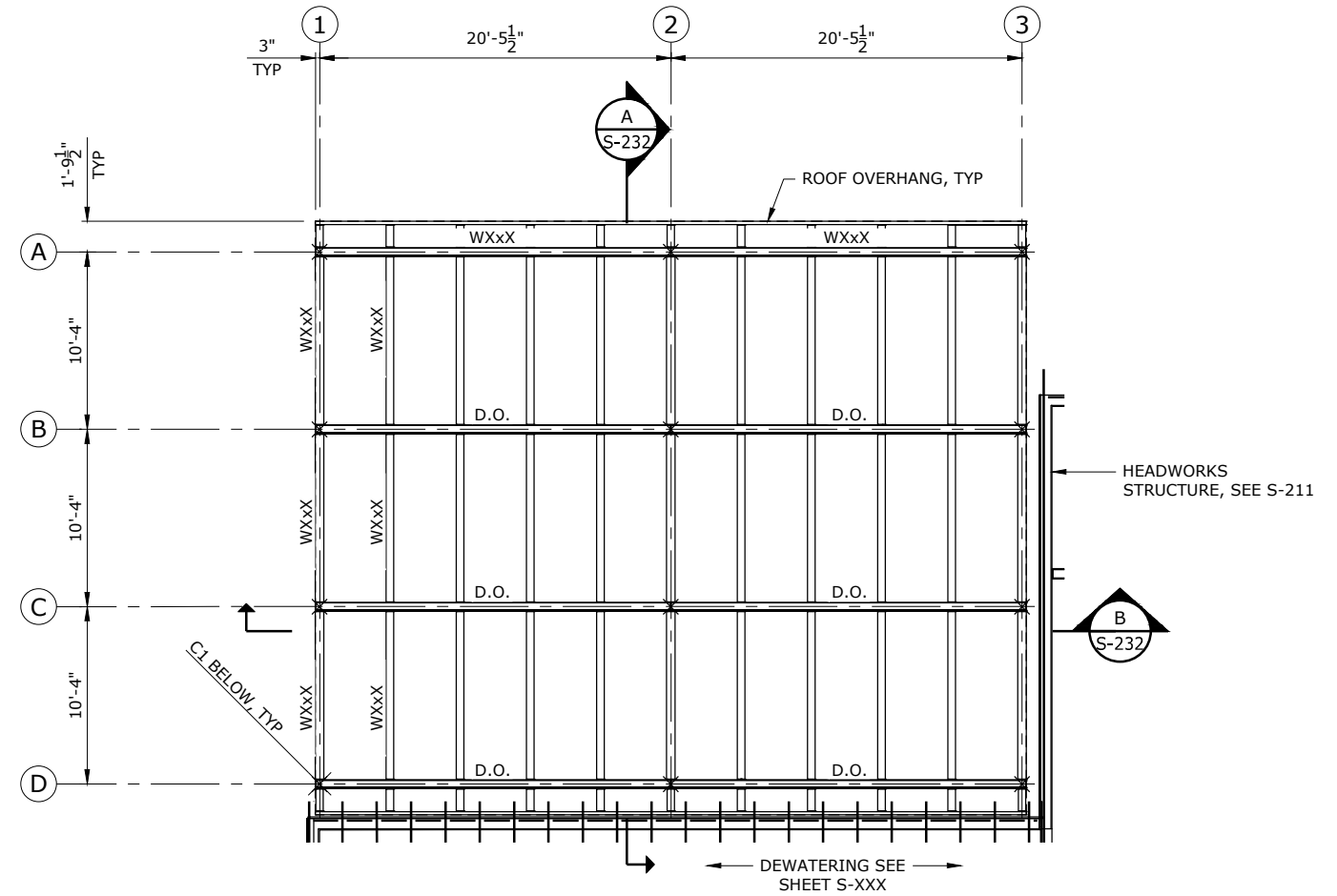
**GRIT REMOVAL AND PRIMARY CONTROL STRUCTURE BUILDING SECTIONS**  
PROJECT NO.: 19-2605 SCALE: 1/2" = 1'-0" DATE: June 2020

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**FOUNDATION PLAN**  
SCALE: 3/16"=1'-0"



**ROOF FRAMING PLAN**  
SCALE: 3/16"=1'-0"

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**CAKE STORAGE**  
**FOUNDATION PLAN AND**  
**ROOF FRAMING PLAN**

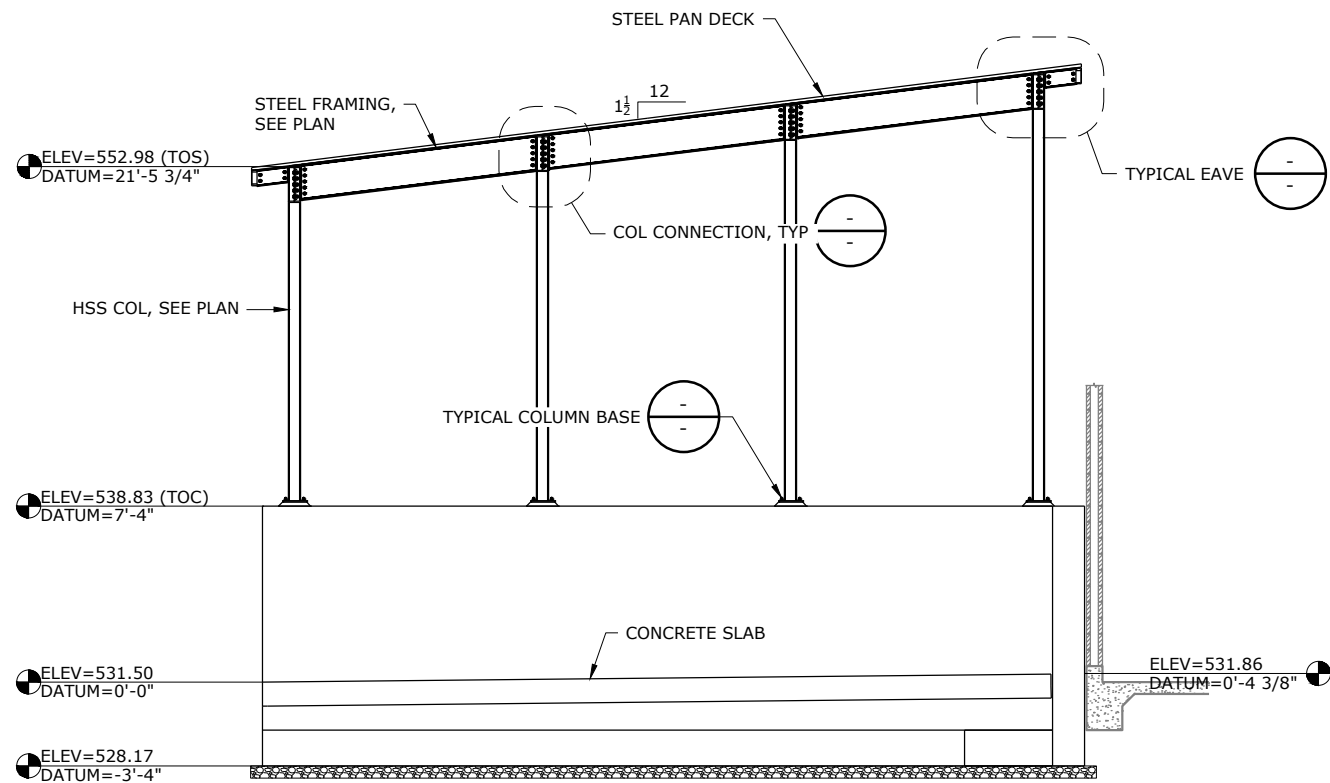
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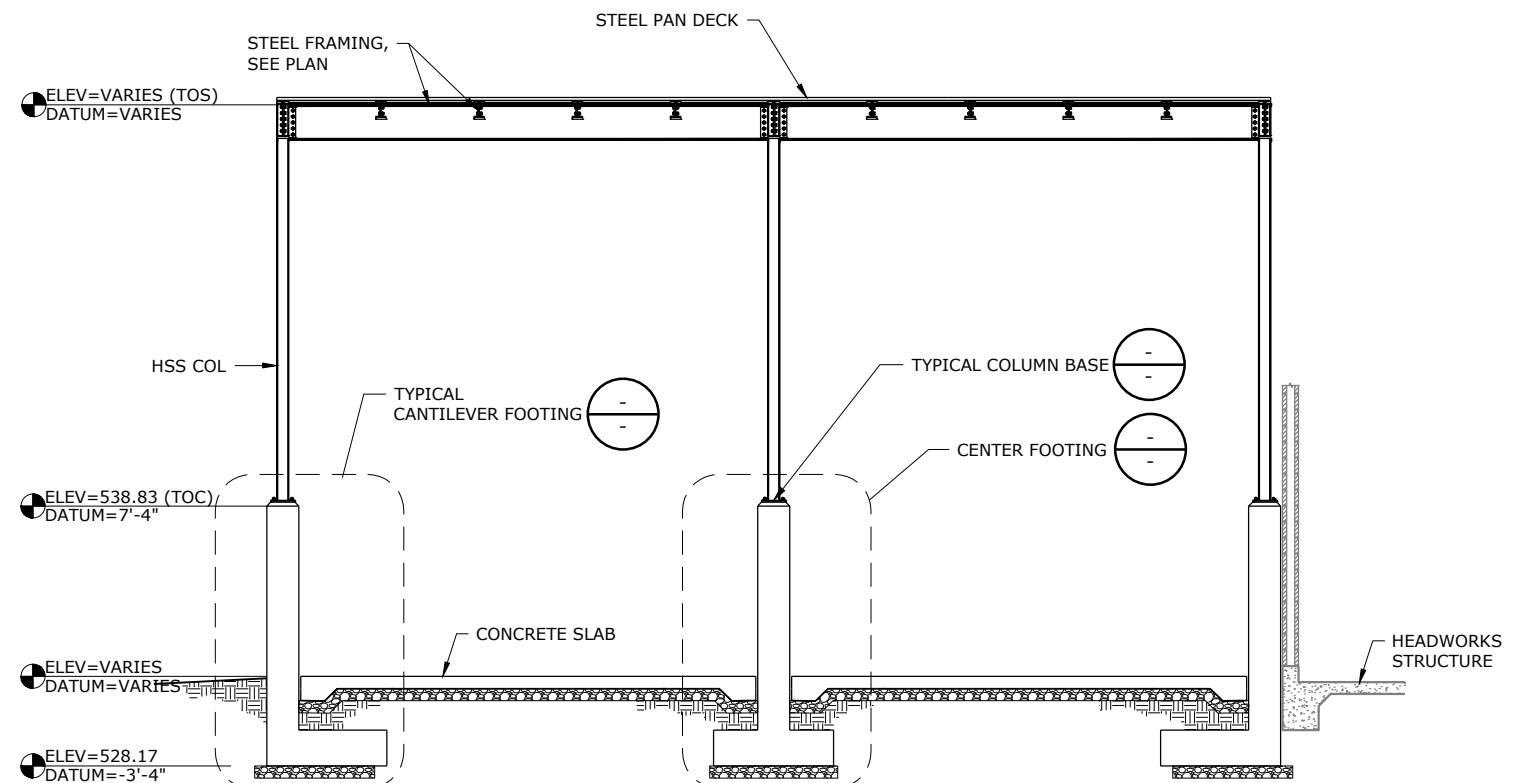
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**CAKE STORAGE SECTION A**  
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S-231



**CAKE STORAGE SECTION B**  
SCALE: 1/4" = 1'-0"  
S-231

**60% SUBMITTAL**

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NOTICE  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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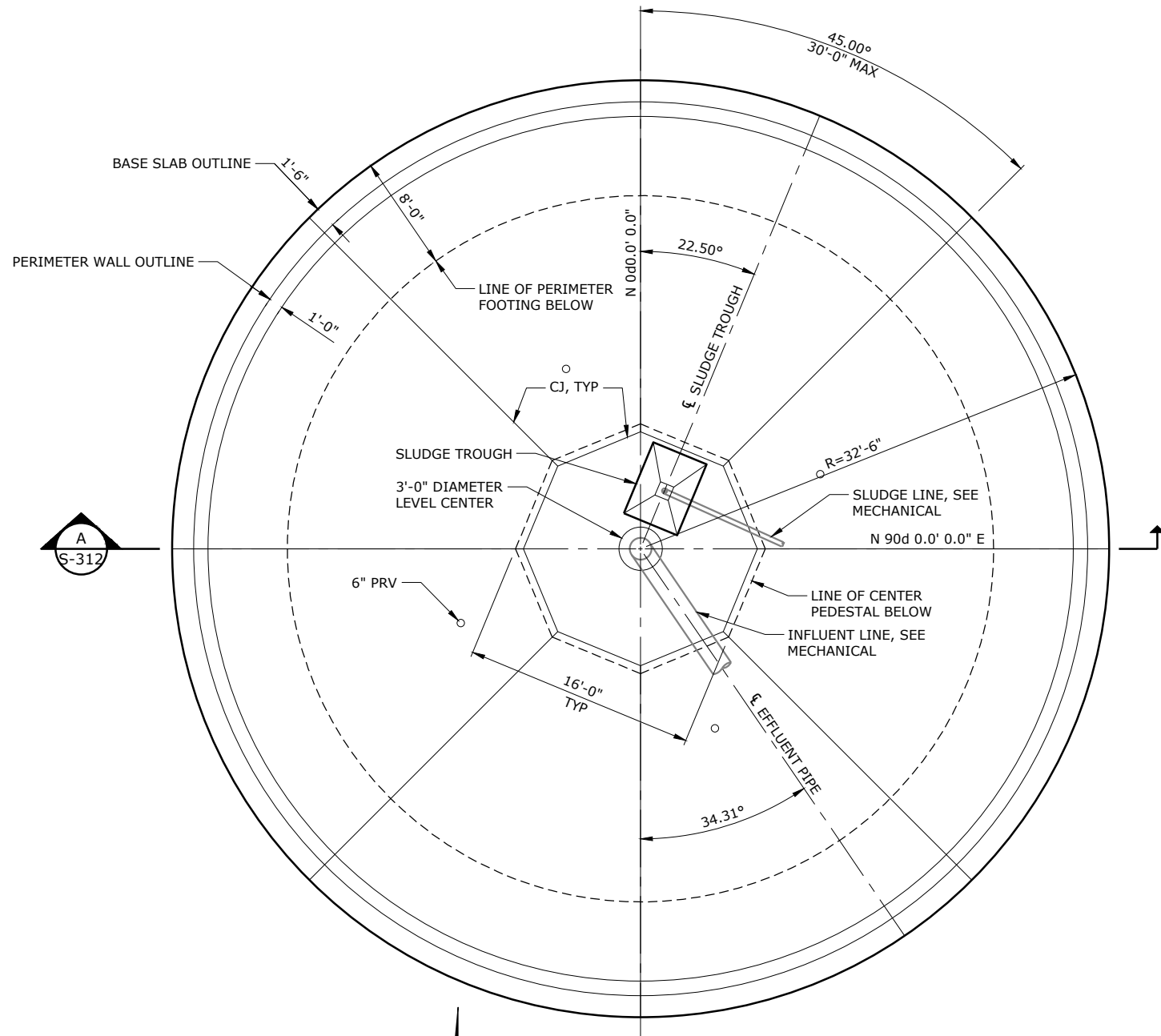


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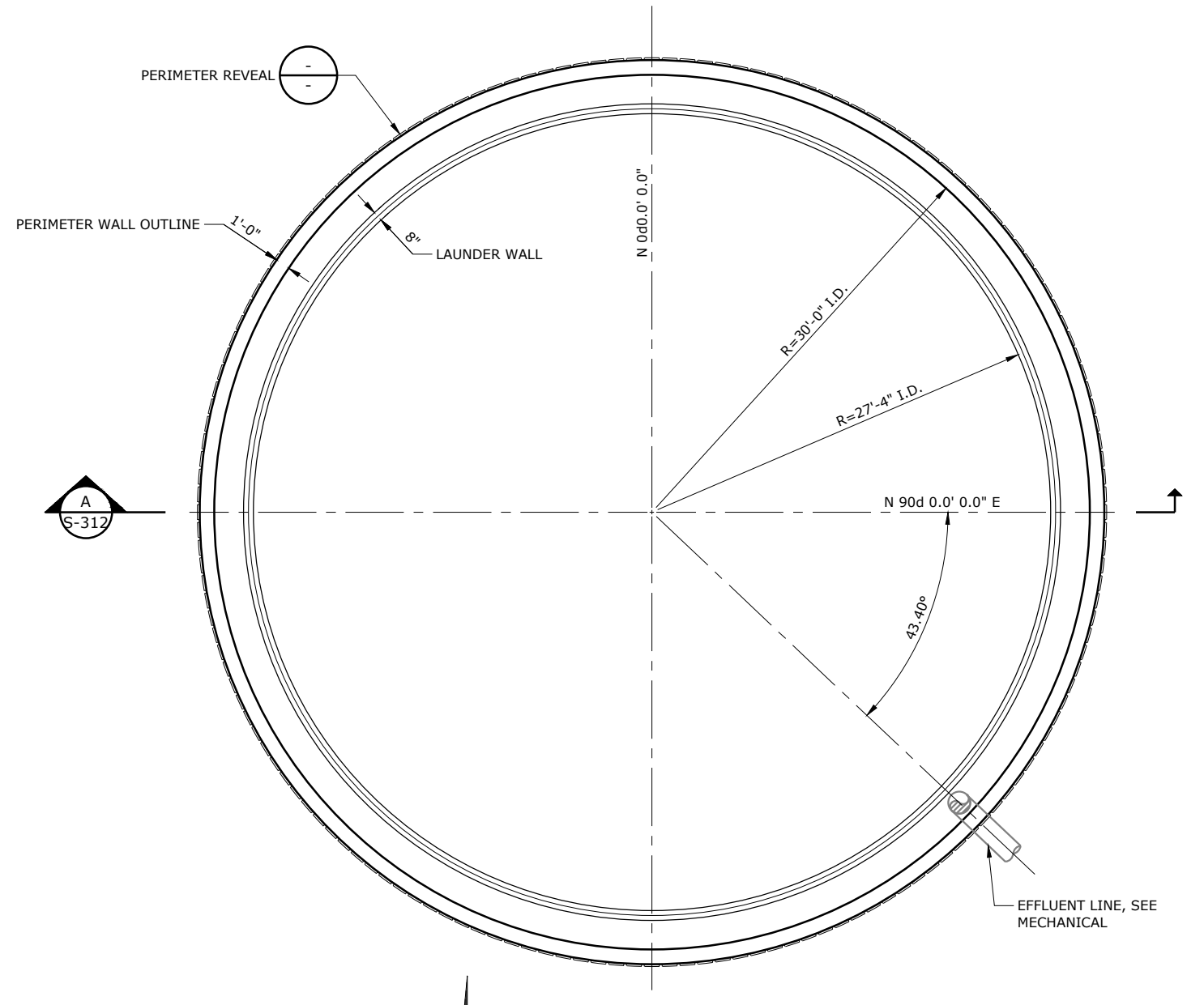
| CAKE STORAGE BUILDING SECTIONS |           |        |          |
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| PROJECT NO.:                   | 19-2605   | SCALE: | AS SHOWN |
| DATE:                          | June 2020 |        |          |

SHEET  
**S-232**  
95 of 354

G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\300 PC\19-2605-OR-S\_PC.dwg S-311.6/15/2020 11:16 AM JUSTIN.DEUEL 23.0s (LMS Tech)



**BOTTOM PLAN**  
SCALE: 3/16" = 1'-0"



**TOP PLAN**  
SCALE: 3/16" = 1'-0"

**60% SUBMITTAL**

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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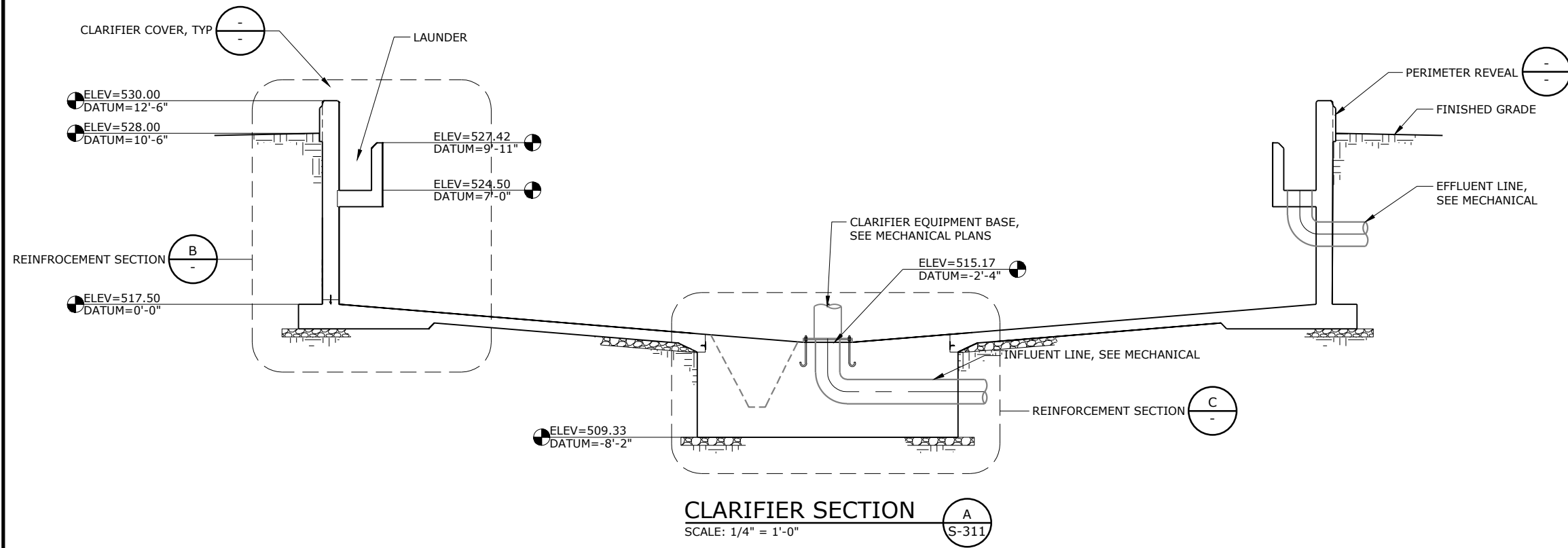


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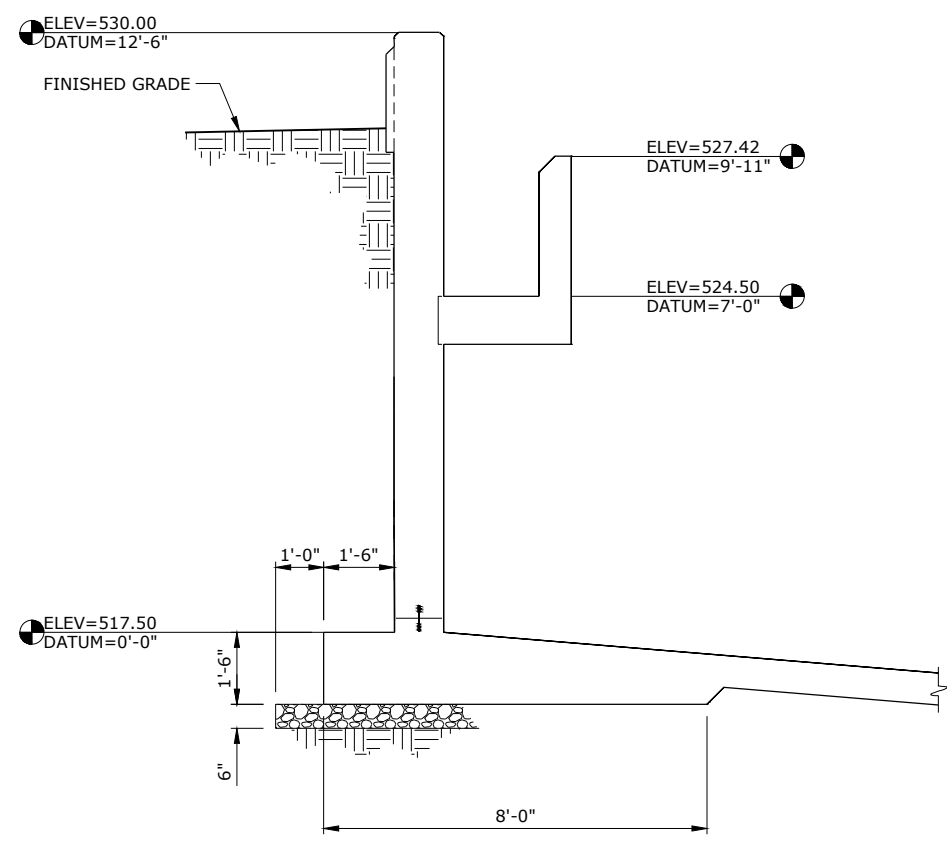
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| <b>PRIMARY CLARIFIER</b>    |           |        |               |
| <b>TOP AND BOTTOM PLANS</b> |           |        |               |
| PROJECT NO.:                | 19-2605   | SCALE: | 3/16" = 1'-0" |
| DATE:                       | June 2020 |        |               |

SHEET  
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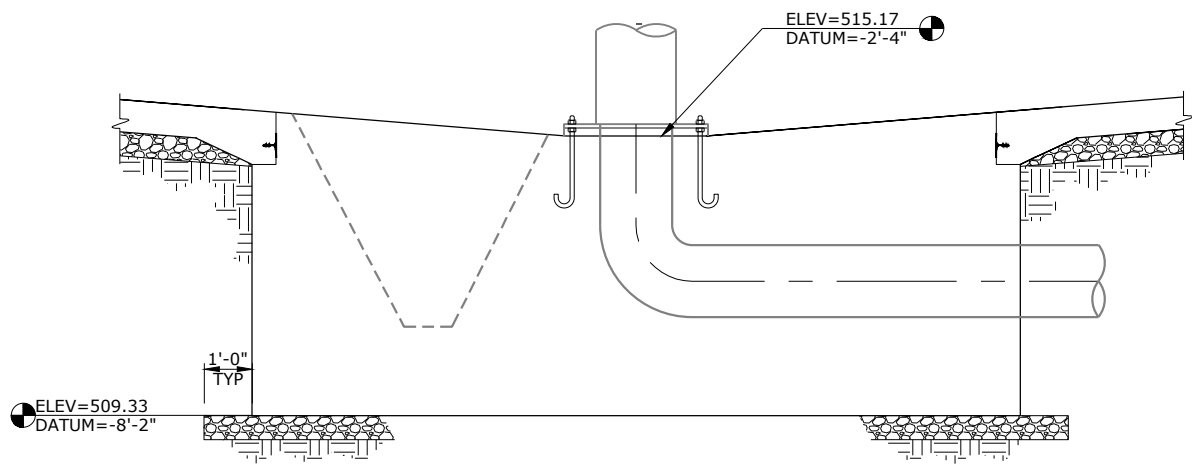
G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\300 PC\19-2605-OR-S\_PC.dwg S-312 6/15/2020 11:16 AM JUSTIN.DEUEL 23.0s (LMS Tech)



**CLARIFIER SECTION**  
SCALE: 1/4" = 1'-0"  
A  
S-311



**REINFORCEMENT SECTION**  
SCALE: 1/2" = 1'-0"  
B  
S-311



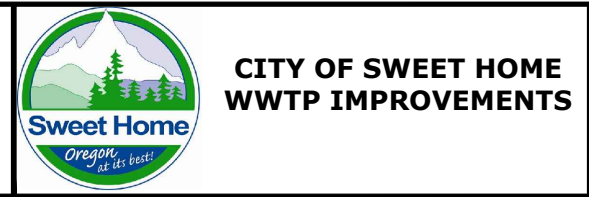
**REINFORCEMENT SECTION**  
SCALE: 1/2" = 1'-0"  
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**60% SUBMITTAL**

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

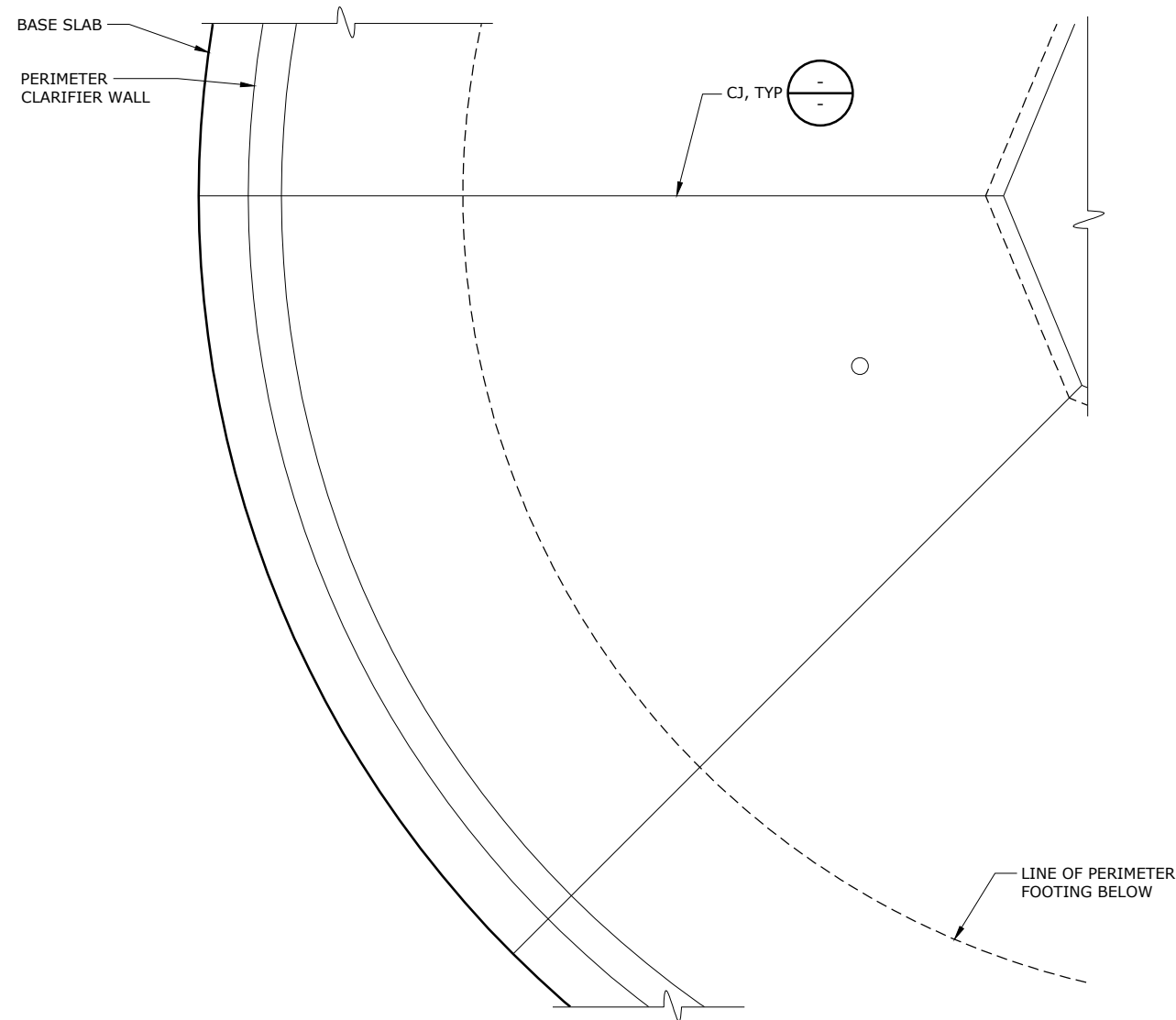
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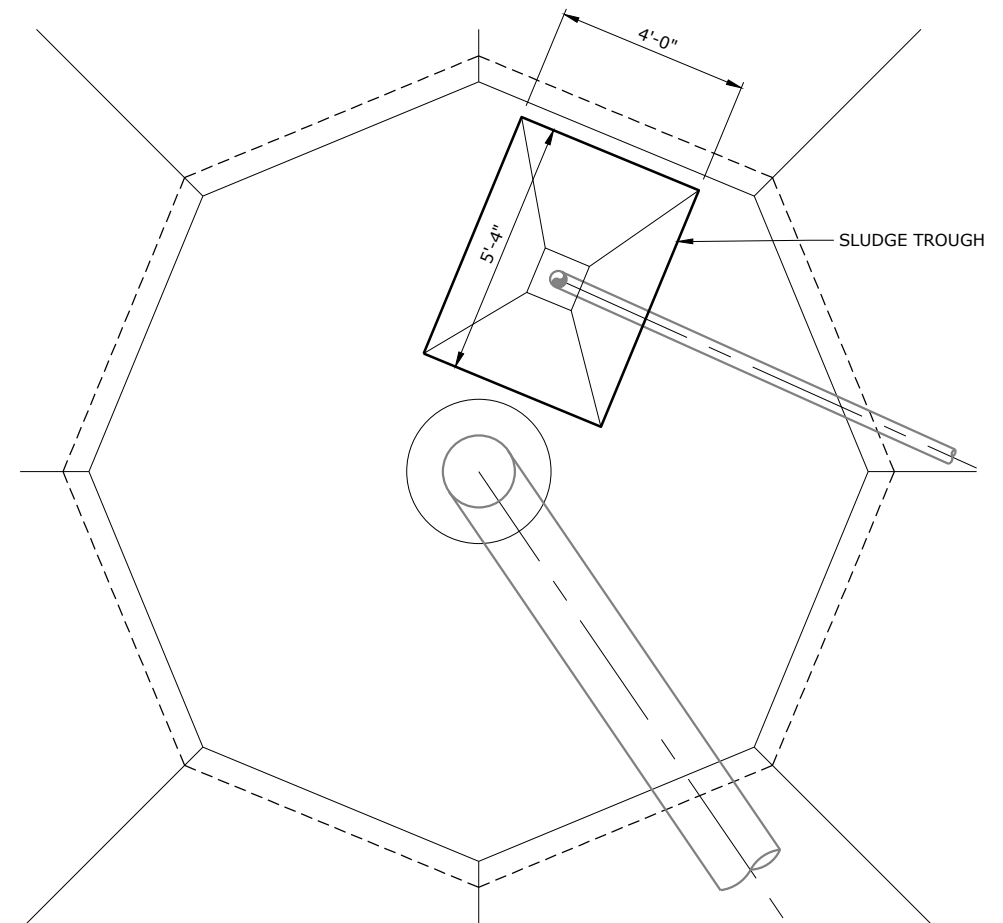
| PRIMARY CLARIFIER |           |        |          |
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| PROJECT NO.:      | 19-2605   | SCALE: | AS SHOWN |
| DATE:             | June 2020 |        |          |

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**SLAB REINFORCEMENT DETAIL** 1  
 SCALE: 3/8" = 1'-0" S-312



**PEDESTAL REINFORCEMENT DETAIL** 2  
 SCALE: 1/2" = 1'-0" S-312

**60% SUBMITTAL**

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 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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


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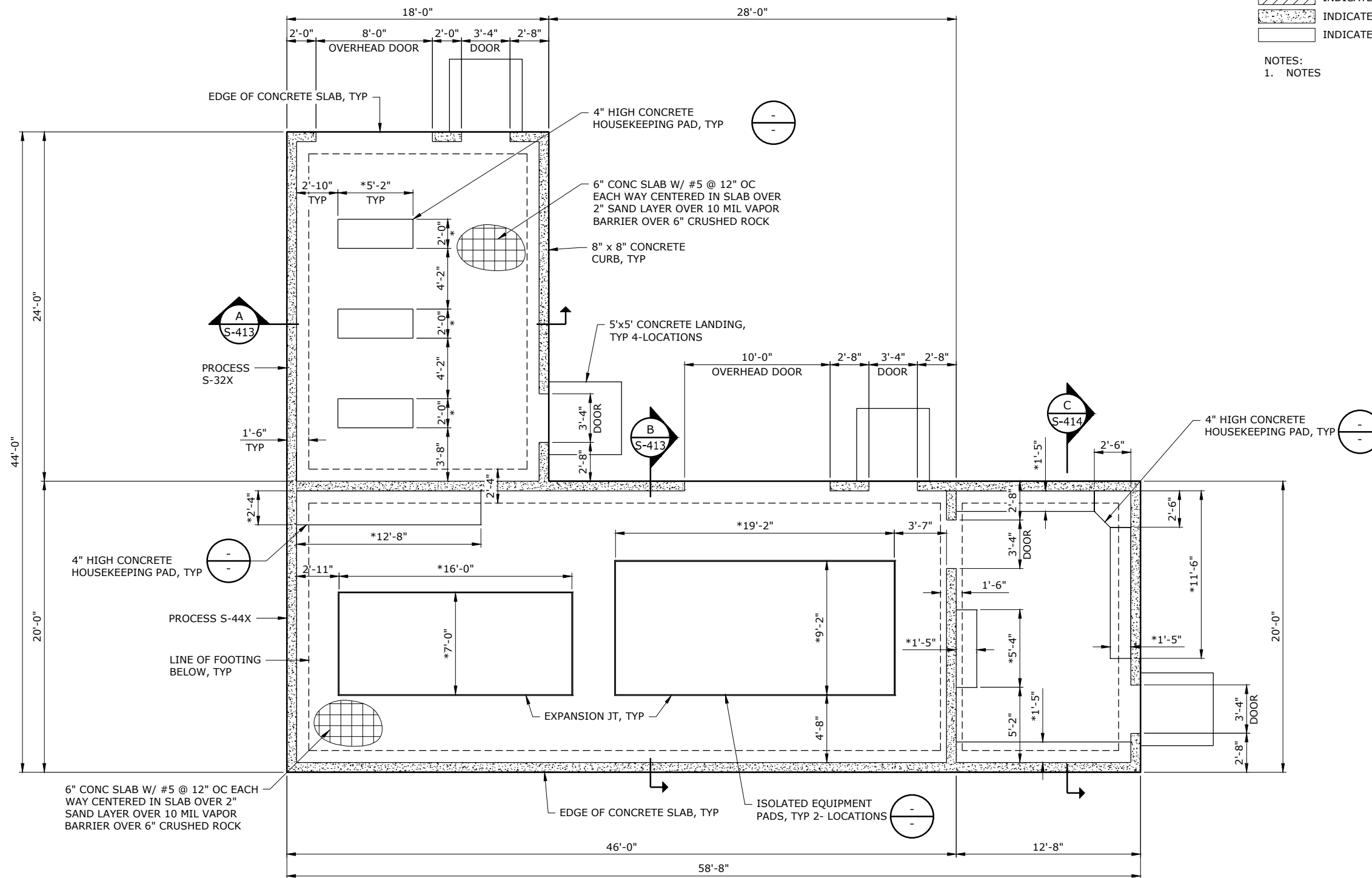
| PRIMARY CLARIFIER<br>REINFORCEMENT DETAILS |           |        |          |
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| PROJECT NO.:                               | 19-2605   | SCALE: | AS SHOWN |
| DATE:                                      | June 2020 |        |          |

SHEET  
**S-313**  
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G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\400 ST\19-2605-OR-S\_PSPS\_BLO.dwg S-411 6/15/2020 3:48 PM JUSTIN.DEUEL 23.0s (LMS Tech)

- LEGEND:
-  INDICATES CMU WALL CONSTRUCTION
  -  INDICATES CAST IN PLACE CONCRETE WALL CONSTRUCTION
  -  INDICATES STEEL STUD FRAMING WALL CONSTRUCTION
- NOTES:
1. NOTES



\* VERIFY HOUSEKEEPING PAD SIZES WITH ELECTRICAL EQUIPMENT MANUFACTURER PRIOR TO FORMING AND POURING CONCRETE

**FOUNDATION PLAN**  
SCALE: 1/4"=1'-0"

**60% SUBMITTAL**

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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**PRIMARY SLUDGE PS-BLOWER  
BUILDING-N. ELEC. ROOM  
FOUNDATION PLAN**

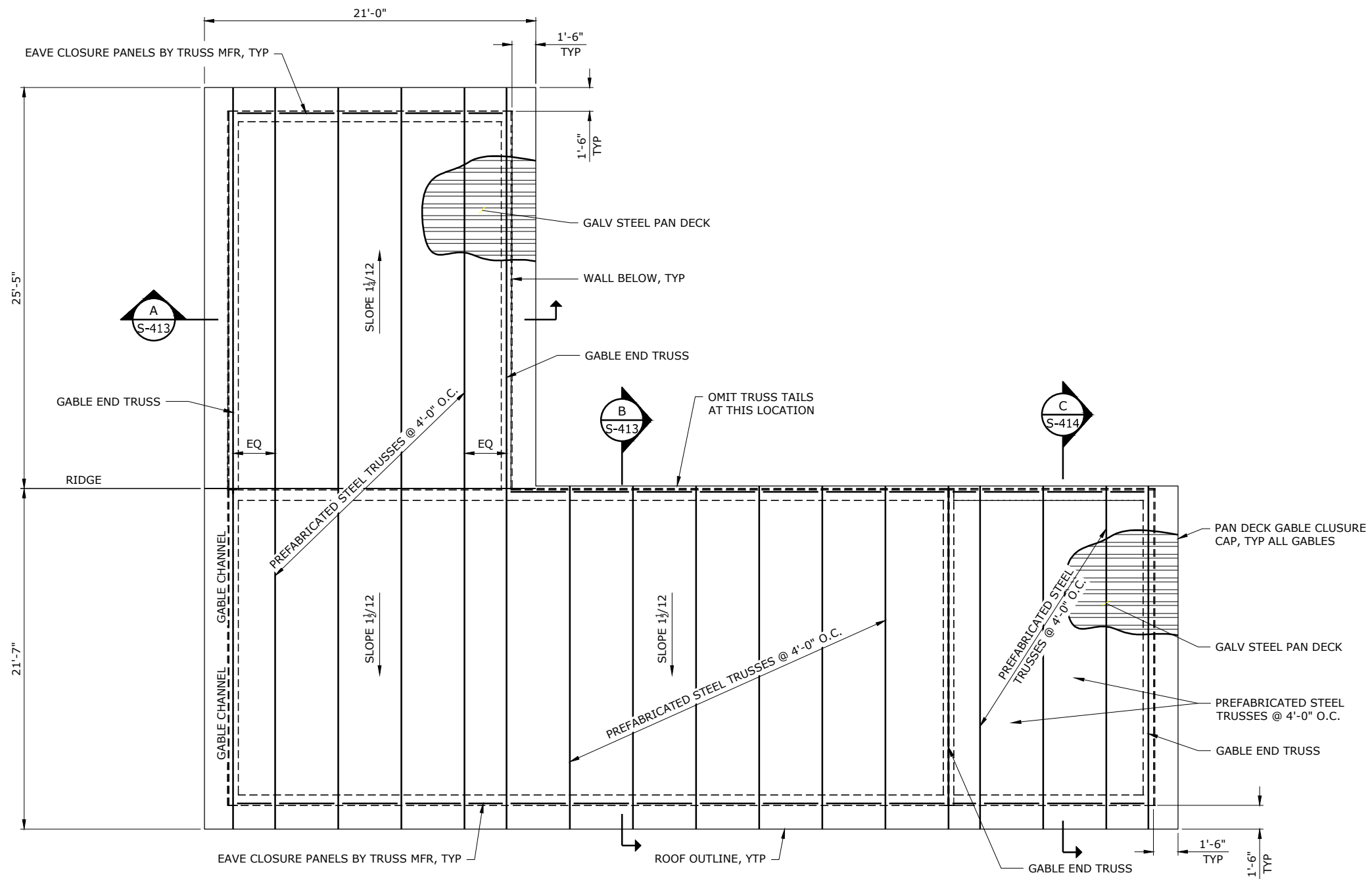
SHEET  
**S-411**  
101 of 354

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\400 ST\19-2605-OR-S\_PSPS\_BLO.dwg S-412 6/15/2020 3:48 PM JUSTIN.DEUEL 23.0s (LMS Tech)

- LEGEND:
-  INDICATES CMU WALL CONSTRUCTION
  -  INDICATES CAST IN PLACE CONCRETE WALL CONSTRUCTION
  -  INDICATES STEEL STUD FRAMING WALL CONSTRUCTION

NOTES:  
1. NOTES



**ROOF FRAMING PLAN**  
SCALE: 1/4" = 1'-0"

**60% SUBMITTAL**

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

RDK DESIGNED  
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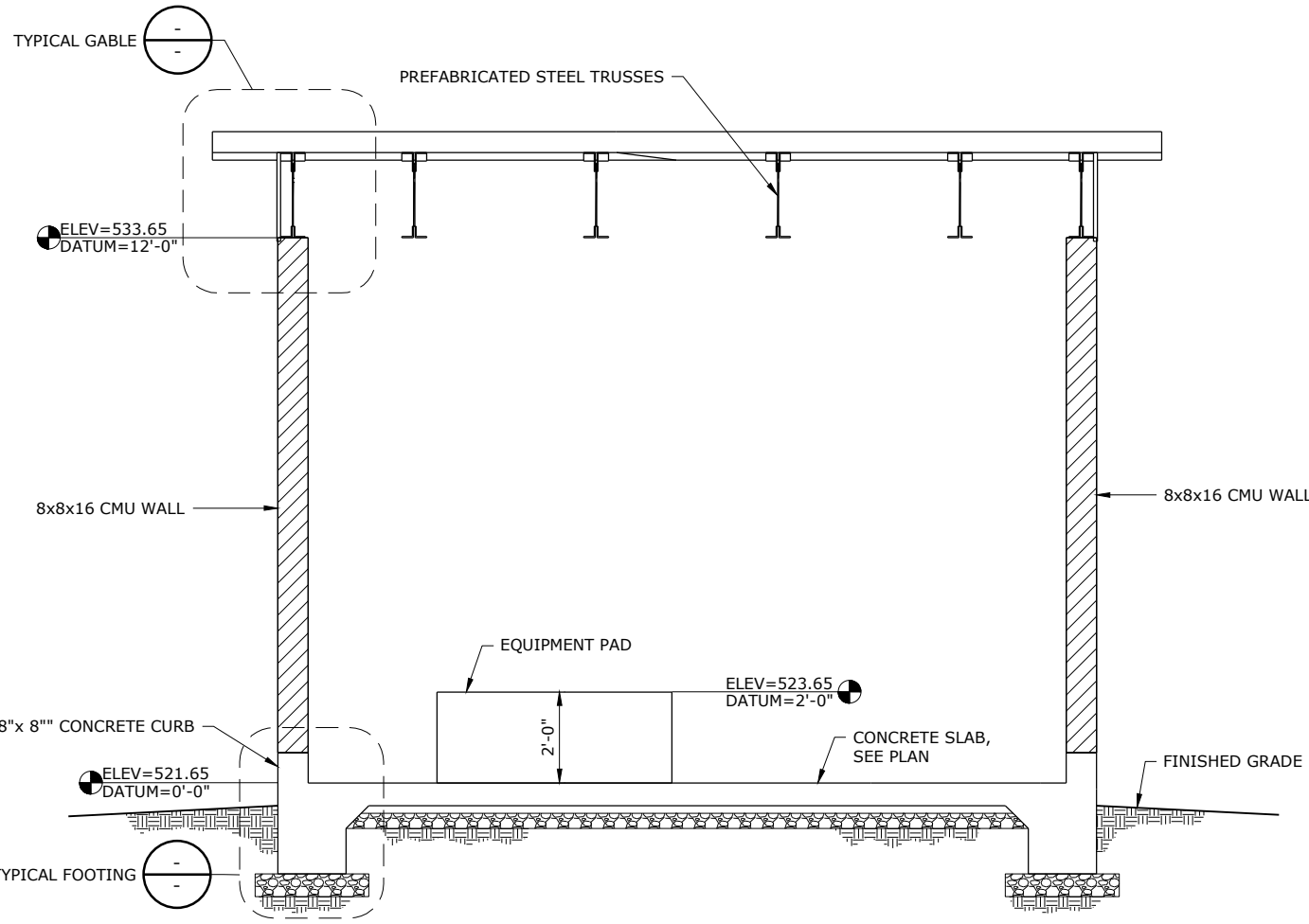
**PRIMARY SLUDGE PS-BLOWER**  
**BUILDING-N. ELEC. ROOM**  
**ROOF FRAMING PLAN**

PROJECT NO.: 19-2605 SCALE: 1/4" = 1'-0" DATE: June 2020

SHEET  
**S-412**  
102 of 354

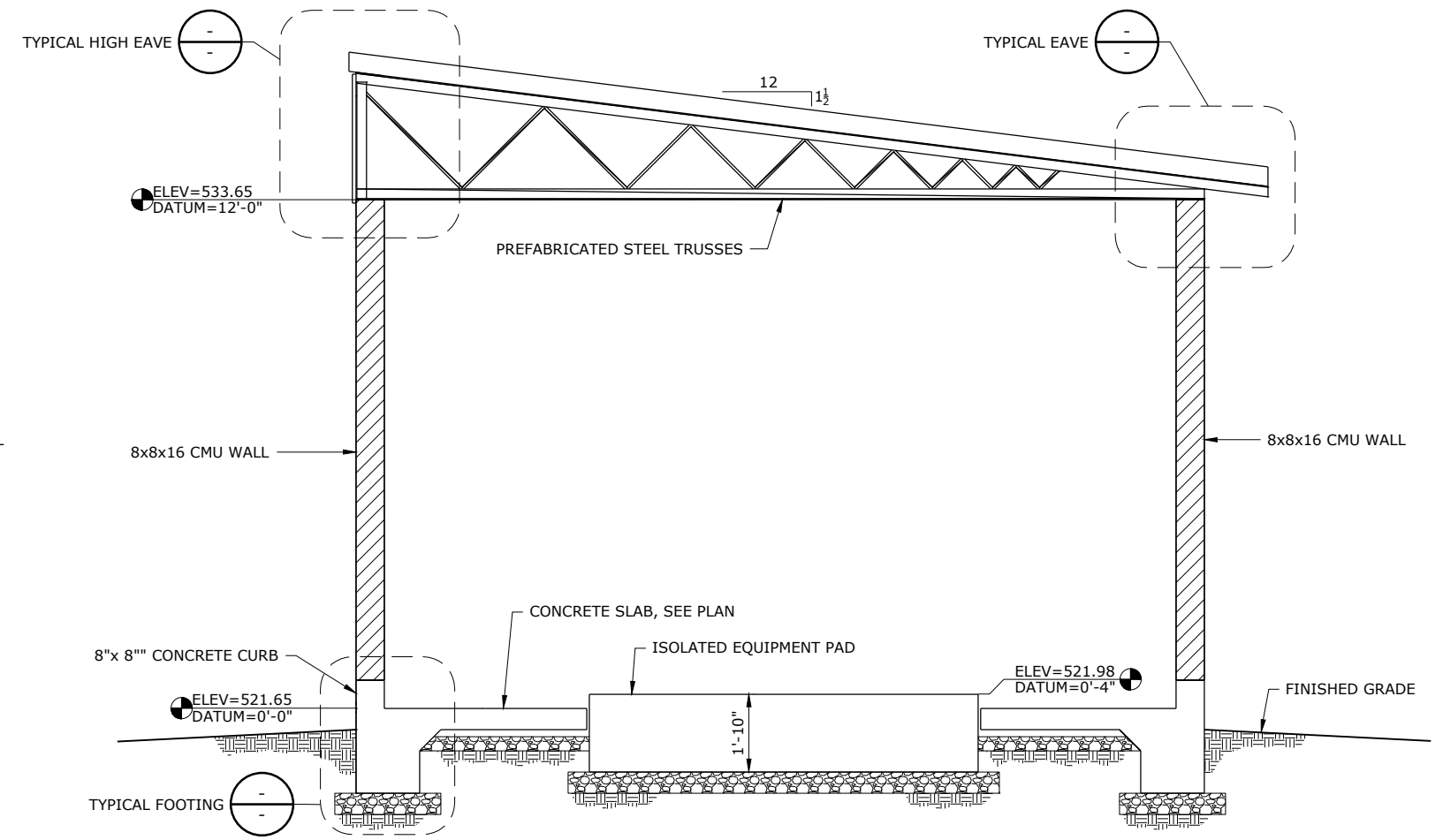
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LEGEND:  
 INDICATES CMU WALL CONSTRUCTION  
 INDICATES CAST IN PLACE CONCRETE WALL CONSTRUCTION  
 NOTES:  
 1. NOTES



**PRIMARY SLUDGE PUMP STATION SECTION**  
 SCALE: 1/2" = 1'-0"

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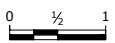


**BLOWER BUILDING SECTION**  
 SCALE: 1/2" = 1'-0"

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**60% SUBMITTAL**

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**PRIMARY SLUDGE PS-BLOWER**  
**BUILDING-N. ELEC. ROOM**  
**BUILDING SECTIONS**

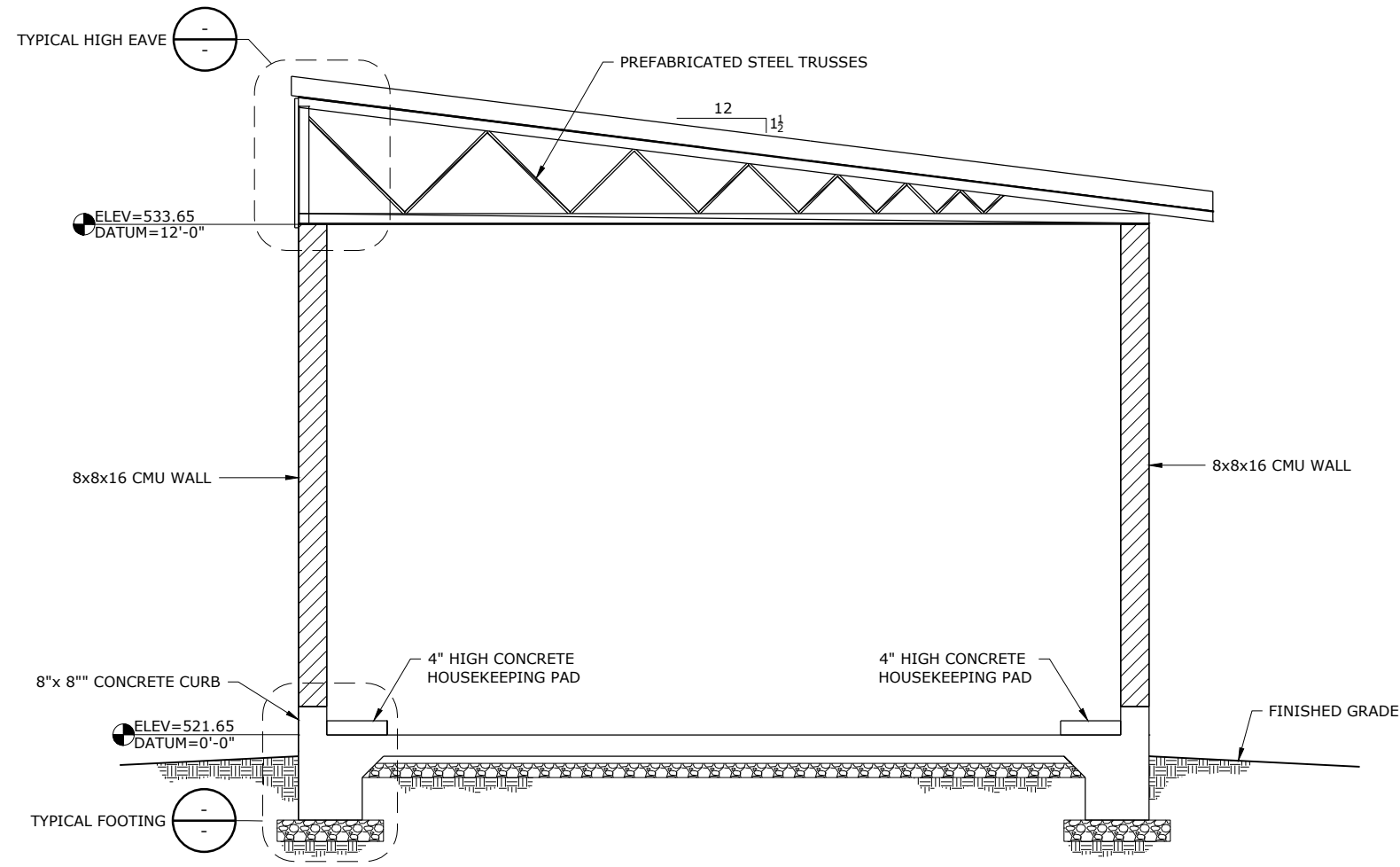
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
**S-413**  
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G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\400 ST\19-2605-OR-S\_PSPS\_BLO.dwg S-414 6/15/2020 3:48 PM JUSTIN.DEUEL 23.0s (LMS Tech)

LEGEND:  
 INDICATES CMU WALL CONSTRUCTION  
 INDICATES CAST IN PLACE CONCRETE WALL CONSTRUCTION

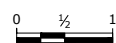
NOTES:  
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**ELECTRICAL ROOM SECTION** C  
 SCALE: 1/2" = 1'-0" S-411

**60% SUBMITTAL**

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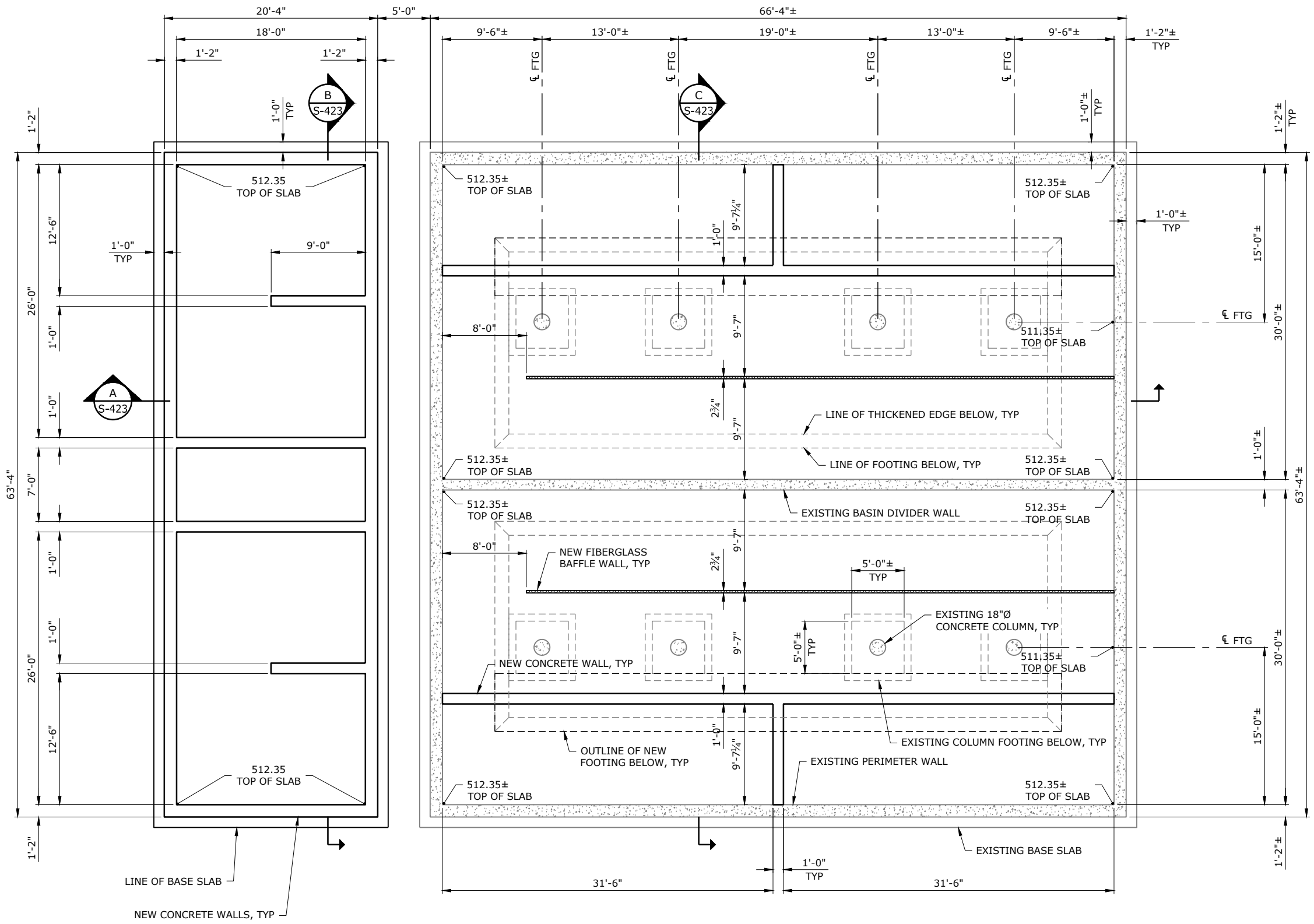
**PRIMARY SLUDGE PS-BLOWER  
 BUILDING-N. ELEC. ROOM  
 BUILDING SECTIONS AND DETAILS**

SHEET  
**S-414**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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NOTES:  
 1. ELEVATIONS SHOWN ARE BASED ON THE CH2MHILL RECORD DRAWINGS DATED JUNE, 1973 WITH A DATUM CORRECTION OF +3.6'. FIELD VERIFY ALL DIMENSIONS AND ELEVATION DATA PRIOR TO STARTING WORK.

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

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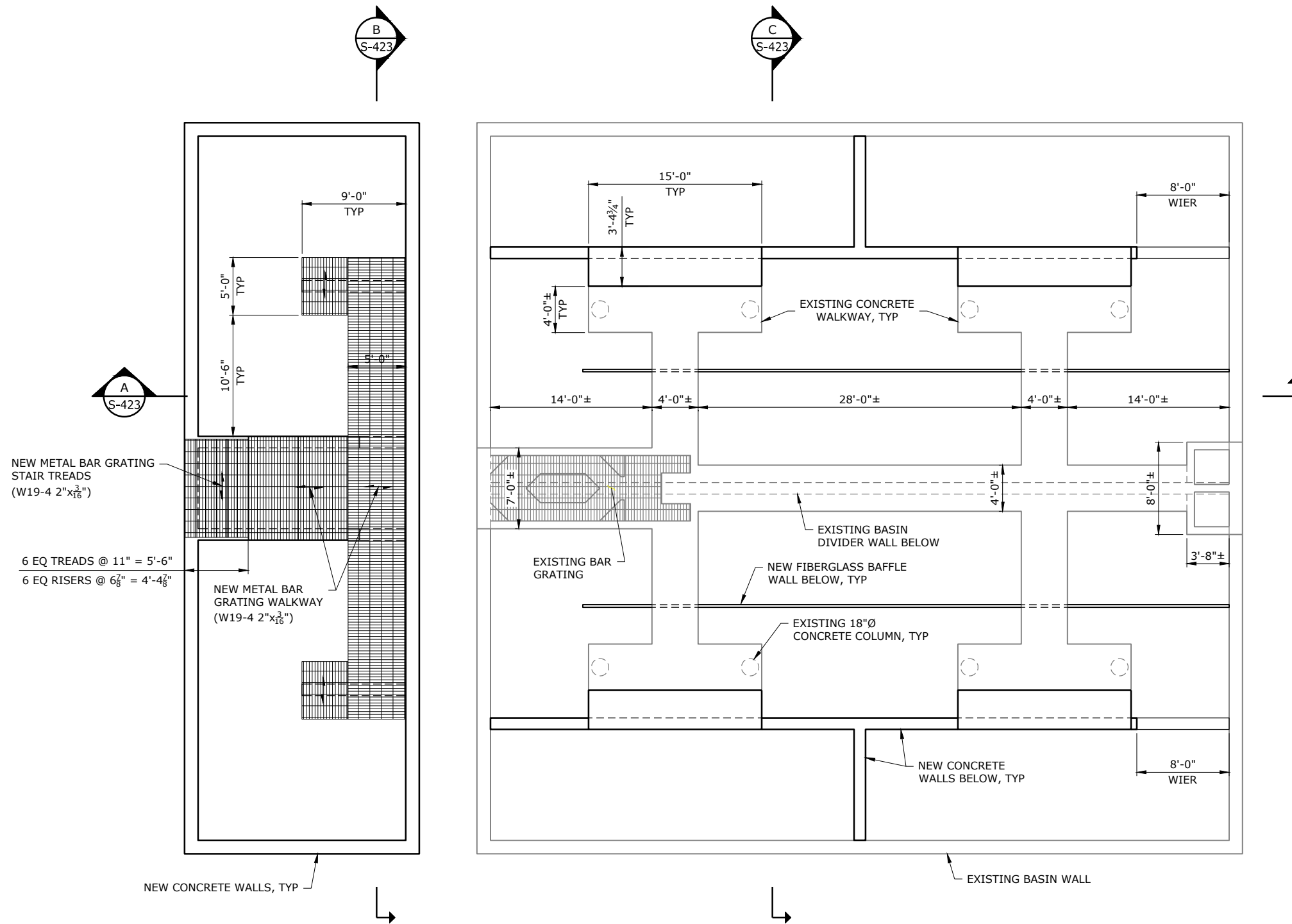
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| AERATION BASIN  |           | SHEET                |
| FOUNDATION PLAN |           | S-421                |
| PROJECT NO.:    | 19-2605   | SCALE: 3/16" = 1'-0" |
| DATE:           | June 2020 | 105 of 354           |

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- NOTES:
- ELEVATIONS SHOWN ARE BASED ON THE CH2MHILL RECORD DRAWINGS DATED JUNE, 1973 WITH A DATUM CORRECTION OF +3.6'. FIELD VERIFY ALL DIMENSIONS AND ELEVATION DATA PRIOR TO STARTING WORK.
  - FOR DIMENSIONS NOT SHOWN, SEE DRAWING S-411



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

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AERATION BASIN

TOP PLAN

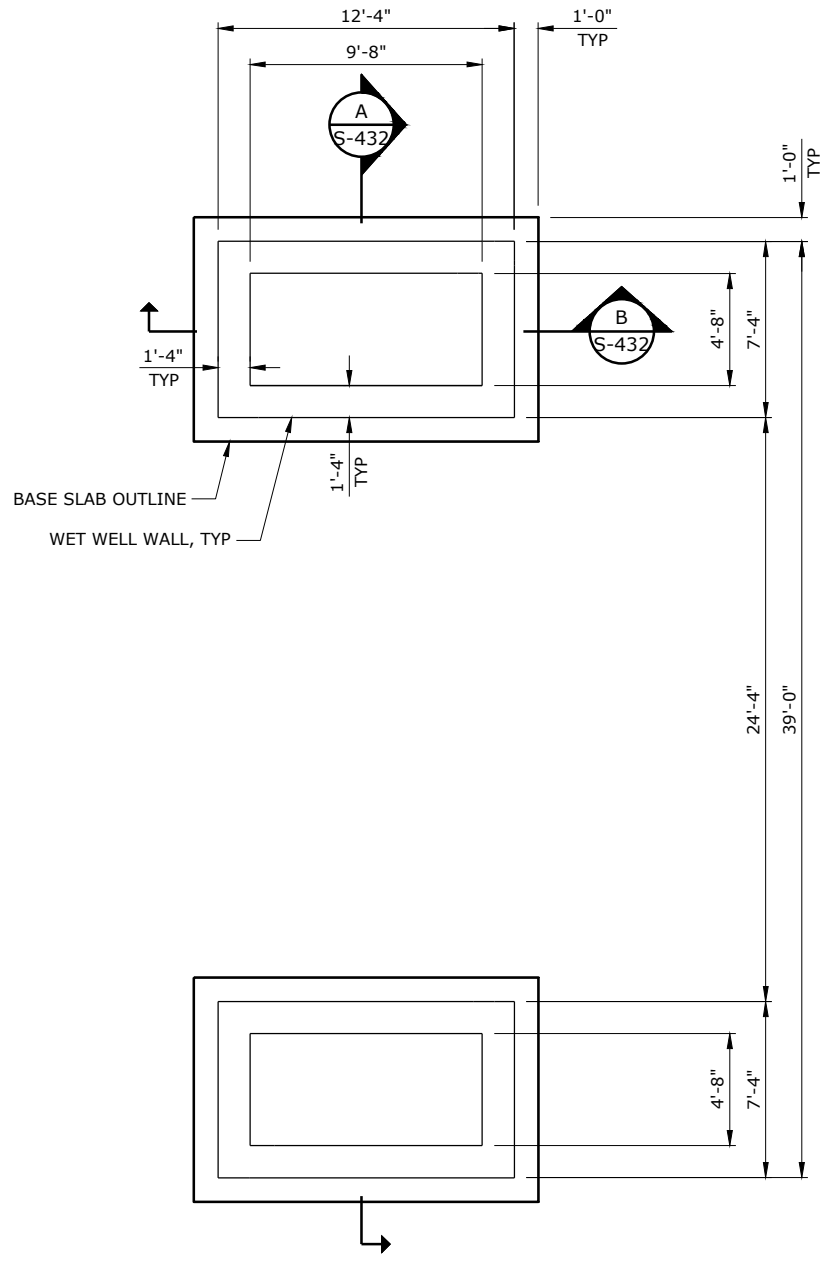
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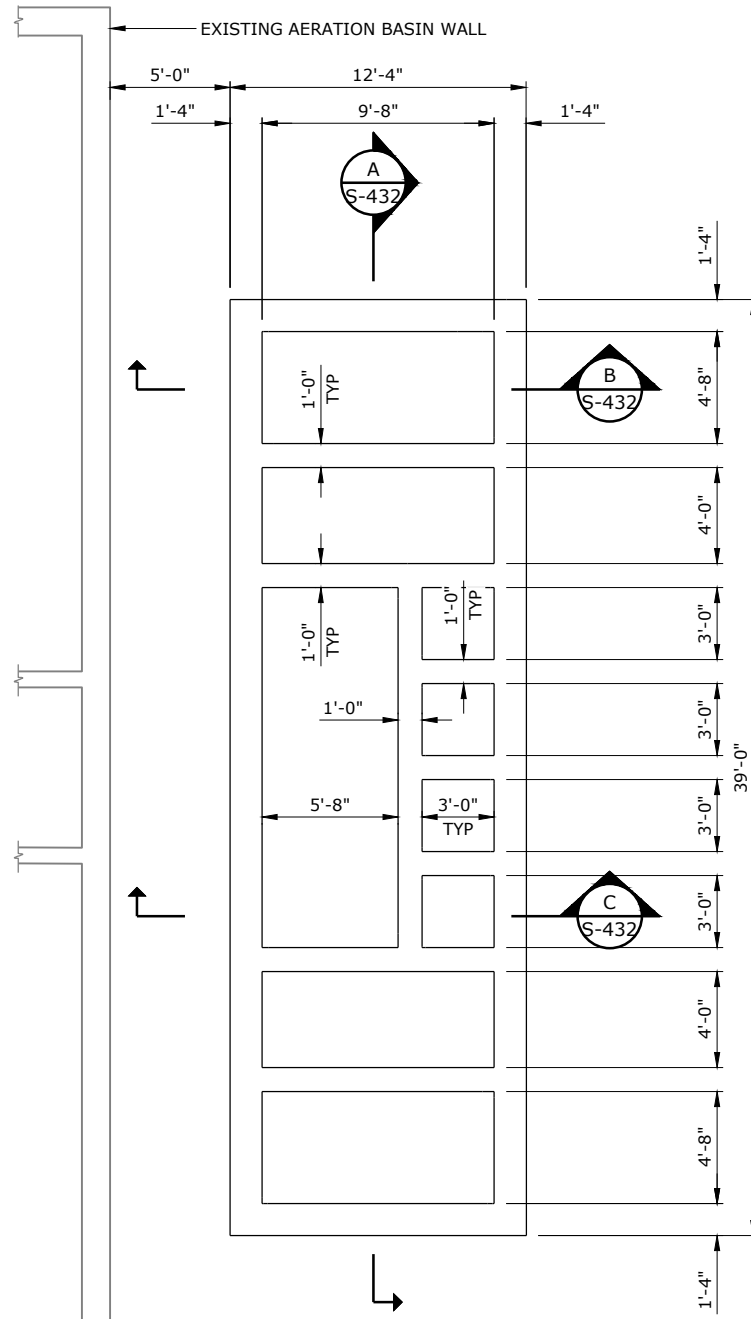
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PROJECT NO.: 19-2605 SCALE: 3/16" = 1'-0" DATE: June 2020

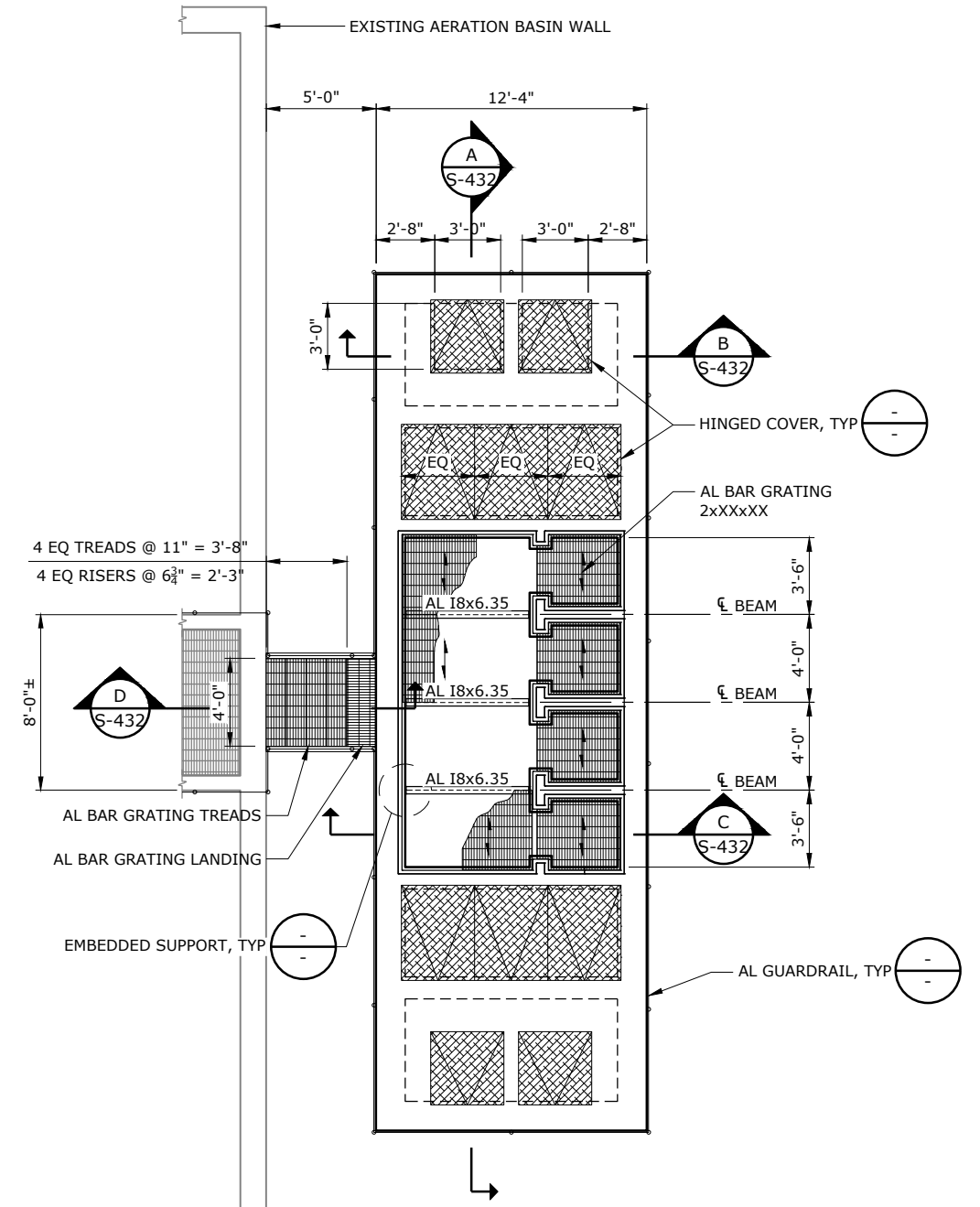
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**WET WELL FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"



**MIXED LIQUOR FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"



**TOP PLAN**  
SCALE: 1/4" = 1'-0"

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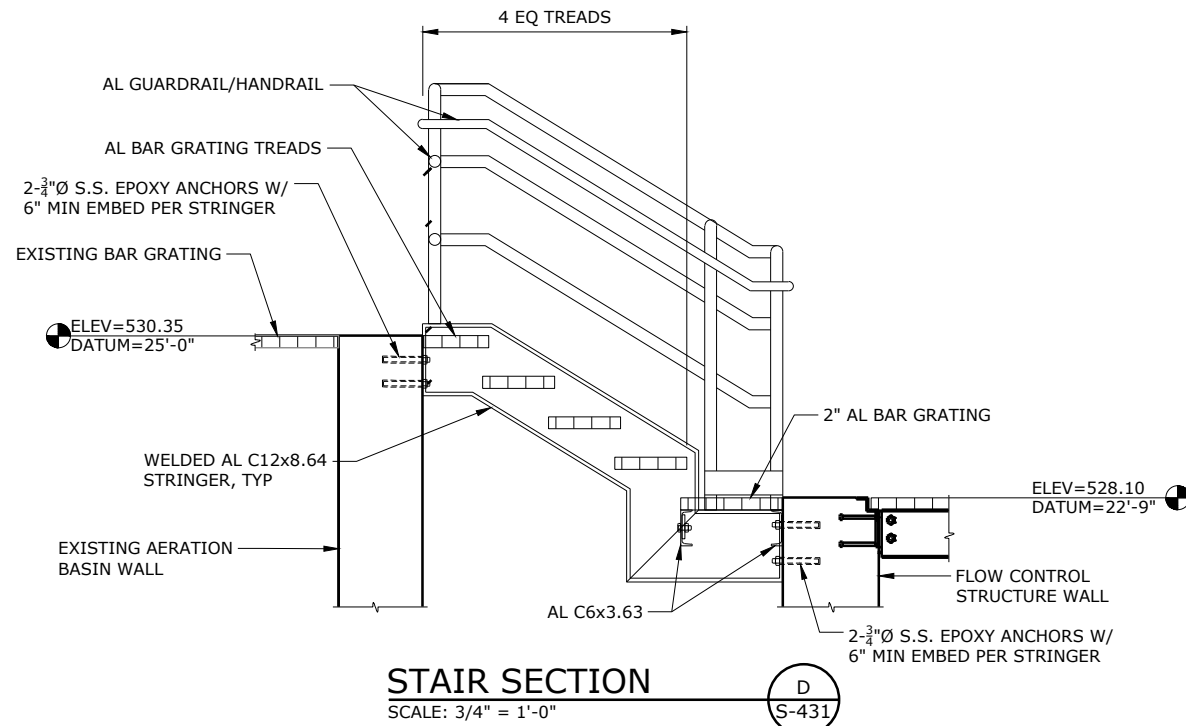
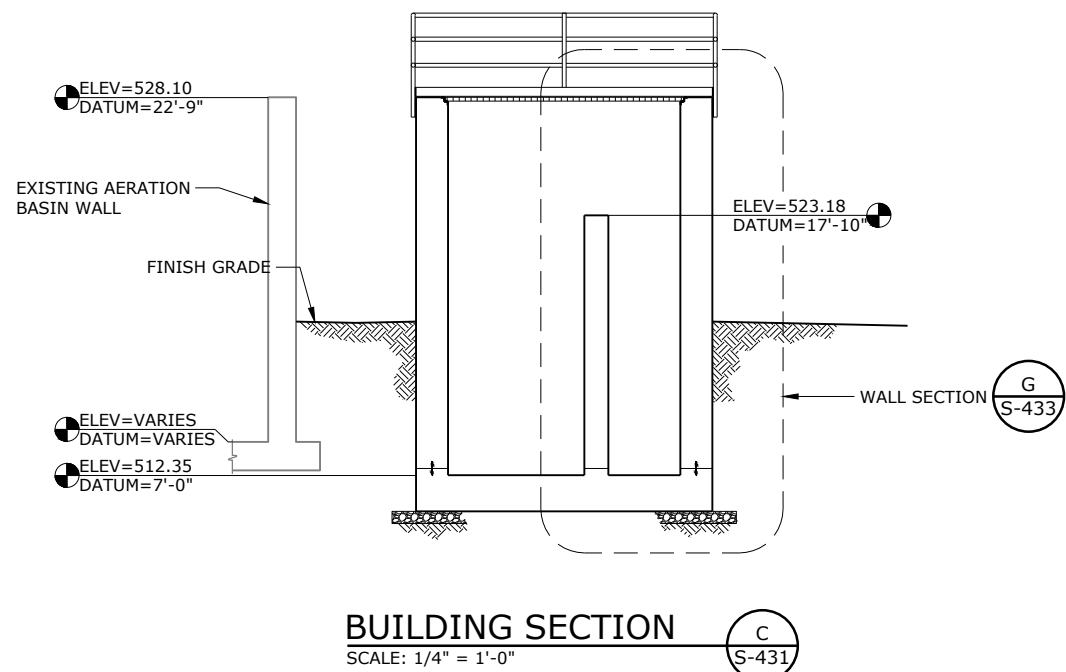
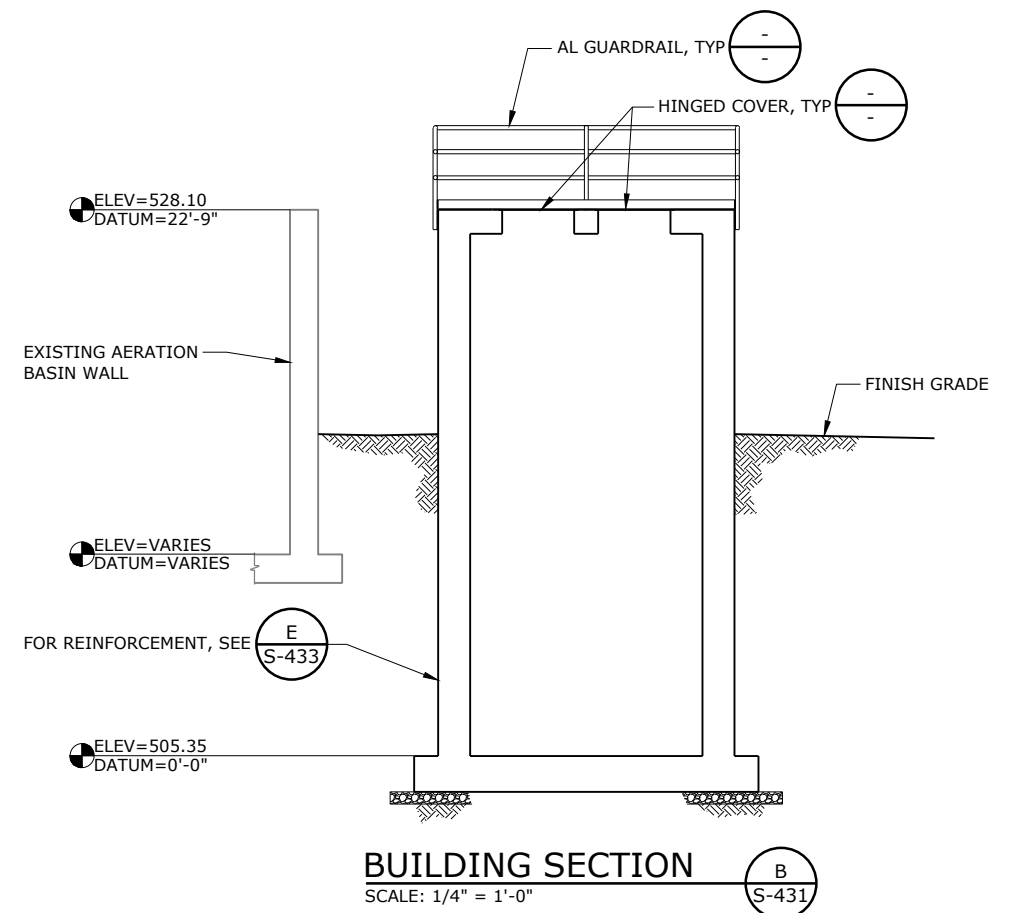
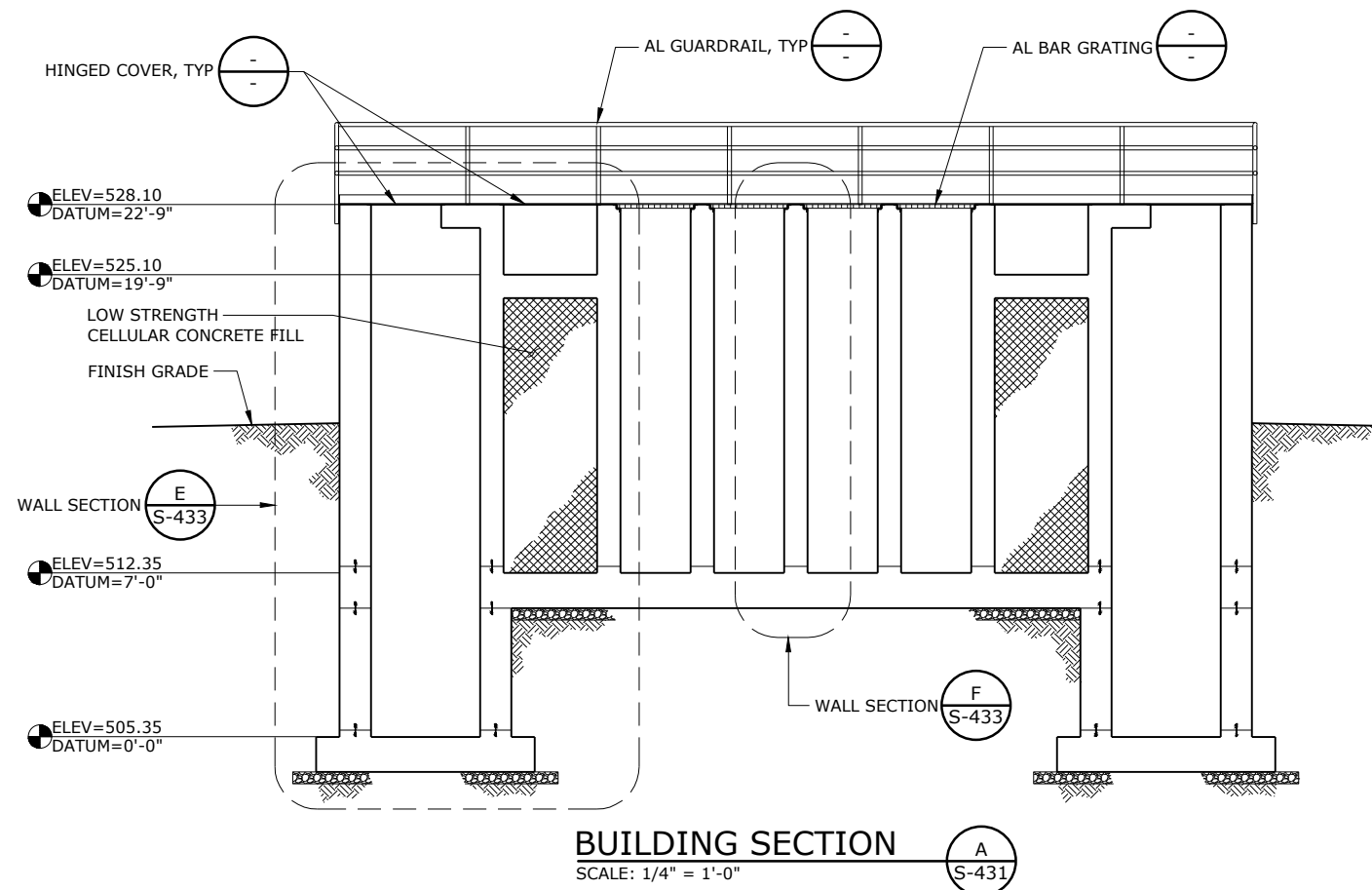


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WWTP IMPROVEMENTS

**ML FLOW SPLIT STRUCTURE AND NORTH**  
**RAS-WAS PS**  
**PLANS**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\400 ST\19-2605-OR-S\_EFCS.dwg S-432 6/16/2020 8:54 AM JUSTIN.DEVEL 23.0s (LMS Tech)



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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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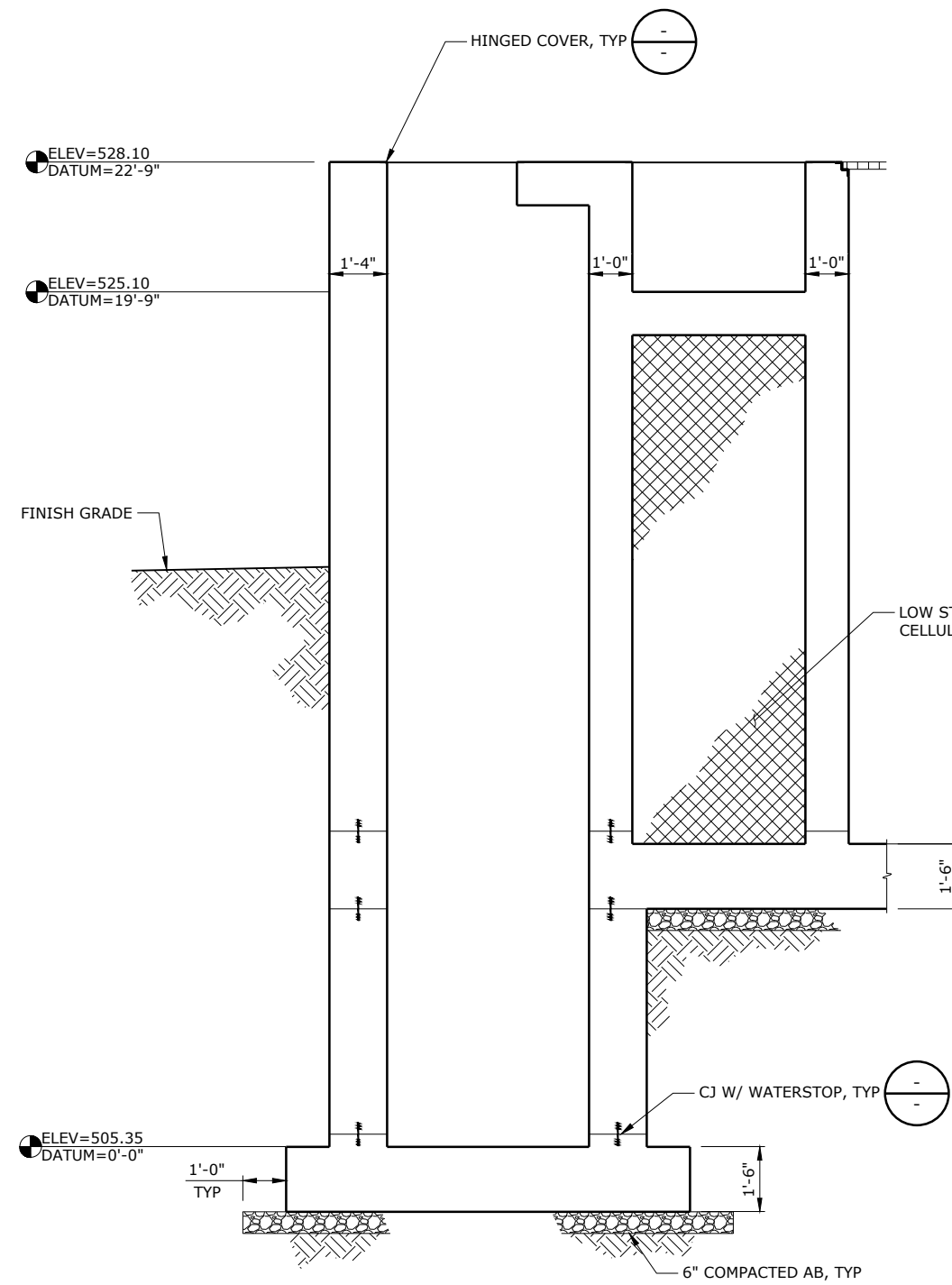
**CITY OF SWEET HOME**  
WWTP IMPROVEMENTS

**ML FLOW SPLIT STRUCTURE AND NORTH RAS-WAS PS BUILDING SECTIONS**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

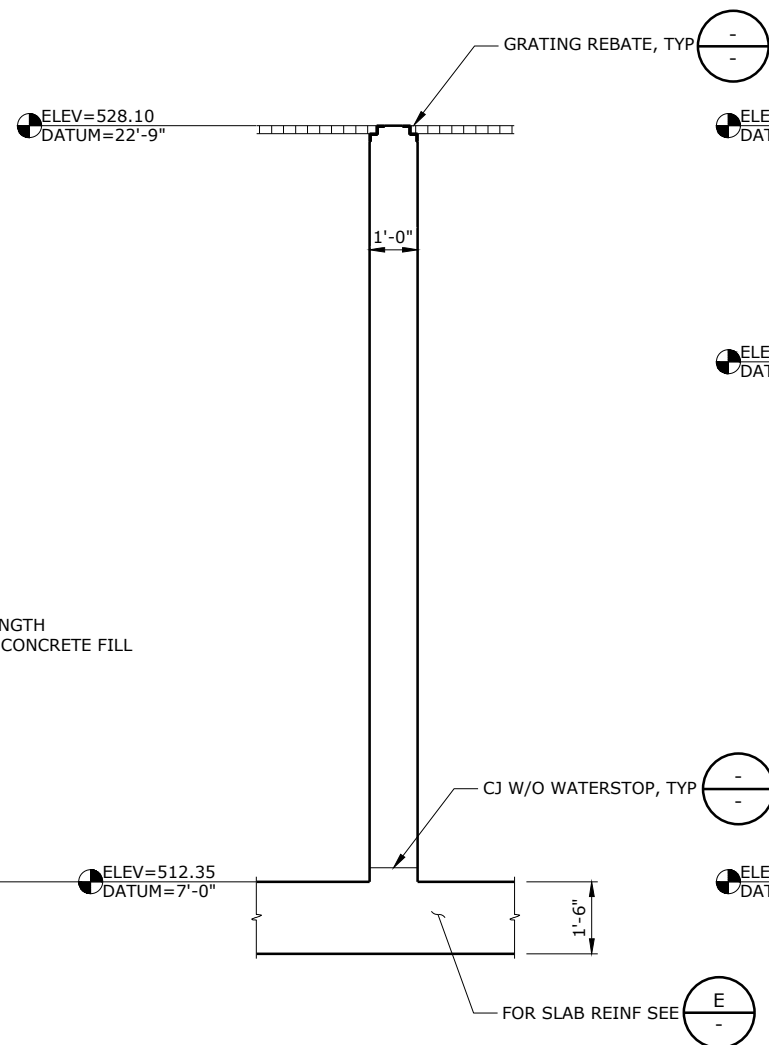
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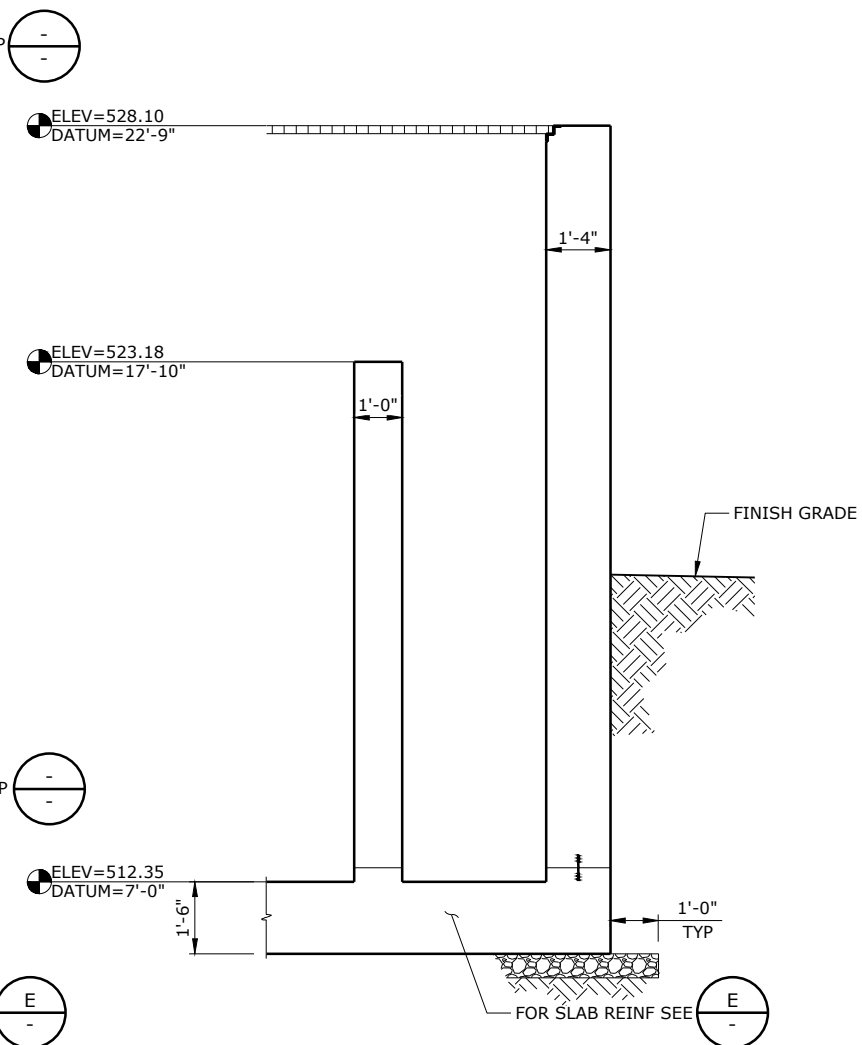
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**REINFORCEMENT SECTION E**  
SCALE: 1/2" = 1'-0"



**REINFORCEMENT SECTION F**  
SCALE: 1/2" = 1'-0"



**REINFORCEMENT SECTION G**  
SCALE: 1/2" = 1'-0"

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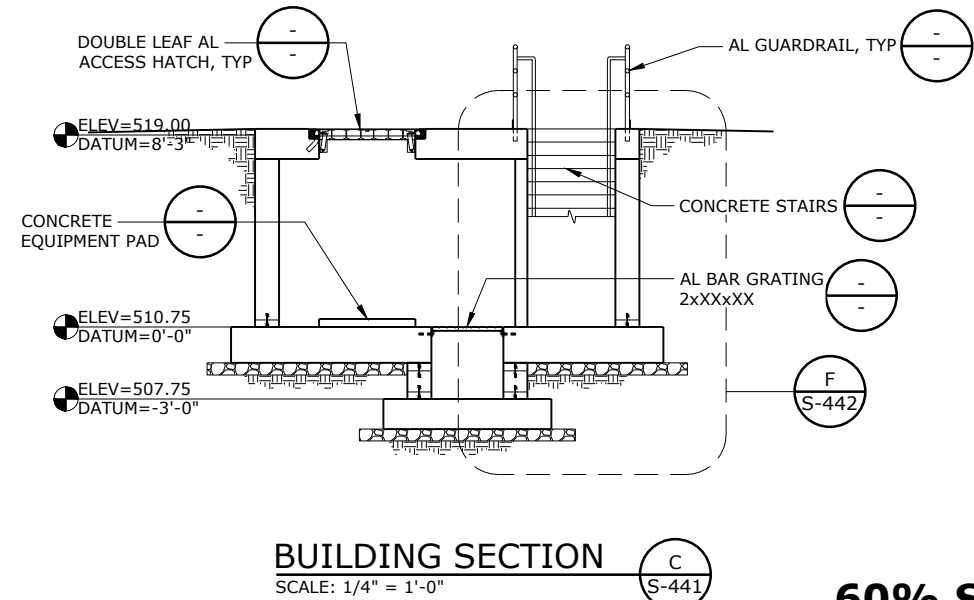
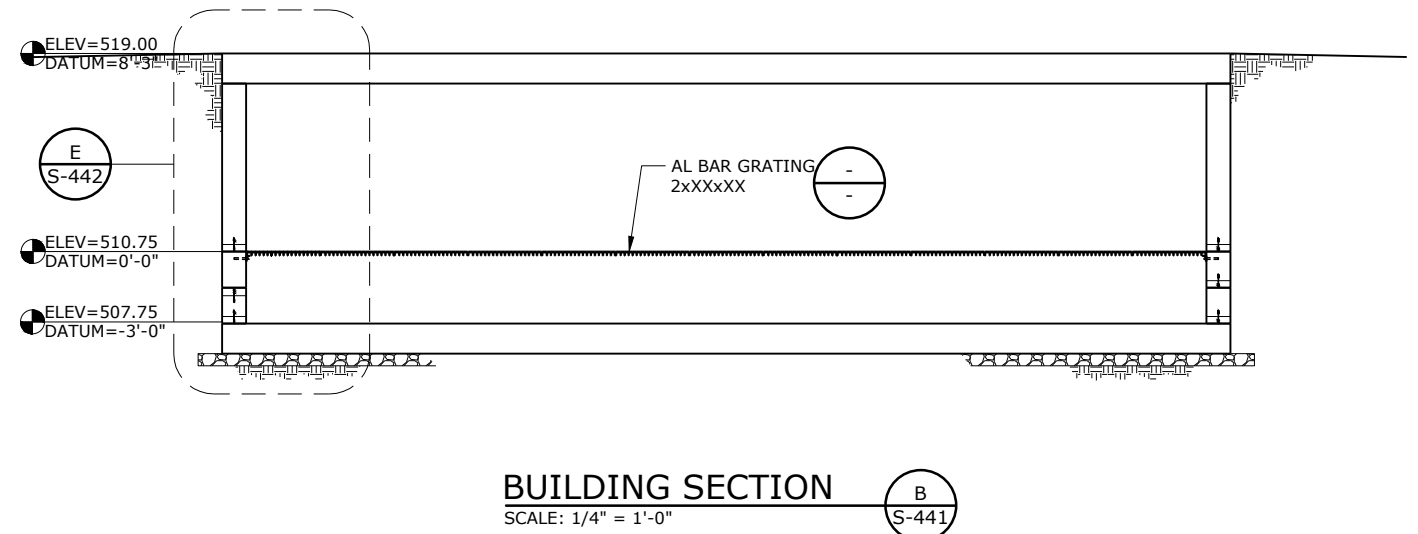
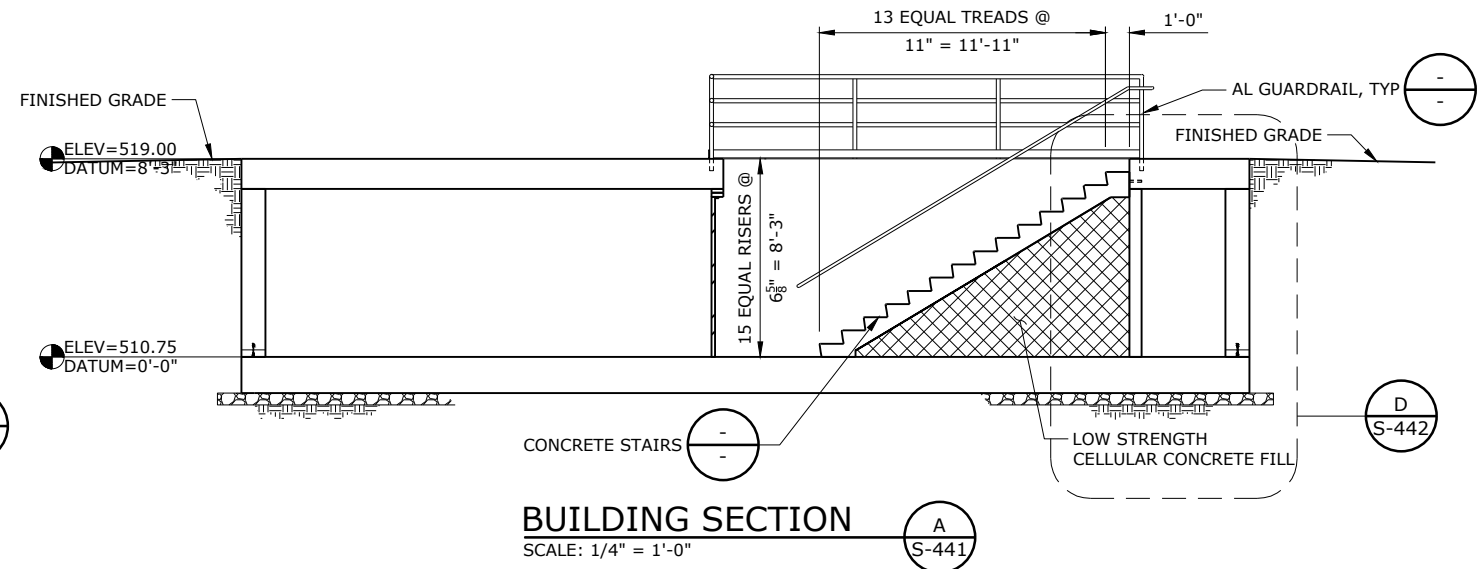
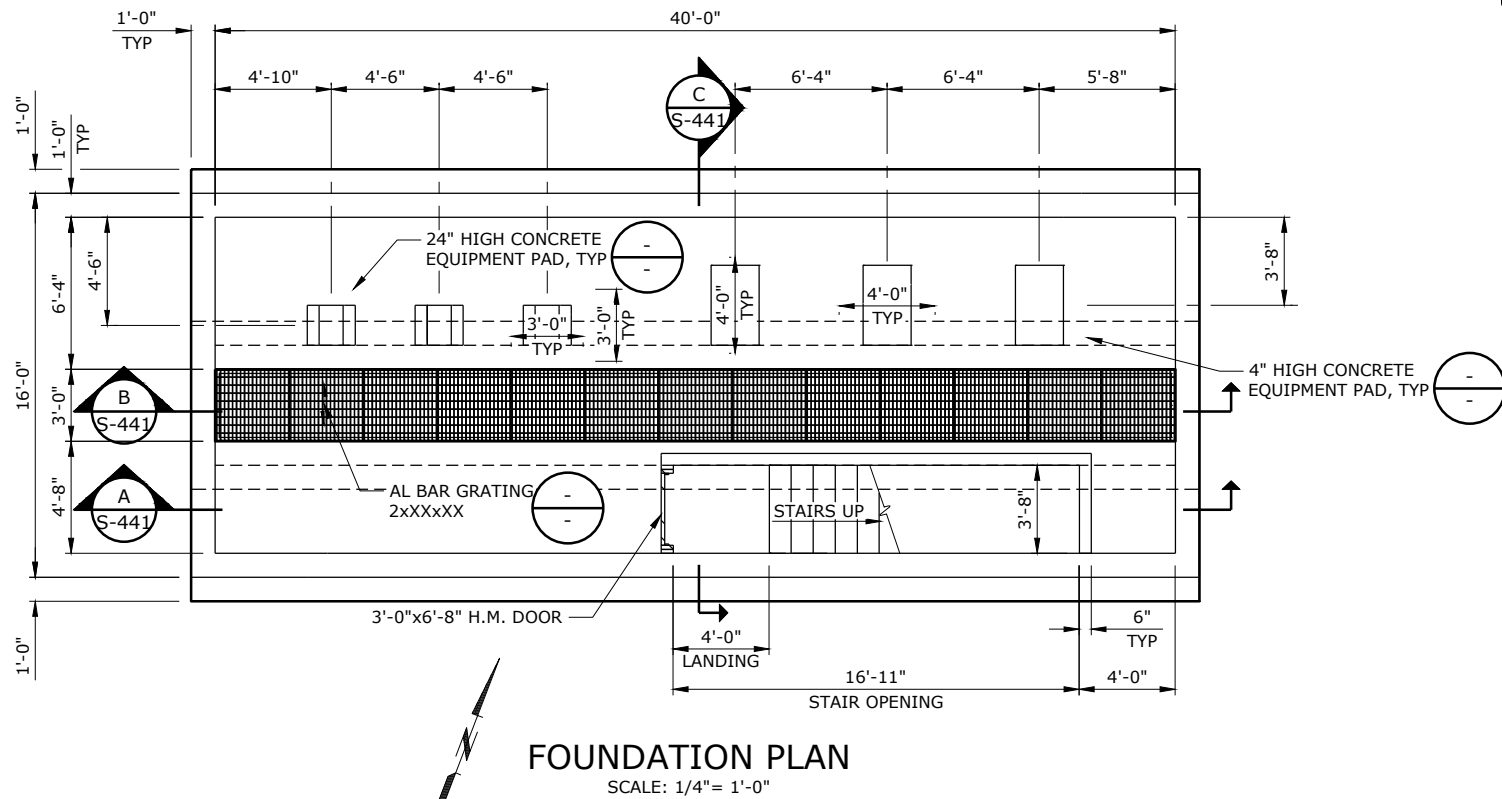
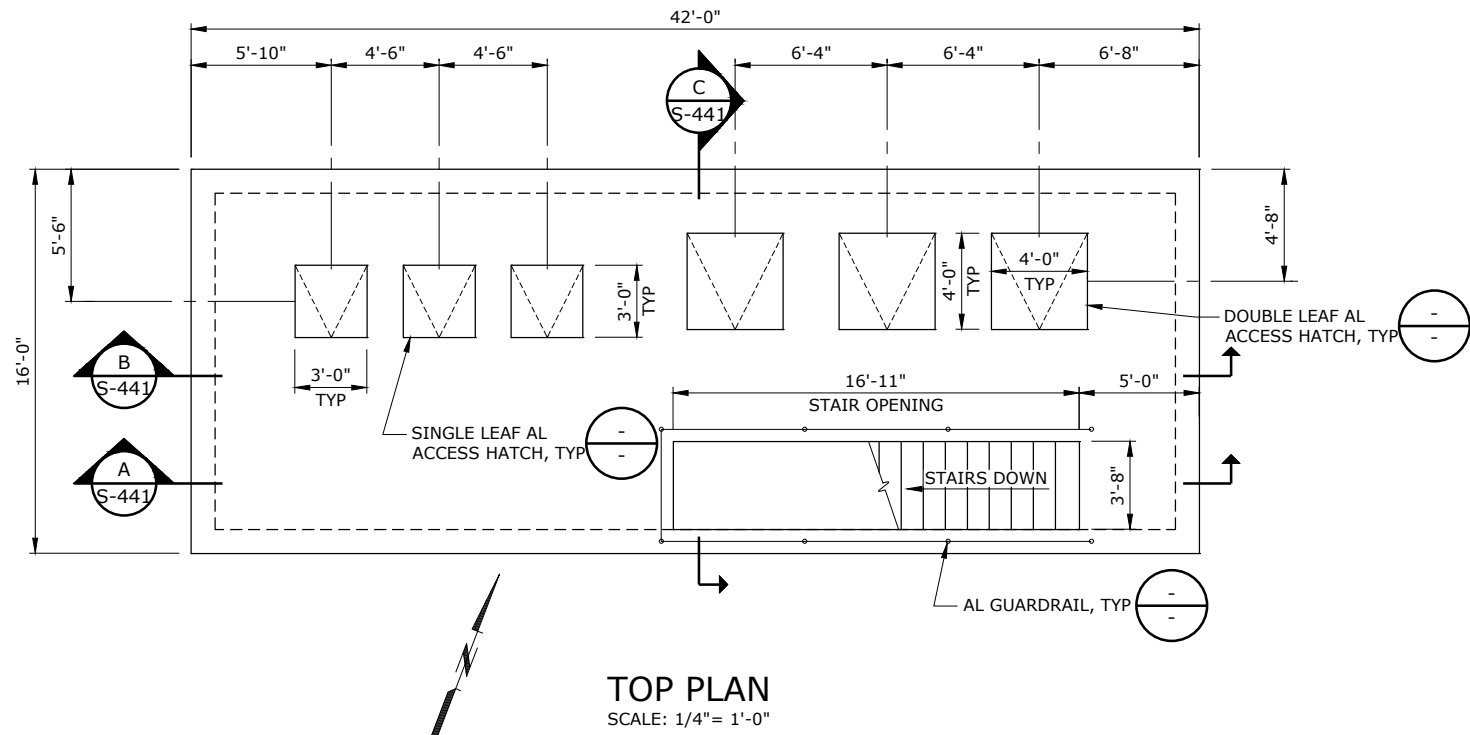


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**ML FLOW SPLIT STRUCTURE AND NORTH RAS-WAS PS**  
**REINFORCEMENT SECTIONS**  
PROJECT NO.: 19-2605 SCALE: 1/2" = 1'-0" DATE: June 2020

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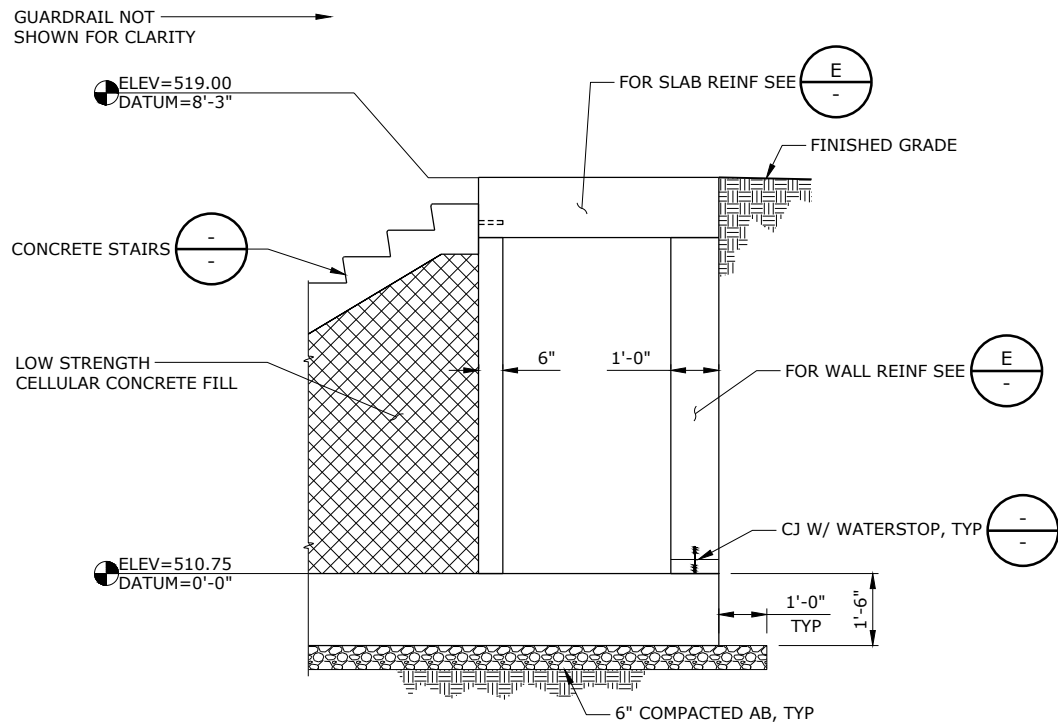


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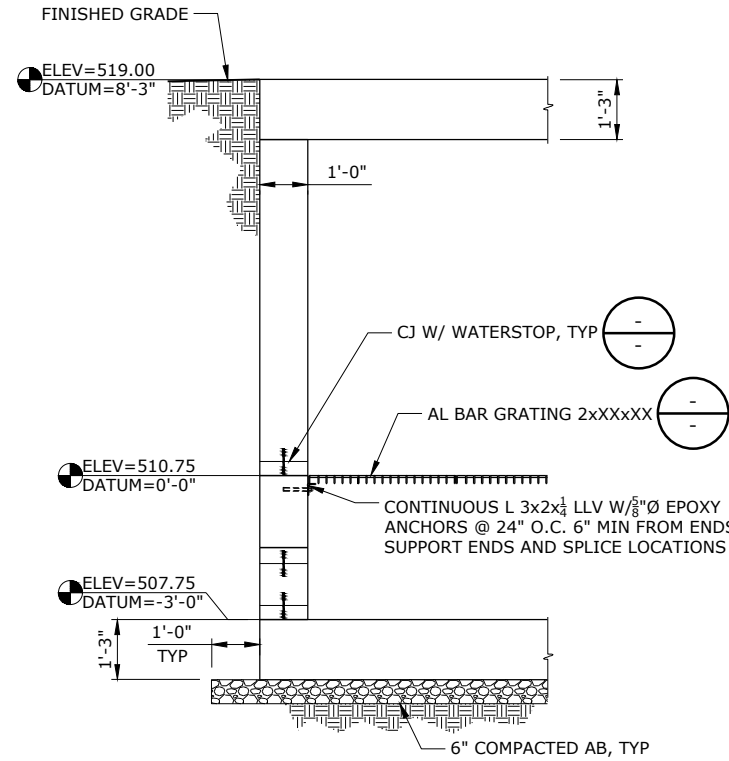
**SOUTH RAS-WAS PUMP STATION**  
**FOUNDATION PLAN, TOP PLAN**  
**AND BUILDING SECTIONS**  
PROJECT NO.: 19-2605 SCALE: 1/4" = 1'-0" DATE: June 2020

SHEET  
**S-441**  
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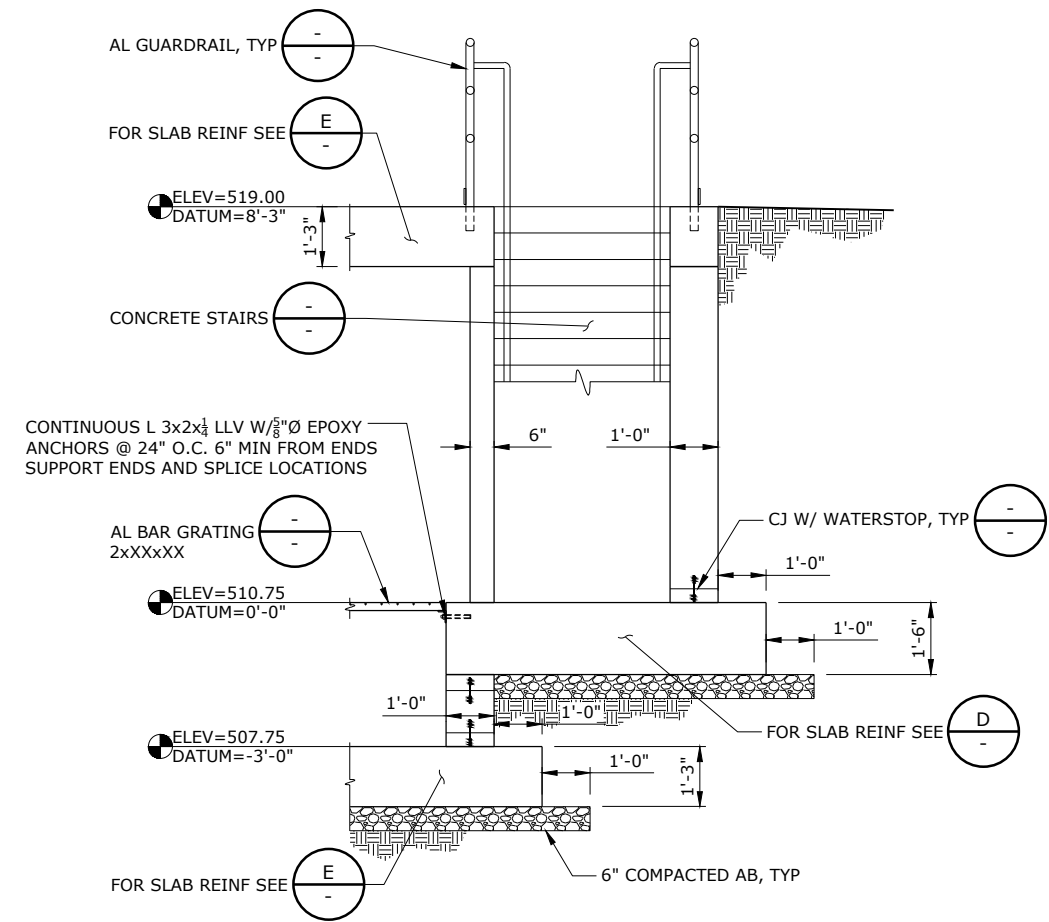
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**REINFORCEMENT SECTION** D  
SCALE: 1/2" = 1'-0" S-441



**REINFORCEMENT SECTION** E  
SCALE: 1/2" = 1'-0" S-441



**REINFORCEMENT SECTION** F  
SCALE: 1/2" = 1'-0" S-441

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**SOUTH RAS-WAS PUMP STATION**

**REINFORCEMENT SECTIONS**

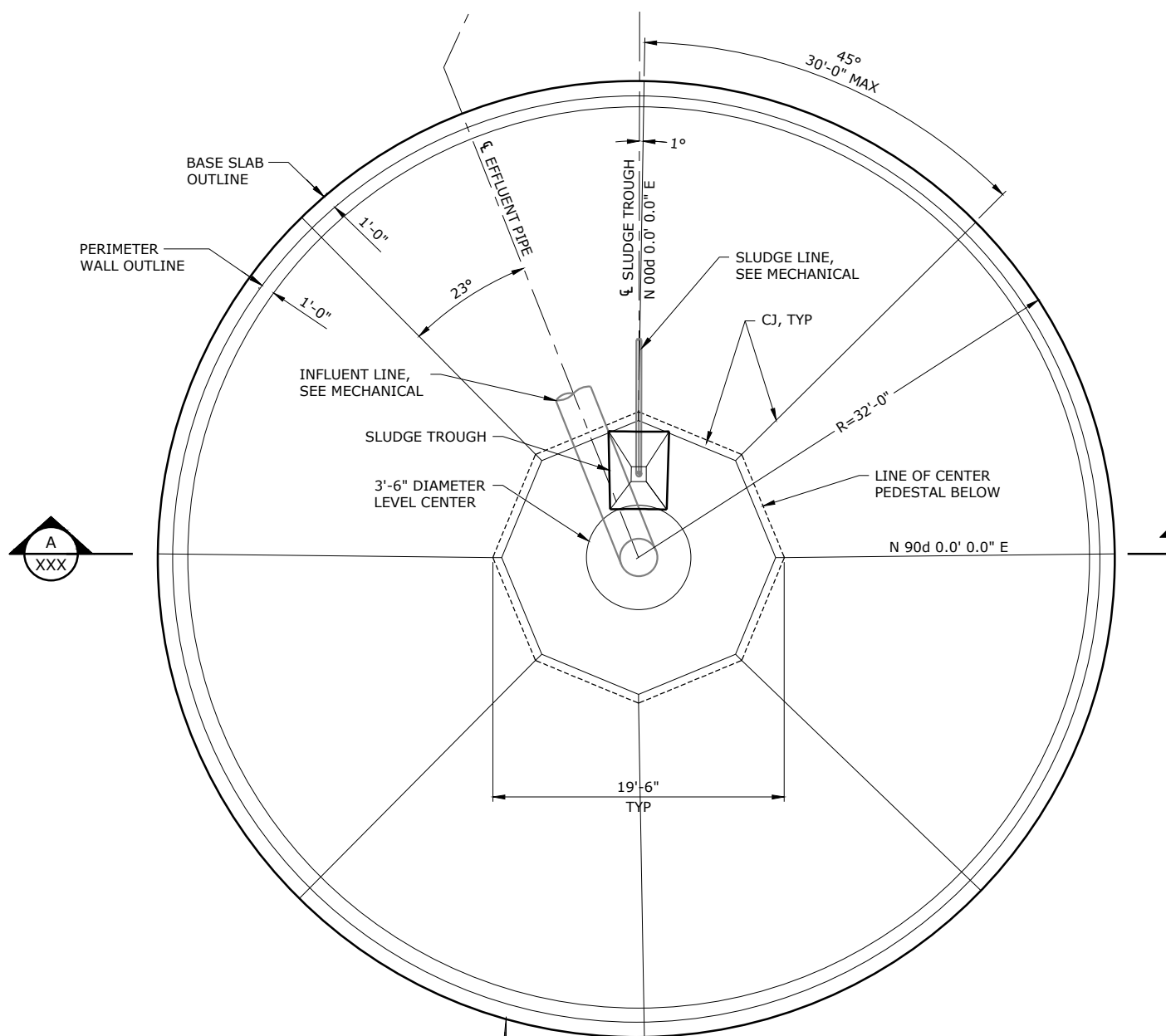
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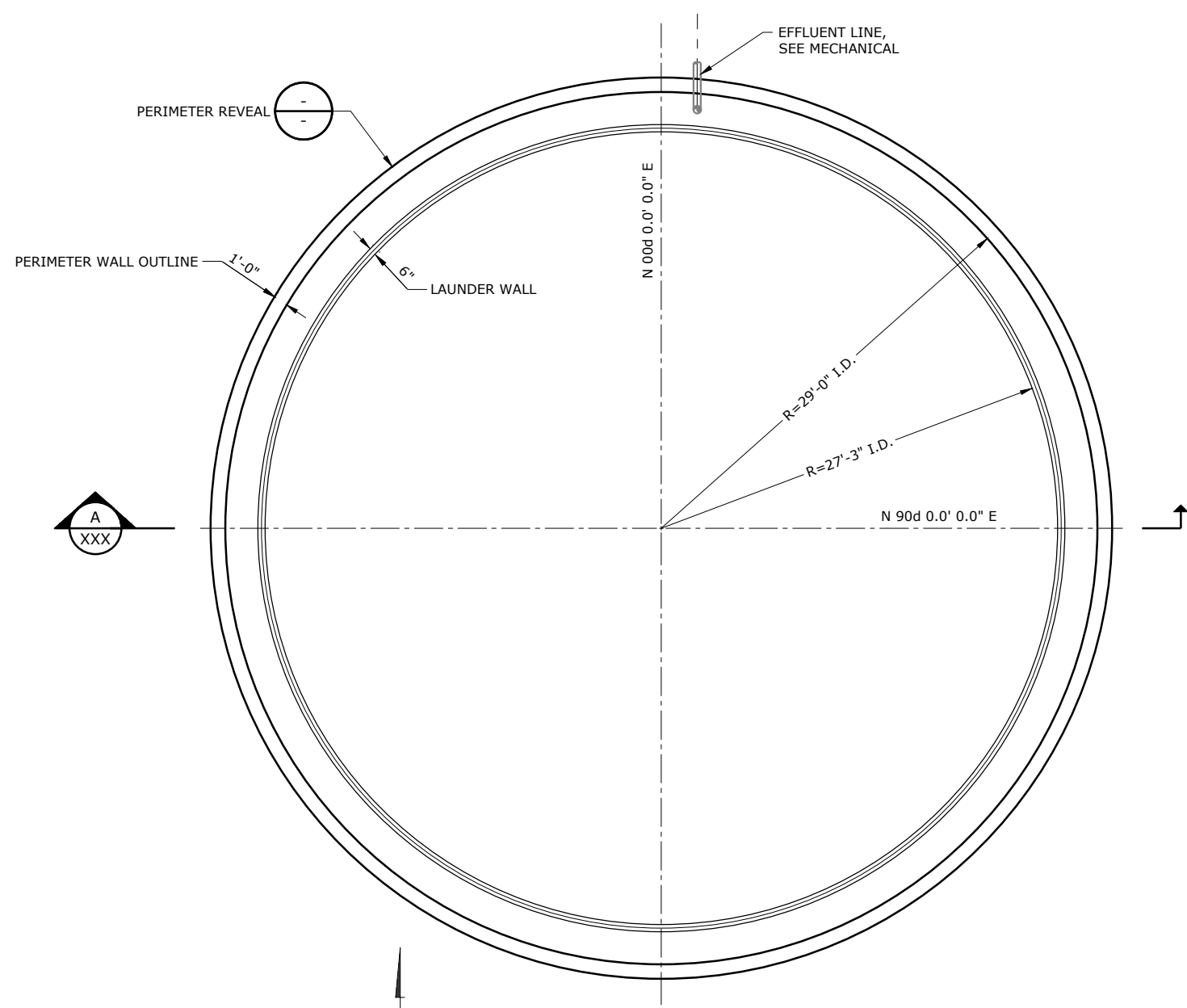
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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**BOTTOM PLAN**  
SCALE: 3/16" = 1'-0"



**TOP PLAN**  
SCALE: 3/16" = 1'-0"

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**SECONDARY CLARIFIER**

**TOP AND BOTTOM PLANS**

SHEET

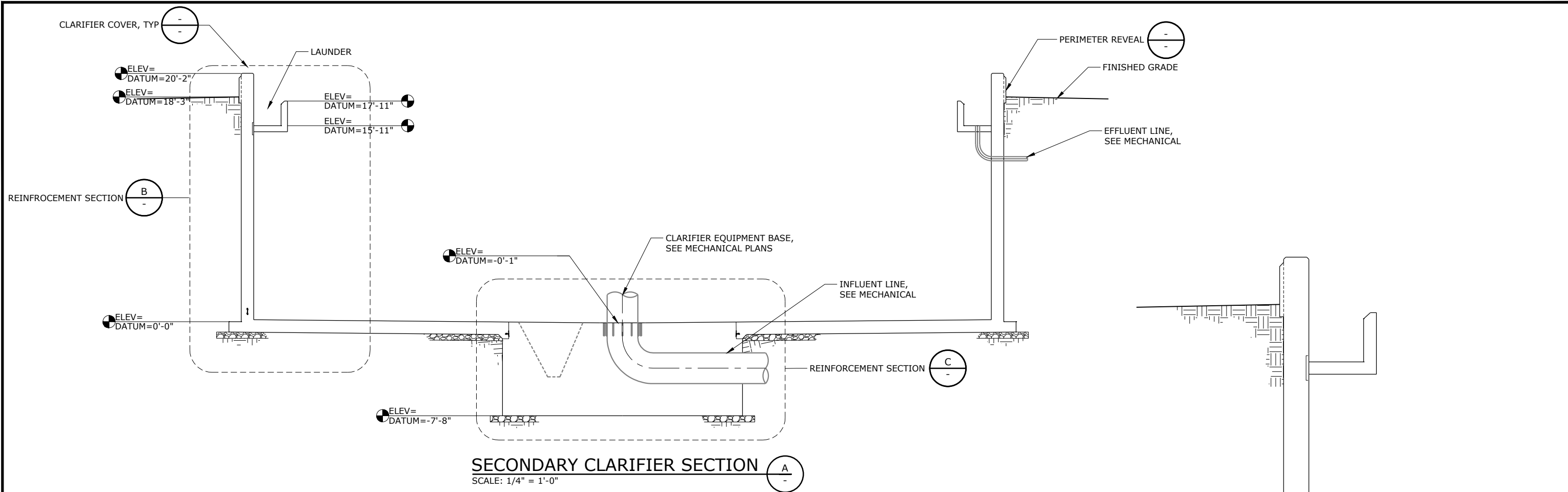
S-452

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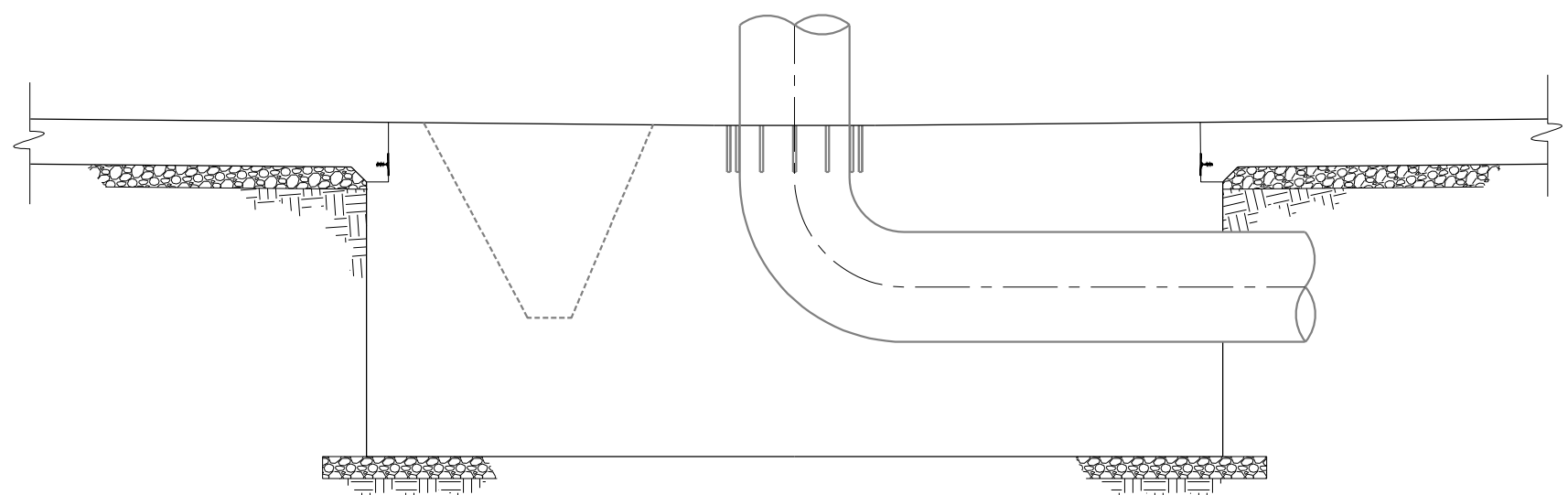
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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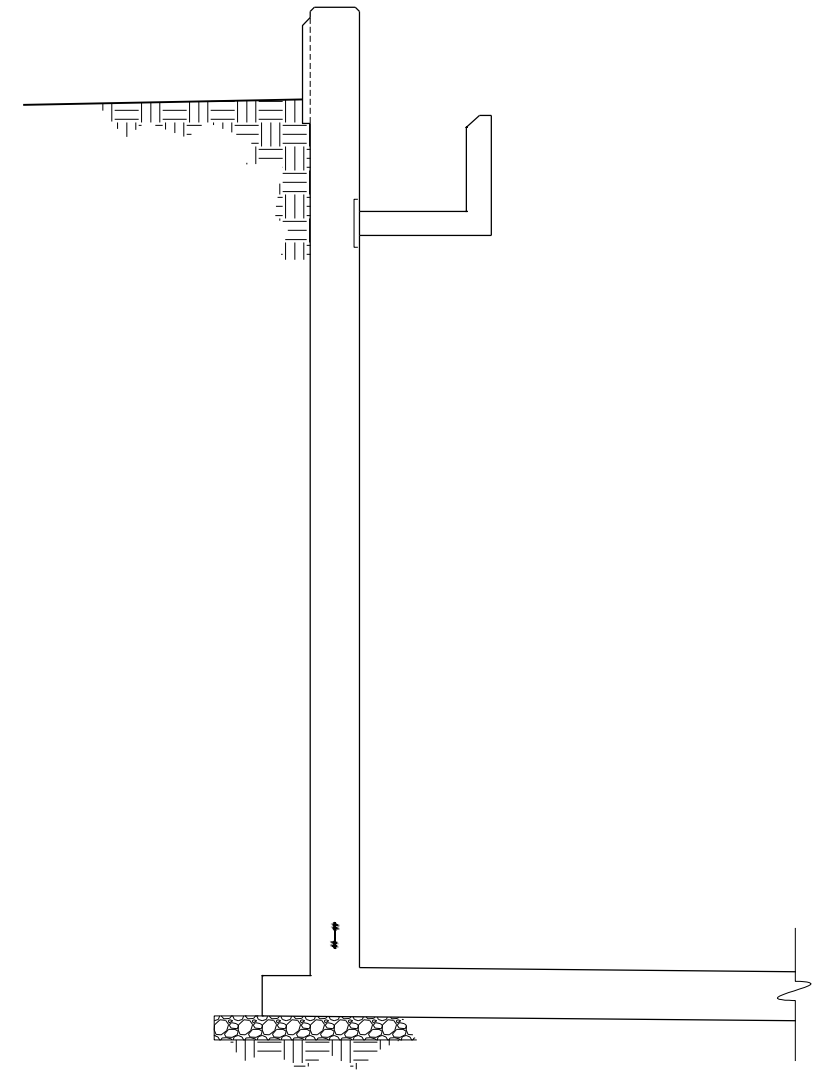
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**SECONDARY CLARIFIER SECTION A**  
SCALE: 1/4" = 1'-0"



**REINFORCEMENT SECTION B**  
SCALE: 1/2" = 1'-0"



**REINFORCEMENT SECTION C**  
SCALE: 1/2" = 1'-0"

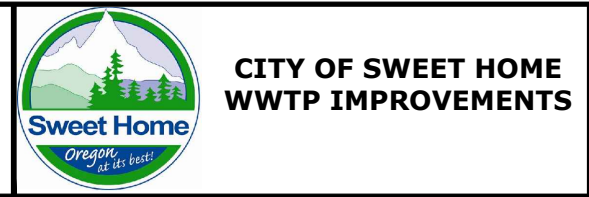
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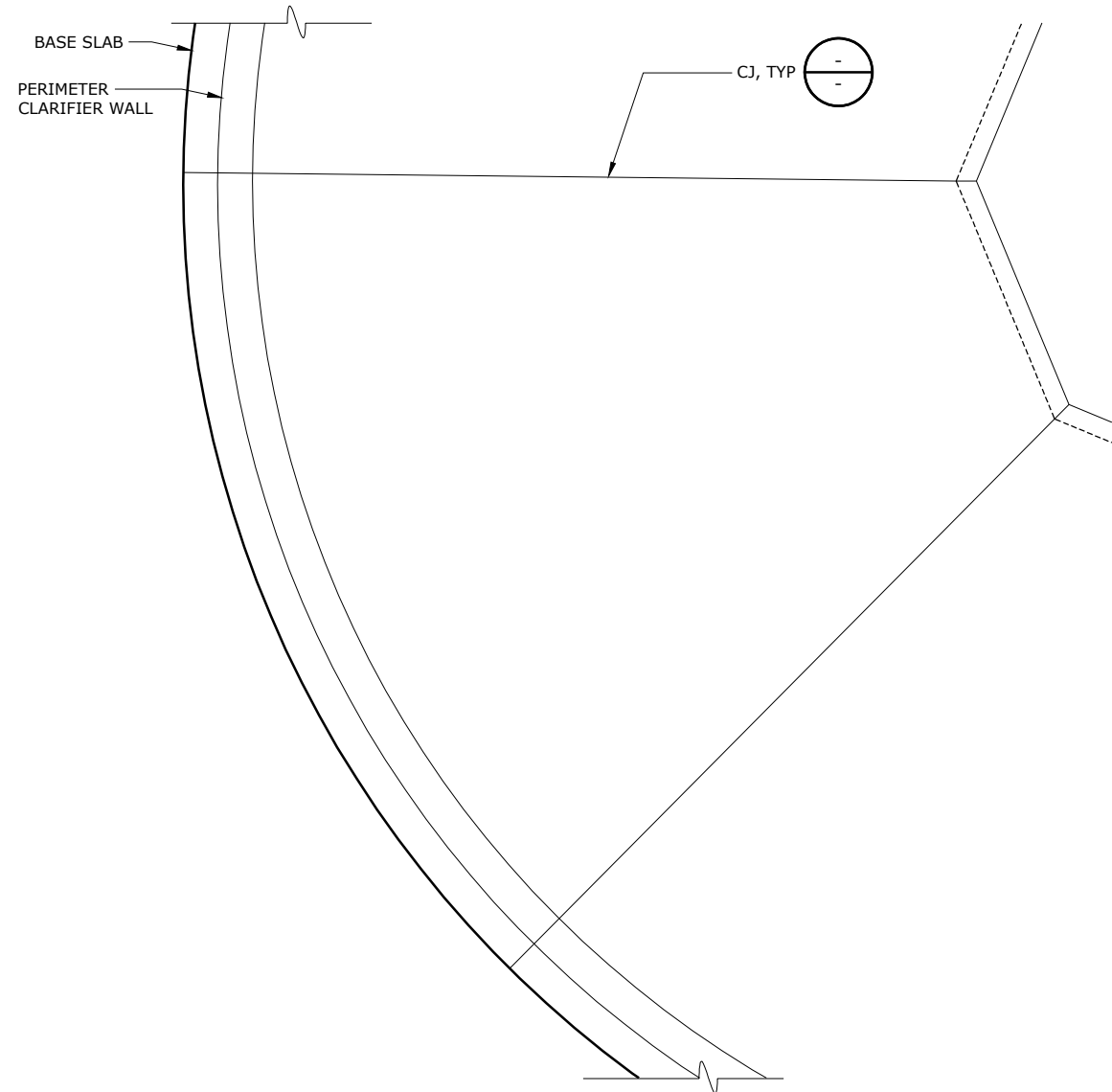
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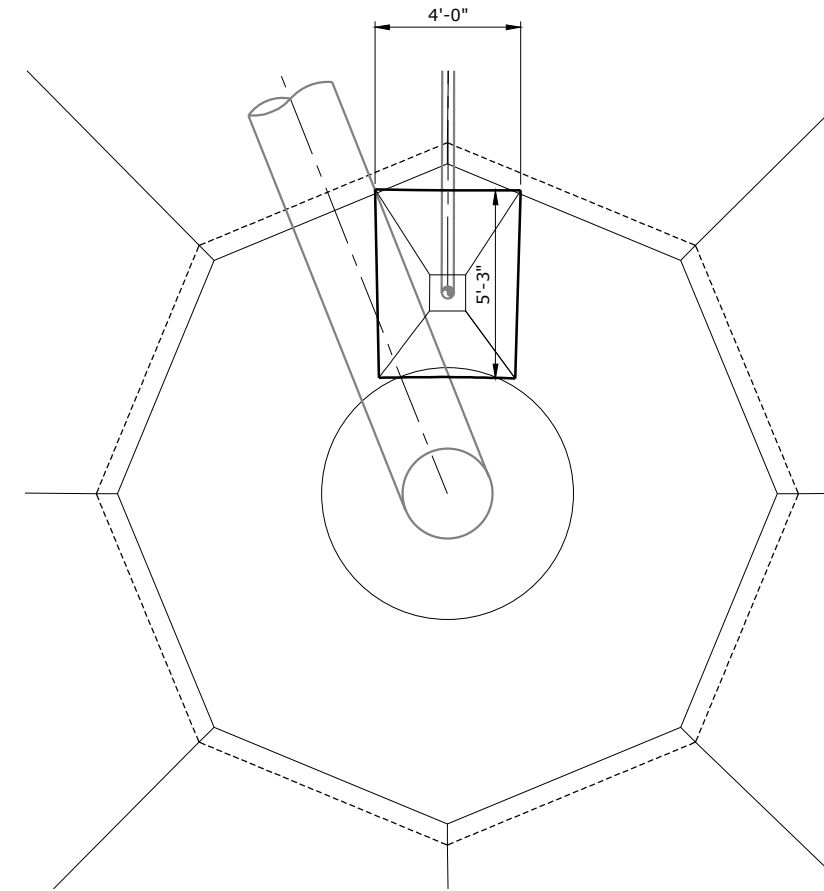
| SECONDARY CLARIFIER SECTIONS |           |        |          |
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| PROJECT NO.:                 | 19-2605   | SCALE: | AS SHOWN |
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**SLAB REINFORCEMENT DETAIL** 1  
SCALE: 3/8" = 1'-0"



**PEDESTAL REINFORCEMENT SECTION** 2  
SCALE: 3/8" = 1'-0"

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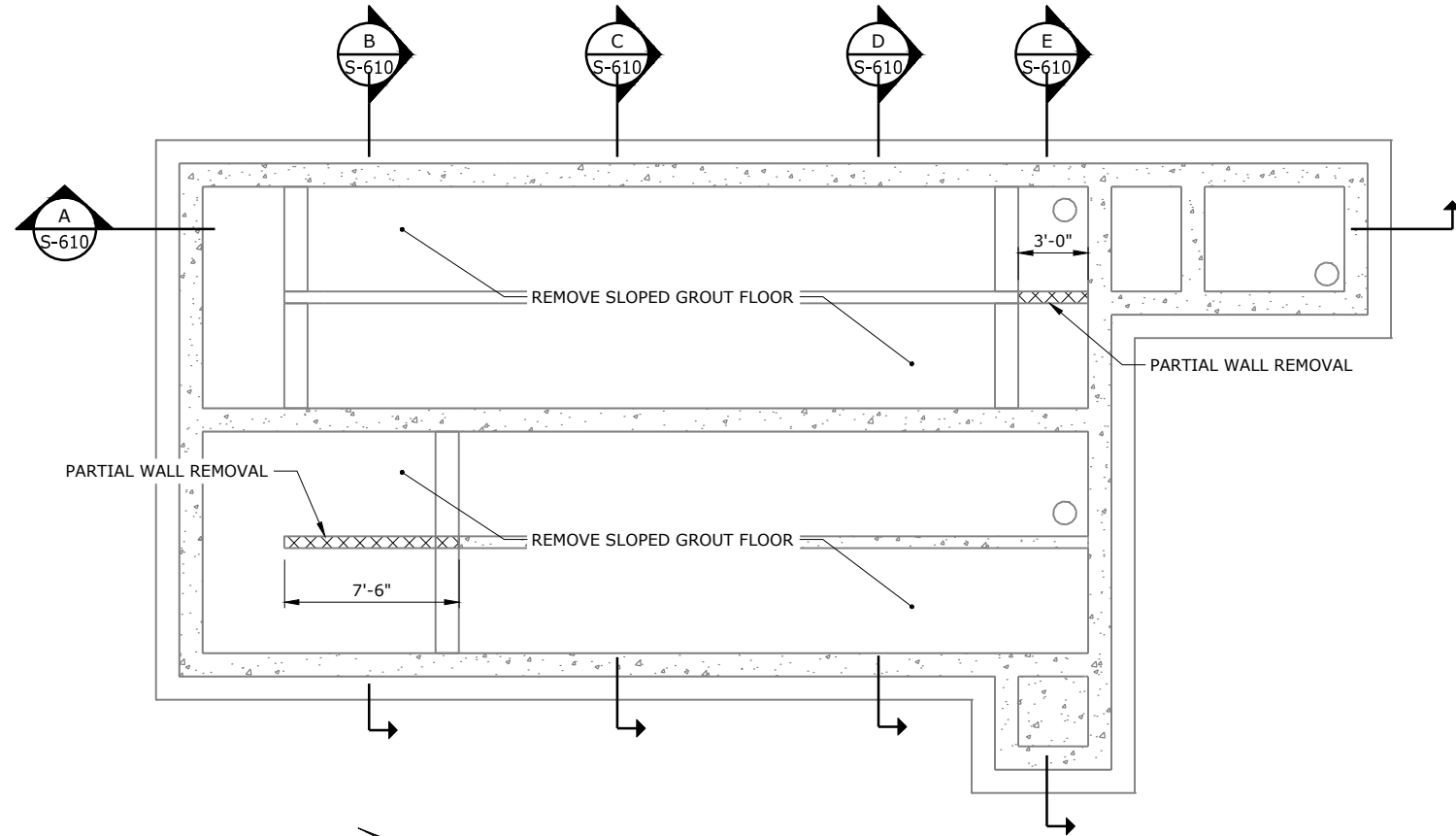


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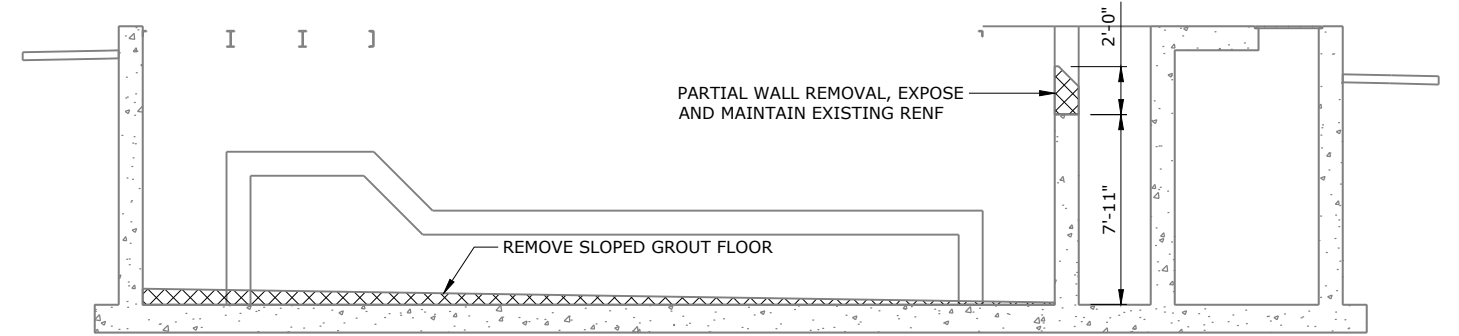
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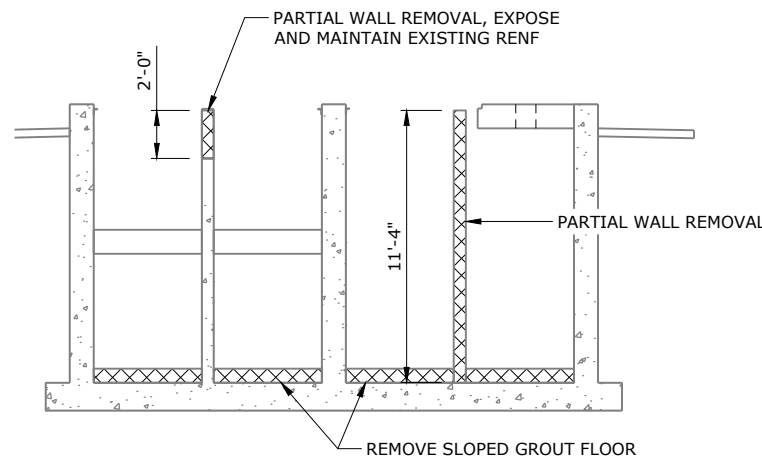
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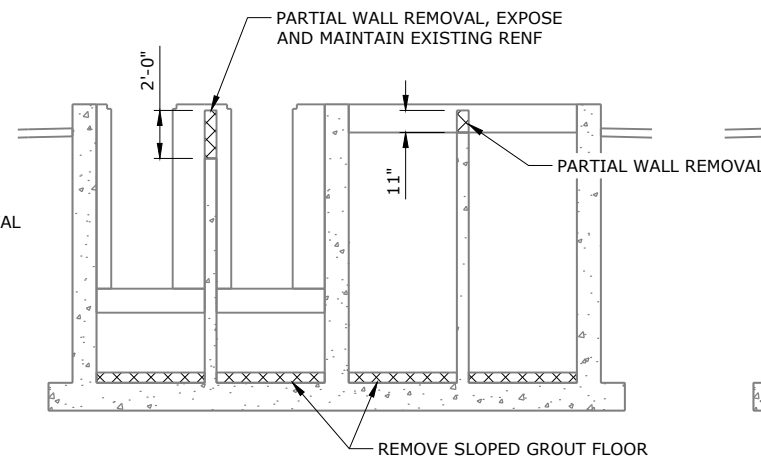
**DEMOLITION PLAN**  
SCALE: 1/4" = 1'-0"



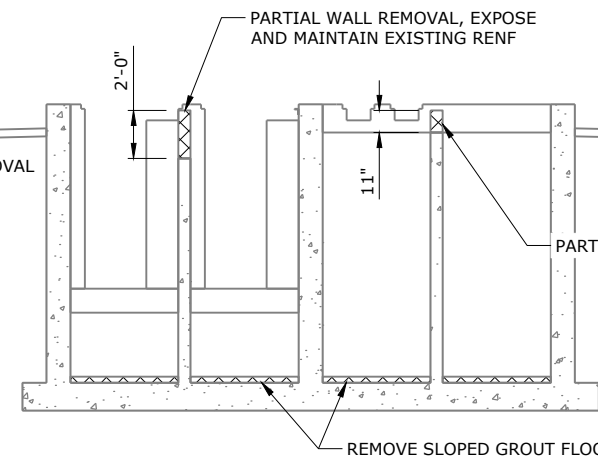
**DEMOLITION SECTION**  
SCALE: 1/4" = 1'-0"



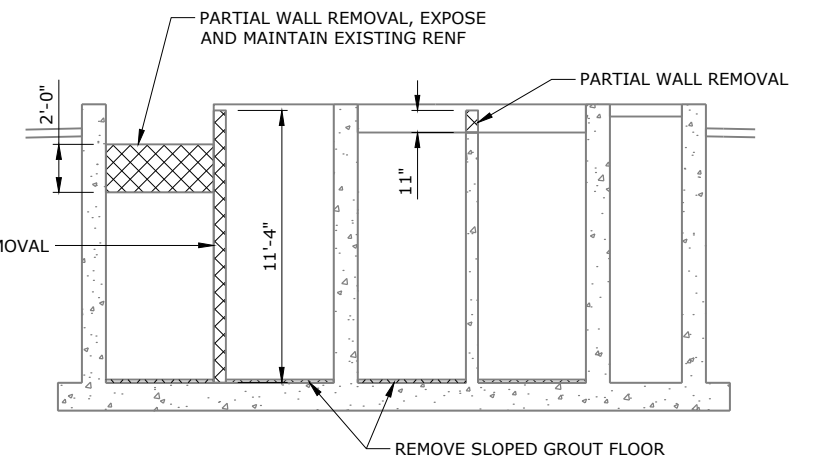
**DEMOLITION SECTION**  
SCALE: 1/4" = 1'-0"



**DEMOLITION SECTION**  
SCALE: 1/4" = 1'-0"



**DEMOLITION SECTION**  
SCALE: 1/4" = 1'-0"



**DEMOLITION SECTION**  
SCALE: 1/4" = 1'-0"

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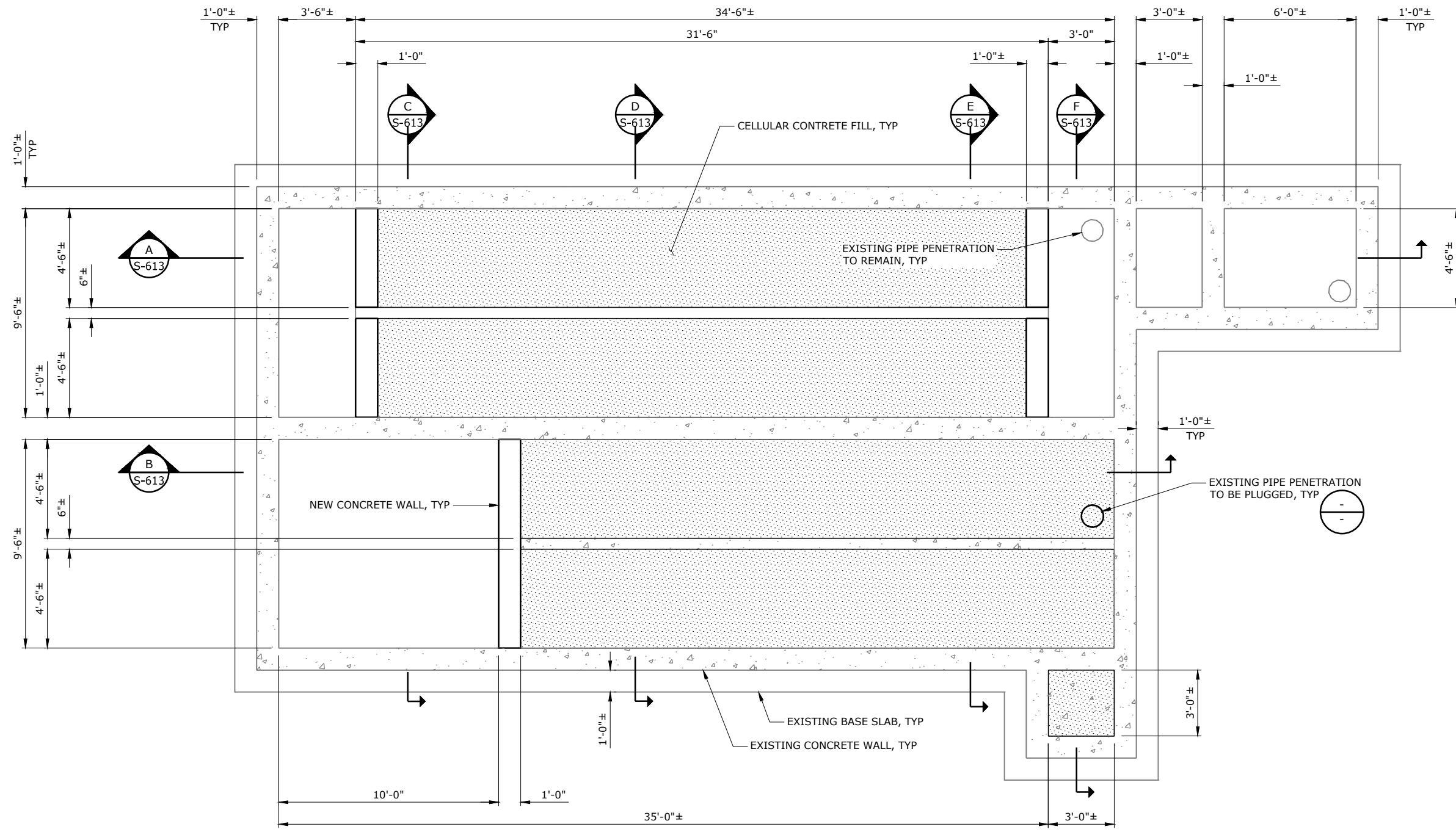


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**UV DISINFECTION SYSTEM**  
**DEMOLITION PLAN AND SECTIONS**  
PROJECT NO.: 19-2605 SCALE: 1/4" = 1'-0" DATE: June 2020

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**BOTTOM PLAN**  
SCALE: 3/8"=1'-0"

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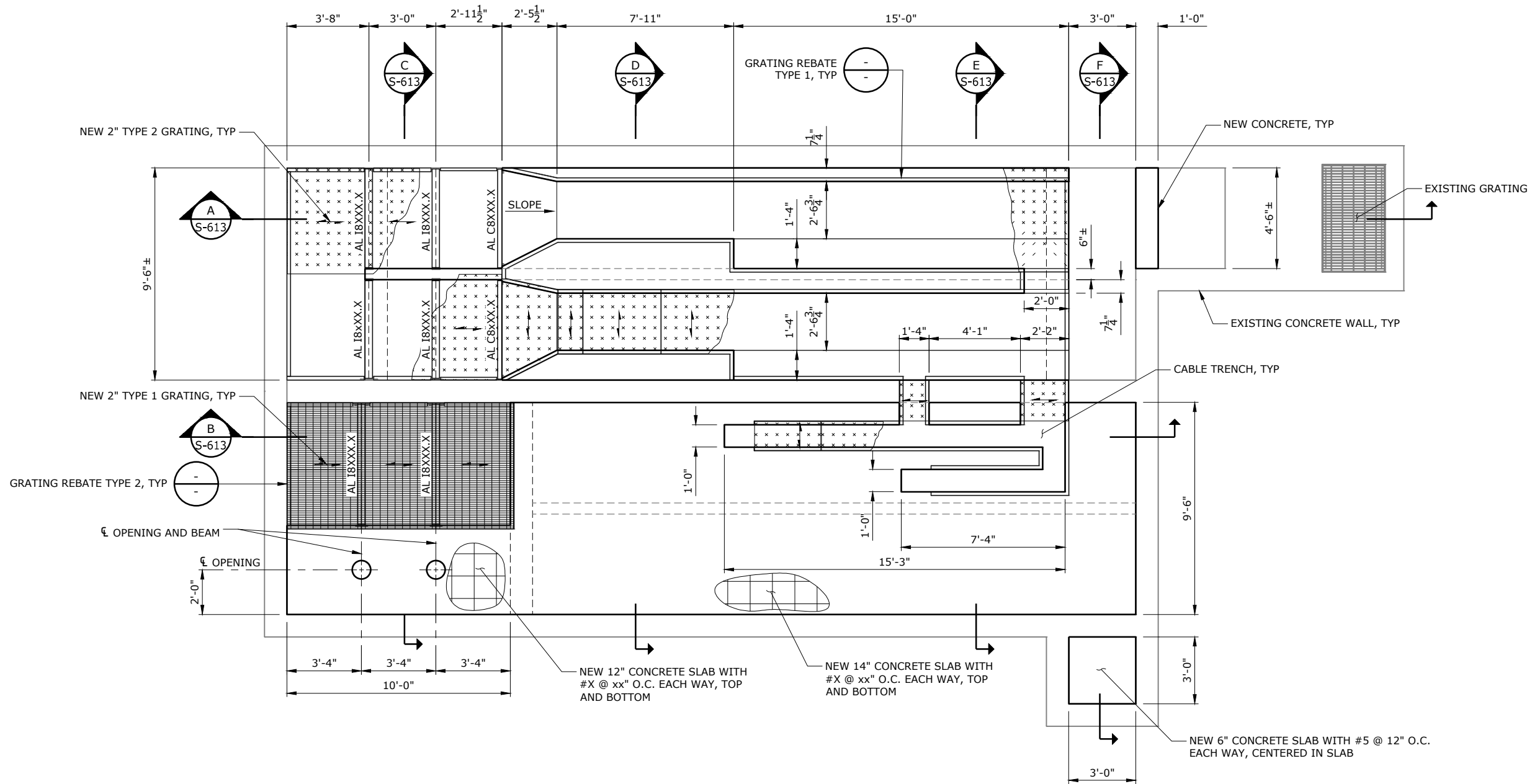
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**UV DISINFECTION SYSTEM**  
**BOTTOM PLAN**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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

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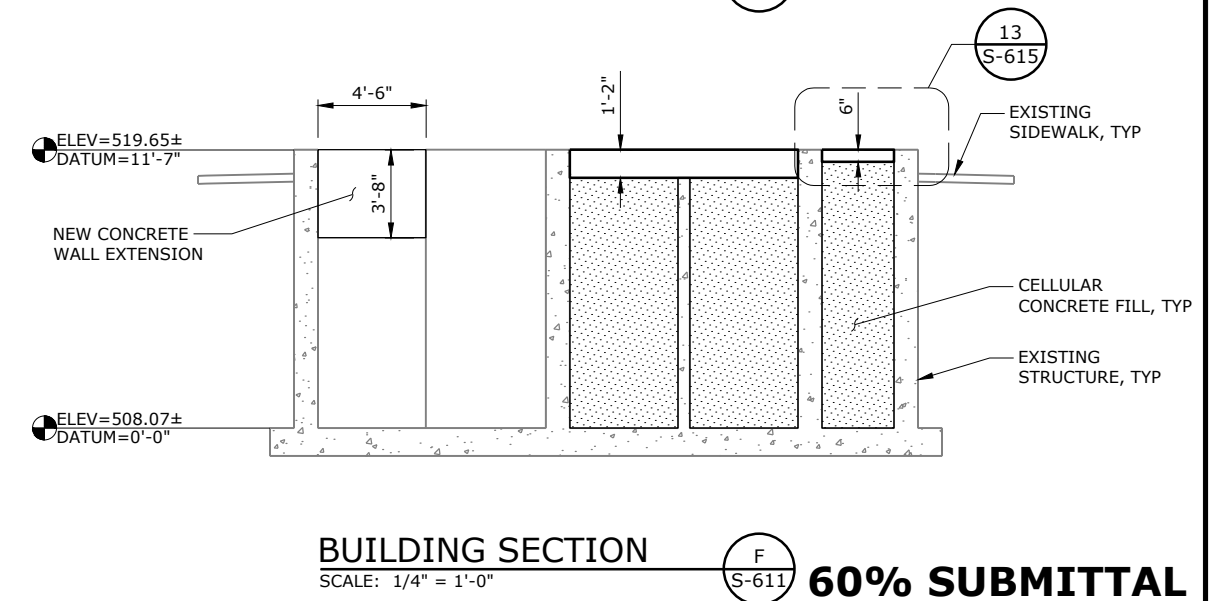
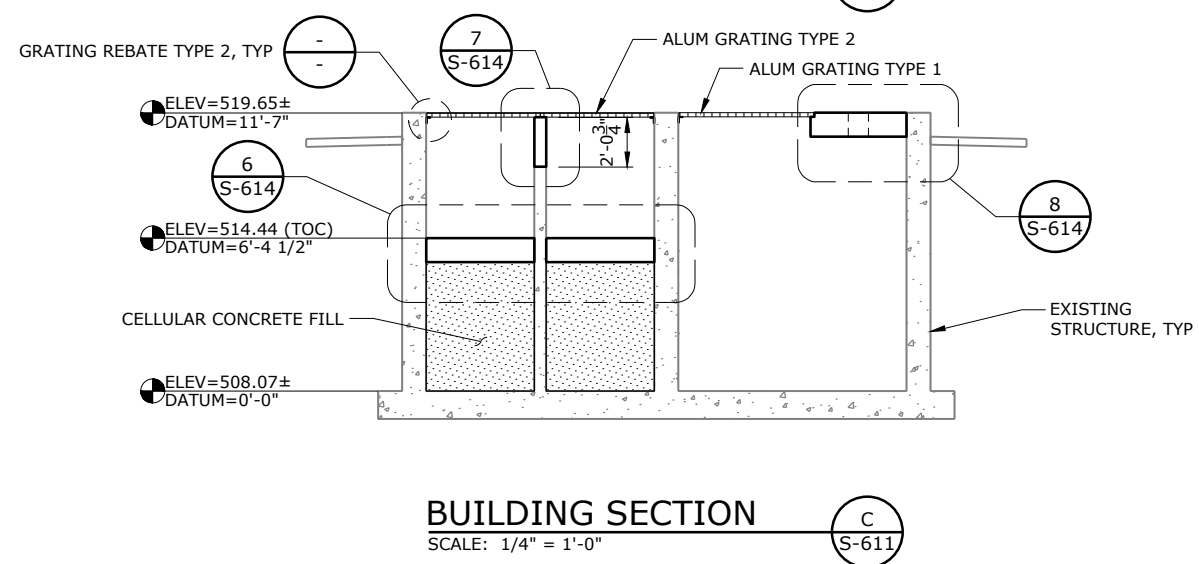
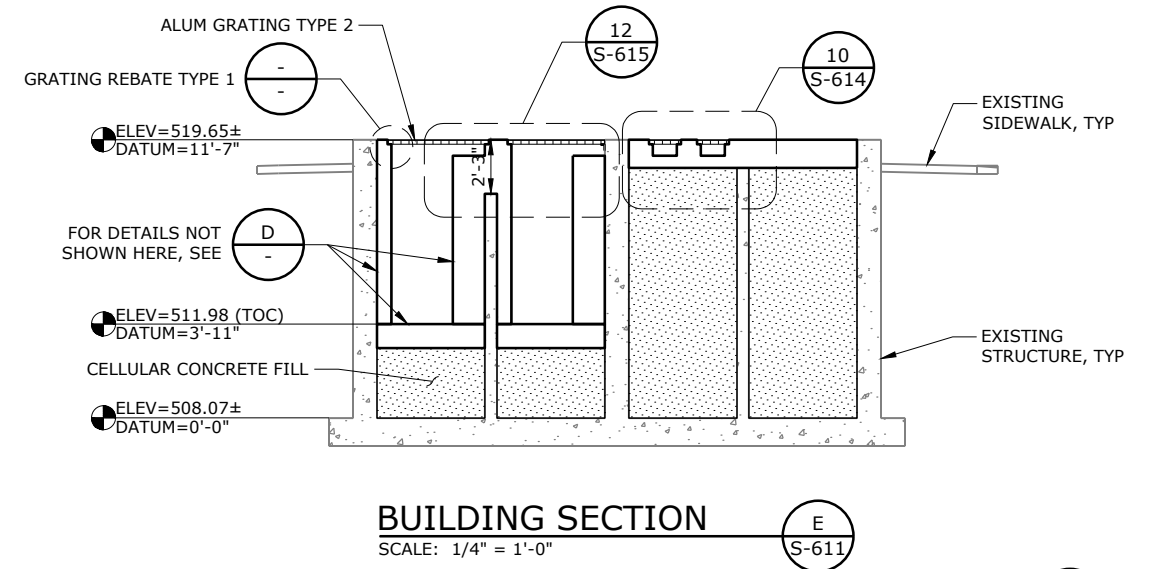
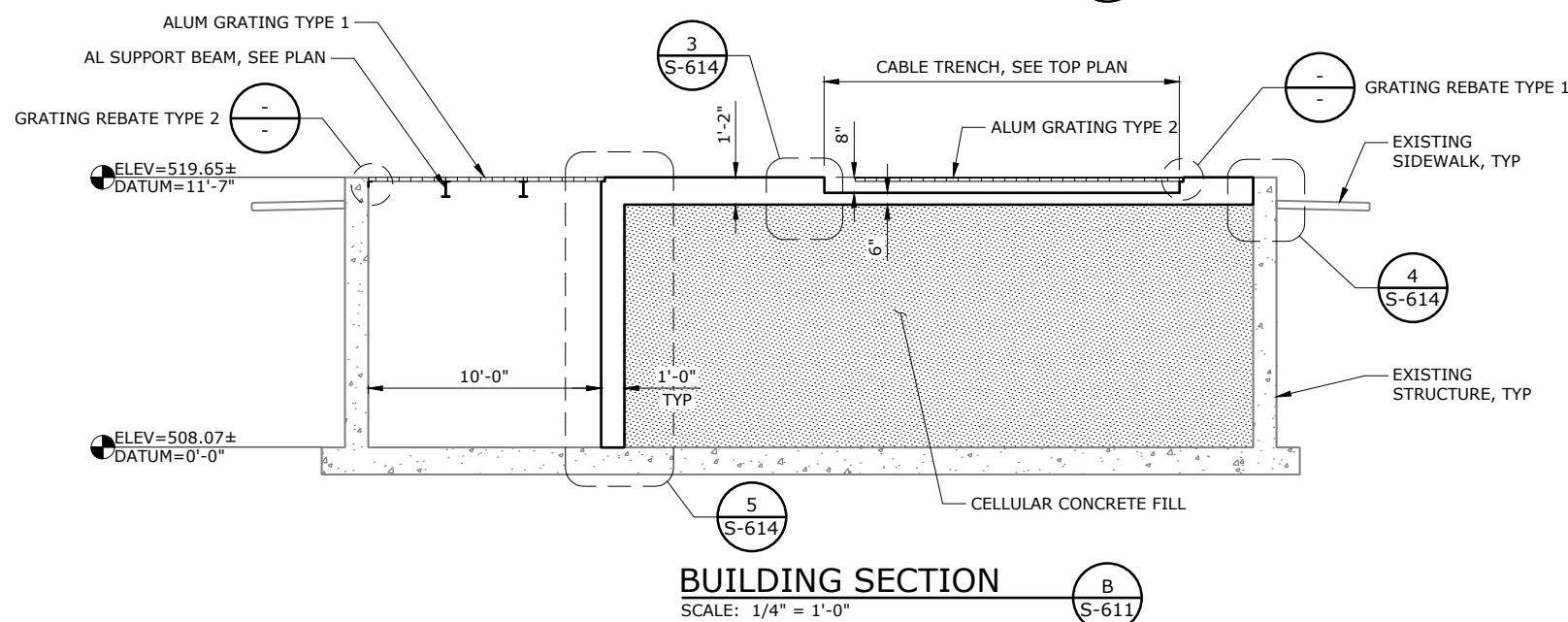
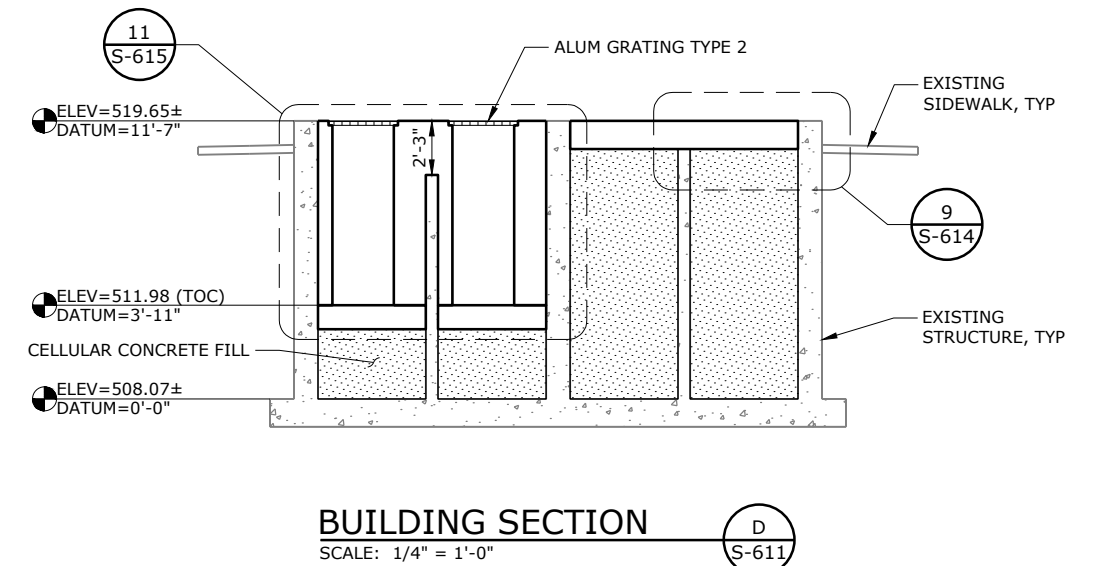
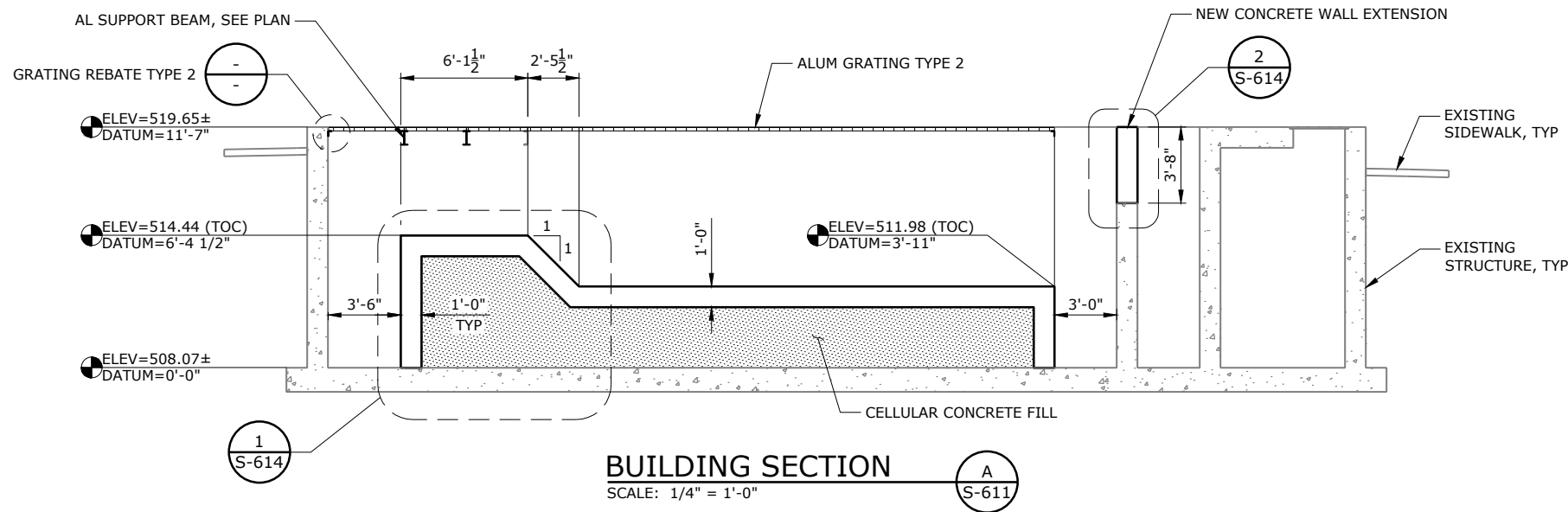


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UV DISINFECTION SYSTEM  
TOP PLAN  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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**BUILDING SECTIONS**

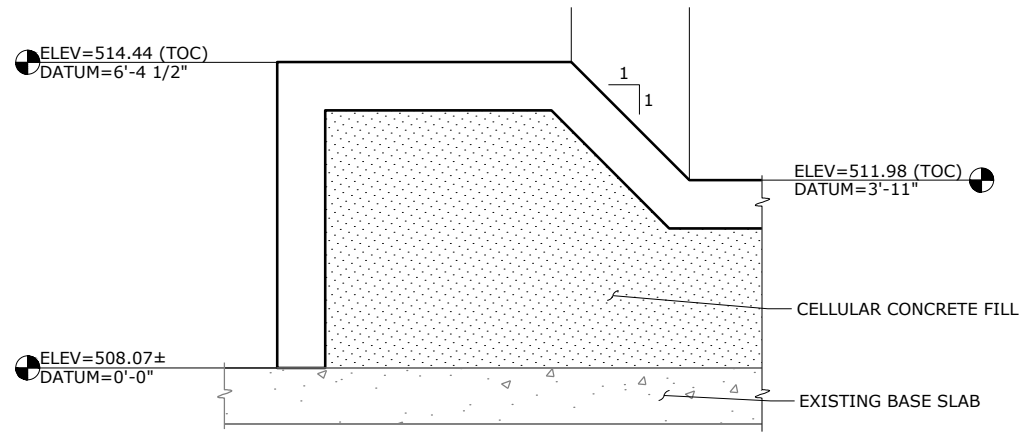
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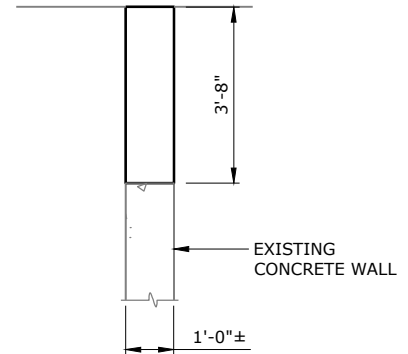
PROJECT NO.: 19-2605 SCALE: 1/4" = 1'-0" DATE: June 2020

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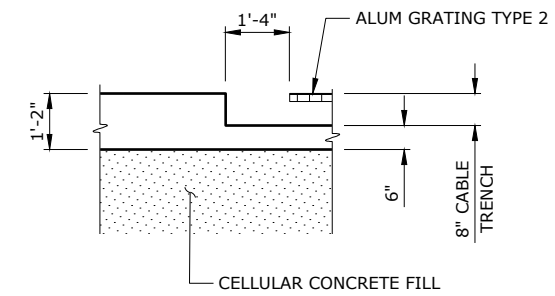
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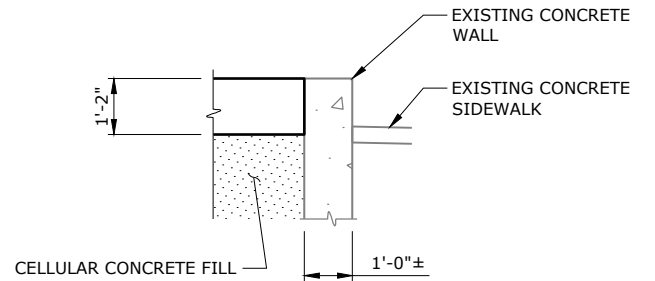
**REINFORCEMENT DETAIL 1**  
SCALE: 1/2" = 1'-0"  
S-613



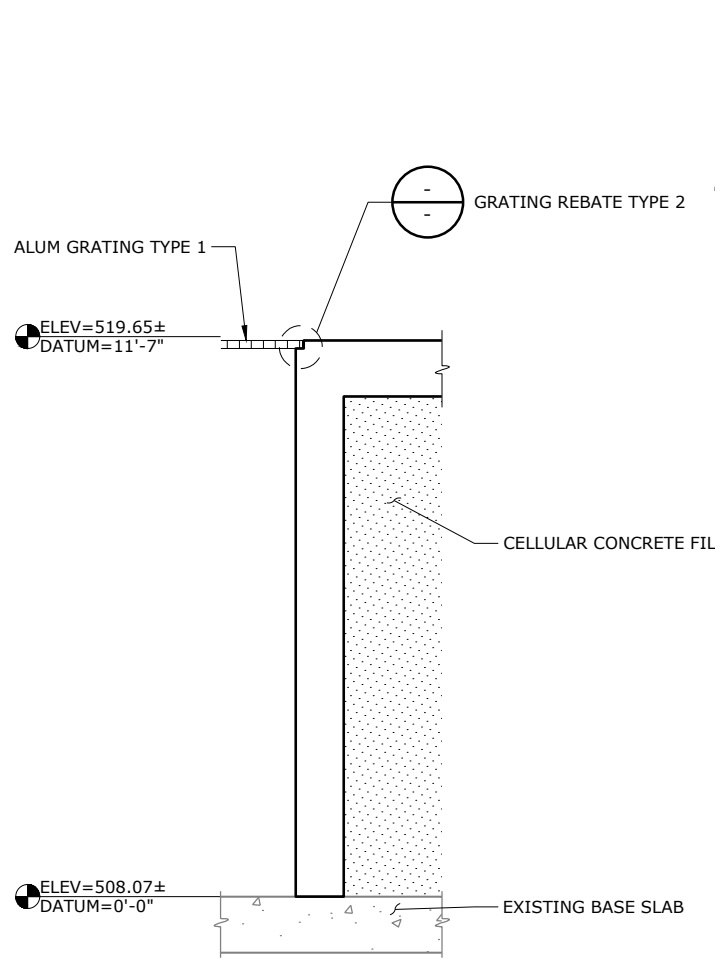
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SCALE: 1/2" = 1'-0"  
S-613



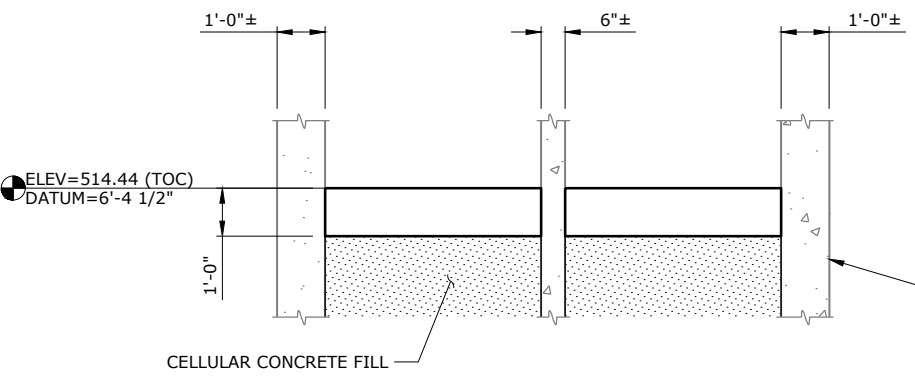
**REINFORCEMENT DETAIL 3**  
SCALE: 1/2" = 1'-0"  
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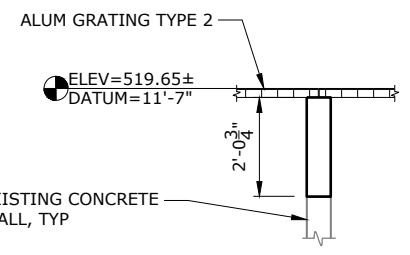
**REINFORCEMENT DETAIL 4**  
SCALE: 1/2" = 1'-0"  
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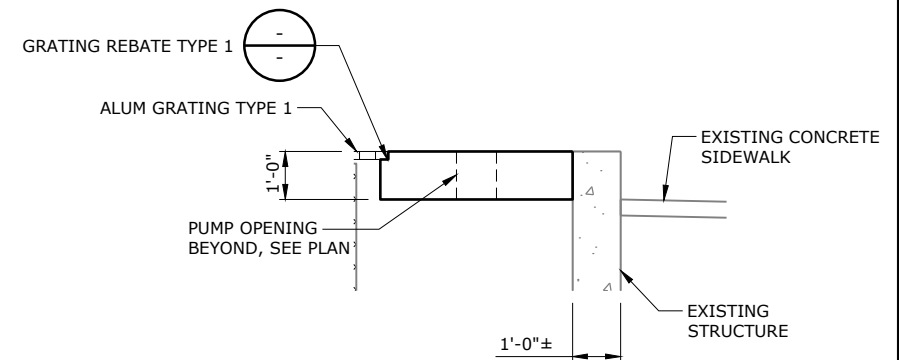
**REINFORCEMENT DETAIL 5**  
SCALE: 1/2" = 1'-0"  
S-613



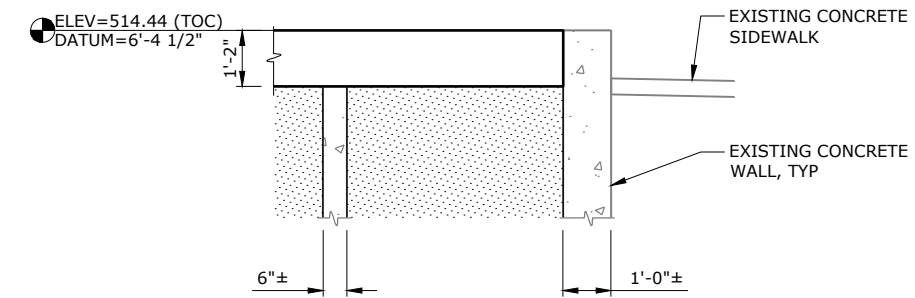
**REINFORCEMENT DETAIL 6**  
SCALE: 1/2" = 1'-0"  
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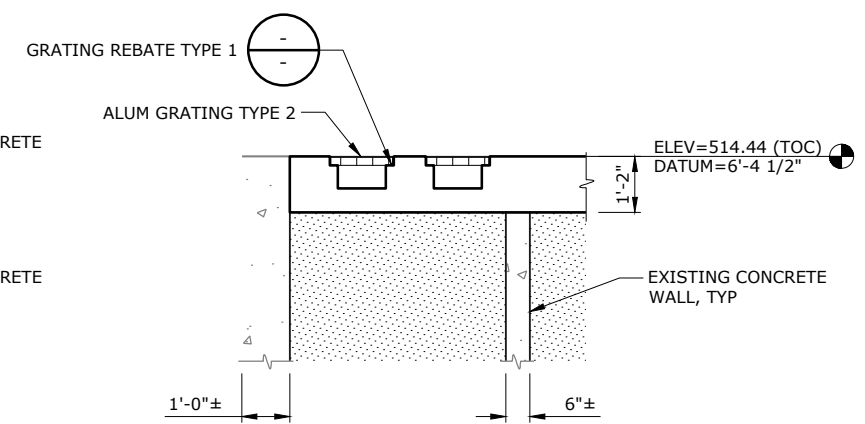
**REINFORCEMENT DETAIL 7**  
SCALE: 1/2" = 1'-0"  
S-613



**REINFORCEMENT DETAIL 8**  
SCALE: 1/2" = 1'-0"  
S-613



**REINFORCEMENT DETAIL 9**  
SCALE: 1/2" = 1'-0"  
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**REINFORCEMENT DETAIL 10**  
SCALE: 1/2" = 1'-0"  
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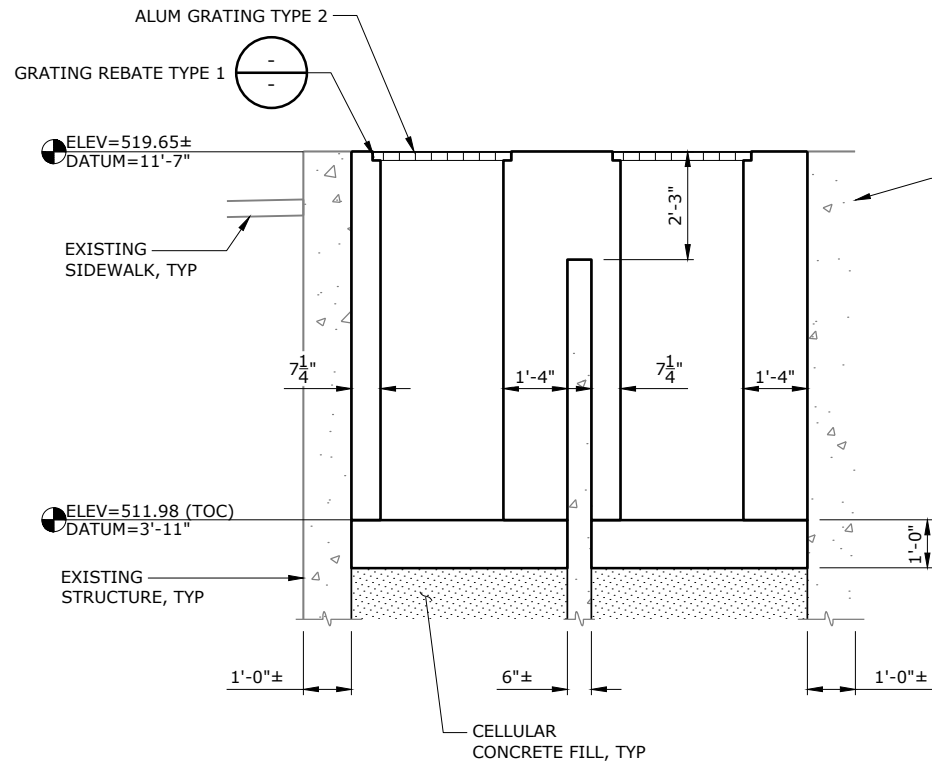
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WWTP IMPROVEMENTS

**UV DISINFECTION SYSTEM**  
**REINFORCEMENT DETAILS**

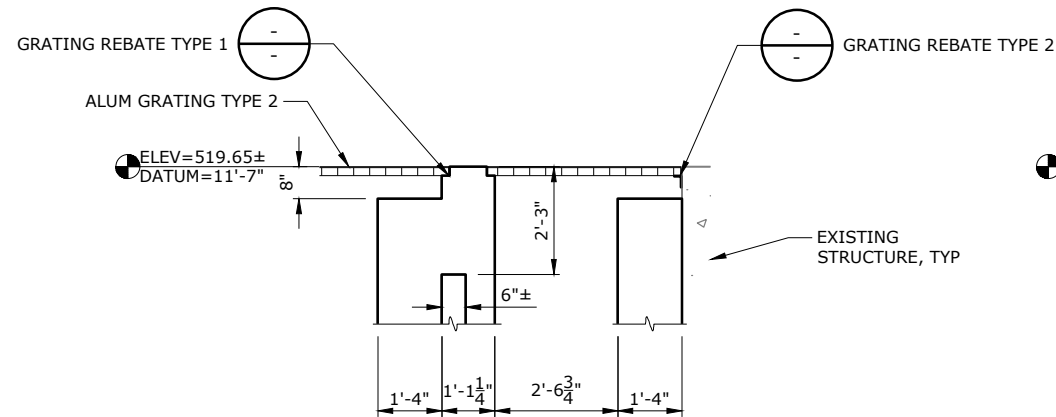
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
**S-614**  
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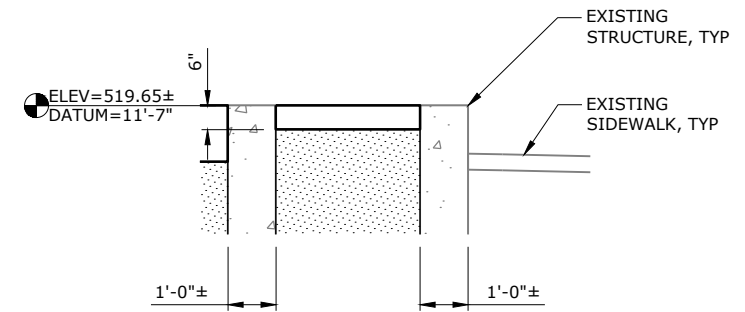
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**REINFORCEMENT DETAIL** 11  
SCALE: 1/2" = 1'-0" S-613



FOR DETAILS NOT SHOWN HERE, SEE 11  
**REINFORCEMENT DETAIL** 12  
SCALE: 1/2" = 1'-0" S-613



**REINFORCEMENT DETAIL** 13  
SCALE: 1/2" = 1'-0" S-613

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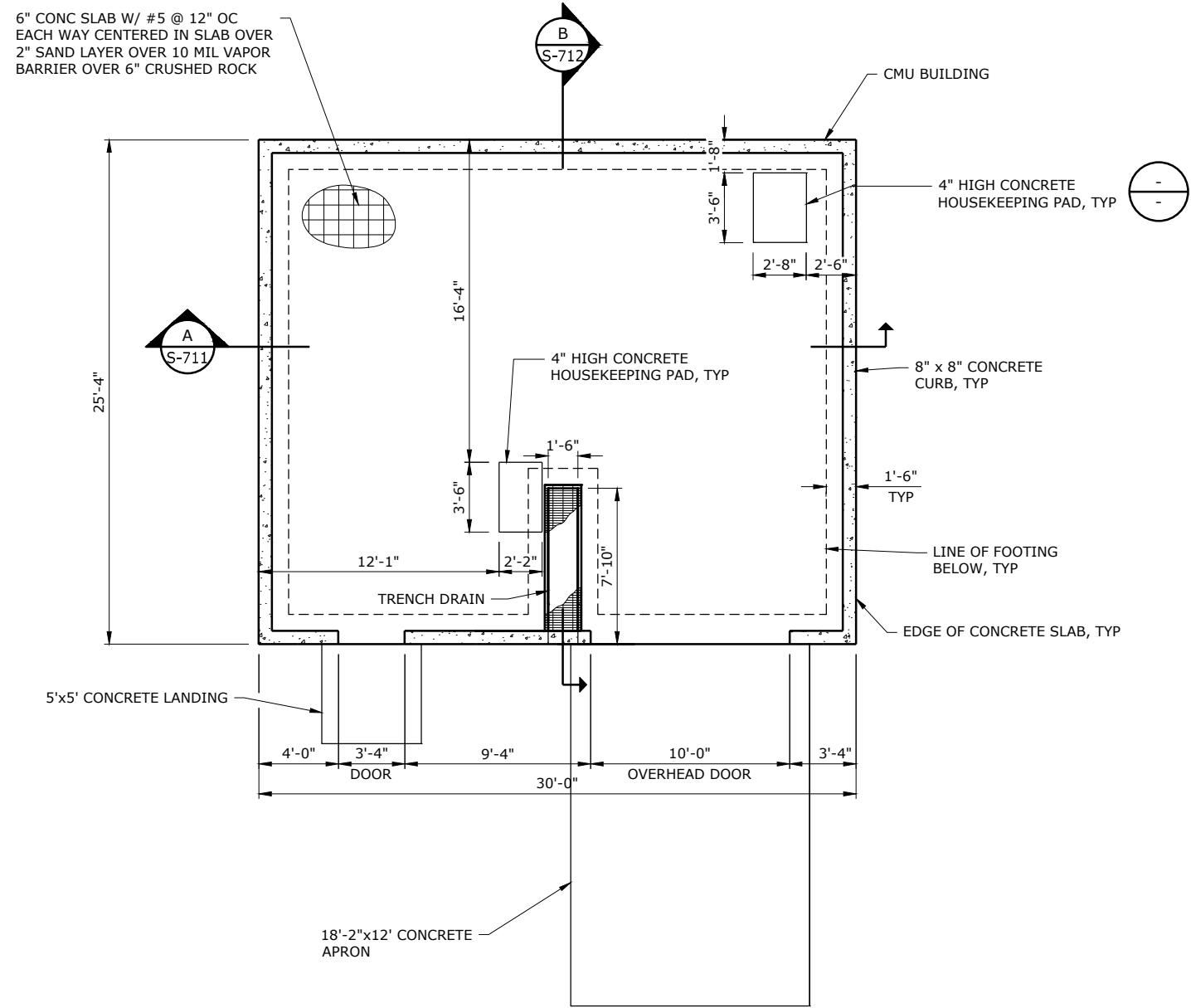


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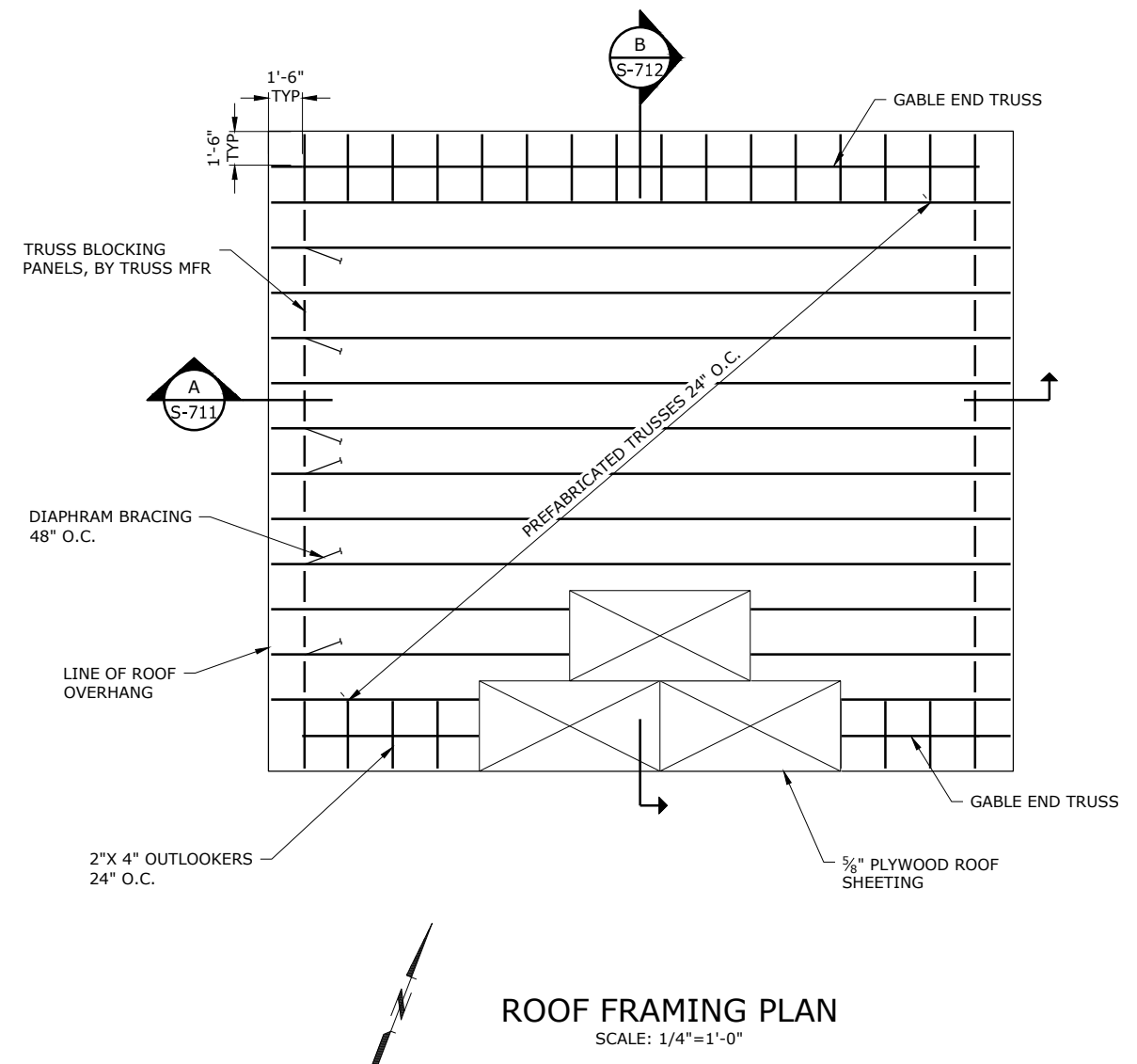
**UV DISINFECTION SYSTEM**  
**REINFORCEMENT DETAILS**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
**S-615**  
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**FOUNDATION PLAN**  
SCALE: 1/4"=1'-0"



**ROOF FRAMING PLAN**  
SCALE: 1/4"=1'-0"

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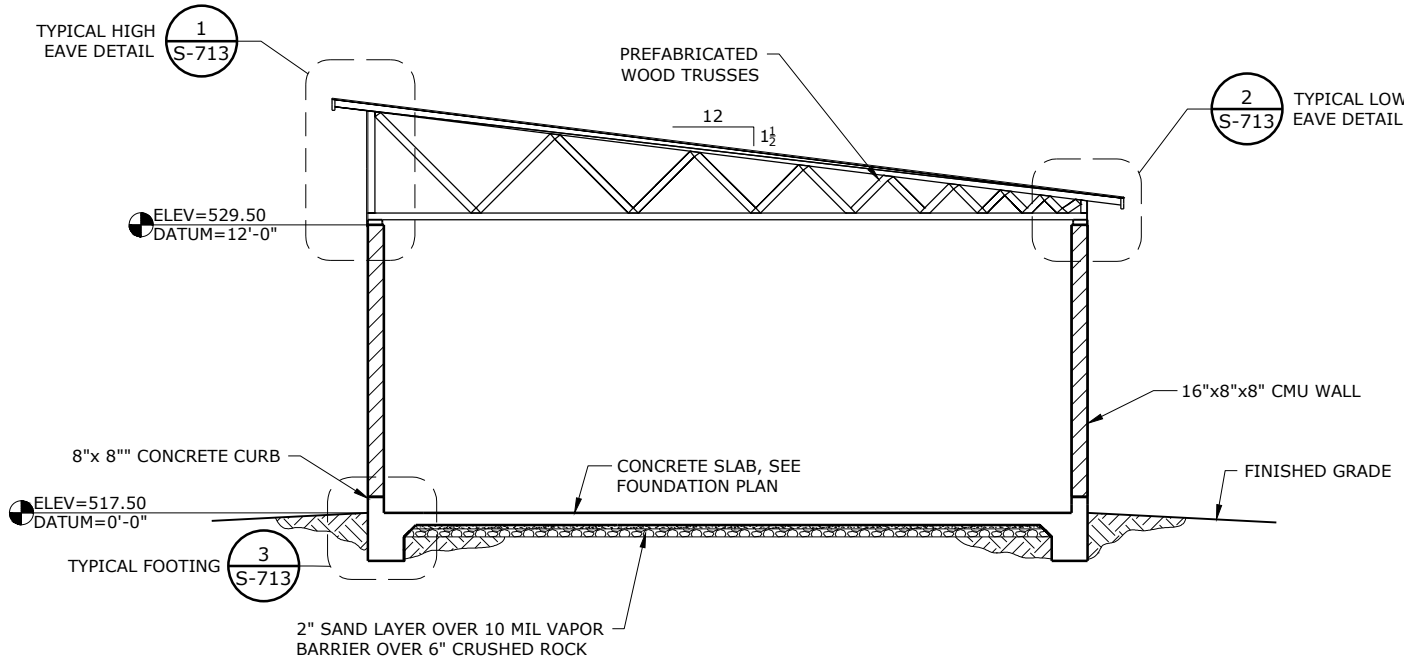
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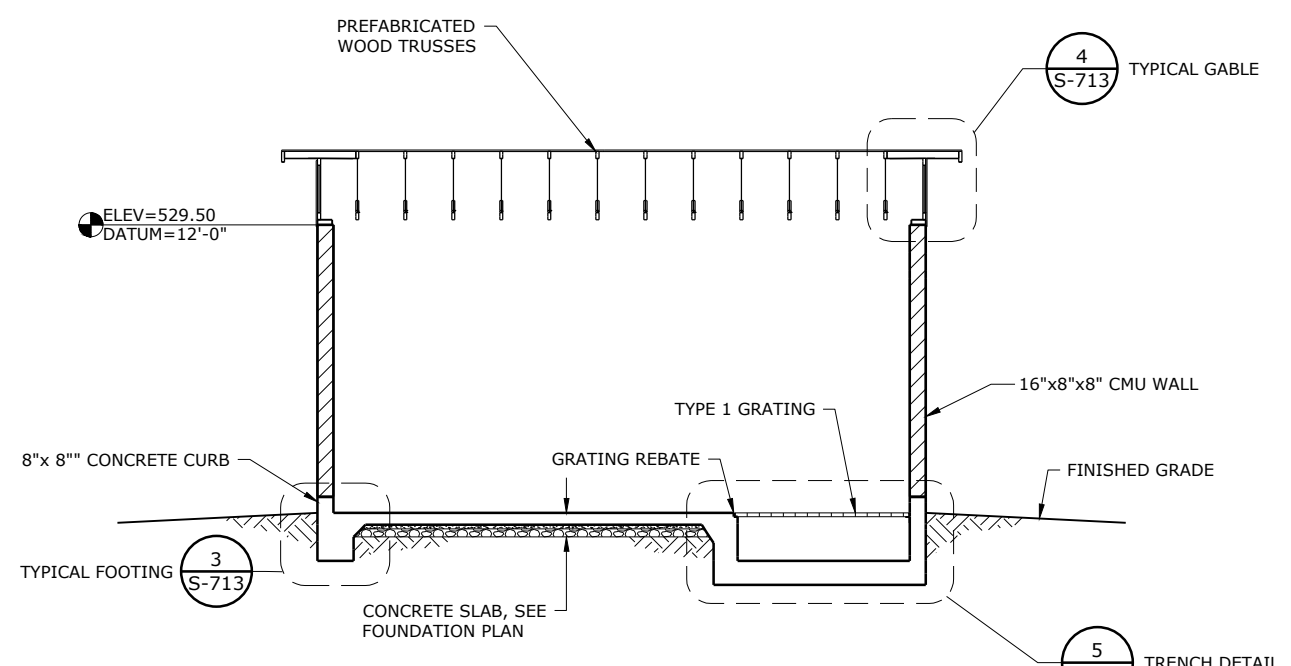
**THICKENING BUILDING**  
**FOUNDATION AND ROOF FRAMING PLANS**  
PROJECT NO.: 19-2605 SCALE: 1/4" = 1'-0" DATE: June 2020

SHEET  
**S-711**  
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G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\700 T\_D\19-2605-OR-S\_TB.dwg S-712 6/15/2020 11:40 AM JUSTIN.DEUEL 23.0s (LMS Tech)



**BUILDING SECTION** A  
SCALE: 1/4" = 1'-0"  
S-711



**BUILDING SECTION** B  
SCALE: 1/4" = 1'-0"  
S-711

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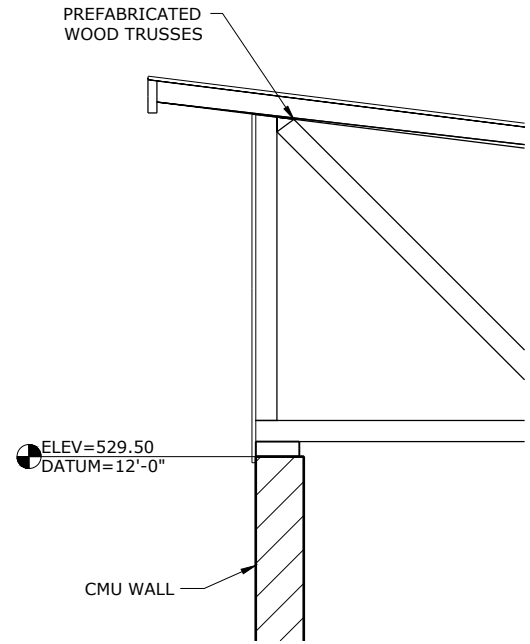


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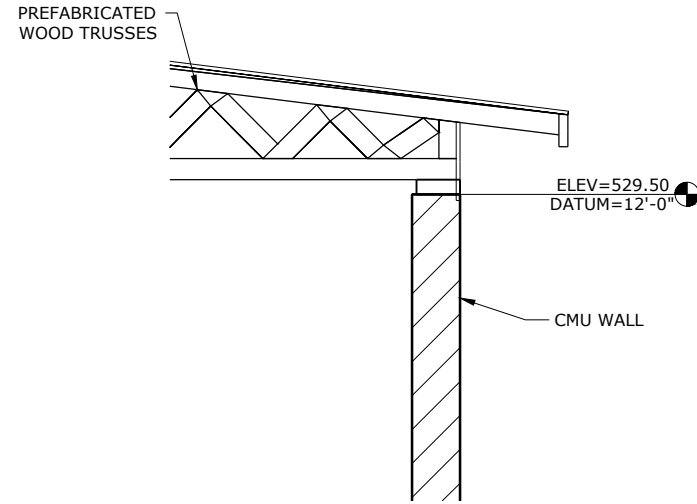
**THICKENING BUILDING**  
BUILDING SECTIONS AND DETAILS  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
S-712  
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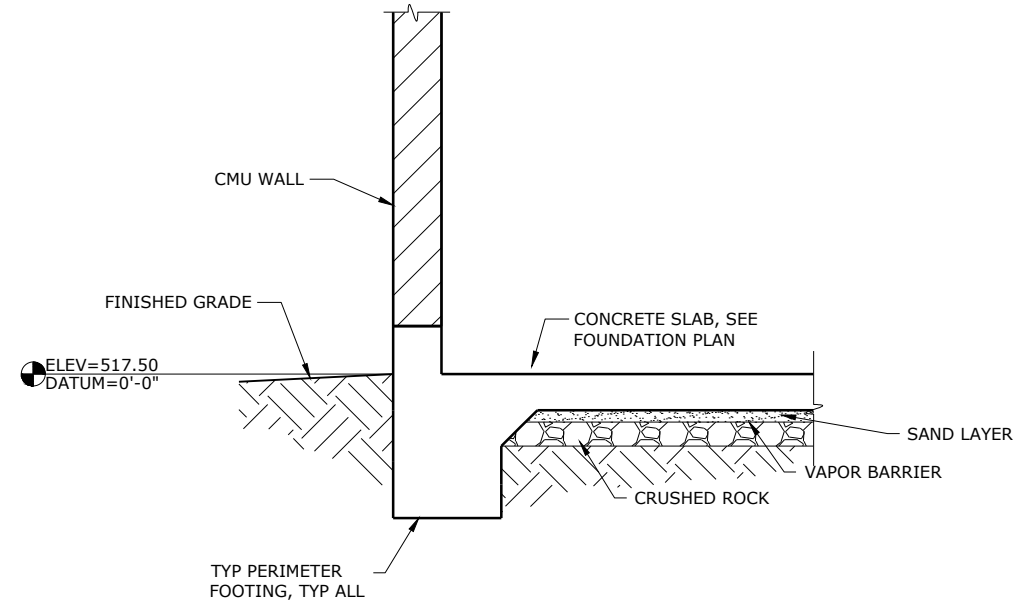
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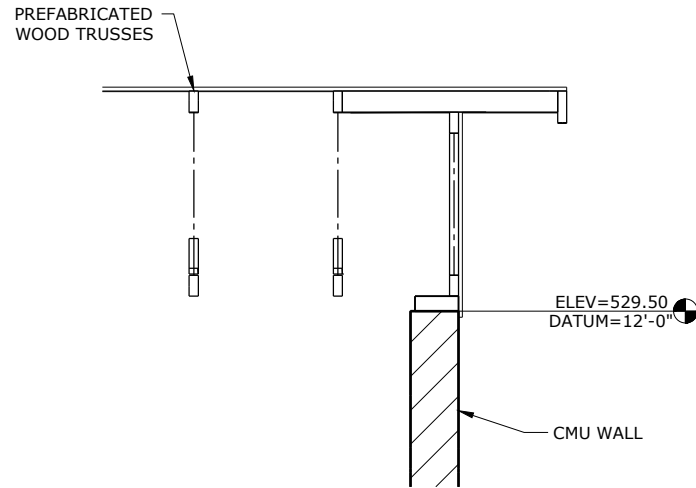
**HIGH EAVE DETAIL** 1  
SCALE: 3/4" = 1'-0" S-712



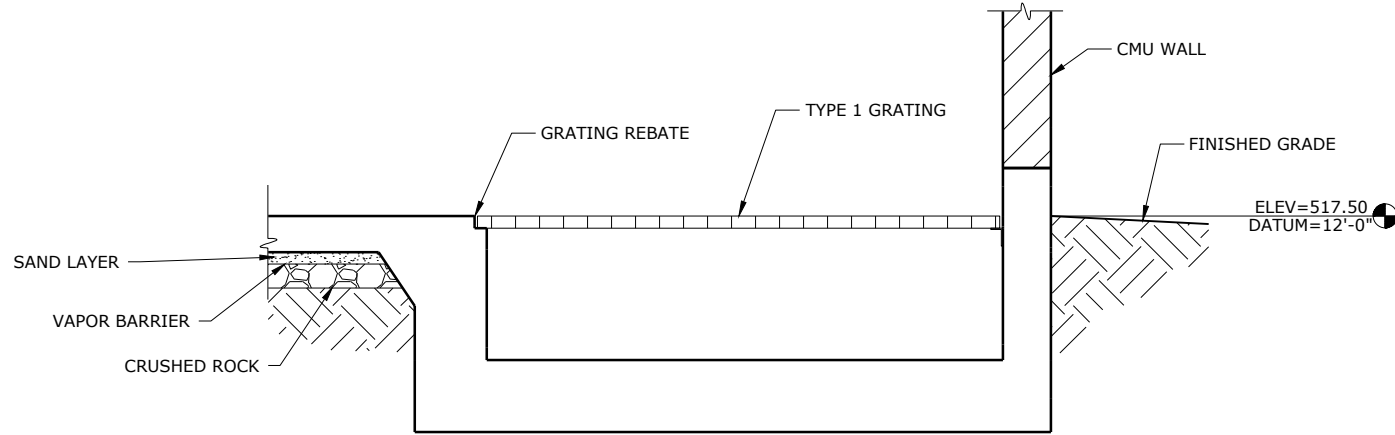
**LOW EAVE DETAIL** 2  
SCALE: 3/4" = 1'-0" S-712



**FOOTING DETAIL** 3  
SCALE: 3/4" = 1'-0" S-712



**GABLE DETAIL** 4  
SCALE: 3/4" = 1'-0" S-712



**TRENCH DETAIL** 5  
SCALE: 3/4" = 1'-0" S-712

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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**THICKENING BUILDING**

**DETAILS**

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S-713

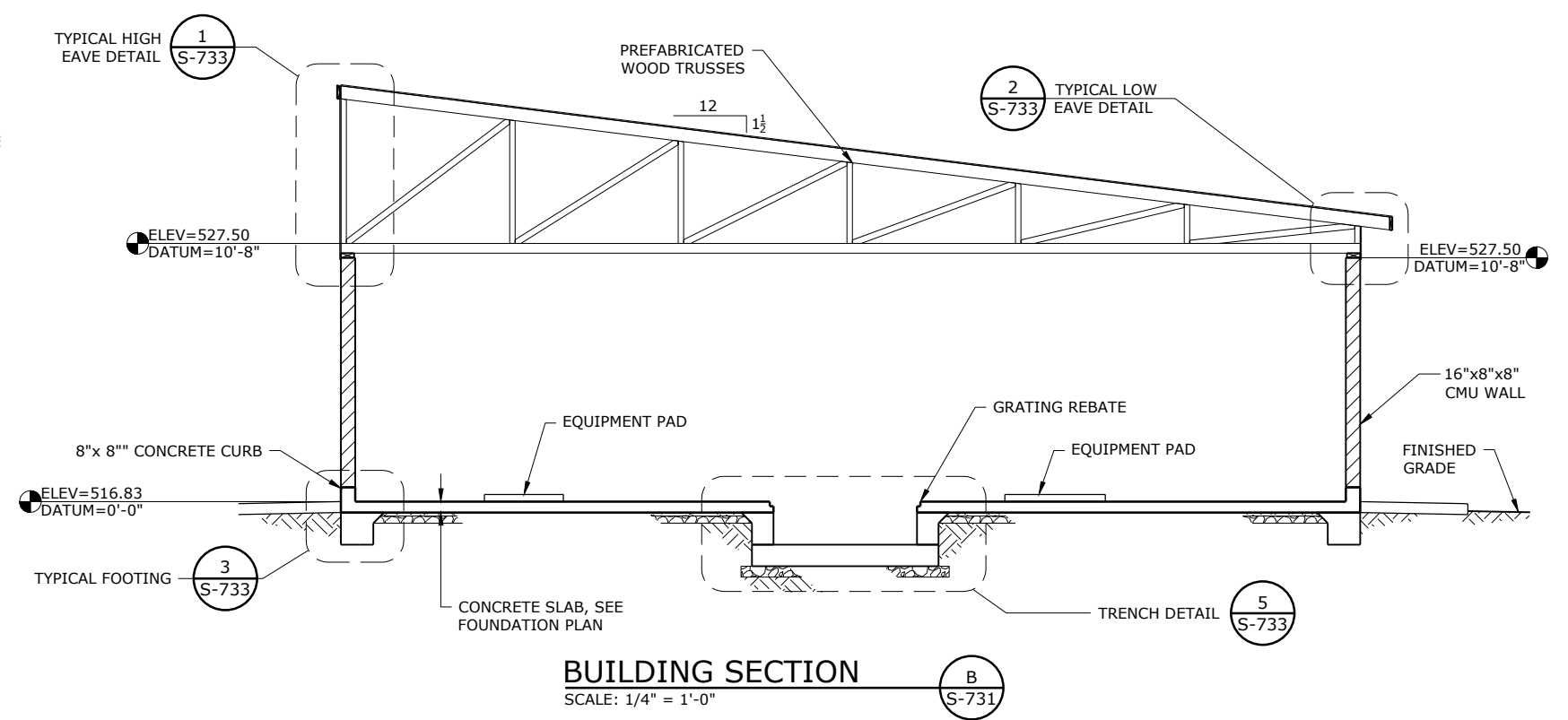
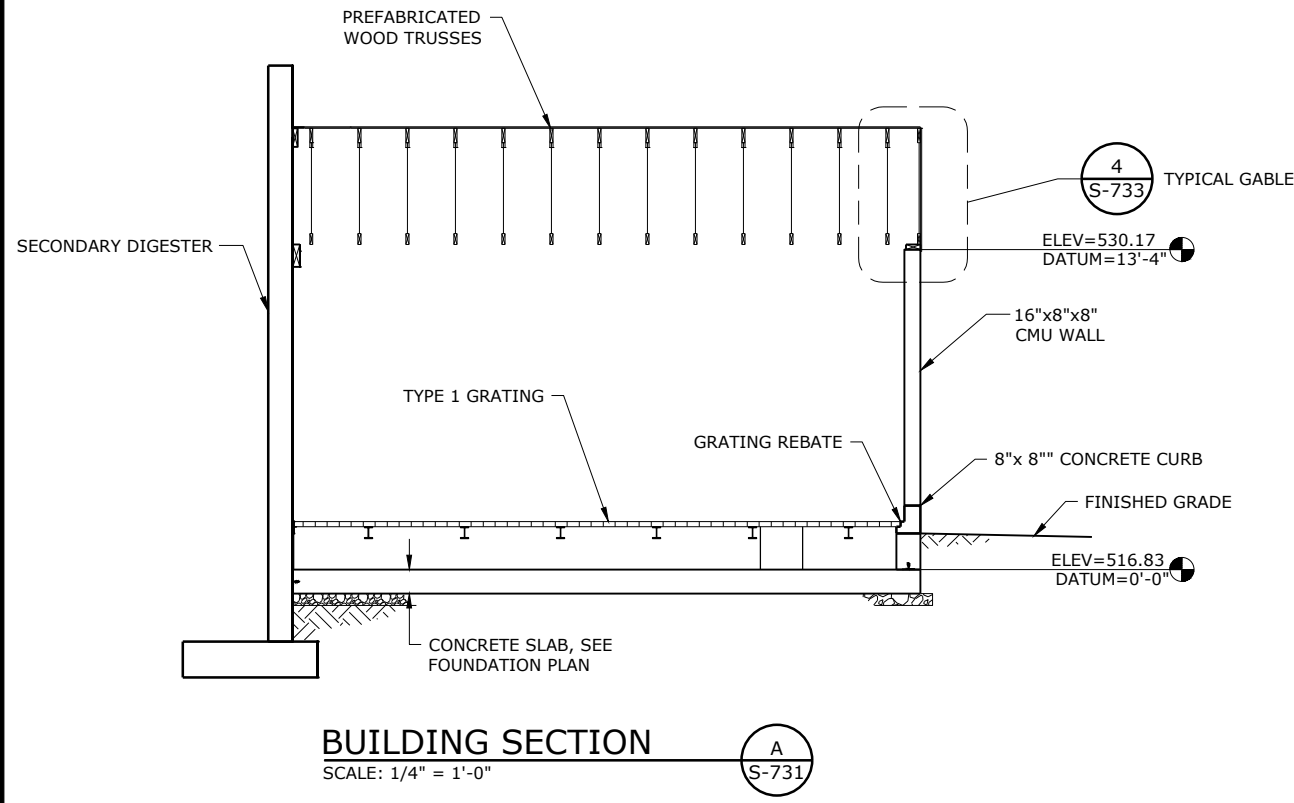
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020





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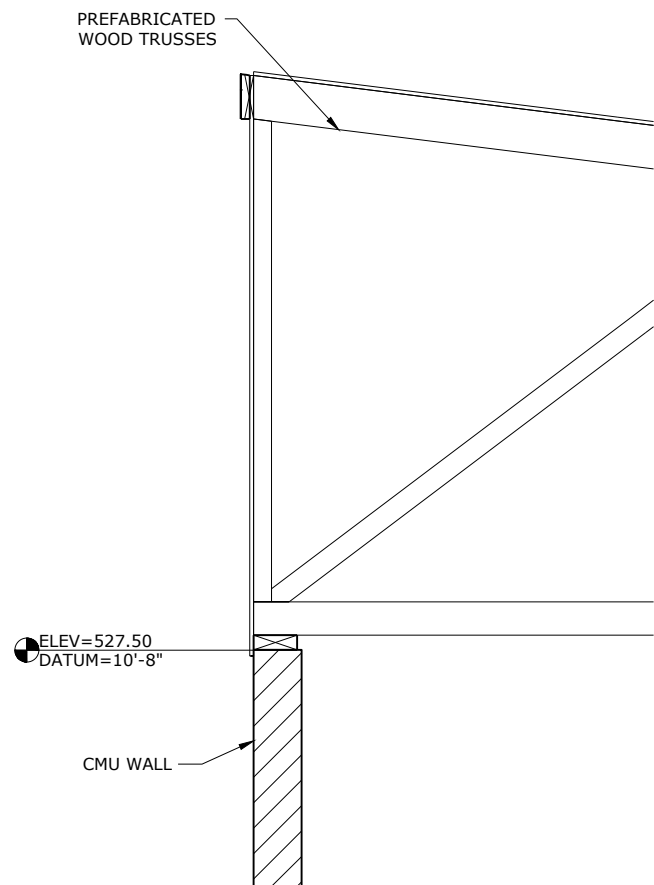
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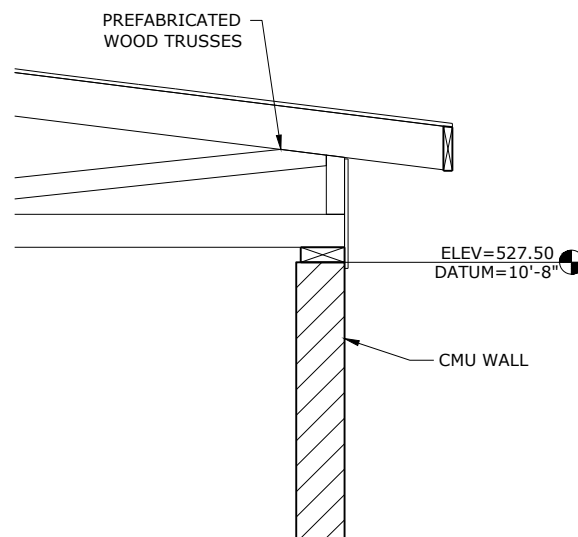
**DIGESTER COMPLEX BUILDING**  
**BUILDING SECTIONS**  
 PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
**S-732**  
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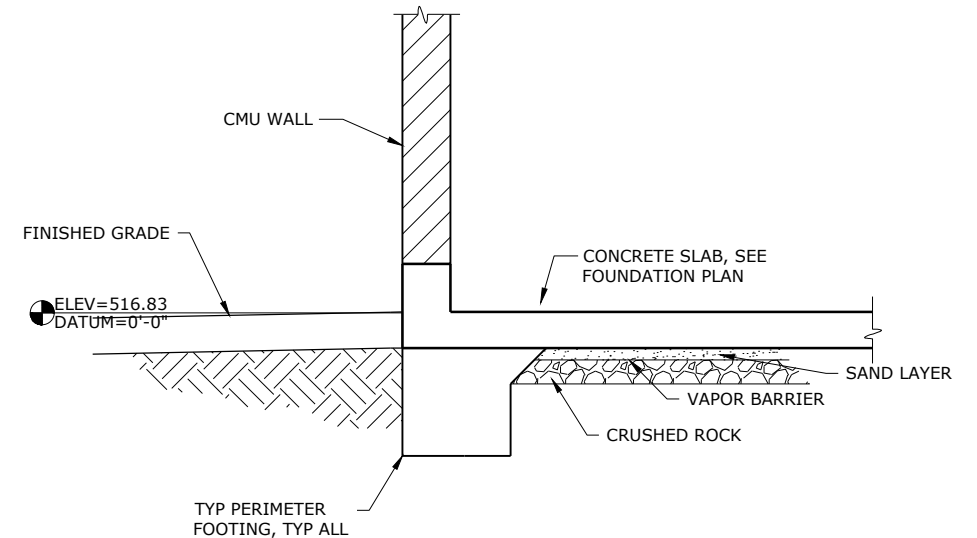
G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\700 T\_D\19-2605-OR-S\_SB.dwg S-733 6/15/2020 11:42 AM JUSTIN.DEUEL 23.0s (LMS Tech)



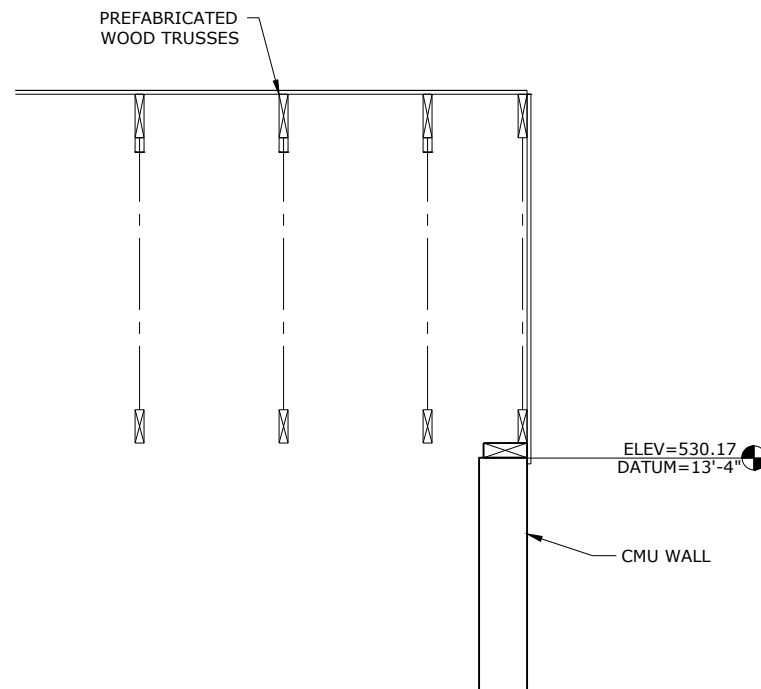
**HIGH EVE DETAIL** 1  
SCALE: 3/4" = 1'-0"  
S-732



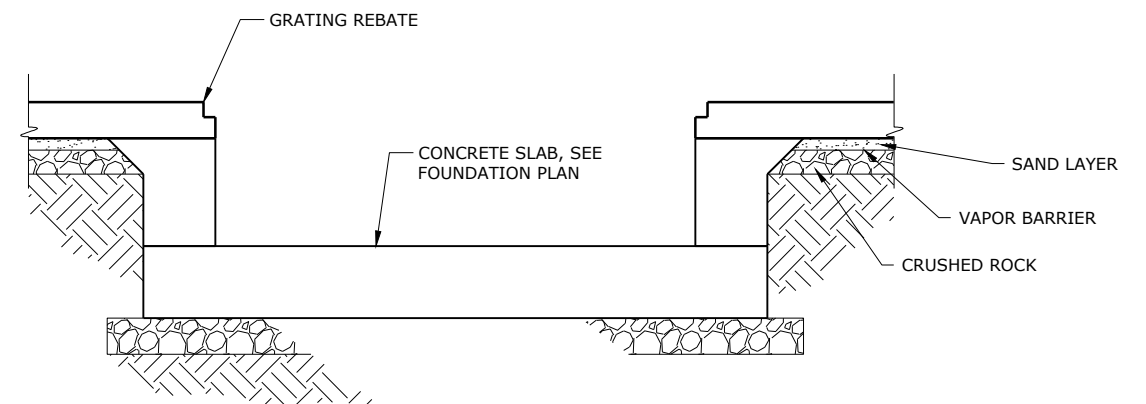
**LOW EVE DETAIL** 2  
SCALE: 3/4" = 1'-0"  
S-732



**FOOTING DETAIL** 3  
SCALE: 3/4" = 1'-0"  
S-732



**GABLE DETAIL** 4  
SCALE: 3/4" = 1'-0"  
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**TRENCH DETAIL** 5  
SCALE: 3/4" = 1'-0"  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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**DIGESTER COMPLEX BUILDING**

**DETAILS**

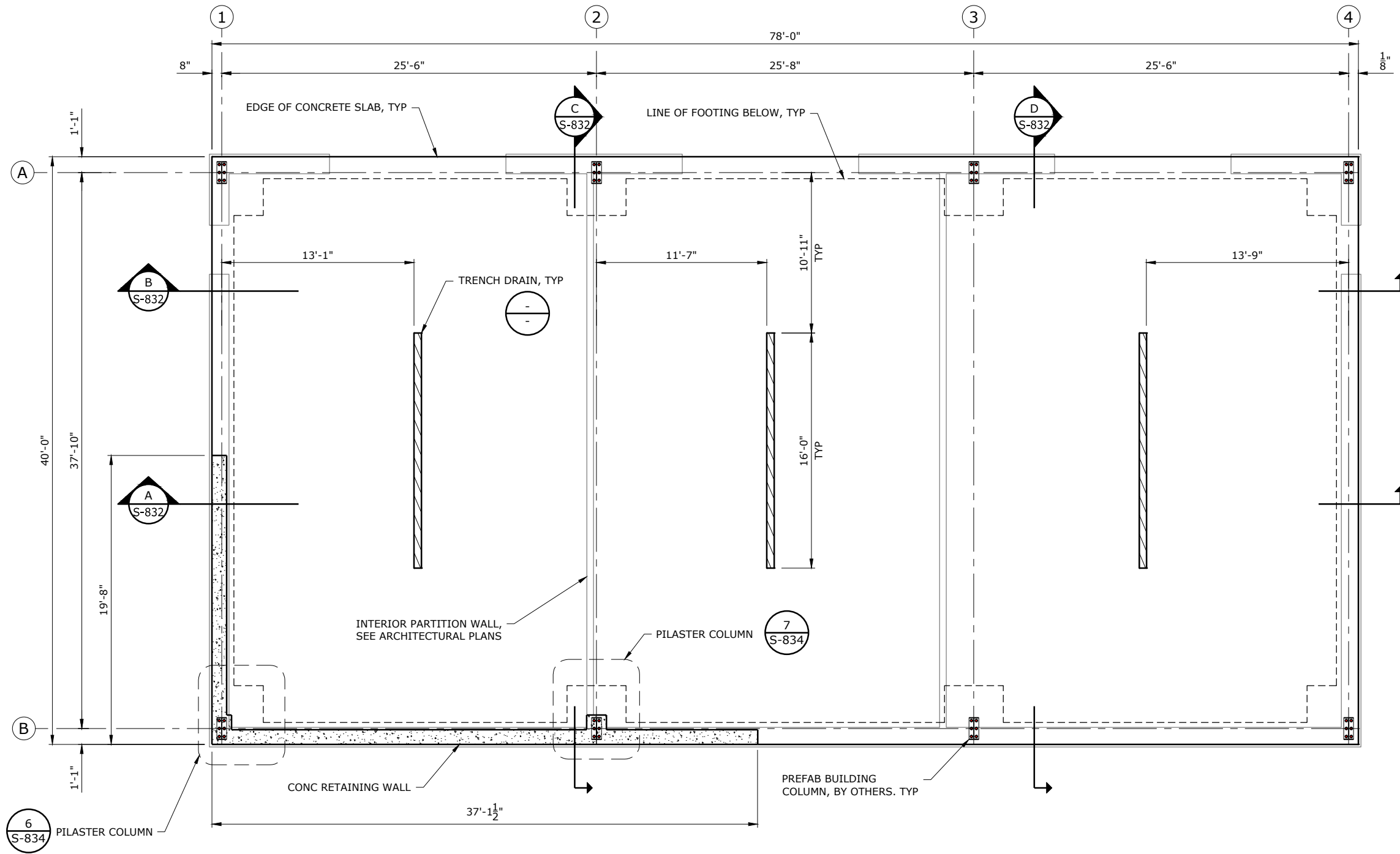
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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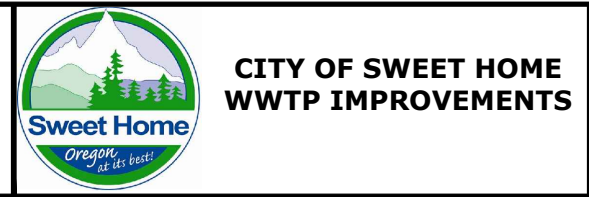
FOUNDATION PLAN  
SCALE: 1/4"=1'-0"

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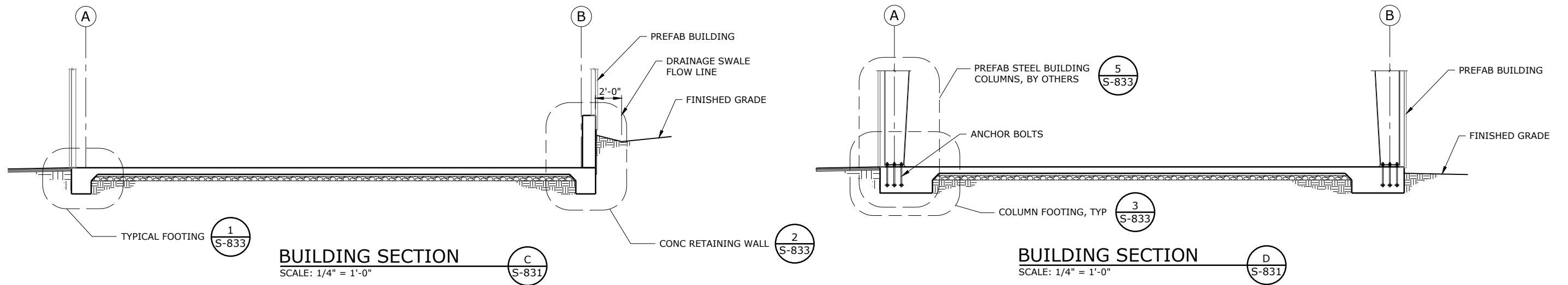
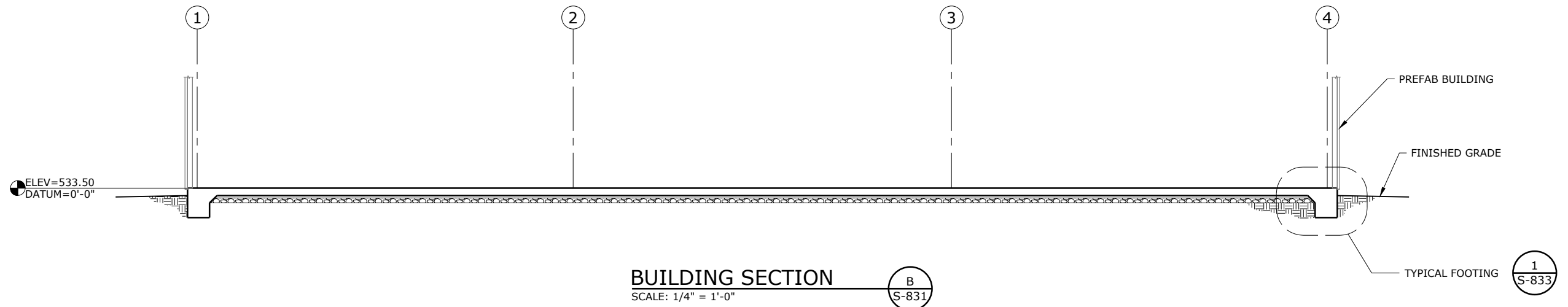
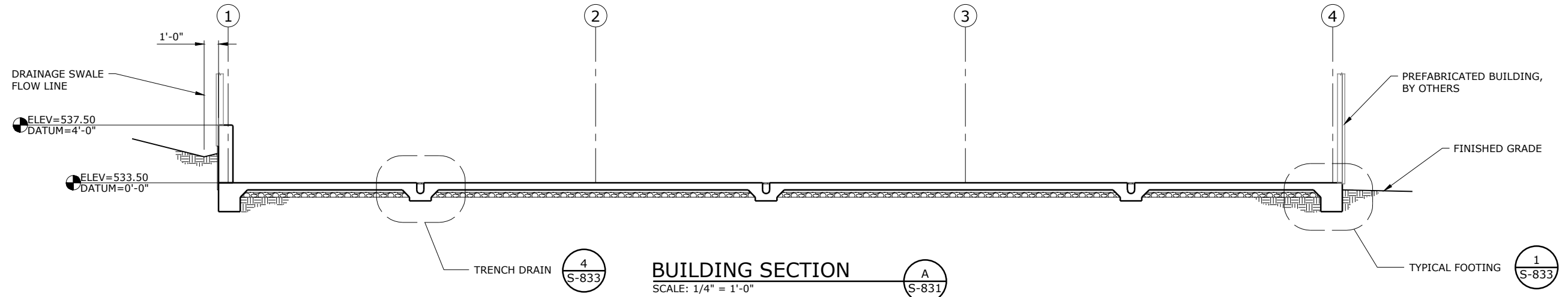
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MAINTENANCE BUILDING  
FOUNDATION PLAN  
PROJECT NO.: 19-2605 SCALE: 1/4" = 1'-0" DATE: June 2020

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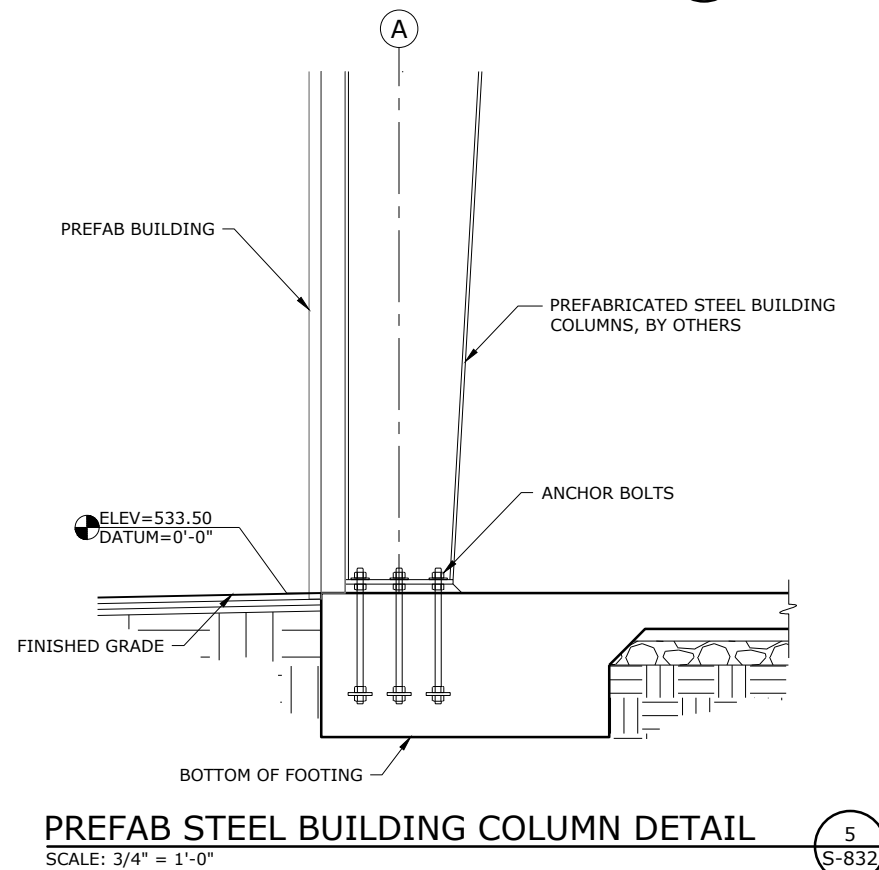
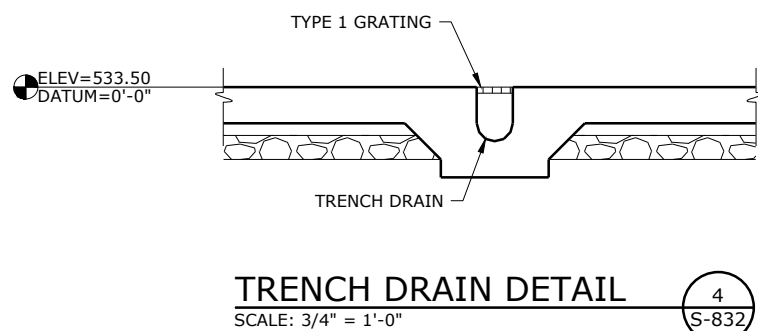
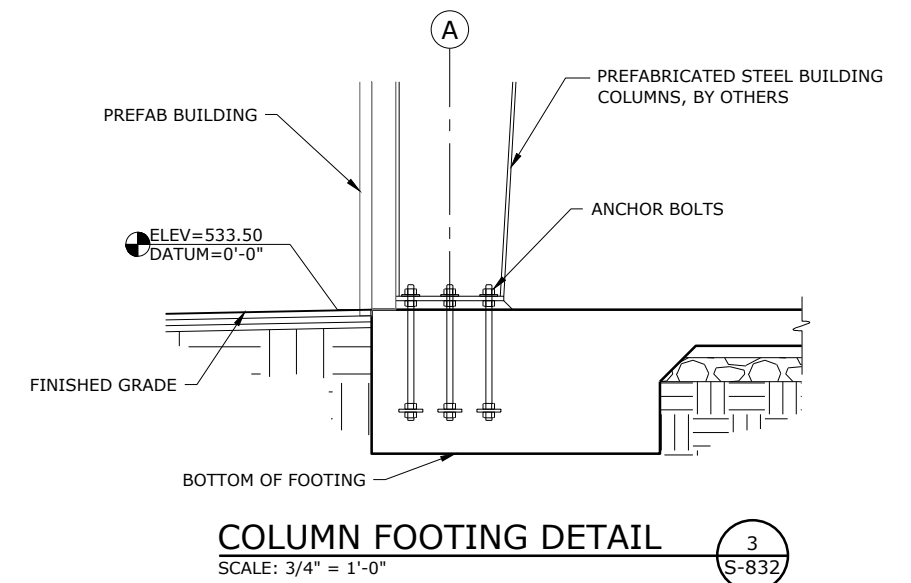
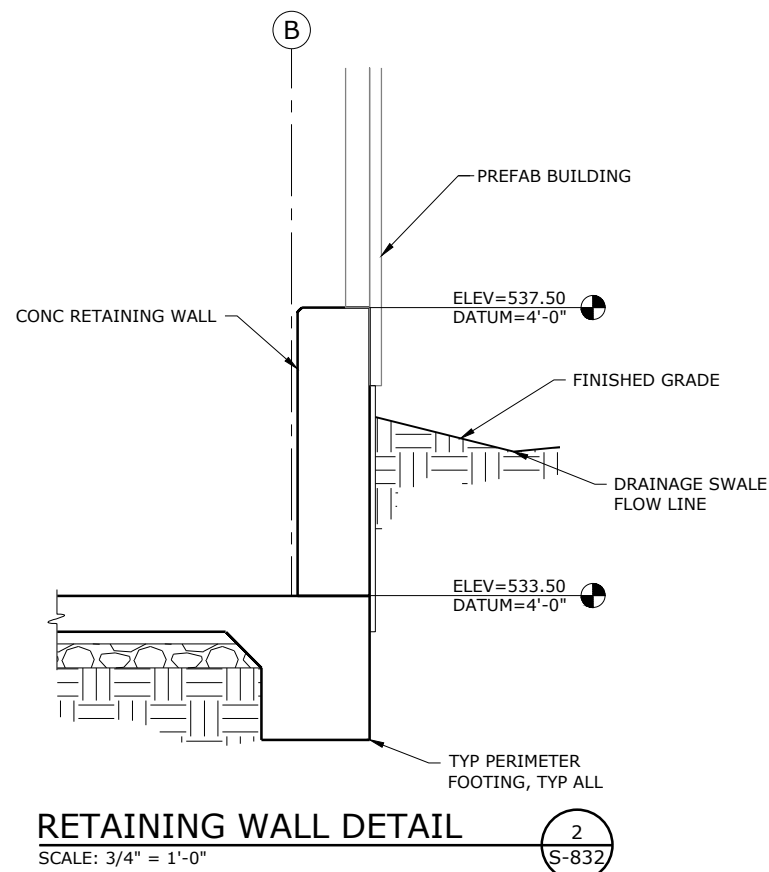
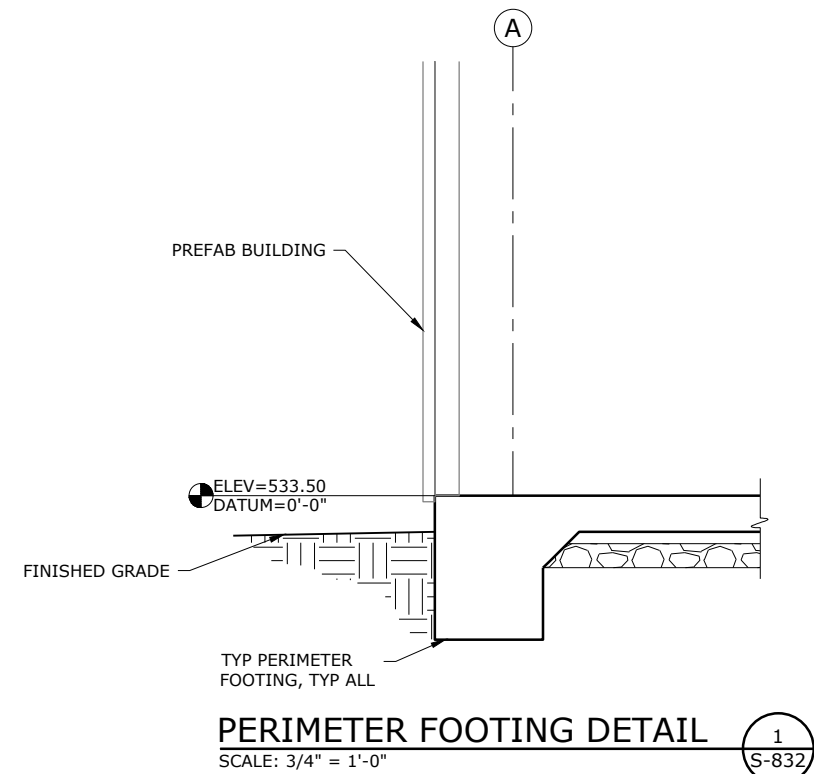


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**MAINTENANCE BUILDING**  
**BUILDING SECTIONS**  
PROJECT NO.: 19-2605 SCALE: 1/4" = 1'-0" DATE: June 2020

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**MAINTENANCE BUILDING**

**FOUNDATION DETAILS**

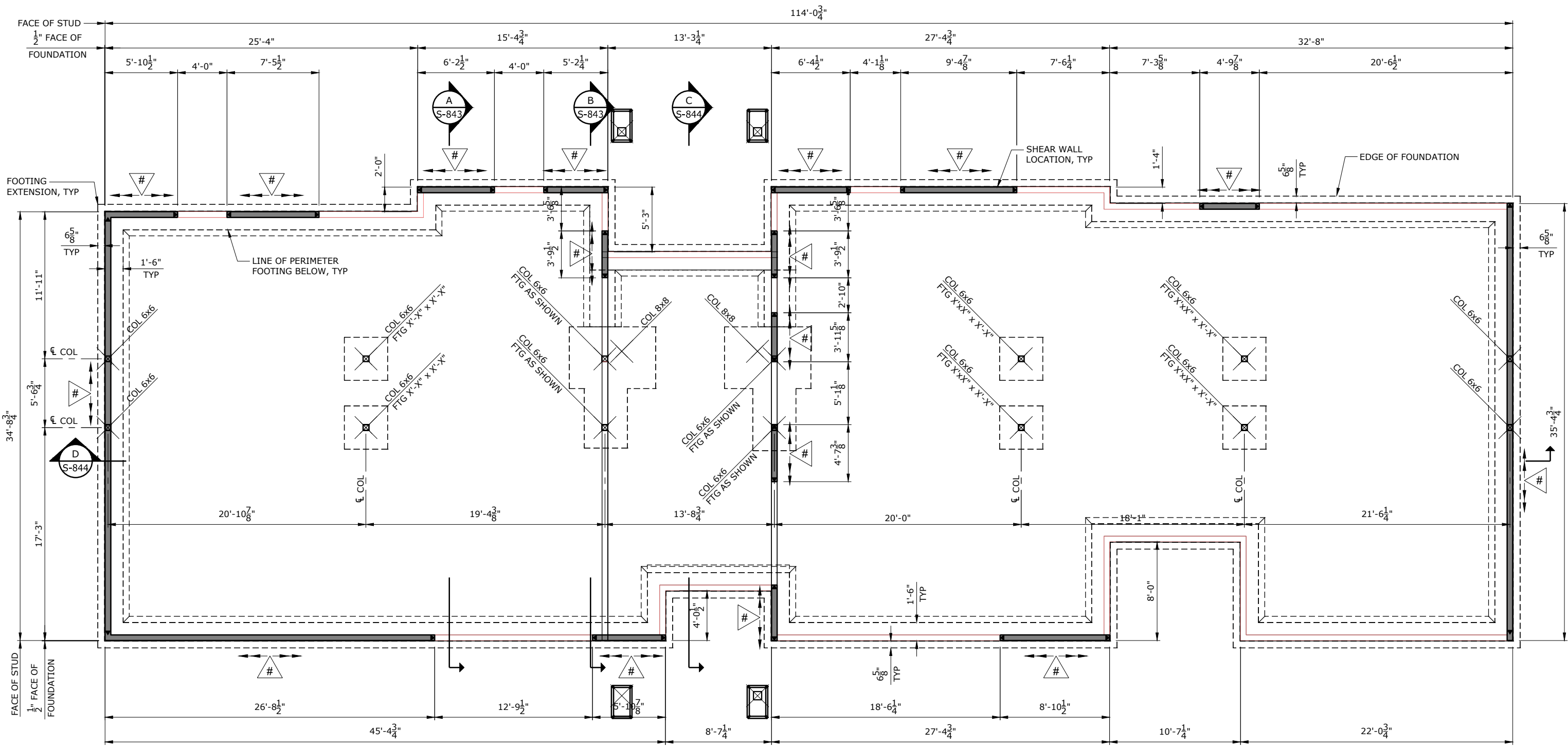
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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**FOUNDATION PLAN**  
SCALE: 1/4"=1'-0"

NOTE:  
ALL DIMENSIONS ARE TO FACE OF FRAMING UNLESS OTHERWISE NOTED

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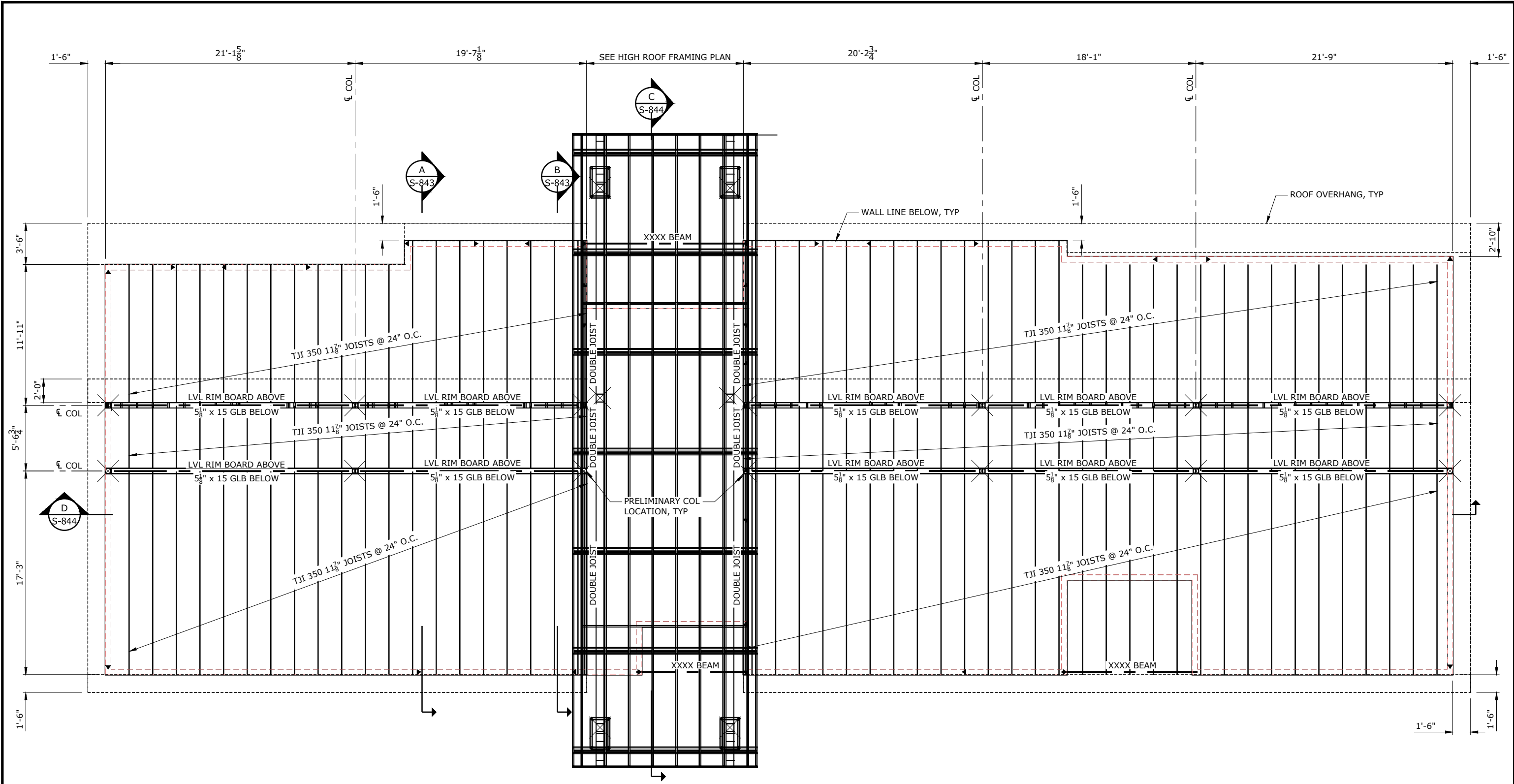


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| <b>ADMIN BUILDING</b>  |           |        |          |
| <b>FOUNDATION PLAN</b> |           |        |          |
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LOW ROOF FRAMING PLAN  
SCALE: 1/4"=1'-0"

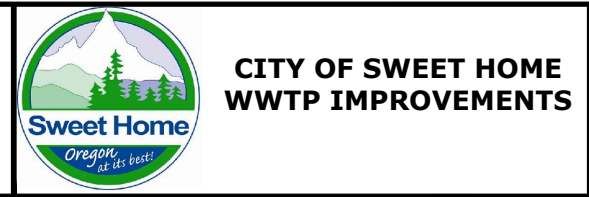
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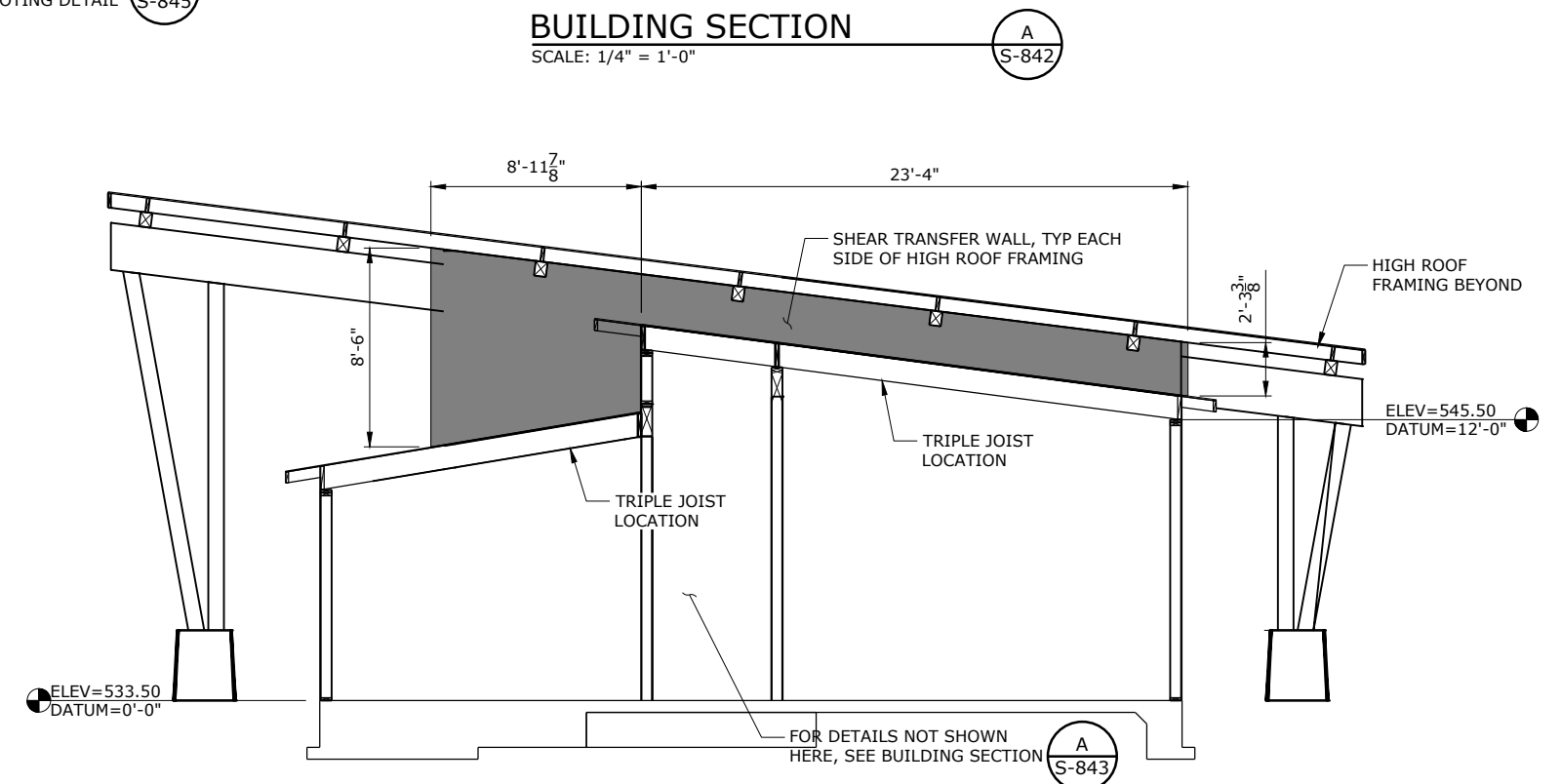
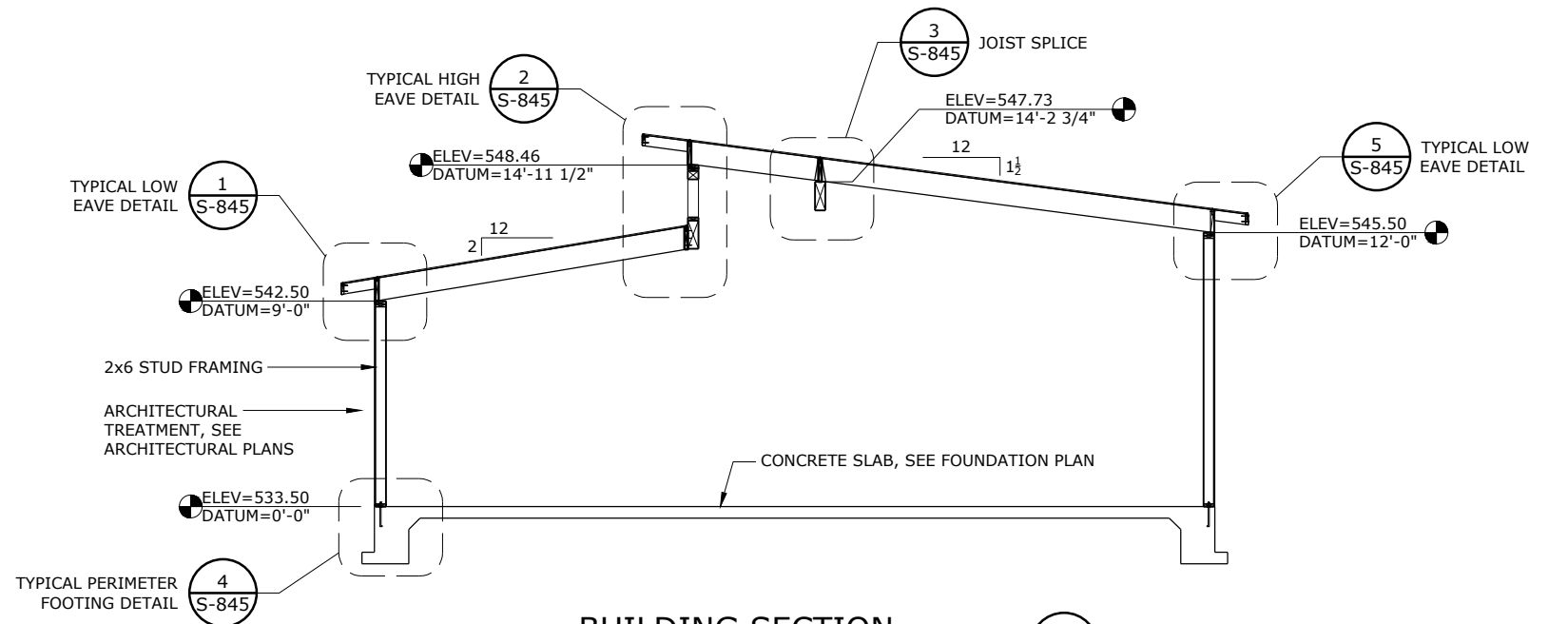
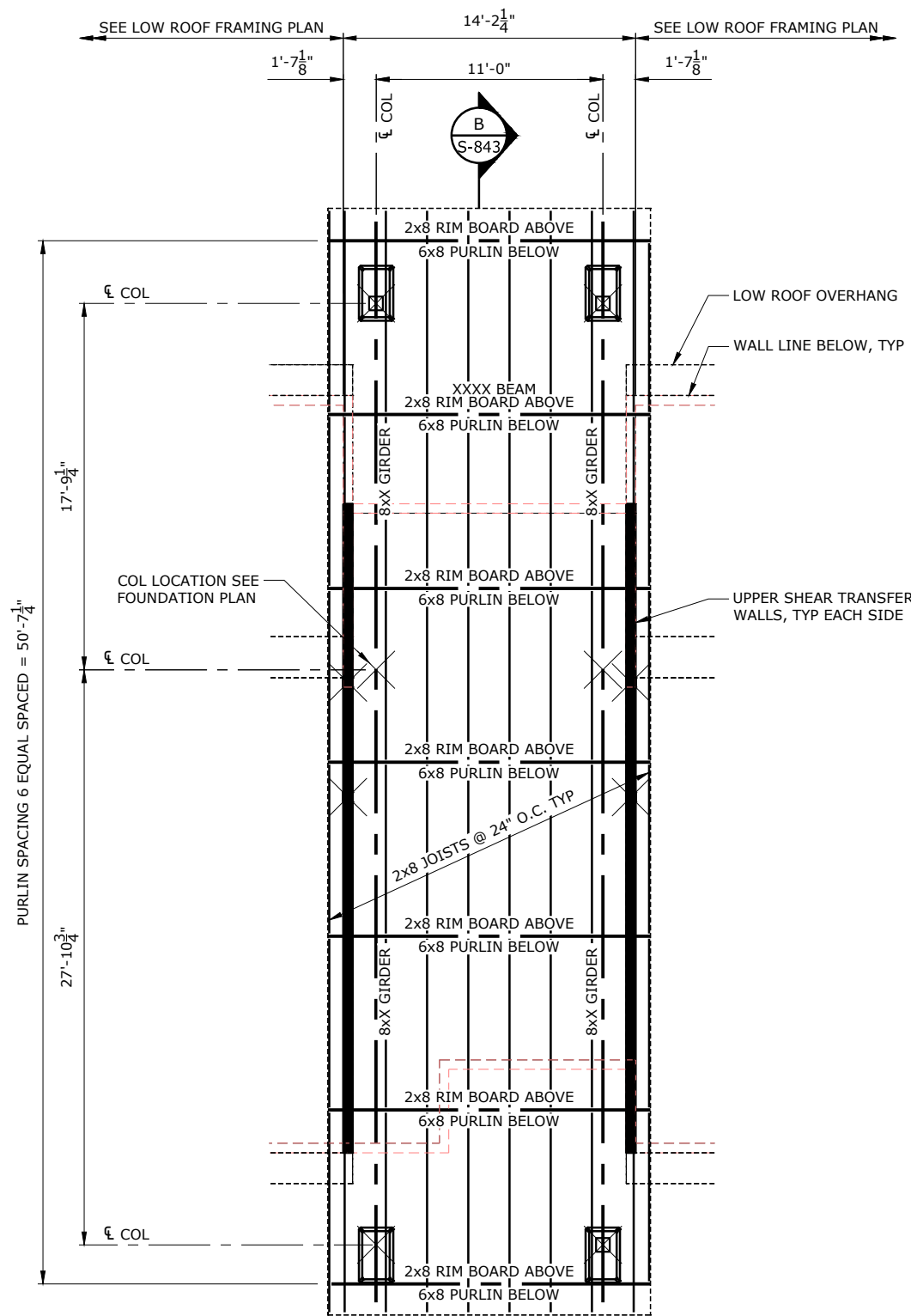


ADMIN BUILDING  
LOWER ROOF FRAMING PLAN

PROJECT NO.: 19-2605 SCALE: 1/4" = 1'-0" DATE: June 2020

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UPPER ROOF FRAMING PLAN  
SCALE: 1/4" = 1'-0"

BUILDING SECTION A  
SCALE: 1/4" = 1'-0"

BUILDING SECTION B  
SCALE: 1/4" = 1'-0"

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ADMIN BUILDING

UPPER ROOF FRAMING PLAN AND BUILDING SECTIONS

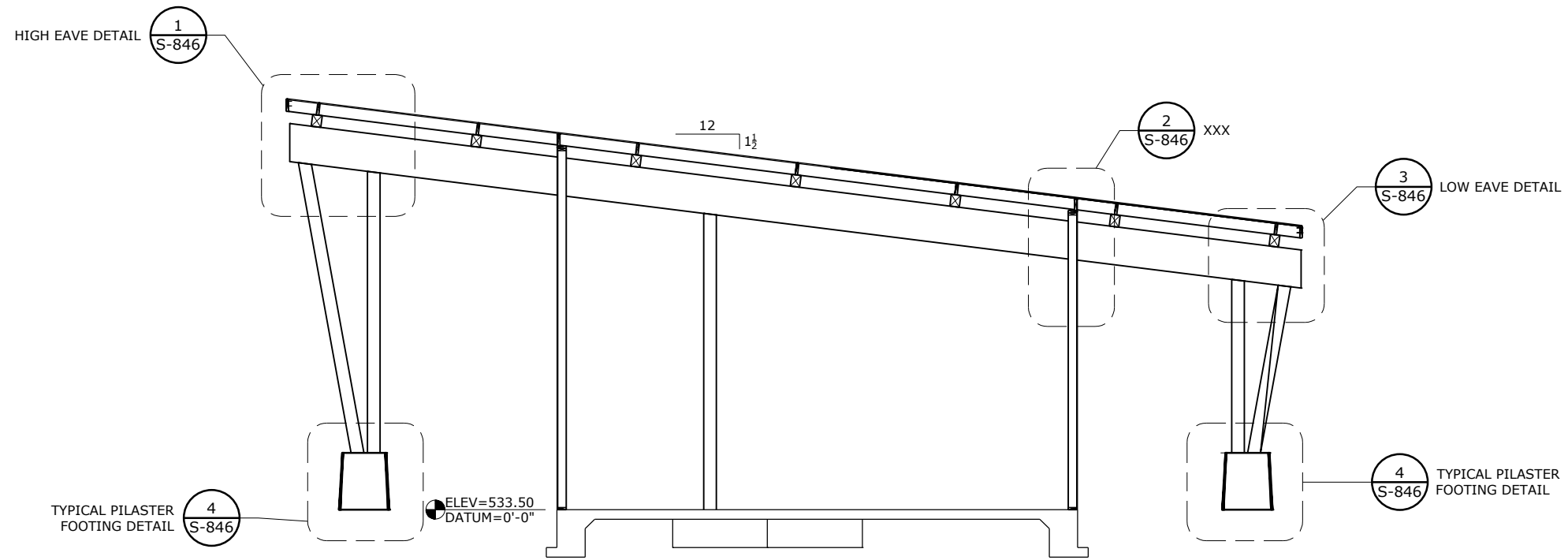
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET S-843

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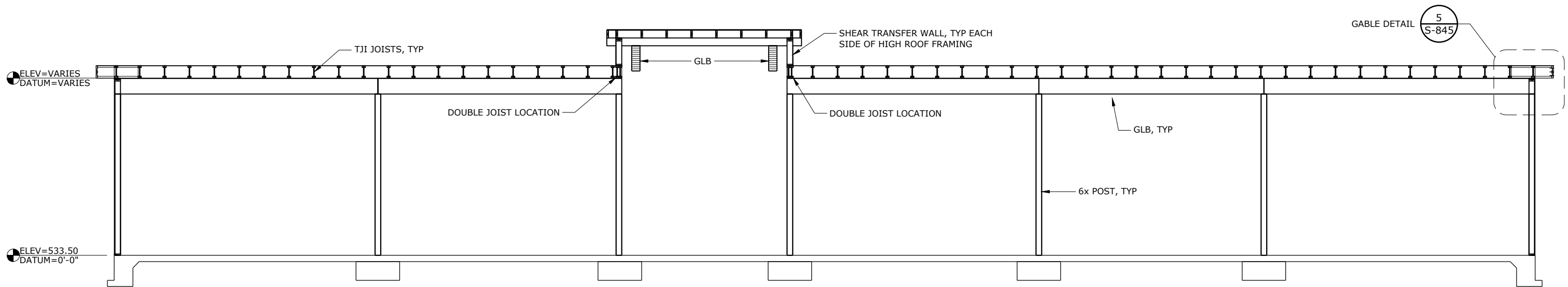


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**BUILDING SECTION**  
SCALE: 1/4" = 1'-0"

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S-842



**BUILDING SECTION**  
SCALE: 1/4" = 1'-0"

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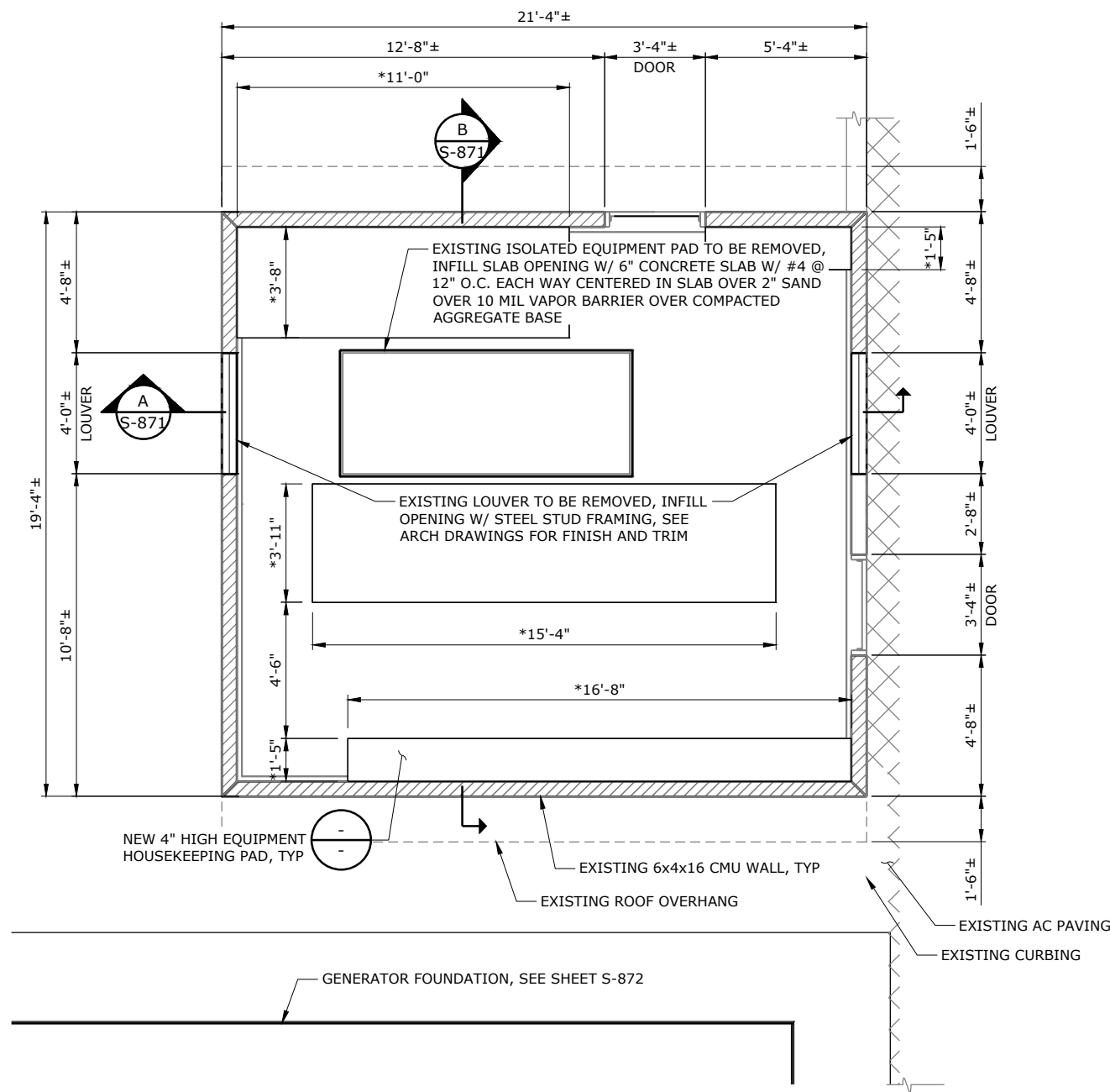


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**ADMIN BUILDING**  
**BUILDING SECTIONS**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

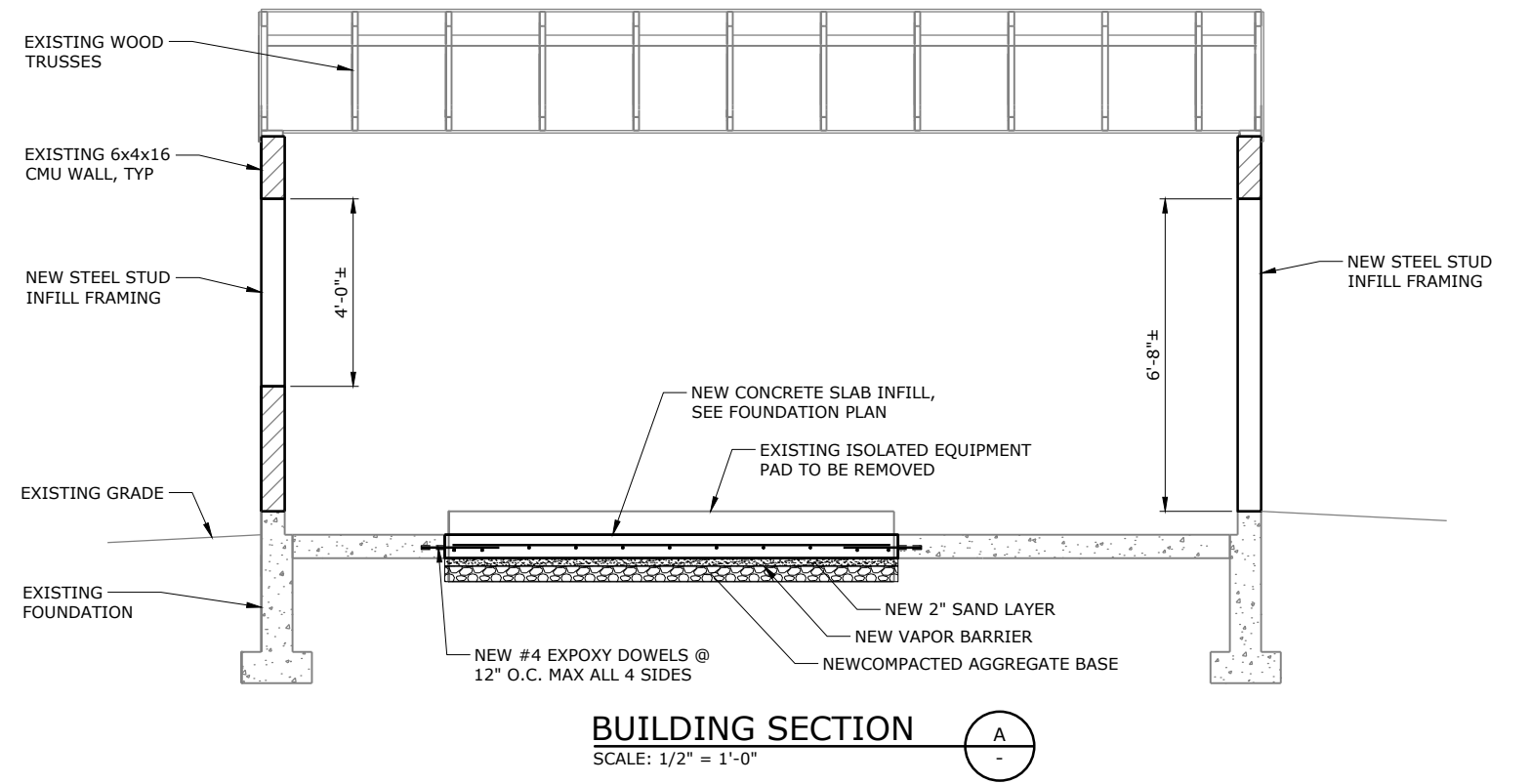
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139 of 354

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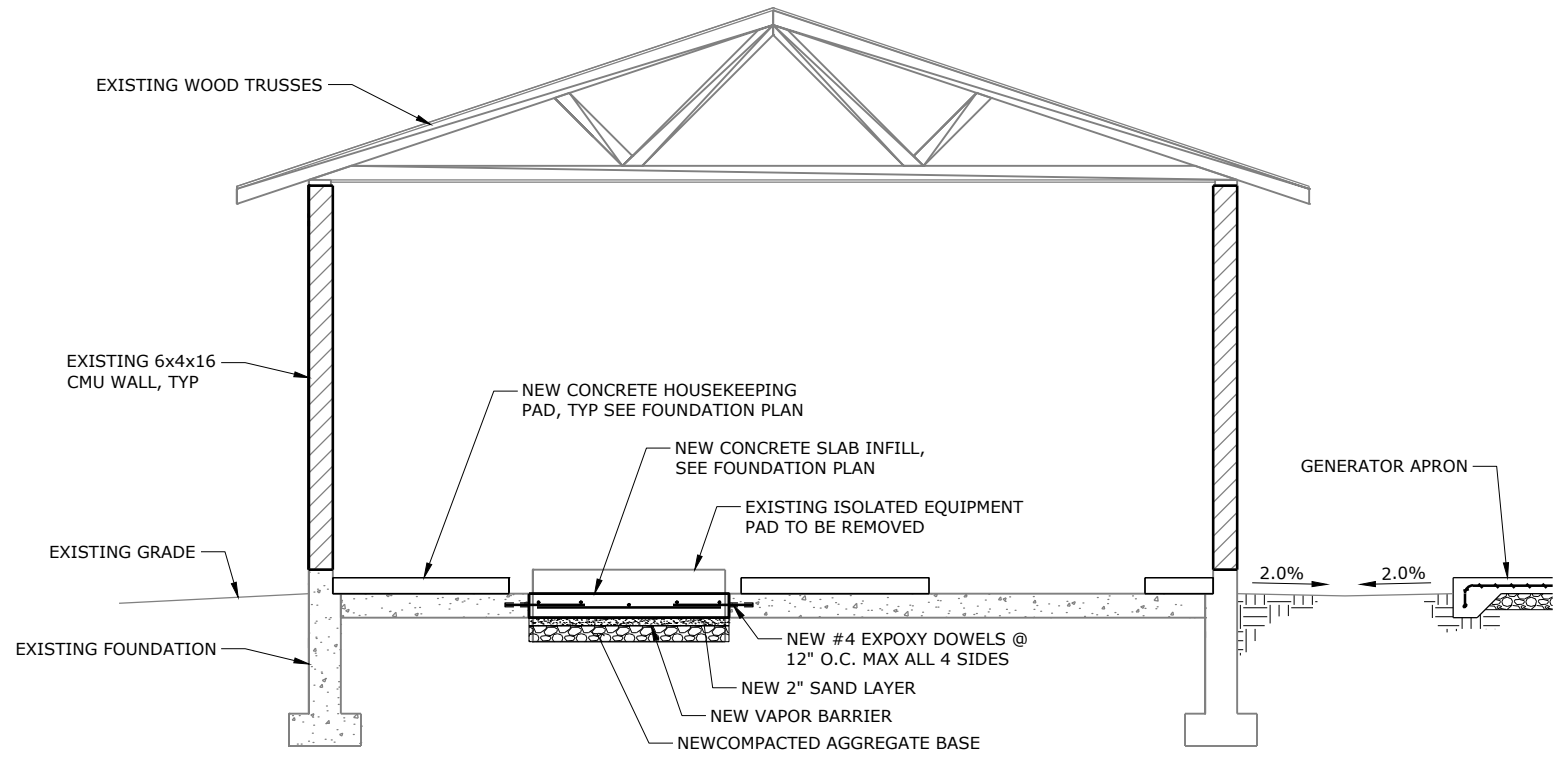


**FOUNDATION PLAN**  
SCALE: 3/8" = 1'-0"

\* VERIFY HOUSEKEEPING PAD SIZES WITH ELECTRICAL EQUIPMENT MANUFACTURER PRIOR TO FORMING AND POURING CONCRETE



**BUILDING SECTION**  
SCALE: 1/2" = 1'-0"



**BUILDING SECTION**  
SCALE: 1/2" = 1'-0"

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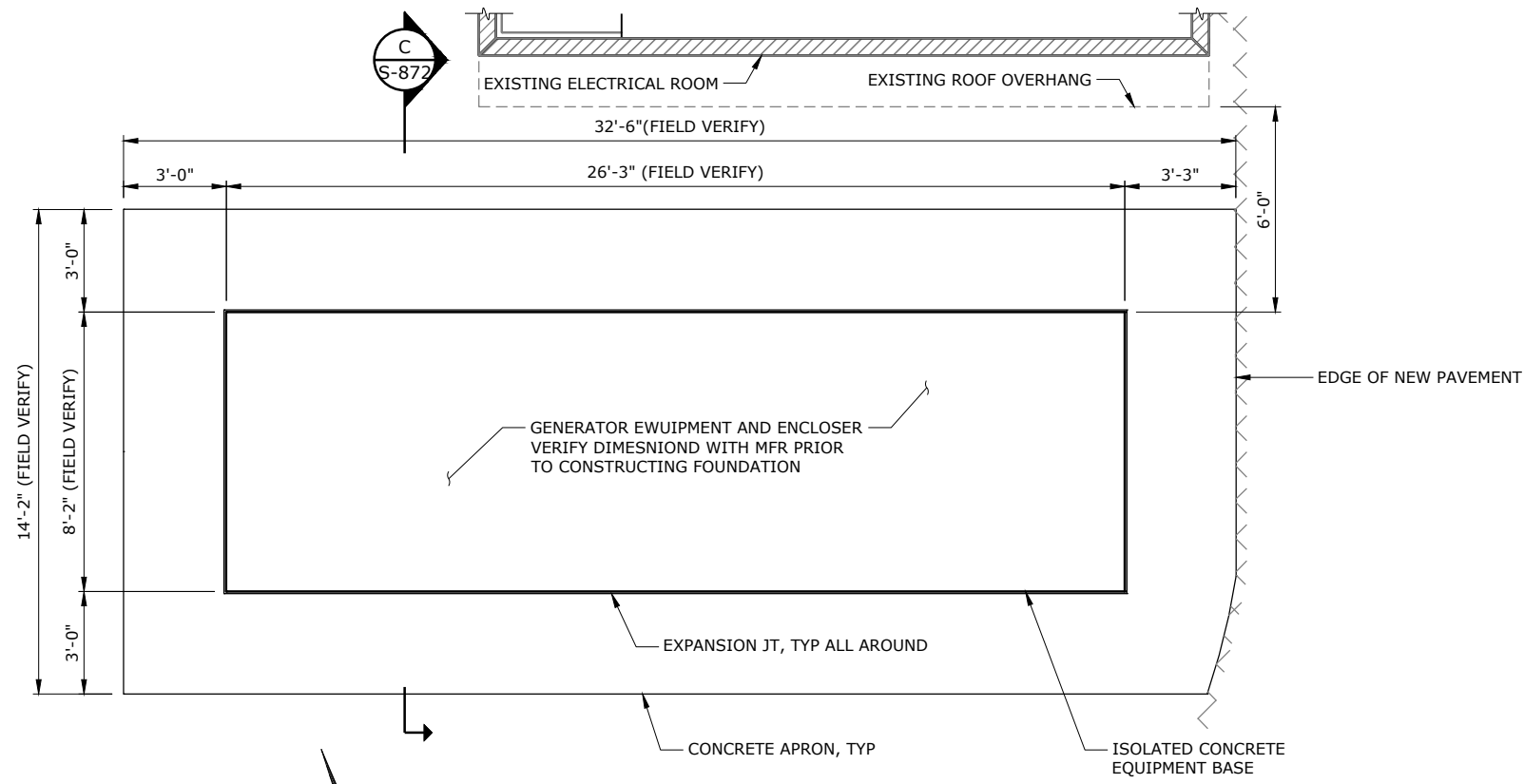


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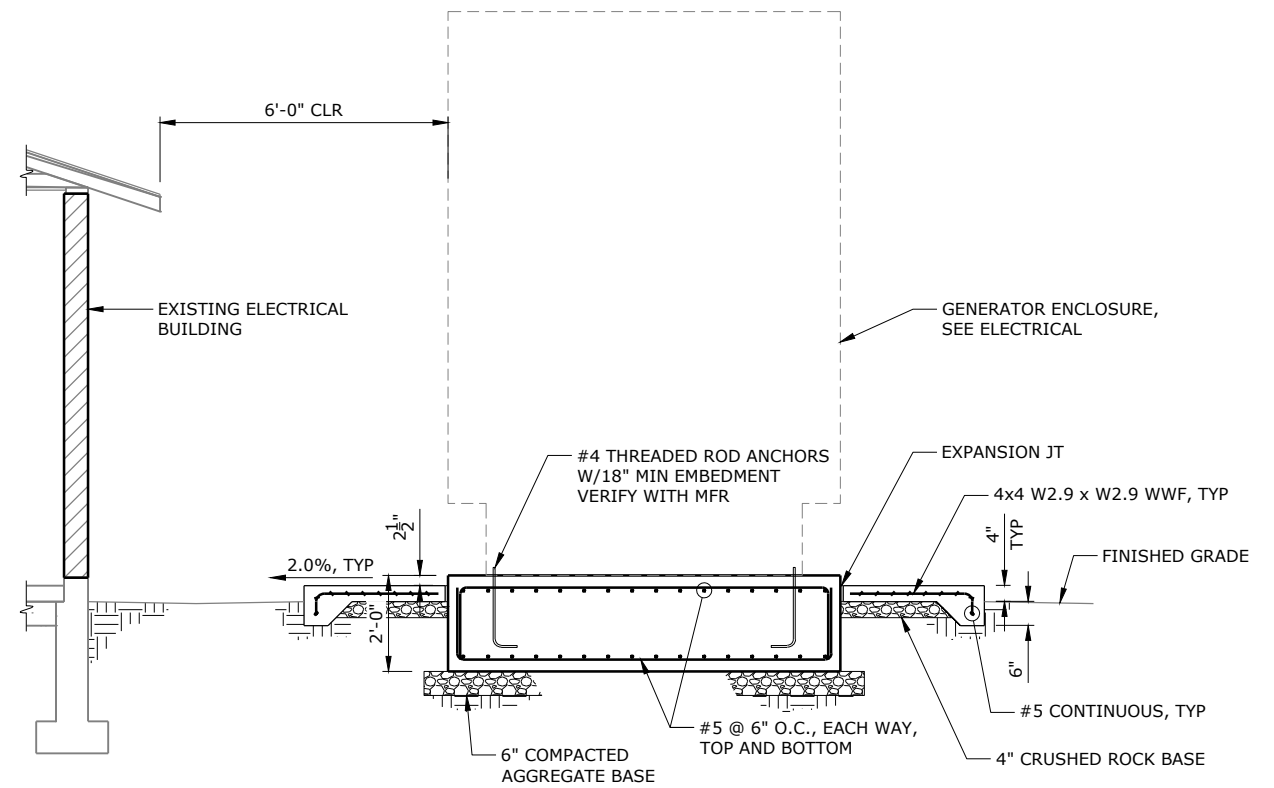
**SOUTH ELECTRICAL BUILDING**  
**FOUNDATION PLAN AND BUILDING SECTIONS**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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**S-871**  
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**GENERATOR FOUNDATION PLAN**  
SCALE: 3/8" = 1'-0"



**GENERATOR FOUNDATION SECTION**  
SCALE: 1/2" = 1'-0"

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**STANDBY GENERATOR  
GENERATOR PAD FOUNDATION  
PLAN AND SECTION**

SHEET  
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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### PIPE & FITTING SYMBOLS

| PLANT | SCHEMATIC | DESCRIPTION                             |
|-------|-----------|---|
|       |           | WELDED JOINT                            |
|       |           | FLANGED JOINT                           |
|       |           | GROOVED END JOINT                       |
|       |           | MECHANICAL JOINT                        |
|       |           | PUSH-ON JOINT (RUBBER GASKET)           |
|       |           | FLANGED COUPLING ADAPTER                |
|       |           | DOUBLE BALL FLEXIBLE EXTENSION COUPLING |
|       |           | FLEXIBLE COUPLING W/ THRUST RING        |
|       |           | 90° BEND UP                             |
|       |           | 90° BEND DOWN                           |
|       |           | TEE UP                                  |
|       |           | TEE DOWN                                |
|       |           | LATERAL UP                              |
|       |           | LATERAL DOWN                            |
|       |           | CONCENTRIC REDUCER                      |
|       |           | ECCENTRIC REDUCER                       |
|       |           | UNION                                   |
|       |           | BLIND FLANGE                            |
|       |           | CAP                                     |
|       |           | LONG SLEEVE                             |
|       |           | FLEXIBLE COUPLING                       |
|       |           | FITTING (45°)                           |

### VALVE SYMBOLS

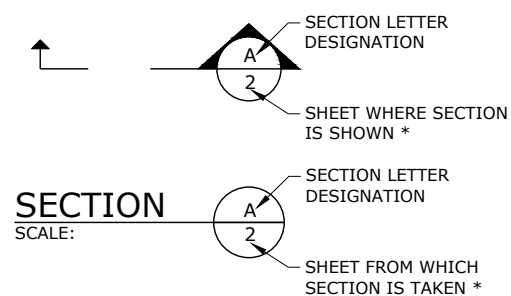
| PLANT | SCHEMATIC | DESCRIPTION  | VALVE SIZE |
|-------|-----------|--|------------|
|       |           | BUTTERFLY VALVE                                    | V-100+     |
|       |           | BALL VALVE   | V-200+     |
|       |           | PLUG VALVE (TOP)                                   | V-300+     |
|       |           | 3-WAY PLUG VALVE                                   | V-300+     |
|       |           | CHECK VALVE  | V-400+     |
|       |           | DOUBLE CHECK ASSEMBLY                              | V-400+     |
|       |           | BALL SWING CHECK                                   | V-400+     |
|       |           | REDUCED PRESSURE BACKFLOW PREVENTER W/ GATE VALVES | V-400+     |
|       |           | GATE VALVE   | V-500+     |
|       |           | NEEDLE VALVE                                       | V-600+     |
|       |           | GLOBE VALVE  | V-700+     |
|       |           | HOSE VALVE   | V-700+     |
|       |           | RELIEF VALVE                                       | V-800+     |
|       |           | PRESSURE REDUCING VALVE                            | V-800+     |
|       |           | SOLENOID VALVE                                     | V-900+     |
|       |           | HOSE BIBB  |            |

### FLOW STREAM IDENTIFICATION

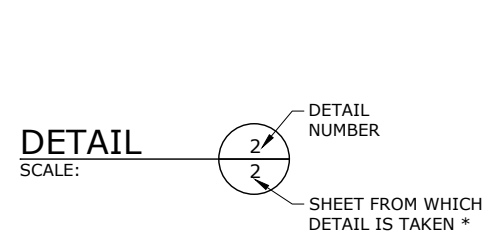
|      |                                  |
|------|----------------------------------|
| CAK  | BIOSOLIDS CAKE                   |
| CAS  | CAUSTIC SODA                     |
| CS   | COMBINED SOLIDS                  |
| COF  | CHEMICAL OVERFLOW                |
| CD   | CONDENSATE DRAIN                 |
| DG   | DIGESTER GAS                     |
| DS   | DIGESTER SLUDGE                  |
| FA   | FOUL AIR                         |
| FE   | FINAL EFFLUENT                   |
| GR   | GRIT                             |
| HW   | HOT WATER                        |
| ML   | MIXED LIQUOR                     |
| NG   | NATURAL GAS                      |
| PDR  | PROCESS DRAIN RECIRCULATION      |
| PA   | PROCESS AIR                      |
| PE   | PRIMARY EFFLUENT                 |
| PI   | PRIMARY INFLUENT                 |
| POL  | POLYMER                          |
| PS   | PRIMARY SLUDGE                   |
| PW   | POTABLE WATER                    |
| RAS  | RETURN ACTIVATED SLUDGE          |
| RS   | RAW SEWAGE                       |
| SAN  | SANITARY SEWER                   |
| SE   | SECONDARY CLARIFIER EFFLUENT     |
| SCM  | SCUM                             |
| SCRN | SCREENINGS                       |
| TWAS | THICKENED WASTE ACTIVATED SLUDGE |
| UW   | UTILITY WATER                    |
| WAS  | WASTE ACTIVATED SLUDGE           |

### SECTION AND DETAIL DESIGNATIONS

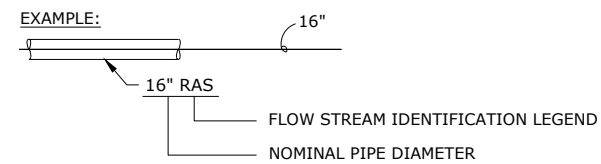
#### SECTION DESIGNATIONS



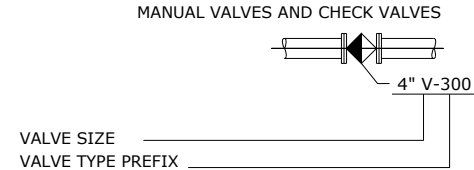
#### DETAIL DESIGNATIONS



#### PIPING DESIGNATION



#### VALVE DESIGNATIONS



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**GENERAL MECHANICAL**  
**MECHANICAL LEGENDS, SYMBOLS AND ABBREVIATIONS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

SHEET  
**M-001**  
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PIPING SCHEDULE

| Flow Stream |                                  |       |     |      |              |                               |   |       |             |        |
|-------------|----------------------------------|-------|-----|------|--------------|-------------------------------|---|-------|-------------|--------|
| CAS         | Caustic Soda                     | ALL   | BUR | PVC  | 40 05 10. 03 | bare/bare                     | None  | 100-H |             |        |
|             |                                  |       | EXP | PVC  | 40 05 10. 03 | bare/bare                     | Federal safety yellow                               | 100-H | both        | Note 1 |
| CS          | Combined Solids                  | ALL   | BUR | GLDI | 40 05 10. 01 | glass/polyurethane            | None  | 150-H |             |        |
|             |                                  |       | EXP | GLDI | 40 05 10. 01 | glass/Epoxy and polyurethane  | Light Brown   | 150-H |             |        |
| COF         | Chemical Overflow                | ALL   | ALL | PVC  | 40 05 10. 03 | bare/bare                     | None  | NA    |             | Note 1 |
| CD          | Condensate Drain                 | ALL   | EXP | COP  | 41 05 10. 05 | bare/bare - insulated         | Green background/white lettering                    | 5-H   |             |        |
| DG          | Digester Gas                     | ALL   | ALL | SST  | 41 05 10. 02 | bare/bare                     | None  | 10-P  |             |        |
| DS          | Digester Sludge                  | ALL   | BUR | PVC  | 40 05 10. 03 | bare/bare                     | None  | 150-H |             |        |
|             |                                  |       | EXP | CMDI | 40 05 10. 01 | cement/Epoxy and polyurethane | Light Brown   | 150-H |             |        |
| FA          | Foul Air                         | ALL   | BUR | PVC  | 40 05 10. 03 | bare/bare                     | None  | N/A   |             |        |
|             |                                  |       | EXP | FRP  | 40 05 10. 04 | bare/bare                     | None  | N/A   |             |        |
| FE          | Final Effluent                   | ALL   | BUR | CMDI | 40 05 10. 01 | cement/polyurethane           | None  | 100-H |             |        |
|             |                                  |       | EXP | CMDI | 40 05 10. 01 | cement/Epoxy and polyurethane | Gray  | 100-H |             |        |
| GR          | Grit                             | ALL   | ALL | PVC  | 40 05 10. 03 | bare/bare                     | None  | 150-H |             | Note 1 |
| HW          | Hot Water                        | ALL   | ALL | COP  | 41 05 10. 05 | bare/bare                     | None  | 150-H | insulate    |        |
| ML          | Mixed Liquor                     | ALL   | BUR | CMDI | 40 05 10. 01 | cement/polyurethane           | None  | 50-H  |             |        |
|             |                                  |       | EXP | CMDI | 40 05 10. 01 | cement/Epoxy and polyurethane | Light Brown   | 50-H  |             |        |
| NG          | Natural Gas                      | ALL   | EXP | CST  | 22 10 00     | bare/bare                     | Yellow background/black lettering                   | 100-P |             |        |
| PA          | Process Air                      | ALL   | ALL | SST  | 40 05 10. 02 | bare/bare                     | None  | 15-P  |             |        |
| PDR         | Process Drain                    | <= 4" | ALL | PVC  | 40 05 10. 03 | bare/bare                     | None  | NA    |             |        |
|             |                                  | > 4"  | ALL | CMDI | 40 05 10. 01 | cement/Polyurethane           | None  | NA    |             |        |
| PE          | Primary Effluent                 | ALL   | BUR | CMDI | 40 05 10. 01 | cement/polyurethane           | None  | 50-H  |             |        |
|             |                                  |       | EXP | CMDI | 40 05 10. 01 | cement/Epoxy and polyurethane | Gray  | 50-H  |             |        |
| PI          | Primary Influent                 | ALL   | BUR | CMDI | 40 05 10. 01 | cement/polyurethane           | None  | 50-H  |             |        |
|             |                                  |       | EXP | CMDI | 40 05 10. 01 | cement/Epoxy and polyurethane | Gray  | 50-H  |             |        |
| POL         | Polymer                          | ALL   | BUR | PVC  | 40 05 10. 03 | bare/bare                     | None  | 50-H  |             |        |
|             |                                  |       | EXP | PVC  | 40 05 10. 03 | bare/bare                     | Federal safety yellow                               | 50-H  |             | Note 1 |
| PS          | Primary Sludge                   | ALL   | BUR | CMDI | 40 05 10. 01 | cement/polyurethane           | None  | 100-H |             |        |
|             |                                  |       | EXP | CMDI | 40 05 10. 01 | cement/Epoxy and polyurethane | Light Brown   | 100-H |             |        |
| PW          | Potable Water                    | ALL   | BUR | COP  | 41 05 10. 05 | bare/bare                     | Green background/white lettering                    | 125-H |             |        |
| RAS         | Return Activated Sludge          | ALL   | EXP | COP  | 41 05 10. 05 | bare/bare                     | Blue  | 150-H | both        |        |
|             |                                  |       | BUR | CMDI | 40 05 10. 01 | cement/polyurethane           | None  | 100-H |             |        |
| RS          | Raw Sewage                       | ALL   | EXP | CMDI | 40 05 10. 01 | cement/Epoxy and polyurethane | Light Brown   | 100-H |             |        |
|             |                                  |       | BUR | CMDI | 40 05 10. 01 | cement/polyurethane           | None  | 100-H |             |        |
| SAN         | Sanitary Sewer                   | ALL   | EXP | CMDI | 40 05 10. 01 | cement/Epoxy and polyurethane | Gray  | 100-H |             |        |
|             |                                  |       | ALL | CISP | 22 10 00     | bare/bare                     | Green background/white lettering (above grade only) | 5-H   |             |        |
| SCM         | Scum                             | ALL   | ALL | PVC  | 40 05 10. 03 | bare/bare                     | None  | 100-H |             | Note 1 |
| SCRN        | Screenings                       | ALL   | ALL | PVC  | 40 05 10. 03 | bare/bare                     | None  | 100-H |             |        |
| SE          | Secondary Clarifier Effluent     | ALL   | BUR | CMDI | 40 05 10. 01 | cement/polyurethane           | None  | 100-H |             |        |
|             |                                  |       | EXP | CMDI | 40 05 10. 01 | cement/Epoxy and polyurethane | Gray  | 100-H |             |        |
| TWAS        | Thickened Waste Activated Sludge | ALL   | BUR | GLDI | 40 05 10. 01 | glass/polyurethane            | None  | 100-H |             |        |
|             |                                  |       | EXP | GLDI | 40 05 10. 01 | glass/Epoxy and polyurethane  | Light Brown   | 100-H |             |        |
| UW          | Utility Water                    | <= 4" | ALL | PVC  | 40 05 10. 03 | bare/bare                     | None  | 150-H | both on EXP | Note 1 |
|             |                                  | > 4"  | ALL | CMDI | 40 05 10. 01 | cement/Epoxy and polyurethane | None  | 150-H |             |        |
| WAS         | Waste Activated Sludge           | ALL   | BUR | CMDI | 40 05 10. 01 | cement/polyurethane           | None  | 50-H  |             |        |
|             |                                  |       | EXP | CMDI | 40 05 10. 01 | cement/Epoxy and polyurethane | Light Brown   | 50-H  |             |        |

Note 1: Paint all the PVC pipes exposed to sunlight using acrylic latex, 2 coats minimum

Piping Schedule Legend:

Exposure:

- ALL All type
- BUR Buried
- ENC Concrete Encased
- EXP Exposed
- SUB Submerged

Material:

- CMDI Cement Motar Lined Ductile Iron
- GLDI Glass Lined Ductile Iron
- PVC Polyvinyl Chloride
- CST Carbon Steel
- SST Stainless Steel
- COP Copper
- FRP Fiberglass Reinforced Plastic
- CISP Cast Iron Soil Pipe

PRESSURE TEST

- H Hydrostatic
- P Pneumatic
- NA Not Applicable

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GENERAL MECHANICAL

PIPING SCHEDULE

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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**ELECTRIC MOTOR ACTUATED VALVES SCHEDULE**

| Tag No. | Valve Type | Location           | Valve Size (inches) | Process Fluid | Maximum Operating Flow | Maximum Differential Pressure (psi) | Control Type (O/C, or M) | Travel Time (seconds) | Remarks          |
|---------|------------|--------------------|---------------------|---------------|------------------------|-------------------------------------|--------------------------|-----------------------|------------------|
| FCV-XXX | V-104      | Aeration Air       |                     | PA            |                        |                                     | M                        |                       |                  |
| FCV-XXX | V-104      | Aeration Air       |                     | PA            |                        |                                     | M                        |                       |                  |
| FCV-XXX | V-104      | Aeration Air       |                     | PA            |                        |                                     | M                        |                       |                  |
| FCV-XXX | V-104      | Aeration Air       |                     | PA            |                        |                                     | M                        |                       |                  |
| FCV-XXX | V-104      | Aeration Air       |                     | PA            |                        |                                     | M                        |                       |                  |
| FCV-XXX | V-104      | Aeration Air       |                     | PA            |                        |                                     | M                        |                       |                  |
| FCV-XXX | V-104      | Aeration Air       |                     | PA            |                        |                                     | M                        |                       |                  |
| FCV-XXX | V-104      | Aeration Air       |                     | PA            |                        |                                     | M                        |                       |                  |
| FCV-XXX | V-300      | Tertiary Filter    |                     | PDR           |                        |                                     | O/C                      |                       | by filter vendor |
| FCV-XXX | V-300      | Tertiary Filter    |                     | PDR           |                        |                                     | O/C                      |                       | by filter vendor |
| FCV-XXX | V-300      | Tertiary Filter    |                     | PDR           |                        |                                     | O/C                      |                       | by filter vendor |
| FCV-XXX | V-300      | Tertiary Filter    |                     | PDR           |                        |                                     | O/C                      |                       | by filter vendor |
| FCV-XXX | V-300      | Tertiary Filter    |                     | PDR           |                        |                                     | O/C                      |                       | by filter vendor |
| FCV-XXX | V-300      | Tertiary Filter    |                     | PDR           |                        |                                     | O/C                      |                       | by filter vendor |
| FCV-XXX | V-300      | Tertiary Filter    |                     | PDR           |                        |                                     | O/C                      |                       | by filter vendor |
| SV-xx   | V-903      | Headworks          | 1                   | UW            |                        |                                     | O/C                      |                       |                  |
| SV-xx   | V-903      | Headworks          |                     | UW            |                        |                                     | O/C                      |                       |                  |
| SV-xx   | V-903      | Headworks          |                     | UW            |                        |                                     | O/C                      |                       |                  |
| SV-xx   | V-903      | Headworks          |                     | UW            |                        |                                     | O/C                      |                       |                  |
| SV-xx   | V-903      | Dewatering         |                     | UW            |                        |                                     | O/C                      |                       |                  |
| SV-xx   | V-903      | Dewatering         |                     | UW            |                        |                                     | O/C                      |                       |                  |
| SV-xx   | V-903      | Dewatering         |                     | UW            |                        |                                     | O/C                      |                       |                  |
| SV-xx   | V-903      | Dewatering         |                     | UW            |                        |                                     | O/C                      |                       |                  |
| SV-xx   | V-903      | Dewatering         |                     | UW            |                        |                                     | O/C                      |                       |                  |
| SV-xx   | V-903      | Dewatering Polymer |                     |               |                        |                                     | O/C                      |                       |                  |

**Valve**

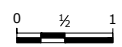
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| FCV  | Flow Control Valve               |
| SV   | Solenoid Valve                   |
| PCV  | Pressure Control Valve           |
| PSV  | Pressure Relief Valve            |
| VSV  | Vacuum Relief Valve              |
| PVSV | Pressure and Vacuum Relief Valve |

**REGULATING VALVES SCHEDULE**

| Tag No.  | Valve Type | Location            | Valve Size (inches) | Process Fluid | Maximum Operating Flow (gpm) | Maximum Pressure (psi) | Inlet Pressure | Outlet Pressure | Remarks |
|----------|------------|---------------------|---------------------|---------------|------------------------------|------------------------|----------------|-----------------|---------|
| PCV-XX   | V-800      | Dewatering Polymer  |                     |               |                              |                        |                |                 |         |
| PSV -XXX | V-810      | Chemical Feed       |                     | CAS           |                              |                        |                |                 |         |
| PSV -XXX | V-810      | Chemical Feed       |                     | CAS           |                              |                        |                |                 |         |
| PCV-XXX  | V-810      | Chemical Feed       |                     | CAS           |                              |                        |                |                 |         |
| PCV-XXX  | V-810      | Primary Clarifier   |                     | UW            |                              |                        |                |                 |         |
| PCV-XXX  | V-810      | Secondary Clarifier |                     | UW            |                              |                        |                |                 |         |
| PCV-XXX  | V-810      | Secondary Clarifier |                     | UW            |                              |                        |                |                 |         |
| PCV-XXX  | V-810      | Secondary Clarifier |                     | UW            |                              |                        |                |                 |         |
| PCV-XXX  | V-810      | Secondary Clarifier |                     | UW            |                              |                        |                |                 |         |
| PSV -XXX |            | Utility Water       |                     | UW            |                              |                        |                |                 |         |
| PCV-XXX  |            | Hot water           |                     | NG            |                              |                        |                |                 |         |
| PSV -XXX |            | Hot water           |                     | HW            |                              |                        |                |                 |         |

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NOTICE  
  
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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**WWTP IMPROVEMENTS**

**GENERAL MECHANICAL**

**VALVE SCHEDULE**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

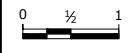
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**M-003**  
 144 of 354

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| GATE SCHEDULE             |          |            |       |                   |                    |                     |            |            |             |                   |
|---------------------------|----------|------------|-------|-------------------|--------------------|---------------------|------------|------------|-------------|-------------------|
| Process Area              | Tag No.  | Mount      | Type  | Rising Stem (Y/N) | Opening Width (ft) | Opening Height (ft) | Opening IE | Channel IE | Top of Wall | Auto/Manual (A/M) |
| Headworks                 | G-210-01 | Cast-in    | Slide | Y                 | 2                  | 3.5                 | 526.5      | 526.5      | 531.5       | A                 |
|                           | G-210-02 | Cast-in    | Slide | Y                 | 2                  | 3.5                 | 526.5      | 526.5      | 531.5       | A                 |
|                           | G-210-03 | Cast-in    | Slide | Y                 | 2                  | 3.5                 | 526.5      | 526.5      | 531.5       | M                 |
|                           | G-210-04 | Cast-in    | Slide | Y                 | 2                  | 3.5                 | 526.5      | 526.5      | 531.5       | M                 |
|                           | G-210-05 | Cast-in    | Slide | Y                 | 3                  | 3.5                 | 526.5      | 526.5      | 531.5       | M                 |
|                           | G-210-06 | Cast-in    | Weir  | N                 | 3                  | 3.5                 | 528.5      | 526.5      | 531.5       | M                 |
| Primary Control Structure | G-230-01 | Cast-in    | Slide | Y                 | 3                  | 5                   | 526.5      | 526.5      | 531.5       | M                 |
|                           | G-230-02 | Wall Mount | Slide | Y                 | 3                  | 3.5                 | 526.5      | 526.5      | 531.5       | M                 |
|                           | G-230-03 | Cast-in    | Weir  | Y                 | 3                  | 3.5                 | 528.5      | 526.5      | 531.5       | M                 |
|                           | G-230-04 | Cast-in    | Weir  | Y                 | 3                  | 3.5                 | 528.5      | 526.5      | 531.5       | M                 |
| Aeration Basin            | G-410-01 | Wall Mount | Weir  | N                 | 4                  | 3                   | 524        | 512.35     | 527         | M                 |
|                           | G-410-02 | Wall Mount | Weir  | N                 | 4                  | 3                   | 524        | 512.35     | 527         | M                 |
|                           | G-410-03 | Wall Mount | Slide | Y                 | 2                  | 2                   | 522.5      | 512.35     | 528         | M                 |
|                           | G-410-04 | Wall Mount | Slide | Y                 | 2                  | 2                   | 522.5      | 512.35     | 528         | M                 |
| Mixed Liquor Flow Split   | G-420-01 | Wall Mount | Weir  | N                 | 3                  | 4                   | 522        | 512.35     | 528         | M                 |
|                           | G-420-02 | Wall Mount | Weir  | N                 | 3                  | 4                   | 522        | 512.35     | 528         | M                 |
|                           | G-420-03 | Wall Mount | Weir  | N                 | 3                  | 4                   | 522        | 512.35     | 528         | M                 |
|                           | G-420-04 | Wall Mount | Weir  | N                 | 3                  | 4                   | 522        | 512.35     | 528         | M                 |
| UV Disinfection           | G-610-01 | Wall Mount | Weir  | N                 | 2.5                | 6                   | 510        | 504.42     | 516         | A                 |
|                           | G-610-02 | Wall Mount | Weir  | N                 | 2.5                | 6                   | 510        | 504.42     | 516         | A                 |
|                           | G-610-03 | Wall Mount | Weir  | N                 | 2.5                | 6                   | 510        | 504.42     | 516         | M                 |
| Utility Water             | G-810-01 | Wall Mount | Slide | N                 | 2.5                | 6                   | 510        | 504.42     | 516         | M                 |

**60% SUBMITTAL**

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NOTICE  
  
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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**CITY OF SWEET HOME  
 WWTP IMPROVEMENTS**

**GENERAL MECHANICAL**

**GATE SCHEDULE**

SHEET

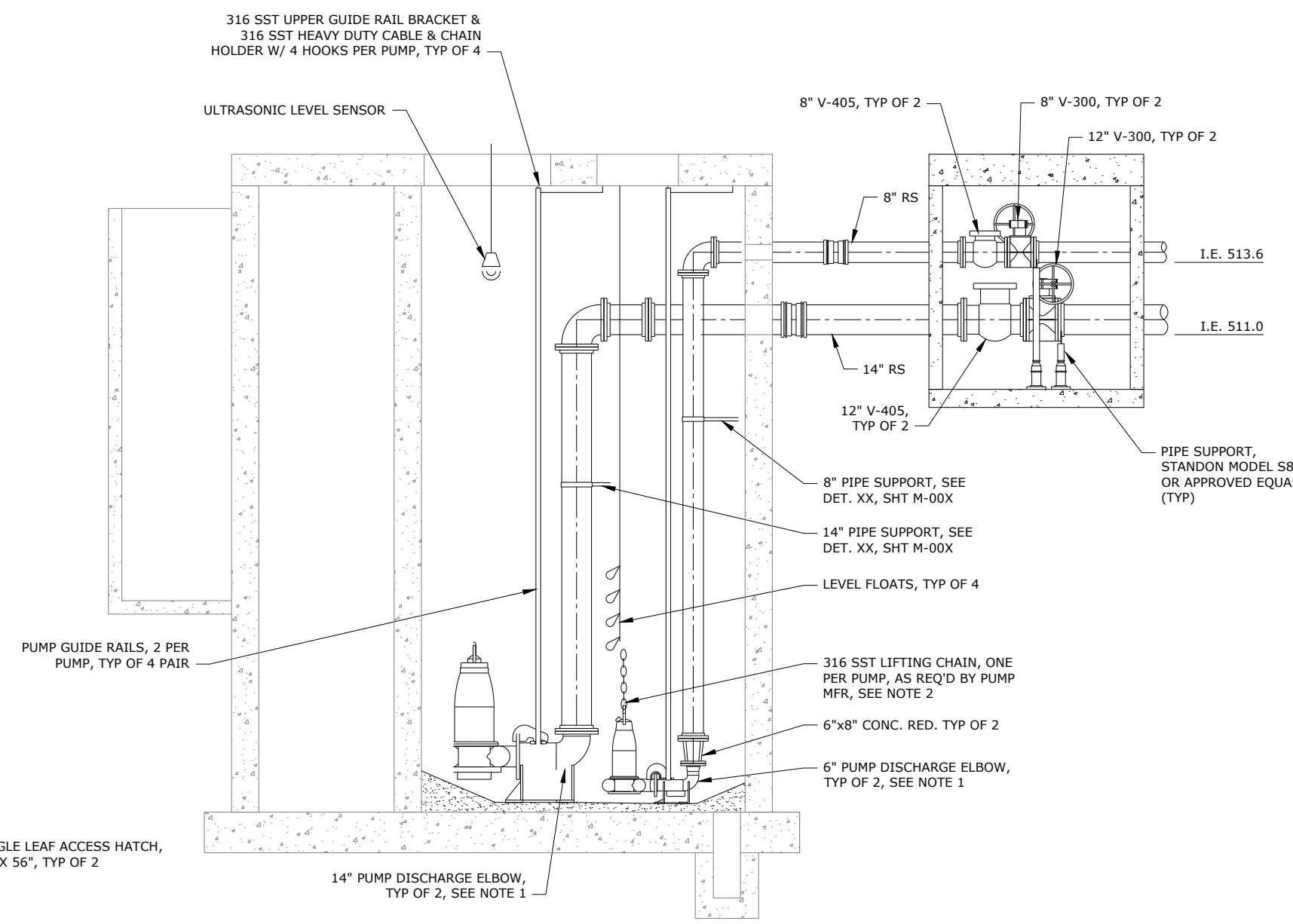
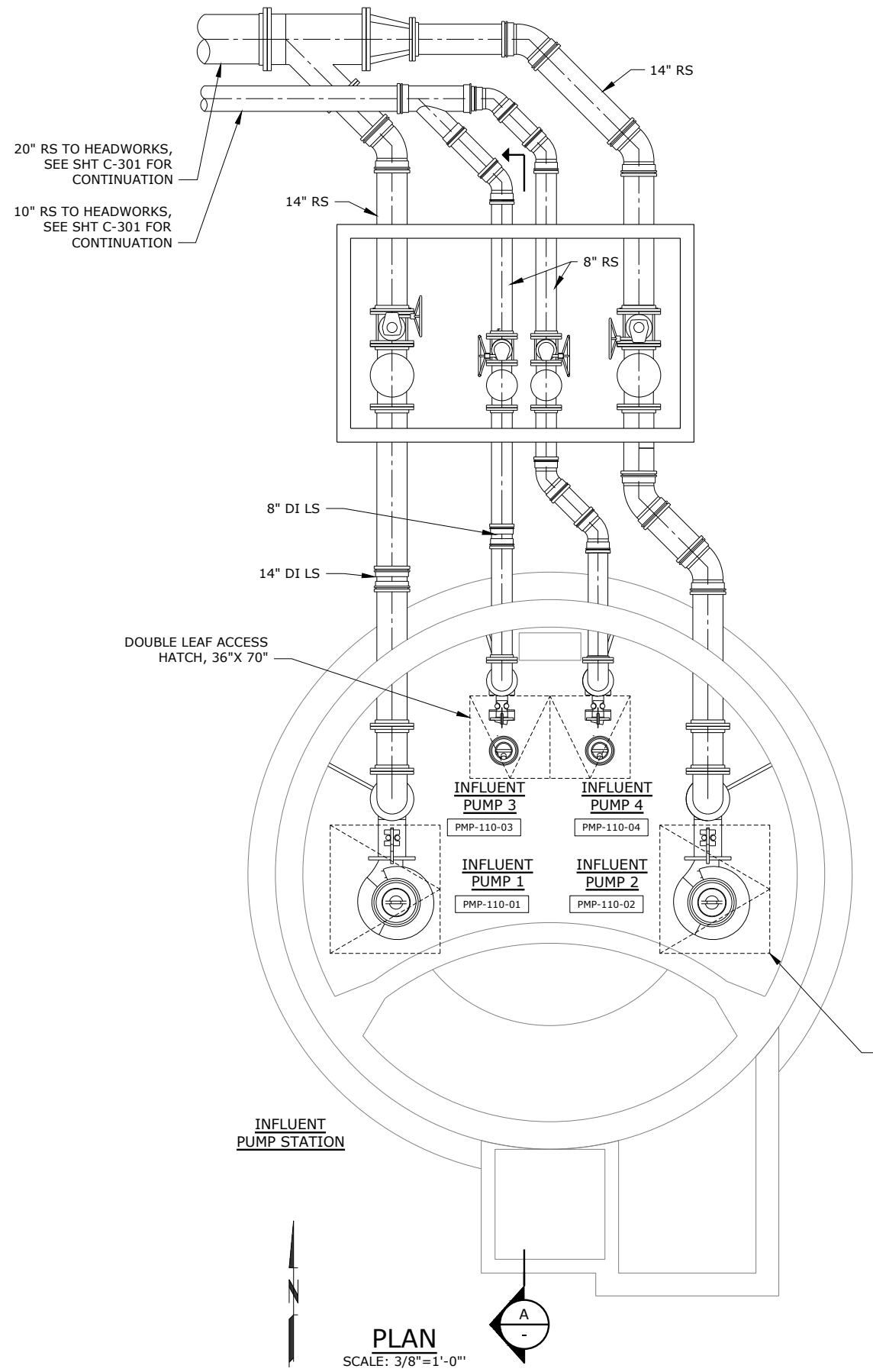
M-004

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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

**SHEET NOTES:**

1. ANCHOR PUMP DISCHARGE ELBOW W/ (4) 3/4" 316 SST THRD ROD, EMBED MIN 8" USING HILTI HIT-RE 500-SD EPOXY. INSTALL NON-SHRINK GROUT UNDER PUMP DISCHARGE BASE PER PUMP MFR'S RECOMMENDATIONS, MIN 3.5" THICK.
2. PUMP LIFTING CHAIN TO PROVIDE SNAP SWIVEL ON UPPER END, 316 SST BALE CONNECTION AT TOP OF PUMP W/ DBL NUT LOCKING BOLT, SEE DET, SHT M-00X.



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

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

**60% SUBMITTAL**

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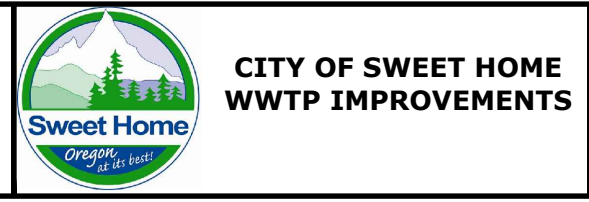
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| <b>INFLUENT PUMP STATION</b> |           |        |          |
| <b>PLAN AND SECTION</b>      |           |        |          |
| PROJECT NO.:                 | 19-2605   | SCALE: | AS SHOWN |
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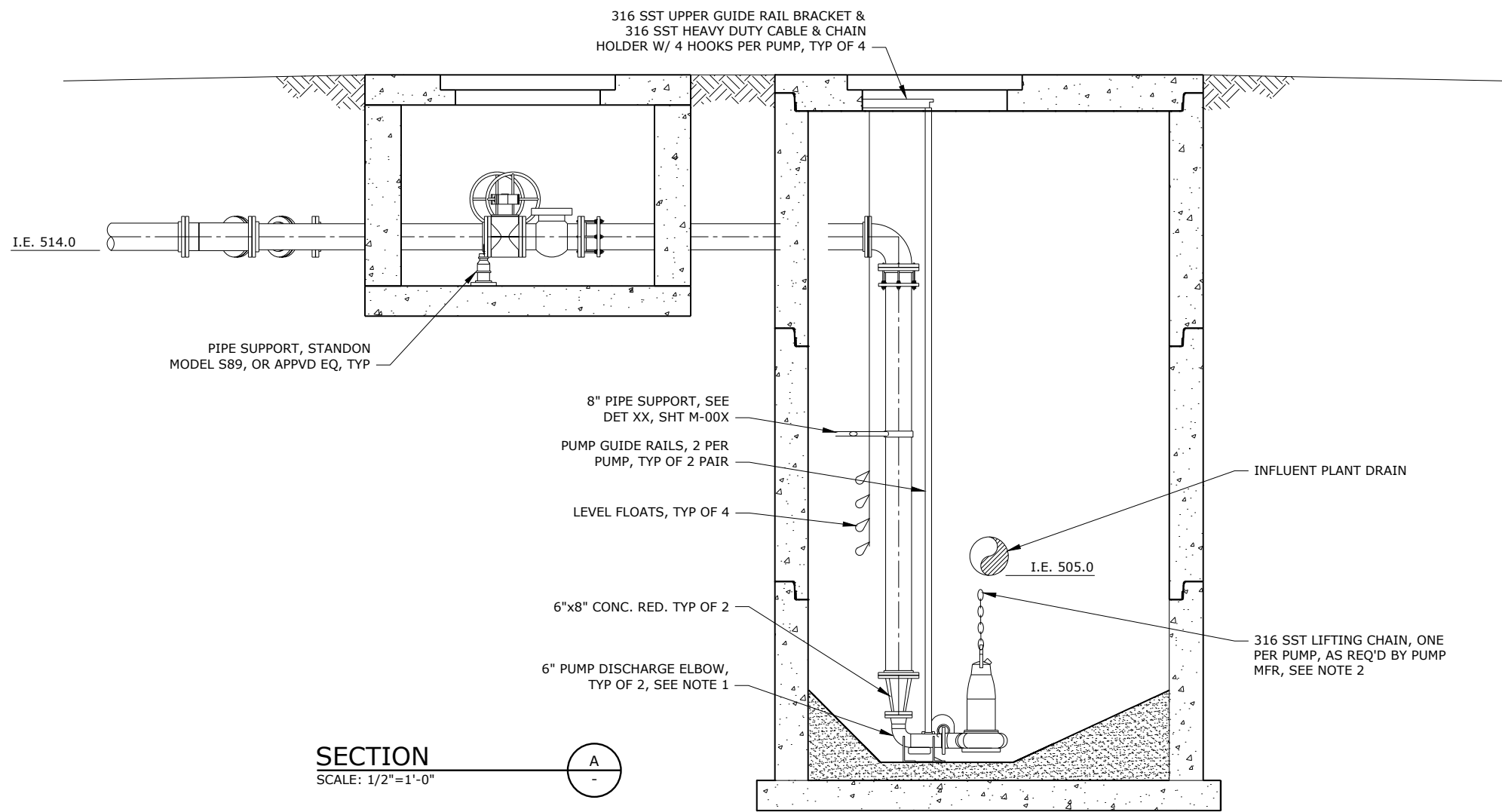
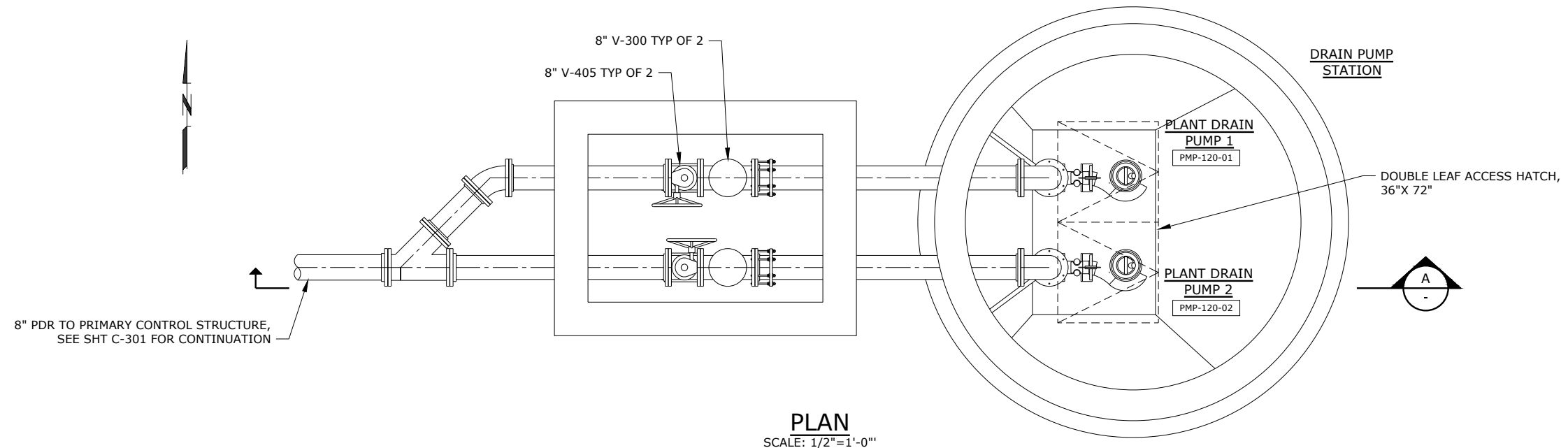
M-112

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**SHEET NOTES:**

1. ANCHOR PUMP DISCHARGE ELBOW W/ (4) 3/4" 316 SST THRD ROD, EMBED MIN 8" USING HILTI HIT-RE 500-SD EPOXY. INSTALL NON-SHRINK GROUT UNDER PUMP DISCHARGE BASE PER PUMP MFR'S RECOMMENDATIONS, MIN 3.5" THICK.
2. PUMP LIFTING CHAIN TO PROVIDE SNAP SWIVEL ON UPPER END, 316 SST BALE CONNECTION AT TOP OF PUMP W/ DBL NUT LOCKING BOLT, SEE DET, SHT M-00X.



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NOTICE

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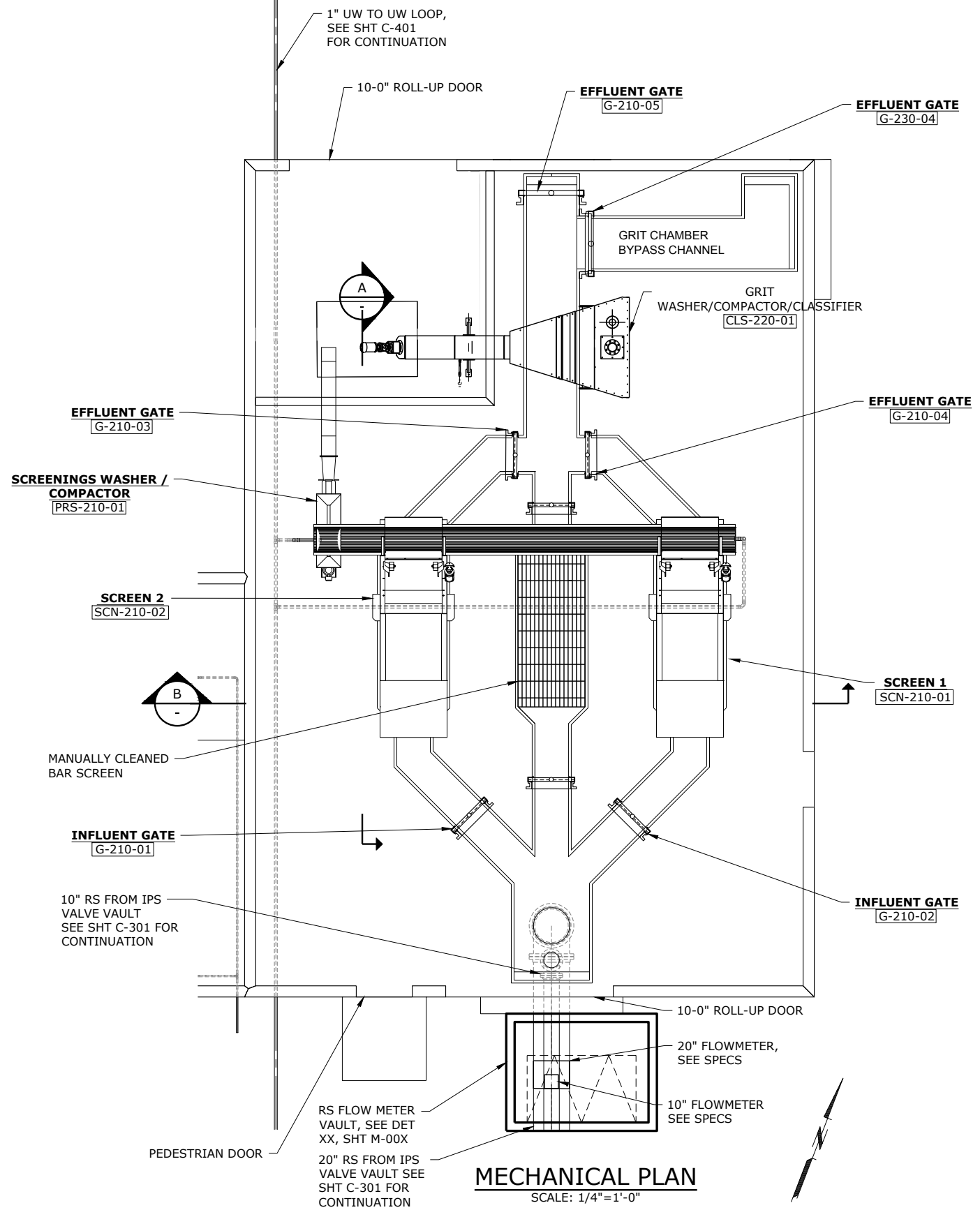


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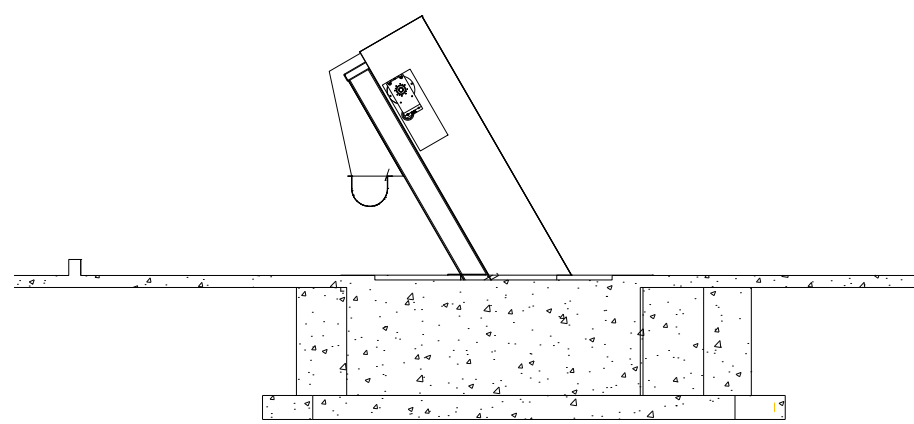
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| <b>PLANT DRAIN PUMP STATION</b> |           |        |          |
| <b>PLAN AND SECTION</b>         |           |        |          |
| PROJECT NO.:                    | 19-2605   | SCALE: | AS SHOWN |
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**M-121**  
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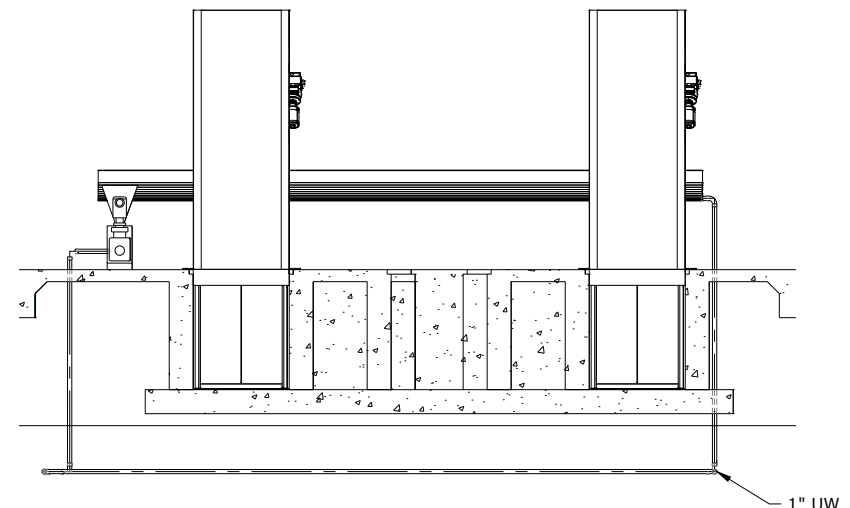
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**MECHANICAL PLAN**  
SCALE: 1/4" = 1'-0"



**SECTION A-A**  
SCALE: 1/4" = 1'-0"



**SECTION B-B**  
SCALE: 1/4" = 1'-0"

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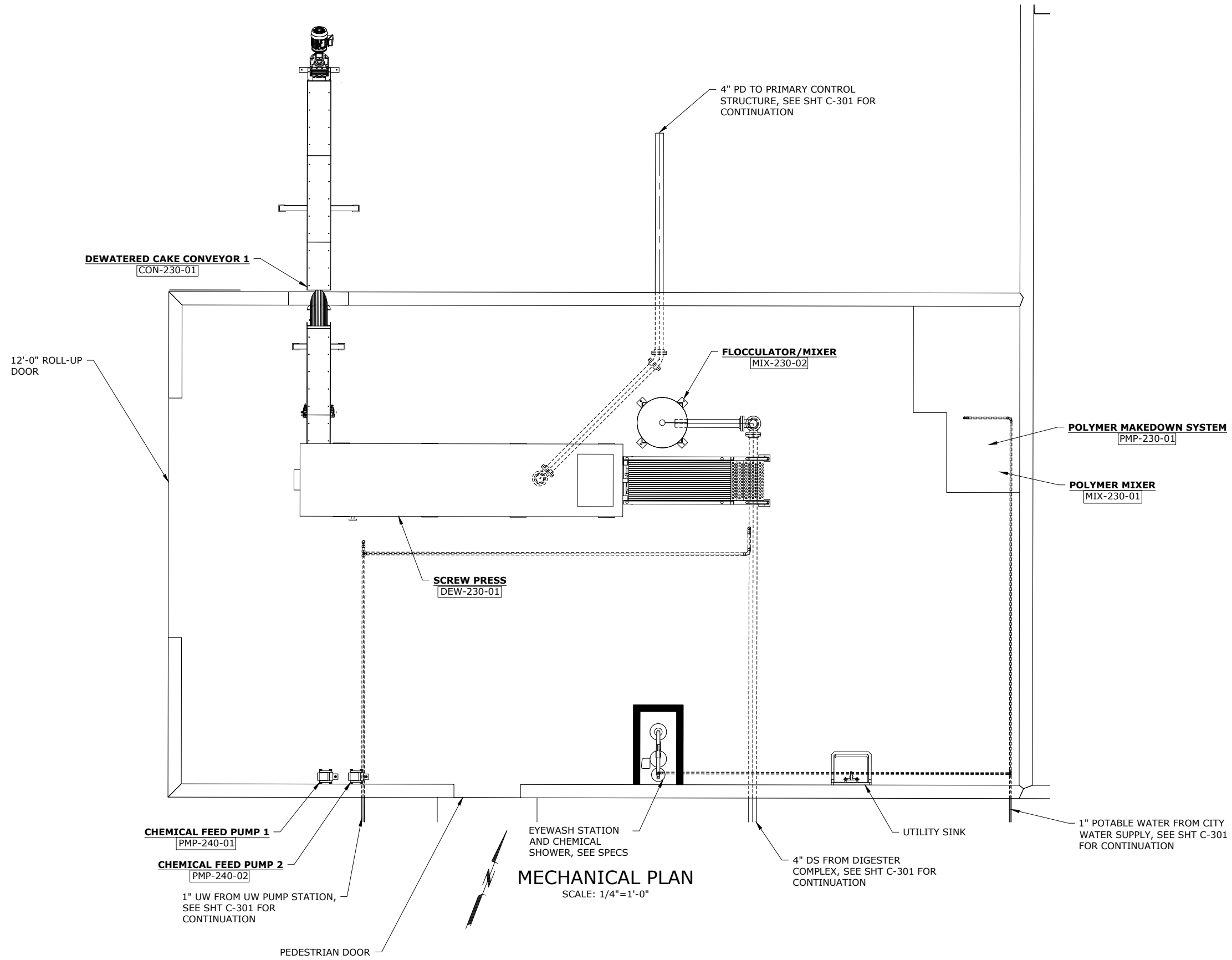
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| <b>HEADWORKS AND DEWATERING BUILDING</b> |         |        |          | SHEET           |
| <b>MECHANICAL PLAN AND SECTIONS</b>      |         |        |          | M-211           |
| PROJECT NO.:                             | 19-2605 | SCALE: | AS SHOWN | DATE: June 2020 |
|  |         |        |          | 156 of 354      |

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**MECHANICAL PLAN**  
SCALE: 1/4" = 1'-0"

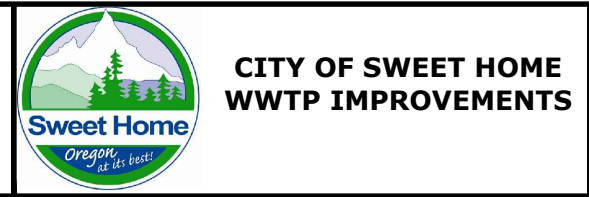
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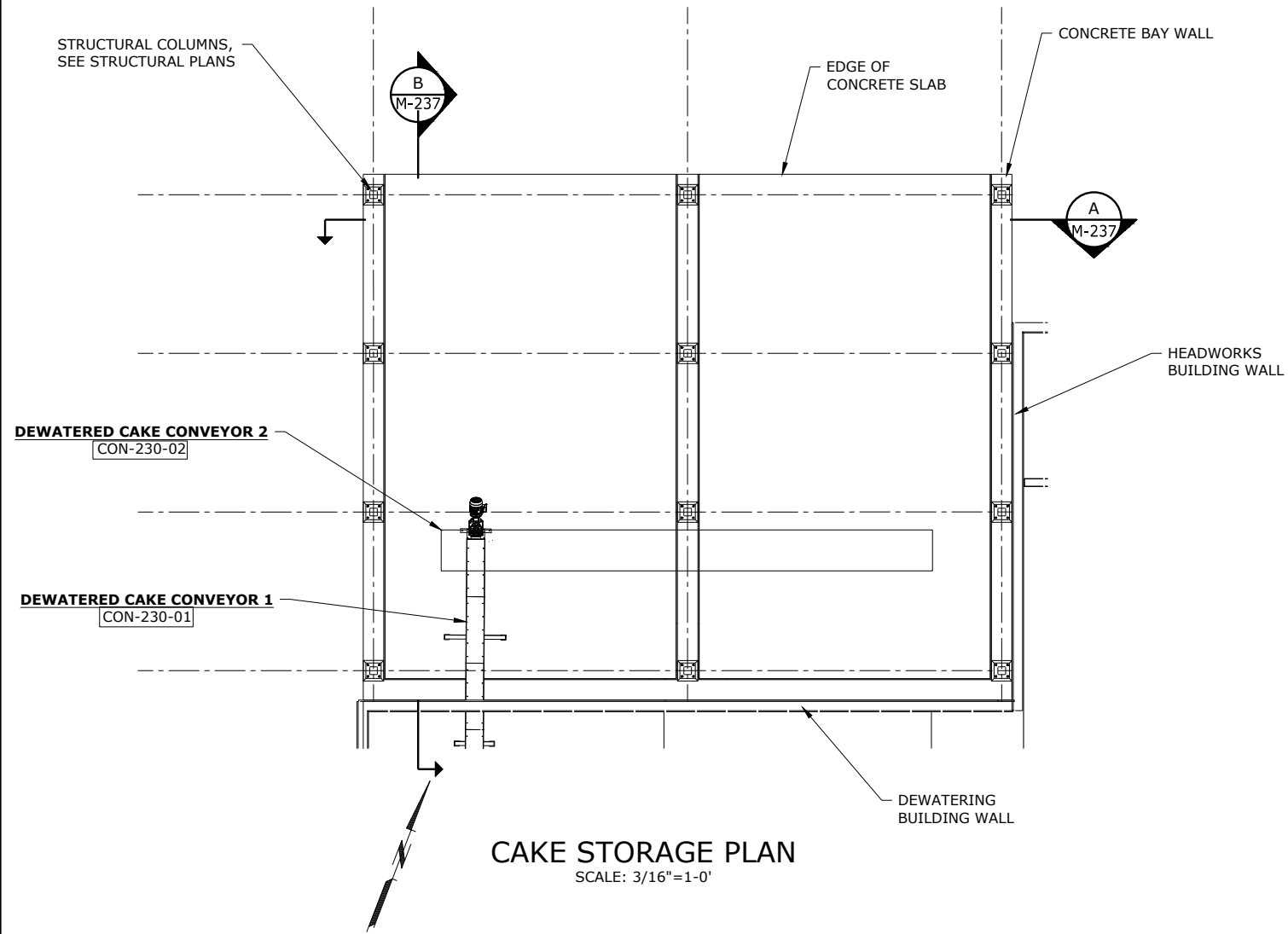
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| <b>HEADWORKS AND DEWATERING BUILDING</b> |           |        |          |
| <b>MECHANICAL PLAN</b>                   |           |        |          |
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**M-231**  
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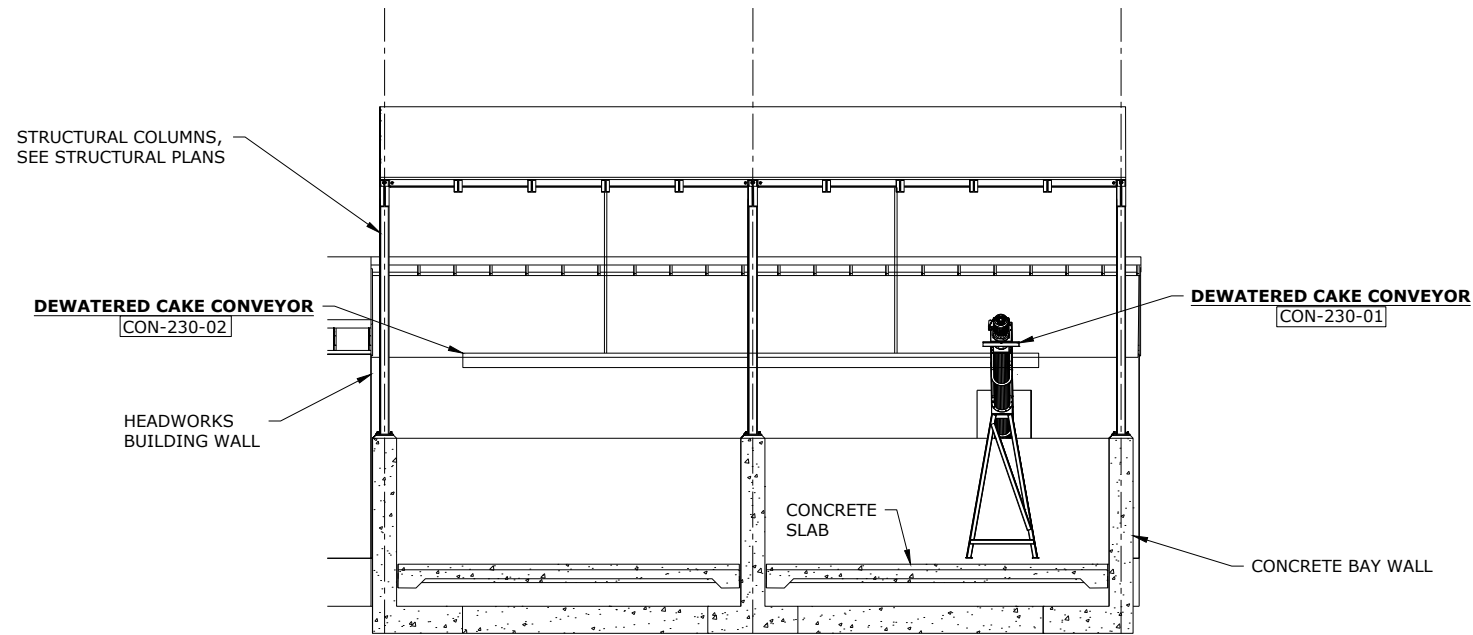


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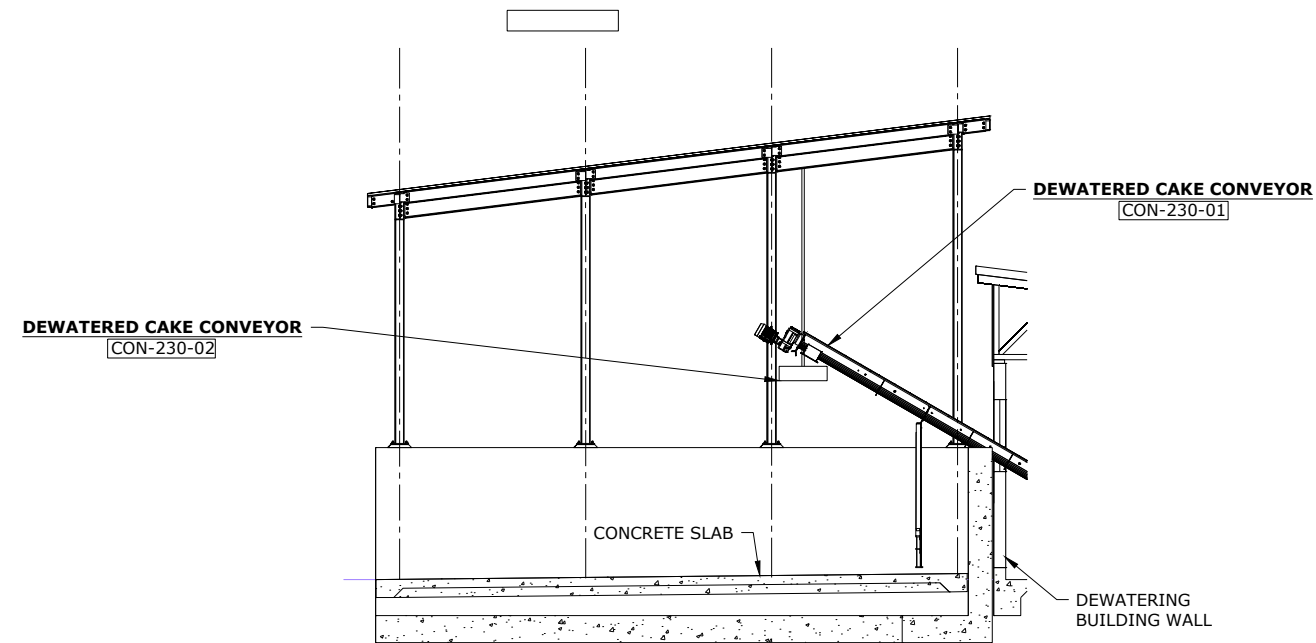
| CAKE STORAGE |           |        |          |
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| PLAN         |           |        |          |
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**SECTION A**  
SCALE: 3/16"=1'-0"  
M-236



**SECTION B**  
SCALE: 3/16"=1'-0"  
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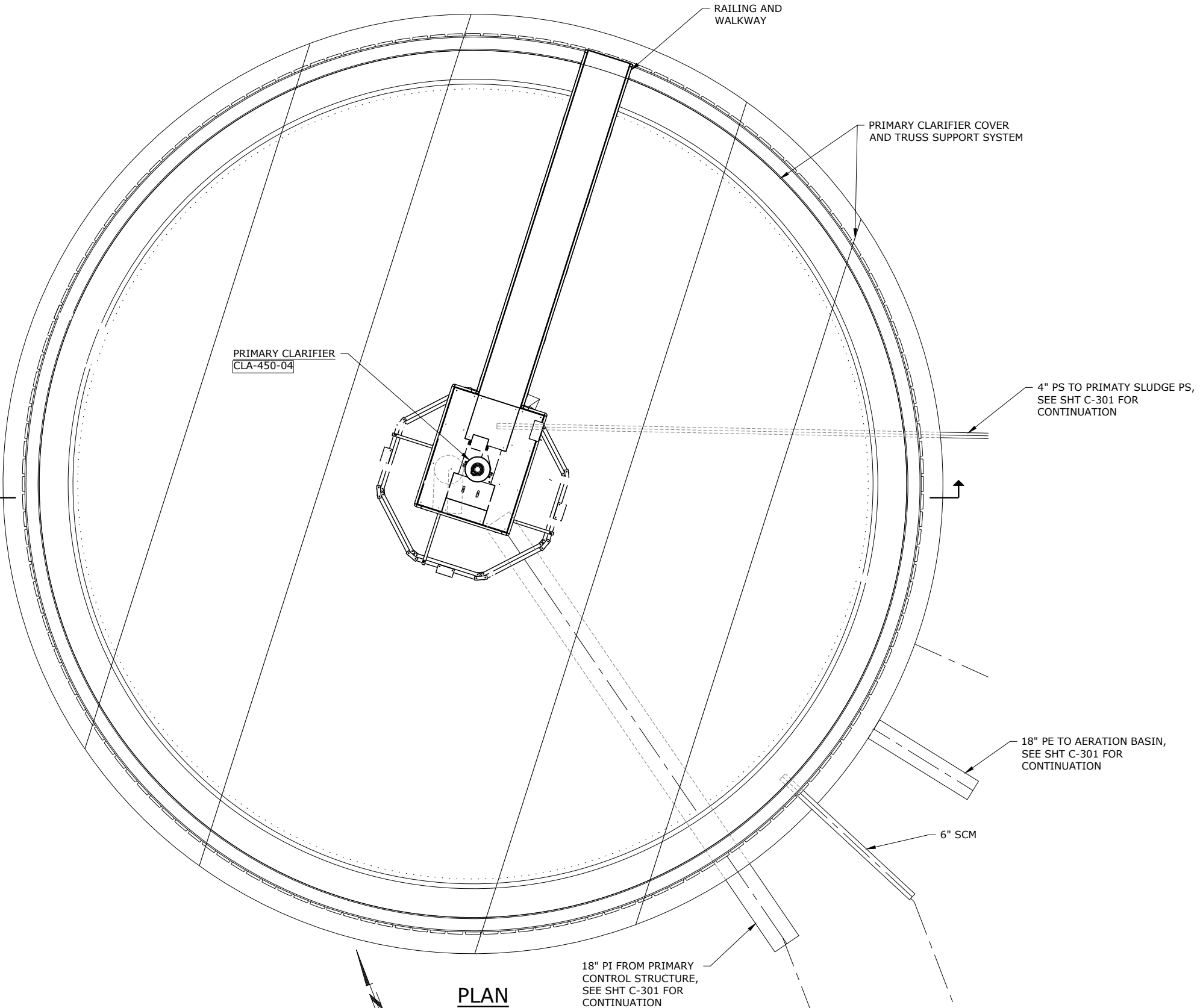
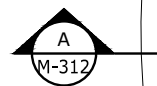


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| CAKE STORAGE |           |        |          |
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SHEET  
**M-237**  
170 of 354

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

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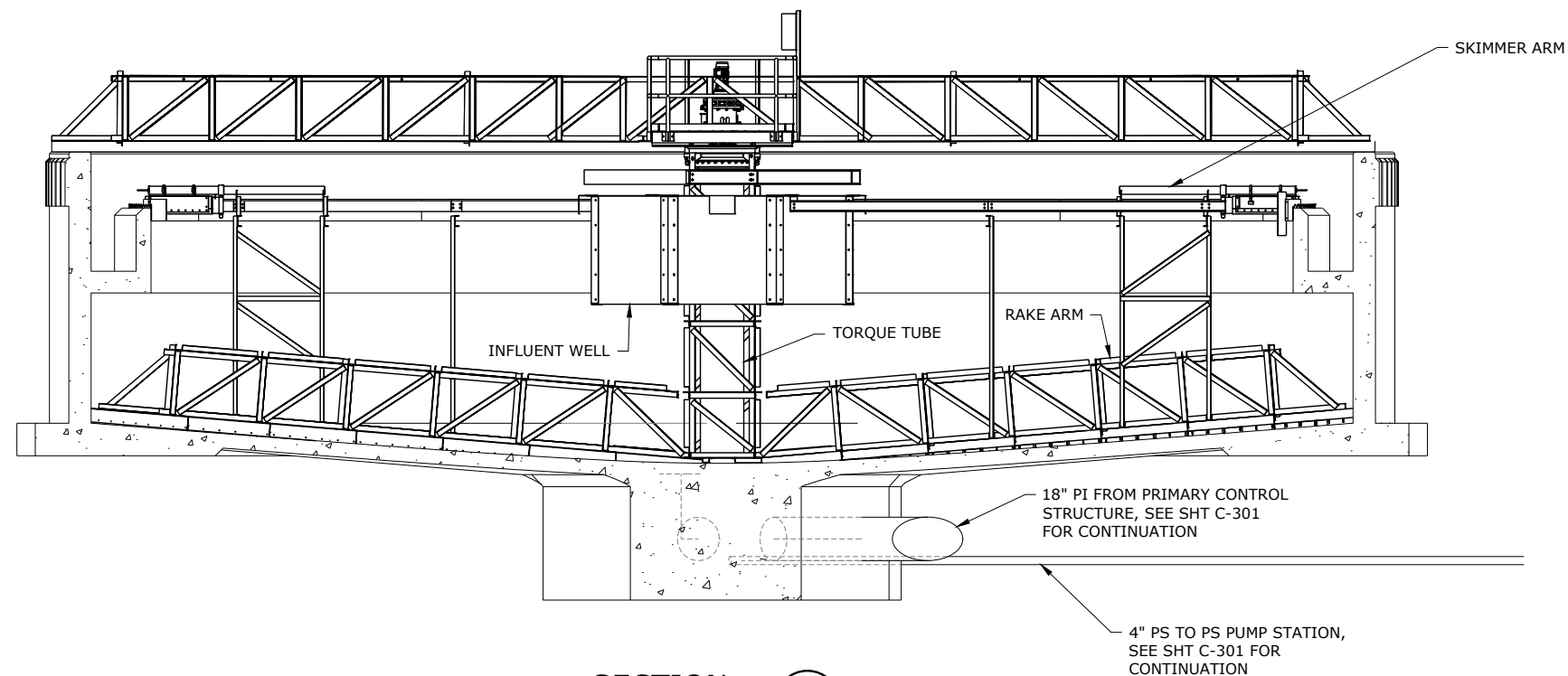


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**WWTP IMPROVEMENTS**

**PRIMARY CLARIFIER**  
**PLAN AND SECTIONS**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
**M-311**  
173 of 354

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

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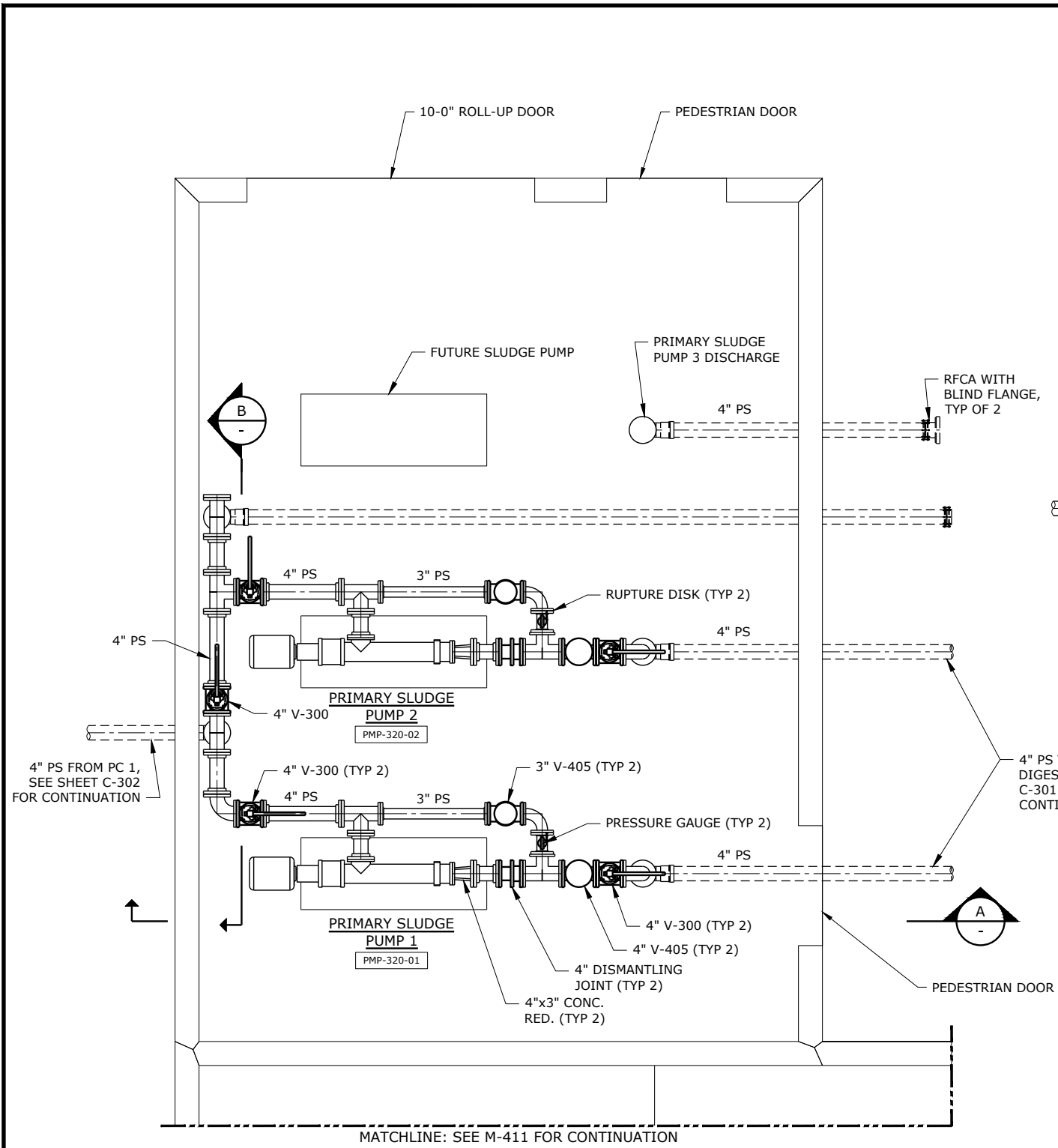


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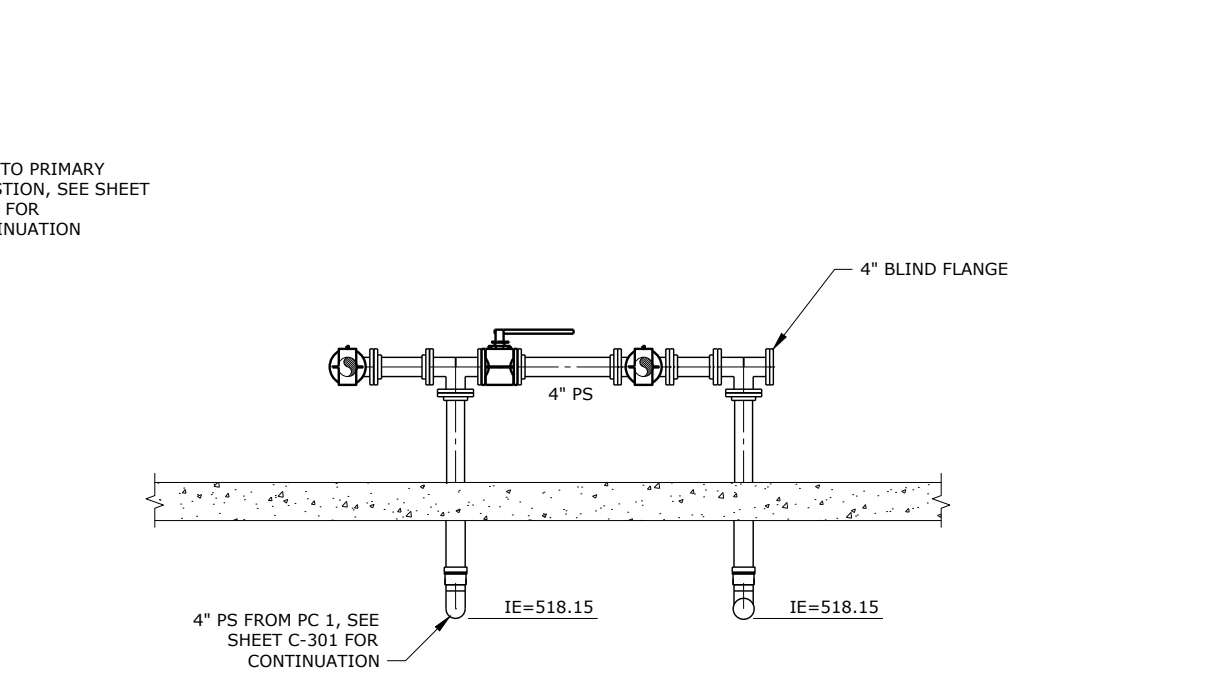
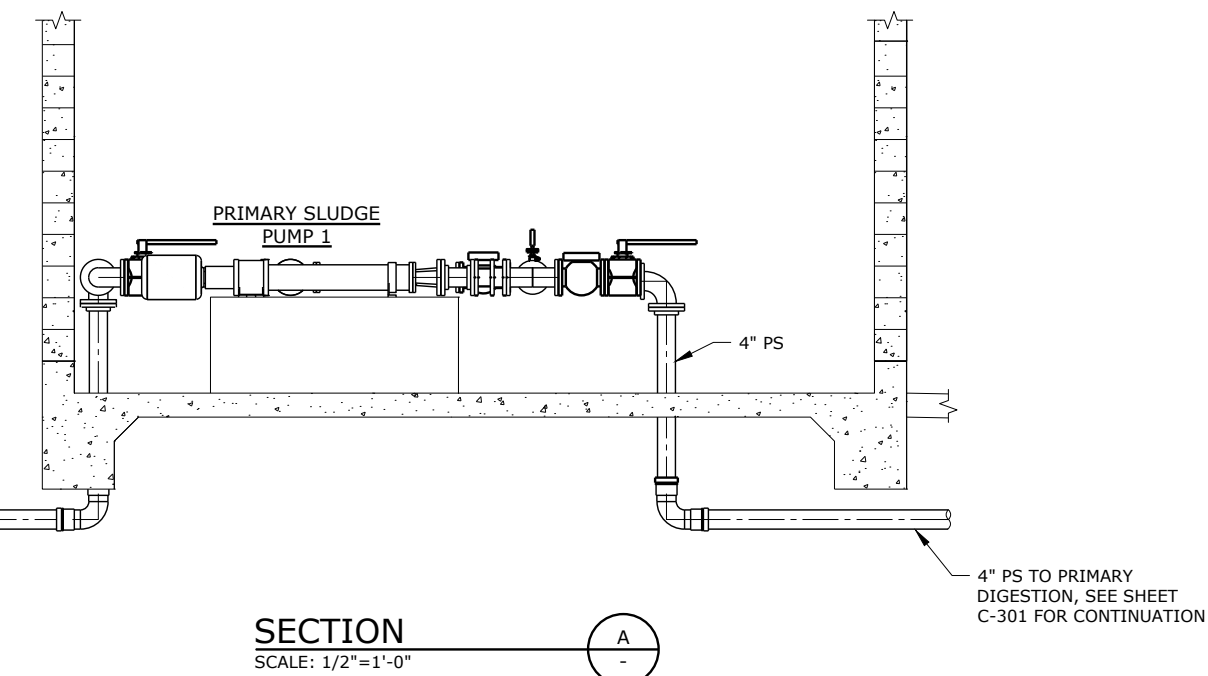
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**PLAN**  
SCALE: 1/2"=1'-0"



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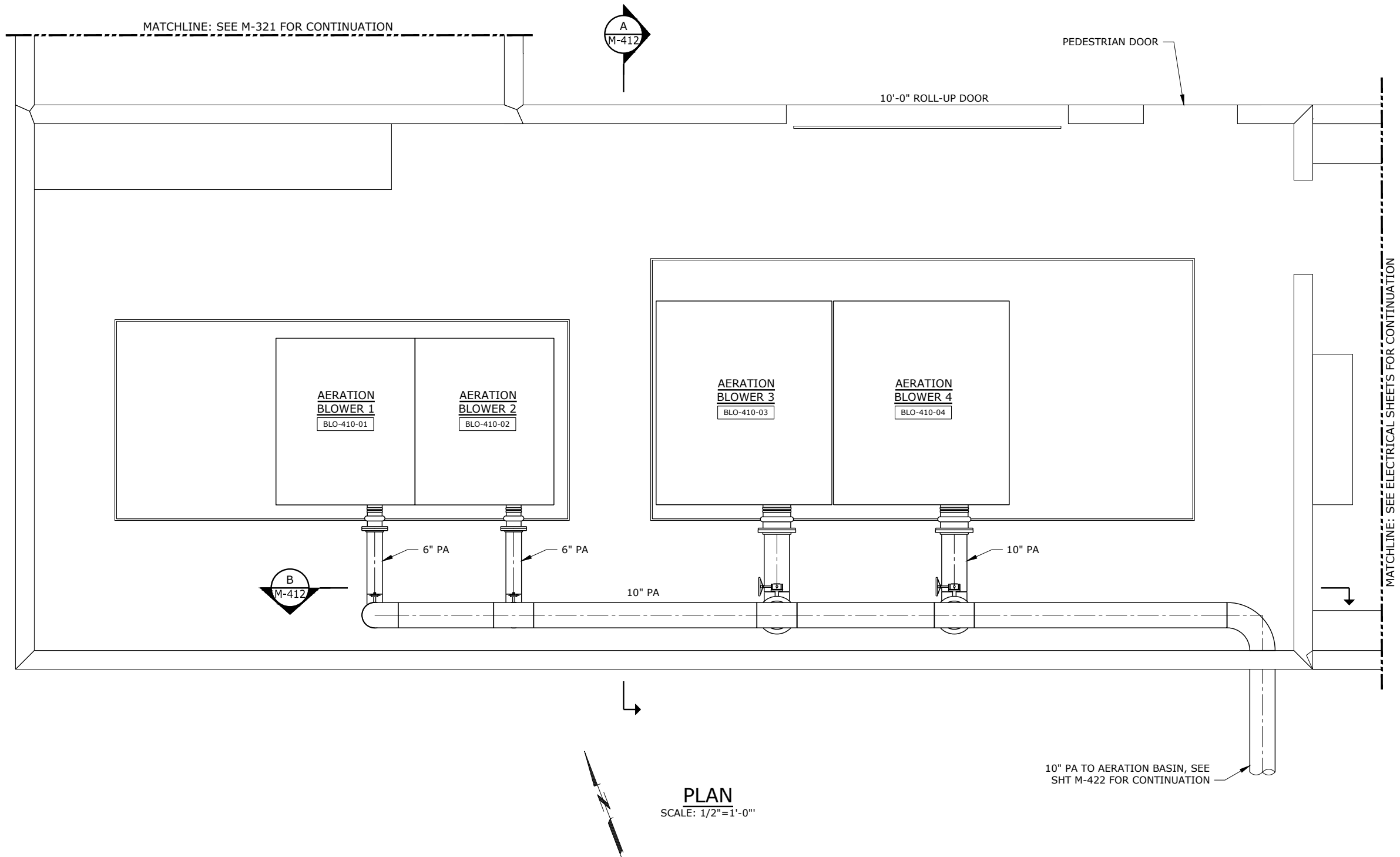


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| <b>PRIMARY SLUDGE PUMP STATION</b> |           |        |          |
| <b>PLAN AND SECTIONS</b>           |           |        |          |
| PROJECT NO.:                       | 19-2605   | SCALE: | AS SHOWN |
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SHEET  
**M-321**  
176 of 354



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

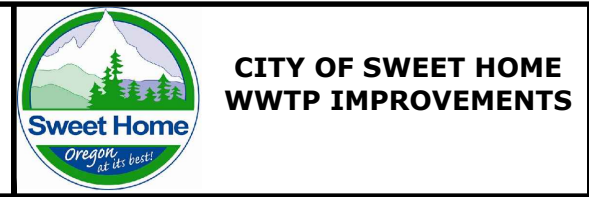
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NOTICE  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DSN DESIGNED  
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CHK CHECKED

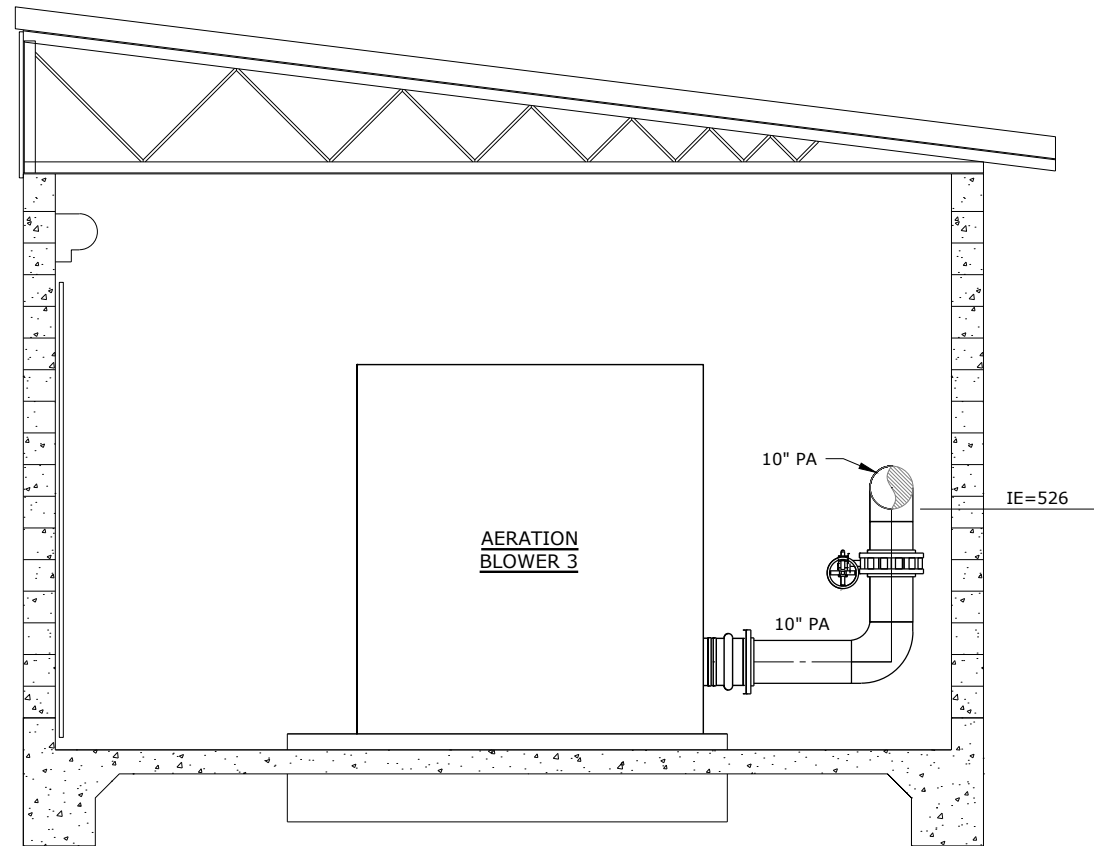
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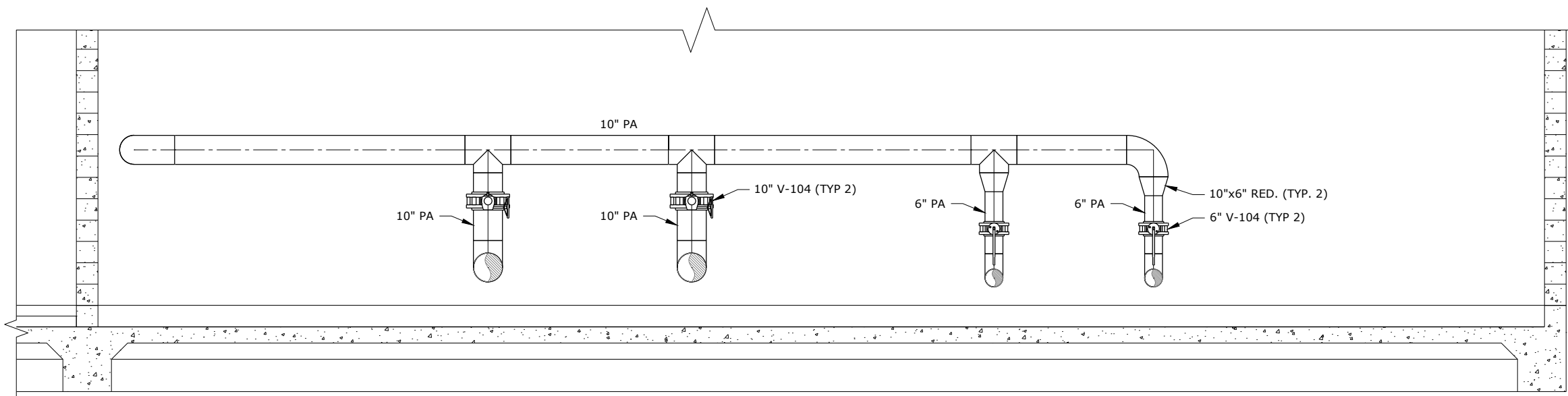
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| <b>BLOWER BUILDING</b> |           |        |          |
| <b>MECHANICAL PLAN</b> |           |        |          |
| PROJECT NO.:           | 19-2605   | SCALE: | AS SHOWN |
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SHEET  
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SECTION A  
SCALE: 1/2"=1'-0"  
M-411



SECTION B  
SCALE: 1/2"=1'-0"  
M-411

**60% SUBMITTAL**

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NOTICE  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DSN DESIGNED  
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CHK CHECKED

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**BLOWER BUILDING  
SECTIONS AND DETAILS**

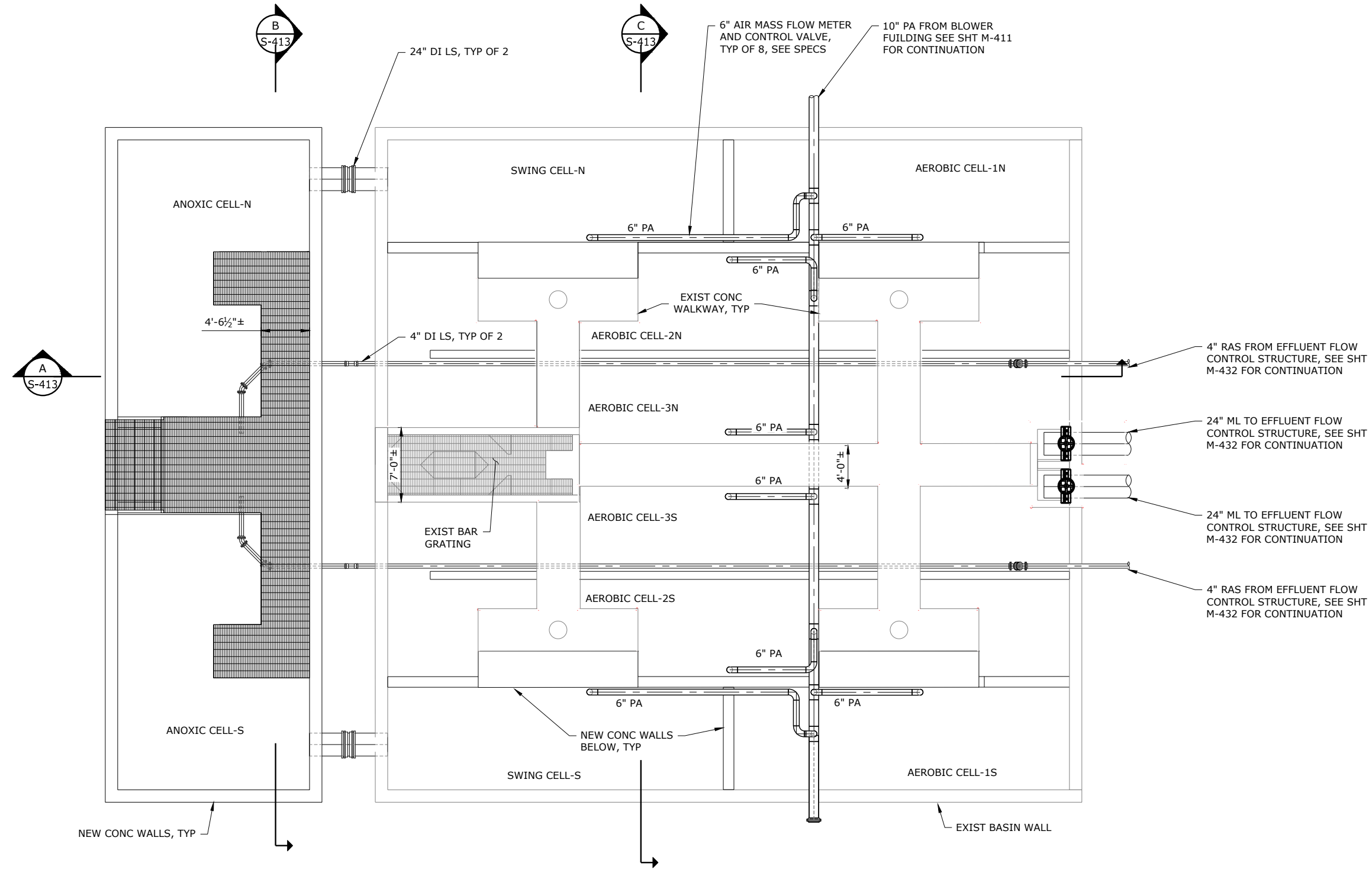
SHEET

M-412

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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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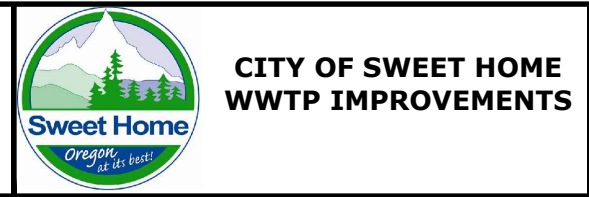
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 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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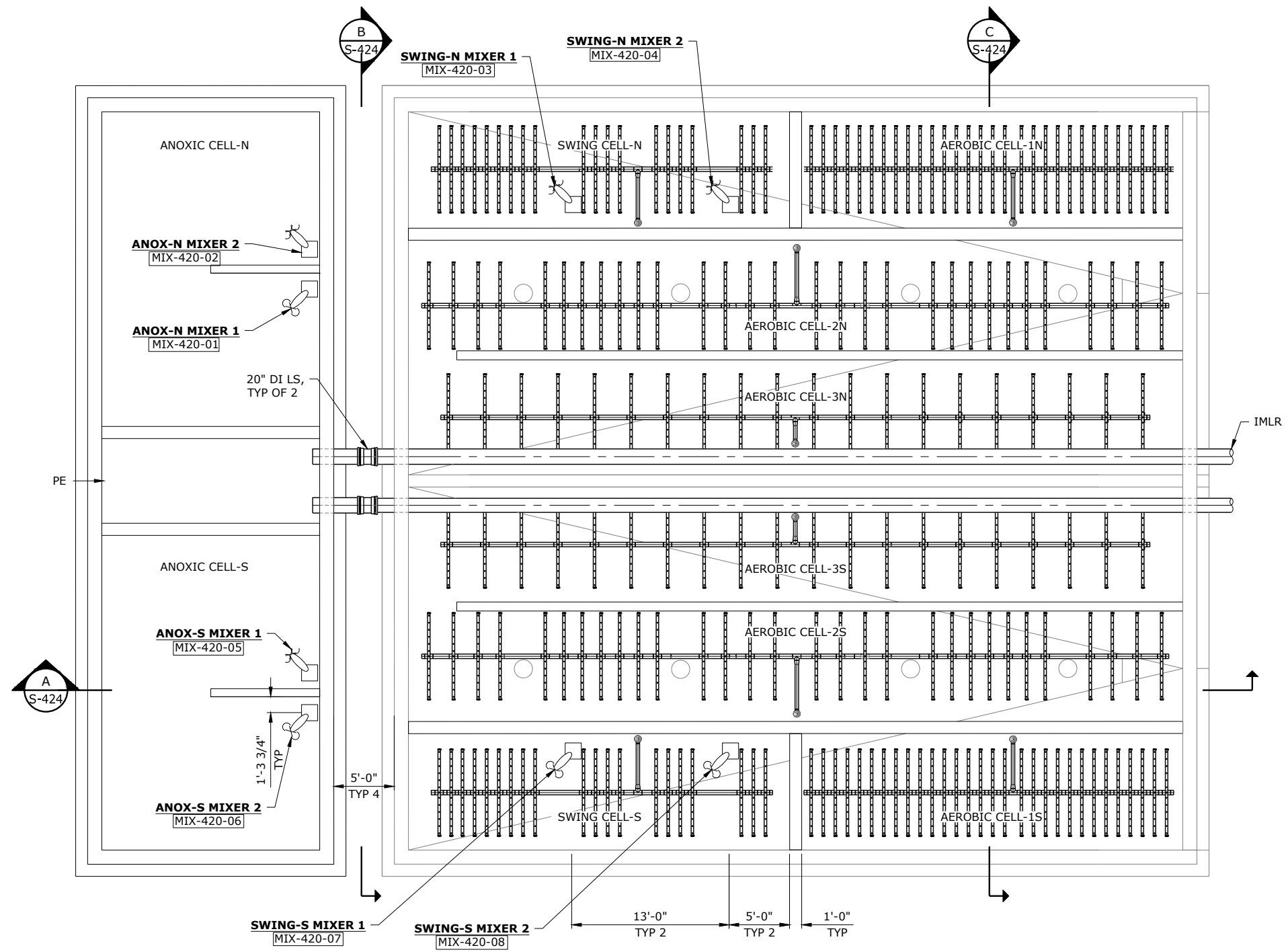
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**AERATION BASIN**  
**UPPER MECHANICAL PLAN**  
 PROJECT NO.: 19-2605 SCALE: AS NOTED DATE: June 2020

SHEET  
 M-422  
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G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\400 ST\19-2605-OR-M\_AB.dwg M-423 6/19/2020 12:10 PM MATT. ESTEP 23.0s (LMS Tech)



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

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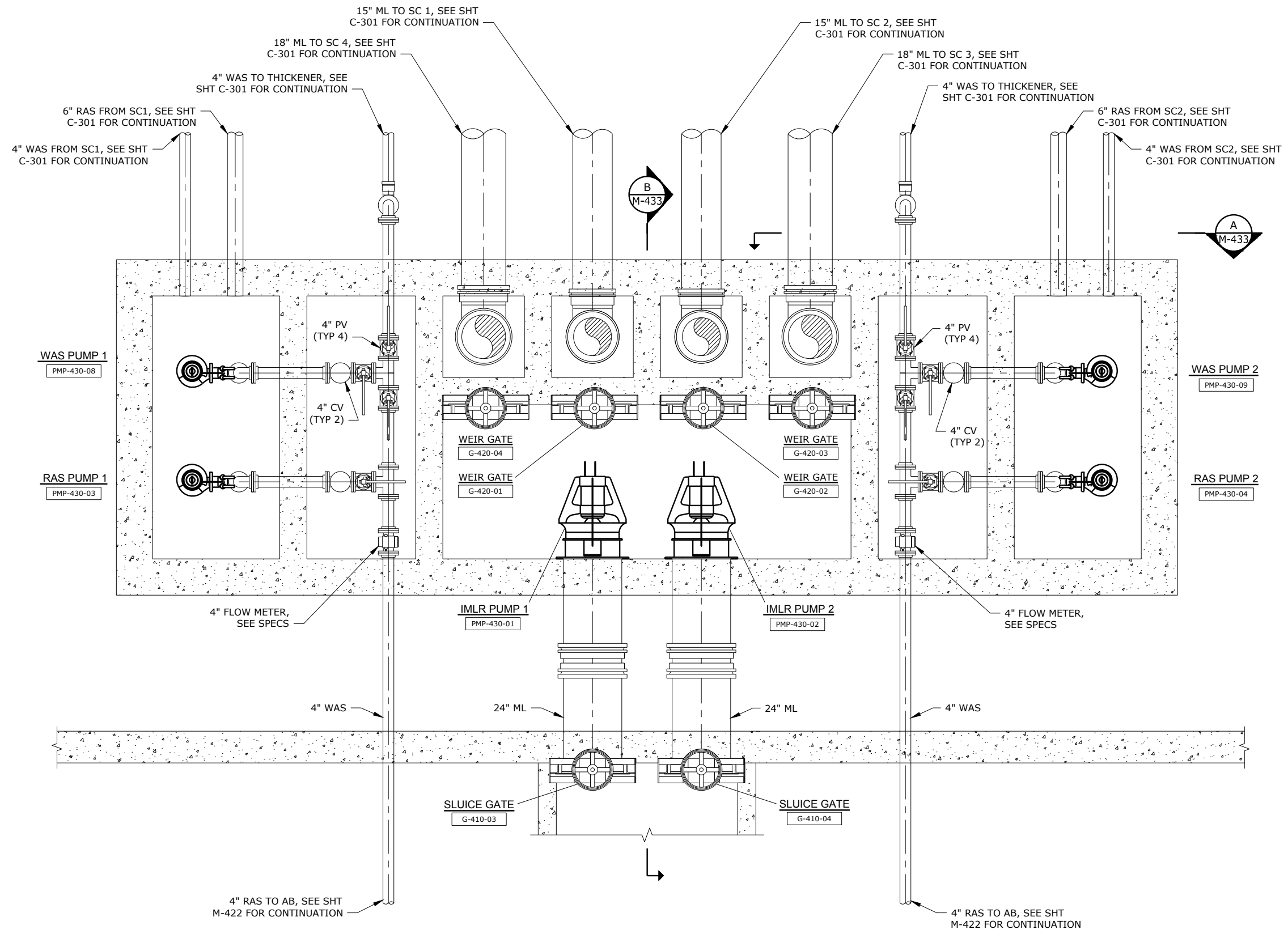
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AERATION BASIN  
LOWER MECHANICAL PLAN  
PROJECT NO.: 19-2605 SCALE: AS NOTED DATE: June 2020

SHEET  
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**PLAN**  
SCALE: 1/2"=1'-0"

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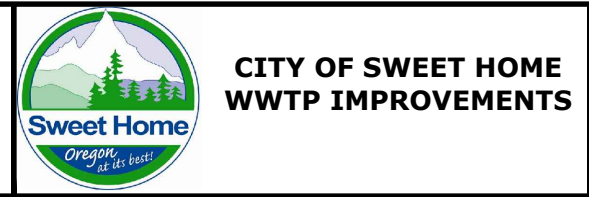
**NOTICE**  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DSN DESIGNED  
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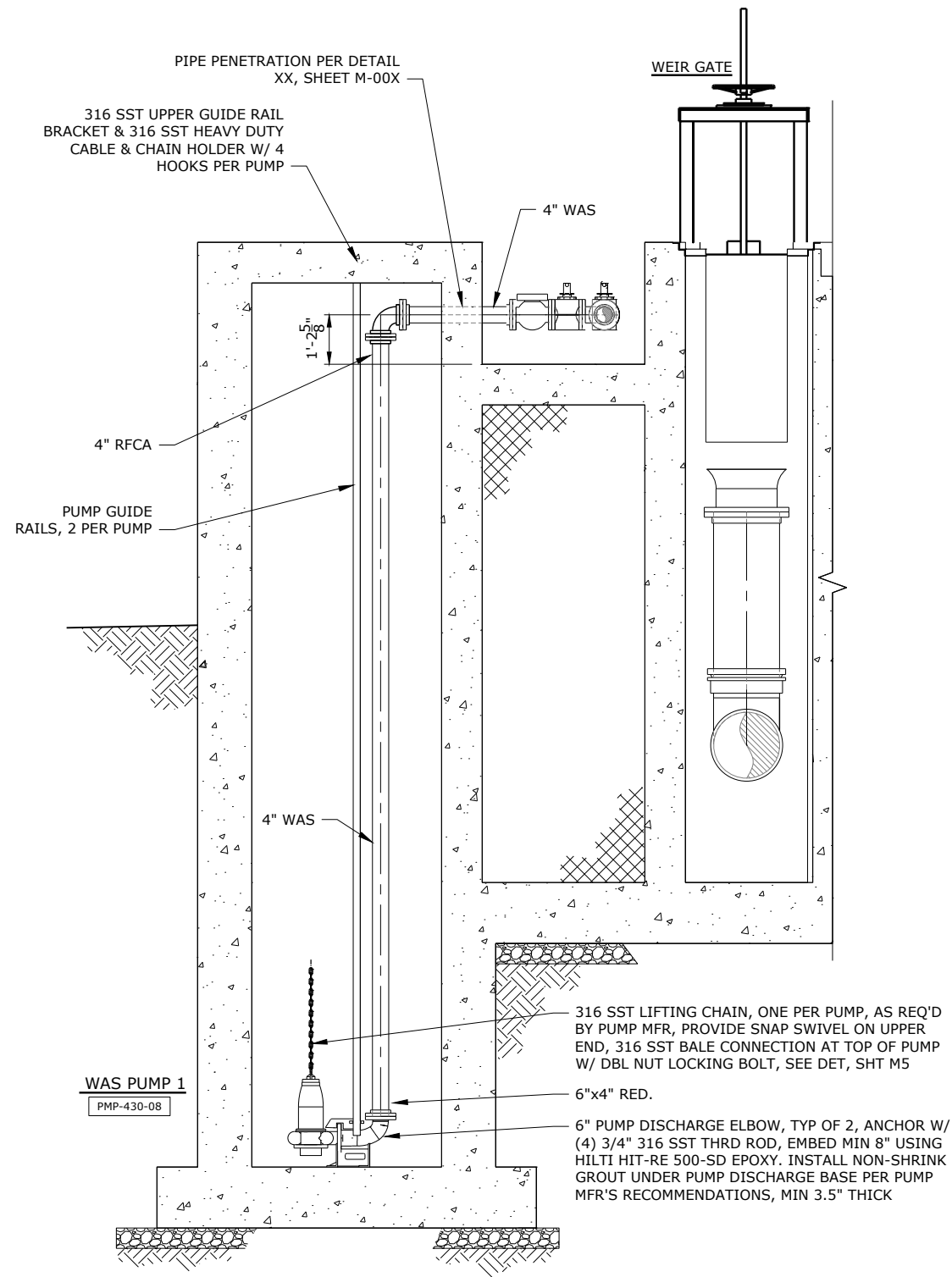
**ML FLOW SPLIT STRUCTURE AND NORTH RAS-WAS PS**

**PLAN**

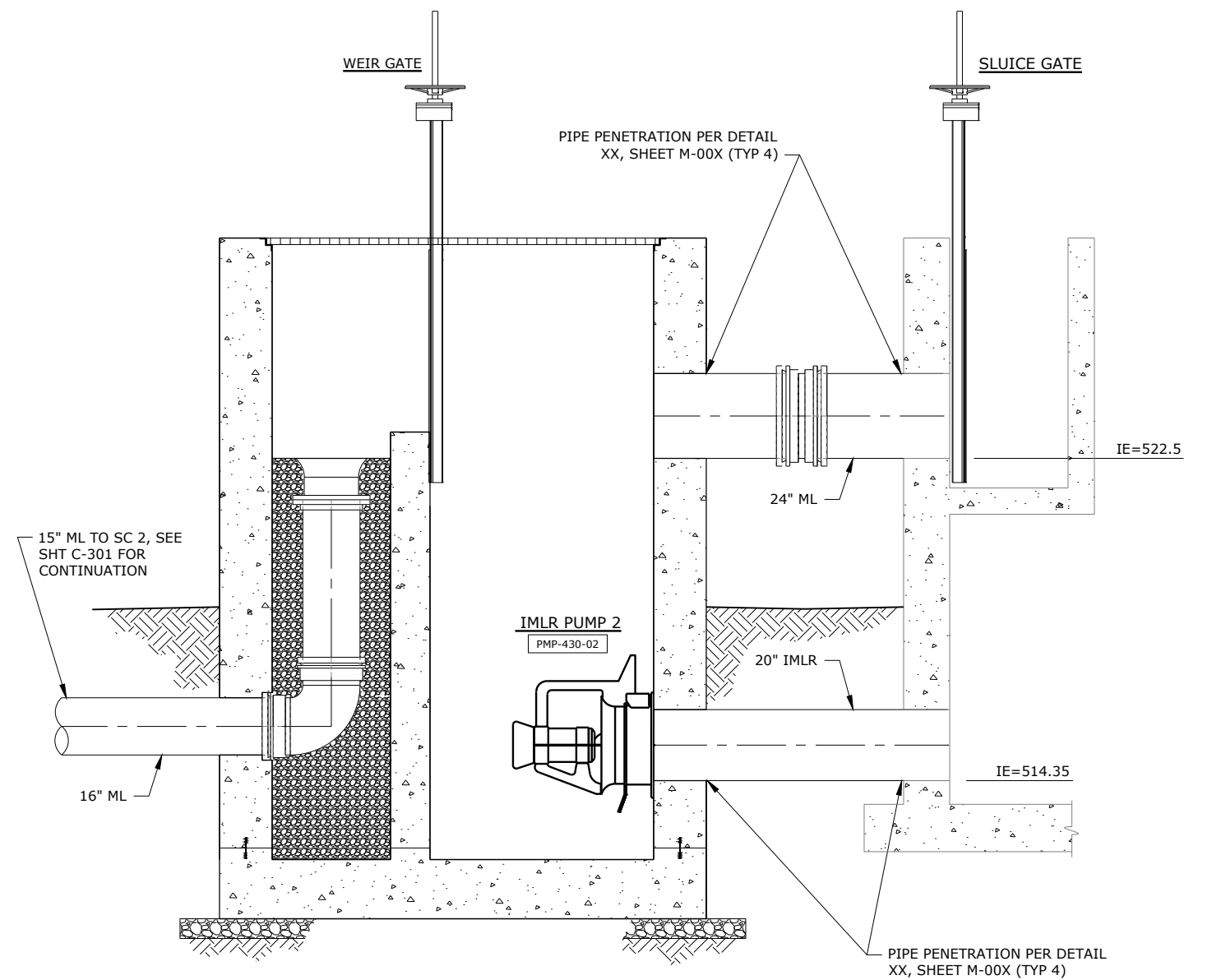
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
**M-432**  
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**SECTION A**  
SCALE: 1/2"=1'-0"  
M-432



**SECTION B**  
SCALE: 1/2"=1'-0"  
M-432

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**NOTICE**  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DSN DESIGNED  
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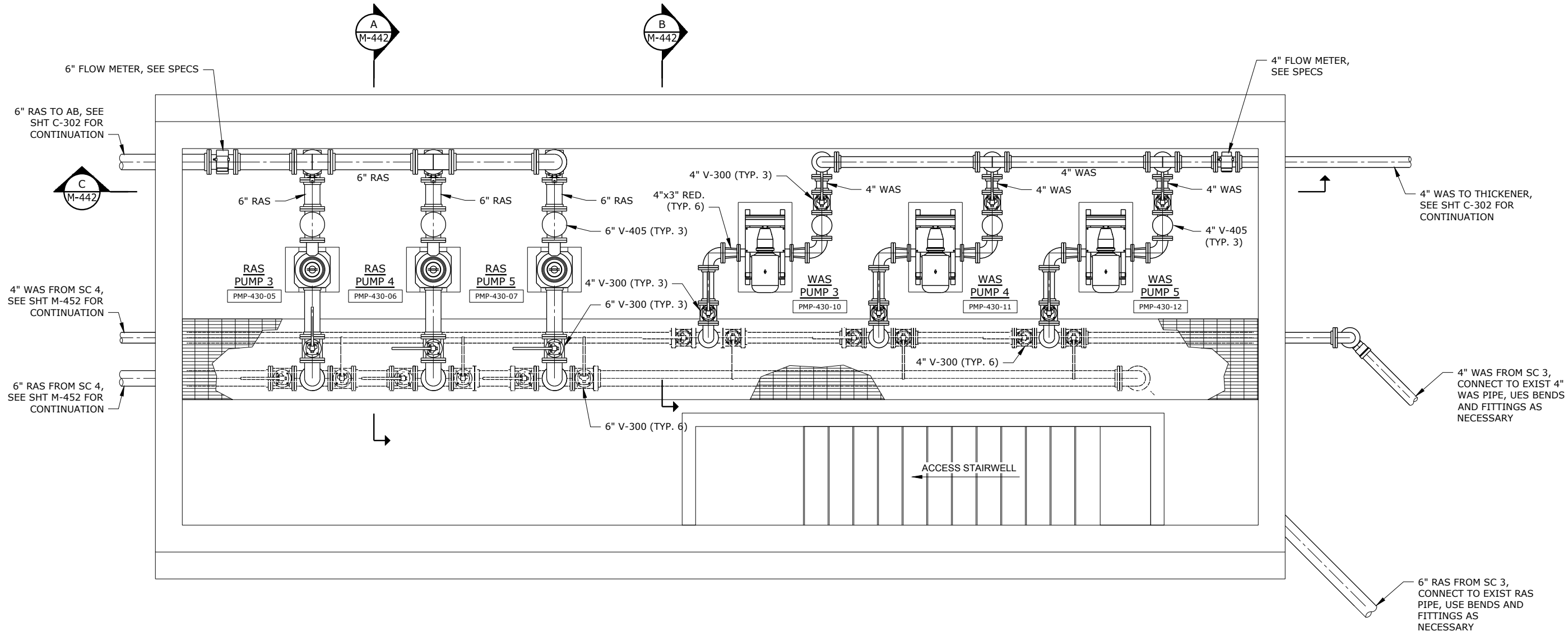
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**ML FLOW SPLIT STRUCTURE AND NORTH RAS-WAS PS SECTIONS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
**M-433**  
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**PLAN**  
SCALE: 1/2"=1'-0"

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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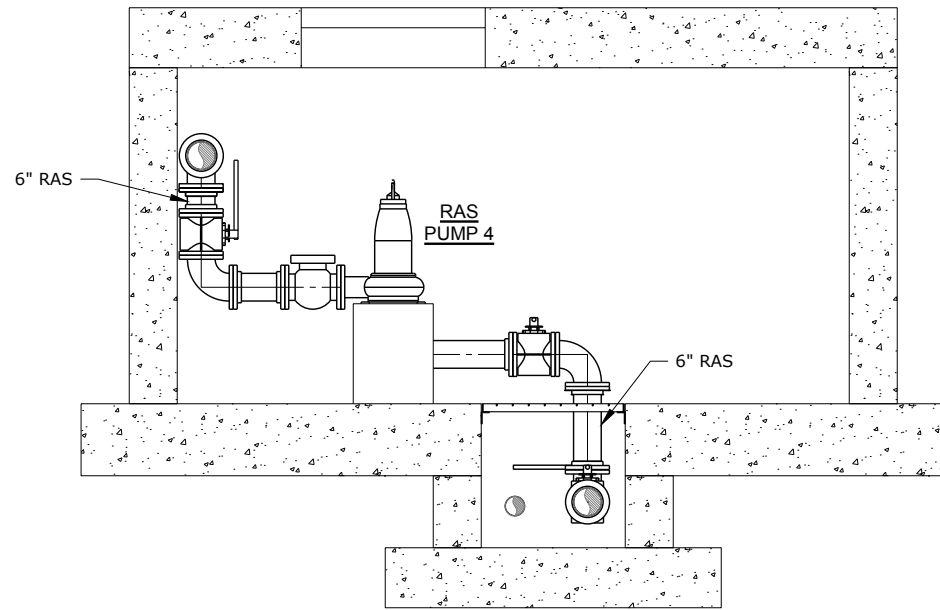


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WWTP IMPROVEMENTS

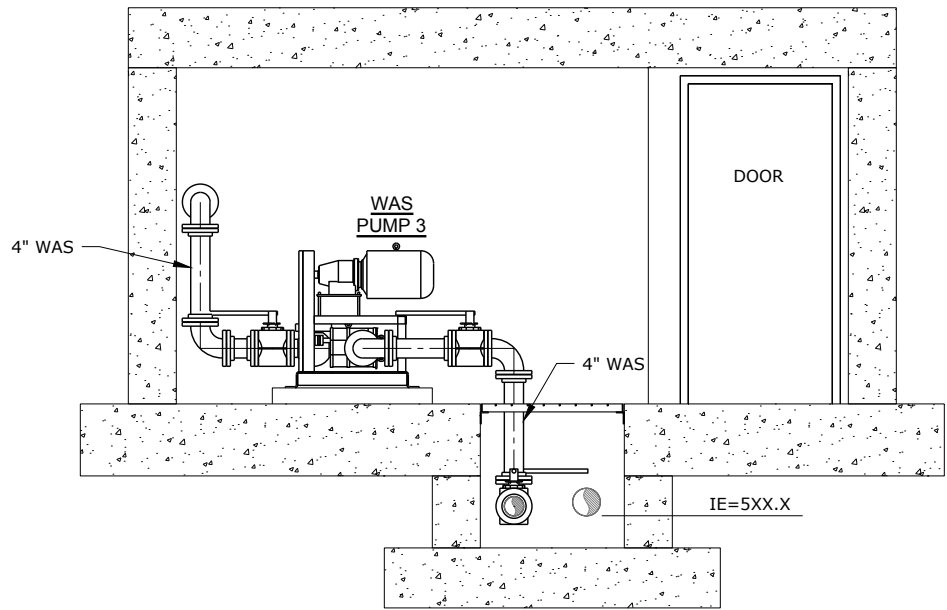
**SOUTH RAS-WAS PUMP STATION**  
**MECHANICAL PLAN**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
**M-441**  
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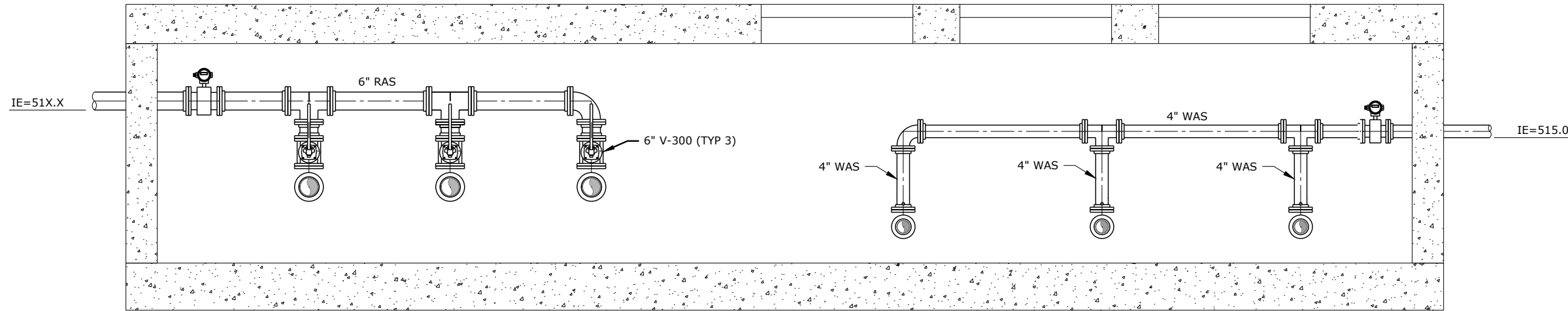
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**SECTION A**  
SCALE: 1/2"=1'-0"  
M-441



**SECTION B**  
SCALE: 1/2"=1'-0"  
M-441



**SECTION C**  
SCALE: 1/2"=1'-0"  
M-441

**60% SUBMITTAL**

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DSN DESIGNED  
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CHK CHECKED

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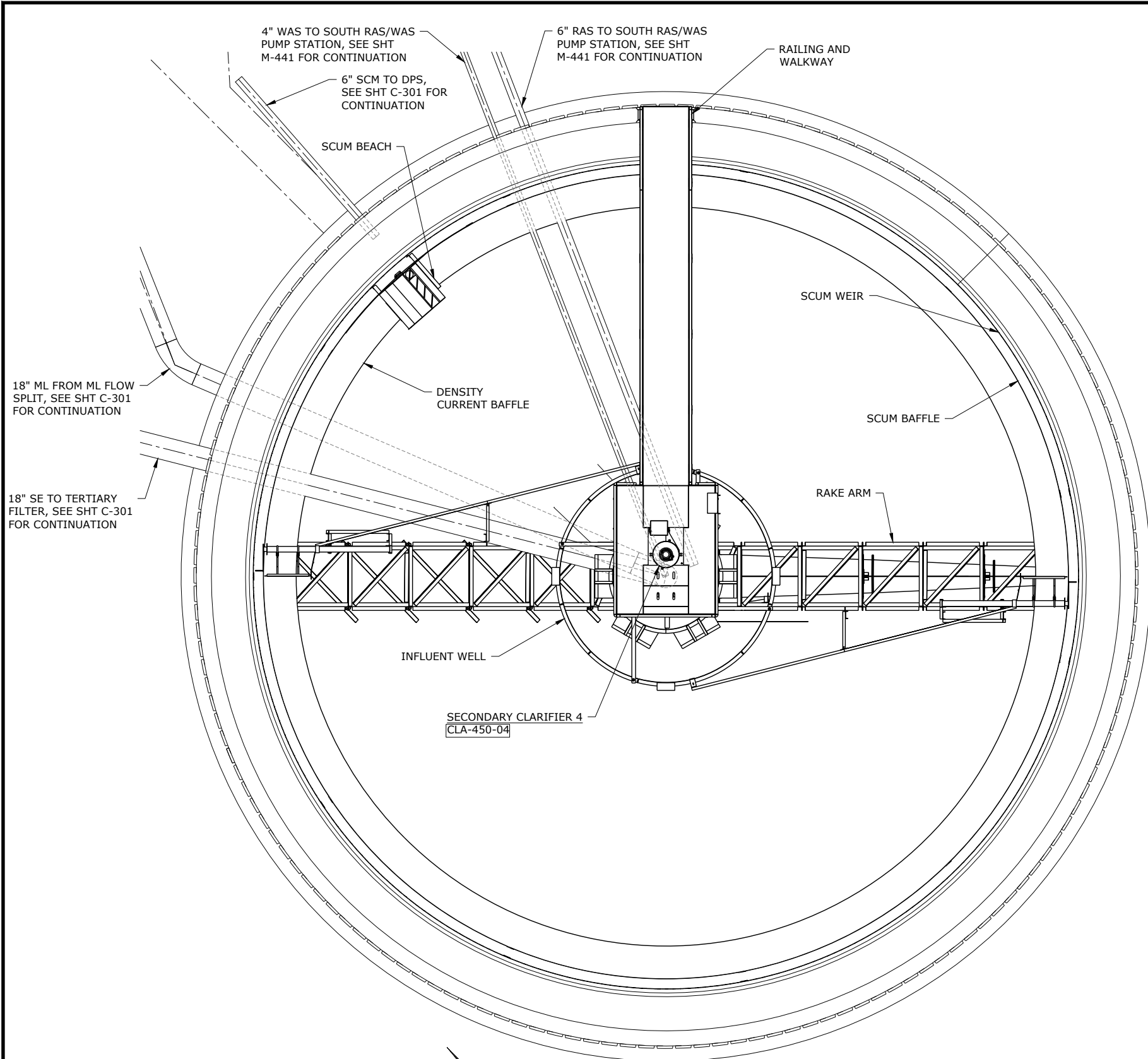
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WWTP IMPROVEMENTS

**SOUTH RAS-WAS PUMP STATION**  
**SECTIONS AND DETAILS**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
**M-442**  
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SECONDARY CLARIFIER PLAN  
SCALE: 1/4"=1-0'

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NOTICE  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DSN DESIGNED  
DET DRAWN  
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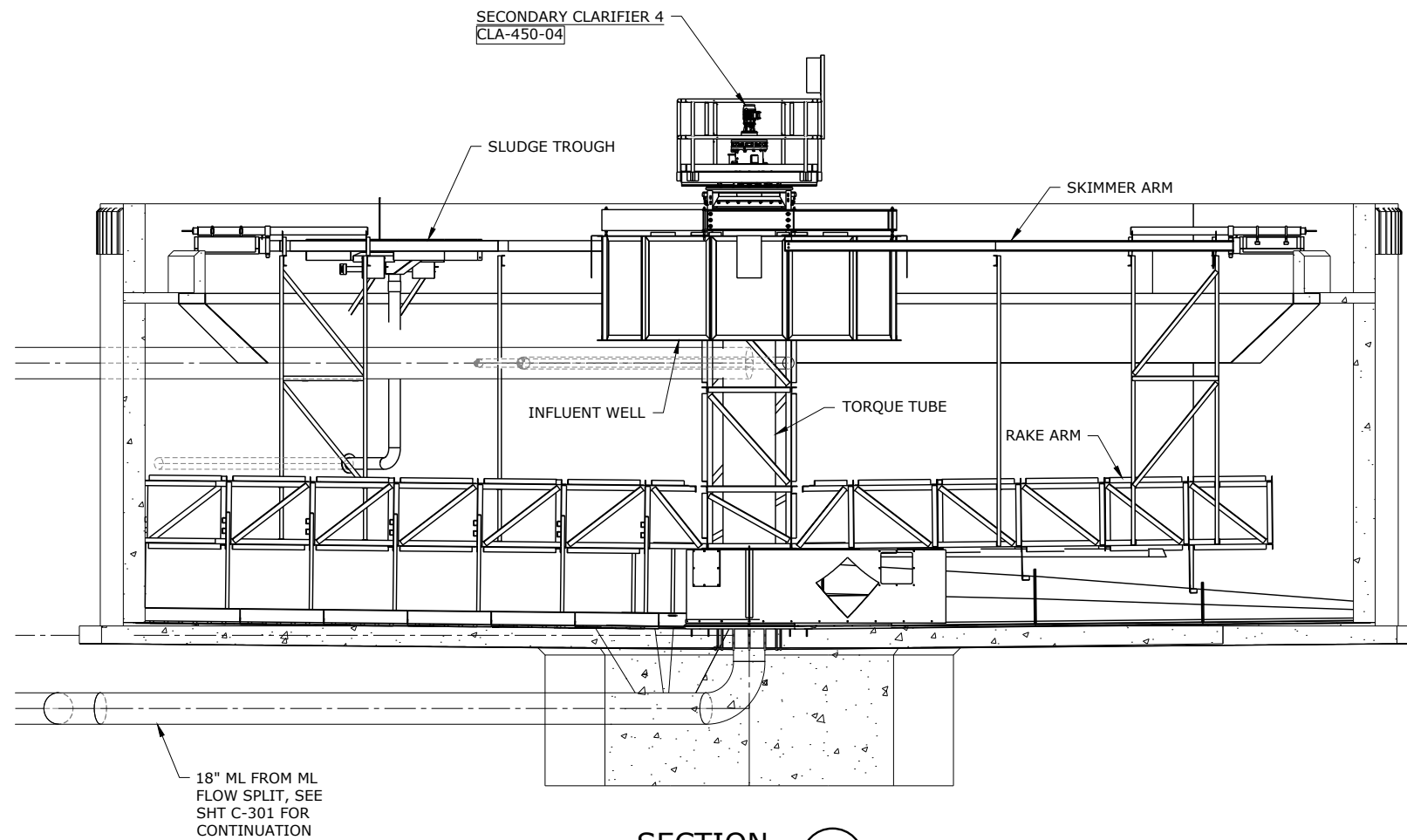


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WWTP IMPROVEMENTS**

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| <b>SECONDARY CLARIFIER 4</b> |           |        |          |
| <b>PLAN</b>                  |           |        |          |
| PROJECT NO.:                 | 19-2605   | SCALE: | AS SHOWN |
| DATE:                        | June 2020 |        |          |

SHEET  
M-452  
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SECTION A  
SCALE: 1/4"=1'-0" M-452

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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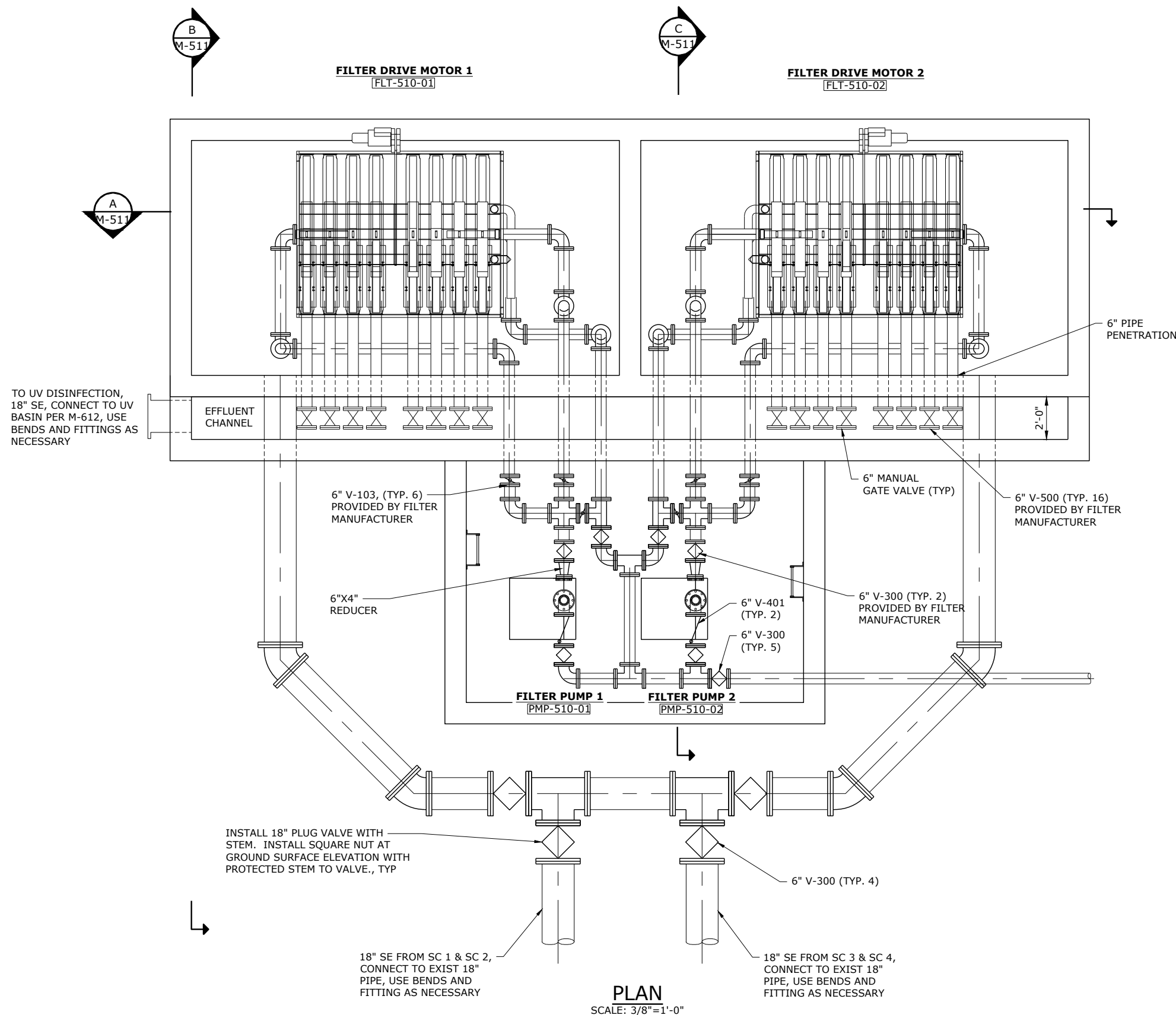


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SECONDARY CLARIFIER 4  
SECTIONS AND DETAILS  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
M-453  
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G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\500 TFF\19-2605-OR-M\_TF.dwg M-510 6/17/2020 10:24 AM MATT.ESTEP 23.0s (LMS Tech)



- SHEET NOTES:**
1. PIPE DEFLECTIONS LIMITED TO ONE-HALF OF PIPE MANUFACTURER'S RECOMMENDATION
  2. ALL BURIED PIPING VALVES AND FITTINGS SHALL BE RESTRAINED UNLESS OTHERWISE NOTED.

**60% SUBMITTAL**

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**NOTICE**

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DSN DESIGNED  
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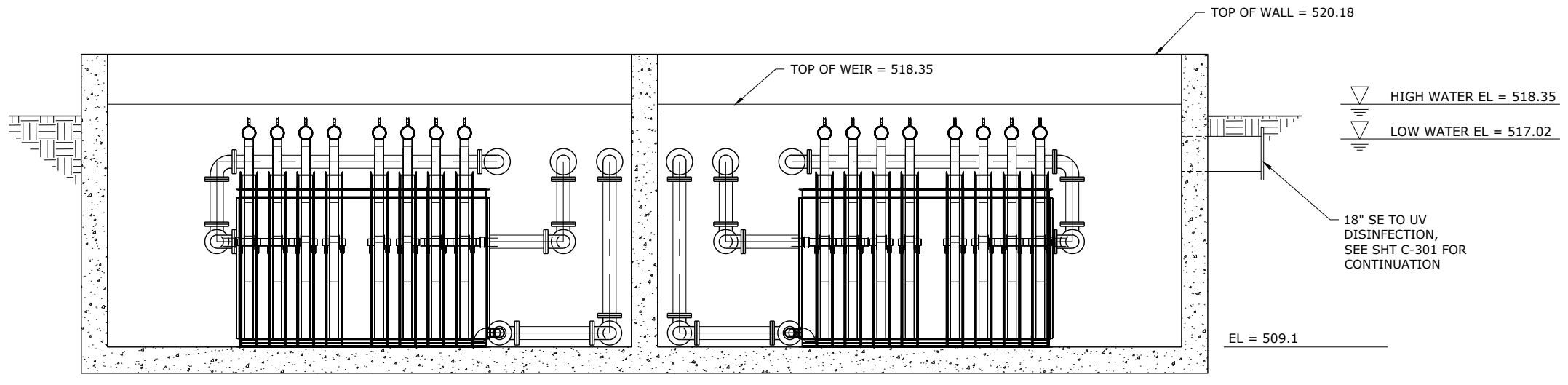
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| <b>TERTIARY FILTER</b> |           |        |          |
| <b>PLAN</b>            |           |        |          |
| PROJECT NO.:           | 19-2605   | SCALE: | AS SHOWN |
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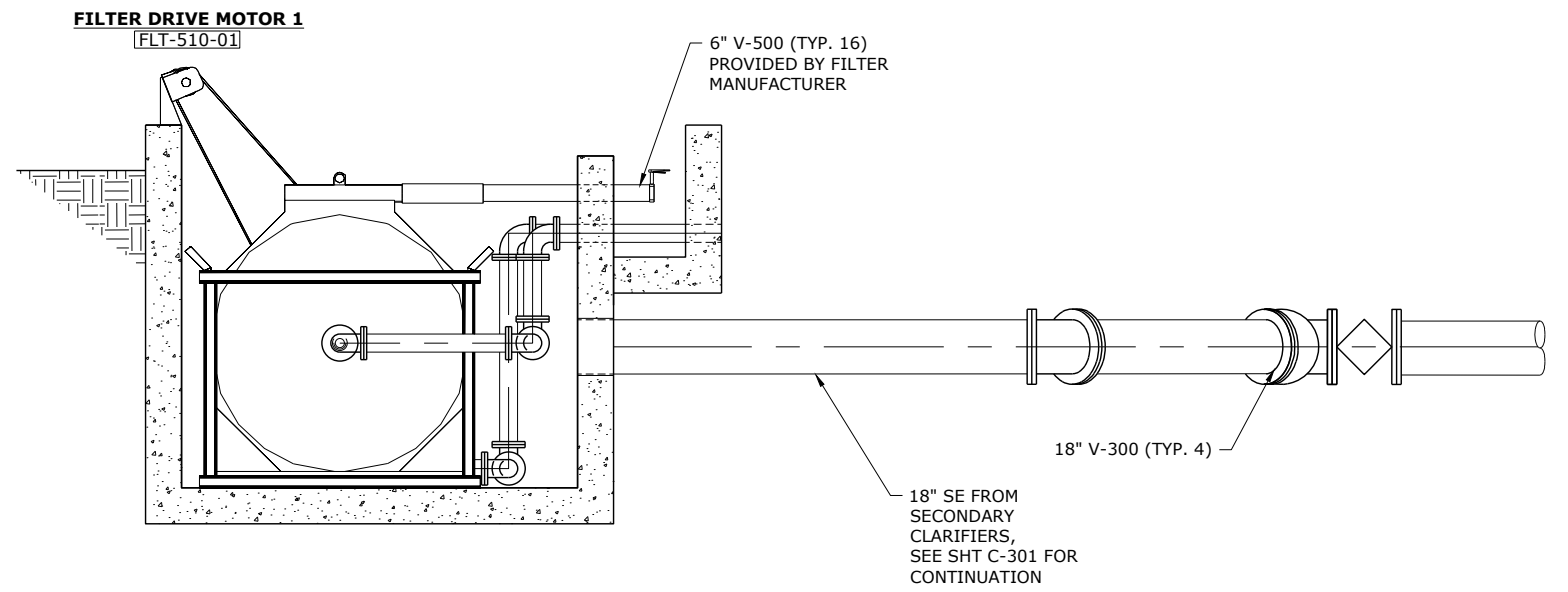
**M-510**

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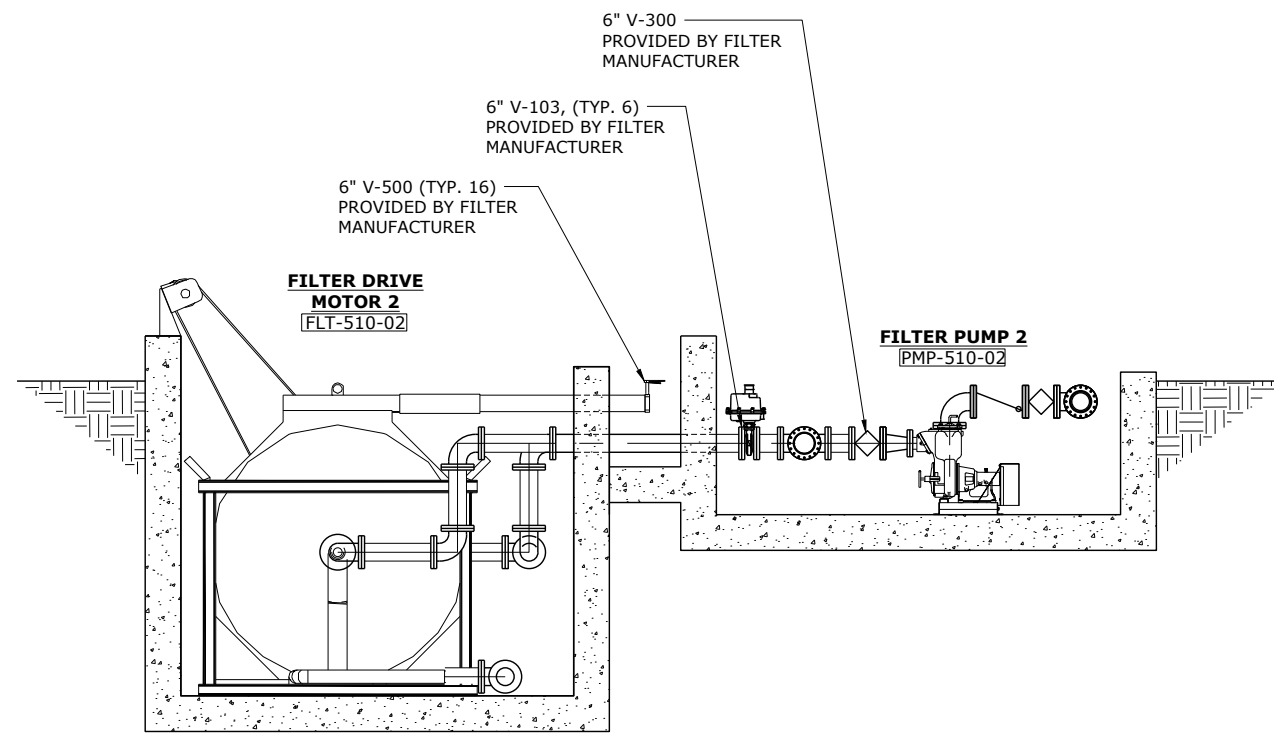
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**SECTION A**  
SCALE: 3/8"=1'-0"  
M-510



**SECTION B**  
SCALE: 3/8"=1'-0"  
M-510



**SECTION C**  
SCALE: 3/8"=1'-0"  
M-510

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**NOTICE**  
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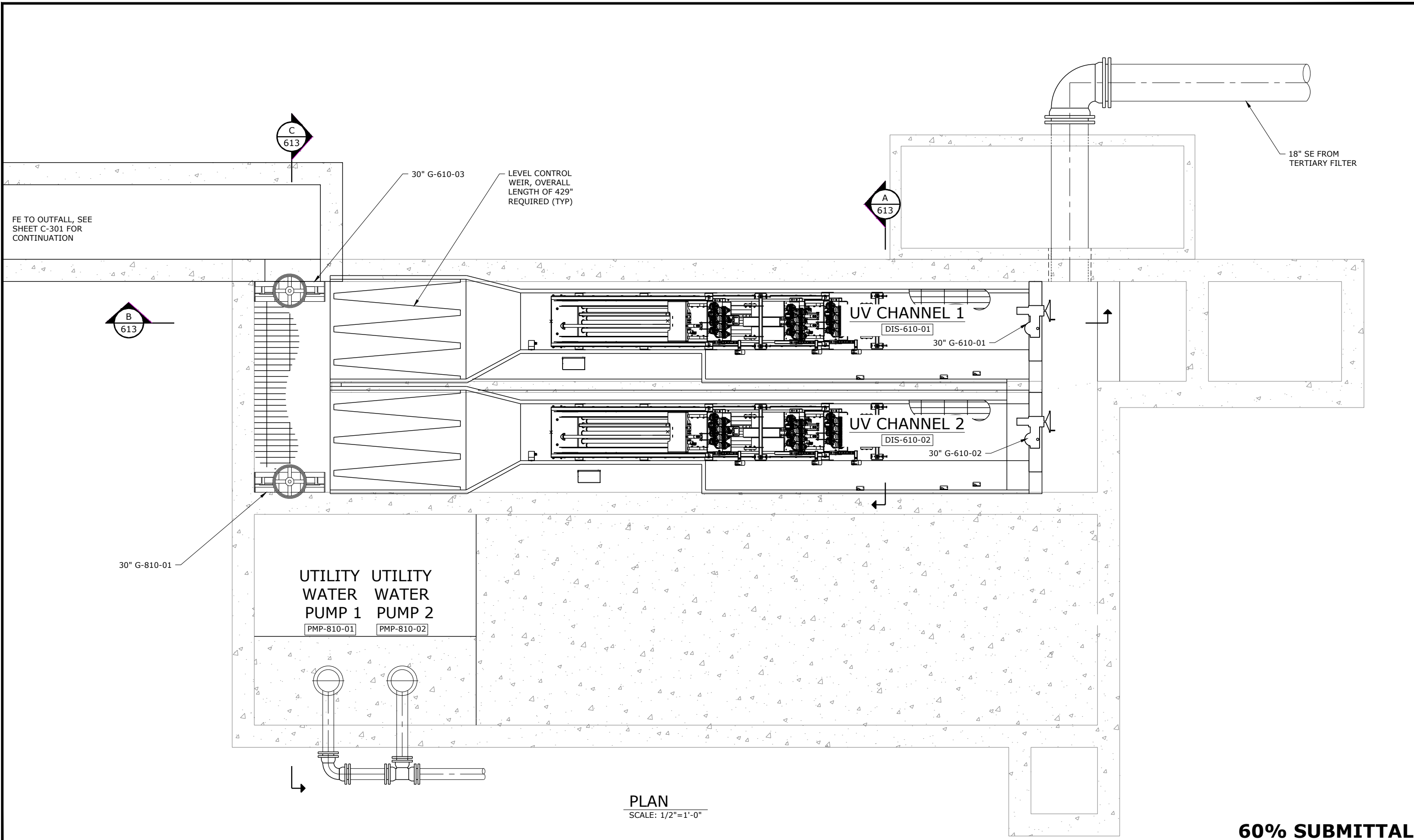
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| TERTIARY FILTER SECTIONS |           |        |          |
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| PROJECT NO.:             | 19-2605   | SCALE: | AS SHOWN |
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**M-511**  
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PLAN  
SCALE: 1/2"=1'-0"

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DSN DESIGNED  
DET DRAWN  
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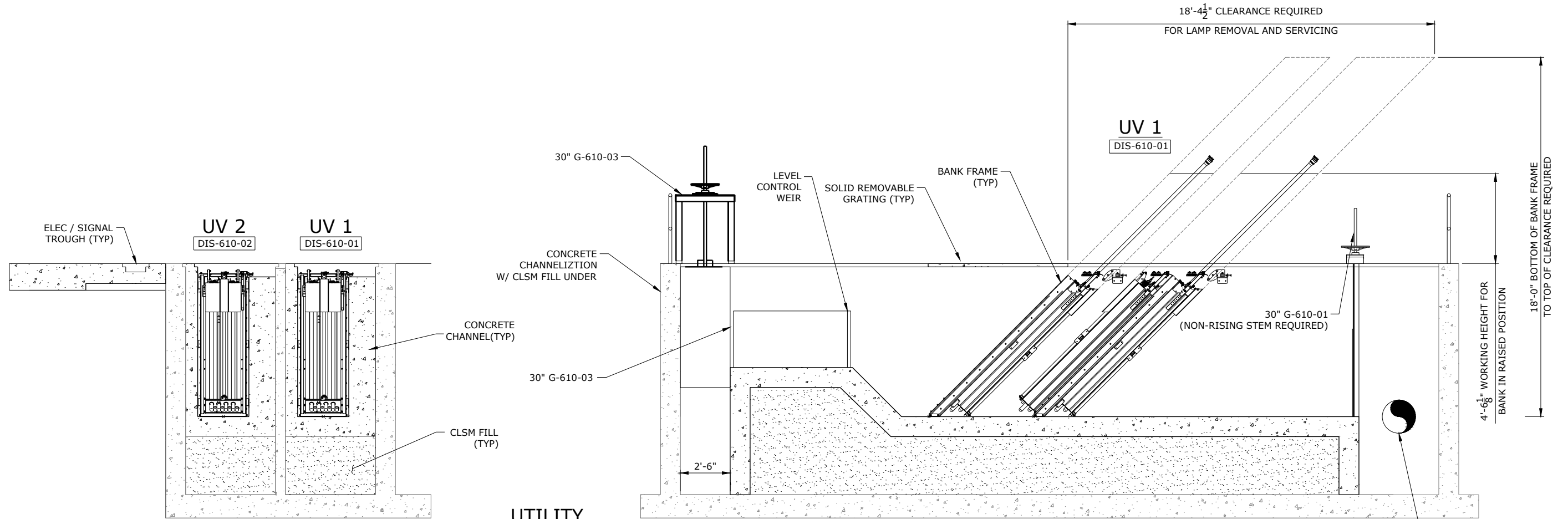


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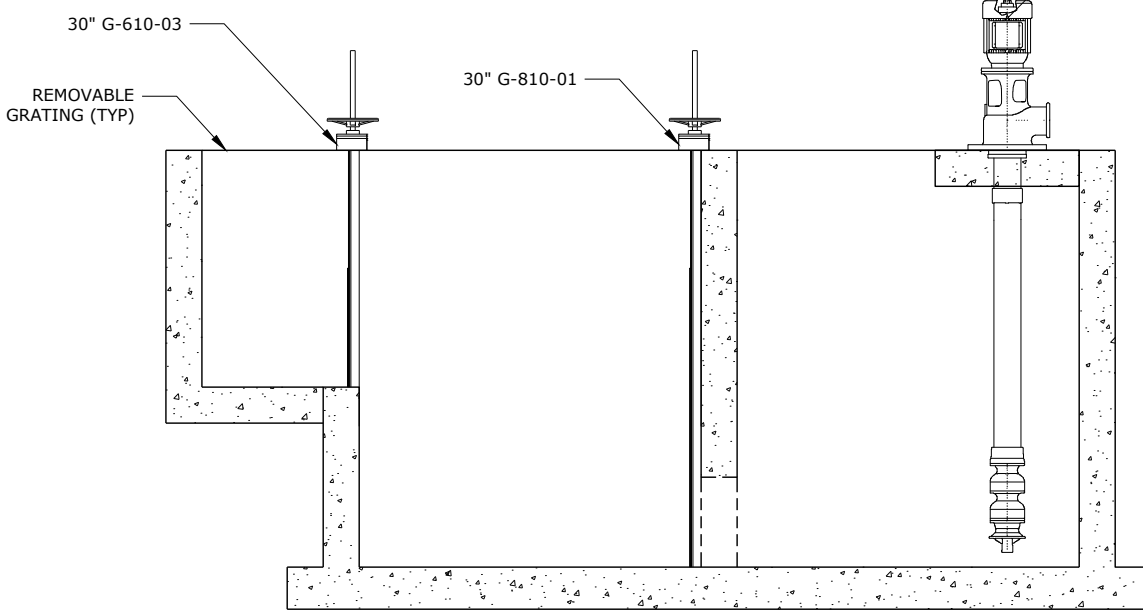
**UV DISINFECTION SYSTEM**  
**PLAN**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
M-612  
201 of 354

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



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

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

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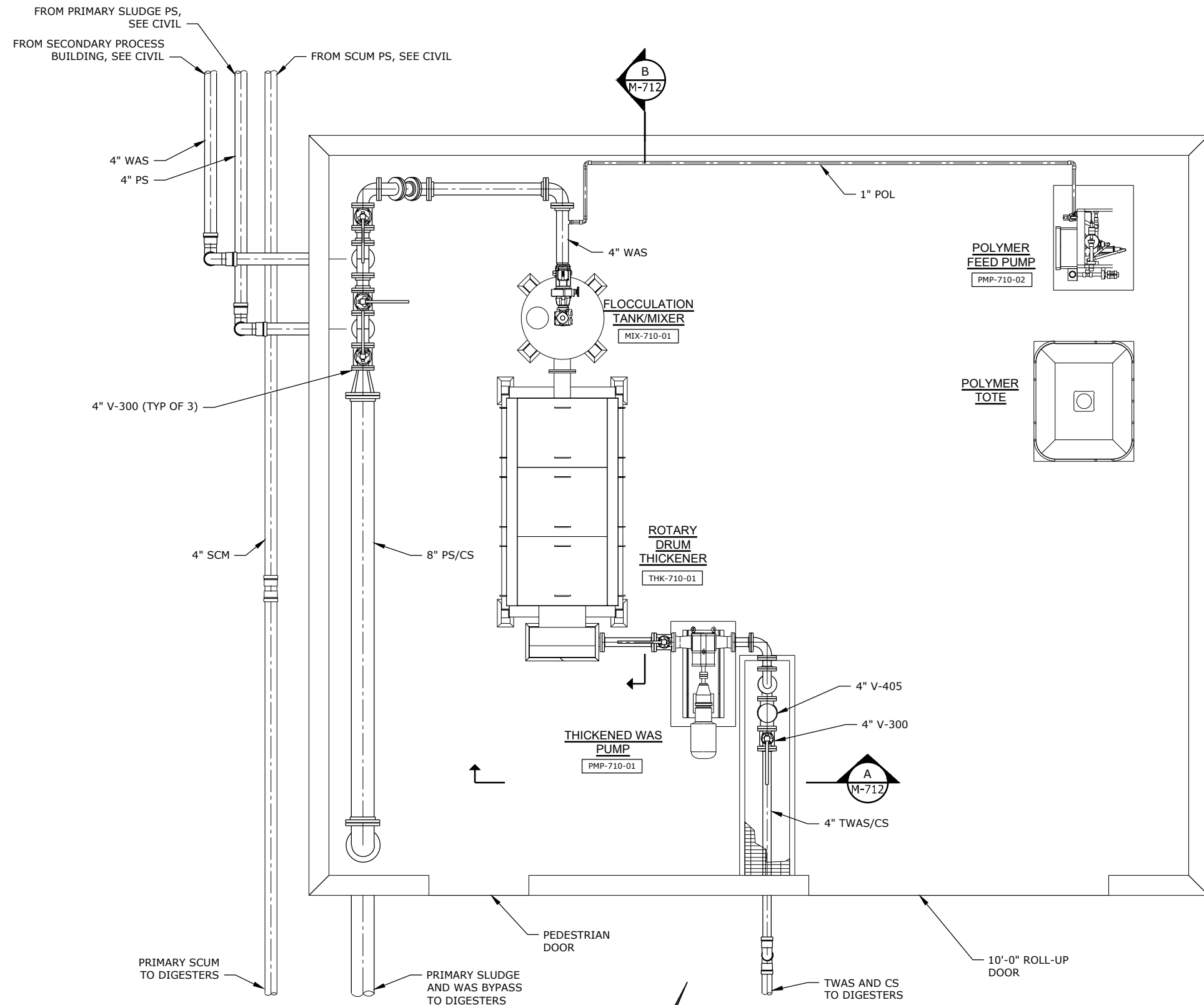
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| UV DISINFECTION SYSTEM |           |        |          |
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SHEET  
M-613  
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**PLAN**  
SCALE: 1/2"=1'-0"

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**NOTICE**

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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TMB DRAWN  
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**WWTP IMPROVEMENTS**

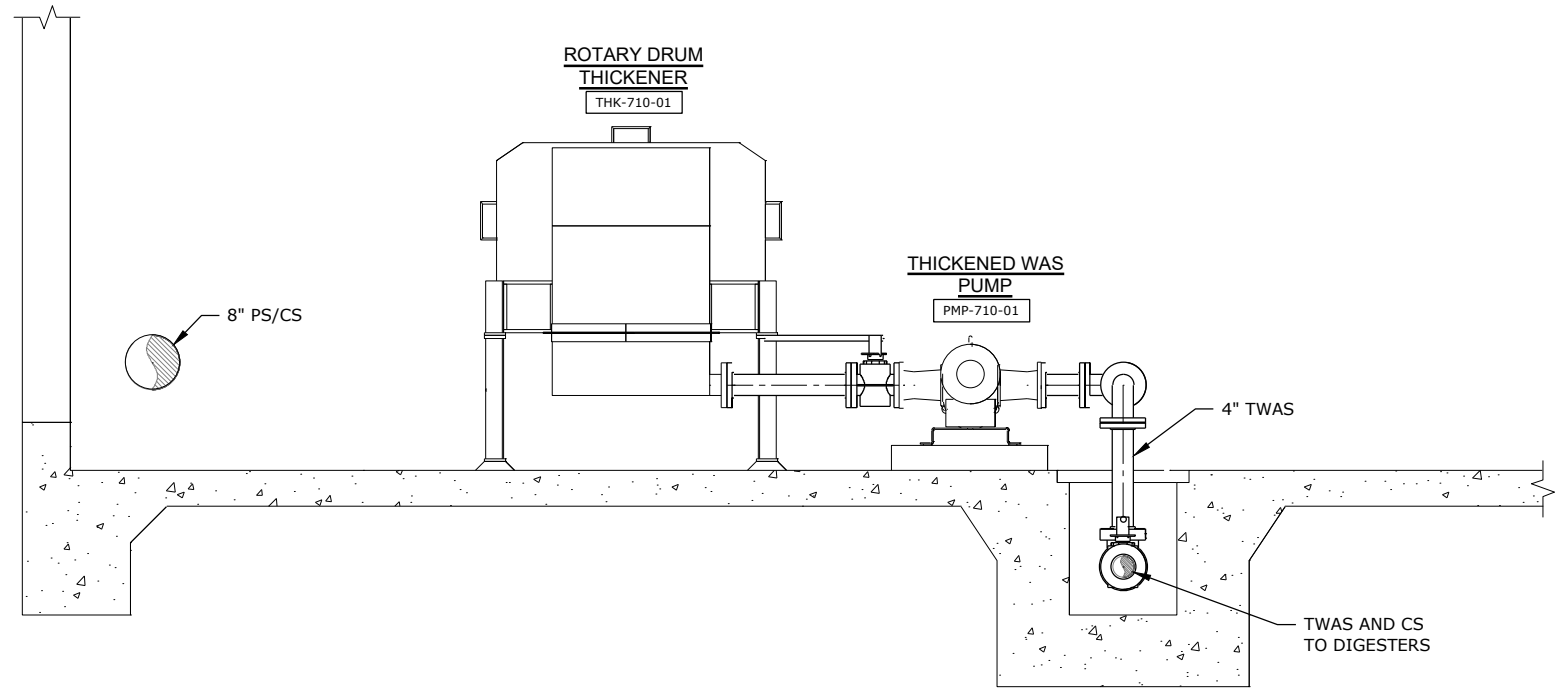
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| <b>THICKENING BUILDING</b> |           |        |          |
| <b>PLAN</b>                |           |        |          |
| PROJECT NO.:               | 19-2605   | SCALE: | AS SHOWN |
| DATE:                      | June 2020 |        |          |

SHEET

**M-711**

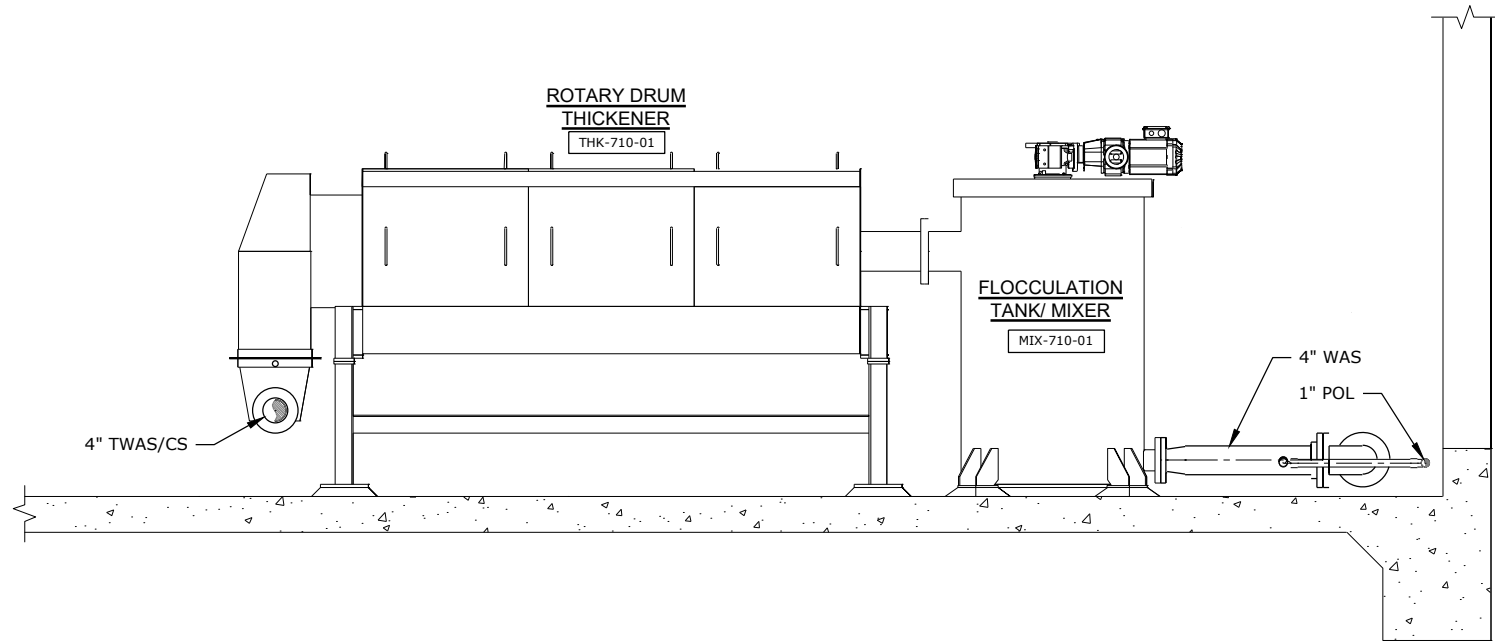
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G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\700 T\_D\19-2605-OR-M\_TB.dwg M-712 6/19/2020 12:07 PM AUSTIN.RAMBIN 23.0s (LMS Tech)



4" SCM

**SECTION A**  
SCALE: 1/2"=1'-0"



**SECTION B**  
SCALE: 1/2"=1'-0"

**60% SUBMITTAL**

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NOTICE  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DSN DESIGNED  
TMB DRAWN  
CHK CHECKED

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**CITY OF SWEET HOME  
WWTP IMPROVEMENTS**

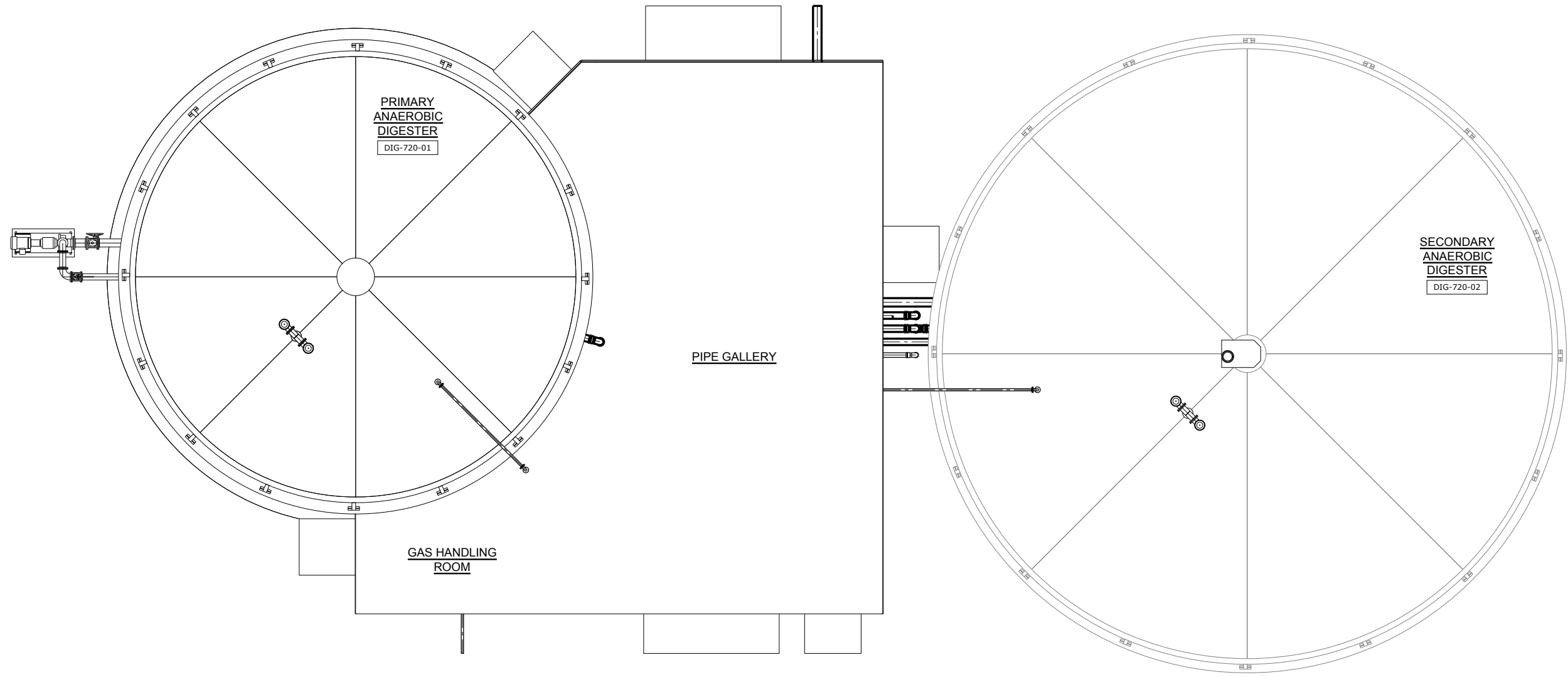
**THICKENING BUILDING  
SECTIONS AND DETAILS**

SHEET  
**M-712**  
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020



G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\700 T\_D\19-2605-OR-M\_SB.dwg M-721 6/19/2020 3:30 PM MATT.ESSTEP 23.0s (LMS Tech)



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

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NOTICE  
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TMB DRAWN  
CHK CHECKED

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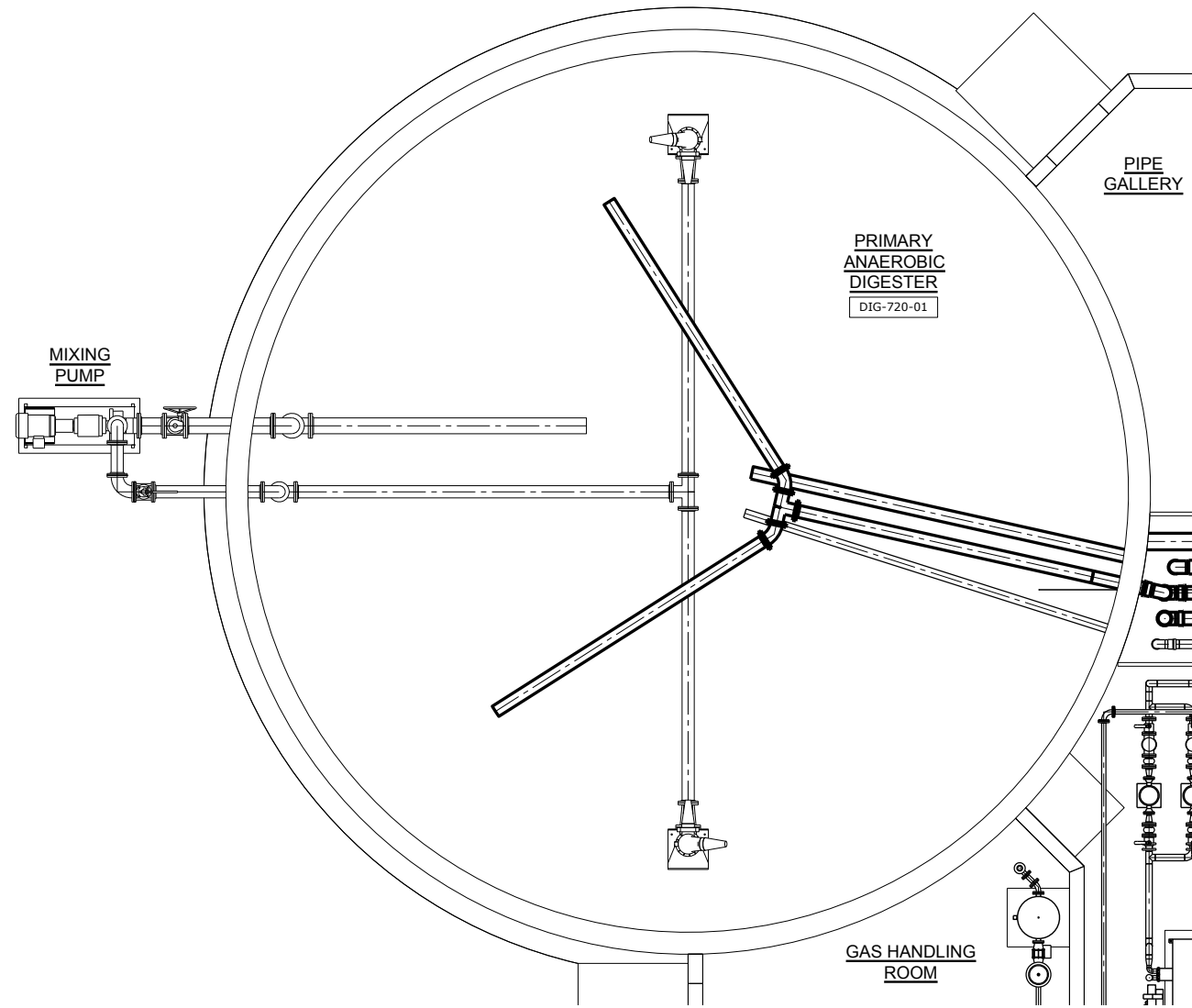
**CITY OF SWEET HOME**  
WWTP IMPROVEMENTS

**DIGESTER COMPLEX**  
**PRIMARY AND SECONDARY DIGESTER**  
**AREA OVERALL PLAN**

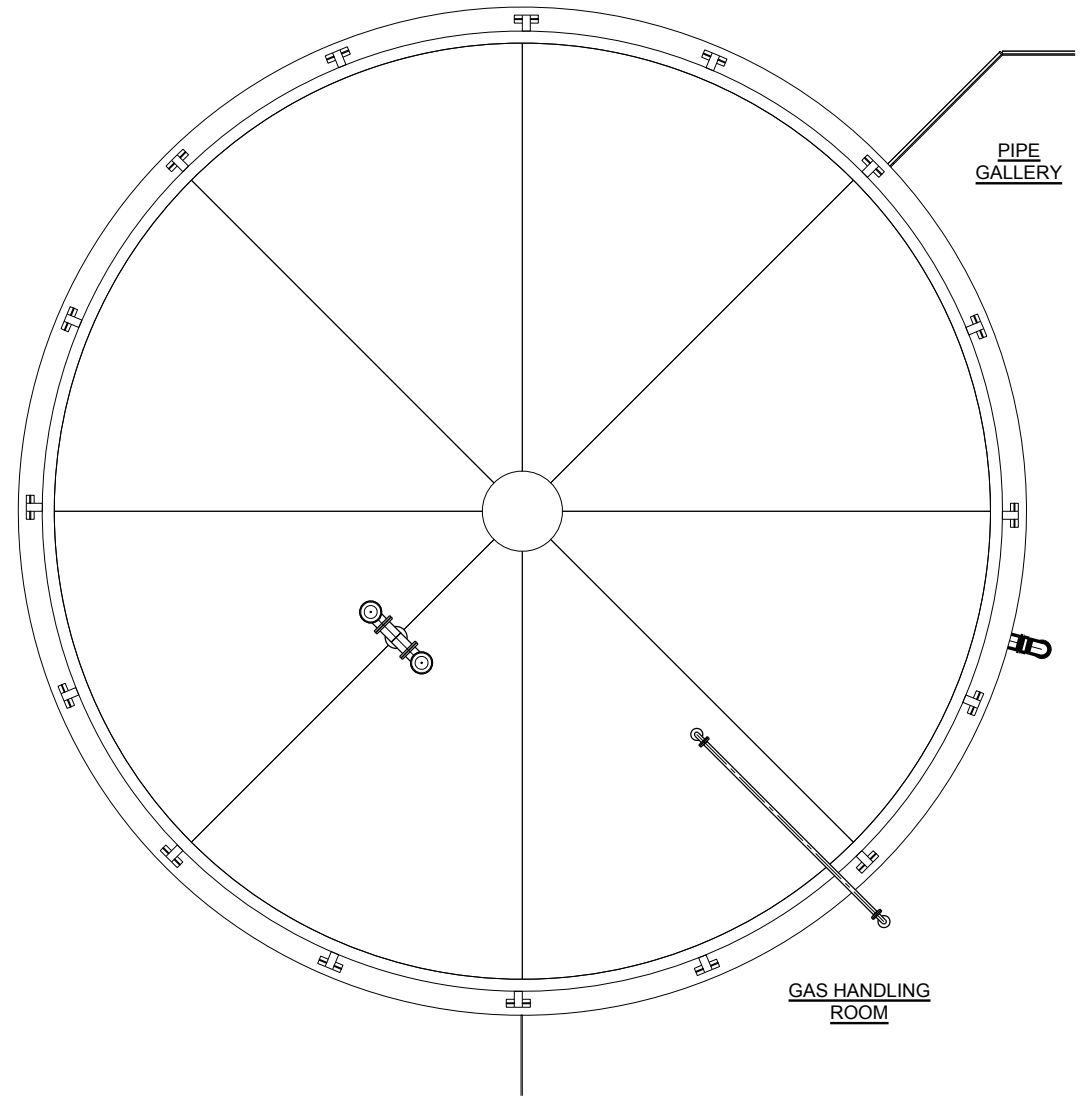
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
M-721  
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G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\700 T\_D\19-2605-OR-M\_SB.dwg M-722 6/19/2020 3:30 PM MATT.ESSTEP 23.0s (LMS Tech)



**LOWER PLAN**  
SCALE: 3/16"=1'-0"



**UPPER PLAN**  
SCALE: 3/16"=1'-0"

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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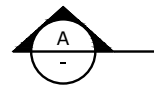


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WWTP IMPROVEMENTS**

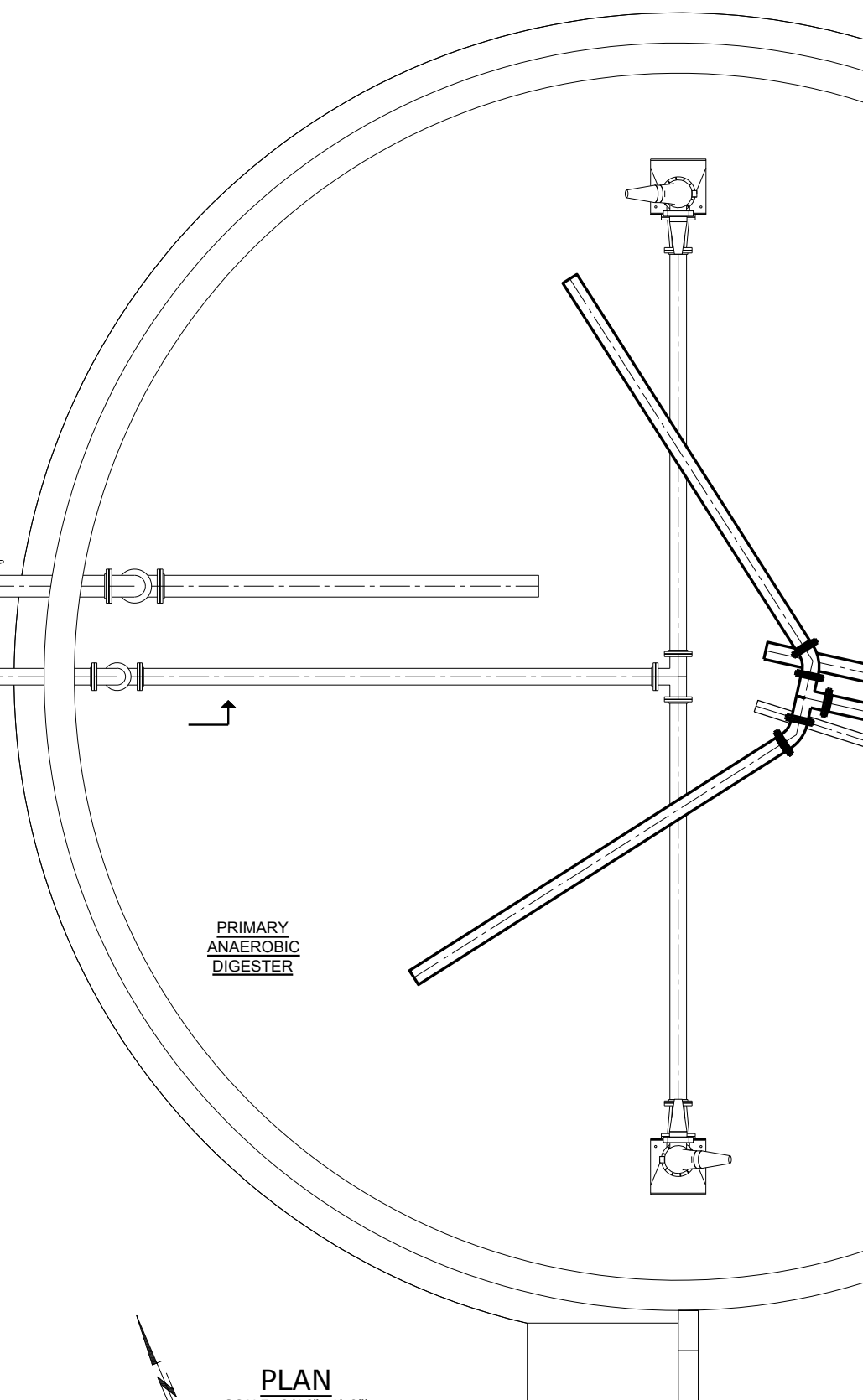
| DIGESTER COMPLEX  |           |        |          |
|---|-----------|--------|----------|
| <b>PRIMARY DIGESTER LOWER AND UPPER MECHANICAL PLAN</b> |           |        |          |
| PROJECT NO.:  | 19-2605   | SCALE: | AS SHOWN |
| DATE:   | June 2020 |        |          |

SHEET  
**M-722**  
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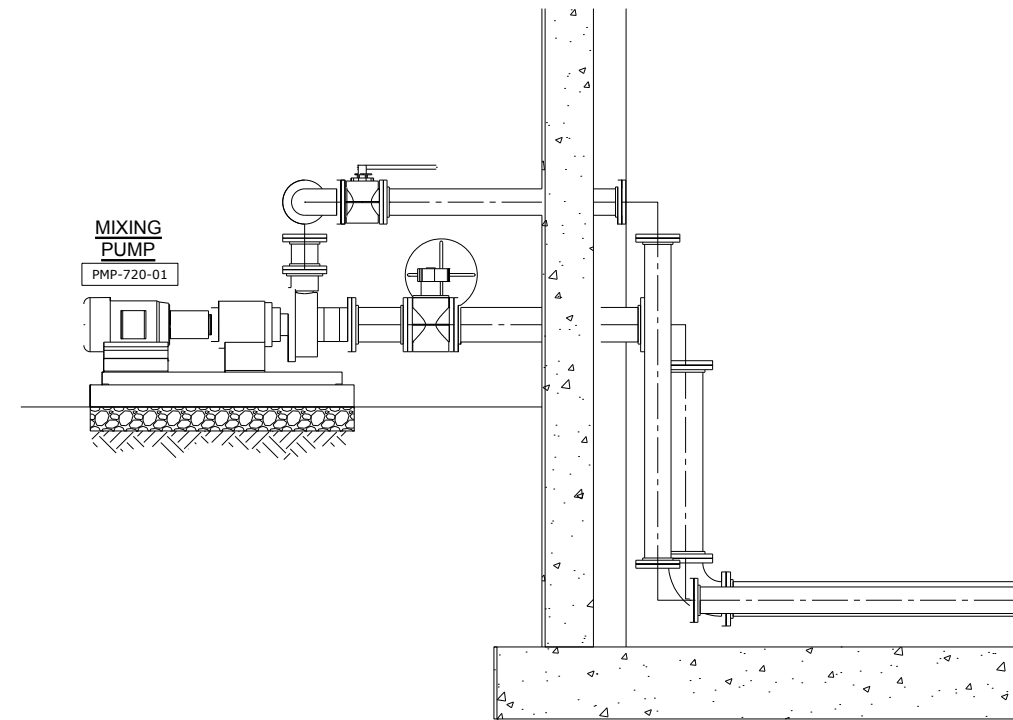
MIXING PUMP  
PMP-720-01



PRIMARY ANAEROBIC DIGESTER



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



MIXING PUMP  
PMP-720-01

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



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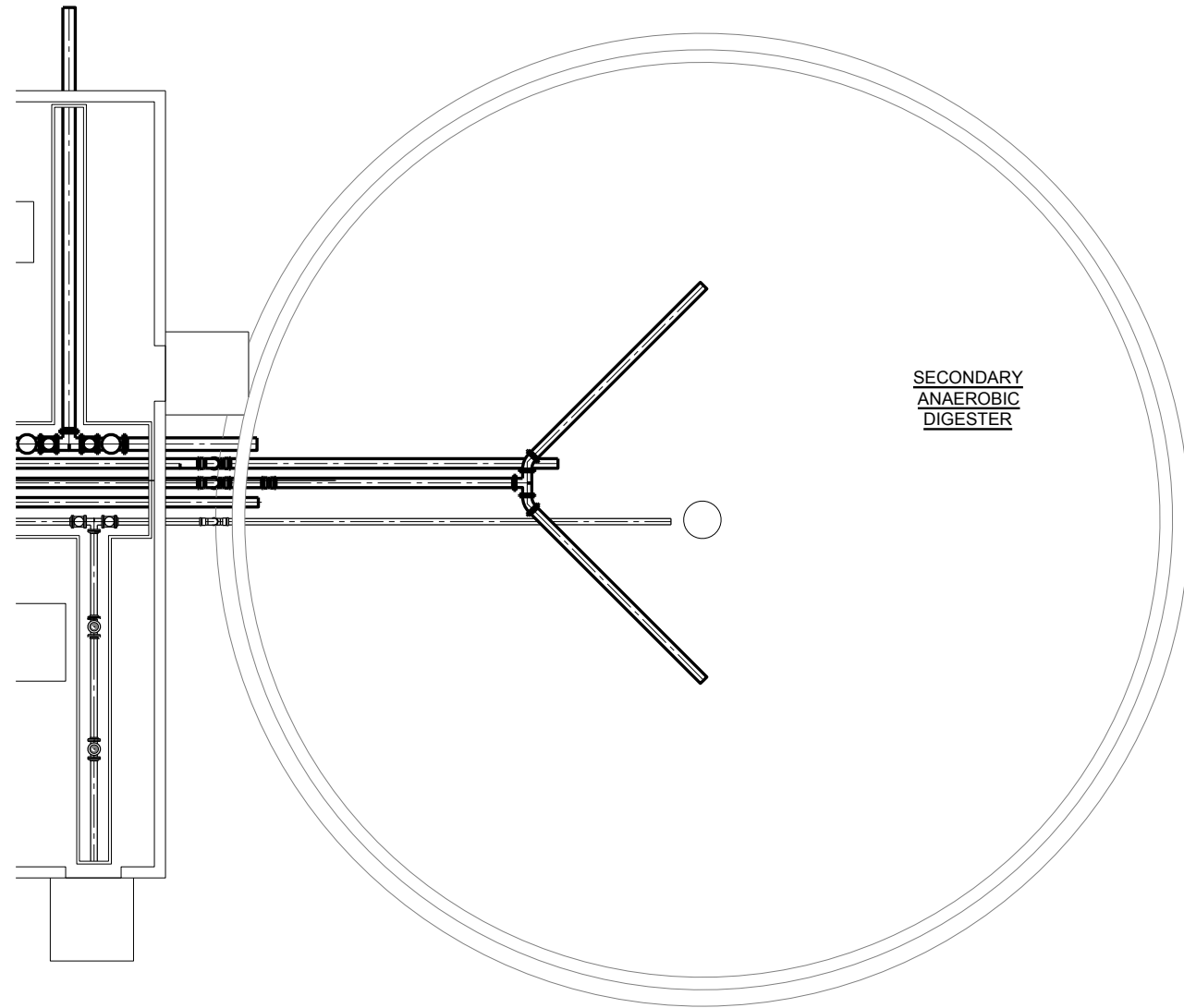


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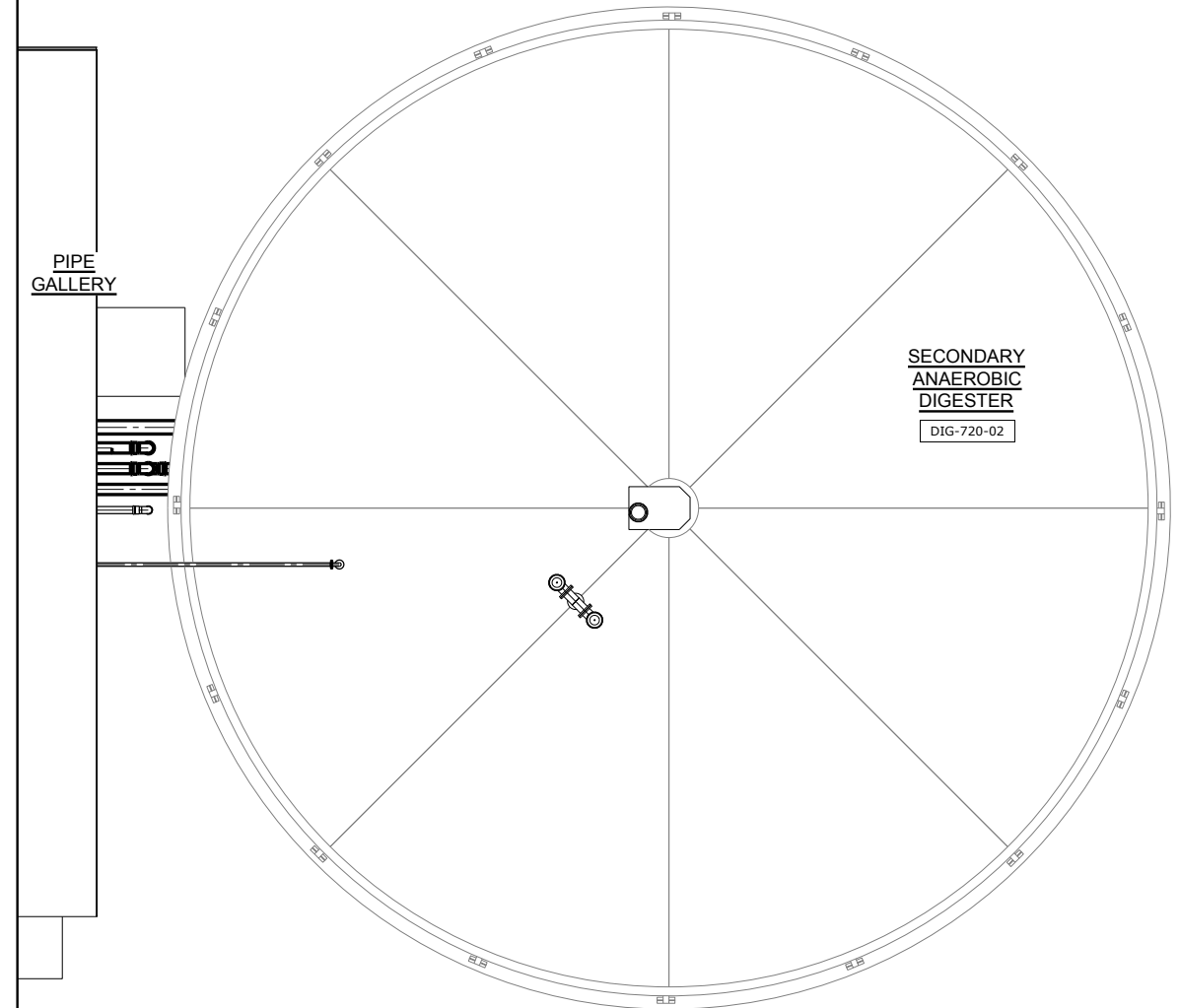
DIGESTER COMPLEX  
PRIMARY DIGESTER MIXING SYSTEM  
MECHANICAL PLAN, SECTION AND  
DETAILS  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
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**LOWER PLAN**  
SCALE: 3/16"=1'-0"



**UPPER PLAN**  
SCALE: 3/16"=1'-0"

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DSN DESIGNED  
TMB DRAWN  
CHK CHECKED

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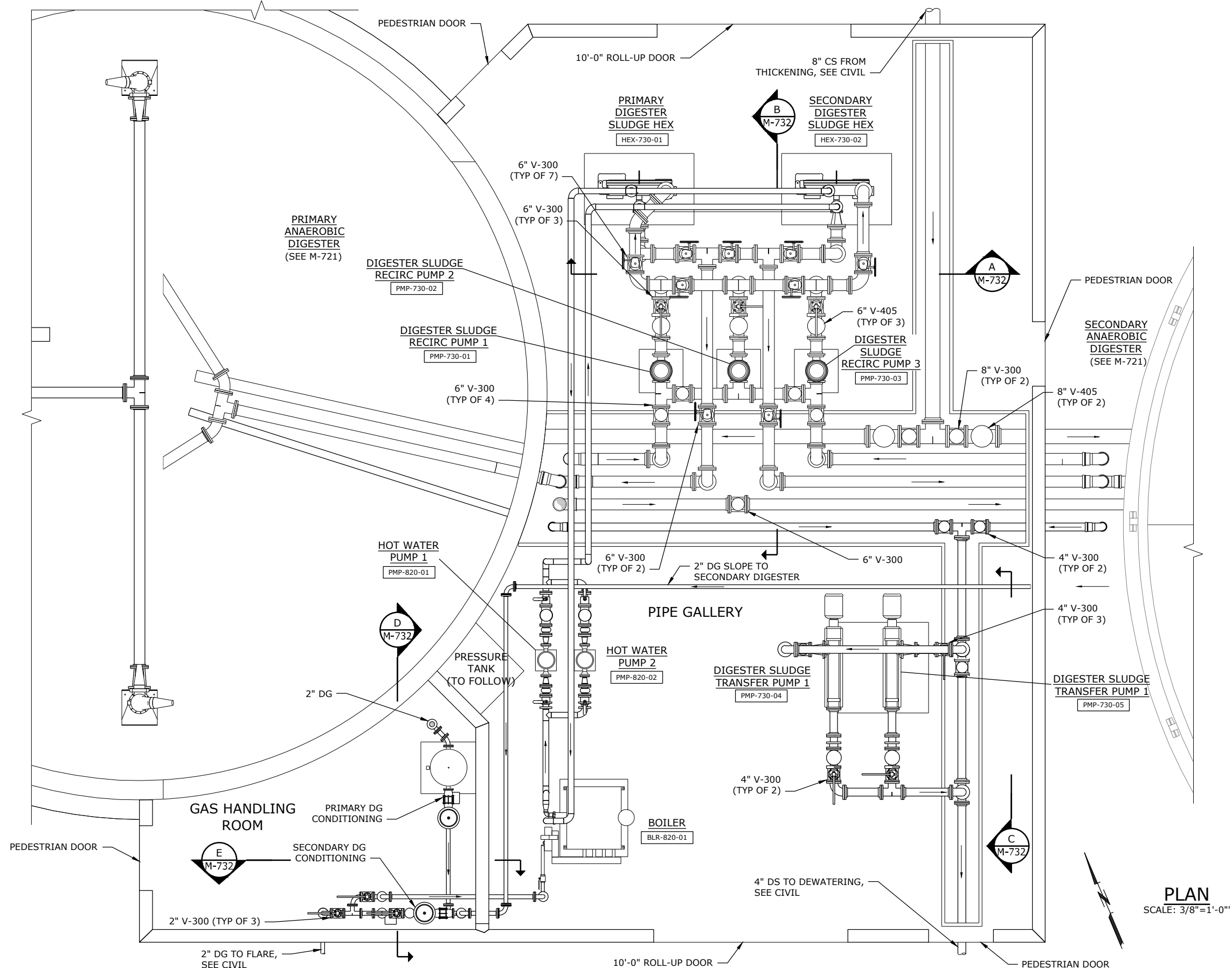
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**DIGESTER COMPLEX**  
**SECONDARY DIGESTER LOWER AND  
UPPER MECHANICAL PLANS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET  
M-724  
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PLAN  
SCALE: 3/8"=1'-0"

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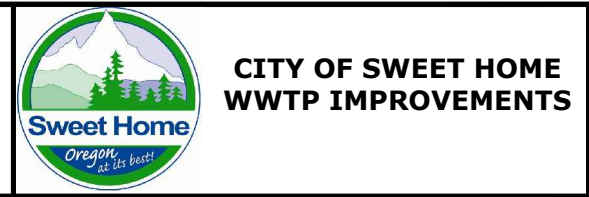
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DSN DESIGNED  
TMB DRAWN  
CHK CHECKED

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**DIGESTER COMPLEX**

**PIPE GALLERY AND GAS HANDLING ROOM PLAN**

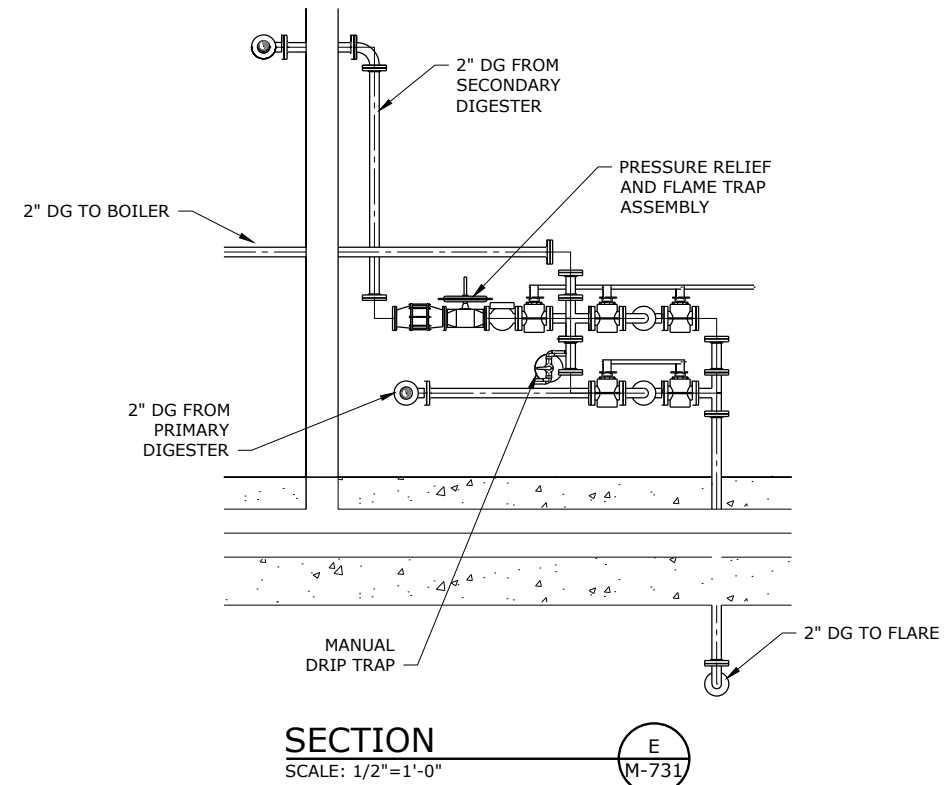
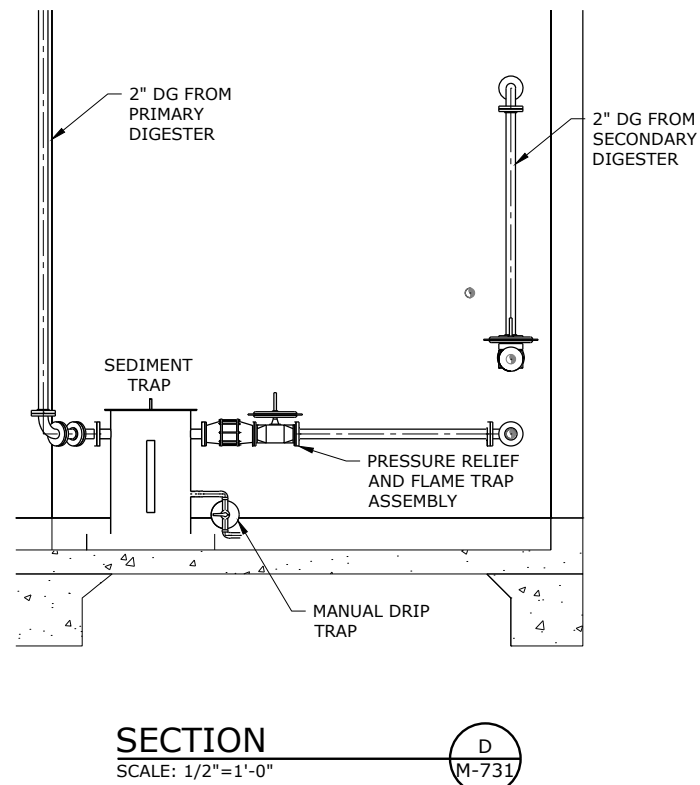
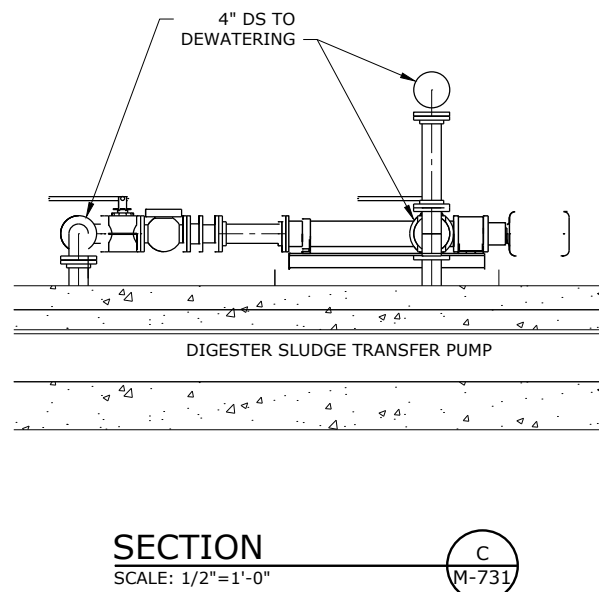
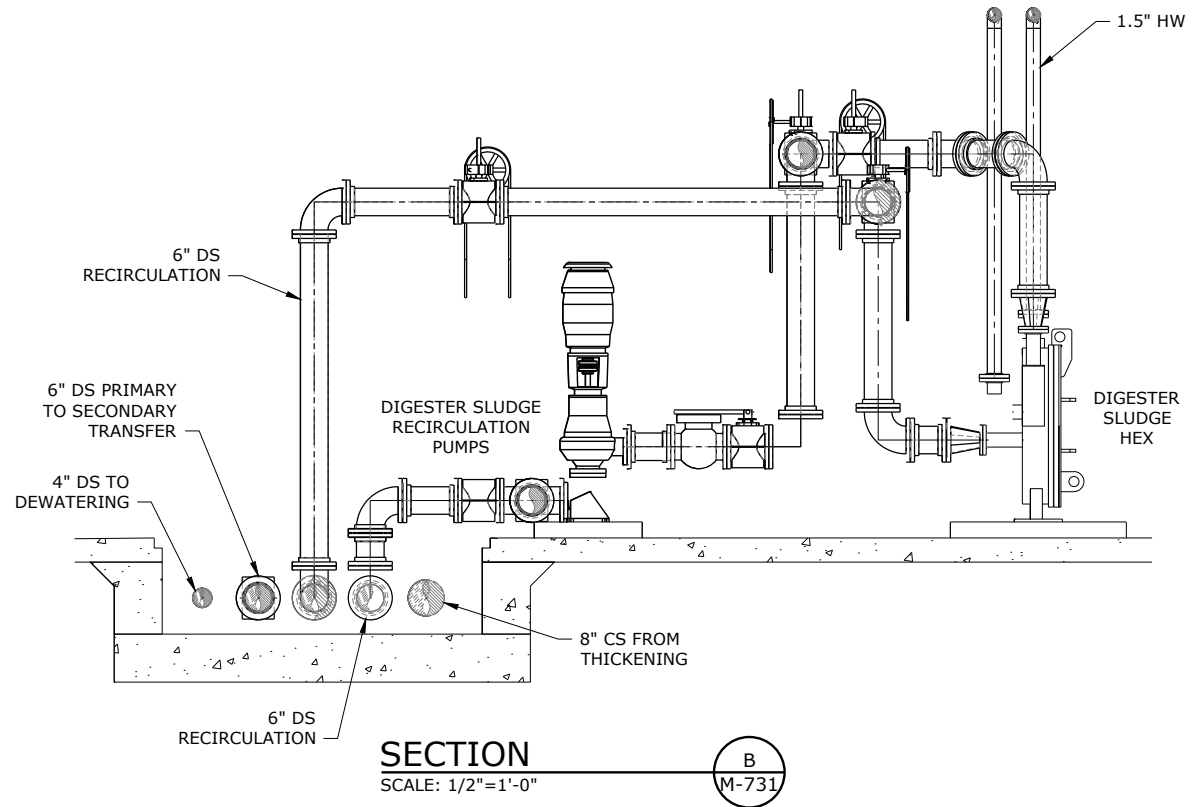
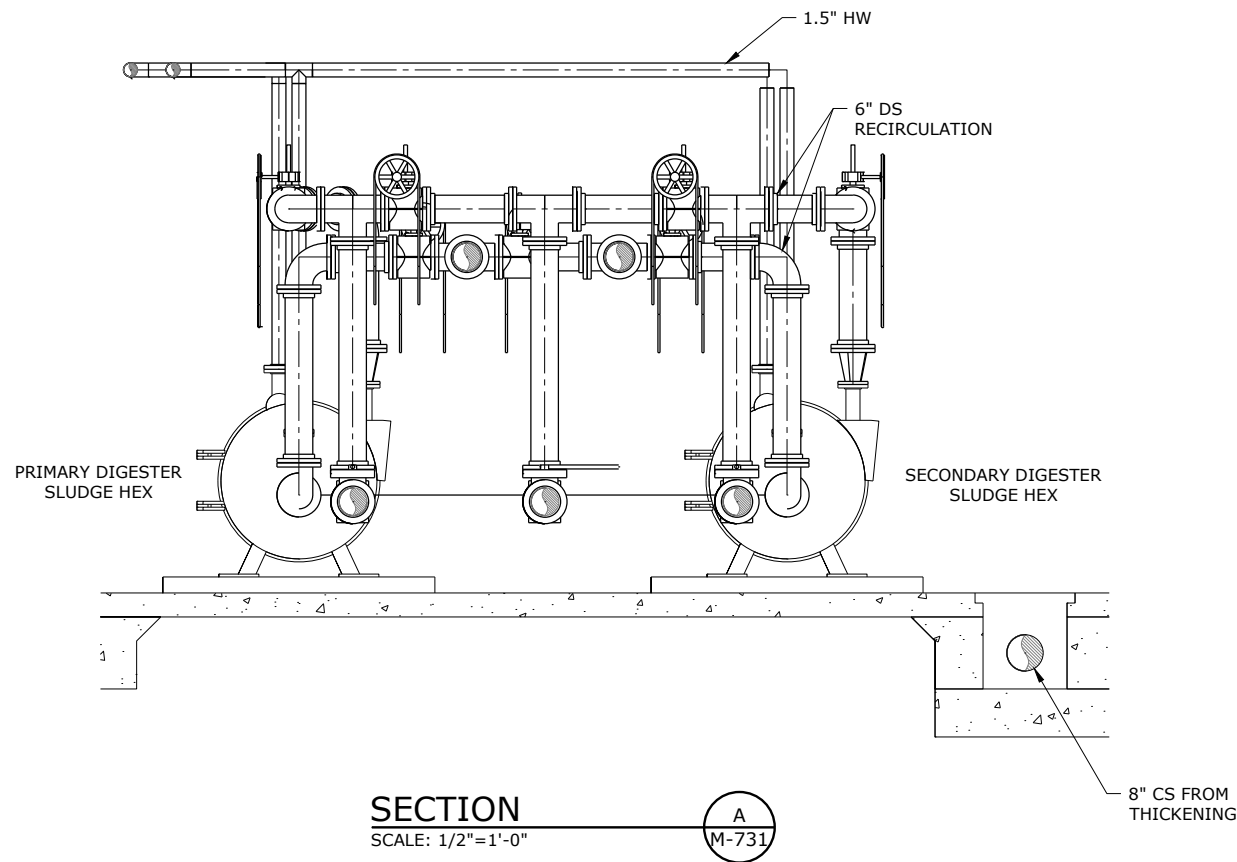
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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M-731

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G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\700 T\_D\19-2605-OR-M\_SB.dwg M-732 6/19/2020 3:30 PM MATT.ESPEY 23.0s (LMS Tech)



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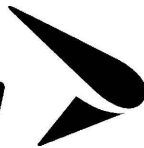
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CHK CHECKED

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WWTP IMPROVEMENTS**

**DIGESTER COMPLEX  
PIPE GALLERY AND GAS HANDLING  
ROOM SECTIONS**

SHEET  
**M-732**  
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

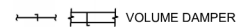
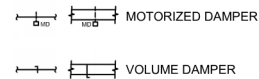
# MECHANICAL SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

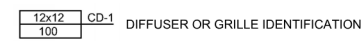
## Abbreviations

- CD CEILING DIFFUSER
- CU CONDENSING UNIT
- CFM CUBIC FEET PER MINUTE
- DB DRY BULB
- EFF EFFICIENT
- ELECT ELECTRICAL
- EER ENERGY EFFICIENCY RATING
- EAT ENTERING AIR TEMPERATURE
- EXH EXHAUST
- EF EXHAUST FAN
- F FAHRENHEIT
- FC FAN COIL
- FT FEET
- HP HEAT PUMP
- HP HORSEPOWER
- KW KILOWATT
- LAT LEAVING AIR TEMPERATURE
- MIN MINIMUM
- MD MOTORIZED DAMPER
- NC NOISE CRITERIA
- N/A NOT APPLICABLE
- NTS NOT TO SCALE
- OBD OPPOSED BLADE DAMPER
- OA OUTSIDE AIR
- OSA OUTSIDE AIR
- PH PHASE
- LBS. POUNDS
- PD PRESSURE DROP
- REF REFRIGERANT
- RL REFRIGERANT LIQUID
- RS REFRIGERANT SUCTION
- RET RETURN
- SEER SEASONAL ENERGY EFFICIENCY RATING
- SF SQUARE FEET
- T, TEMP TEMPERATURE
- MBH THOUSAND BTU'S PER HOUR
- TP TOTAL PRESSURE
- UH UNIT HEATER
- VFD VARIABLE FREQUENCY DRIVE
- V VOLT
- WC WATER COLUMN
- W WATT
- WB WET BULB

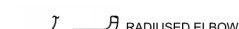
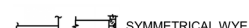
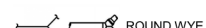
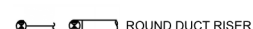
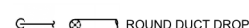
## Dampers



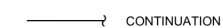
## Diffusers and Grilles



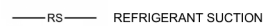
## Ductwork Fittings



## General



## Piping Systems



# GENERAL MECHANICAL NOTES

- A. XXXX
- B. XXXX

## SHEET INDEX

- M-841 SYMBOL LIST AND GENERAL NOTES - MECHANICAL
- M-842 SCHEDULES - MECHANICAL
- M-843 FLOOR PLAN - MECHANICAL
- M-844 DETAILS - MECHANICAL
- M-845 SYMBOL LIST AND GENERAL NOTES - PLUMBING
- M-846 SCHEDULES - PLUMBING
- M-847 UNDERGROUND PLAN - PLUMBING
- M-848 FLOOR PLAN - PLUMBING
- M-849 DETAILS - PLUMBING

G:\ACTIVE PROJECTS\XXXX

**STRONGWORK ARCHITECTURE**

**60% SUBMITTAL**

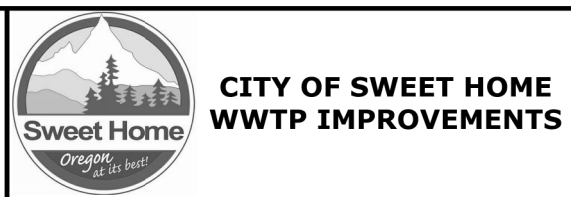
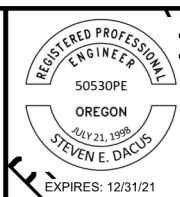
**INTERFACE ENGINEERING**

PROJECT 2020-0066  
CONTACT Steve Dacus  
100 SW Main Street, Suite 1600  
Portland, OR 97204  
TEL 503.382.2266  
www.interfaceengineering.com

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NOTICE  
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GKW DESIGNED  
Author  
DRAWN  
GKW CHECKED



**SYMBOL LIST AND GENERAL NOTES - MECHANICAL**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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**M-841**  
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### ENERGY RECOVERY UNIT SCHEDULE

| SYMBOL | LOCATION | SERVING | BASIS OF DESIGN |       | SUPPLY FAN |           |              |             |    |           | EXHAUST FAN          |      |           |              |    |      | HEAT EXCHANGER |                      |             |             |             |             |             |             | FINAL FILTER | ELECTRICAL  |          |     |     | EER | CONTROLS REF | MAX WT (LBS) | COMMENTS |       |    |
|--------|----------|---------|-----------------|-------|------------|-----------|--------------|-------------|----|-----------|----------------------|------|-----------|--------------|----|------|----------------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|----------|-----|-----|-----|--------------|--------------|----------|-------|----|
|        |          |         | MFR             | MODEL | TYPE       | TOTAL CFM | ESP (IN H2O) | MIN OSA CFM | HP | VFD (Y/N) | SMOKE DETECTOR (Y/N) | TYPE | TOTAL CFM | ESP (IN H2O) | HP | FRPM | VFD (Y/N)      | SMOKE DETECTOR (Y/N) | WINTER      |             |             |             | SUMMER      |             |              |             | EFF MERV | FLA | MCA |     |              |              |          | VOLTS | PH |
|        |          |         |                 |       |            |           |              |             |    |           |                      |      |           |              |    |      |                |                      | SA EAT (°F) | SA LAT (°F) | EA EAT (°F) | EA LAT (°F) | SA EAT (°F) | SA LAT (°F) | EA EAT (°F)  | EA LAT (°F) |          |     |     |     |              |              |          |       |    |

### VRF OUTDOOR HEAT PUMP SCHEDULE

| SYMBOL | LOCATION | BASIS OF DESIGN |         | NOM TONS | COOLING   |                 |             | HEATING   |                 |             | ELECTRICAL |    |      |      | CONTROLS REF | APPROX DIMS (LxWxH) | MAX WT (LBS) | COMMENTS |
|--------|----------|-----------------|---------|----------|-----------|-----------------|-------------|-----------|-----------------|-------------|------------|----|------|------|--------------|---------------------|--------------|----------|
|        |          | MFR             | MODEL   |          | CAP (MBH) | AMBIENT DB (°F) | EER OR SEER | CAP (MBH) | AMBIENT WB (°F) | COP OR HSPF | VOLTS      | PH | MCA  | MOCP |              |                     |              |          |
| VRF-1  | ON SLAB  | LG              | ARUM096 | 8        | 96.0      | 22              | 18.0        | 10.8      | 98              | 16.0        | 208        | 1  | 28.5 | 40   | DDC          | 30"x49"x 67"        | 507          |          |

### DIFFUSER, REGISTER AND GRILLE SCHEDULE

| SYMBOL | TYPE                    | FACE       | FRAME   | DAMPER | FINISH | BASIS OF DESIGN |       | COMMENTS |
|--------|-------------------------|------------|---------|--------|--------|-----------------|-------|----------|
|        |                         |            |         |        |        | MFR.            | MODEL |          |
| CD-1   | CEILING DIFFUSER        | PERFORATED | LAY-IN  | NONE   | WHITE  | TITUS           | PCS   |          |
| CD-2   | CEILING DIFFUSER        | PERFORATED | SURFACE | ONB    | WHITE  | TITUS           | PCS   |          |
| CEG-1  | CEILING EX-HAUST GRILLE | PERFORATED | LAY-IN  | NONE   | WHITE  | TITUS           | PAR   |          |
| CEG-2  | CEILING EX-HAUST GRILLE | PERFORATED | SURFACE | NONE   | WHITE  | TITUS           | PAR   |          |
| CRG-1  | CEILING RETURN GRILLE   | PERFORATED | LAY-IN  | NONE   | WHITE  | TITUS           | PAR   |          |

### OUTSIDE AIR CALCULATION

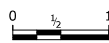
|                |                    | SUM OF ZONE POPULATION (ΣPz) |                    | 25 PEOPLE      |                 | UNCORRECTED OA INTAKE (Vou)          |                     | 465 CFM            |                   | AVE UNCORRECTED OA FRACTION (Xs)       |                         | 17.4% CFM/CFM         |       | OA INTAKE REQUIRED (Vot) |               | 800 CFM                                   |                         |                           |                       |                 |                               |
|----------------|--------------------|------------------------------|--------------------|----------------|-----------------|--------------------------------------|---------------------|--------------------|-------------------|--|-------------------------|-----------------------|-------|--------------------------|---------------|---|-------------------------|---------------------------|-----------------------|-----------------|-------------------------------|
|                |                    | DIVERSITY (D = Ps/ΣPz)       |                    | 0.45           |                 | SUM OF PRIMARY AIR AT MIN (ΣVpz=Vps) |                     | 1,707 CFM          |                   | SYSTEM VENTILATION EFF. (Ev)           |                         | 58.1%                 |       | OA INTAKE PROVIDED       |               | 900 CFM                                   |                         |                           |                       |                 |                               |
| ZONE EQUIP TAG | SECOND RECIRC FRAC | ROOM NUMER                   | SPACE DESCRIPTION  | ZONE VENT EFF. | FLOOR AREA (Az) | PEAK CLG                             | OCC DENSITY DEFAULT | DEFAULT NO. PEOPLE | ACTUAL NO. PEOPLE | SPACE AIR DISTRI-BUTION EFFECT-IVENESS | PEOPLE OUTDOOR AIR RATE | AREA OUTDOOR AIR RATE | Rp/Pz | RA'Az                    | Rp'Pz + RA'Az | OUTDOOR AIR FLOW (DISTRIBUTION CORRECTED) | PRIMARY + SECONDARY AIR | PRIMARY AIR FRACTION (Ep) | ZONE PRIMARY AIR FLOW | PEAK NO. PEOPLE | OUTDOOR AIR FRACTION (AT MIN) |
|                |                    |                              |                    |                | (SQ. FT.)       | (CFM)                                | (PERSON/ 1000 SF)   | (PEOPLE)           | (PEOPLE)          |  | (CFM/ PERSON)           | (CFM/SF)              | (CFM) | (CFM)                    | (CFM)         | (CFM)                                     | (CFM)                   |                           | (CFM)                 | (PEOPLE)        | Voz/Vpz                       |
| FC-1           |                    | S102                         | PM OFFICE          | 0.73           | 188             | 130                                  | 5                   | 1                  | 1                 | 0.80                                   | 5.0                     | 0.06                  | 5.0   | 11                       | 16            | 20  | 46                      | 1.0000                    | 46                    | 1               | 0.446                         |
|                |                    | S103                         | MAINTENANCE OFFICE | 0.66           | 132             | 90                                   | 5                   | 1                  | 1                 | 0.80                                   | 5.0                     | 0.06                  | 5.0   | 8                        | 13            | 16  | 32                      | 1.00                      | 32                    | 1               | 0.513                         |
|                |                    | S104                         | FUTURE OFFICE      | 0.75           | 155             | 120                                  | 5                   | 1                  | 1                 | 0.80                                   | 5.0                     | 0.06                  | 5.0   | 9                        | 14            | 18  | 42                      | 1.00                      | 42                    | 1               | 0.426                         |
| FC-2           |                    | S108                         | CONFERENCE         | 0.66           | 413             | 450                                  | 50                  | 21                 | 8                 | 0.80                                   | 5.0                     | 0.06                  | 40.0  | 25                       | 65            | 81  | 158                     | 1.00                      | 158                   | 8               | 0.514                         |
|                |                    | S101                         | HALL               | 0.87           | 253             | 180                                  | 0                   | 0                  | 0                 | 0.80                                   | 0.0                     | 0.06                  | 0.0   | 15                       | 15            | 19  | 63                      | 1.00                      | 63                    | 0               | 0.301                         |
| FC-3           |                    | S115                         | FLEX SPACE         | 0.69           | 216             | 170                                  | 5                   | 1                  | 4                 | 0.80                                   | 5.0                     | 0.06                  | 20.0  | 13                       | 33            | 41  | 85                      | 1.00                      | 85                    | 4               | 0.485                         |
|                |                    | S114                         | BREAK ROOM         | 0.58           | 142             | 120                                  | 25                  | 4                  | 4                 | 0.80                                   | 5.0                     | 0.06                  | 20.0  | 9                        | 29            | 36  | 60                      | 1.00                      | 60                    | 4               | 0.594                         |
| FC-4           |                    | S109                         | LABORATORY         | 0.63           | 370             | 240                                  | 5                   | 2                  | 6                 | 0.80                                   | 5.0                     | 0.06                  | 30.0  | 22                       | 52            | 65  | 120                     | 1.00                      | 120                   | 6               | 0.544                         |
|                |                    | S101L                        | HALL LOBBY         | 1.03           | 244             | 250                                  | 30                  | 0                  | 0                 | 0.80                                   | 7.5                     | 0.06                  | 0.0   | 15                       | 15            | 18  | 125                     | 1.00                      | 125                   | 0               | 0.146                         |
| FC-5           |                    | S110                         | WOMEN'S LOCKERS    | 0.61           | 293             | 130                                  | 0                   | 0                  | 0                 | 0.80                                   | 0.0                     | 0.06                  | 0.0   | 18                       | 18            | 22  | 39                      | 1.00                      | 39                    | 0               | 0.563                         |
|                |                    | S112                         | MEN'S LOCKERS      | 0.59           | 399             | 170                                  | 0                   | 0                  | 0                 | 0.80                                   | 0.0                     | 0.06                  | 0.0   | 24                       | 24            | 30  | 51                      | 1.00                      | 51                    | 0               | 0.586                         |
|                |                    | 111A                         | CUSTODIAN          | 0.76           | 33              | 20                                   | 2                   | 0                  | 0                 | 0.80                                   | 5.0                     | 0.06                  | 0.0   | 2                        | 2             | 2   | 6                       | 1.00                      | 6                     | 0               | 0.413                         |
|                |                    | S111                         | MUD ROOM           | 0.70           | 287             | 150                                  | 0                   | 0                  | 2                 | 0.80                                   | 0.0                     | 0.06                  | 0.0   | 17                       | 17            | 22  | 45                      | 1.00                      | 45                    | 2               | 0.478                         |

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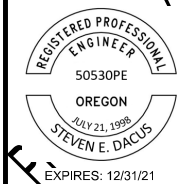
**STRONGWORK ARCHITECTURE**

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**INTERFACE ENGINEERING**  
 PROJECT 2020-0066  
 CONTACT Steve Dacus  
 100 SW Main Street, Suite 1600  
 Portland, OR 97204  
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 www.interfaceengineering.com

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**murraysmith**



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**SCHEDULES - MECHANICAL**

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221 of 354

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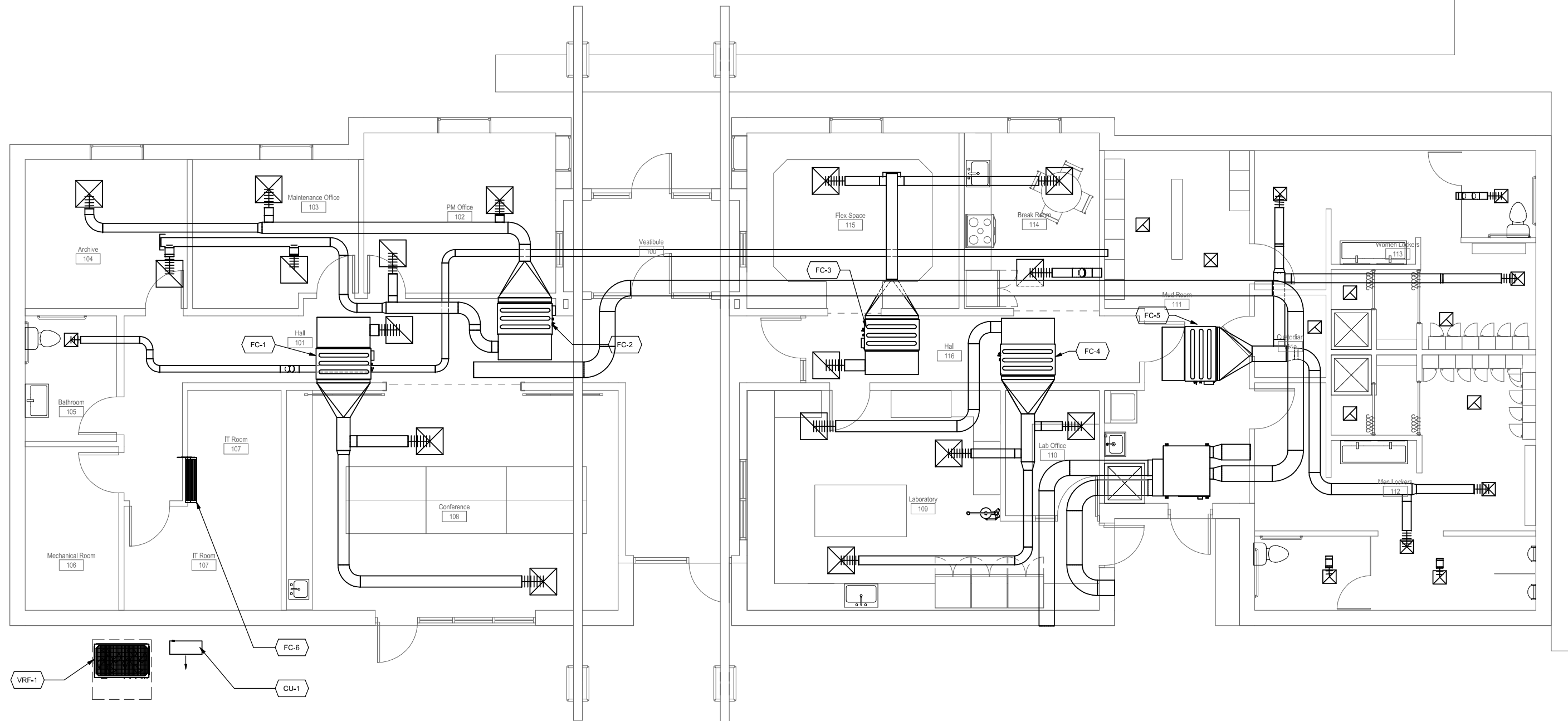


**GENERAL SHEET NOTES**

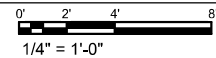
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**SHEET KEYNOTES**

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**1 FLOOR PLAN - MECHANICAL**



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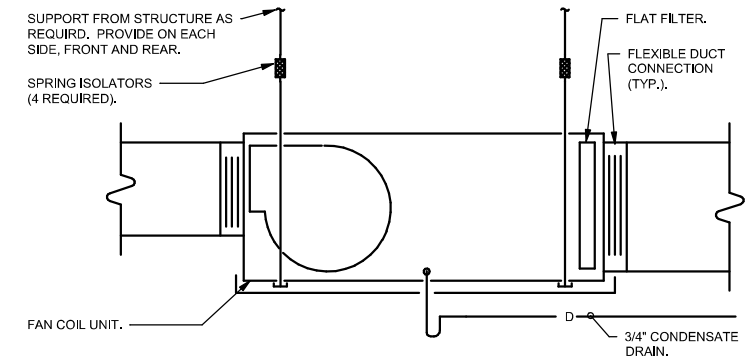
REGISTERED PROFESSIONAL ENGINEER  
50530PE  
OREGON  
JULY 21, 1998  
STEVEN E. DACUS  
EXPIRES: 12/31/21

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**FLOOR PLAN - MECHANICAL**

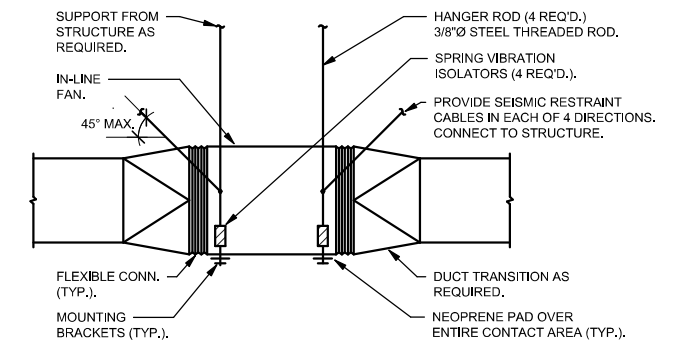
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222 of 354



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# PLUMBING SYMBOL LIST

# GENERAL PLUMBING NOTES

### Abbreviations

|       |                                     |
|-------|-------------------------------------|
| AFF   | ABOVE FINISHED FLOOR                |
| AR    | ACID-RESISTANT                      |
| BFP   | BACKFLOW PREVENTER                  |
| BV    | BALANCING VALVE                     |
| BFF   | BELOW FINISHED FLOOR                |
| BTUH  | BRITISH THERMAL UNITS PER HOUR      |
| CP    | CIRCULATION PUMP                    |
| CO    | CLEANOUT                            |
| CW    | COLD WATER                          |
| CD    | CONDENSATE DRAIN                    |
| CONT. | CONTINUATION                        |
| CFH   | CUBIC FEET PER HOUR                 |
| CFM   | CUBIC FEET PER MINUTE               |
| DE    | DE-IONIZED WATER                    |
| DW    | DISHWASHER, DOMESTIC WATER          |
| DI    | DISTILLED WATER                     |
| DCVA  | DOUBLE CHECK VALVE ASSEMBLY         |
| DN    | DOWN                                |
| DS    | DOWNSPOUT                           |
| D     | DRAIN                               |
| DFU   | DRAINAGE FIXTURE UNIT               |
| DWV   | DRAINAGE, WASTE AND VENT            |
| DF    | DRINKING FOUNTAIN                   |
| EWC   | ELECTRIC WATER COOLER               |
| EW    | ELECTRIC WATER HEATER               |
| EL    | ELEVATION                           |
| ESH   | EMERGENCY SHOWER                    |
| FPS   | FEET PER SECOND                     |
| FFE   | FINISHED FLOOR ELEVATION            |
| FCO   | FLOOR CLEANOUT                      |
| FD    | FLOOR DRAIN                         |
| FS    | FLOOR SINK, FLOW SWITCH             |
| GPH   | GALLONS PER HOUR                    |
| GPM   | GALLONS PER MINUTE                  |
| GD    | GARBAGE DISPOSER, GARAGE DRAIN      |
| GWH   | GAS WATER HEATER                    |
| HD    | HEAD, HUB DRAIN                     |
| HW    | HOT WATER                           |
| HWFU  | HOT WATER FIXTURE UNIT              |
| HWR   | HOT WATER RETURN                    |
| INV   | INVERT ELEVATION                    |
| KW    | KILOWATT                            |
| LCW   | LABORATORY COLD WATER (NON-POTABLE) |
| L     | LAVATORY                            |
| MV    | MEDICAL VACUUM                      |
| MIN   | MINIMUM                             |
| MS    | MOP SINK                            |
| NTS   | NOT TO SCALE                        |
| PSI   | POUNDS PER SQUARE INCH              |
| PRV   | PRESSURE REDUCING VALVE             |
| RPBP  | REDUCED PRESSURE BACKFLOW PREVENTER |
| SAN   | SANITARY                            |
| SS    | SERVICE SINK                        |
| SA    | SHOCK ARRESTOR                      |
| SH    | SHOWER                              |
| S, SK | SINK                                |
| SD    | STORM DRAIN                         |
| T&P   | TEMPERATURE AND PRESSURE            |
| TP    | TRAP PRIMER, TOTAL PRESSURE         |
| TYP   | TYPICAL                             |
| U, UR | URINAL                              |
| V     | VACUUM, VENT, VOLT                  |
| VTR   | VENT THRU ROOF                      |
| WCO   | WALL CLEANOUT                       |
| WC    | WATER COLUMN, WATER CLOSET          |
| WHA   | WATER HAMMER ARRESTOR               |
| WH    | WATER HEATER, WALL HYDRANT          |
| WSFU  | WATER SUPPLY FIXTURE UNIT           |

### General

|  |                                   |
|--|-----------------------------------|
|  | CONTINUATION                      |
|  | DETAIL NUMBER AND SHEET LOCATION  |
|  | EQUIPMENT IDENTIFICATION          |
|  | FIXTURE TAG (LEVEL BELOW FIXTURE) |
|  | KEYED NOTE                        |
|  | PIPE BELOW GRADE                  |
|  | SECTION NUMBER AND SHEET LOCATION |
|  | PIPE OR CONDUIT BELOW GRADE       |

### Piping Fittings

|  |  |
|--|--|
|  | CAP                                    |
|  | CLEANOUT TO GRADE                      |
|  | FLOOR CLEANOUT                         |
|  | FLOOR DRAIN                            |
|  | FLOOR SINK                             |
|  | HOSE BIBB / WALL HYDRANT               |
|  | PIPE DROP                              |
|  | PIPE RISE                              |
|  | SHOCK ABSORBER / WATER HAMMER ARRESTOR |
|  | TEE DOWN ON PIPE                       |
|  | TEE UP ON PIPE                         |
|  | TRAP PRIMER MANIFOLD                   |
|  | UNION                                  |
|  | VENT THROUGH ROOF                      |
|  | WALL CLEANOUT                          |

### Piping Systems

|  |                                    |
|--|------------------------------------|
|  | ACID RESISTANT WASTE ABOVE GRADE   |
|  | COLD WATER PIPING                  |
|  | CONDENSATE / INDIRECT DRAIN PIPING |
|  | DE-IONIZED WATER SUPPLY            |
|  | HOT WATER PIPING                   |
|  | HOT WATER RETURN PIPING            |
|  | NON-POTABLE COLD WATER PIPING      |

|  |   |
|--|---|
|  | SANITARY VENT PIPING  |
|  | SANITARY WASTE OR SOIL PIPING ABOVE GRADE OR FINISHED FLOOR |
|  | SANITARY WASTE OR SOIL PIPING BELOW GRADE OR FINISHED FLOOR |
|  | STORM DRAIN PIPING BELOW GRADE OR FINISHED FLOOR            |

### Valves

|  |  |
|--|--|
|  | BACKFLOW PREVENTER                     |
|  | BALANCING VALVE                        |
|  | CHECK VALVE                            |
|  | EARTHQUAKE GAS VALVE                   |
|  | NATURAL GAS PIPING CONNECTION ASSEMBLY |
|  | PRESSURE REDUCING VALVE                |
|  | SHUTOFF VALVE, GENERAL                 |

- A. ALL WORK UNDER THIS CONTRACT SHALL CONFORM TO THE CURRENT STATE, COUNTY AND NATIONAL CODES AND STANDARDS ADOPTED BY THE LOCAL JURISDICTIONS INCLUDING APPLICABLE AMENDMENTS.
- B. CONDITIONS SHOWN ON THE PLANS RELATIVE TO THE WORK TO BE PERFORMED ARE BASED ON THE BEST INFORMATION AVAILABLE AND SUBJECT TO VERIFICATION. VERIFY LOCATIONS AND ELEVATIONS OF UTILITIES TO BE CROSSED OR CONNECTED. CORRECT DEFICIENCIES CAUSED BY FAILURE TO PERFORM SUCH VERIFICATIONS AT NO EXPENSE TO THE OWNER. IMMEDIATELY NOTIFY ARCHITECT AND ENGINEER OF THE CONDITION IN CONFLICT WITH THE DETAILS/PLANS.
- C. COORDINATE INSTALLATION OF PIPING, FIXTURES, EQUIPMENT AND THE LIKE BELOW AND ABOVE GRADE WITH STRUCTURAL COMPONENTS AND ALL OTHER SYSTEM INSTALLATIONS.
- D. COORDINATE FIXTURES, EQUIPMENT, PIPE ROUGH-IN/CONNECTION LOCATIONS AND DRAIN LOCATIONS WITH ARCHITECTURAL DRAWINGS.
- E. INSTALL VALVES FOR SERVICE ACCESSIBILITY. VALVES INSTALLED ABOVE THE CEILING SHALL BE WITHIN 18" OF THE CEILING.
- F. INSTALL ALL WASTE PIPING AT A MINIMUM SLOPE OF 1/4" PER FOOT, UNLESS NOTED OTHERWISE.
- G. EXCEPT FOR SHOWER DRAINS, ALL FLOOR DRAINS, FLOOR SINKS, AND OTHER INDIRECT WASTE RECEPTORS DIRECTLY CONNECTED TO THE DRAINAGE SYSTEM SHALL BE PROVIDED WITH AN AUTOMATIC TRAP PRIMER.
- H. PERMANENT VACUUM BREAKERS SHALL BE INCLUDED ON ALL HOSE BIBBS.
- I. INSTALLATION OF THE DOMESTIC HOT WATER SYSTEM SHALL COMPLY WITH THE MANDATORY REQUIREMENTS OF THE WASHINGTON STATE BUILDING ENERGY EFFICIENCY STANDARDS.
- J. DRAINAGE PIPING SERVING FIXTURES THAT ARE LOCATED BELOW THE ELEVATION OF THE NEXT UPSTREAM MANHOLE SHALL BE PROVIDED WITH A BACKWATER VALVE. FIXTURES ABOVE THAT LEVEL SHALL NOT DISCHARGE THROUGH THIS VALVE.
- K. SEWER VENTS SHALL TERMINATE AT LEAST 10 FEET HORIZONTALLY AND AT LEAST 3 FEET ABOVE ALL OPERABLE WINDOWS, DOOR OPENINGS, AIR INTAKES OR VENT SHAFTS AND AT LEAST 3 FEET FROM PROPERTY LINE.
- L. PRIOR TO BEING CONCEALED, PIPING PENETRATIONS AT THE FIRE RESISTIVE ASSEMBLIES SHALL BE INSPECTED TO VERIFY COMPLIANCE WITH THE FIRE RESISTANCE RATING.
- M. INDIRECT WASTE SHALL DISCHARGE TO THE BUILDING DRAINAGE THROUGH AN APPROVED AIR GAP OR AIR BREAK WITH A MINIMUM 1" DISTANCE FROM THE LOWEST POINT OF INDIRECT PIPE TO THE FLOOD LEVEL RIM OF THE RECEPTOR.
- N. PROVIDE WATER HAMMER ARRESTERS TO DOMESTIC WATER LINES SERVING QUICK ACTING VALVES SUCH AS, BUT NOT LIMITED TO, THE FOLLOWING:
  - a. FLUSH VALVES.
  - b. SOLENOID VALVES TO ICEMAKERS AND DISHWASHERS.
  - c. SENSOR FAUCETS.
  - d. SINGLE HANDLE FAUCETS.
  - e. SINGLE HANDLE SHOWER VALVES.

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|   |           |        |          |
|---|-----------|--------|----------|
| <b>SYMBOL LIST AND GENERAL NOTES - PLUMBING</b> |           |        |          |
| PROJECT NO.:                                    | 19-2605   | SCALE: | AS SHOWN |
| DATE:   | JUNE 2020 |        |          |

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### PLUMBING DEVICES SCHEDULE

| SYMBOL | FIXTURE TYPE                 | DESCRIPTION                                   | BASIS OF DESIGN |       |             | NOTES |
|--------|------------------------------|---|-----------------|-------|-------------|-------|
|        |                              |   | MFR             | MODEL | ACCESSORIES |       |
| BFP-1  | BACKFLOW PREVENTER           | DOUBLE CHECK VALVE TYPE BACKFLOW PREVENTER    | WATTS           |       |             |       |
| BFP-2  | BACKFLOW PREVENTER           | REDUCED PRESSURE ZONE TYPE BACKFLOW PREVENTER | WATTS           |       |             |       |
| MMV-1  | MASTER MIXING VALVE ASSEMBLY |   | ACORN ENG.      |       |             |       |

### MISCELLANEOUS PLUMBING EQUIPMENT SCHEDULE

| SYMBOL | EQUIPMENT TYPE | LOCATION/SERVING | BASIS OF DESIGN |       |          | ELECTRICAL           |       |    |      |       | NOTES |
|--------|----------------|------------------|-----------------|-------|----------|----------------------|-------|----|------|-------|-------|
|        |                |                  | MFR             | MODEL | CAPACITY | GAS DATA INPUT (MBH) | VOLTS | PH | AMPS | WATTS |       |

### PLUMBING PUMP SCHEDULE

| SYMBOL | EQUIPMENT TYPE | LOCATION/SERVING               | BASIS OF DESIGN |           |          | FLOW RATE (GPM) | HEAD (FT H2O) | RPM | ELECTRICAL |    |      |       |      | NOTES |
|--------|----------------|--------------------------------|-----------------|-----------|----------|-----------------|---------------|-----|------------|----|------|-------|------|-------|
|        |                |                                | MFR             | MODEL     | CAPACITY |                 |               |     | VOLTS      | PH | AMPS | WATTS | HP   |       |
| CP-1   |                | STADIUM CONCESSIONS & RESTROOM | GRUNDFOS        | UPS 26-99 |          | 6               | 15.00         | 0   | 0          | 1  |      | 0     | 1/25 |       |

### PLUMBING FIXTURE SCHEDULE

| SYMBOL | FIXTURE TYPE                            | DESCRIPTION  | BASIS OF DESIGN   |                    |   | CONNECTION |        |              |        | NOTES |
|--------|---|--|-------------------|--------------------|---|------------|--------|--------------|--------|-------|
|        |   |  | MFR               | MODEL              | ACCESSORIES   | W          | V      | CW           | HW     |       |
| ESH-1  | EMERGENCY SHOWER/EYE WASH               | FLOOR MOUNTED, ABS PLASTIC EYE WASH BOWL AND SHOWER HEAD, WATER STRAINER FOR EYE WASH  | HAWS              | 8320-8325          | MIXING VALVE. SEE PLUMBING DEVICES SCHEDULE   | 1-1/2"     | 1-1/2" | 1-1/4"       | 1-1/4" |       |
| FD-1   | FLOOR DRAIN (FINISHED FLOORS / SHOWERS) | CAST IRON BODY, FLASHING COLLAR, 6-INCH ADJUSTABLE NICKEL BRONZE STRAINER HEAD, TRAP PRIMER  | JR SMITH          | 2005Y-A-06-P050-NB |   | 3"         | 1-1/2" | PRIMER CONN. |        |       |
| FS-1   | FLOOR SINK                              | CAST IRON FLANGED RECEPTOR, SEEPAGE HOLES, ACID RESISTANT COATED INTERIOR, NICKEL BRONZE RIM, 3/4-GRATE, ALUMINUM DOME BOTTOM STRAINER, 6-INCH DEEP        | JR SMITH          | 3140Y-13           |   | 3"         | 1-1/2" | PRIMER CONN. |        |       |
| IM-1   | ICE MAKER OUTLET BOX                    | ABS BOX/FRAME, NO-LEAD VALVES WITH WATER HAMMER ARRESTORS  | SIOUX CHIEF       | 696-G1010MF        |   | --         | --     | 1/2"         |        |       |
| L-1    | LAVATORY                                | WALL MOUNTED, 2-STATION WASH BASIN,  | BRADLEY           | LVAD2              | FAUCET-BATTERY POWERED, SENSOR OPERATED, 0.5 GPM FLOW RATE, BRADLEY-ZEN SERIES, WITH ASSE 1070 COMPLIANT THERMOSTATIC MIXING VALVE  | 1-1/2"     | 1-1/2" | 1/2"         | 1/2"   |       |
| L-2    | LAVATORY                                | WALL MOUNTED, VITREOUS CHINA, 3-HOLE PUNCH, 4-INCH CENTERS, FRONT OVERFLOW   | AMERICAN STANDARD | 0355.012           | FAUCET (SENSOR - BATTERY) CHICAGO 116.606 AB.1 WITH ASSE 1070 COMPLIANT TEMPERATURE LIMITING MIXING VALVE AND FLOOR MOUNTED CARRIER | 1-1/2"     | 1-1/2" | 1/2"         | 1/2"   |       |
| MS-1   | MOP SINK                                | FLOOR MOUNTED, TERRAZZO, 24-INCHES X 24-INCHES X 10-INCHES   | STERN WILLIAMS    | MTB-2424           | FAUCET (MOP SINK) CHICAGO 540-LD897SWXFBBCP (PROVIDE WITH CHICAGO GCJKABCP INTEGRAL CHECKS) ALUMINUM BUMPER GUARDS SPLASH PANELS    | 3"         | 2"     | 1/2"         | 1/2"   |       |
| S-1    | SINK                                    | COUNTERTOP, SINGLE BOWL, 18 GAUGE STAINLESS STEEL, 22-INCHES X 19-1/2-INCHES X 6-1/2-INCHES DEEP, 18-INCH MINIMUM CABINET SIZE, 3-HOLE PUNCH, BARRIER FREE | ELKAY             | LRAD221965         | KITCHEN FAUCET (SINGLE LEVER HANDLE); CHICAGO 431-ABCP  | 2"         | 1-1/2" | 1/2"         | 1/2"   |       |
| S-2    | SINK                                    | WALL HUNG SINK KIT, STAINLESS STEEL, SINGLE BOWL, 22-INCHES X 19-1/2-INCHES X 5-INCHES DEEP  | ELKAY             | ELV2219SAC         | WITH ELKAY BATTERY POWERED SENSOR OPERATED FAUCET, 0.5 GPM FLOW AND ASSE 1070 COMPLIANT TEMPERATURE LIMITING MIXING VALVE           | 2"         | 1-1/2" | 1/2"         | 1/2"   |       |
| S-3    | SINK                                    | COUNTERTOP, SINGLE BOWL, 18 GAUGE STAINLESS STEEL, 31-INCHES X 22-INCHES X 6-1/2-INCHES DEEP, 36-INCH MINIMUM CABINET SIZE, 3-HOLE PUNCH, BARRIER FREE     | ELKAY             | LRAD3122-3         | FAUCET (8-INCH GOOSENECK WRISTBLADE); CHICAGO 201-AGN8AE36-317ABCP  | 2"         | 1-1/2" | 1/2"         | 1/2"   |       |
| SH-1   | SHOWER                                  | ONE PIECE, 37-1/4-INCHES X 36-INCHES X 79-1/4-INCHES, SLIP-RESISTANT TEXTURED BOTTOM   | COMFORT DESIGNS   | XS1363 CNTAC       | SHOWER VALVE (ADA, SINGLE HANDLE, HAND SHOWER, 1.6 GPM, INTEGRAL CHECKS); ZURN Z7300-SS-MT-HW-H9                                    | 2"         | 1-1/2" | 1/2"         | 1/2"   |       |
| U-1    | URINAL                                  | WALL MOUNTED, VITREOUS CHINA, TOP SPUD, FLUSHOMETER, STANDARD MOUNTING HEIGHT  | AMERICAN STANDARD | 6590.001           | FLUSH VALVE ( BATTERY - 0.125 GPF, DIAPHRAGM); SLOAN 8186-0.125   | 2"         | 1-1/2" | 3/4"         |        |       |
| U-2    | URINAL                                  | WALL MOUNTED, VITREOUS CHINA, TOP SPUD, FLUSHOMETER, BARRIER FREE MOUNTING HEIGHT  | AMERICAN STANDARD | 6590.001           | FLUSH VALVE ( BATTERY - 0.125 GPF, DIAPHRAGM); SLOAN 8186-0.125   | 2"         | 1-1/2" | 3/4"         |        |       |
| WC-1   | WATER CLOSET                            | FLOOR MOUNTED, VITREOUS CHINA, TOP SPUD, FLUSHOMETER, BARRIER FREE HEIGHT  | AMERICAN STANDARD | 3043.001           | FLUSH VALVE ( BATTERY - 1.28 GPF, DIAPHRAGM); SLOAN 8111-1.28   | 4"         | 2"     | 1"           |        |       |
| WM-1   | WASHING MACHINE OUTLET BOX              | ABS BOX/FRAME, NO-LEAD VALVES WITH WATER HAMMER ARRESTORS, 1/2" FEMALE SWEAT CONNECTIONS   | SIOUX CHIEF       | 696-G2313MF        | SEAT (COMMERCIAL WEIGHT, HEAVY-DUTY SOLID PLASTIC WITH STAINLESS STEEL CHECK HINGE); BEMIS 2155SSC-000                              | 2"         | 1-1/2" | 1/2"         | 1/2"   |       |

### WATER HEATER SCHEDULE

| SYMBOL | EQUIPMENT TYPE                 | LOCATION/SERVING    | BASIS OF DESIGN     |            | TANK CAPACITY (GALLONS) | GAS DATA    |              | RECOVER Y RATE (GPH) | ELECTRICAL |    |      |       | MAX WT (LBS) | NOTES |
|--------|--------------------------------|---------------------|---------------------|------------|-------------------------|-------------|--------------|----------------------|------------|----|------|-------|--------------|-------|
|        |                                |                     | MFR                 | MODEL      |                         | INPUT (MBH) | OUTPUT (MBH) |                      | VOLTS      | PH | AMPS | WATTS |              |       |
| EWH-1  | INSTANTANEOUS WATER HEATER     |                     | EEMAX PRO ADVANTAGE | PA016277TC | 0                       | 0           | 277          | 3                    | 34         | 0  | 0    | 0     |              |       |
| GWH-1  | NATURAL GAS FIRED WATER HEATER | MECH RM 124/DOM. HW | AO SMITH            | BTH-199A   | 100                     | 199900      | 214          | 0                    | 1          | 15 | 0    | 1390  |              |       |

### UPC WATER SERVICE CALCULATIONS

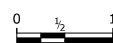
| PRIVATE INDIVIDUAL DWELLING | PUBLIC GENERAL USE | PUBLIC HEAVY USE ASSEMBLY | DESCRIPTION                                      | WATER SUPPLY FIXTURE UNITS  |                    |                           |                     |               | DRAINAGE FIXTURE UNITS      |                    |                           |           |  |    |
|-----------------------------|--------------------|---------------------------|--|-----------------------------|--------------------|---------------------------|---------------------|---------------|-----------------------------|--------------------|---------------------------|-----------|--|----|
|                             |                    |                           |  | TABLE A-2                   |                    |                           | TOTAL FIXTURE UNITS |               | TABLE 7-3                   |                    |                           | TOTAL DFU |  |    |
|                             |                    |                           |  | PRIVATE INDIVIDUAL DWELLING | PUBLIC GENERAL USE | PUBLIC HEAVY USE ASSEMBLY | COLD WATER          | .75 HOT WATER | PRIVATE INDIVIDUAL DWELLING | PUBLIC GENERAL USE | PUBLIC HEAVY USE ASSEMBLY |           |  |    |
| 0                           | 1                  | 0                         | CLOTHESWASHER DOMESTIC                           | 4                           | 4                  | 0                         | 4                   | 3             | 3                           | 3                  | 3                         | 3         |  |    |
| 0                           | 1                  | 0                         | DISHWASHER, DOMESTIC                             | 1.5                         | 1.5                | 0                         | 1.5                 | 1.125         | 2                           | 2                  | 2                         | 2         |  |    |
| 0                           | 2                  | 0                         | DRINKING FOUNTAIN OR WATER COOLER                | 0                           | 0.5                | 0.75                      | 1                   | 0             | 0.5                         | 0.5                | 1                         | 1         |  |    |
| 0                           | 1                  | 0                         | FLOOR DRAIN                                      | 0                           | 0                  | 0                         | 0                   | 0             | 2                           | 2                  | 2                         | 2         |  |    |
| 0                           | 5                  | 0                         | FLOOR DRAIN, EMERGENCY                           | 0                           | 0                  | 0                         | 0                   | 0             | 0                           | 0                  | 0                         | 0         |  |    |
| 0                           | 1                  | 0                         | FOOD-WASTE-GRINDER, COMMERCIAL                   | 0                           | 0                  | 0                         | 0                   | 0             | 3                           | 3                  | 3                         | 3         |  |    |
| 0                           | 1                  | 0                         | HOSE BIBB  | 2.5                         | 2.5                | 2.5                       | 2.5                 | 0             | 0                           | 0                  | 0                         | 0         |  |    |
| 0                           | 15                 | 0                         | HOSE BIBB, EACH ADDITIONAL                       | 1                           | 1                  | 1                         | 15                  | 0             | 0                           | 0                  | 0                         | 0         |  |    |
| 0                           | 1                  | 0                         | LAVATORY   | 1                           | 1                  | 1                         | 1                   | 0.75          | 1                           | 1                  | 1                         | 1         |  |    |
| 0                           | 1                  | 0                         | SERVICE SINK OR MOP BASIN                        | 1.5                         | 3                  | 0                         | 3                   | 2.25          | 0                           | 3                  | 3                         | 3         |  |    |
| 0                           | 2                  | 0                         | SHOWER, EACH HEAD                                | 2                           | 2                  | 0                         | 4                   | 3             | 2                           | 2                  | 2                         | 4         |  |    |
| 0                           | 4                  | 0                         | SINK   | 1.5                         | 1.5                | 0                         | 6                   | 4.5           | 2                           | 2                  | 0                         | 8         |  |    |
| 0                           | 2                  | 0                         | URINAL, 1.0 GPF                                  | 3                           | 4                  | 5                         | 8                   | 0             | 2                           | 2                  | 5                         | 4         |  |    |
| 0                           | 0                  | 2                         | WASHUP SINK, EACH SET OF FAUCETS                 | 0                           | 2                  | 0                         | 0                   | 0             | 0                           | 2                  | 2                         | 4         |  |    |
| 0                           | 3                  | 0                         | WATER CLOSET, 1.6 GPF OR LESS, FLUSHOMETER VALVE | 5                           | 5                  | 8                         | 15                  | 0             | 3                           | 4                  | 6                         | 12        |  |    |
| Grand total                 |                    |                           |  |                             |                    |                           |                     |               | 61                          | 14.625             |                           |           |  | 47 |

### WATER SERVICE CALCULATION

| TOTAL FIXTURE UNITS  |                            | CW     | HW        |
|--|----------------------------|--------|-----------|
| GPM  |                            | 1      | 0         |
| QTY  |                            |        | GPM       |
|  | FLOW IN GPM                |        | 1         |
| 1  | EMERGENCY SAFETY EQUIPMENT | 30     | 30        |
| 1  | COOLING TOWER MAKE-UP      | 20     | 20        |
| 1  | HVAC MAKE-UP               | 20     | 20        |
| 1  | IRRIGATION FLOW            | 20     | 20        |
| <b>TOTAL GPM REQUIRED</b>                                  |                            |        | <b>91</b> |
| a. MINIMUM DAILY SERVICE PRESSURE                          |                            |        | 100       |
| 42 FT  | b. STATIC HEAD LOSS        | X .433 | 18.186    |
| c. WATER METER PRESSURE DROP                               |                            |        | 12        |
| d. BACK FLOW PREVENTER                                     |                            |        | 0         |
| e. PRESSURE REQUIRED AT FIXTURE                            |                            |        | 40        |
| PRESSURE AVAILABLE FOR FRICTION LOSS, a-b-c-d-e            |                            |        | 29.814    |
| TOTAL EQUIVALENT PIPE LENGTH                               |                            | X 1.25 | 225       |
| MAXIMUM FRICTION LOSS PRESS. AVAILABLE X 100'EQUIV. LENGTH |                            |        | 13.250667 |
| SYSTEM SIZED FOR 0 PSIG LOSS PER 100'                      |                            |        |           |
| <b>SERVICE SIZE FROM BUILDING PIPING</b>                   |                            |        | <b>0"</b> |

STRONGWORK ARCHITECTURE

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M-846

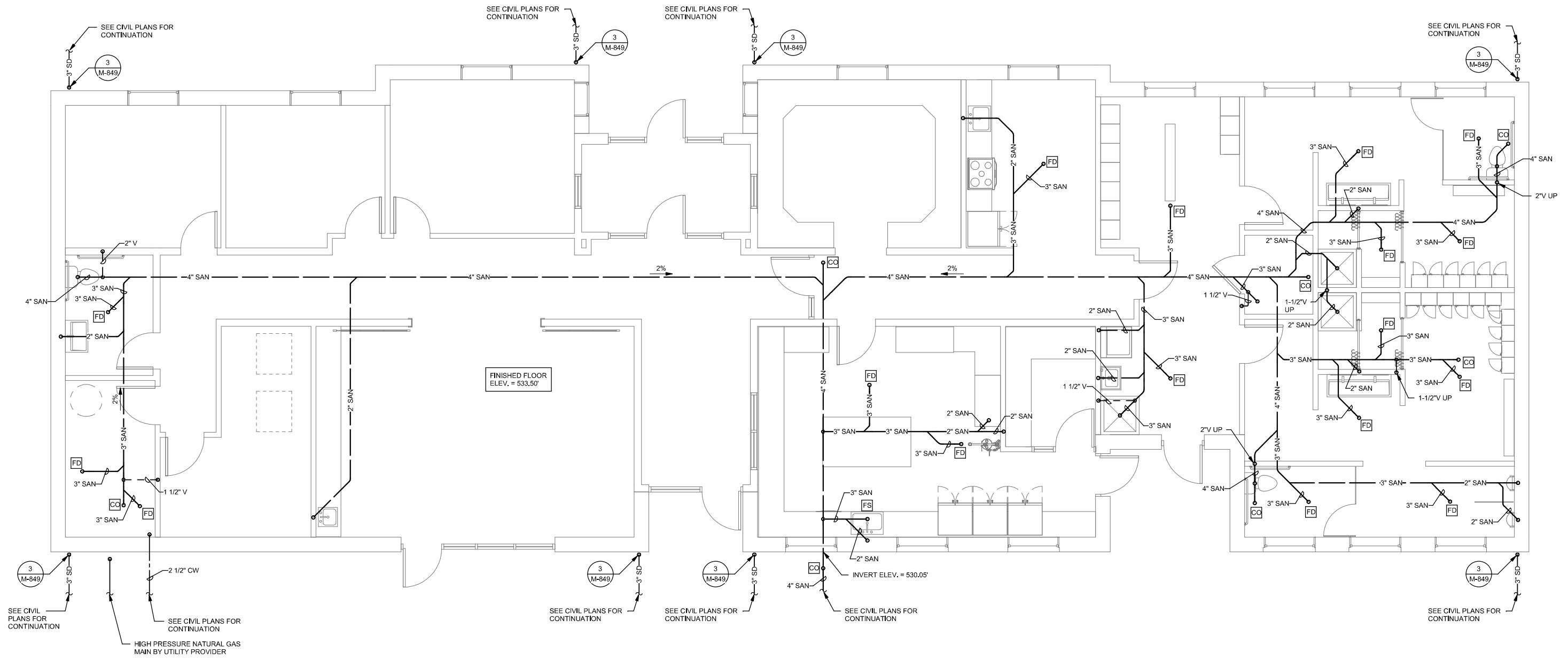
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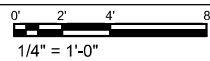
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**1 UNDERGROUND PLAN - PLUMBING**



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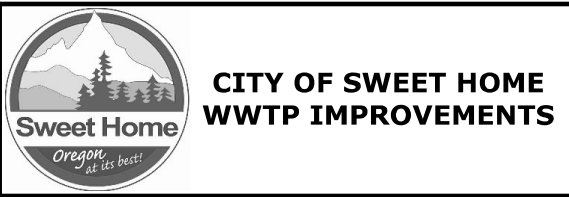
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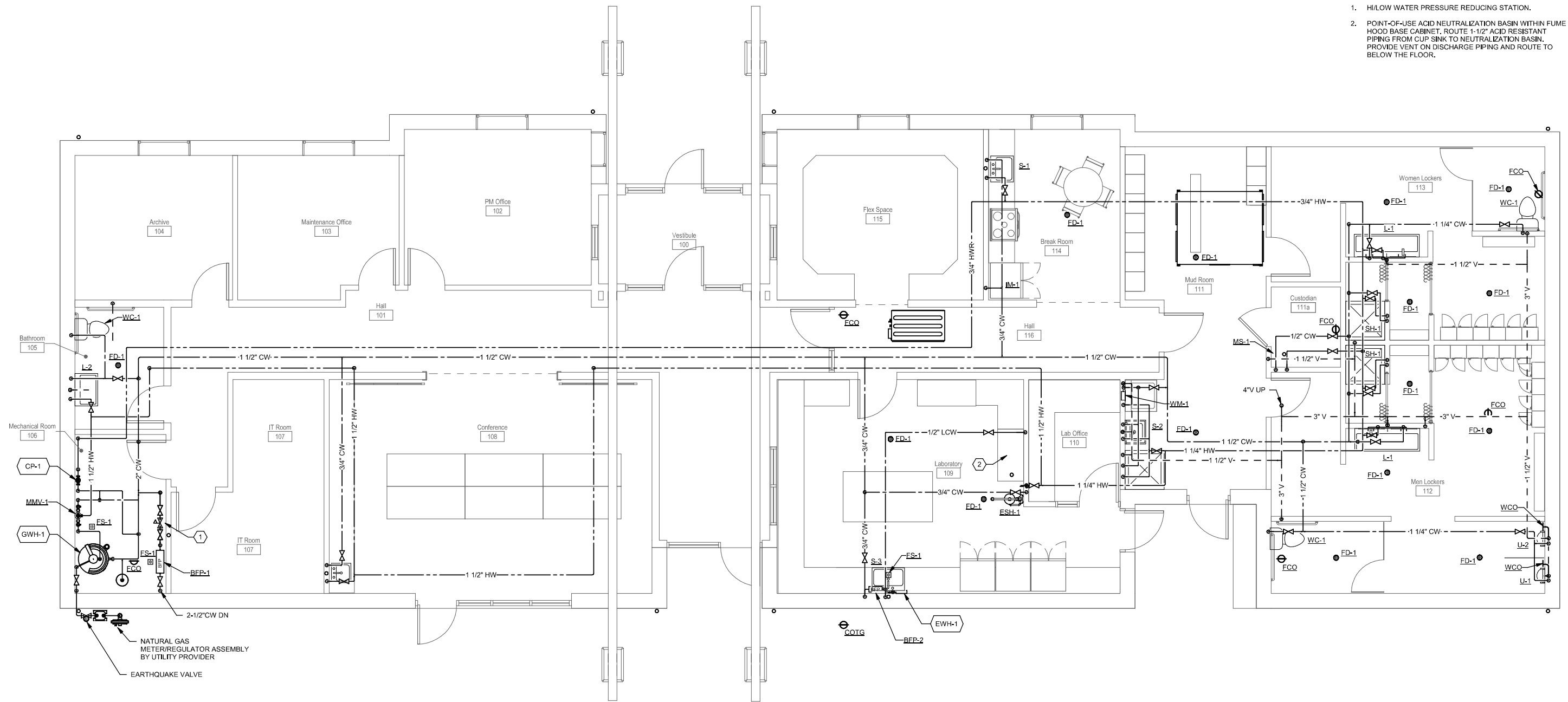


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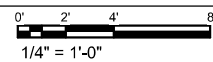
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**M-847**  
226 of 354

# SHEET KEYNOTES

- H/LOW WATER PRESSURE REDUCING STATION.
- POINT-OF-USE ACID NEUTRALIZATION BASIN WITHIN FUME HOOD BASE CABINET, ROUTE 1-1/2" ACID RESISTANT PIPING FROM CUP SINK TO NEUTRALIZATION BASIN. PROVIDE VENT ON DISCHARGE PIPING AND ROUTE TO BELOW THE FLOOR.



## 1 FLOOR PLAN - PLUMBING



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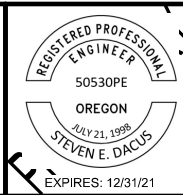
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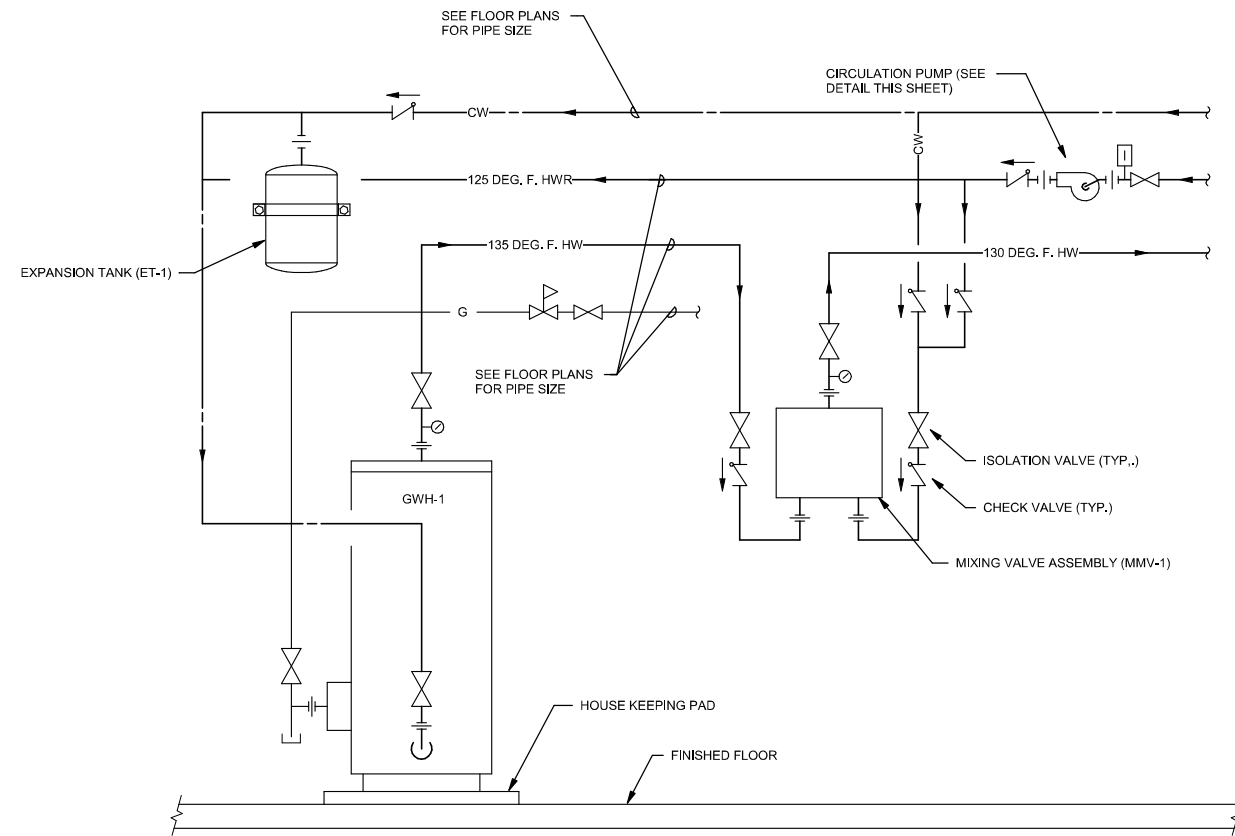
**FLOOR PLAN - PLUMBING**

SHEET

**M-848**

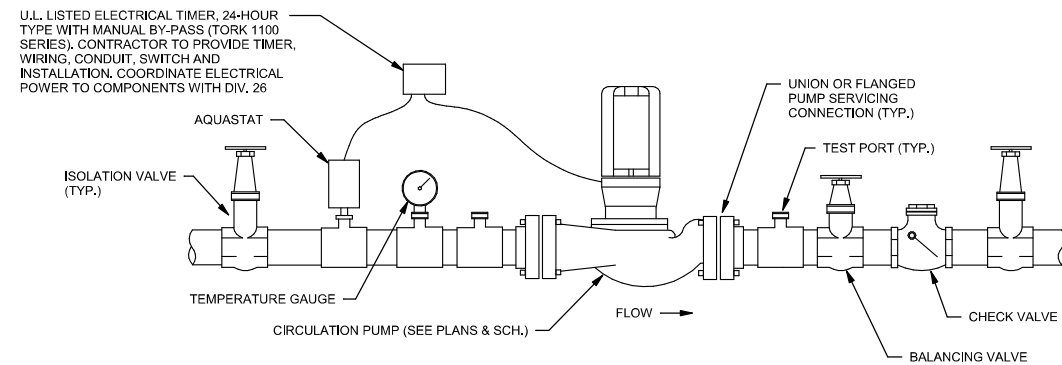
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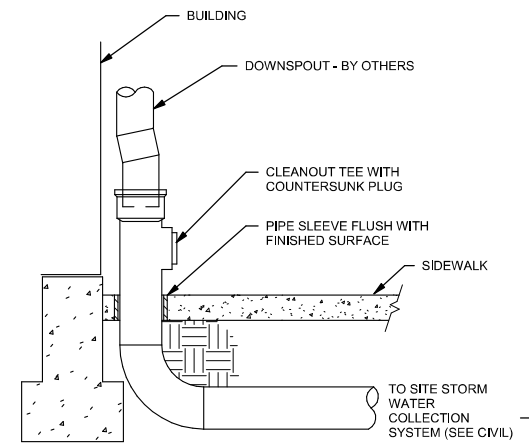
### 1 NATURAL GAS FIRED WATER HEATER

NOT TO SCALE

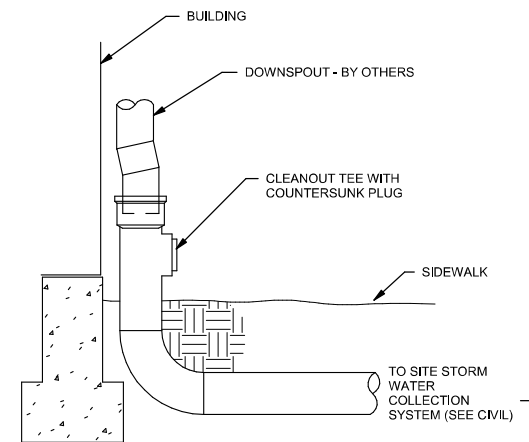


### 2 CIRCULATION PUMP

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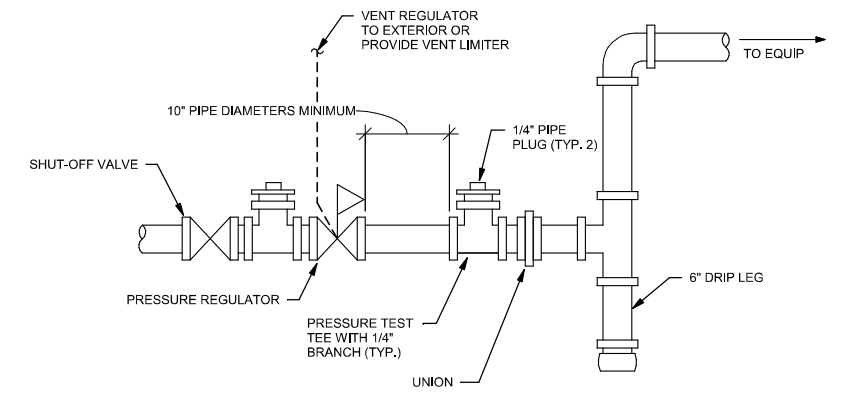
### AT SIDEWALK



### AT GRADE

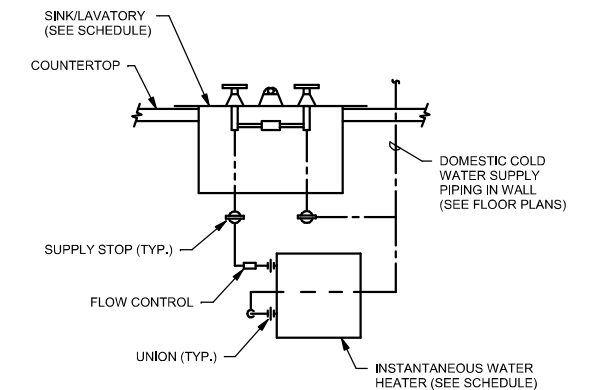
### 3 DOWNSPOUT TRANSITION

NOT TO SCALE



### 4 NATURAL GAS CONNECTION

NOT TO SCALE



### 5 INSTANTANEOUS WATER HEATER

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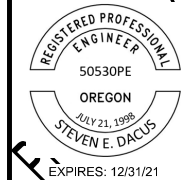
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**GENERAL INSTRUMENT SYMBOLS**

| LOCATION/ACCESSIBILITY   | DISCRETE INSTRUMENTS | SHARED DISPLAY AND CONTROL (DCS) | PLC | DISCRETE HARDWARE INTERLOCK |
|--|----------------------|----------------------------------|-----|-----------------------------|
| FIELD MOUNTED<br>1. FIELD OR LOCALLY MOUNTED.<br>2. ACCESSIBLE TO AN OPERATOR AT DEVICE.   |                      |                                  |     |                             |
| PRIMARY LOCATION NORMALLY ACCESSIBLE TO AN OPERATOR<br>1. CENTRAL OR MAIN CONTROL ROOM.<br>2. FRONT OF MAIN PANEL OR CONSOLE MOUNTED.<br>3. VISIBLE ON VIDEO DISPLAY.<br>4. ACCESSIBLE TO AN OPERATOR AT DEVICE OR CONSOLE.  |                      |                                  |     |                             |
| PRIMARY LOCATION NORMALLY INACCESSIBLE TO AN OPERATOR<br>1. CENTRAL OR MAIN CONTROL ROOM.<br>2. REAR OF PANEL OR CABINET MOUNTED.<br>3. NOT VISIBLE ON VIDEO DISPLAY.<br>4. NOT NORMALLY ACCESSIBLE TO AN OPERATOR AT DEVICE OR CONSOLE.   |                      |                                  |     |                             |
| AUXILIARY LOCATION NORMALLY ACCESSIBLE TO AN OPERATOR<br>1. SECONDARY OR LOCAL CONTROL ROOM.<br>2. FIELD OR LOCAL CONTROL PANEL.<br>3. FRONT OF SECONDARY OR LOCAL PANEL MOUNTED.<br>4. VISIBLE ON VIDEO DISPLAY.<br>5. ACCESSIBLE TO AN OPERATOR AT DEVICE OR CONSOLE.                              |                      |                                  |     |                             |
| AUXILIARY LOCATION NORMALLY INACCESSIBLE TO AN OPERATOR<br>1. SECONDARY OR LOCAL CONTROL ROOM.<br>2. FIELD OR LOCAL CONTROL PANEL.<br>3. REAR OF SECONDARY OR LOCAL PANEL OR CABINET MOUNTED.<br>4. NOT VISIBLE ON VIDEO DISPLAY.<br>5. NOT NORMALLY ACCESSIBLE TO AN OPERATOR AT DEVICE OR CONSOLE. |                      |                                  |     |                             |

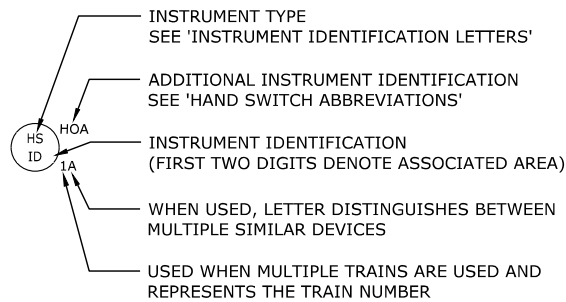
**ABBREVIATIONS**

|                                |                                     |
|--------------------------------|-------------------------------------|
| AG ABOVE GROUND                | MAX MAXIMUM                         |
| ATM ATMOSPHERE                 | MCC MOTOR CONTROL CENTER            |
| BL BATTERY LIMIT               | MCP MAIN CONTROL PANEL              |
| BTL BOTTOM TANGENT LINE        | MIN MINIMUM                         |
| BYP BYPASS                     | MOV MOTOR OPERATED VALVE            |
| CC CHEMICAL CLEANOUT           | MW MANWAY                           |
| CL CENTERLINE                  | NC NORMALLY CLOSED                  |
| CO CLEANOUT                    | NNF NORMALLY NO FLOW                |
| CONN CONNECTION                | NO NORMALLY OPEN                    |
| CSC CAR SEAL CLOSED            | NOZ NOZZLE                          |
| CSO CAR SEAL OPEN              | O/C OPEN/CLOSE                      |
| CTR CENTER                     | O/O ON/OFF                          |
| DCS DISTRIBUTED CONTROL SYSTEM | OIT OPERATOR INTERFACE TERMINAL     |
| DES DESIGN                     | OP OUTPUT                           |
| DIA DIAMETER                   | OSBL OUTSIDE BATTERY LIMITS         |
| DP DESIGN PRESSURE             | OVHD OVERHEAD                       |
| D/P DIFFERENTIAL PRESSURE      | PLC PROGRAMMABLE LOGIC CONTROLLER   |
| DRN DRAIN                      | PRESS PRESSURE                      |
| DT DESIGN TEMPERATURE          | PV PROCESS VARIABLE                 |
| DWG DRAWING                    | (R) RELOCATED                       |
| (E) EXISTING                   | REQD REQUIRED                       |
| EL ELEVATION                   | RIO REMOTE IO PANEL                 |
| ESD EMERGENCY SHUTDOWN         | RTD RESISTANCE TEMPERATURE DETECTOR |
| FOF FACE OF FLANGE             | SC SAMPLE CONNECTION                |
| (F) FURNISHED                  | SCH SCHEDULE                        |
| FC FAIL CLOSED                 | SD SHUTDOWN                         |
| FI FAIL INDETERMINATE          | SG SPECIFIC GRAVITY                 |
| FL FAIL LOCKED (LAST POSITION) | SIS SAFETY INSTRUMENTED SYSTEM      |
| FLG FLANGE                     | SO STEAM OUT                        |
| FO FAIL OPEN                   | SP SET POINT                        |
| FP FULL PORT                   | SS STAINLESS STEEL S/S START/STOP   |
| FV FULL VACUUM                 | STD STANDARD                        |
| GO GEAR OPERATED               | T/C THERMOCOUPLE                    |
| GR GRADE                       | TDH TOTAL DIFFERENTIAL HEAD         |
| HC HOSE CONNECTION             | TEMP TEMPERATURE                    |
| HDR HEADER                     | THRD THREADED                       |
| HH HAND HOLE                   | TL TANGENT LINE                     |
| HOA HAND/OFF/AUTOMATIC         | TSO TIGHT SHUT-OFF                  |
| HP HIGH PRESSURE               | T/T TANGENT TO TANGENT              |
| HPT HIGH POINT                 | TYP TYPICAL                         |
| IAS INSTRUMENT AIR SUPPLY      | UG UNDERGROUND                      |
| ISBL INSIDE BATTERY LIMITS     | VNT VENT                            |
| LC LOCKED CLOSED               | VAC VACUUM                          |
| LCP LOCAL CONTROL PANEL        | VB VORTEX BREAKER                   |
| LO LOCKED OPEN                 | VFD VARIABLE FREQUENCY DRIVE        |
| LP LOW PRESSURE                | W/ WITH                             |
| LPT LOW POINT                  | W/O WITHOUT                         |
| MTL MATERIAL                   |                                     |

**INSTRUMENT IDENTIFICATION LETTERS**

| FIRST LETTER |   | SUCCEEDING LETTERS  |                             |  |                      |
|--------------|---|---------------------|-----------------------------|--|----------------------|
|              | MEASURED OR INITIATING VARIABLE                       | MODIFIER            | READOUT OR PASSIVE FUNCTION | OUTPUT FUNCTION                                      | MODIFIER             |
| A            | ANALYSIS  |                     | ALARM                       |  |                      |
| B            | BURNER, FLAME, COMBUSTION                             |                     | USER'S CHOICE               | USER'S CHOICE  |                      |
| C            | USER'S CHOICE (TYPICALLY CONDUCTIVITY - ELECTRICAL)   |                     |                             | CONTROL, COMMAND                                     | CLOSED               |
| D            | USER'S CHOICE (TYPICALLY DENSITY OR SPECIFIC GRAVITY) | DIFFERENTIAL        |                             |  | DIVERT               |
| E            | VOLTAGE   |                     | SENSOR (PRIMARY ELEMENT)    |  |                      |
| F            | FLOW RATE   | RATIO (FRACTION)    |                             |  |                      |
| G            | USER'S CHOICE OR GAUGING (DIMENSIONAL)                |                     | GLASS, VIEWING DEVICE       |  |                      |
| H            | HAND  |                     |                             |  | HIGH                 |
| I            | CURRENT (ELECTRICAL)                                  |                     | INDICATE                    |  |                      |
| J            | POWER   | SCAN                |                             |  |                      |
| K            | TIME, TIME SCHEDULE                                   | TIME RATE OF CHANGE |                             | CONTROL STATION                                      |                      |
| L            | LEVEL   |                     | LIGHT                       |  | LOW                  |
| M            | USER'S CHOICE (TYPICALLY MOISTURE OR HUMIDITY)        | MOMENTARY           |                             |  | MIDDLE, INTERMEDIATE |
| N            | USER'S CHOICE   |                     | USER'S CHOICE               | USER'S CHOICE  | USER'S CHOICE        |
| O            | USER'S CHOICE   |                     | ORIFICE, RESTRICTION        |  | OPEN                 |
| P            | PRESSURE, VACUUM                                      |                     | POINT (TEST) CONNECTION     |  |                      |
| Q            | QUANTITY OR HEAT DUTY                                 | INTEGRATE, TOTALIZE |                             |  |                      |
| R            | RADIATION   |                     | RECORD                      |  |                      |
| S            | SPEED, FREQUENCY                                      | SAFETY              |                             | SWITCH   |                      |
| T            | TEMPERATURE   |                     |                             | TRANSMIT   | THROUGH              |
| U            | MULTIVARIABLE   |                     | MULTIFUNCTION               | MULTIFUNCTION  | MULTIFUNCTION        |
| V            | VIBRATION, MECHANICAL ANALYSIS                        |                     |                             | VALVE, DAMPER, LOUVER                                |                      |
| W            | WEIGHT, FORCE, TORQUE                                 |                     | WELL                        |  |                      |
| X            | UNCLASSIFIED  | X AXIS              | UNCLASSIFIED                | UNCLASSIFIED   | UNCLASSIFIED         |
| Y            | EVENT, STATE OR PRESENCE                              | Y AXIS              |                             | RELAY, COMPUTE, CONVERT                              |                      |
| Z            | POSITION, DIMENSION                                   | Z AXIS              |                             | DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT |                      |

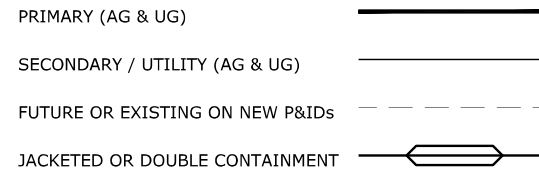
**TYPICAL INSTRUMENT TAG NUMBERS & DESIGNATION**



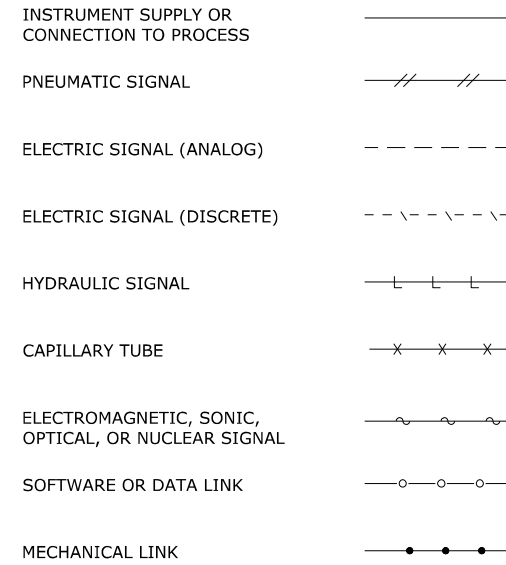
**HAND SWITCH ABBREVIATIONS**

|                           |                        |
|---------------------------|------------------------|
| AO = AUTO/OFF             | LOS = LOCKOUT/STOP     |
| AM = AUTO/MANUAL          | LA = LOCAL/AUTO        |
| CM = COMPUTER/MANUAL      | LR = LOCAL/REMOTE      |
| CL = COMPUTER LOCAL       | OC = OPEN/CLOSE        |
| ES = EMERGENCY STOP       | OCA = OPEN/CLOSE/AUTO  |
| FR = FORWARD/REVERSE      | OO = ON/OFF            |
| FOR = FORWARD/OFF/REVERSE | OOA = ON/OFF/AUTO      |
| FS = FAST/SLOW            | OSC = OPEN/STOP/CLOSE  |
| FOS = FAST/OFF/SLOW       | RES = RESET            |
| HOA = HAND/OFF/AUTOMATIC  | RSL = RAISE/STOP/LOWER |
| LLS = LEAD/LAG/STANDBY    | SS = START/STOP        |
| LOC = LOCAL/OFF/COMPUTER  | SOR = START/OFF/RESET  |
| LOR = LOCAL/OFF/REMOTE    | V/B = VFD/BYPASS       |

**PIPING LINE SYMBOLS**



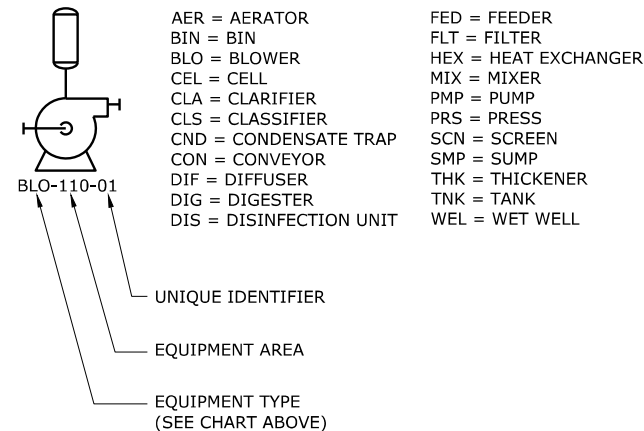
**INSTRUMENT LINE SYMBOLS**



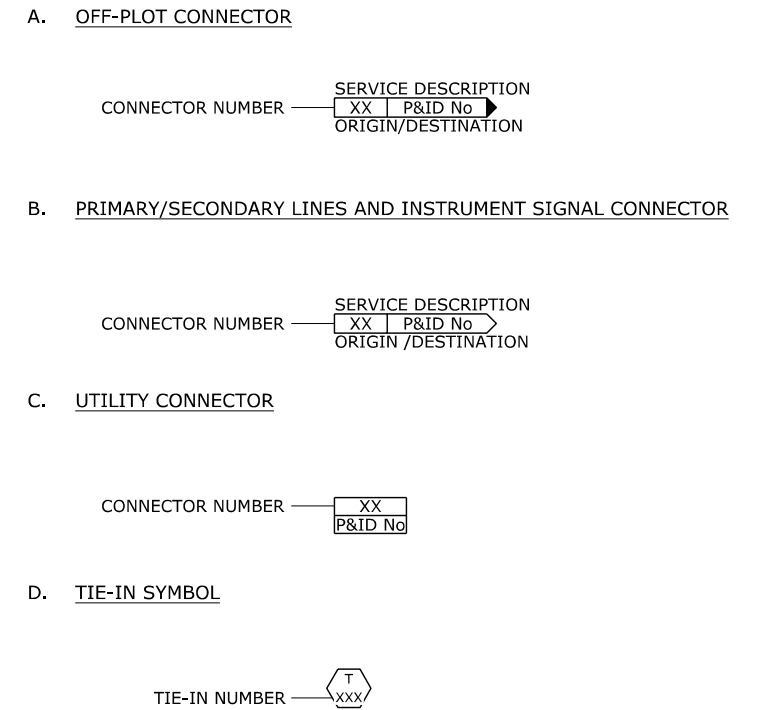
**FLOW STREAM IDENTIFIERS**

|                       |   |
|-----------------------|---|
| CS = COMBINED SLUDGE  | PI = PRIMARY INFLUENT                   |
| CAS = CAUSTIC SODA    | POL = POLYMER                           |
| DG = DIGESTER GAS     | PS = PRIMARY SLUDGE                     |
| DR = DRAIN            | RAS = RETURN ACTIVATED SLUDGE           |
| DS = DIGESTER SOLIDS  | RS = RAW SEWAGE                         |
| FA = FOUL AIR         | SCM = SCUM                              |
| FBW = FILTER BACKWASH | SCRN = SCREENINGS                       |
| FE = FINAL EFFLUENT   | SE = SECONDARY EFFLUENT                 |
| GR = GRIT             | TE = TERTIARY EFFLUENT                  |
| HW = HOT WATER        | TWAS = THICKENED WASTE ACTIVATED SLUDGE |
| ML = MIXED LIQUOR     | UW = UTILITY WATER                      |
| PA = PROCESS AIR      | WAS = WASTE ACTIVATED SLUDGE            |
| PDR = PLANT DRAIN     |   |
| PE = PRIMARY EFFLUENT |   |

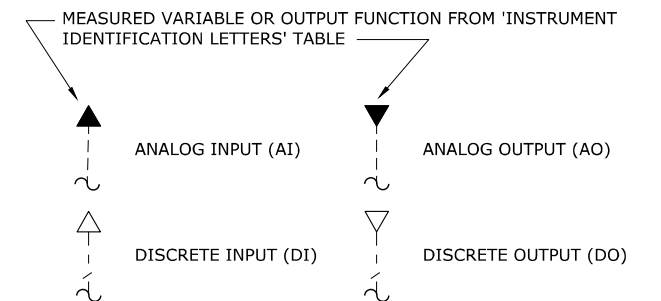
**TYPICAL EQUIPMENT TAG NUMBERS & DESIGNATION**



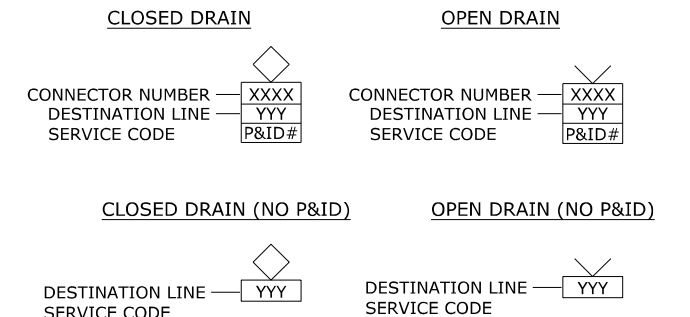
**OFF-PAGE CONNECTORS AND TIE-IN SYMBOL**



**INPUT / OUTPUT SIGNALS**



**DRAIN CONNECTORS**



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G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\P&ID\19-2605-OR-P-001.dwg P-001 6/8/2020 5:06 PM IS 23.0s (LMS Tech)

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NOTICE

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LKG DESIGNED

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JNB CHECKED

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**LEGENDS, SYMBOLS AND ABBREVIATIONS 1**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

SHEET

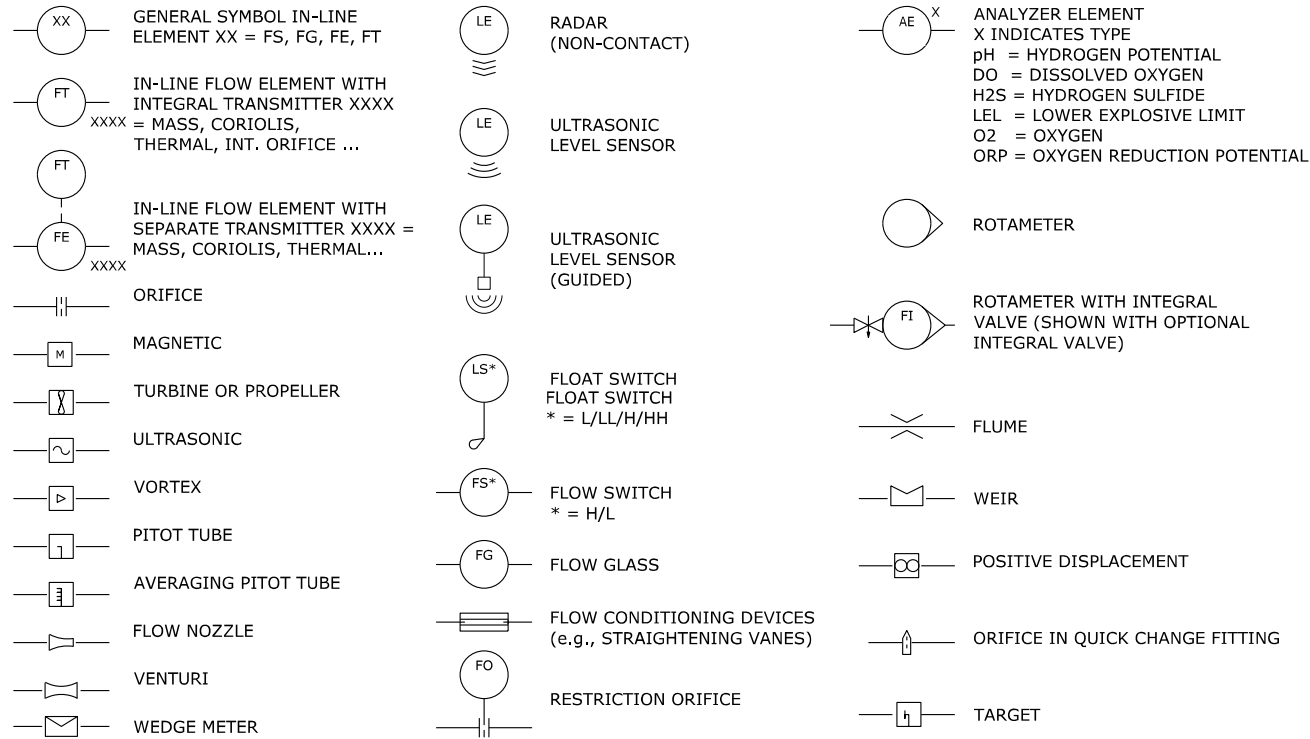
P-001

231 of 354

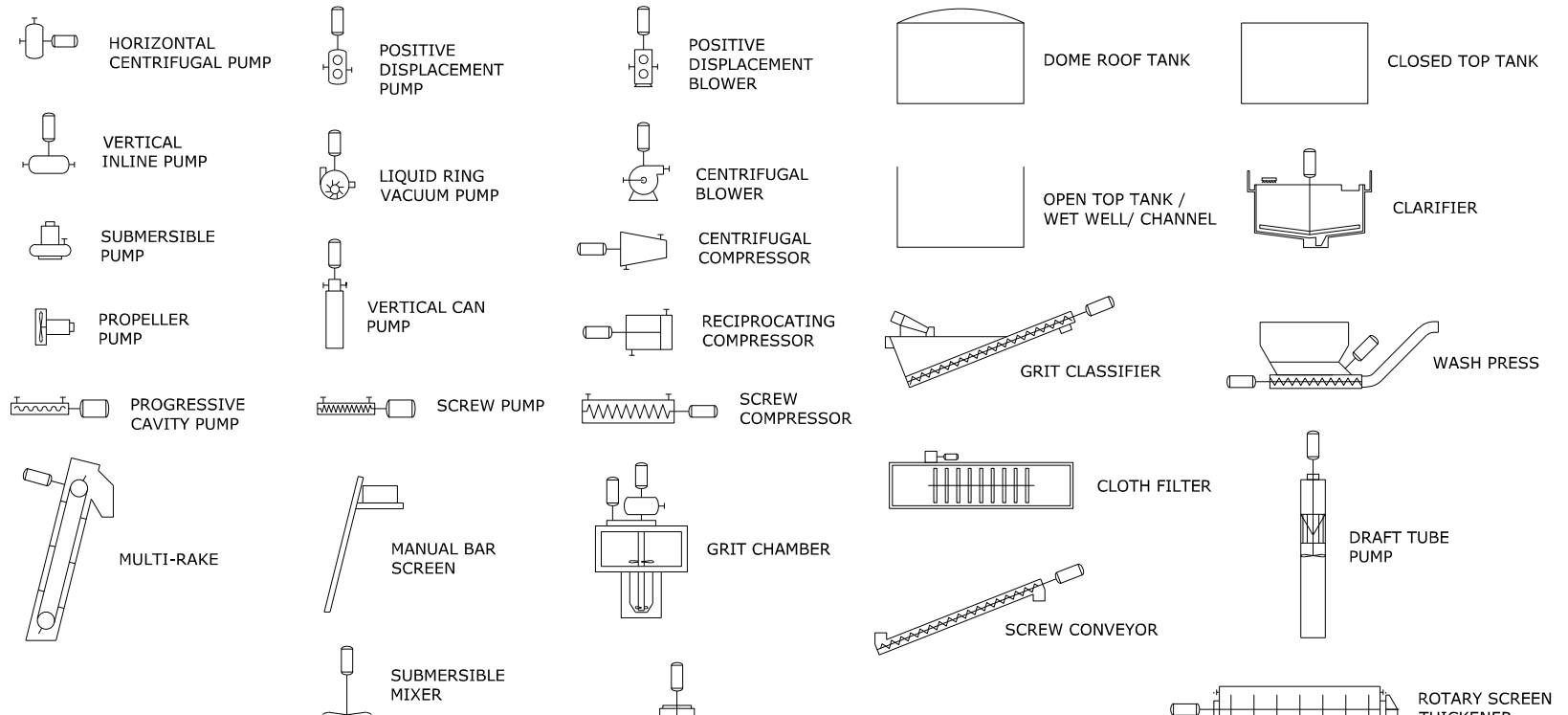


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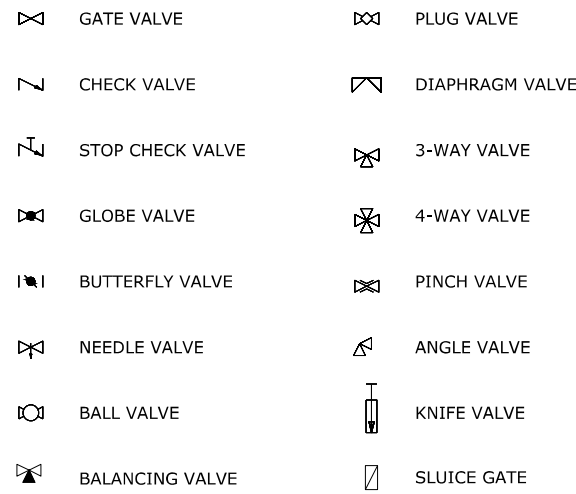
**PRIMARY ELEMENT SYMBOLS**



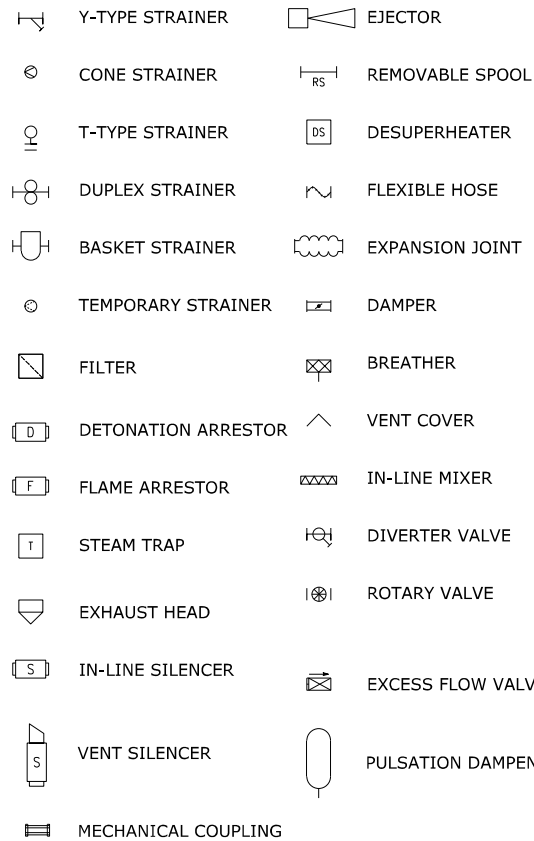
**PROCESS EQUIPMENT**



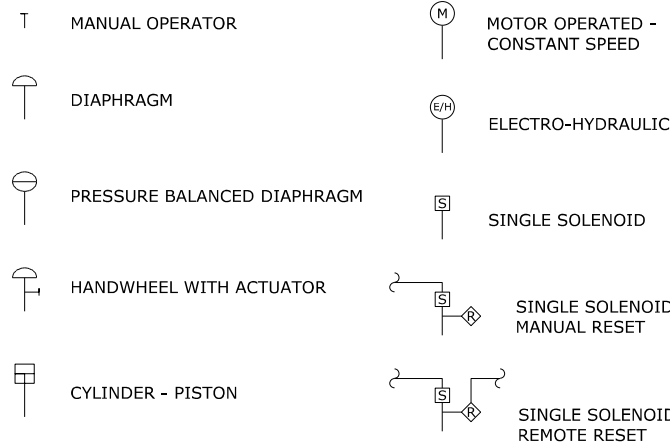
**VALVE SYMBOLS (N.C. WHEN SHADED)**



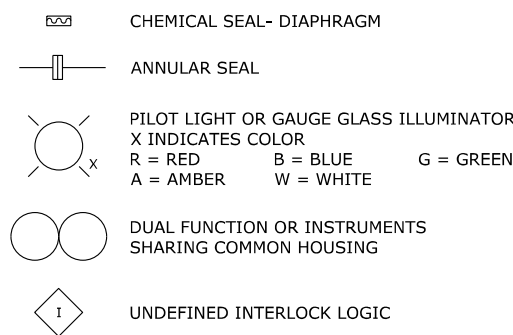
**PIPING SPECIALTY ITEMS**



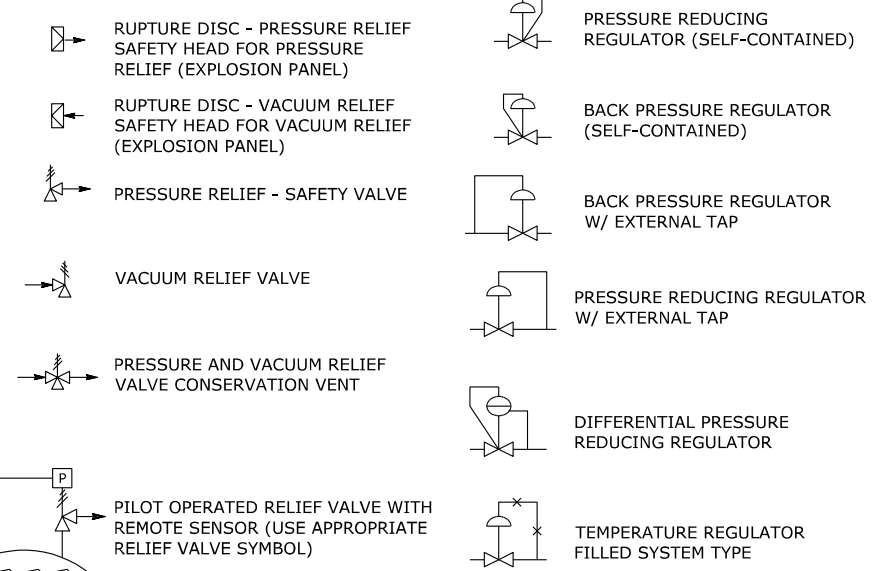
**CONTROL VALVE ACTUATOR SYMBOLS**



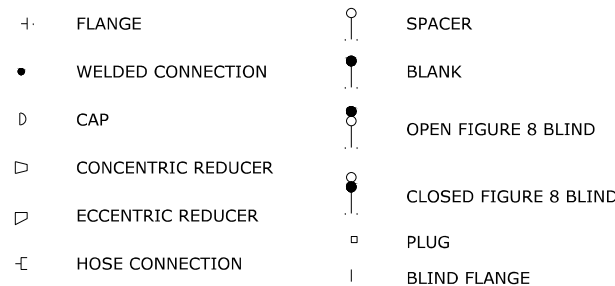
**MISCELLANEOUS INSTRUMENT SYMBOLS**



**SELF-ACTUATED DEVICES**



**PIPING FITTINGS**



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**LEGENDS, SYMBOLS AND ABBREVIATIONS 2**

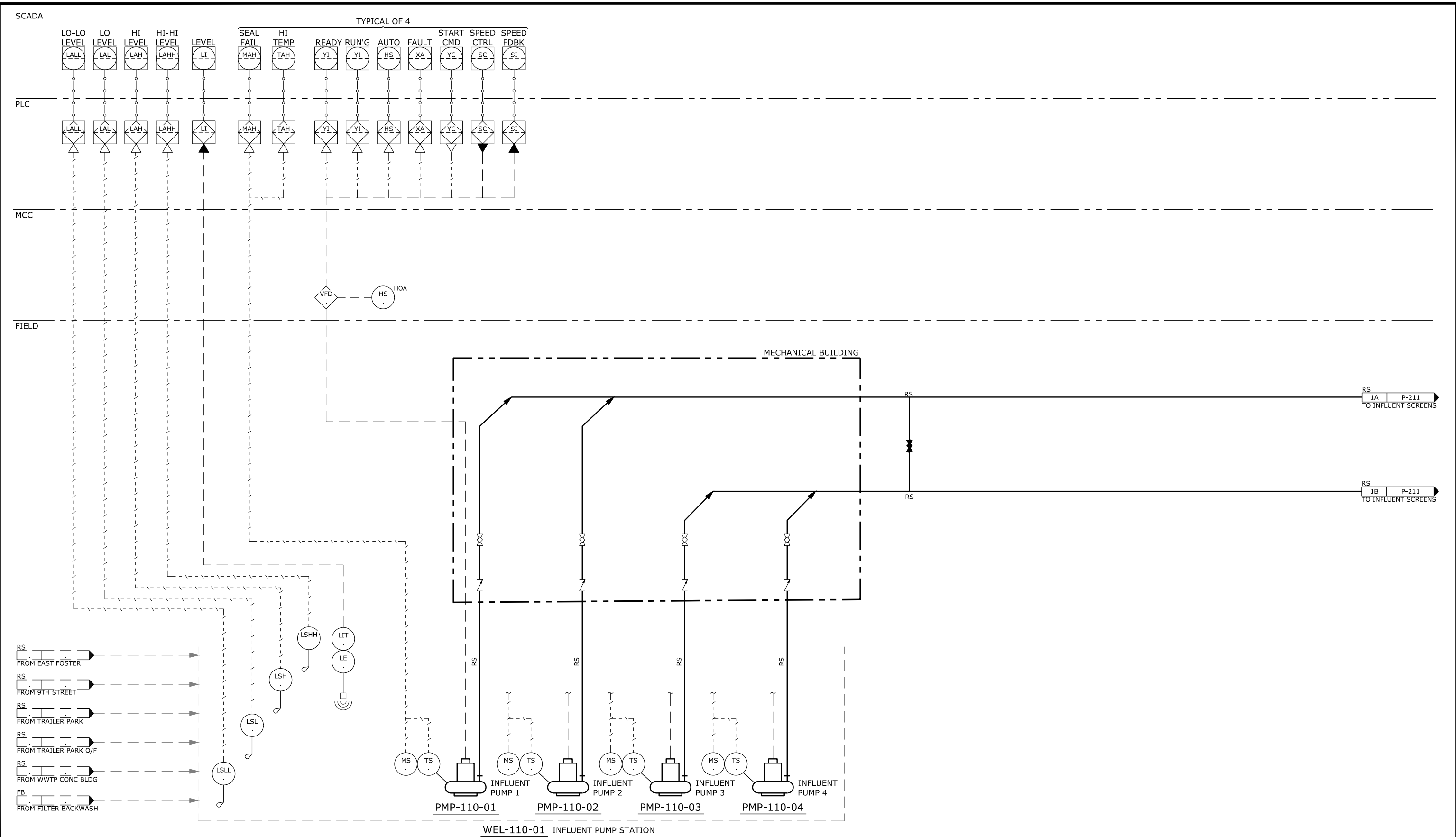
PROJECT NO.: 19-2605    SCALE: AS SHOWN    DATE: June 2020

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P-002

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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**INFLUENT PUMP STATION**

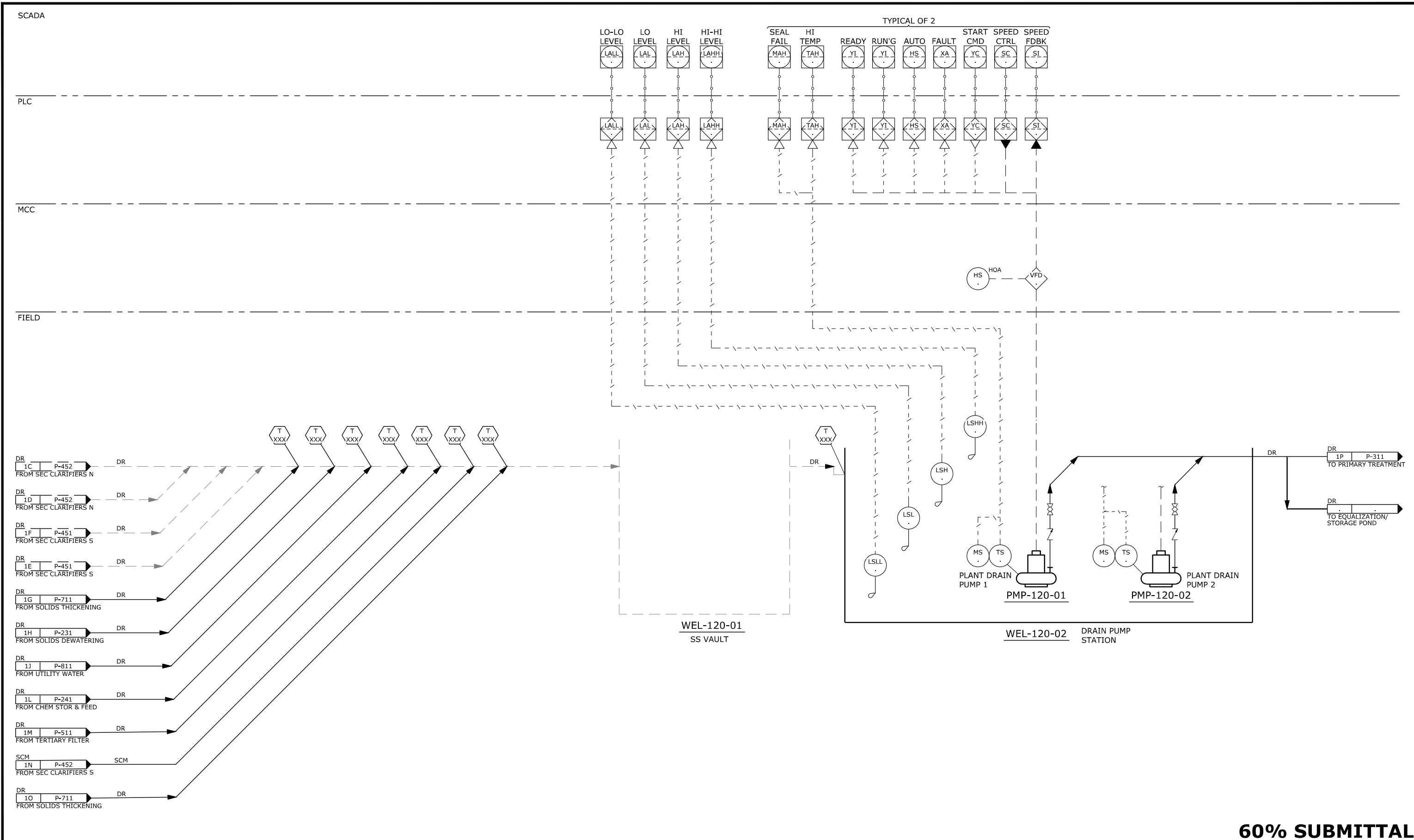
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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**DRAIN PUMP STATION**

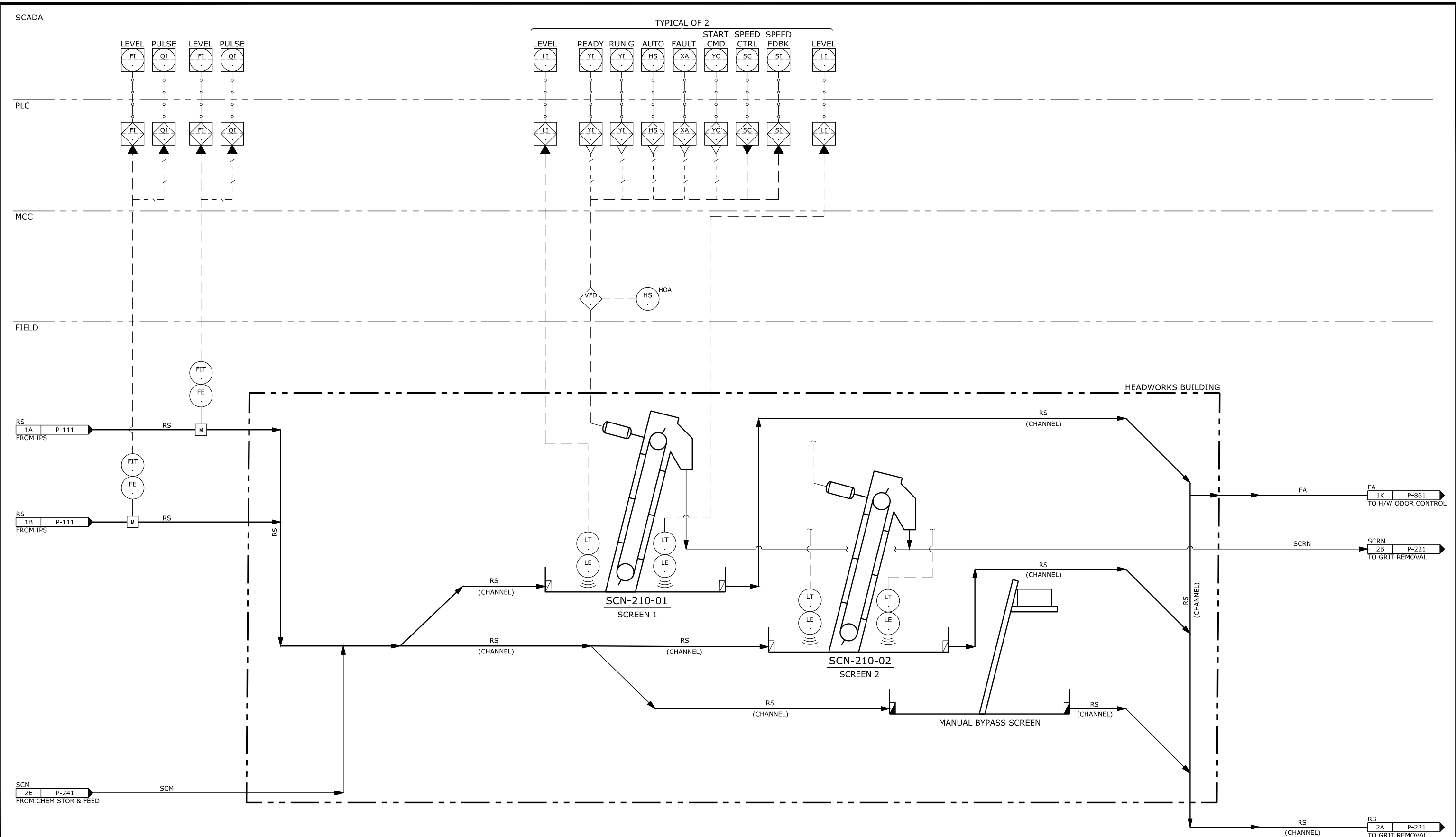
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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G:\PDX\_Projects\19\2605 - Sweet Home Final Design\CAD\Sheets\P&ID\19-2605-OR-P-211.dwg P-211 6/8/2020 5:07 PM IS 23.0s (LMS Tech)



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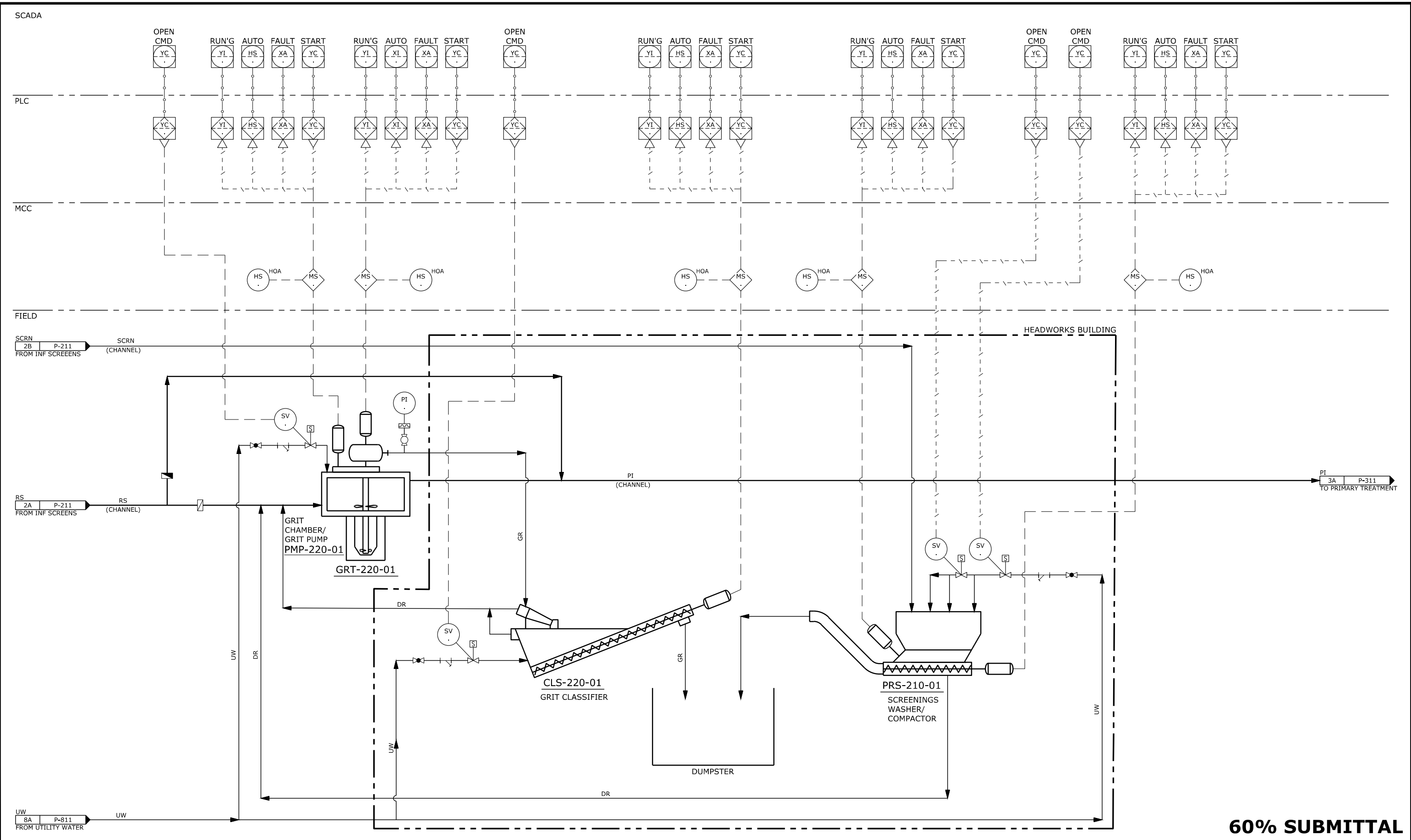
**INFLUENT SCREENS**

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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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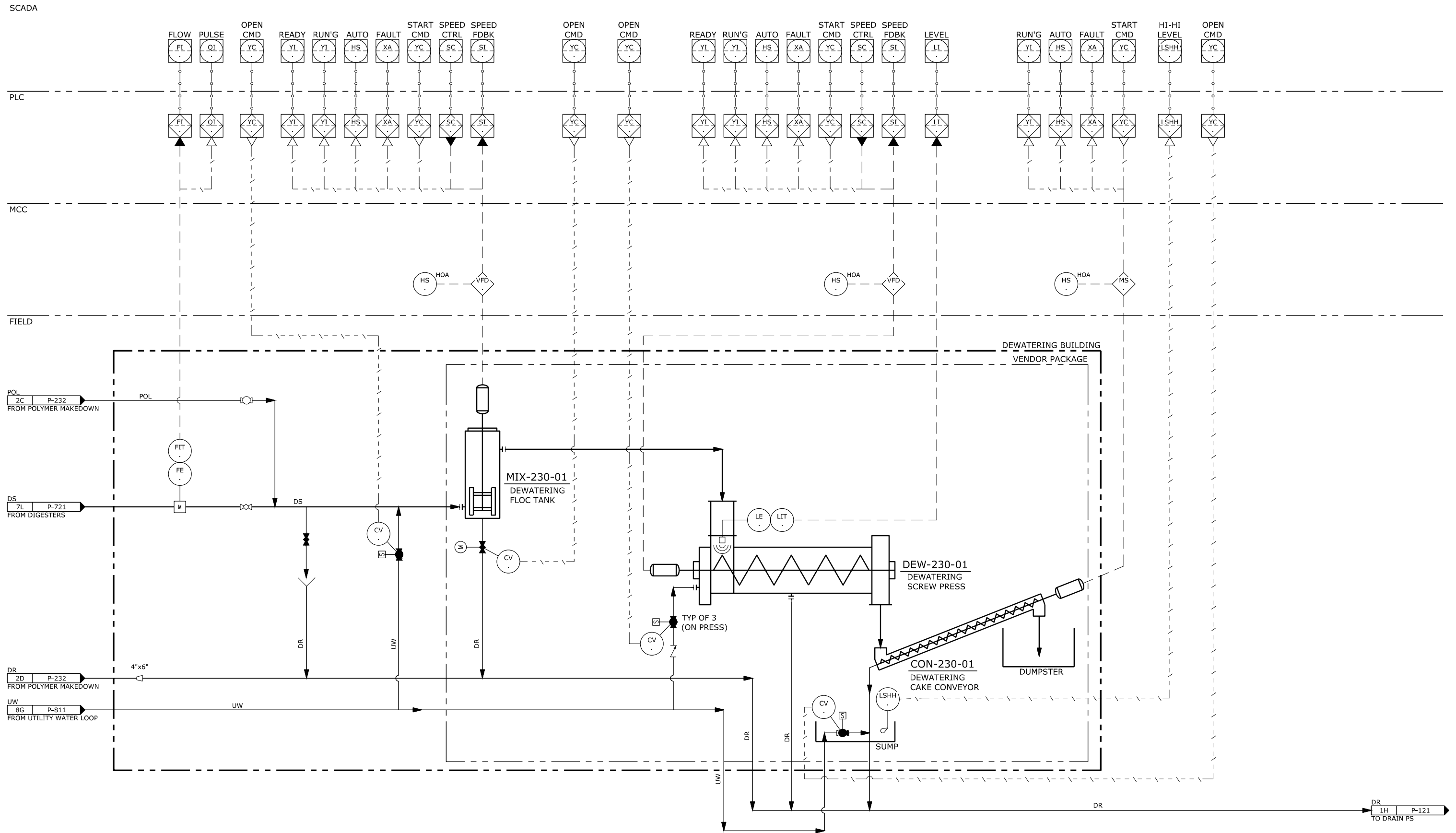
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| <b>GRIT REMOVAL</b> |           | P-221           |
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DR 1H P-121 TO DRAIN PS

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JNB CHECKED

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**SOLIDS DEWATERING**

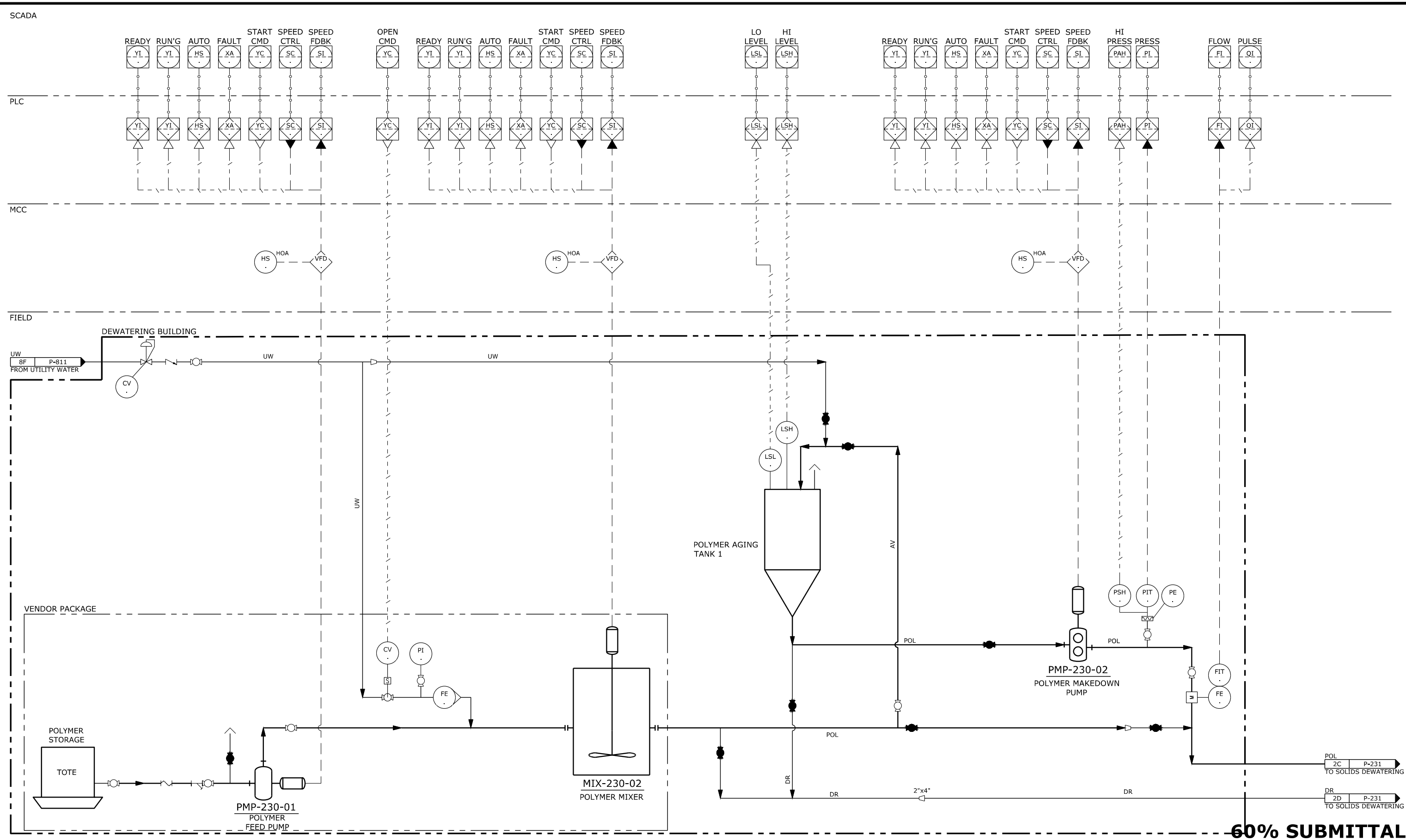
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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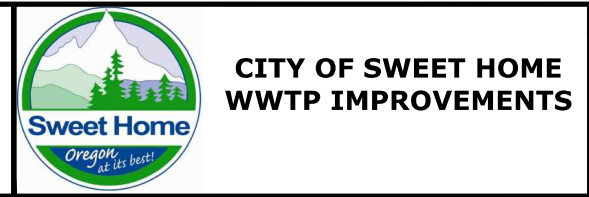
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**POLYMER MAKEDOWN**

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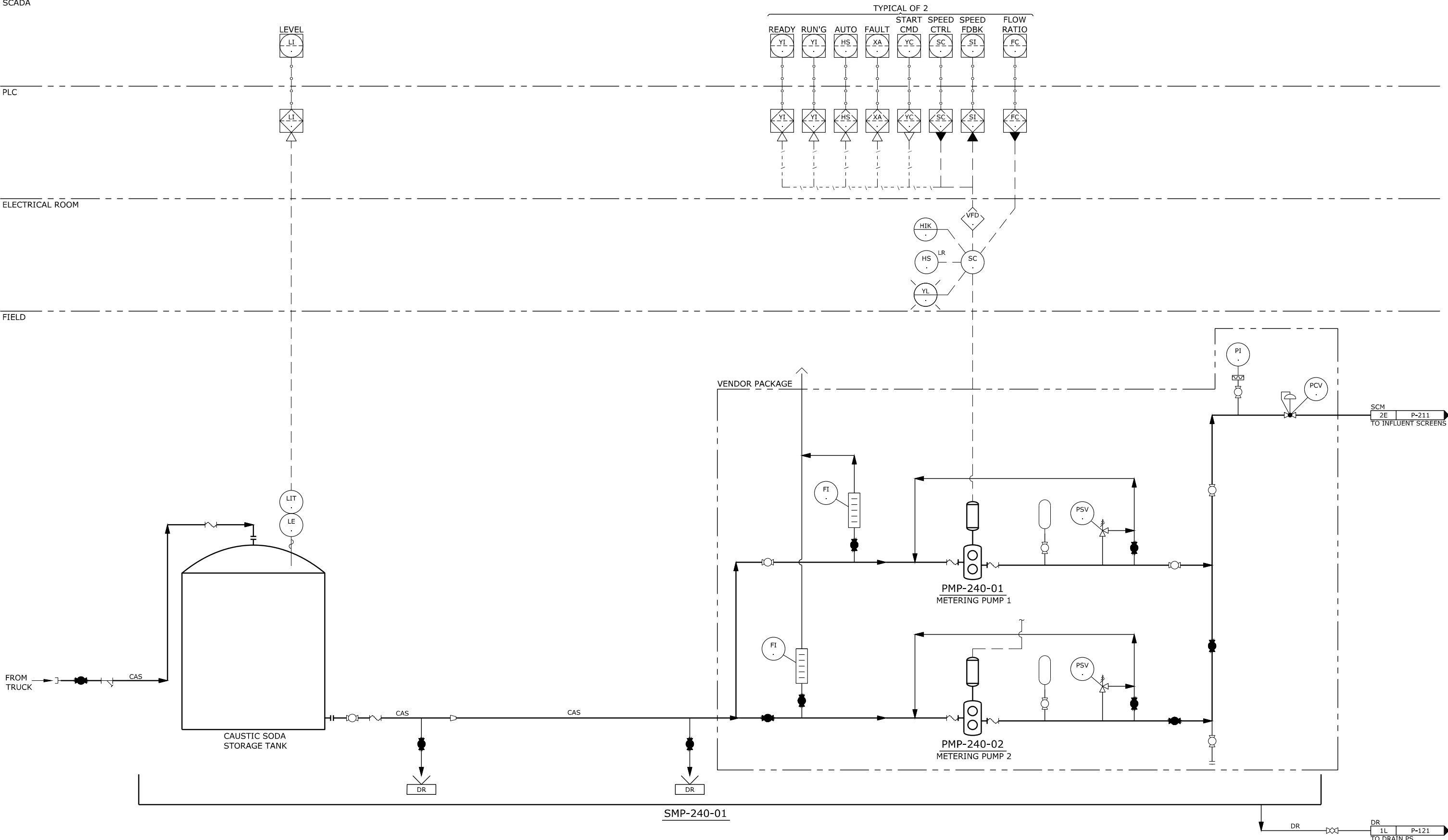
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SCADA

PLC

ELECTRICAL ROOM

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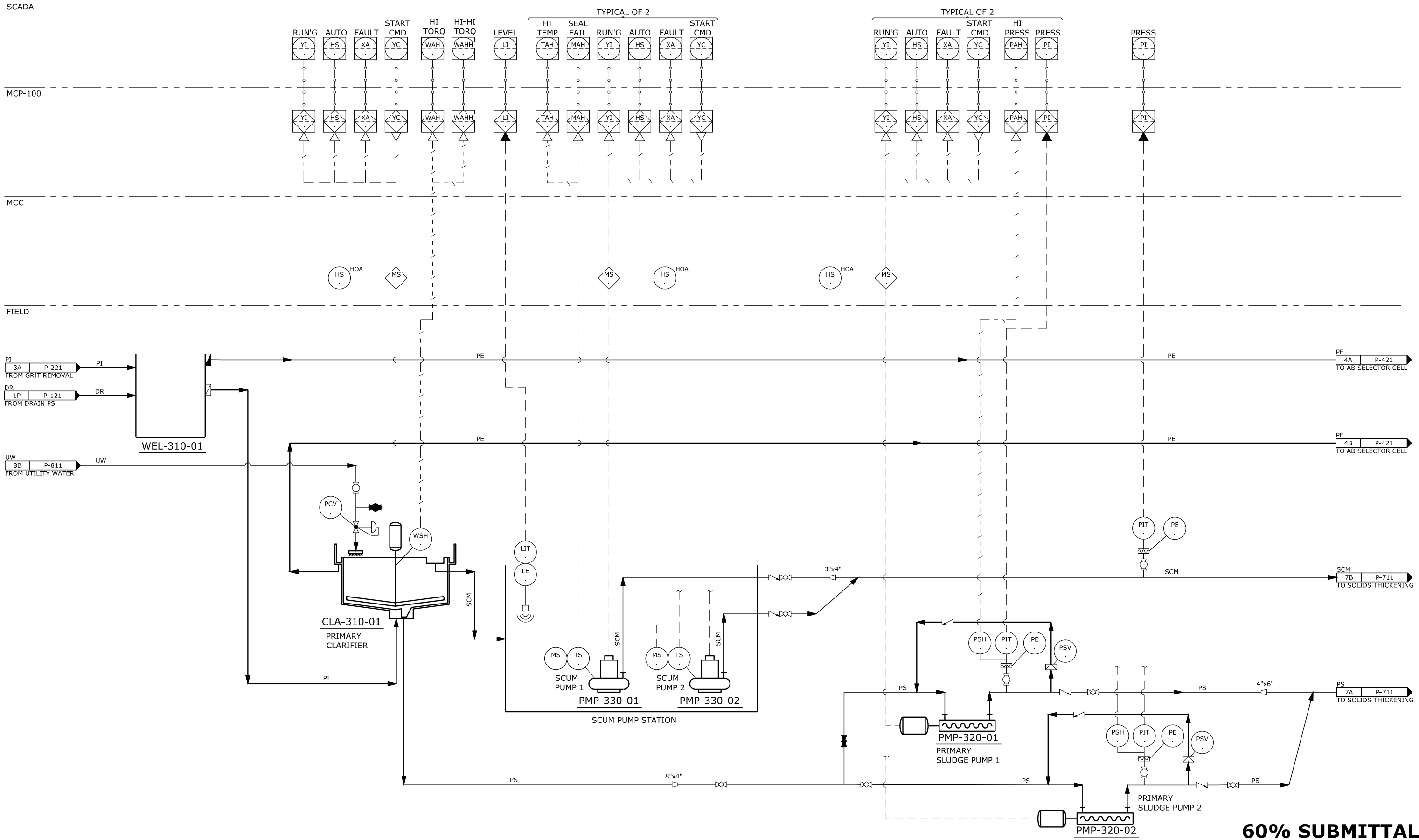
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**HW CHEMICAL STORAGE AND FEED**  
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**P-241**  
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**PRIMARY TREATMENT**

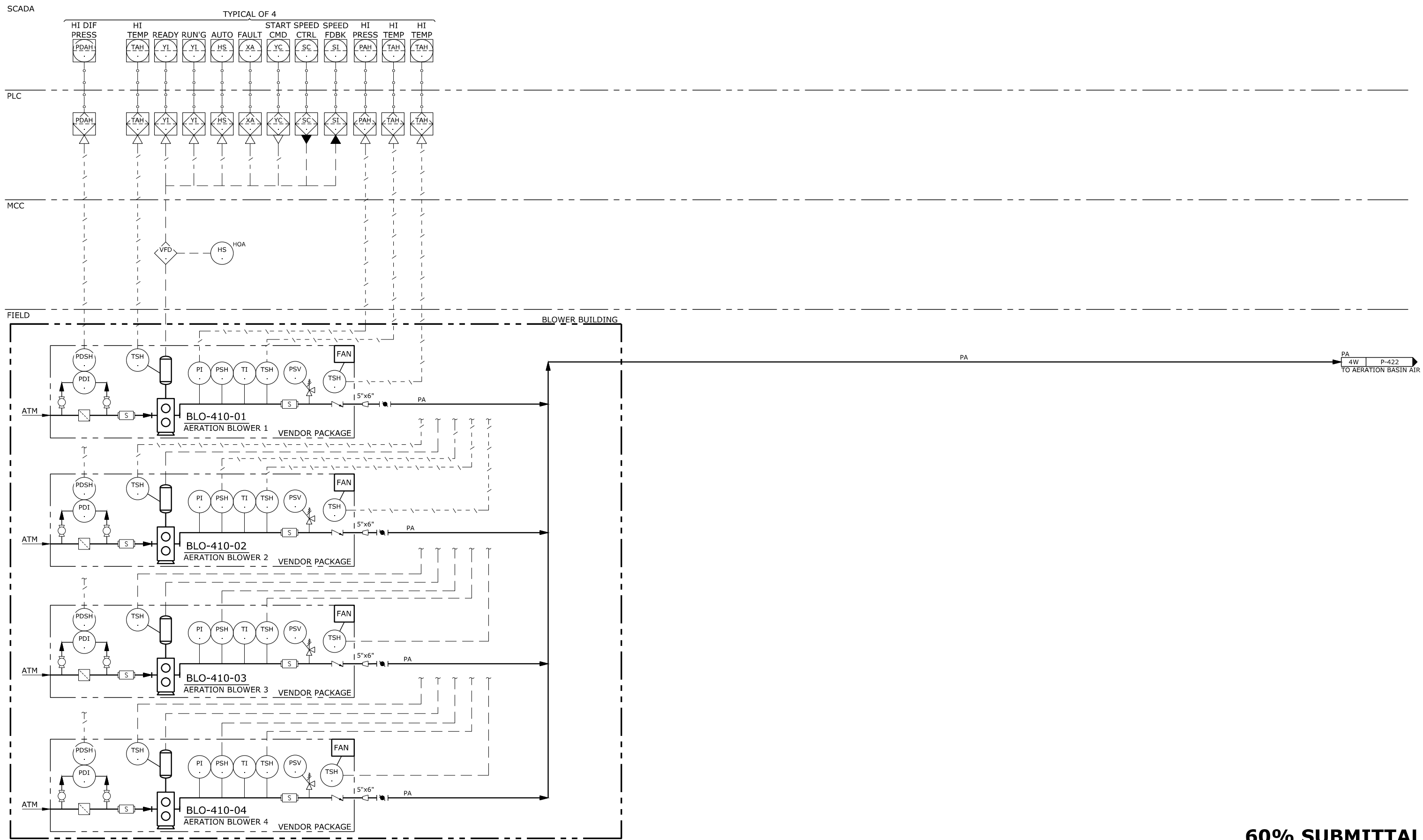
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**AERATION BLOWERS**

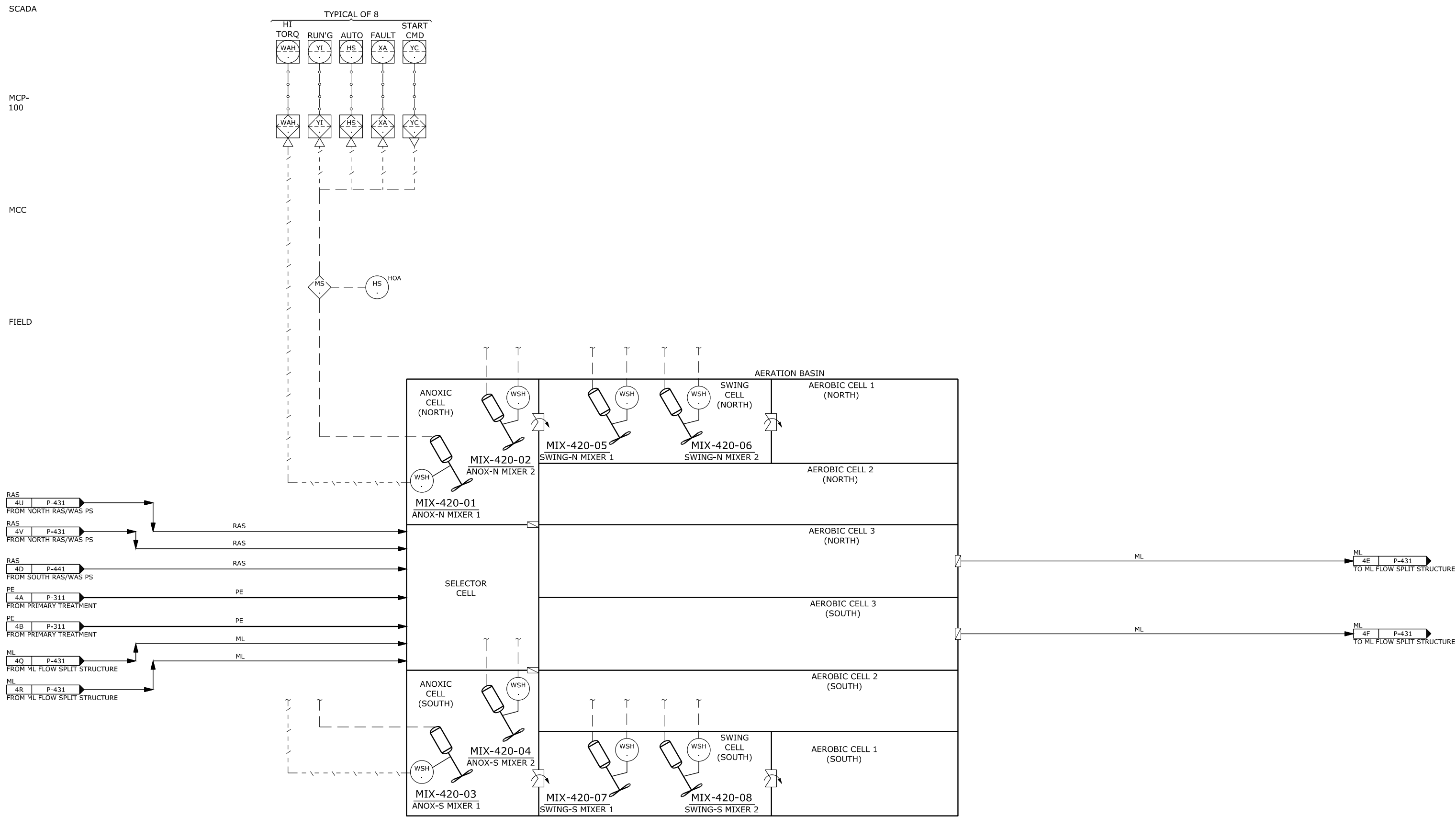
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**AERATION BASIN - LIQUIDS**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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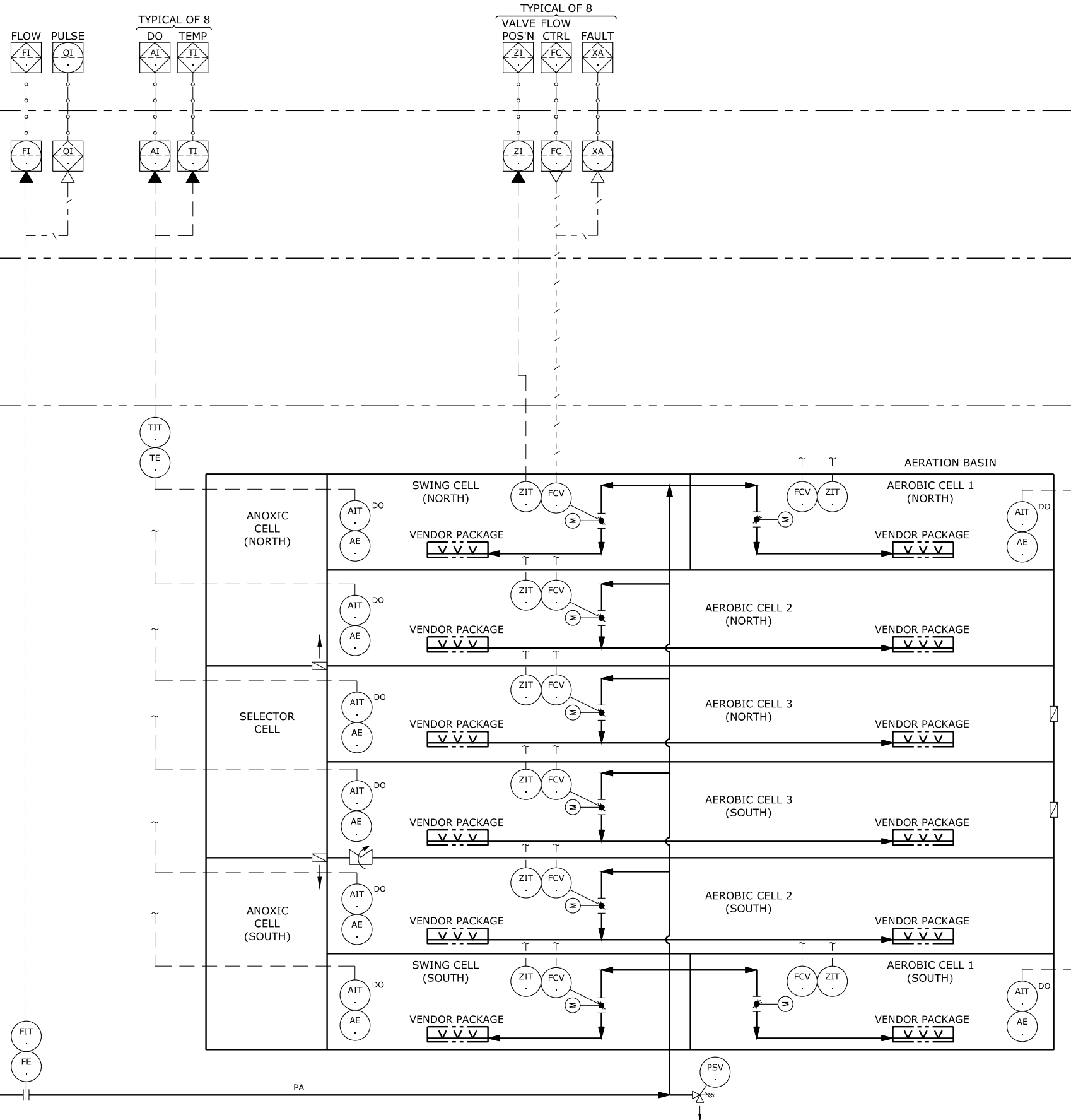
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SCADA

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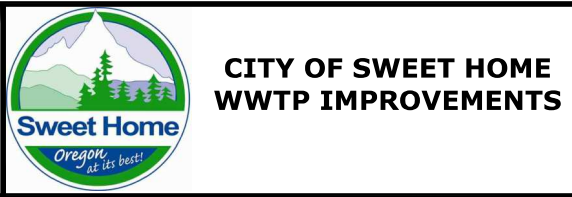
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 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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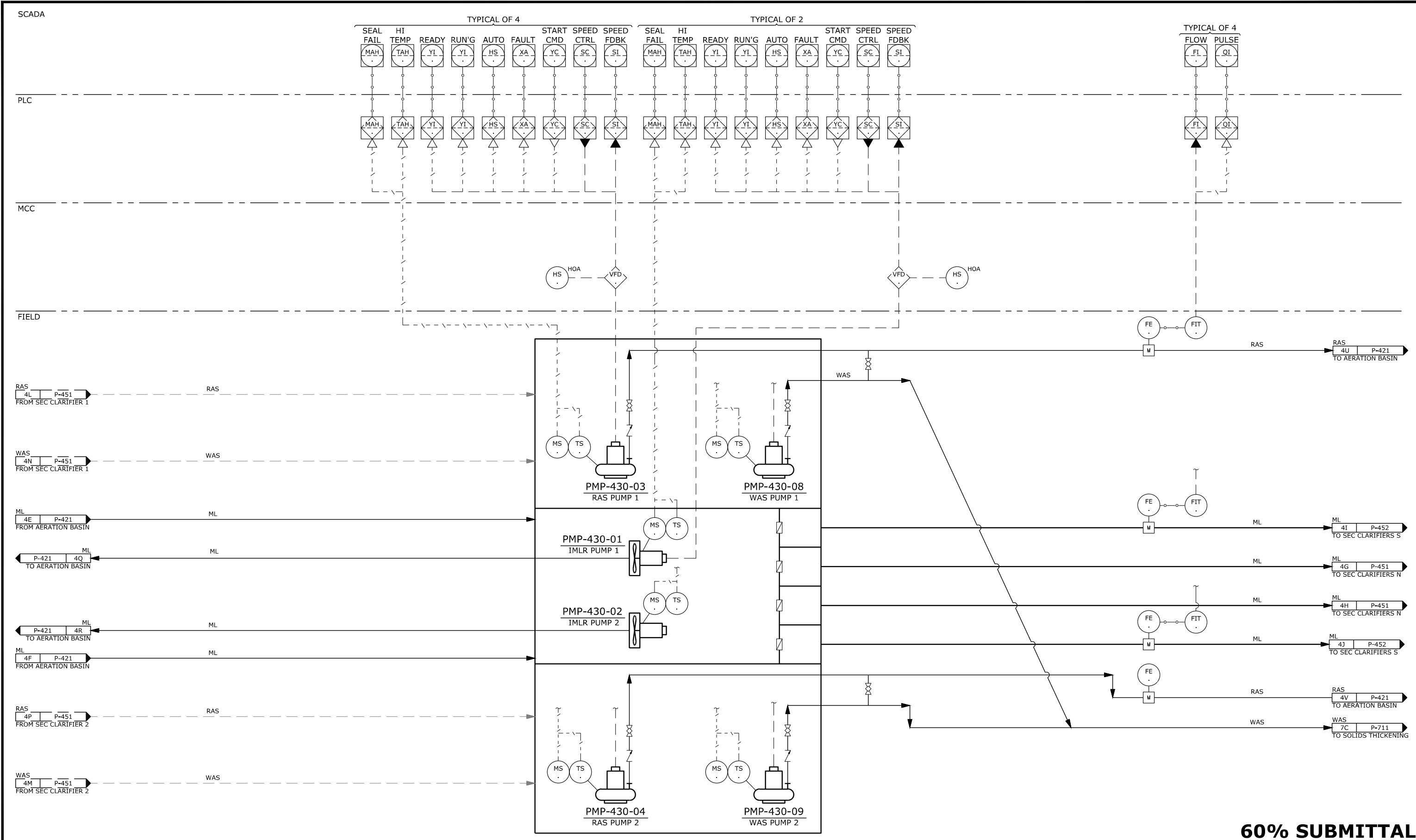
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P&ID  
 AERATION BASIN - AIR  
 PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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**ML FLOW SPLIT STRUCTURE AND NORTH RAS/WAS PS**

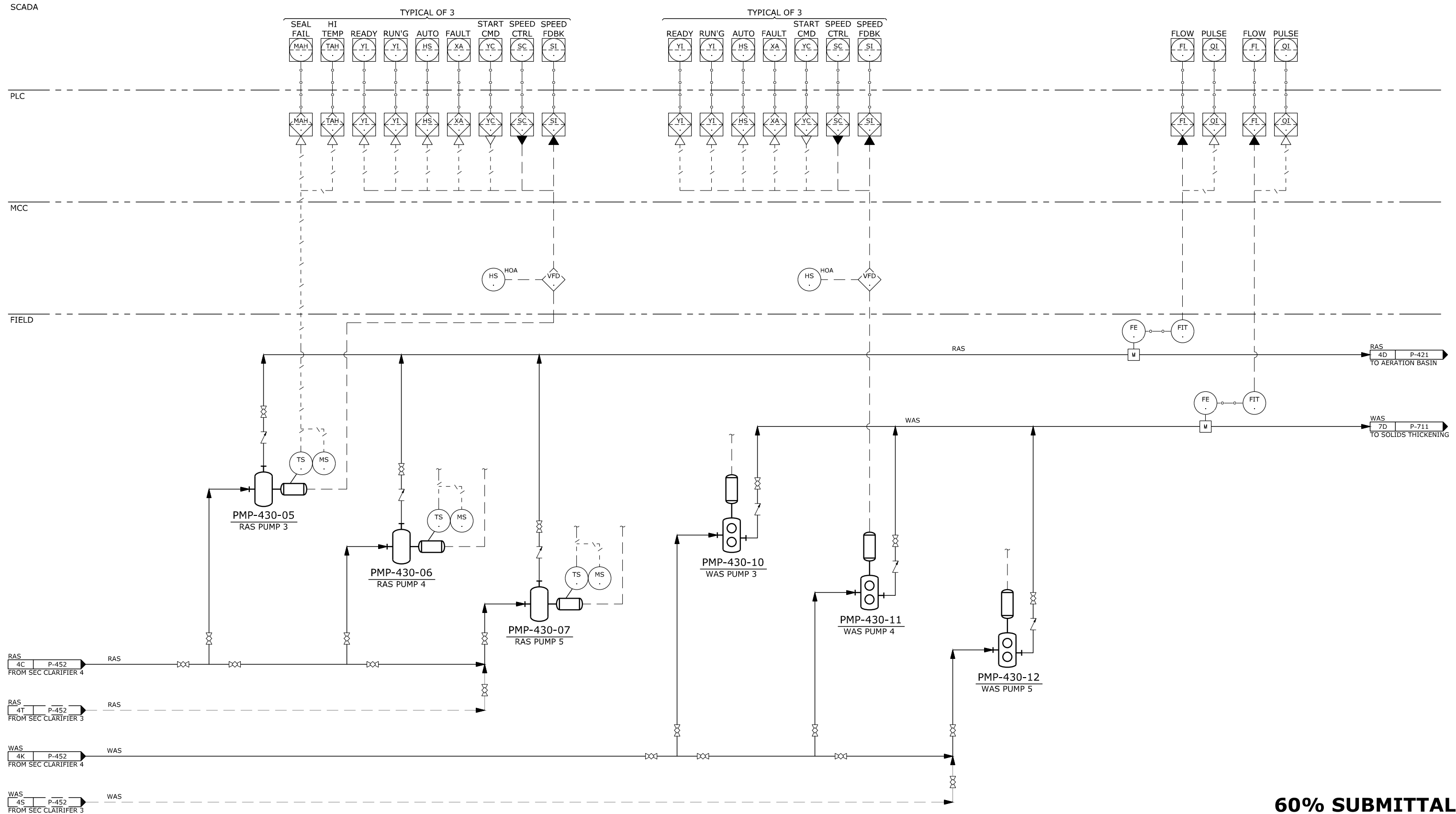
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**SOUTH RAS/WAS PUMP STATION**

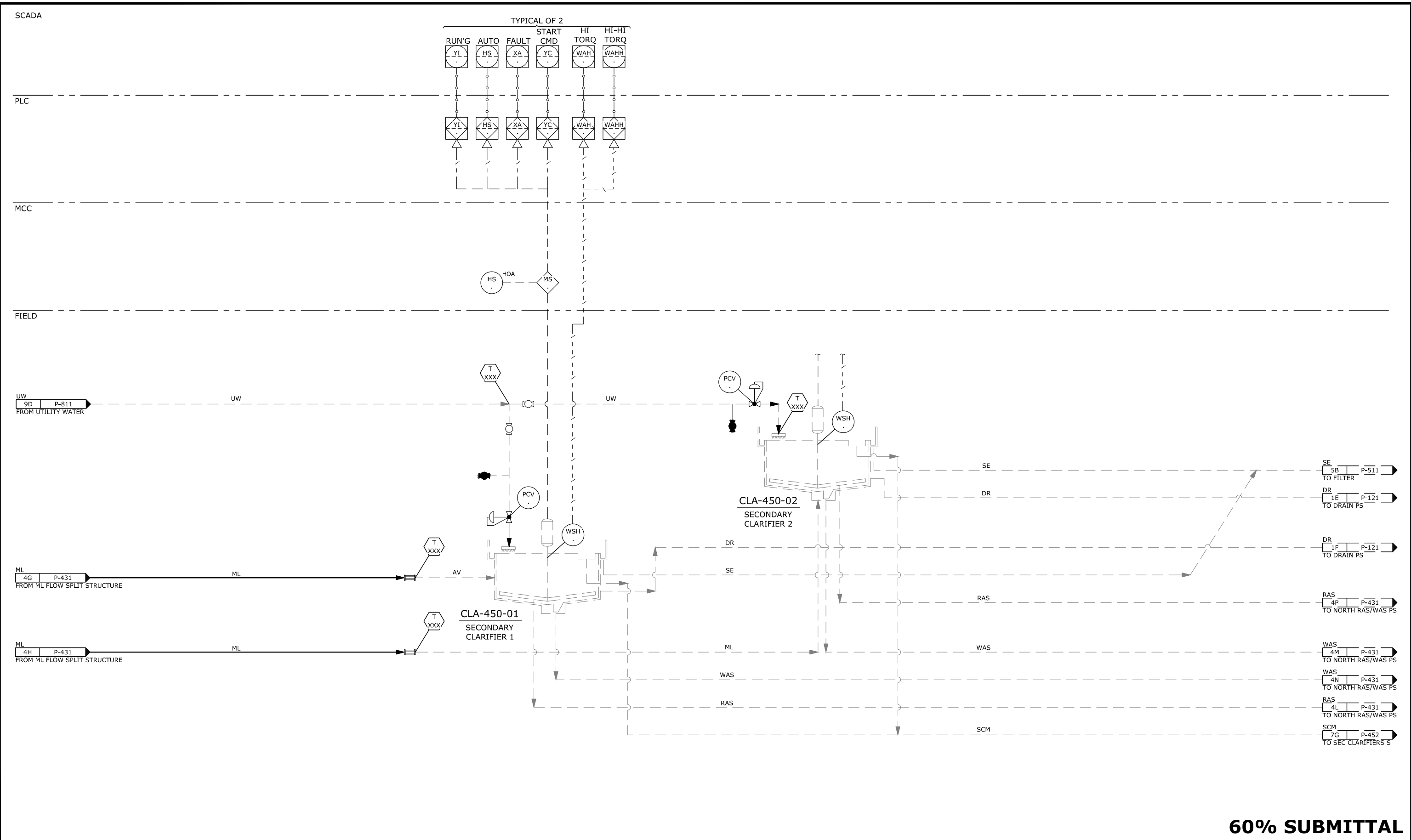
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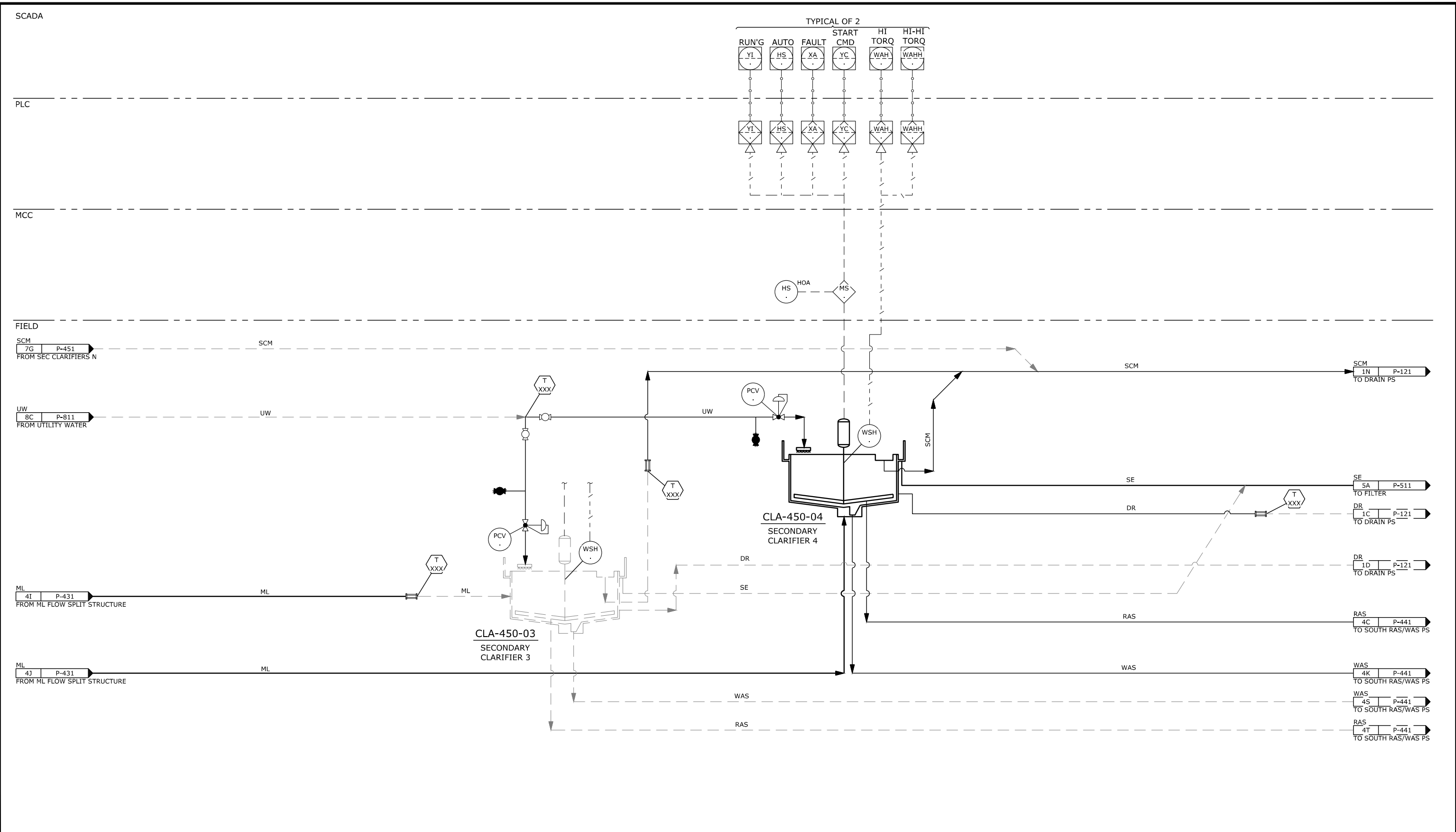
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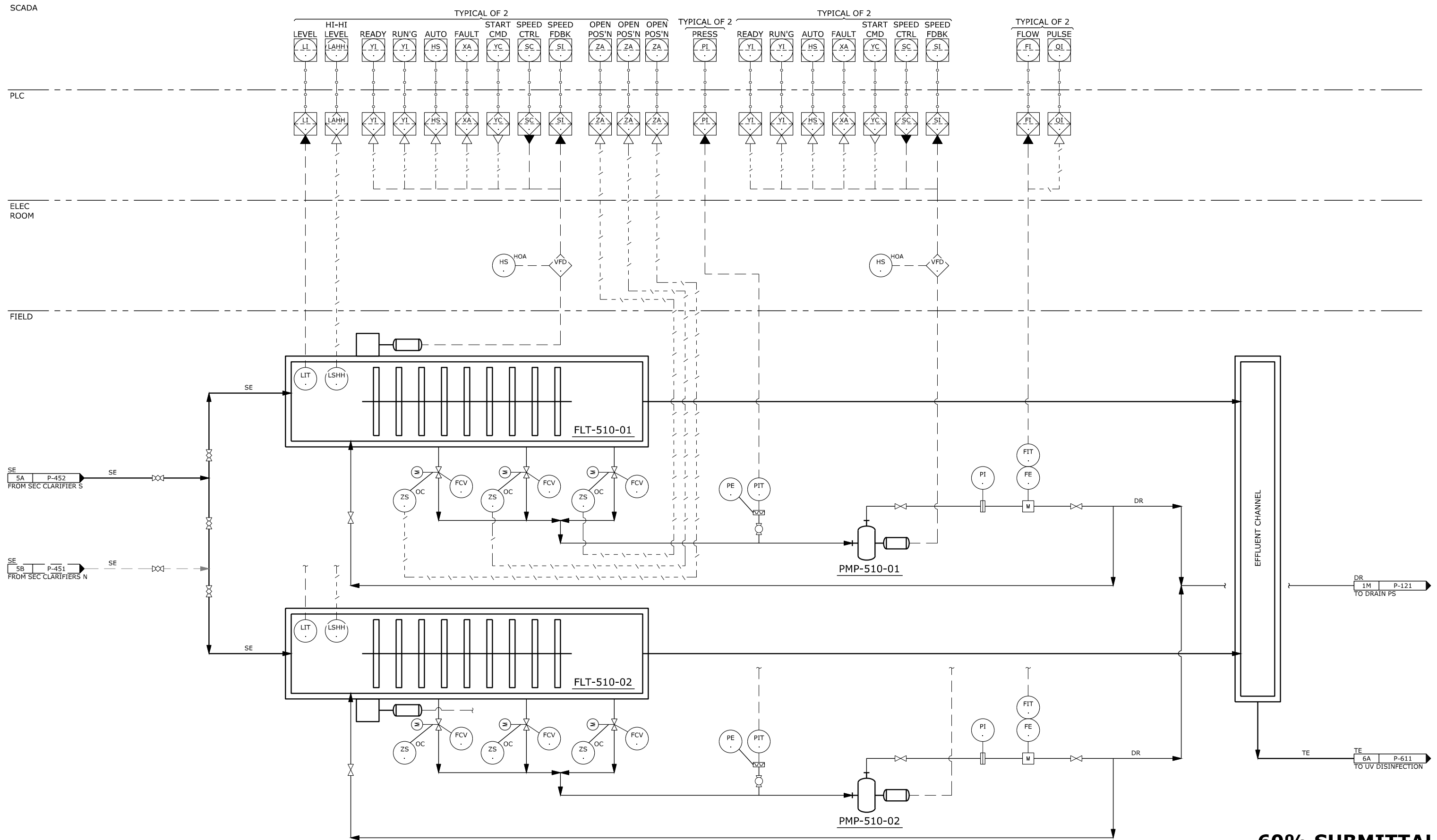


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**SECONDARY CLARIFIERS (SOUTH)**  
 PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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**TERTIARY FILTER**

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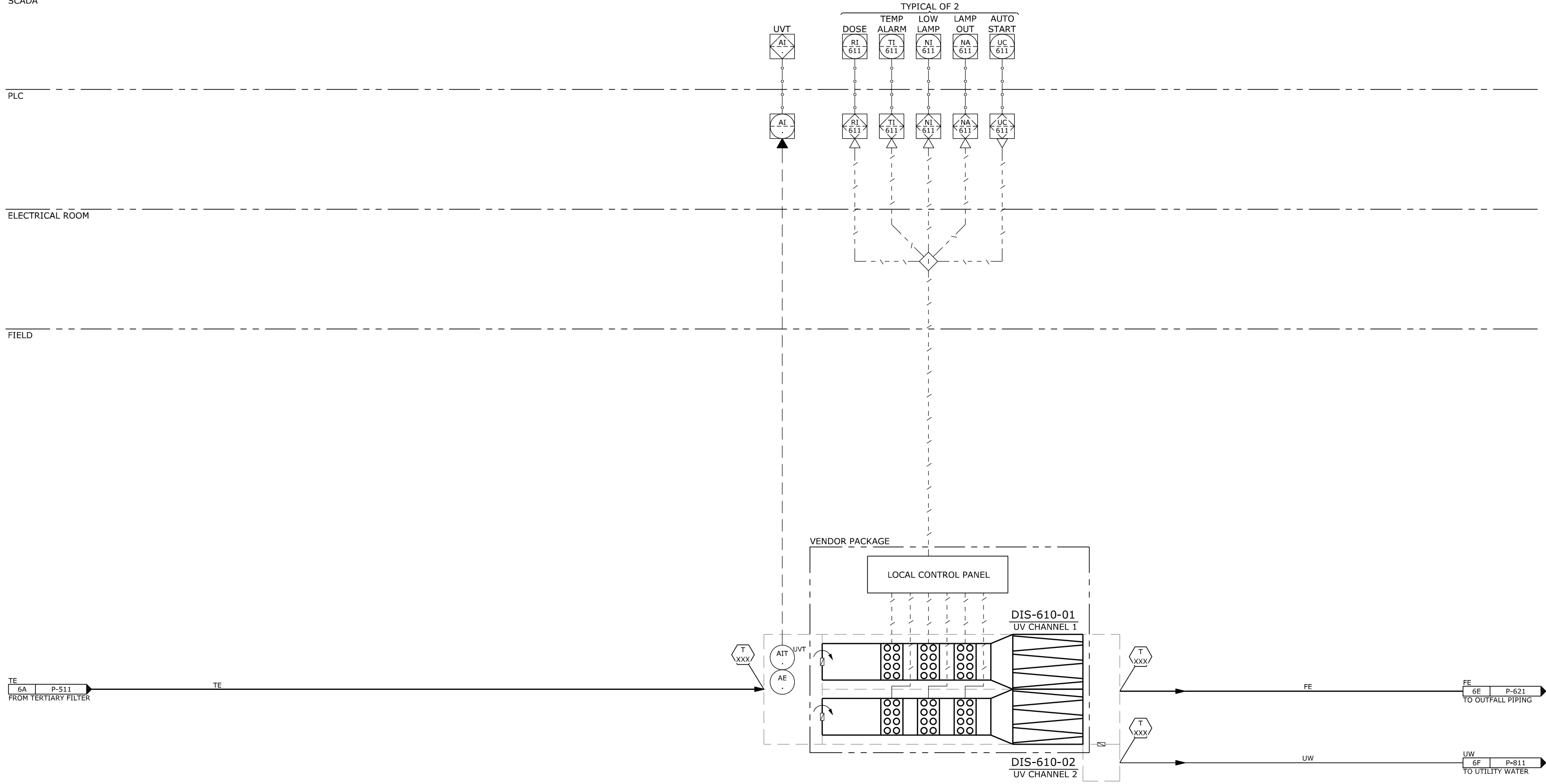
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ELECTRICAL ROOM

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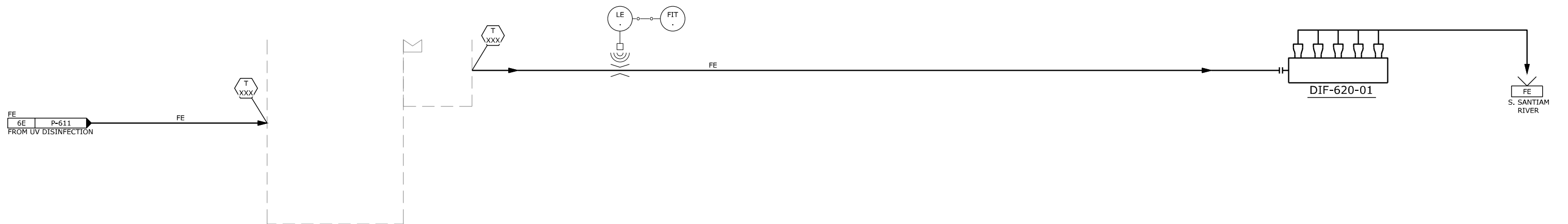


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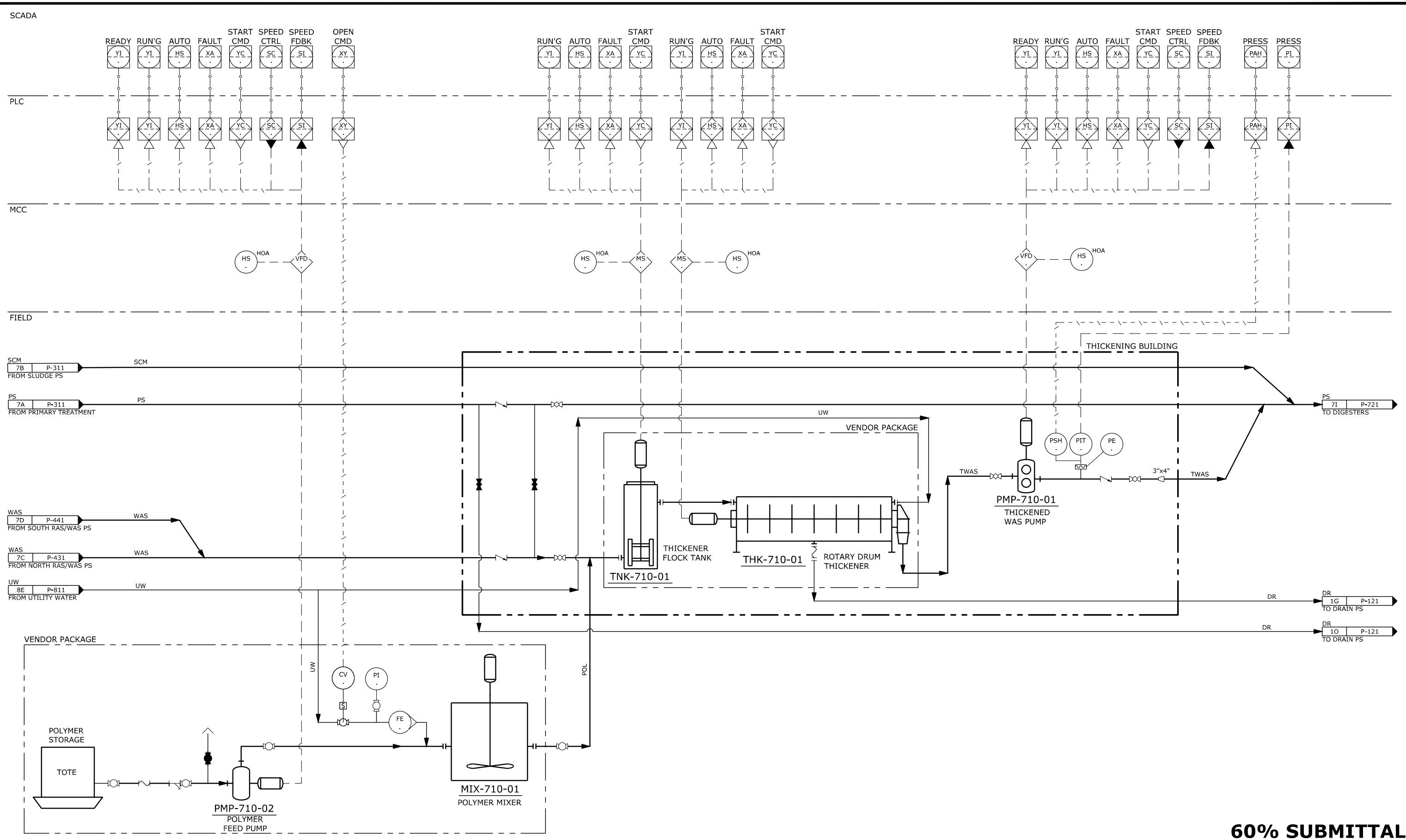


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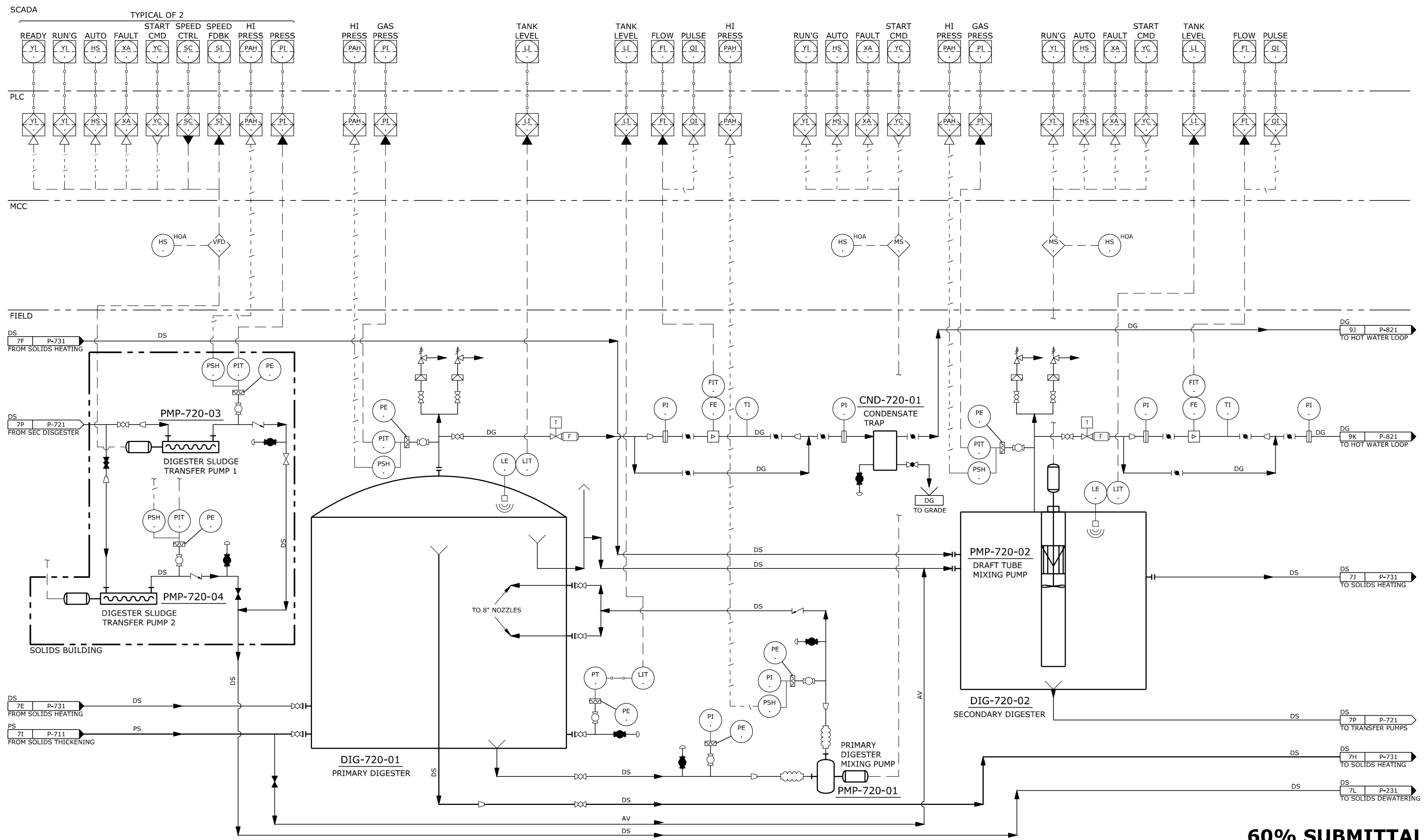
**SOLIDS THICKENING**

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**PRIMARY AND SECONDARY DIGESTERS**

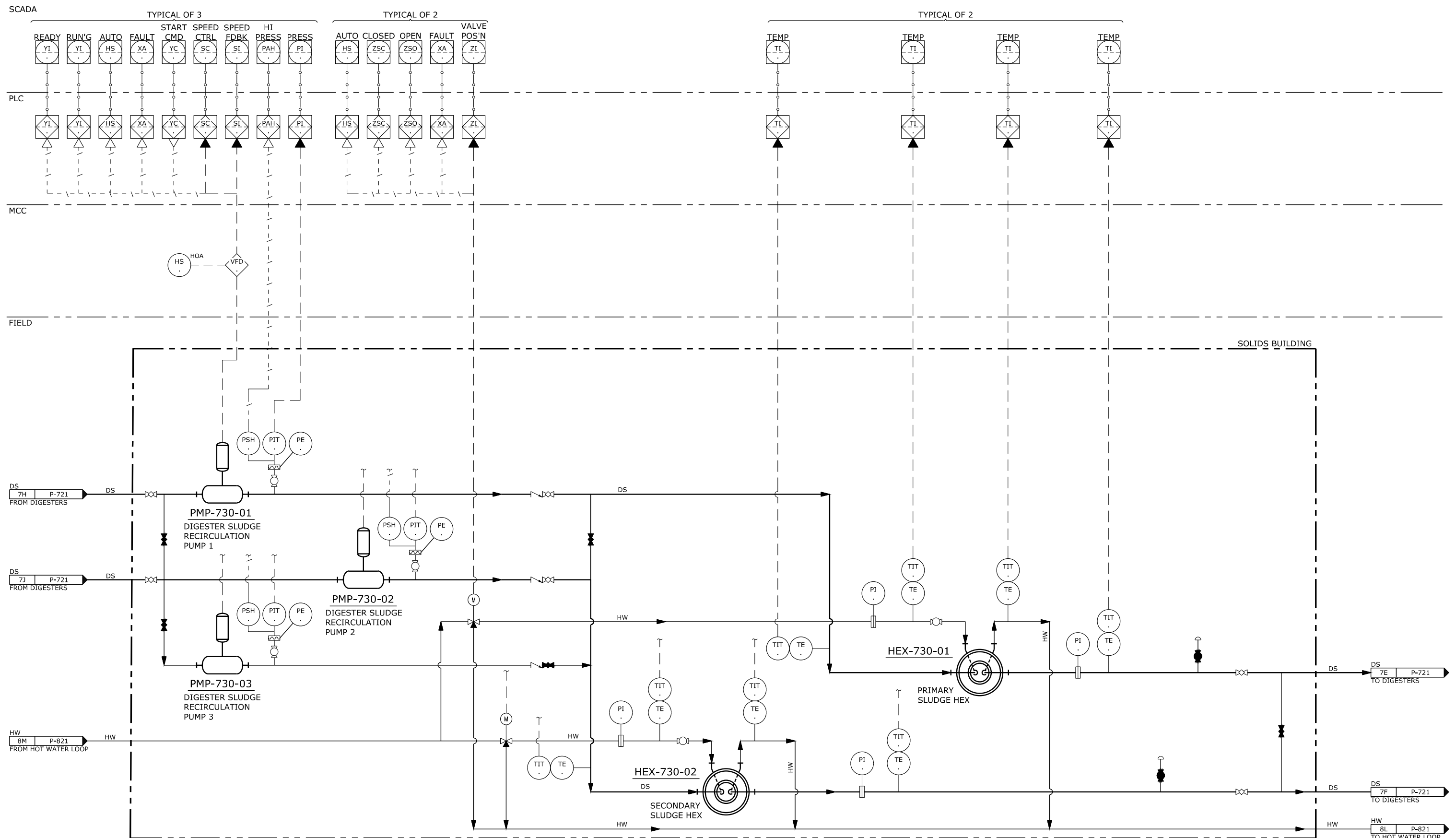
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**SOLIDS HEATING**

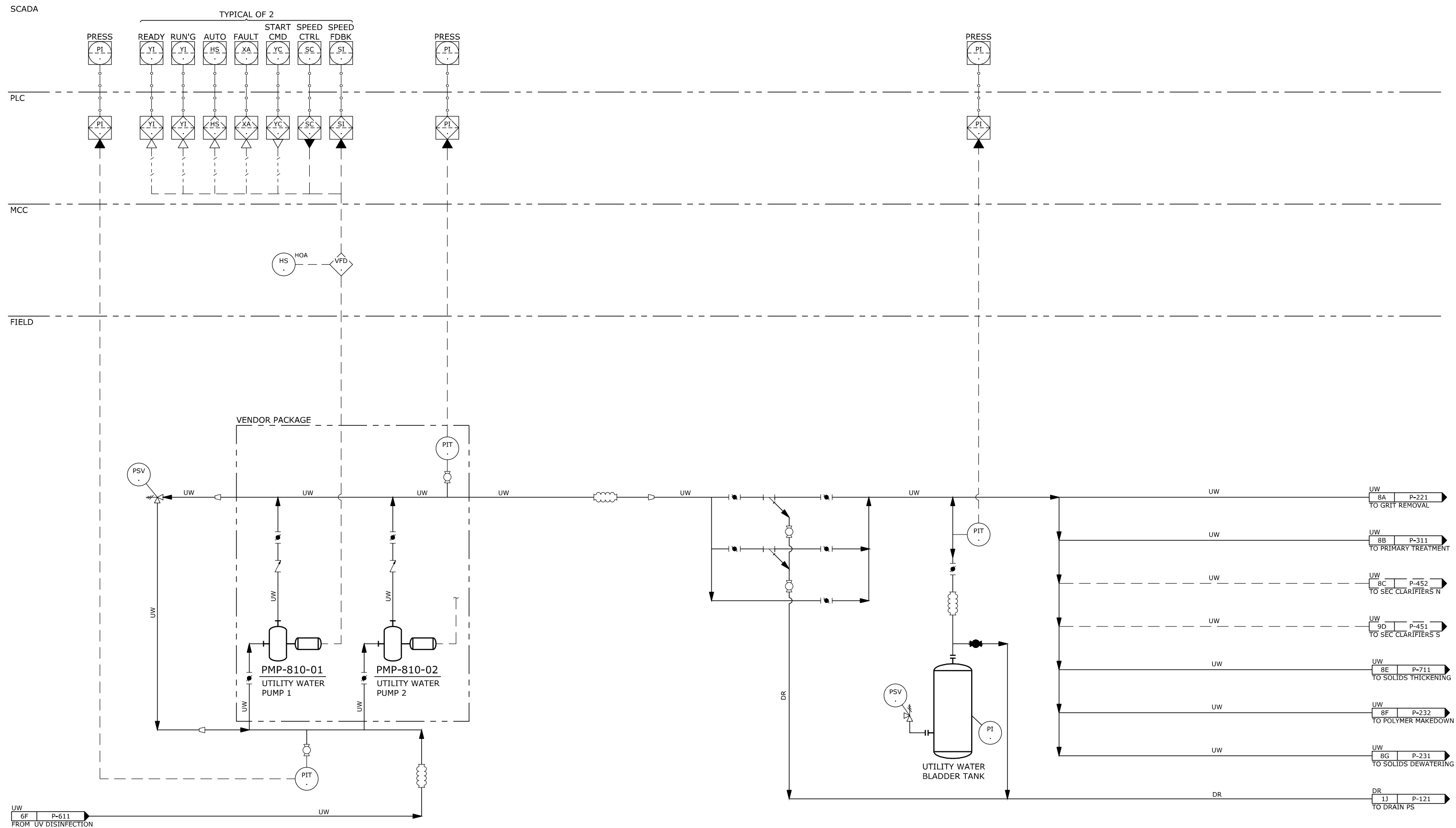
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**UTILITY WATER**

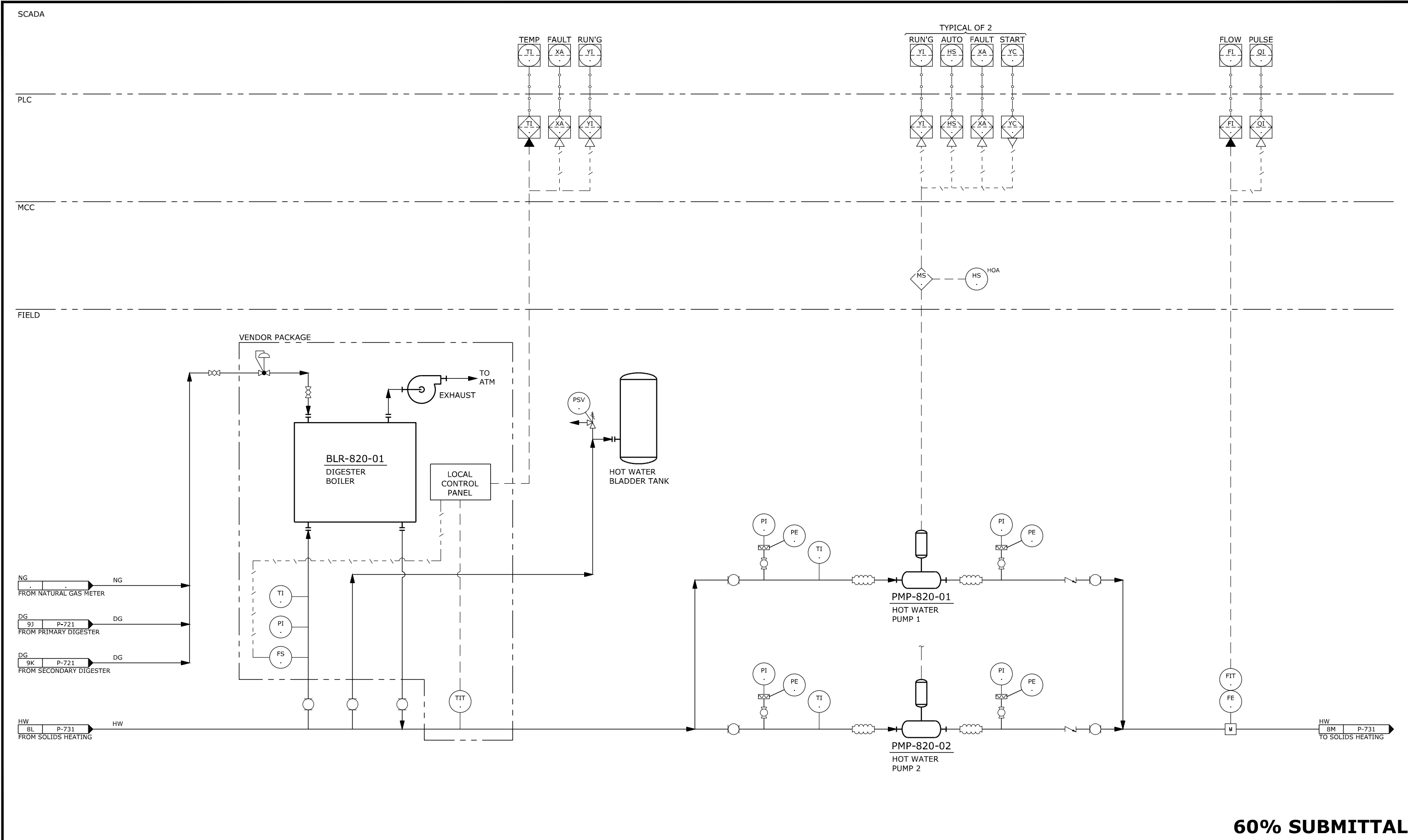
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**HOT WATER LOOP**

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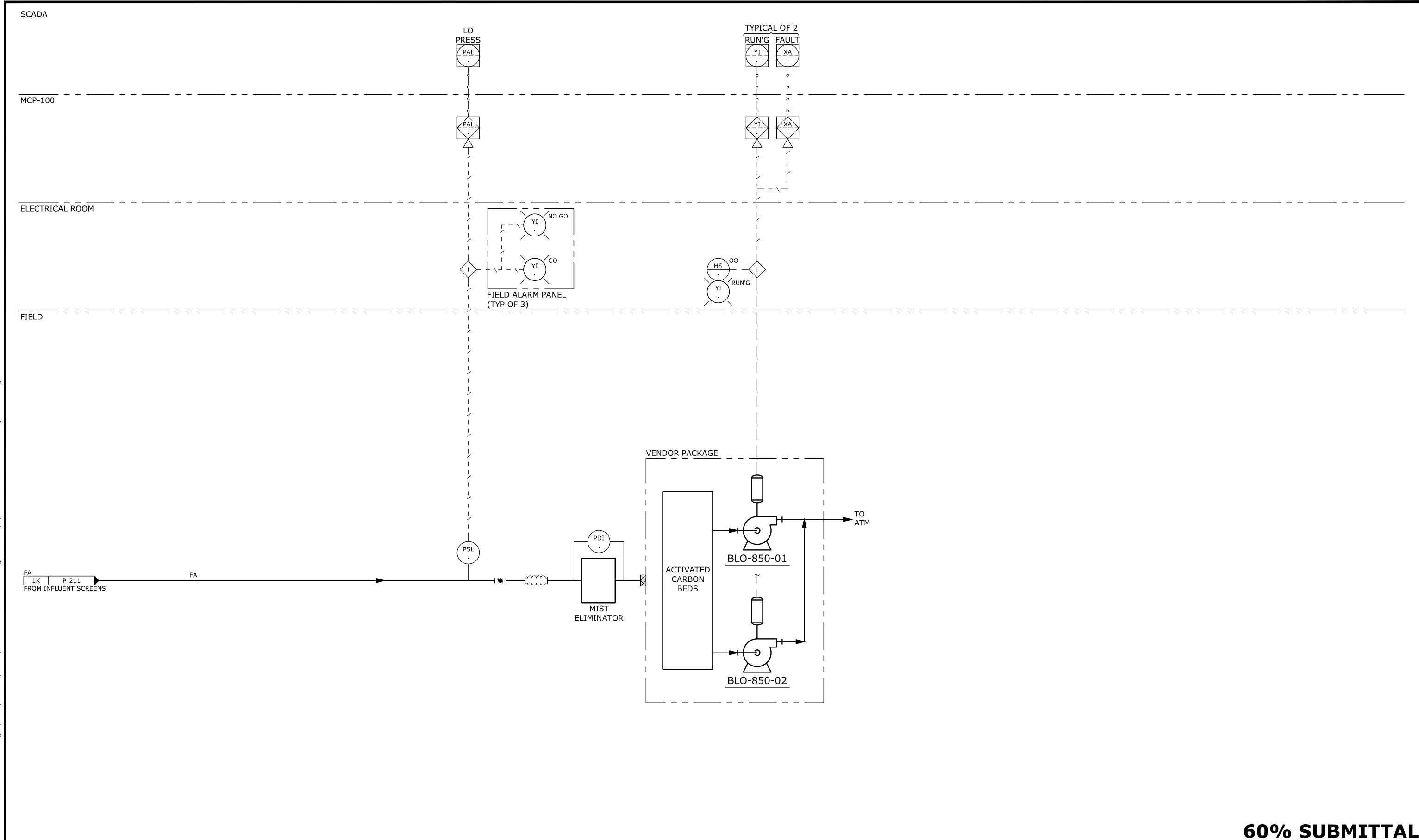
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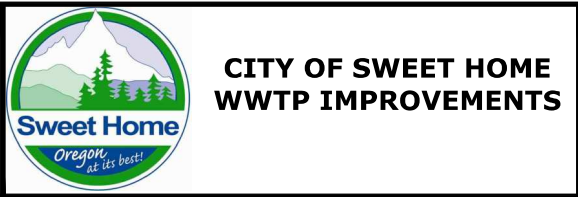
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**HEADWORKS ODOR CONTROL**  
 PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: June 2020

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**GENERAL NOTES**

1. ALL MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST NATIONAL ELECTRICAL CODE. INSTALLATION DRAWINGS, CONSTRUCTION SPECIFICATIONS AND LOCAL CODES. ALL MATERIALS SHALL BE NEW AND LISTED BY THE UNDERWRITERS' LABORATORY INC. (UL). ALL ELECTRICAL WORK SHALL BE INSTALLED IN A GOOD AND WORKMANLIKE MANNER.
2. ALL CABLES/CONDUCTORS RUN IN SAME RACEWAY SHALL HAVE THE SAME INSULATION RATING PER NEC. REFER TO THE ELECTRICAL CABLE SCHEDULE FOR CIRCUITS IDENTIFICATIONS, ROUTING, WIRE SIZES, ETC.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER DISCIPLINES AS REQUIRED TO MITIGATE INTERFERENCES.

**CONDUIT**

4. ALL CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT ROUTING SHALL BE DETERMINED BY THE CONTRACTOR TO SUIT MECHANICAL AND STRUCTURAL CONDITIONS AND THE FINAL APPROVAL OF OWNER'S REPRESENTATIVE. THE EXACT CONDUIT ROUTING AND ARRANGEMENT WITHIN CONDUIT GROUPS SHALL BE DETERMINED BY THE CONTRACTOR. SUPPORTS FOR CONDUIT ARE TO BE PROVIDED BY THE CONTRACTOR AT INTERVALS NOT TO EXCEED CODE REQUIREMENTS. ANY CHANGES IN CONDUIT ROUTING THAT DIFFERS FROM THAT REFLECTED ON DRAWING WILL BE RECORDED BY CONTRACTOR AND SUBMITTED TO OWNER'S REPRESENTATIVE. CONDUIT SHALL NOT BE SUPPORTED FROM PIPE HANGERS OR PIPING. CONDUITS SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS, OR THE INTERSECTION OF VERTICAL PLANES AND CEILINGS UNLESS SHOWN OTHERWISE ON THE DRAWINGS. THE MINIMUM HEADROOM FOR ALL CONDUIT RUNS (INCLUDING SUPPORT MATERIALS) SHALL BE 6'-9". CONDUIT SHALL NOT BE ROUTED DIRECTLY BELOW PROCESS LINES.

5. RACEWAY OR CONDUITS CROSSING BUILDING OR STRUCTURAL EXPANSION JOINTS SHALL BE PROVIDED WITH SUITABLE EXPANSION FITTINGS. CROUSE-HINDS TYPE XJG (OR EQUAL). THESE FITTINGS SHALL BE INSTALLED IN A MANNER THAT WILL ASSURE GROUND PATH CONTINUITY IN EACH CONDUIT OR RACEWAY. WHERE REQUIRED BY N.E.C. IF EXPANSION FITTINGS DO NOT HAVE AN APPROVED INTEGRAL GROUND, AN EXTERNAL BONDING JUMPER SHALL BE PROVIDED.

6. THE CONTRACTOR SHALL INSTALL ADDITIONAL PULL POINTS (PULL SLEEVES, WIREWAYS, PULL BOXES OR CONDULETS) WHERE REQUIRED TO LIMIT THE NUMBER OF EQUIVALENT 90 DEGREE BENDS ACCORDING TO THE REQUIREMENTS OF THE N.E.C. MAXIMUM LENGTH OF RUNS BETWEEN PULL POINTS SHALL BE 200 FEET FOR STRAIGHT RUNS. THESE PULL POINTS SHALL BE OF THE TYPE TO MEET AREA ENVIRONMENTS. NUMBER OF PULLS POINTS REFLECTED ON DRAWINGS MAY NOT REFLECT TOTAL. WHETHER OR NOT THEY ARE SHOWN ON DRAWINGS, ANY ADDITIONAL PULL POINTS WILL BE PROVIDED BY CONTRACTOR TO MEET REQUIREMENTS PER THESE NOTES AND THE N.E.C.

7. ALL ELECTRICAL DEVICES SUCH AS JUCTION/PULL BOXES, LIGHTING PANELS, LOCAL CONTROL STATIONS, LOCAL STARTERS, SAFETY SWITCHES, ETC. SHALL BE PROVIDED WITH LAMINATED NAMEPLATES ENGRAVED WITH THE EQUIPMENT NAME, NUMBER, AND SOURCE OF ANY POWER AND FED FROM LOCATION.

8. LIQUIDTIGHT FLEXIBLE METAL CONDUITS ARE NOT SHOWN ON PLAN DRAWINGS BUT ALL CONDUIT SHALL BE TERMINATED AT MOTORS, DEVICES, AND INSTRUMENTATION WITH LIQUIDTIGHT FLEXIBLE CONDUIT EXCEPT WHERE DEVICES ARE MOUNTED ON WALLS OR COLUMNS AND NOT SUBJECT TO MOVEMENT DUE TO VIBRATION OR EXPANSION/CONTRACTION UNLESS OTHERWISE NOTED ON THE DRAWINGS. LIQUIDTIGHT FLEXIBLE METAL CONDUIT 1" AND SMALLER SHALL BE TYPE UA. SIZES LARGER THAN 1" SHALL BE TYPE "EF". GROUNDING JUMPERS SHALL BE INSTALLED EXTERNALLY ON ALL FLEXIBLE METAL CONDUIT SIZE 1-1/2" AND LARGER IN CLASS 1, DIV. 2 AREAS. THE LIQUIDTIGHT FLEXIBLE METAL CONDUIT TERMINATIONS SHALL BE THE SHORTEST LENGTH PRACTICABLE. TO PREVENT PULLOUT, THE FOLLOWING MINIMUM AND MAXIMUM LIMITS SHALL BE MAINTAINED: (NOT TO EXCEED UNLESS APPROVED BY A COMPANY REPRESENTATIVE) ALL POWER LOAD SHALL HAVE BONDING JUMPERS INSTALLED ON ANY SIZE CONDUIT.

| SIZE   | MIN BENDING RADIUS | MIN LENGTH REQUIRED WITH 90 DEGREE BEND | MAX LENGTH |
|--------|--------------------|---|------------|
| 3/4"   | 10"                | 20"                                     | 3'-0"      |
| 1"     | 12"                | 24"                                     |            |
| 1-1/2" | 14"                | 26"                                     |            |
| 2"     | 18"                | 34"                                     | 6'-0"      |
| 2-1/2" | 20"                | 38"                                     |            |
| 3"     | 24"                | 44"                                     |            |
| 4"     | 30"                | 54"                                     |            |

9. ALL METALLIC CONDUIT THREADS SHALL BE TREATED WITH A THREAD LUBRICANT (C-H STL OR EQUAL) TO INHIBIT CORROSION AND MAINTAIN GROUND CONTINUITY. ALL CONDUIT SHALL BE CUT SQUARE WITH A TOOL DESIGNED FOR CUTTING CONDUIT. THREADS SHALL BE CUT USING APPROPRIATE DIE TOOL AND CUTTING OILS THEN REAMED TO PREVENT SCARRING CABLE INSULATION. THE USE OF RUNNING THREADS SHALL NOT BE PERMITTED. NO LESS THAN FIVE FULL THREADS SHALL BE ENGAGED BY COUPLING OF FITTING AT EACH JOINT. THIS DOES NOT APPLY ABOVE GROUND, CLASS 1 DIV. 1 & 2.

10. FOR ALL CONDUITS PENETRATING WALLS OR FLOORS ABOVE THE GROUND FLOOR, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING NECESSARY BLOCK-OUTS OR PIPE SLEEVES (THEY SHALL BE LEVEL AND SYMMETRICAL) FOR CONDUIT PENETRATIONS. WHETHER SHOWN ON THE DRAWING OR NOT, THIS WORK SHALL BE COORDINATED WITH THE CONCRETE POUR TO ELIMINATE AS MUCH CORE DRILLING AS POSSIBLE.

11. ALL METALLIC CONDUIT SHALL BE TERMINATED WITH A GROUNDING BUSHING OR HUB PRIOR TO PULLING CABLE. DO NOT USE LOCK NUTS.

12. ALL CONDUIT 90 DEGREE BENDS, EITHER FACTORY PURCHASED OR FIELD BENT, SHALL BE OF THE MINIMUM RADIUS SHOWN IN THE N.E.C. ALL OFFSETS AND SWEEPS SHALL BE FIELD BENT TO A MINIMUM RADIUS SHOWN IN THE N.E.C. ALL FIELD BENDS SHALL BE MADE WITH A MACHINE BENDER.

13. REDUCERS (SIZED AS REQUIRED) SHALL BE INSTALLED AT EQUIPMENT OR DEVICE CONDUIT OPENINGS TO SUIT CONDUIT SIZE SHOWN ON DRAWINGS. TYPE AND INSTALLATION CHOSEN SO THAT CONDUIT CONNECTIONS ARE TIGHT AND NOT RECESSED AT FITTING FROM REDUCER.

**ABBREVIATIONS**

|                               |   |        |   |      |                                    |
|-------------------------------|---|--------|---|------|------------------------------------|
| a                             | CIRCUIT BREAKER AUX. CONTACT, CLOSED WHEN BREAKER IS CLOSED | HMI    | HUMAN MACHINE INTERFACE                   | SIG  | SIGNAL                             |
| A                             | AMMETER, AMPERES  | HOA    | HAND-OFF-AUTOMATIC                        | SN   | SOLID NEUTRAL                      |
| AC                            | ALTERNATING CURRENT   | HOR    | HAND-OFF-REMOTE                           | SPEC | SPECIFICATIONS                     |
| A/D                           | ANALOG TO DIGITAL   | HORZ   | HORIZONTAL                                | SPD  | SURGE PROTECTIVE DEVICE            |
| AF                            | AMPERE FRAME  | HPS    | HIGH PRESSURE SODIUM HEATER               | SPDT | SINGLE POLE, DOUBLE THROW          |
| AFD                           | ADJUSTABLE FREQUENCY DRIVE                                  | HTR    | HEATER                                    | SS   | STAINLESS STEEL, SOLID             |
| AIC                           | AMPERES INTERRUPTING CAPACITY                               | HV     | HIGH VOLTAGE                              | SW   | STATE SWITCH                       |
| ALT                           | ALTERNATOR  | HZ     | HERTZ (CYCLES PER SECOND)                 | SWBD | SWITCHBOARD                        |
| A/M                           | AUTO/MANUAL CONTROLLER                                      | IND LT | INDICATING LIGHT                          | SWGR | SWITCHGEAR                         |
| ANN                           | ANNUNCIATOR   | INCAND | INCANDESCENT                              | SYNC | SYNCHRONIZING TERMINAL             |
| AS                            | AMMETER SWITCH  | I/O    | INPUT/OUTPUT                              | TB   | BOX, TERMINAL BOARD                |
| AT                            | AMMETER TRIP  | JB     | JUNCTION BOX                              | TC   | TELEPHONE CABINET                  |
| ATS                           | AUTOMATIC TRANSFER SWITCH                                   | KA     | KILOAMPERES                               | TEMP | TEMPERATURE                        |
| AUTO                          | AUTOMATIC   | KCMIL  | THOUSANDS OF CIRCULAR MILS                | TP   | TWISTED PAIR UNSHIELDED            |
| AWG                           | AMERICAN WIRE GAGE  | KV     | KILOVOLTS                                 | TSP  | TWISTED SHIELDED PAIR              |
| b                             | CIRCUIT BREAKER AUX. CONTACT, CLOSED WHEN BREAKER IS OPEN   | KVA    | KILOVOLT AMPERES                          | TVSS | TRANSIENT VOLTAGE SURGE SUPPRESSOR |
| BCG                           | BARE COPPER GROUND CONDUIT, CONTACTOR                       | KVAR   | KILOVOLT AMPERES REACTIVE                 | UH   | UNIT HEATER                        |
| C                             | CONDUIT, CONTACTOR  | KWH    | KILOWATT HOURS                            | UV   | ULTRA VIOLET                       |
| CAP                           | CAPACITOR   | KW     | KILOWATTS                                 | V    | VOLTS                              |
| CB                            | CIRCUIT BREAKER   | LCP    | LIGHTING CONTROL PANEL                    | VA   | VOLT-AMPERES                       |
| CC                            | CONTROL CABLE, CLOSING COIL                                 | LP     | LIGHTING PANEL                            | VFD  | VARIABLE FREQUENCY DRIVE           |
| CHH                           | COMMUNICATION HANDHOLE                                      | LPS    | LOW PRESSURE SODIUM LIGHTING              | VAR  | VOLT AMPERES REACTIVE              |
| CL                            | CHLORINE  | LTG    | LIGHTING                                  | VERT | VERTICAL                           |
| CKT                           | CIRCUIT   | LT(S)  | LIGHT(S)                                  | VH   | VAR-HOUR                           |
| CMH                           | COMMUNICATION MANHOLE                                       | (M)    | MODIFIED                                  | VS   | VOLTMETER SWITCH                   |
| CO                            | CONDUIT ONLY  | Ma     | MILLIAMPERES                              | W    | WIRE, WATTS                        |
| COMM                          | COMMUNICATION   | MCC    | MOTOR CONTROL CENTER                      | WHM  | WATTHOUR METER                     |
| CON                           | CONTACTOR   | MCP    | MOTOR CONTROL CENTER                      | WHDM | WATTHOUR DEMAND METER              |
| COND                          | CONDUCTOR   | MOV    | MOTOR OPERATED VALVE                      | WP   | WEATHERPROOF                       |
| CONT                          | CONTINUED, CONTINUATION                                     | MS     | MOTOR STARTER                             | WTRT | WATERTIGHT                         |
| CPT                           | CONTROL POWER TRANSFORMER                                   | MTD    | MOUNTED                                   | WTP  | WATER TREATMENT PLANT              |
| CP                            | CONTROL PANEL   | MTG    | MOUNTING                                  |      |                                    |
| CR                            | CONTROL RELAY   | MTS    | MANUAL TRANSFER SWITCH                    |      |                                    |
| CS                            | CONTROL SWITCH  | (N)    | NEW                                       |      |                                    |
| CT                            | CURRENT TRANSFORMER   | NEC    | NATIONAL ELECTRICAL CODE                  |      |                                    |
| CWP                           | COLD WATER PIPE   | NEMA   | NATIONAL ELECTRICAL MANUFACTURER'S ASSOC. |      |                                    |
| DC                            | DIRECT CURRENT  | NEUT   | NEUTRAL                                   |      |                                    |
| DIAG                          | DIAGRAM   | NO     | NORMALLY OPEN, NUMBER                     |      |                                    |
| DISC                          | DISCONNECT  | NTS    | NOT TO SCALE                              |      |                                    |
| DISTR                         | DISTRIBUTION  | OVHD   | OVERHEAD                                  |      |                                    |
| DP                            | DISTRIBUTION PANEL  | OL     | THERMAL OVERLOAD RELAY                    |      |                                    |
| DPDT                          | DOUBLE POLE, DOUBLE THROW                                   | OT     | OVER TEMPERATURE                          |      |                                    |
| DPST                          | DOUBLE POLE, SINGLE THROW                                   | PB     | PULLBOX, PUSHBUTTON                       |      |                                    |
| EXST                          | EXISTING  | PD     | POSITIVE DISPLACEMENT                     |      |                                    |
| EF                            | EXHAUST FAN   | PE     | PHOTOELECTRIC                             |      |                                    |
| EHH                           | ELECTRICAL HANDHOLE   | PEC    | PHOTOELECTRIC CELL                        |      |                                    |
| ELEM                          | ELEMENTARY  | PF     | POWER FACTOR                              |      |                                    |
| EMERG                         | EMERGENCY   | pH     | MEASURE OF ACIDITY OR ALKALINITY          |      |                                    |
| EFFL                          | EFFLUENT  | PH     | PHASE                                     |      |                                    |
| EQ                            | EQUAL   | PLC    | PROGRAMMABLE LOGIC CONTROLLER             |      |                                    |
| EQUIP                         | EQUIPMENT   | PM     | POWER MONITOR                             |      |                                    |
| ETM                           | ELAPSED TIME METER  | PNL    | PANEL                                     |      |                                    |
| FACP                          | FIRE ALARM CONTROL PANEL                                    | PNLBD  | PANELBOARD                                |      |                                    |
| FIN FL                        | FINISHED FLOOR  | PRI    | PRIMARY                                   |      |                                    |
| FLEX                          | FLEXIBLE  | PS     | PRESSURE SWITCH                           |      |                                    |
| FLUOR                         | FLUORESCENT   | PSI    | POUNDS PER SQUARE INCH                    |      |                                    |
| FO                            | FIBER OPTIC   | PWR    | POWER                                     |      |                                    |
| FREQ                          | FREQUENCY   | (RL)   | RELOCATE                                  |      |                                    |
| FU                            | FUSE  | (RLD)  | RELOCATED                                 |      |                                    |
| FUT                           | FUTURE  | RCPT   | RECEPTACLE                                |      |                                    |
| FVNR                          | FULL VOLTAGE, NON REVERSING                                 | RCT    | REPEAT CYCLE TIMER                        |      |                                    |
| FVR                           | FULL VOLTAGE, REVERSING                                     | RPM    | REVOLUTIONS PER MINUTE                    |      |                                    |
| FWD                           | FORWARD   | RT     | RESET TIMER                               |      |                                    |
| GA                            | GAUGE   | SCR    | SILICON CONTROLLED RECTIFIER              |      |                                    |
| GEN                           | GENERATOR   | SD     | SMOKE DETECTOR                            |      |                                    |
| GFI                           | GROUND FAULT INTERRUPTER                                    | SDBC   | SOFT-DRAWN BARE COPPER                    |      |                                    |
| GRS                           | GALVANIZED RIGID STEEL                                      | SEC    | SECONDS, SECONDARY                        |      |                                    |
| H <sub>2</sub> O <sub>2</sub> | HYDROGEN PEROXIDE   | SECT   | SECTION                                   |      |                                    |
|                               |   | SF     | SUPPLY FAN                                |      |                                    |
|                               |   | SHH    | SIGNAL HANDHOLE                           |      |                                    |

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**CITY OF SWEET HOME**  
**WWTP IMPROVEMENTS**

**ELECTRICAL LEGENDS, SYMBOLS & ABBREVIATIONS 1**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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**ELECTRICAL PLAN SYMBOLS**

- SINGLE RECEPTACLE, 240V
- NONFUSED DISCONNECT SWITCH, AMPERAGE INDICATED
- FUSED DISCONNECT SWITCH (40/60 40=FUSE AMPERAGE, 60=SWITCH AMPERAGE)
- MANUAL MOTOR STARTER
- COMBINATION MOTOR STARTER
- FLAME DETECTOR
- GAS DETECTOR
- CONDUIT TURNING DOWN FROM KEY ELEVATION
- CONDUIT TURNING UP FROM KEY ELEVATION
- CONDUIT CAP
- BELOW GRADE CONDUIT
- ABOVE GRADE CONDUIT
- CONDUIT RUN, BROKEN AND CONTINUED ON SAME SHEET OR AS NOTED
- INDICATES REMOVAL OR DEMOLITION
- CONDUIT CALLOUT  
RGS: RIGID GALVANIZED STEEL  
PVCXX: XX INDICATES SCHEDULE  
PVC RGS: PVC COATED RGS  
SST RMC: STAINLESS STEEL RIGID METAL CONDUIT
- CABLE CALLOUT LETTER (SEE DESC.)  
ID (EQUIPMENT # ON P&ID)  
X-XXXX-X  
SEQUENTIAL # FOR MULTIPLE
- INSTRUMENT CALLOUT
- INSTRUMENT LOCATION
- WELDING RECEPTACLE
- RECEPTACLE, 480V
- CONTROL STATION
- MOTOR
- POWER POLE WITH GUY WIRE
- FLEXIBLE CONDUIT
- CONDUIT SEAL
- TRANSFORMER
- JUNCTION BOX
- FAN (SUPPLY/EXHAUST)
- THERMOSTAT

**ONE-LINE SYMBOLS**

- CIRCUIT BREAKER, MAGNETIC TRIP ONLY (WHEN TAG WITH MCP) 3 POLE UNLESS INDICATED OTHERWISE, TRIP/FRAME SIZE AS SHOWN ELSE TRIP ONLY
- CIRCUIT BREAKER, DRAW-OUT TYPE, SOLID STATE TRIP RATING SHOWN
- FUSED DISCONNECT SWITCH, SWITCH CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE
- FUSED SWITCH
- FUSE, RATING INDICATED
- NON-FUSED DISCONNECT, RATING INDICATED
- VFD VARIABLE FREQUENCY DRIVE
- SSRV SOFT START REDUCED VOLTAGE
- XFMR NAME  
KVA  
VOLTAGE(120V-240V-480V-4160V-12.247V)  
PHASE(1Ø/3Ø), 3W/4W  
Z%=XXX  
A FAULT= XXXA
- UNGROUNDED DELTA
- GROUNDED DELTA
- OPEN DELTA
- GROUNDED WYE
- PLUG
- POWER MONITORING CURRENT OR POTENTIAL TRANSFORMERS (CT'S/PT'S)
- POWER/UTILITY METER
- EMERGENCY STANDBY ENGINE GENERATOR, RATING AS INDICATED ON ONE-LINE DIAGRAM
- MOTOR  
X: SIZE IN HP
- PILOT LIGHT  
SUBSCRIPT INDICATES COLOR
- PUSH-TO-TEST INDICATING LIGHT  
SUBSCRIPT INDICATES COLOR
- EARTH GROUND
- LOAD
- CURRENT TRANSFORMER
- VOLTAGE TRANSFORMER
- AUTOMATIC TRANSFER SWITCH
- CONTACTOR (BYPASS)

- A=AMBER R=RED
- B=BLUE N=NEON
- C=CLEAR W=WHITE
- G=GREEN Y=YELLOW

**GROUNDING PLAN SYMBOLS**

- GROUND ROD
- GROUND TEST WELL
- GROUND CONNECTION TO EQUIPMENT  
DETAIL CALLOUT SHOWN ON PLAN DWG.
- GROUND CONNECTION, DETAIL CALLOUT SHOWN ON PLAN DWG.
- GROUND CONNECTION TO REBAR, DETAIL CALLOUT SHOWN ON PLAN DWG.
- BELOW GRADE #4/0 AWG BARE COPPER FOR MAIN PLANT GROUND
- BELOW GRADE #2/0 AWG INSULATED COPPER FOR GROUND TAP.
- ABOVE GRADE #2/0 AWG INSULATED GROUND TAP
- CONDUIT STUB UP

**SCHEMATIC SYMBOLS**

- TIMER, ON DELAY, N.O.-TC (DELAYED TO CLOSE)
- TIMER, ON DELAY, N.C.-TO (DELAYED TO OPEN)
- TIMER, OFF DELAY, N.O.-TO (DELAYED TO OPEN)
- TIMER, OFF DELAY, N.C.-TC (DELAYED TO CLOSED)
- PUSHBUTTON, N.O.
- PUSHBUTTON, N.C.
- MUSHROOM HEAD PUSHBUTTON, N.O.
- MUSHROOM HEAD PUSHBUTTON, N.C.
- 3 POSITION SELECTOR SWITCH, MAINTAINED CONTACTS  
X=CLOSED CONTACT  
O=OPEN CONTACT
- DIODE
- SOLENOID VALVE
- CONTROL DEVICE COIL,  
INSIDE SUBSCRIPT INDICATES TYPE,  
OUTSIDE SUBSCRIPT DISTINGUISHES BETWEEN DEVICES OF THE SAME TYPE SEE BELOW;
- ALT=ALTERNATOR GR=GENERAL RELAY
- LR=LATCH RELAY TR=TIMING RELAY
- CR=CONTROL RELAY BP=BYPASS
- ISR=INTRINSICALLY SAFE RELAY TD=TIME DELAY RELAY
- PR=PROBE RELAY

**AREA CLASSIFICATION PLAN SYMBOLS**

- CLASS 1, DIV 1, GROUP D
- CLASS 1, DIV 2, GROUP D

**LIGHTING PLAN SYMBOLS**

- LIGHTING FIXTURE T8 SURFACE OR CEILING
- LIGHTING FIXTURE T4 (NEMA 4X)
- WALL MOUNT FIXTURE
- EMERGENCY EXIT LIGHT
- FLOOD LIGHT
- STANCHION FIXTURE - POLE MOUNT
- STANCHION FIXTURE - WALL MOUNT
- EXIT SIGN - WALL MOUNTED
- EXIT SIGN - 2 SIDED CEILING MOUNTED
- PHOTOCELL
- MOTION SENSOR

- WALL SWITCH, SUBSCRIPT INDICATES TYPE
- \$ X
- 1=SNAP SWITCH T=TIMED SWITCH
- 2=DOUBLE POLE LV=LOW VOLTAGE
- 3=THREE WAY P=PILOT LIGHT
- 4=FOUR WAY K=KEY OPERATED
- D=DIMMER TH=THERMAL SWITCH
- WP=WEATHER PROOF M=MANUAL MOTOR STARTER SWITCH
- RECEPTACLE, SUBSCRIPT INDICATES TYPE
- ⊕ X SINGLE RECEPTACLE, 120V WP =WEATHER PROOF HOUSING
- ⊕ X DUPLEX RECEPTACLE, 120V GFCI = GROUND FAULT CIRCUIT INTERRUPTER
- ⊕ X 4-PLEX RECEPTACLE, 120V IG = ISOLATED GROUND
- AFC = ARC FAULT CIRCUIT INTERRUPTER
- GFPE = GROUND FAULT EQUIPMENT PROTECTION

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| ELECTRICAL LEGENDS, SYMBOLS & ABBREVIATIONS 2 |           |        |          |
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| PROJECT NO.:                                  | 19-2605   | SCALE: | AS SHOWN |
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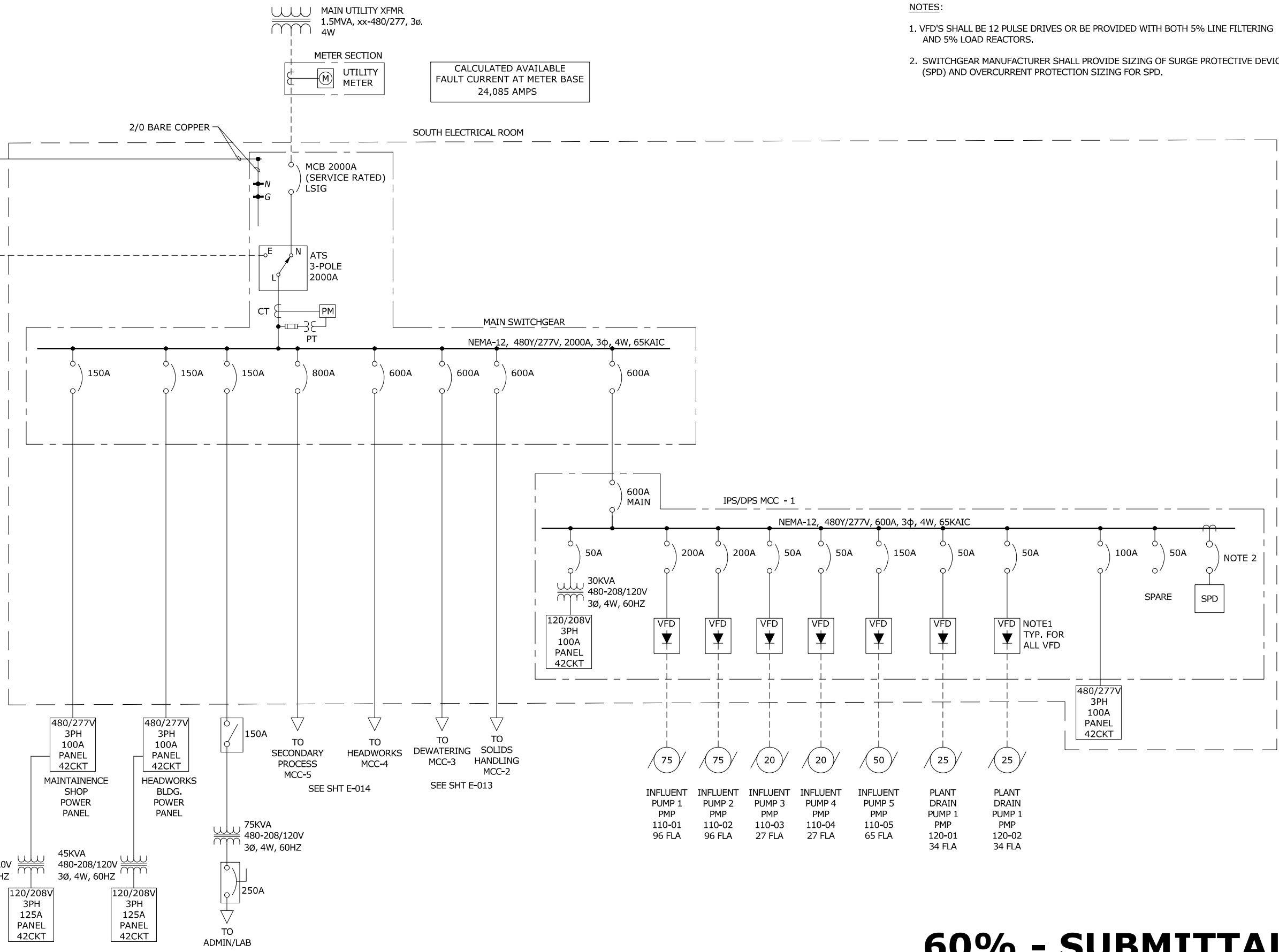
P:\Projects\20\_10\_01\_MSA\_SweetHome\_WWTP\DWG\19-2605-OR-E-012.dwg E-012 6/15/2020 9:00 AM ##### 24.05 (LMS Tech)

NOTES:

- VFD'S SHALL BE 12 PULSE DRIVES OR BE PROVIDED WITH BOTH 5% LINE FILTERING AND 5% LOAD REACTORS.
- SWITCHGEAR MANUFACTURER SHALL PROVIDE SIZING OF SURGE PROTECTIVE DEVICE (SPD) AND OVERCURRENT PROTECTION SIZING FOR SPD.

| SYSTEM CONNECTED LOAD SUMMARY MAIN SWITCHGEAR |                    |
|---|--------------------|
| ADMIN/LAB BLDG                                | 65.0 KVA           |
| MTCE SHOP                                     | 65.0 KVA           |
| HEADWORKS BLDG                                | 65.0 KVA           |
| MOTOR CONTROL CENTER 1                        | 322.0 KVA          |
| MOTOR CONTROL CENTER 2                        | 110.0 KVA          |
| MOTOR CONTROL CENTER 3                        | 138.0 KVA          |
| MOTOR CONTROL CENTER 4                        | 308.0 KVA          |
| MOTOR CONTROL CENTER 5                        | 400.0 KVA          |
| <b>SUBTOTAL</b>                               | <b>1473.0 KVA</b>  |
| SPARE CAPACITY 10%                            | 147.3 KVA          |
| <b>TOTAL KVA</b>                              | <b>1621.3 KVA</b>  |
|   |                    |
| <b>TOTAL CONNECTED LOAD CURRENT</b>           | <b>1950.0 AMPS</b> |
| <b>SERVICE REQUESTED</b>                      | <b>2000.0 AMPS</b> |

| SYSTEM CONNECTED LOAD SUMMARY MCC - 1 |                    |
|---------------------------------------|--------------------|
| (2) 75 HP MOTOR                       | 146.0 KVA          |
| (1) 50 HP MOTOR                       | 48.7 KVA           |
| (2) 25 HP MOTOR                       | 59.8 KVA           |
| (2) 20 HP MOTOR                       | 39.8 KVA           |
| MISC. (XFMR'S 30KVA)                  | 24.00 KVA          |
| HEAT                                  | PART OF XFMR LOAD  |
| A/C                                   | PART OF XFMR LOAD  |
| <b>SUBTOTAL</b>                       | <b>322.0 KVA</b>   |
| LARGEST MOTOR X 25%                   | 18.25 KVA          |
| NON-MOTOR LOADS X 25%                 | 7.5 KVA            |
| SPARE CAPACITY (10%)                  | 34.4 KVA           |
| <b>TOTAL CURRENT REQUIRED</b>         | <b>460.0 AMPS</b>  |
| <b>SERVICE</b>                        | <b>600.00 AMPS</b> |



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**ELECTRICAL**  
**ONE LINE DIAGRAM**  
**MAIN SWITCHGEAR & MCC - 1**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

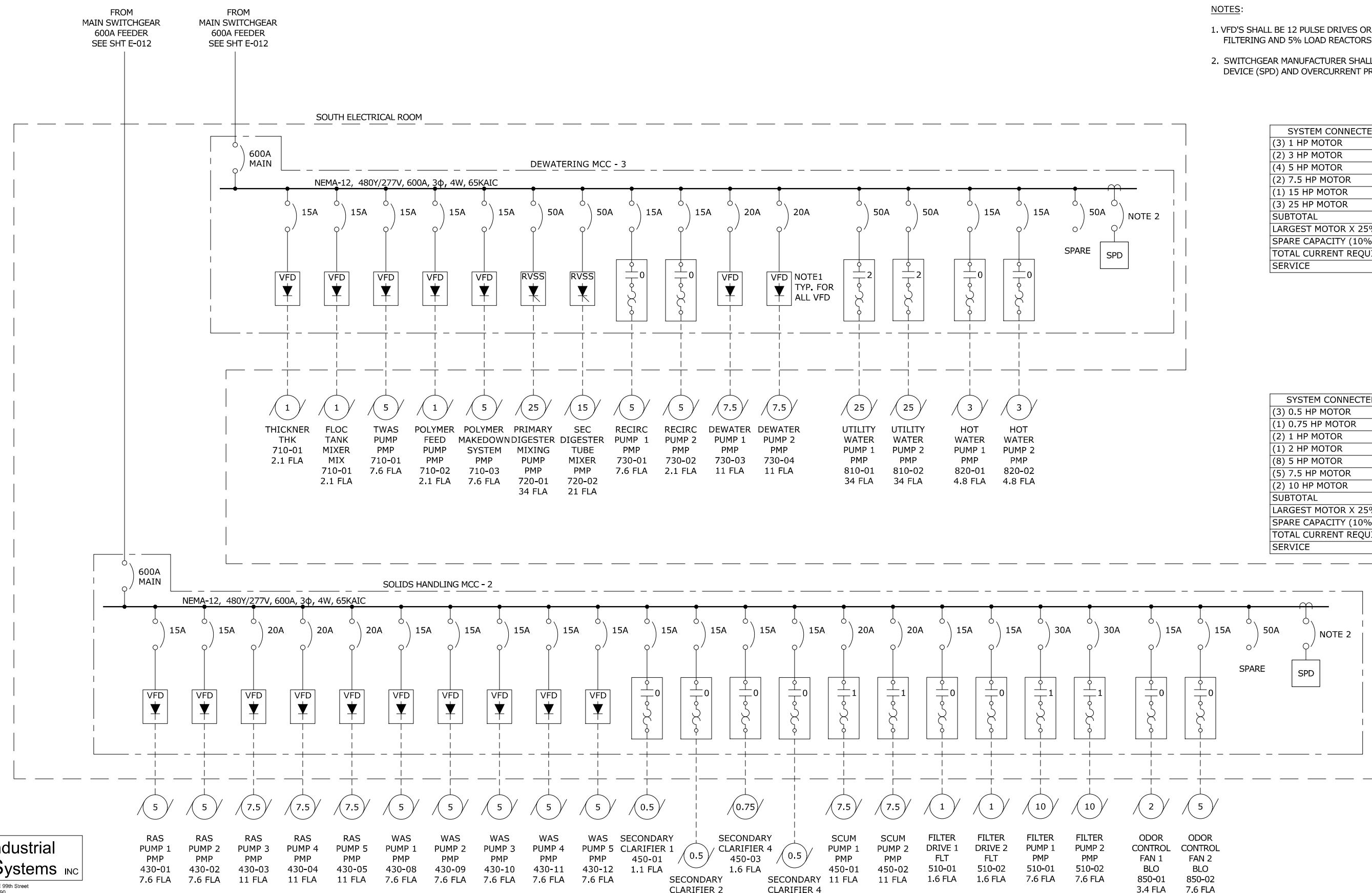
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NOTES:

- VFD'S SHALL BE 12 PULSE DRIVES OR BE PROVIDED WITH BOTH 5% LINE FILTERING AND 5% LOAD REACTORS.
- SWITCHGEAR MANUFACTURER SHALL PROVIDE SIZING OF SURGE PROTECTIVE DEVICE (SPD) AND OVERCURRENT PROTECTION SIZING FOR SPD.

| SYSTEM CONNECTED LOAD SUMMARY MCC - 3 |             |
|---------------------------------------|-------------|
| (3) 1 HP MOTOR                        | 3.6 KVA     |
| (2) 3 HP MOTOR                        | 6.8 KVA     |
| (4) 5 HP MOTOR                        | 21.2 KVA    |
| (2) 7.5 HP MOTOR                      | 15.8 KVA    |
| (1) 15 HP MOTOR                       | 15.4 KVA    |
| (3) 25 HP MOTOR                       | 74.4 KVA    |
| SUBTOTAL                              | 138.0 KVA   |
| LARGEST MOTOR X 25%                   | 6.2 KVA     |
| SPARE CAPACITY (10%)                  | 13.8 KVA    |
| TOTAL CURRENT REQUIRED                | 190.0 AMPS  |
| SERVICE                               | 600.00 AMPS |

| SYSTEM CONNECTED LOAD SUMMARY MCC - 2 |             |
|---------------------------------------|-------------|
| (3) 0.5 HP MOTOR                      | 1.8 KVA     |
| (1) 0.75 HP MOTOR                     | 0.9 KVA     |
| (2) 1 HP MOTOR                        | 2.4 KVA     |
| (1) 2 HP MOTOR                        | 2.3 KVA     |
| (8) 5 HP MOTOR                        | 42.4 KVA    |
| (5) 7.5 HP MOTOR                      | 39.5 KVA    |
| (2) 10 HP MOTOR                       | 20.6 KVA    |
| SUBTOTAL                              | 110.0 KVA   |
| LARGEST MOTOR X 25%                   | 2.6 KVA     |
| SPARE CAPACITY (10%)                  | 11.3 KVA    |
| TOTAL CURRENT REQUIRED                | 149.0 AMPS  |
| SERVICE                               | 600.00 AMPS |



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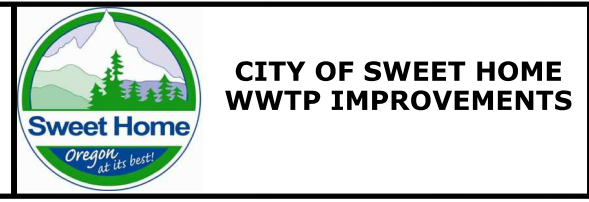
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**ELECTRICAL**  
**ONE LINE DIAGRAM**  
**SOUTH ELECTRICAL ROOM MCC-2 & MCC-3**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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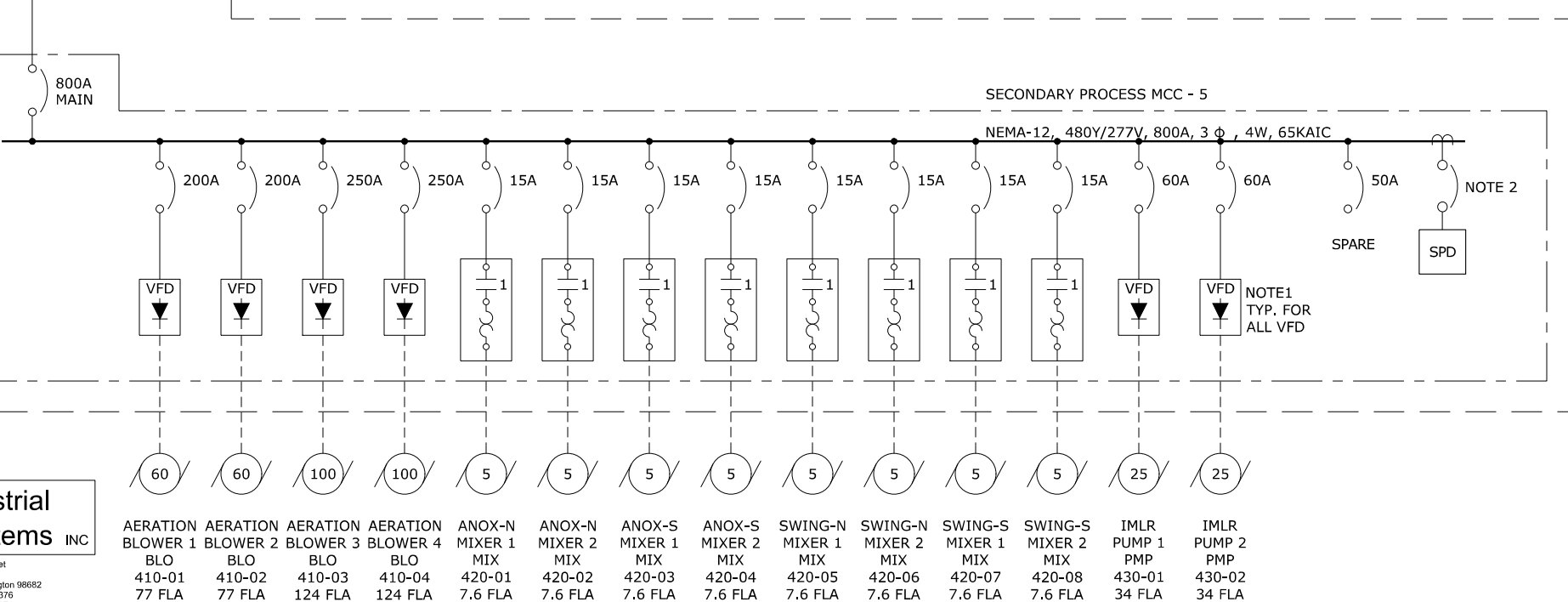
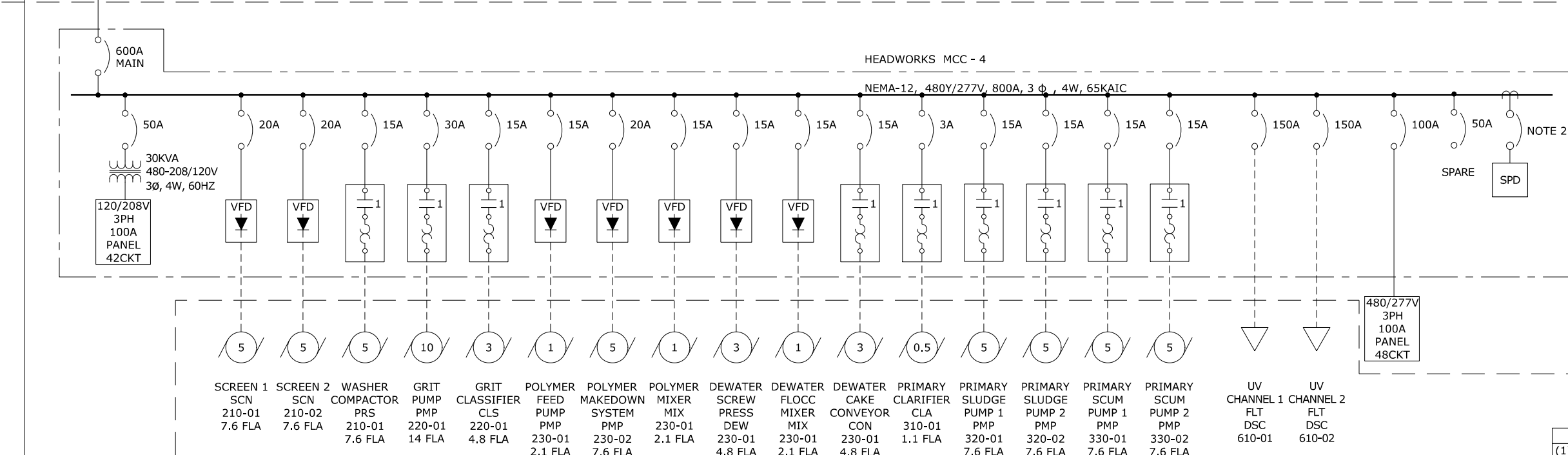
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FROM MAIN SWITCHGEAR  
SEE SHT E-002

800A FEEDER  
600A FEEDER

NORTH ELECTRICAL ROOM



- NOTES:
- VFD'S SHALL BE 12 PULSE DRIVES OR BE PROVIDED WITH BOTH 5% LINE FILTERING AND 5% LOAD REACTORS.
  - SWITCHGEAR MANUFACTURER SHALL PROVIDE SIZING OF SURGE PROTECTIVE DEVICE (SPD) AND OVERCURRENT PROTECTION SIZING FOR SPD.
  - SOLIDS HANDLING MCC-2 SHOWN SPLIT FOR CLARITY ONLY MCC-2 SHALL BE FABRICATED COMPLETE AND PROVIDED WITH SHIPPING SPLITS AS NEEDED.

|                             |                             |                                     |                             |                                    |                                 |  |                              |  |                                    |                                      |                                      |                                      |                                      |                                    |                                    |                             |                             |
|-----------------------------|-----------------------------|-------------------------------------|-----------------------------|------------------------------------|---------------------------------|--|------------------------------|--|------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|------------------------------------|------------------------------------|-----------------------------|-----------------------------|
| SCREEN 1 SCN 210-01 7.6 FLA | SCREEN 2 SCN 210-02 7.6 FLA | WASHER COMPACTOR PRS 210-01 7.6 FLA | GRIT PUMP PMP 220-01 14 FLA | GRIT CLASSIFIER CLS 220-01 4.8 FLA | POLYMER FEED PMP 230-01 2.1 FLA | POLYMER MAKEDOWN SYSTEM PMP 230-02 7.6 FLA | POLYMER MIXER 230-01 2.1 FLA | DEWATER SCREW PRESS DEW 230-01 4.8 FLA | DEWATER FLOCC MIXER 230-01 2.1 FLA | DEWATER CAKE CONVEYOR 230-01 4.8 FLA | PRIMARY CLARIFIER CLA 310-01 1.1 FLA | PRIMARY SLUDGE PUMP 1 320-01 7.6 FLA | PRIMARY SLUDGE PUMP 2 320-02 7.6 FLA | PRIMARY SCUM PUMP 1 330-01 7.6 FLA | PRIMARY SCUM PUMP 2 330-02 7.6 FLA | UV CHANNEL 1 FLT DSC 610-01 | UV CHANNEL 2 FLT DSC 610-02 |
|-----------------------------|-----------------------------|-------------------------------------|-----------------------------|------------------------------------|---------------------------------|--|------------------------------|--|------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|------------------------------------|------------------------------------|-----------------------------|-----------------------------|

| SYSTEM CONNECTED LOAD SUMMARY MCC - 4 |                   |
|---------------------------------------|-------------------|
| (1) 0.5 HP MOTOR                      | 0.6 KVA           |
| (3) 1 HP MOTOR                        | 3.6 KVA           |
| (3) 3 HP MOTOR                        | 10.2 KVA          |
| (8) 5 HP MOTOR                        | 42.4 KVA          |
| (1) 10.0 HP MOTOR                     | 10.3 KVA          |
| (2) 50 KW UV SYSTEM                   | 117.8 KVA         |
| MISC. (XFMR 30KVA)                    | 24.00 KVA         |
| 480V PANEL                            | 80.00 KVA         |
| HEAT & A/C                            | PART OF XFMR LOAD |
| SUBTOTAL                              | 308.0 KVA         |
| LARGEST MOTOR X 25%                   | 2.6 KVA           |
| NON-MOTOR LOADS X 25%                 | 7.5 KVA           |
| SPARE CAPACITY (10%)                  | 10.9 KVA          |
| TOTAL CURRENT REQUIRED                | 395.7 AMPS        |
| SERVICE                               | 600.00 AMPS       |

| SYSTEM CONNECTED LOAD SUMMARY MCC - 5 |             |
|---------------------------------------|-------------|
| (8) 5 HP MOTOR                        | 42.4 KVA    |
| (2) 25 HP MOTOR                       | 49.6 KVA    |
| (2) 60 HP MOTOR                       | 116.8 KVA   |
| (2) 100 HP MOTOR                      | 191.6 KVA   |
| SUBTOTAL                              | 400.4 KVA   |
| LARGEST MOTOR X 25%                   | 23.9 KVA    |
| SPARE CAPACITY (10%)                  | 40.0 KVA    |
| TOTAL CURRENT REQUIRED                | 558.5 AMPS  |
| SERVICE                               | 800.00 AMPS |

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OR CCB #196597 WA #INDUS18809  
AK #1018436

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|-------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-------------------------------|-------------------------------|
| AERATION BLOWER 1 BLO 410-01 77 FLA | AERATION BLOWER 2 BLO 410-02 77 FLA | AERATION BLOWER 3 BLO 410-03 124 FLA | AERATION BLOWER 4 BLO 410-04 124 FLA | ANOX-N MIXER 1 MIX 420-01 7.6 FLA | ANOX-N MIXER 2 MIX 420-02 7.6 FLA | ANOX-S MIXER 1 MIX 420-03 7.6 FLA | ANOX-S MIXER 2 MIX 420-04 7.6 FLA | SWING-N MIXER 1 MIX 420-05 7.6 FLA | SWING-N MIXER 2 MIX 420-06 7.6 FLA | SWING-S MIXER 1 MIX 420-07 7.6 FLA | SWING-S MIXER 2 MIX 420-08 7.6 FLA | IMLR PUMP 1 PMP 430-01 34 FLA | IMLR PUMP 2 PMP 430-02 34 FLA |
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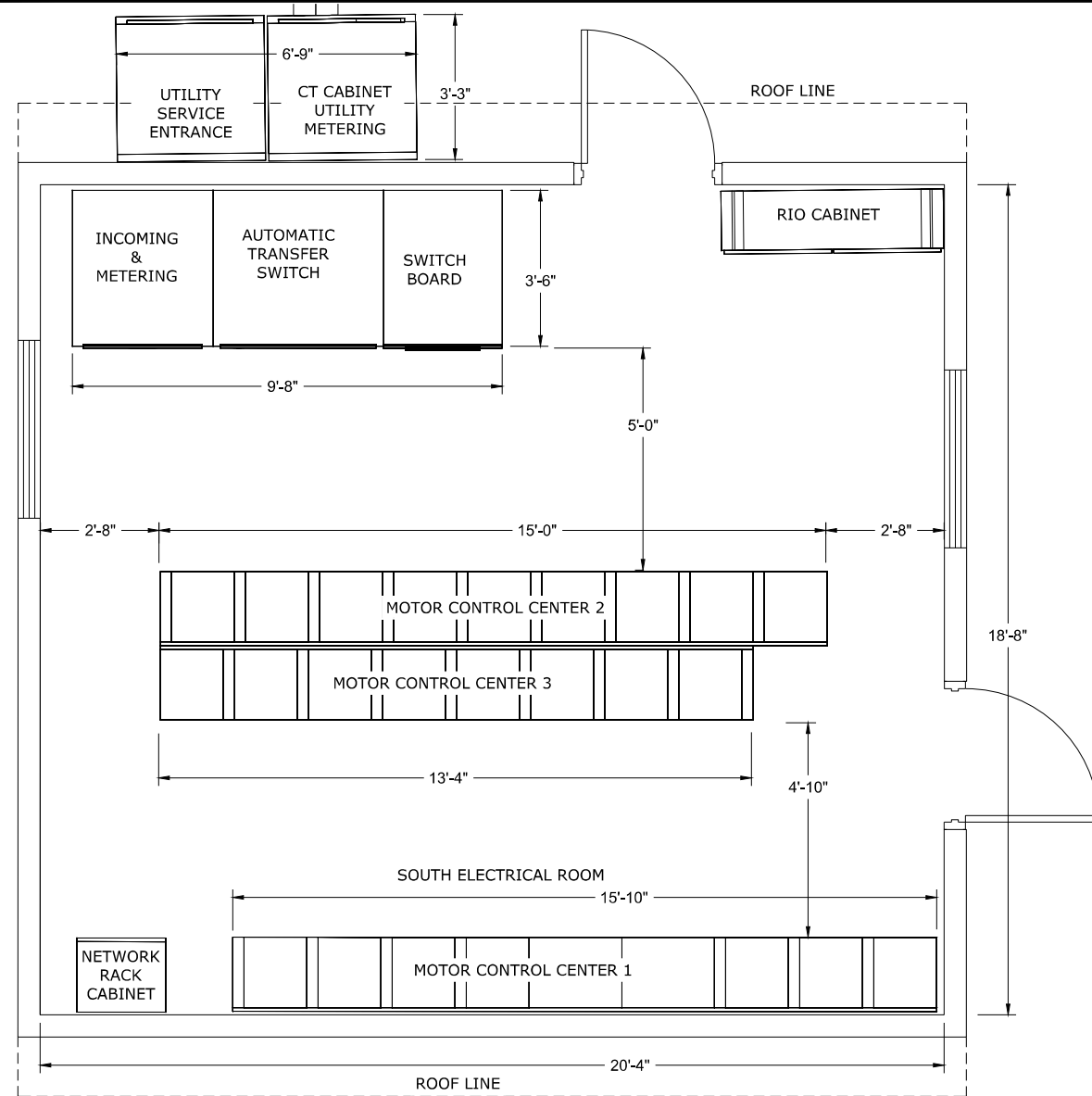
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**ONE LINE DIAGRAM**  
**NORTH ELECTRICAL ROOM MCC-4 & MCC-5**

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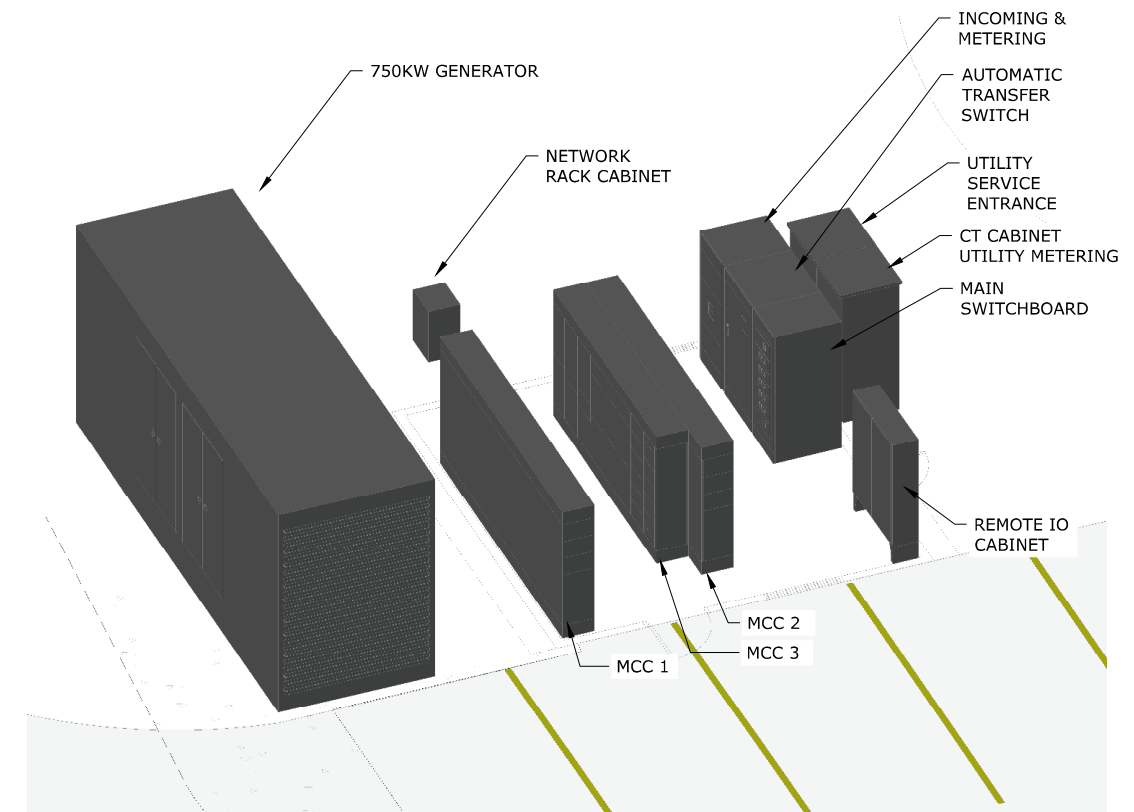
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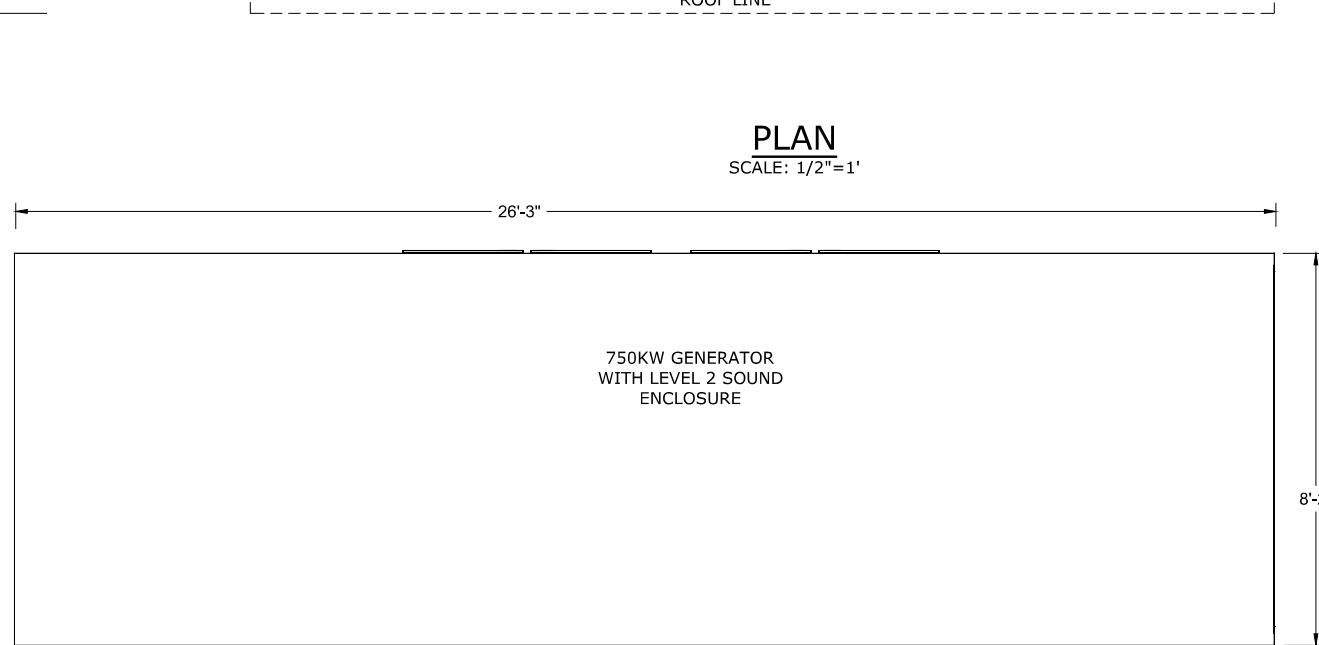
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**PLAN**  
SCALE: 1/2"=1'



**ELECTRICAL ROOM EQUIPMENT LAYOUT**  
SCALE: NTS



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**SOUTH ELECTRICAL ROOM EQUIPMENT LAYOUT**

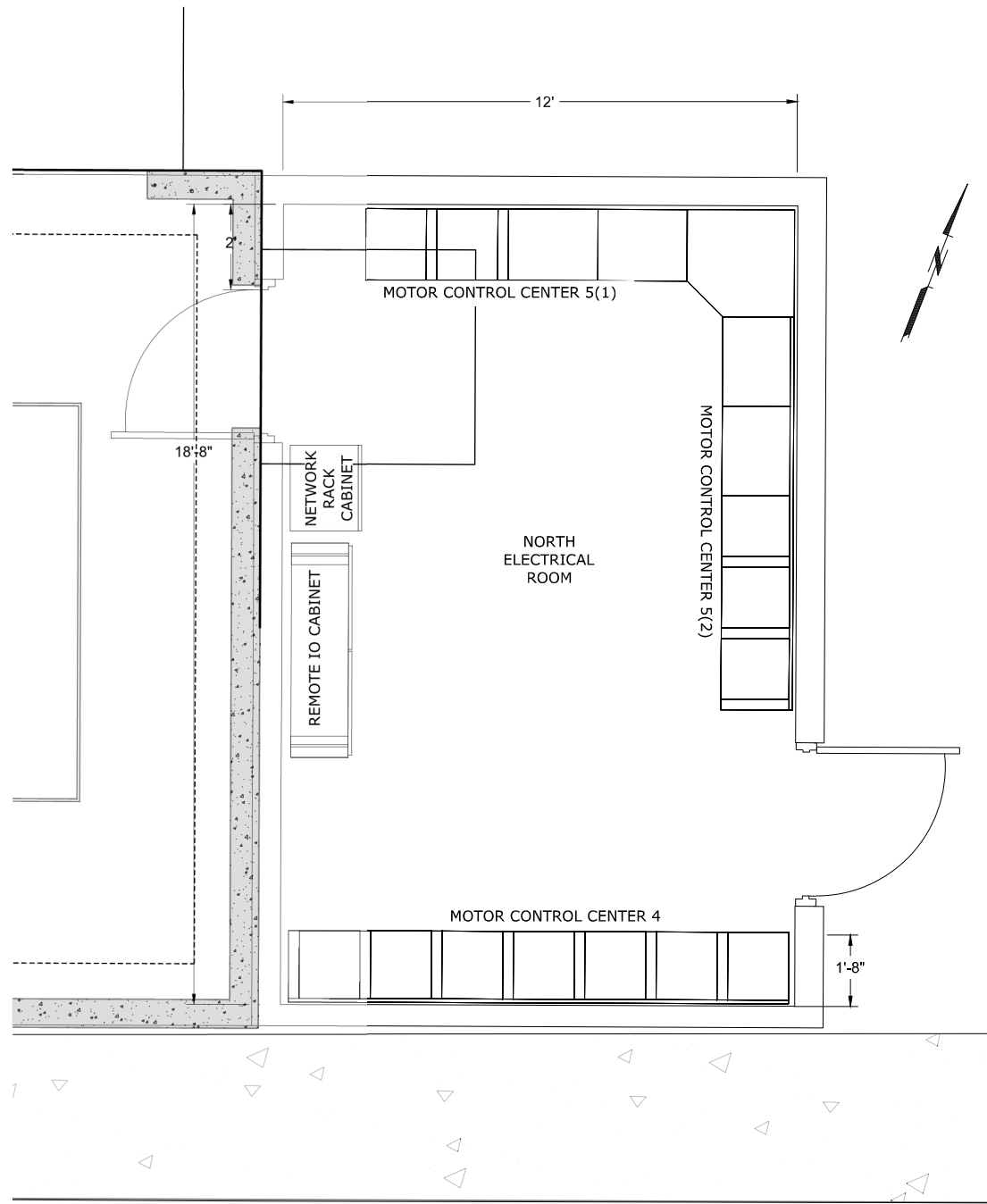
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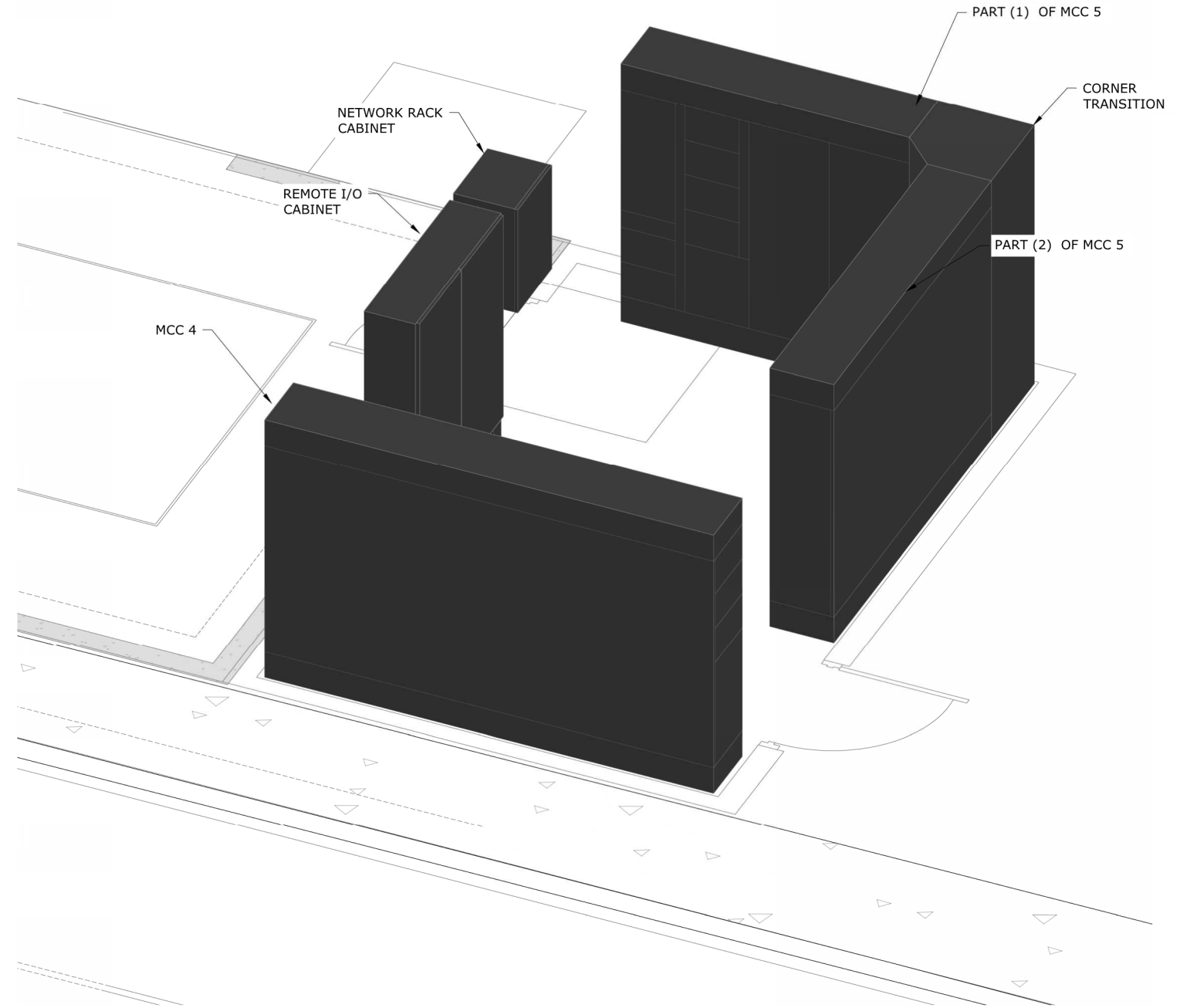
273 of 354

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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**PLAN**  
SCALE: 1/2"=1'



**ELECTRICAL ROOM EQUIPMENT LAYOUT**  
SCALE: NTS

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**NORTH ELECTRICAL ROOM**  
**EQUIPMENT LAYOUT**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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**MCC-1 CIRCUIT SCHEDULE**

ALL CIRCUITS ARE IDENTIFIED ON THE PLANS WITH THE DIAMOND SYMBOL. CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTORS. CONDUIT SIZES ARE SHOWN FOR CASES WHEN CIRCUIT CONDUCTORS ARE RUN WITHOUT OTHER CIRCUITS. MULTIPLE CIRCUITS RUN IN COMMON CONDUITS ARE SHOWN ON PLANS AND SUPERSEDE THE BASIC CONDUIT SIZE SHOWN.

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CIRCUITS REVISED SINCE LAST ISSUE ARE INDICATED BY AN ASTERISK(\*).

| CIRCUIT NUMBER | FROM           | TO                               | CONDUCTORS                                      | RACEWAY  | NOTES |
|----------------|----------------|----------------------------------|---|----------|-------|
| 101            | MCC - 1        | TRANSFORMER T1                   | (3) #10 AWG, P<br>(1) #10 AWG, G                | 3/4" C   |       |
| 102            | TRANSFORMER T1 | PANEL 2P1                        | (3) #4 AWG, P<br>(1) #4 AWG, N<br>(1) #6 AWG, G | 1-1/4" C |       |
| 103            | MCC - 1        | PANEL 4P1                        | (3) #4 AWG, P<br>(1) #4 AWG, N<br>(1) #6 AWG, G | 1-1/4" C |       |
| 104            | MCC - 1        | INFLUENT PUMP #1<br>PMP-110-01   | (3) #3 AWG, P<br>(1) #6 AWG, G                  | 1" C     |       |
| 105            | MCC - 1        | INFLUENT PUMP #2<br>PMP-110-02   | (3) #3 AWG, P<br>(1) #6 AWG, G                  | 1" C     |       |
| 106            | MCC - 1        | INFLUENT PUMP #3<br>PMP-110-03   | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |       |
| 107            | MCC - 1        | INFLUENT PUMP #4<br>PMP-110-04   | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |       |
| 108            | MCC - 1        | INFLUENT PUMP #5<br>PMP-110-05   | (3) #6 AWG, P<br>(1) #8 AWG, G                  | 1" C     |       |
| 109            | MCC - 1        | PLANT DRAIN PUMP #1<br>PMP-120-1 | (3) #10 AWG, P<br>(1) #10 AWG, G                | 3/4" C   |       |
| 110            | MCC - 1        | PLANT DRAIN PUMP #2<br>PMP-120-2 | (3) #10 AWG, P<br>(1) #10 AWG, G                | 3/4" C   |       |
| 111            | MCC - 1        | SPARE                            |   |          |       |
| 112            | MCC - 1        | SPEED CONTROLLER                 |   |          |       |

**MCC-2 CIRCUIT SCHEDULE**

|     |         |                                      |                                  |        |  |
|-----|---------|--------------------------------------|----------------------------------|--------|--|
| 201 | MCC - 2 | SECONDARY CLARIFIER #1<br>CLA-450-01 | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 202 | MCC - 2 | SECONDARY CLARIFIER #2<br>CLA-450-02 | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 203 | MCC - 2 | SECONDARY CLARIFIER #3<br>CLA-450-03 | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 204 | MCC - 2 | SECONDARY CLARIFIER #4<br>CLA-450-04 | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 205 | MCC - 2 | RAS PUMP #1<br>PMP-430-01            | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 206 | MCC - 2 | RAS PUMP #2<br>PMP-430-02            | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 207 | MCC - 2 | RAS PUMP #3<br>PMP-430-03            | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 208 | MCC - 2 | RAS PUMP #4<br>PMP-430-04            | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 209 | MCC - 2 | RAS PUMP #5<br>PMP-430-05            | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 210 | MCC - 2 | WAS PUMP #1<br>PMP-430-06            | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 211 | MCC - 2 | WAS PUMP #2<br>PMP-430-09            | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 212 | MCC - 2 | WAS PUMP #3<br>PMP-430-10            | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 213 | MCC - 2 | WAS PUMP #4<br>PMP-430-11            | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 214 | MCC - 2 | WAS PUMP #5<br>PMP-430-12            | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 215 | MCC - 2 | FILTER DRIVE #1<br>FLT-510-01        | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 216 | MCC - 2 | FILTER DRIVE #2<br>FLT-510-02        | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 217 | MCC - 2 | ODOR CONTROL FAN #1<br>BLO-850-01    | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 218 | MCC - 2 | ODOR CONTROL FAN #2<br>BLO-850-02    | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 219 | MCC - 2 | SCUM PUMP #1<br>PMP-450-01           | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 220 | MCC - 2 | SCUM PUMP #2<br>PMP-450-02           | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 221 | MCC - 2 | FILTER PUMP #1<br>PMP-510-01         | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 222 | MCC - 2 | FILTER PUMP #2<br>PMP-510-02         | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |

**MCC-3 CIRCUIT SCHEDULE**

|     |         |   |                                  |        |  |
|-----|---------|---|----------------------------------|--------|--|
| 301 | MCC - 3 | THICKENER<br>THK-710-01                 | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 302 | MCC - 3 | FLOCK TANK MIXER<br>MIX-710-01          | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 303 | MCC - 3 | POLY FEED PUMP<br>PMP-710-02            | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 304 | MCC - 3 | HOT WATER PUMP #1<br>PMP-820-01         | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 305 | MCC - 3 | HOT WATER PUMP #2<br>PMP-820-02         | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 306 | MCC - 3 | POLY MAKEDOWN PUMP<br>PMP-710-03        | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 307 | MCC - 3 | TWAS PUMP<br>PMP-710-01                 | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 308 | MCC - 3 | HEX RECIRC PUMP #1<br>PMP-730-01        | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 309 | MCC - 3 | HEX RECIRC PUMP #2<br>PMP-730-02        | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 310 | MCC - 3 | DEWATERING FEED PUMP #1<br>PMP-730-03   | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 311 | MCC - 3 | DEWATERING FEED PUMP #2<br>PMP-730-04   | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 312 | MCC - 3 | SECONDARY DIGESTER TUB<br>PMP-720-02    | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 313 | MCC - 3 | PRIMARY DIGESTER MIX PUM<br>PMP-7210-01 | (3) #10 AWG, P<br>(1) #10 AWG, G | 3/4" C |  |
| 314 | MCC - 3 | UTILITY WATER PUMP #1<br>PMP-810-01     | (3) #10 AWG, P<br>(1) #10 AWG, G | 3/4" C |  |
| 315 | MCC - 3 | UTILITY WATER PUMP #2<br>PMP-810-02     | (3) #10 AWG, P<br>(1) #10 AWG, G | 3/4" C |  |

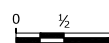
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**SWITCHBOARD CIRCUIT SCHEDULE**

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CIRCUITS REVISED SINCE LAST ISSUE ARE INDICATED BY AN ASTERISK(\*).

| CIRCUIT NUMBER | FROM                    | TO                                     | CONDUCTORS                                      | RACEWAY  | NOTES                |
|----------------|-------------------------|--|---|----------|----------------------|
| 1              | UTILITY TRANSFORMER     | SWITCHBOARD                            | (9) #500 KCMILL<br>(3) #4/0 AWG, G              | (3) 4" C | TYPE XH-W CONDUCTORS |
| 2              | SWITCHBOARD             | AUTOMATIC TRANSFER SWIT                | (9) #500 KCMILL<br>(3) #4/0 AWG, G              | (3) 4" C | TYPE XH-W CONDUCTORS |
| 3              | AUTOMATIC TRANSFER SWIT | GENERATOR                              | (6) #500 KCMILL<br>(2) #4/0 AWG, G              | (2) 4" C | TYPE XH-W CONDUCTORS |
| 4              | SWITCHBOARD             | MCC #1                                 | (6) #500 KCMILL<br>(2) #4/0 AWG, G              | (2) 4" C | TYPE XH-W CONDUCTORS |
| 5              | SWITCHBOARD             | MCC #2                                 | (6) #500 KCMILL<br>(2) #4/0 AWG, G              | (2) 4" C | TYPE XH-W CONDUCTORS |
| 6              | SWITCHBOARD             | MCC #3                                 | (6) #500 KCMILL<br>(2) #4/0 AWG, G              | (2) 4" C | TYPE XH-W CONDUCTORS |
| 7              | SWITCHBOARD             | MCC #4                                 | (6) #500 KCMILL<br>(2) #4/0 AWG, G              | (2) 4" C | TYPE XH-W CONDUCTORS |
| 8              | SWITCHBOARD             | MCC #5                                 | (6) #500 KCMILL<br>(2) #4/0 AWG, G              | (2) 4" C | TYPE XH-W CONDUCTORS |
| 9              | SWITCHBOARD             | ADMIN BUILDING<br>75KVA XFMR           | (3) #4 AWG, P<br>(1) #4 AWG, N<br>(1) #6 AWG, G | 1-1/4" C |                      |
| 10             | SWITCHBOARD             | MAINT. SHOP<br>112.5 KVA XFMR          | (3) #2 AWG, P<br>(1) #2 AWG, N<br>(1) #6 AWG, G | 1-1/4" C |                      |
| 11             | SWITCHBOARD             | HEADWORKS/DEWATERING<br>112.5 KVA XFMR | (3) #2 AWG, P<br>(1) #2 AWG, N<br>(1) #6 AWG, G | 1-1/4" C |                      |

**MCC-4 CIRCUIT SCHEDULE**

|     |                |                                      |   |          |  |
|-----|----------------|--------------------------------------|---|----------|--|
| 401 | MCC - 4        | TRANSFORMER T4                       | (3) #10 AWG, P<br>(1) #10 AWG, G                | 3/4" C   |  |
| 402 | TRANSFORMER T4 | PANEL 2P4                            | (3) #4 AWG, P<br>(1) #4 AWG, N<br>(1) #6 AWG, G | 1-1/4" C |  |
| 403 | MCC - 4        | PANEL 4P4                            | (3) #4 AWG, P<br>(1) #4 AWG, N<br>(1) #6 AWG, G | 1-1/4" C |  |
| 404 | MCC - 4        | POLY FEED PUMP<br>PMP-230-01         | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 405 | MCC - 4        | POLY MIXER<br>MX-230-01              | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 406 | MCC - 4        | DEWATERING FLOCCULATOR<br>MIX-230-01 | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 407 | MCC - 4        | GRIT CLASSIFIER<br>CLS-220-01        | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 408 | MCC - 4        | DEWATERING SCREW PRESS<br>DEW-230-01 | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 409 | MCC - 4        | DEWATERING CAKE PRESS<br>CON-230-01  | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 410 | MCC - 4        | RAKE SCREEN #1<br>SCN-210-01         | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 411 | MCC - 4        | RAKE SCREEN #2<br>SCN-210-02         | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 412 | MCC - 4        | SCREEN WASHER COMPACT<br>PRS-210-01  | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 413 | MCC - 4        | PRI SLUDGE PUMP #1<br>PMP-320-01     | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 414 | MCC - 4        | PRI SLUDGE PUMP #2<br>PMP-320-02     | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 415 | MCC - 4        | POLY MAKEDOWN PUMP<br>PMP-710-03     | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 416 | MCC - 4        | PRI SCUM PUMP #1<br>PMP-330-01       | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 417 | MCC - 4        | PRI SCUM PUMP #2<br>PMP-330-02       | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 418 | MCC - 4        | GRIT PUMP<br>PMP-220-01              | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 419 | MCC - 4        | UV SYSTEM CH #1<br>DIS-610-01        | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 420 | MCC - 4        | UV SYSTEM CH #2<br>DIS-610-02        | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |
| 421 | MCC - 4        | PRI CLARIFIER<br>CLA-310-01          | (3) #12 AWG, P<br>(1) #12 AWG, G                | 3/4" C   |  |

**MCC-5 CIRCUIT SCHEDULE**

|     |         |                                      |                                  |        |  |
|-----|---------|--------------------------------------|----------------------------------|--------|--|
| 501 | MCC - 5 | ANOX - NORTH MIXER #1<br>MIX-420-01  | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 502 | MCC - 5 | ANOX - NORTH MIXER #2<br>MIX-420-02  | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 503 | MCC - 5 | ANOX - SOUTH MIXER #1<br>MIX-420-03  | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 504 | MCC - 5 | ANOX - SOUTH MIXER #2<br>MIX-420-04  | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 505 | MCC - 5 | SWING - NORTH MIXER #1<br>MIX-420-05 | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 506 | MCC - 5 | SWING - NORTH MIXER #2<br>MIX-420-06 | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 507 | MCC - 5 | SWING - SOUTH MIXER #1<br>MIX-420-07 | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 508 | MCC - 5 | SWING - SOUTH MIXER #2<br>MIX-420-08 | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 509 | MCC - 5 | IMLR PUMP #1<br>PMP-430-01           | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 510 | MCC - 5 | IMLR PUMP #2<br>PMP-430-02           | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 511 | MCC - 5 | AERATION BLOWER #1<br>B-410-01       | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 512 | MCC - 5 | AERATION BLOWER #2<br>B-410-02       | (3) #12 AWG, P<br>(1) #12 AWG, G | 3/4" C |  |
| 513 | MCC - 5 | AERATION BLOWER #3<br>B-410-03       | (3) #10 AWG, P<br>(1) #10 AWG, G | 3/4" C |  |
| 514 | MCC - 5 | AERATION BLOWER #4<br>B-410-04       | (3) #10 AWG, P<br>(1) #10 AWG, G | 3/4" C |  |

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AK #1018436

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NOTICE  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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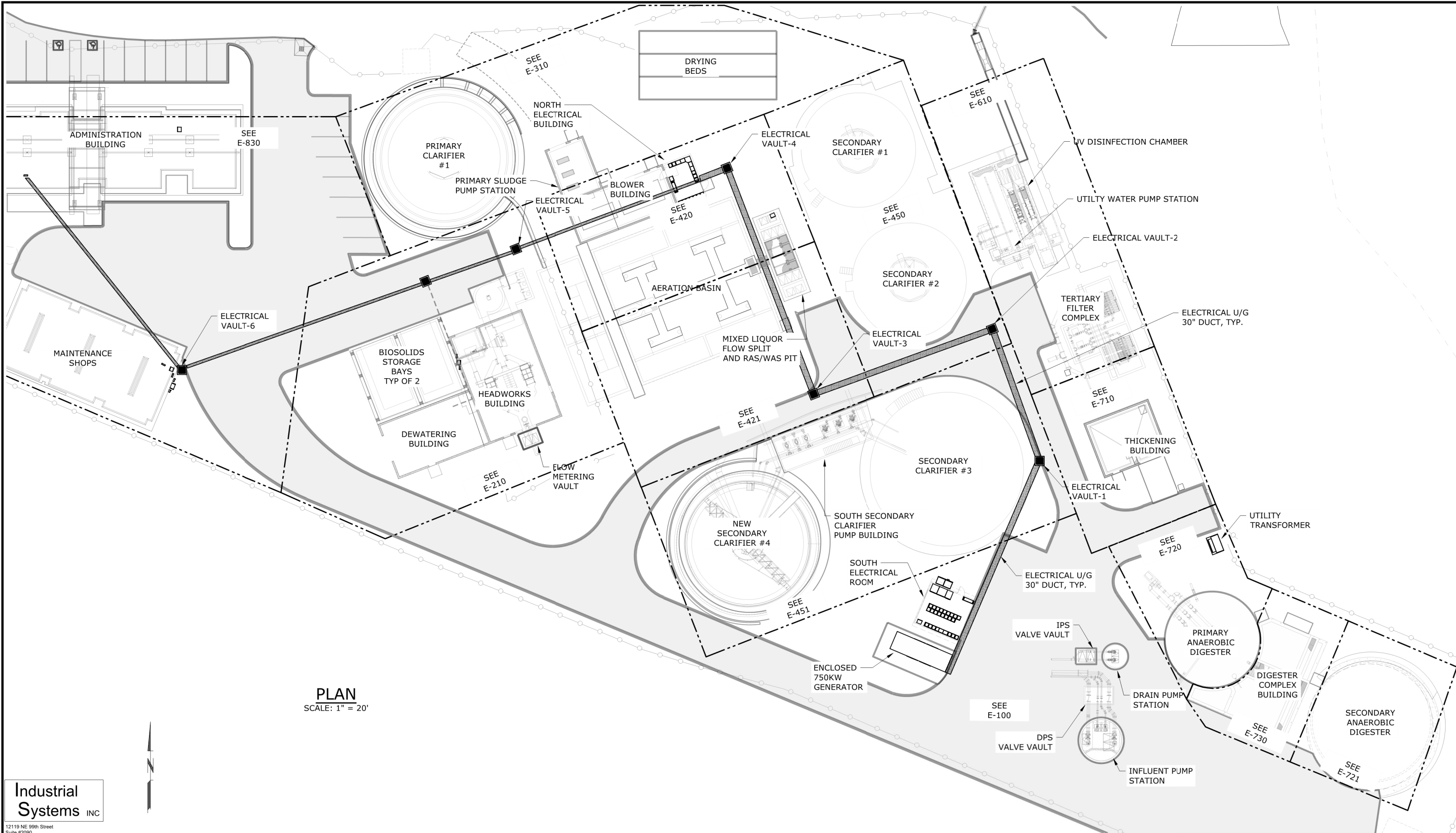


**CITY OF SWEET HOME**  
**WWTP IMPROVEMENTS**

**60% - SUBMITTAL**  
**CONDUIT AND WIRE SCHEDULE 2**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

SHEET  
E-019  
276 of 354

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**PLAN**  
SCALE: 1" = 20'

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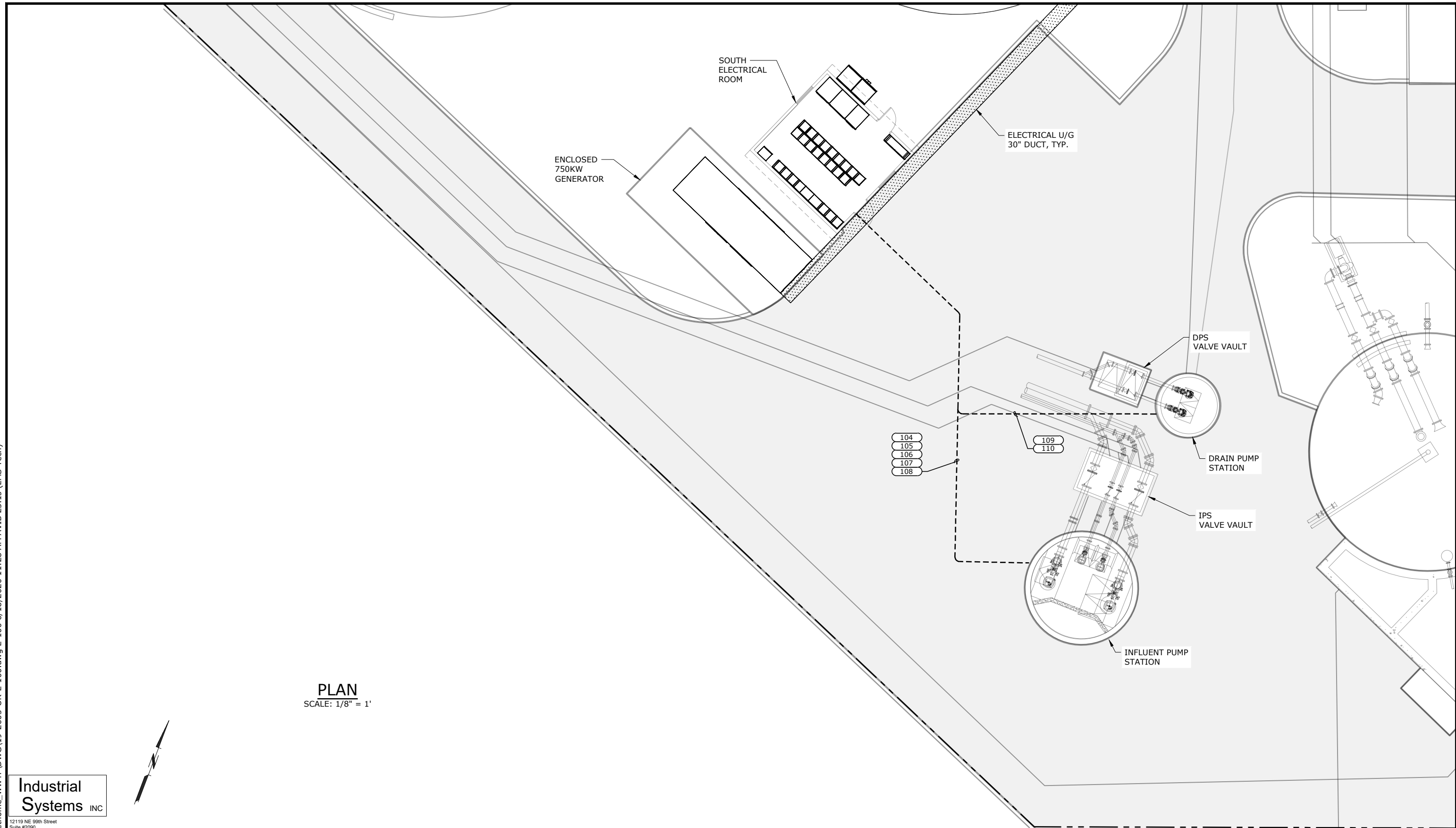


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WWTP IMPROVEMENTS

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| <b>ELECTRICAL SITE PLAN</b> |           |
| PROJECT NO.:                | 19-2605   |
| SCALE:                      | AS SHOWN  |
| DATE:                       | JUNE 2020 |

SHEET  
**E-020**  
277 of 354

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**PLAN**  
SCALE: 1/8" = 1'



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NOTICE  
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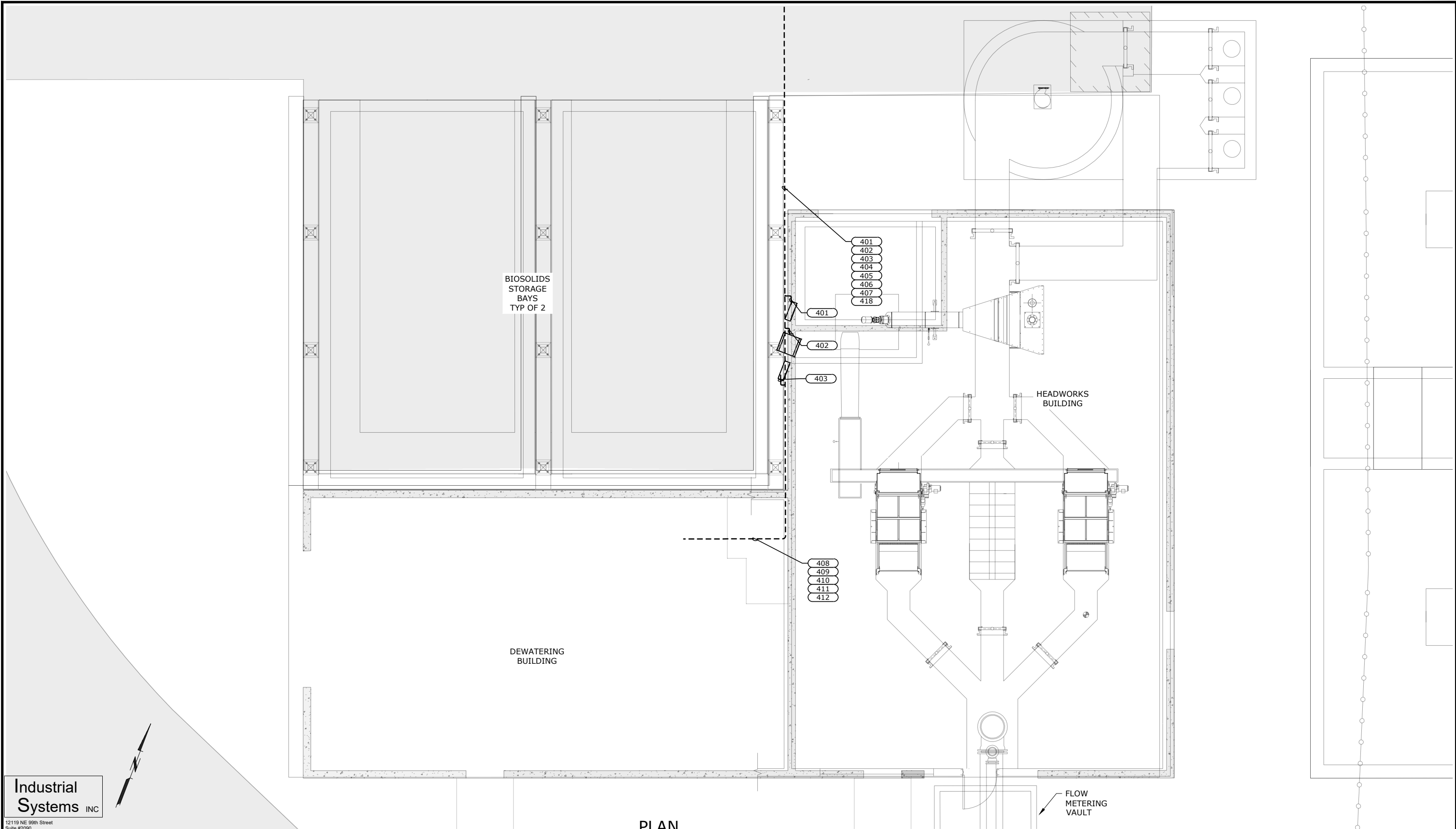
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**WWTP IMPROVEMENTS**

**INFLUENT PUMP STATION AND DRAIN PUMP STATION**  
**POWER, SIGNAL AND DATA PLAN**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

SHEET  
**E-100**  
284 of 354

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 OR CCB #196597 WA #INDUSI880K9  
 AK #1018436

**PLAN**  
 1/4" = 1'

**60% - SUBMITTAL**

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 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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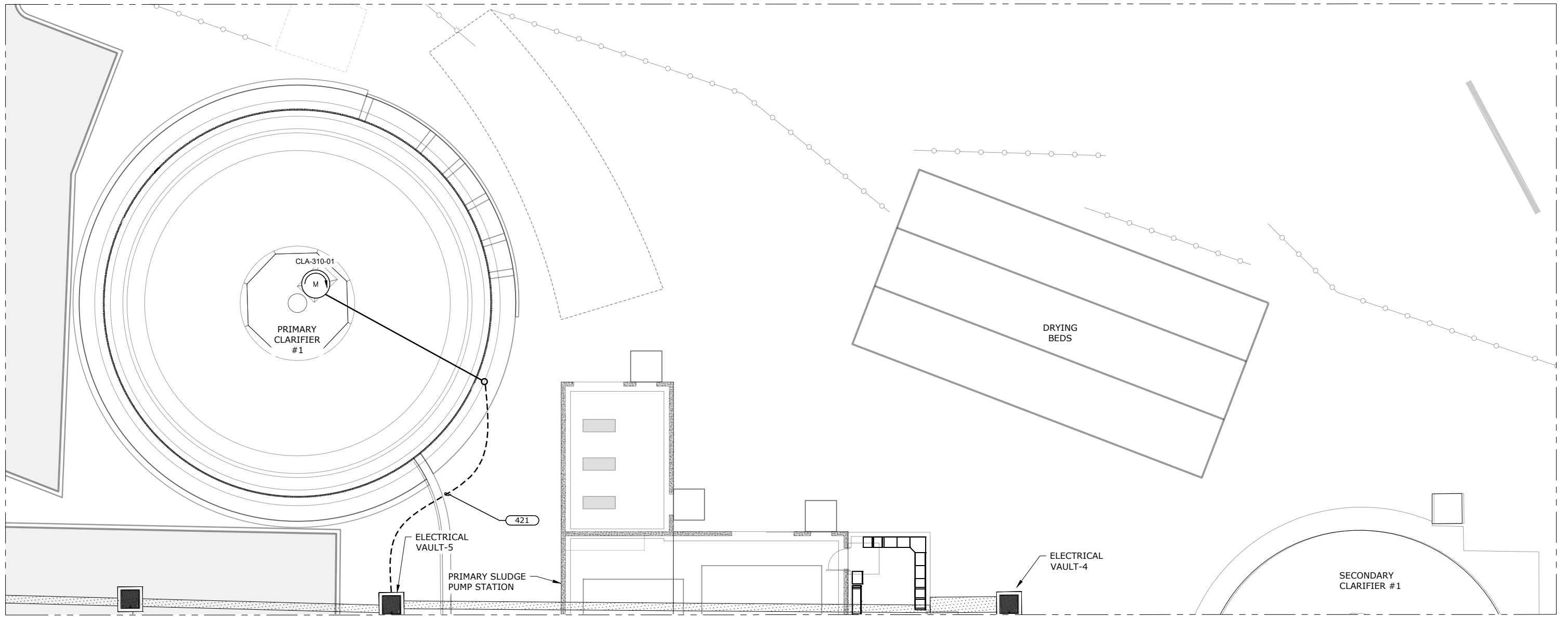
**CITY OF SWEET HOME**  
**WWTP IMPROVEMENTS**

**HEADWORKS AND DEWATERING BUILDING**  
**POWER, SIGNAL AND DATA PLAN**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

SHEET  
**E-210**  
 285 of 354

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**PLAN**  
SCALE: 1/8" = 1'

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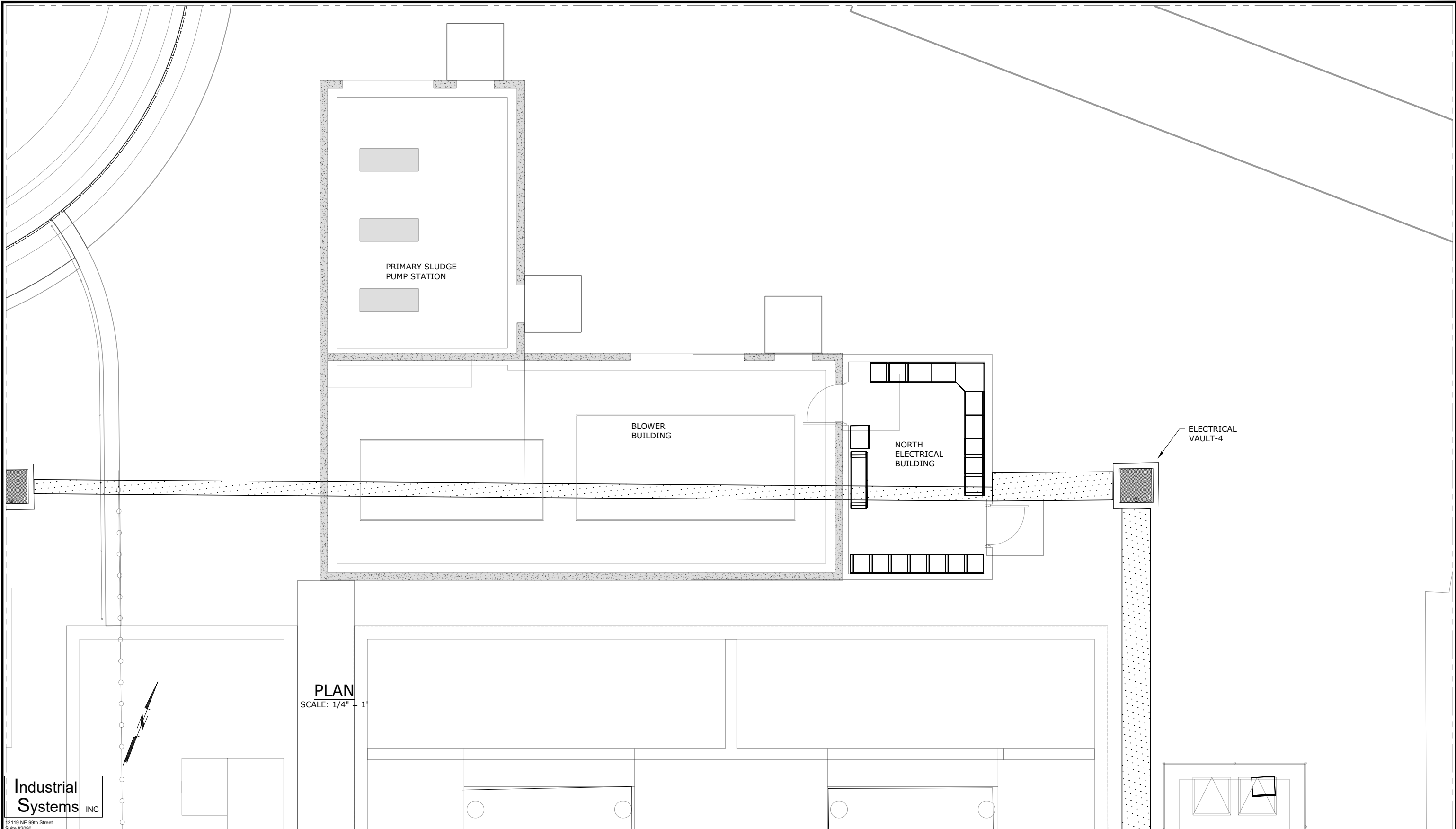
**CITY OF SWEET HOME  
WWTP IMPROVEMENTS**

**PRIMARY CLARIFIER  
POWER, SIGNAL, DATA  
AND LIGHTING PLAN**

SHEET  
**E-310**  
289 of 354

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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**PLAN**  
SCALE: 1/4" = 1'

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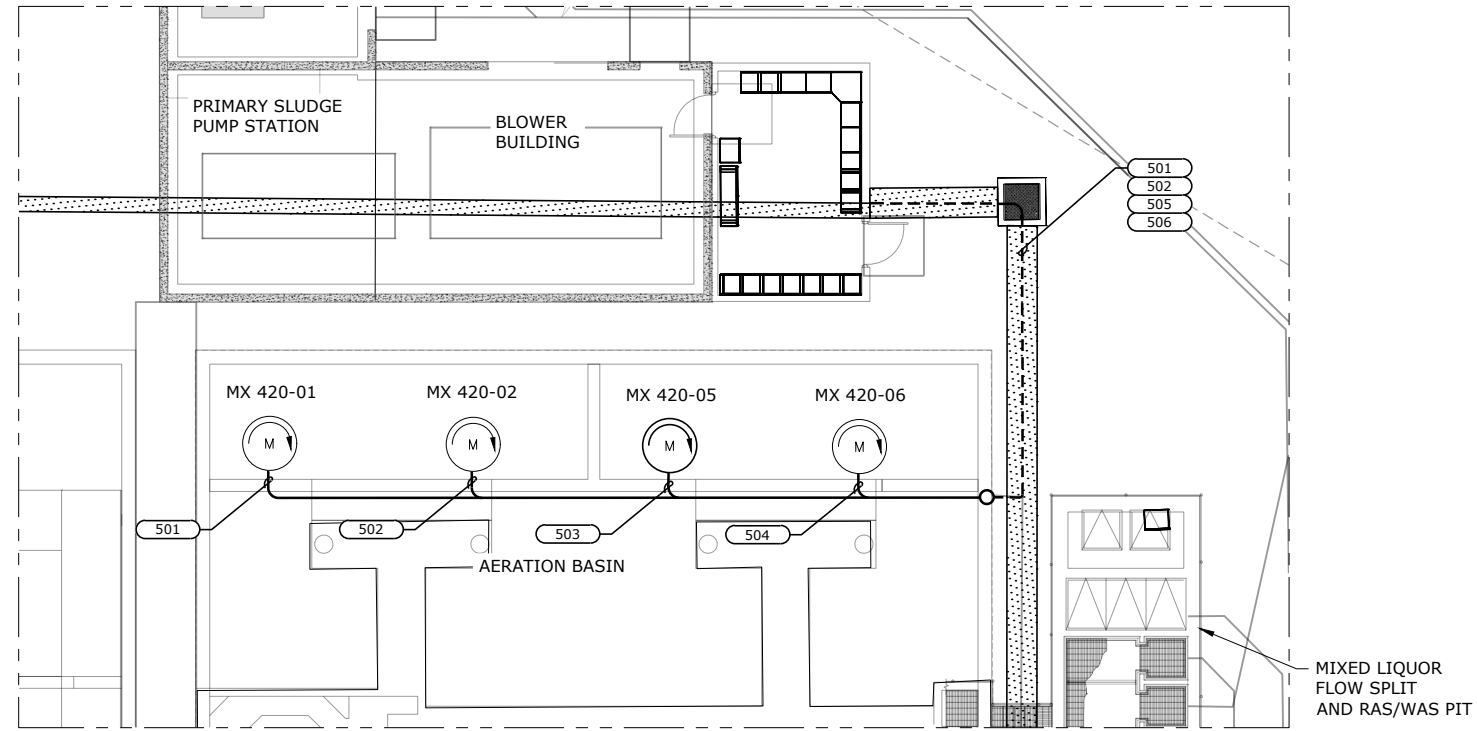
**CITY OF SWEET HOME**  
**WWTP IMPROVEMENTS**

**BLOWER BUILDING**  
**POWER, SIGNAL, AND DATA PLAN**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

SHEET  
**E-410**  
291 of 354

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**PLAN**  
SCALE: 1/8" = 1'

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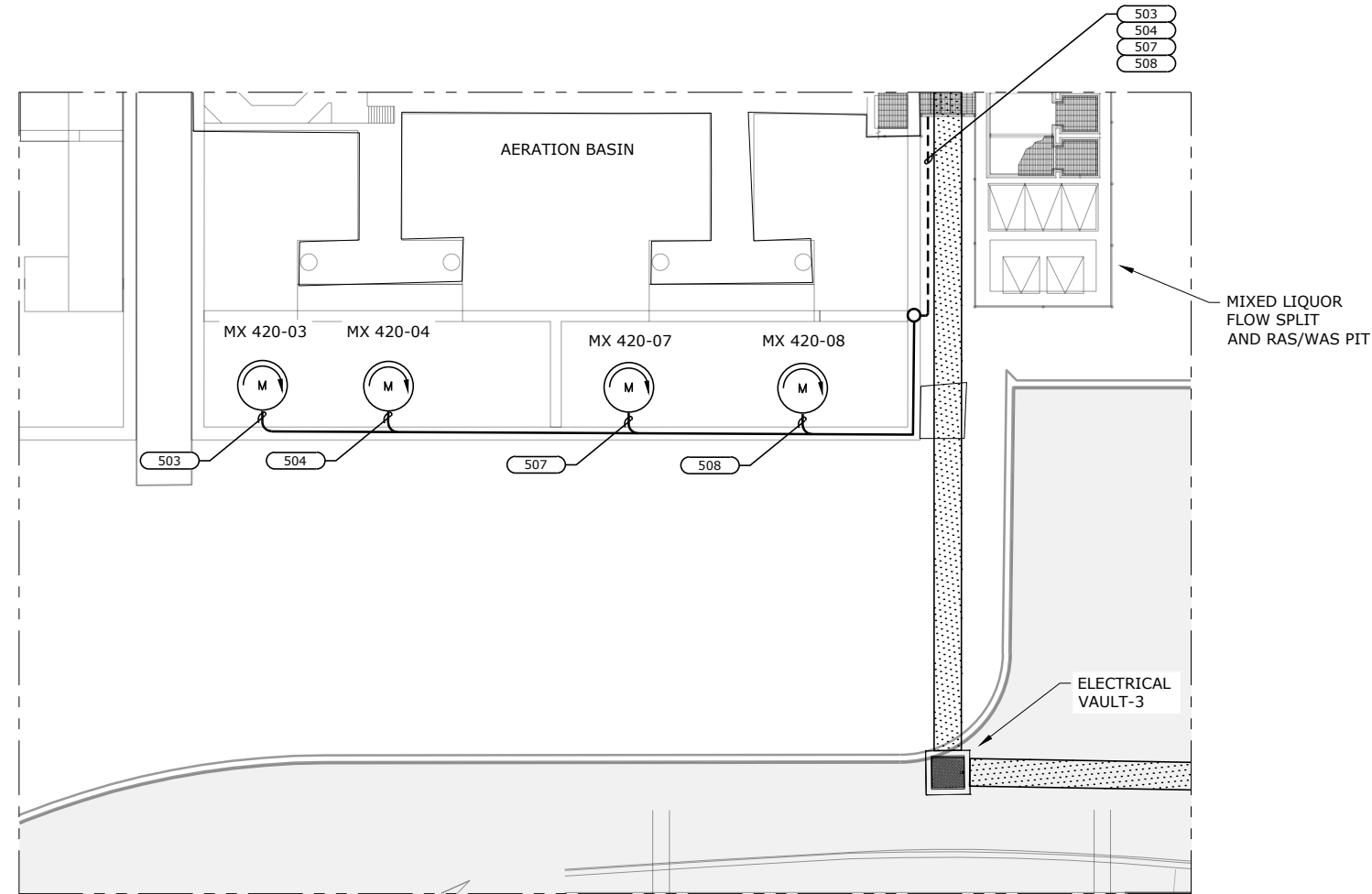
**AERATION BASIN NORTH  
POWER, SIGNAL, DATA  
AND LIGHTING PLAN**

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**E-420**  
293 of 354

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020



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**PLAN**  
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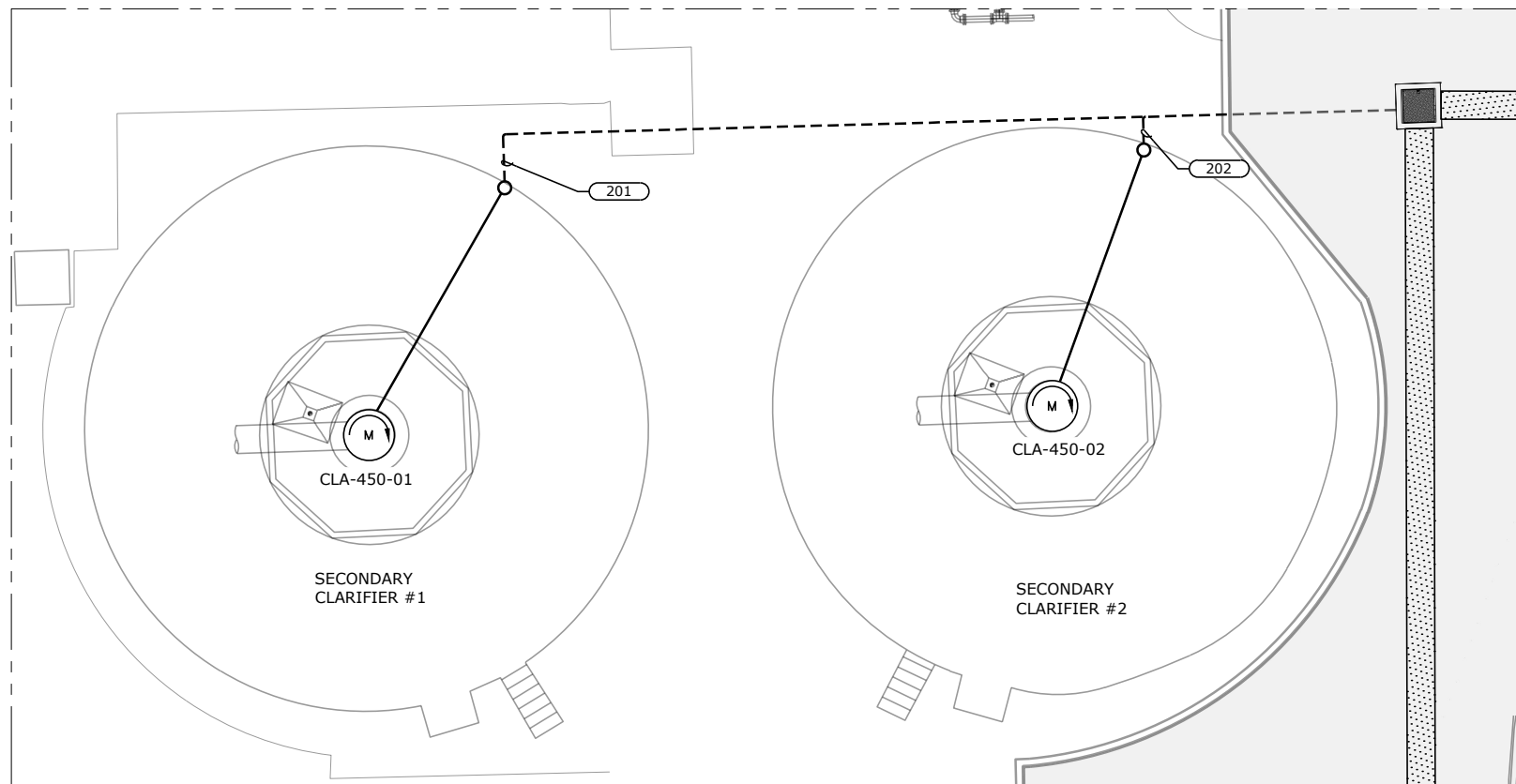
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WWTP IMPROVEMENTS**

**AERATION BASIN SOUTH  
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AND LIGHTING PLAN**

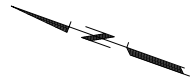
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294 of 354

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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**PLAN**  
SCALE: 1/8" = 1'



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Systems INC**

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**SECONDARY CLARIFIERS 1,2  
POWER, SIGNAL, DATA,  
AND LIGHTING PLAN**

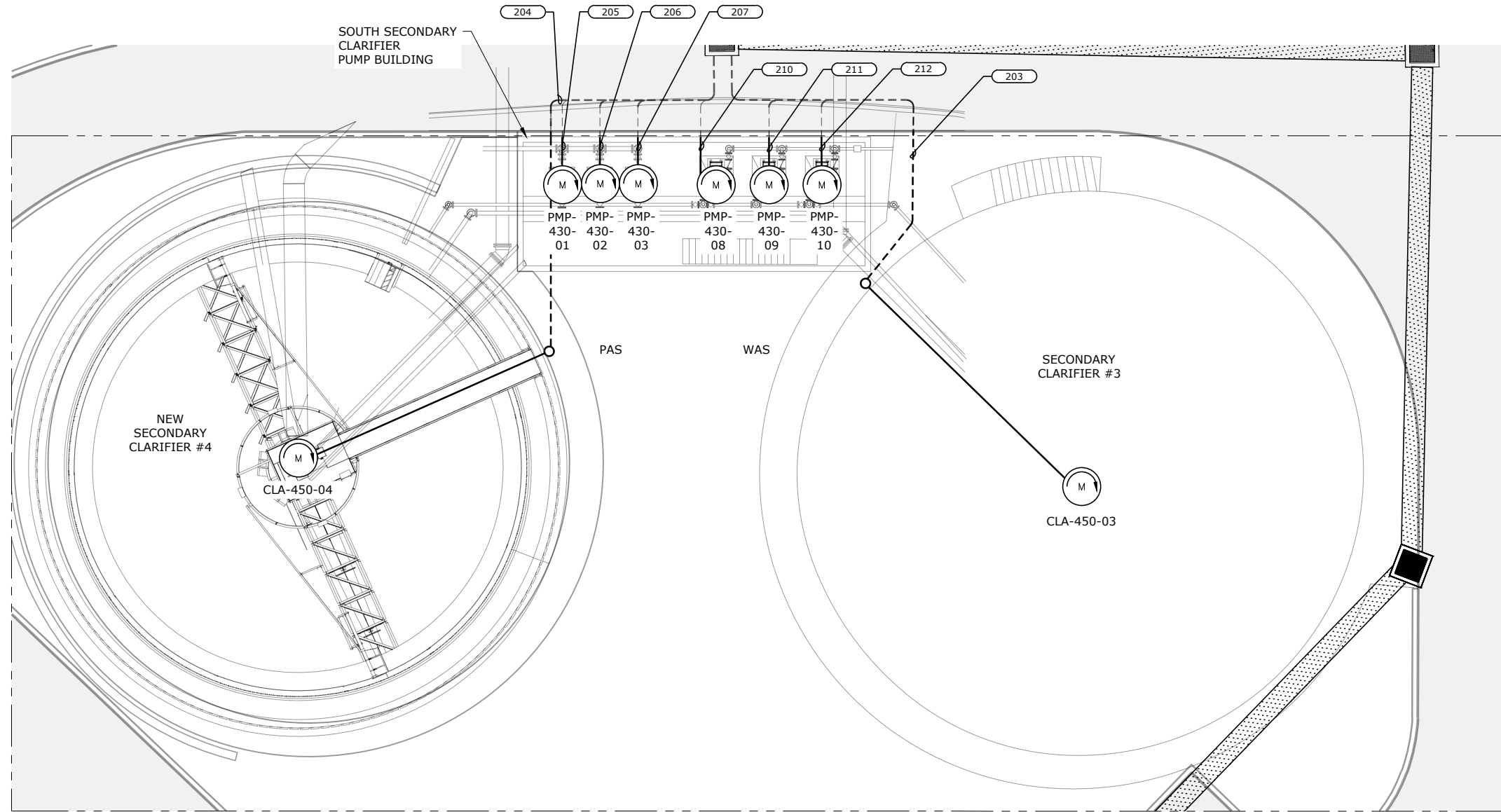
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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**PLAN**  
SCALE: 1/8" = 1'

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**SECONDARY CLARIFIER 3,4  
POWER, SIGNAL, DATA  
AND LIGHTING PLAN**

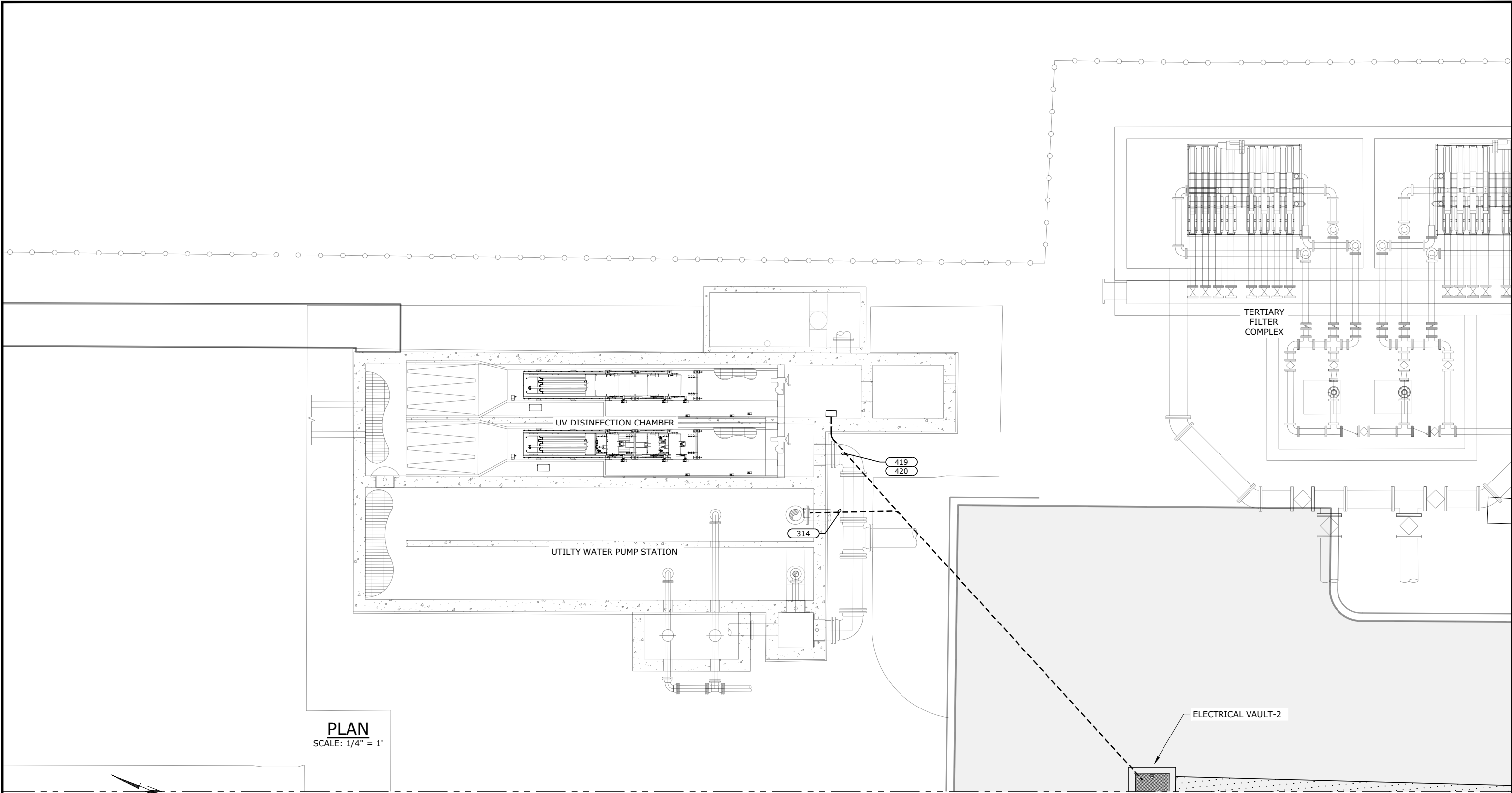
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300 of 354

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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PLAN  
SCALE: 1/4" = 1'

**Industrial Systems INC**

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OR CCB #196597 WA #INDUS1880K9  
AK #1018436

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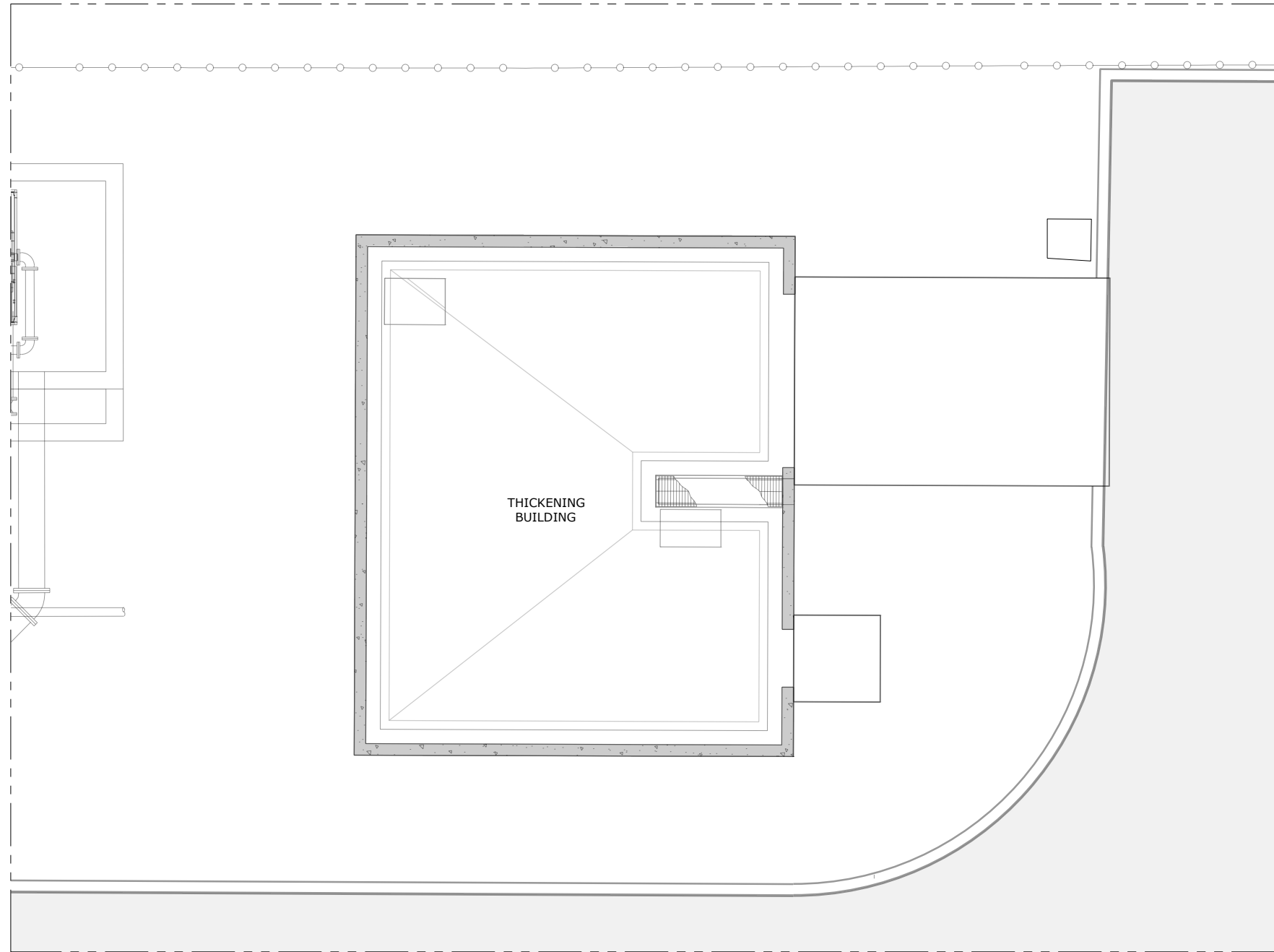
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**UV DISINFECTION  
POWER, SIGNAL, DATA  
AND LIGHTING PLAN**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

SHEET  
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**Industrial Systems INC**

**PLAN**  
SCALE: 1/4" = 1'

12119 NE 99th Street  
Suite #2590  
Vancouver, Washington 98682  
Phone: (503) 262-0376  
Fax: (503) 262-0371  
E-mail: ts@industrialsystems-inc.com  
OR CCB #196597 WA #INDUS1880K9  
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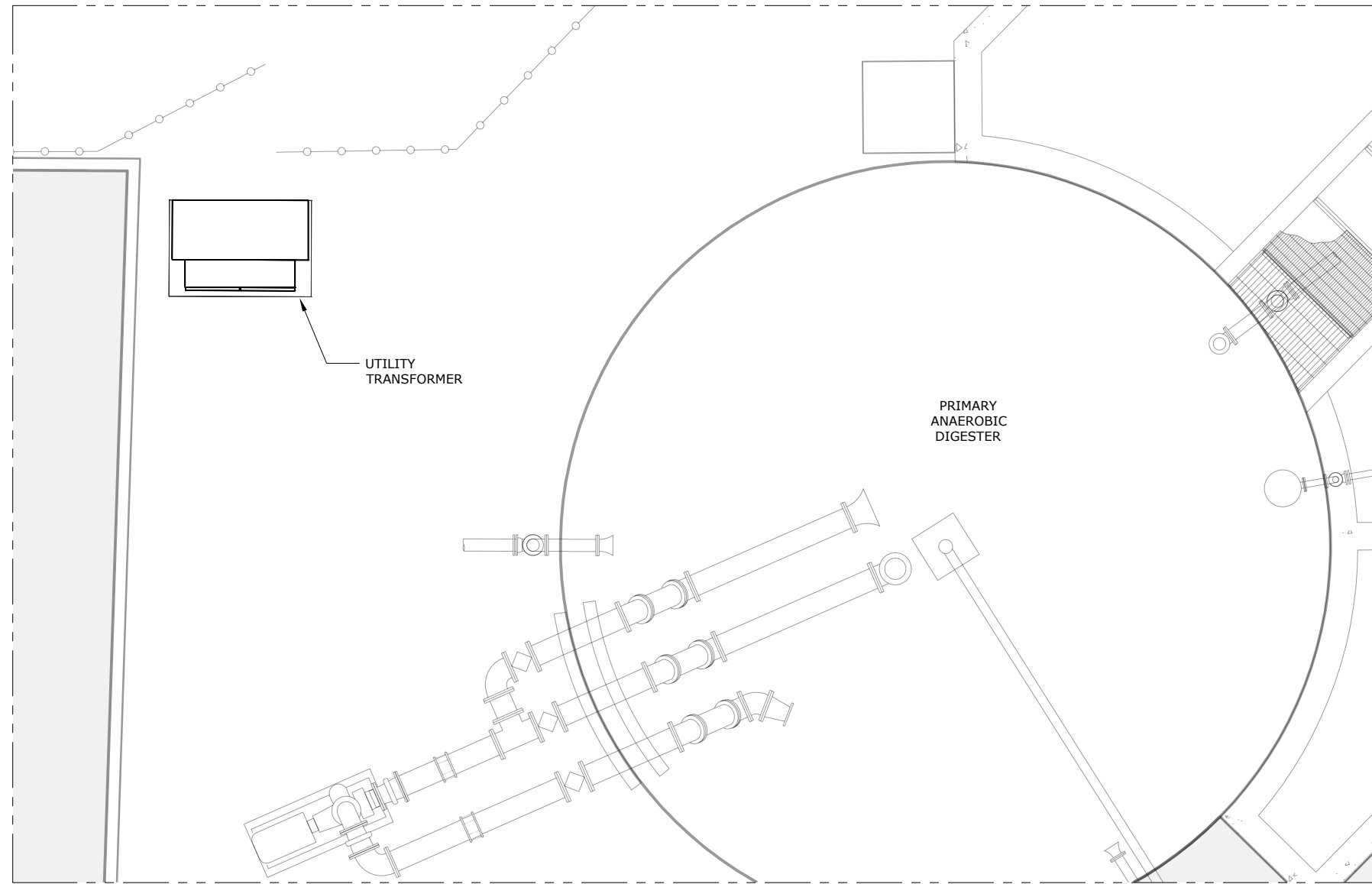
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**THICKENING BUILDING  
POWER, SIGNAL AND DATA PLAN**

SHEET  
**E-710**  
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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Vancouver, Washington 98682  
Phone: (503) 262-0376  
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E-mail: [is@industrialsystems-inc.com](mailto:is@industrialsystems-inc.com)  
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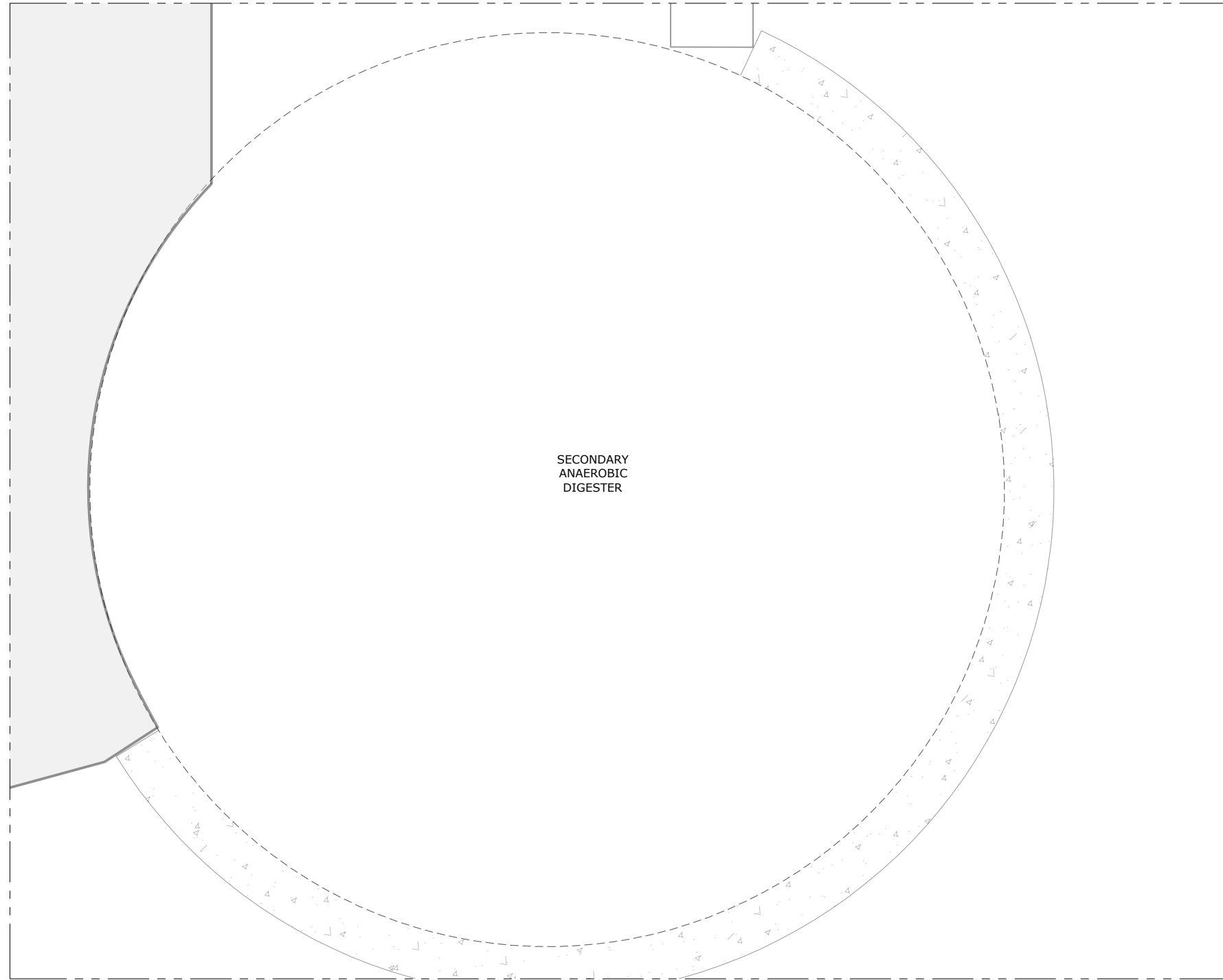
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**PRIMARY DIGESTER  
POWER, SIGNAL, DATA  
AND LIGHTING PLAN**

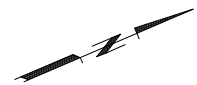
SHEET  
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PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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PLAN  
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e-mail: [is@industrialsystems-inc.com](mailto:is@industrialsystems-inc.com)  
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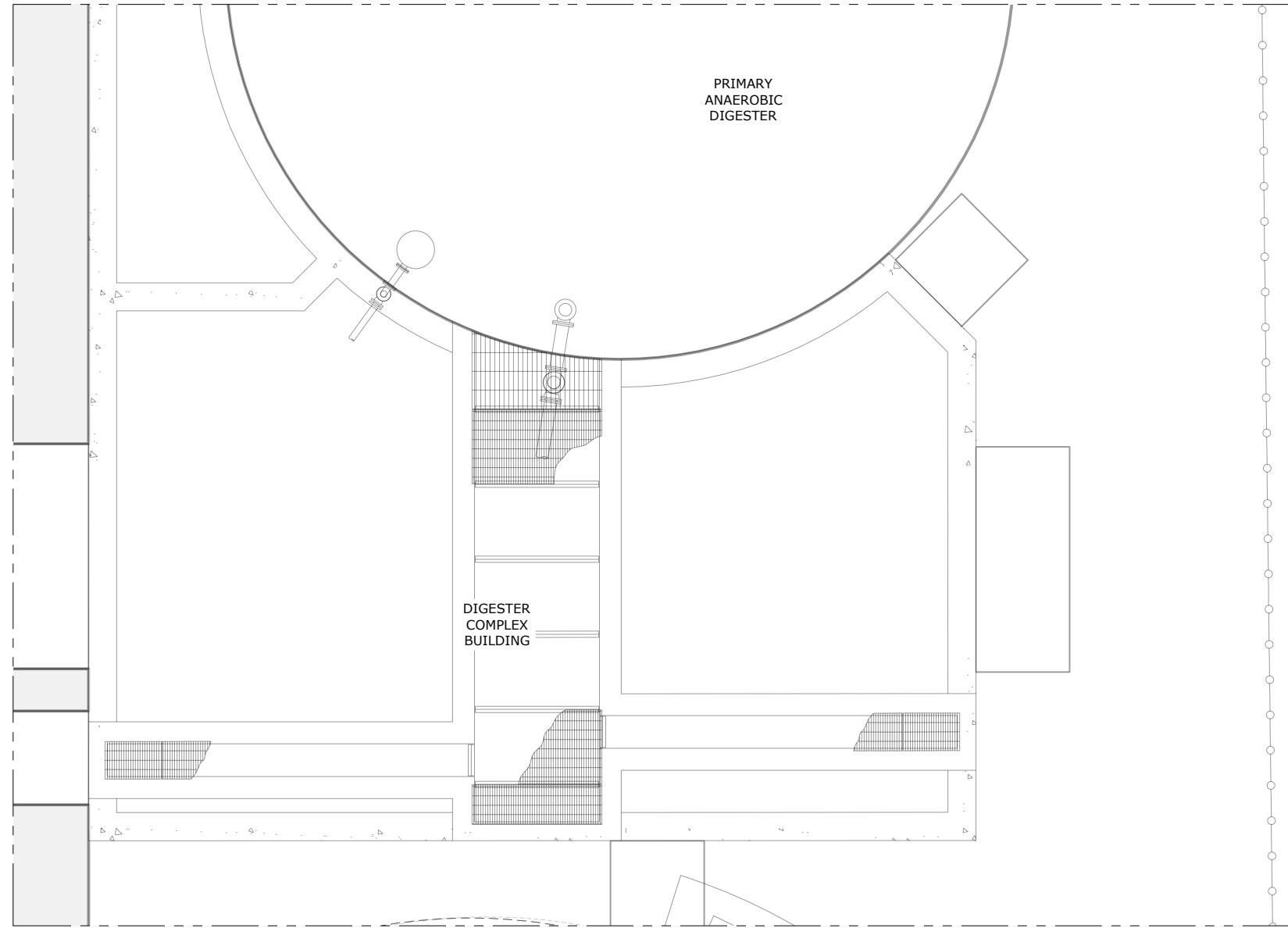
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**SECONDARY DIGESTER  
POWER, SIGNAL, DATA  
AND LIGHTING PLAN**

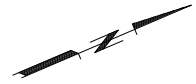
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**PLAN**  
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e-mail: [is@industrialsystems-inc.com](mailto:is@industrialsystems-inc.com)  
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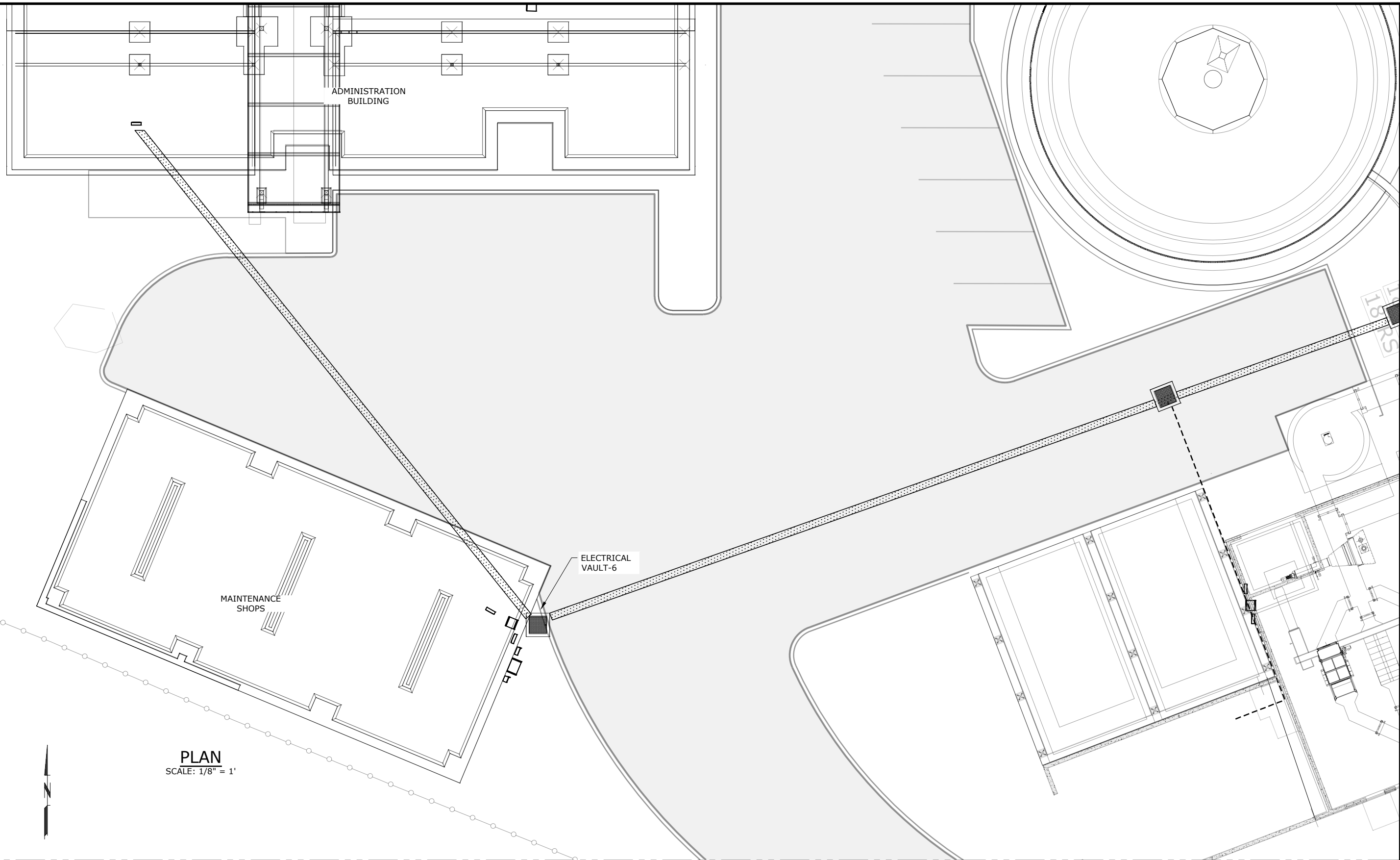
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| <b>DIGESTER COMPLEX<br/>POWER, SIGNAL, DATA PLAN</b> |           |        |          |
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**PLAN**  
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Fax: (503) 262-0371  
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**CITY OF SWEET HOME**  
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**MAINTENANCE BUILDING**  
**POWER, SIGNAL AND DATA PLAN**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

SHEET  
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# ELECTRICAL SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

## Abbreviations

|        |                                      |
|--------|--------------------------------------|
| AFC    | ABOVE FINISHED CEILING               |
| AFF    | ABOVE FINISHED FLOOR                 |
| AFG    | ABOVE FINISHED GRADE                 |
| AC     | ALTERNATING CURRENT, AIR CONDITIONER |
| AWG    | AMERICAN WIRE GAUGE                  |
| A      | AMPERES, AMBER                       |
| AV     | AUDIO VISUAL                         |
| AHJ    | AUTHORITY HAVING JURISDICTION        |
| AIC    | AVAILABLE INTERRUPTING CAPACITY      |
| BAS    | BUILDING AUTOMATION SYSTEM           |
| CAT    | CATEGORY                             |
| CB     | CIRCUIT BREAKER                      |
| C      | CONDUIT, CLOSE, CONTROL              |
| CU     | COPPER                               |
| DIA    | DIAMETER                             |
| DIM    | DIMENSION                            |
| DIV    | DIVISION                             |
| E      | EMERGENCY                            |
| EM     | EMERGENCY LIGHT BALLAST              |
| FACP   | FIRE ALARM CONTROL PANEL             |
| (F)    | FUTURE                               |
| G, GND | GROUND                               |
| GFCI   | GROUND FAULT CIRCUIT INTERRUPTER     |
| GFI    | GROUND FAULT INTERRUPTER             |
| GFP    | GROUND FAULT PROTECTION              |
| IN     | INCH, INCHES                         |
| KV     | KILOVOLT                             |
| KVA    | KILOVOLT AMPERES                     |
| KW     | KILOWATT                             |
| LED    | LIGHT EMITTING DIODE                 |
| MOCP   | MAXIMUM OVERCURRENT PROTECTION       |
| MCA    | MINIMUM CIRCUIT AMPS                 |
| NEC    | NATIONAL ELECTRIC CODE               |
| N      | NEUTRAL                              |
| (N)    | NEW                                  |
| N.I.C. | NOT IN CONTRACT                      |
| NTS    | NOT TO SCALE                         |
| PNL    | PANEL                                |
| PH     | PHASE                                |
| PWR    | POWER                                |
| QTY    | QUANTITY                             |
| REF    | REFERENCE                            |
| SPD    | SURGE PROTECTION DEVICE              |
| TYP    | TYPICAL                              |
| UON    | UNLESS OTHERWISE NOTED               |
| V      | VOLTS, VOLTAGE                       |

## General

|  |                                   |
|--|-----------------------------------|
|  | DETAIL NUMBER AND SHEET LOCATION  |
|  | EQUIPMENT IDENTIFICATION LOCATION |
|  | KEYED NOTE                        |
|  | POINT OF CONNECTION               |
|  | SECTION NUMBER AND SHEET LOCATION |
|  | NEW WORK                          |

## Lighting

|  |  |
|--|--|
|  | EXIT SIGN CEILING MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN   |
|  | EXIT SIGN WALL MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN  |
|  | RECESSED 2' X 2' LUMINAIRE   |
|  | RECESSED 2' X 2' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT |

## Miscellaneous

|  |  |
|--|--|
|  | BRANCH PANEL                             |
|  | CIRCUIT BREAKER                          |
|  | FLUSH MOUNT EQUIPMENT ENCLOSURE AS NOTED |
|  | SURGE PROTECTION DEVICE                  |

## Switches and Receptacles

|  |  |
|--|--|
|  | DUPLEX RECEPTACLE (MULTIPLE LETTERS INDICATE MULTIPLE OPTIONS)<br>A = ABOVE COUNTER<br>B = CLOCK HANGER<br>C = FLUSH CEILING MOUNTED<br>E = EMERGENCY<br>F = ARC FAULT PROTECTED BY BREAKER IN PANEL<br>G = GROUND FAULT CIRCUIT INTERRUPTER<br>H = HOSPITAL GRADE<br>K = CHILD RESISTANT COVER<br>L = ISOLATED GROUND<br>P = PENDANT MOUNTED WITH CORD GRIPS. VERIFY PENDANT LENGTH<br>R1 = HALF SWITCHED BY OCCUPANCY SENSOR RELAY<br>R2 = FULLY SWITCHED BY OCCUPANCY SENSOR RELAY<br>S = SPLIT WIRED<br>T = TAMPER RESISTANT SHUTTERED RECEPTACLE<br>U = USB PORT(S)<br>W = WEATHERPROOF CONTINUOUS USE COVER, GFCI PROTECTED, WITH WEATHER-RESISTANT RECEPTACLE |
|  | DUPLEX RECEPTACLE, FLUSH FLOOR   |
|  | DOUBLE DUPLEX RECEPTACLE, FLUSH FLOOR  |
|  | DOUBLE DUPLEX RECEPTACLE. SEE LETTER CODE LIST AT DUPLEX RECEPTACLE FOR OPTIONS  |
|  | EQUIPMENT ELECTRICAL CONNECTION  |
|  | SPECIAL PURPOSE RECEPTACLE. LETTER CODE DENOTES RECEPTACLE CONFIGURATION<br>LX-XXR = NEMA CONFIGURATION TWIST-LOCK RECEPTACLE<br>X-XXR = NEMA CONFIGURATION STRAIGHT BLADE RECEPTACLE<br>P = PENDANT MOUNT WITH CORD GRIPS. VERIFY PENDANT LENGTH<br>X = COORDINATE RECEPTACLE CONFIGURATION WITH EQUIPMENT BEING SUPPLIED   |
|  | CEILING MOUNTED OCCUPANCY SENSOR<br>P = PASSIVE INFRARED<br>D = DUAL TECHNOLOGY<br>U = ULTRASONIC, 360 DEG RANGE<br>H = ULTRASONIC, HALLWAY PATTERN<br>v (LOWERCASE) = VACANCY CONTROL DESIGNATION   |

# GENERAL ELECTRICAL NOTES

- A. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHT OF ALL ELECTRICAL DEVICES.
- B. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT.
- C. BRANCH CIRCUITING FOR ALL EQUIPMENT SHALL BE AS FOLLOWS:  
i) USE NO. 12 AWG FOR ALL RUNS UP TO 50' ON A 20A-1P BREAKER.  
ii) USE NO. 10 AWG FOR ALL RUNS UP TO 70' ON A 20A-1P BREAKER.
- D. NO WIRE SMALLER THAN NO. 12 AWG SHALL BE USED FOR BRANCH CIRCUIT WIRING.
- E. MC CABLE SHALL NOT BE USED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
- F. RUN GROUND WIRE IN ALL IN-SLAB CONDUIT.
- G. ALL SURFACE MOUNTED DEVICES LOCATED WITHIN ACCESSIBLE SPACES TO BE DRAWN TYPE. WELDED SURFACE MOUNTED BOXES ARE NOT ACCEPTABLE.
- H. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED. SURFACE CONDUIT OR RACEWAY IS NOT PERMISSIBLE.

# GENERAL LIGHTING NOTES

- A. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHT OF ALL ELECTRICAL DEVICES.
- B. NO WIRE SMALLER THAN NO. 12 AWG SHALL BE USED FOR BRANCH CIRCUIT WIRING.
- C. MC CABLE SHALL NOT BE USED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
- D. ALL LIGHTING SWITCHES, DIMMERS, AND MOTION SENSORS TO CONTROL LIGHTING IN THE ROOM THEY ARE LOCATED IN UNLESS OTHERWISE NOTED.
- E. ALL MOTION SENSORS TO BE MOUNTED AT LEAST 3' AWAY FROM ANY MECHANICAL DIFFUSERS.
- F. ALL SURFACE MOUNTED DEVICES LOCATED WITHIN ACCESSIBLE SPACES TO BE DRAWN TYPE. WELDED SURFACE MOUNTED BOXES ARE NOT ACCEPTABLE.
- G. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED. SURFACE CONDUIT OR RACEWAY IS NOT PERMISSIBLE.

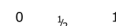
# SHEET INDEX

- E-840 SYMBOL LIST AND GENERAL NOTES - ELECTRICAL
- E-841 LIGHTING CONTROL MATRIX - ELECTRICAL
- E-842 RCP - LIGHTING
- E-843 FLOOR PLAN - POWER
- E-844 ROOF PLAN - POWER
- E-845 SINGLE LINE DIAGRAMS - ELECTRICAL
- E-846 SCHEDULES - ELECTRICAL
- E-847 SYMBOL LIST AND GENERAL NOTES - TECHNOLOGY
- E-848 FLOOR PLAN - TECHNOLOGY
- E-849 ENLARGED PLANS AND SECTIONS - TECHNOLOGY

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**STRONGWORK ARCHITECTURE**

**NOTICE**



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**SYMBOL LIST AND GENERAL NOTES - ELECTRICAL**

SHEET

**E-840**

312 of 354

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**INTERFACE ENGINEERING**  
PROJECT 2020-0066  
CONTACT Cody Bargholz  
100 SW Main Street, Suite 1600  
Portland, OR 97204  
TEL 503.382.2266  
www.interfaceengineering.com

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| PROJECT NO.: | 19-2605 | SCALE: | AS SHOWN | DATE: | JUNE 2020 |
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**GENERAL SHEET NOTES**

A. XXX

**SHEET KEYNOTES**

1. XXX

**LUMINAIRE SCHEDULE ADMIN BUILDING**

| TYPE | DESCRIPTION  | MOUNTING  | PRE-APPROVED PRODUCTS | NOTES |
|------|--|---|-----------------------|-------|
| '4#  | LINEAR LED - 4'L x #W x #D NOMINAL DIMENSIONS            | SUSPENDED   | TBD                   |       |
| '8## | LINEAR LED - 8'L x #W x #D NOMINAL DIMENSIONS            | SUSPENDED   | TBD                   |       |
| '8#  | LINEAR LED - 8'L x #W x #D NOMINAL DIMENSIONS            | SUSPENDED   | TBD                   |       |
| '16# | LINEAR LED - 16'L x #W x #D NOMINAL DIMENSIONS           | SUSPENDED   | TBD                   |       |
| 'A'  | LED TROFFER - 2'L x 2'W x 2.3"D NOMINAL DIMENSIONS       | RECESSED  | LITHONIA 2BLT         |       |
| 'B'  | LED FLAT PANEL - 2'L x 2'W x 2.19"D NOMINAL DIMENSIONS   | SURFACE   | LITHONIA EPANL        |       |
| 'C'  | LED STRIPLIGHT - 4'L x 2.1'W x #2.1"D NOMINAL DIMENSIONS | SURFACE OR SUSPENDED                                    | LITHONIA ZL1N         |       |
| 'D'  | LED DOWNLIGHT - 4"DIA x 14.4"D NOMINAL DIMENSIONS        | RECESSED  | LITHONIA LDN4         |       |
| 'X'  |  | REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING CONDITIONS |                       |       |

NOTES

- THIS LUMINAIRE SCHEDULE IS NOT COMPLETE WITHOUT A COPY OF THE PROJECT MANUAL CONTAINING THE ELECTRICAL SPECIFICATIONS.
- FLUORESCENT BALLASTS: UNIVERSAL VOLTAGE, PROGRAM START WITH END-OF-LIFE PROTECTIVE CIRCUITRY.
- METAL HALIDE BALLASTS: PULSE START FOR LAMPS ABOVE 150 WATTS AND ELECTRONIC FOR LAMPS 150 WATTS AND BELOW, UNLESS OTHERWISE NOTED.
- DIMMING CONTROL PROTOCOL (0-10VDC, LINE VOLTAGE, DALI, ETC.) COMPATIBLE WITH LIGHTING CONTROL SYSTEM AS SPECIFIED AND SHOWN ON DRAWINGS.
- T8 LAMPS: NOMINAL 4 FOOT LAMPS TO HAVE INITIAL 3100 LUMENS, MINIMUM 36000 HOURS RATED LIFE ON 3 HOUR SWITCHING CYCLE AND 42000 HOURS ON 12 HOUR SWITCHING CYCLE.
- T5 LAMPS: NOMINAL 4 FOOT LAMPS TO BE RATED FOR 20000 HOURS ON 3 HOUR SWITCHING CYCLES.
- T5HO LAMPS: NOMINAL 4 FOOT LAMPS TO BE RATED FOR 25000 HOURS ON 3 HOUR SWITCHING CYCLES AND 35000 HOURS ON 12 HOUR SWITCHING CYCLES.
- FLUORESCENT LAMPS TO HAVE 4100K COLOR TEMPERATURE AND 85+ CRI FOR LINEAR LAMPS AND 82+ CRI FOR COMPACT FLUORESCENT LAMPS UNLESS OTHERWISE NOTED.
- CERAMIC METAL HALIDE LAMPS: 80+ CRI WITH MAXIMUM +/- 150K COLOR SHIFT OVER LAMP LIFE.
- PROVIDE +/- 12 INCH ADJUSTABILITY IN AIRCRAFT CABLE LENGTH WHERE USED.
- COORDINATE ALL CEILING TYPES WITH LUMINAIRE LOCATIONS PRIOR TO ORDERING LUMNAIRES. COORDINATE INSTALLATION WITH REFLECTED CEILING PLAN.
- SPECIFIED MANUFACTURERS ARE APPROVED TO SUBMIT BID. INCLUSION DOES NOT RELIEVE MANUFACTURER FROM SUPPLYING PRODUCT AS DESCRIBED.
- PROVIDE SUBMITTALS THAT INCLUDE THE LUMINAIRE, LAMP AND BALLAST INFORMATION OF EACH LUMINAIRE, WITH APPLICABLE OPTIONS CLEARLY CHECKED OR HIGHLIGHTED. SUBMITTALS NOT INCLUDING THIS INFORMATION WILL BE RETURNED AS REJECTED BY THE ENGINEER OF RECORD.
- REMOTE BALLASTS/DRIVERS: UL LISTED FOR THEIR APPLICATION. BALLASTS/DRIVERS MARKED AS UL RECOGNIZED COMPONENT BUT NOT UL LISTED ARE SUBJECT TO REMOVAL AND REPLACEMENT AT NO COST TO OWNER.
- [DELETE IF PROJECT IS NOT IN THE STATE OF WASHINGTON] PROVIDE COMMISSIONING OF THE LIGHTING IN ACCORDANCE WITH THE WASHINGTON STATE NON-RESIDENTIAL ENERGY CODE 1513.7.
- [DELETE IF PROJECT IS NOT IN THE STATE OF CALIFORNIA] PROVIDE COMMISSIONING OF THE LIGHTING AND LIGHTING CONTROLS IN ACCORDANCE WITH CALIFORNIA TITLE 24 LIGHTING COMMISSIONING REQUIREMENTS.

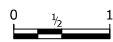
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**STRONGWORK ARCHITECTURE**

**60% SUBMITTAL**

**INTERFACE ENGINEERING**  
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**LIGHTING CONTROL MATRIX - ELECTRICAL**  
 PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

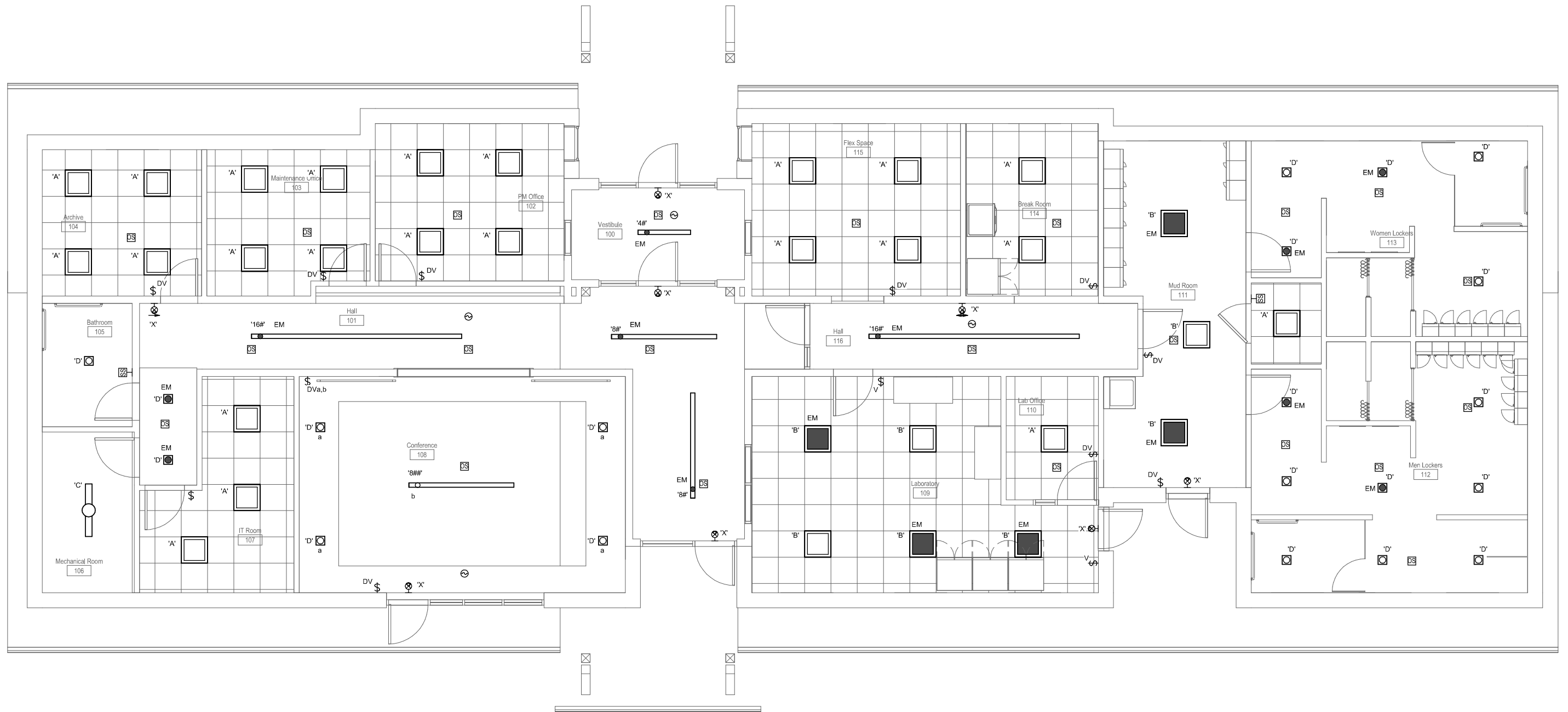
SHEET  
**E-841**  
 313 of 354

**GENERAL SHEET NOTES**

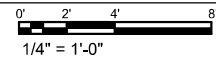
**SHEET KEYNOTES**

A. EXIT SIGNS: WIRE AND CONNECT EXIT SIGNS TO NEAREST UNSWITCHED HOT CONDUCTOR FROM INVERTER 'INV-A'.

1. XXX



**1 RCP - LIGHTING**



G:\ACTIVE PROJECTS\XXXX

**STRONGWORK  
ARCHITECTURE**

**60% SUBMITTAL**

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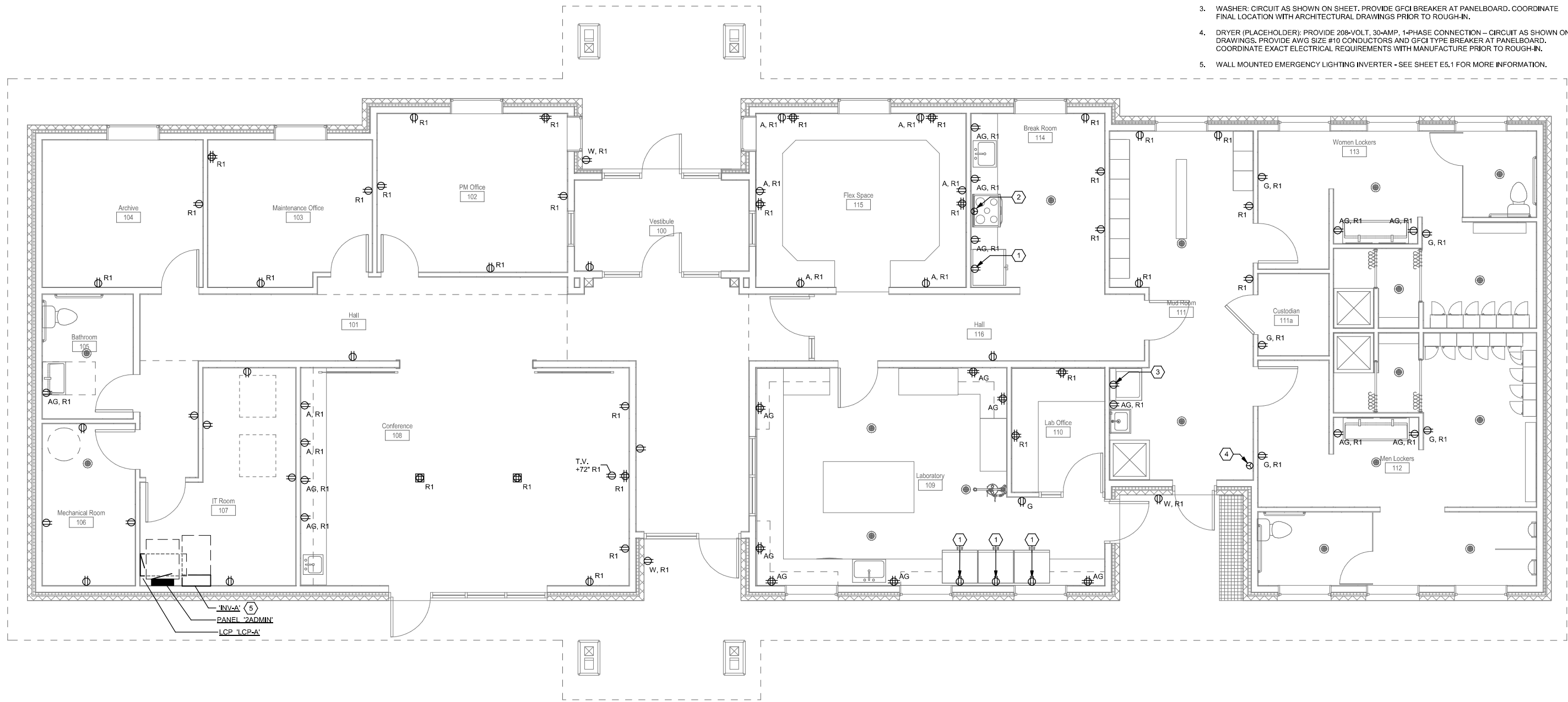
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| <b>RCP - LIGHTING</b> |           |        |          |
| PROJECT NO.:          | 19-2605   | SCALE: | AS SHOWN |
| DATE:                 | JUNE 2020 |        |          |

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**E-842**  
314 of 354

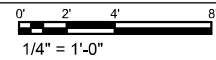
**GENERAL SHEET NOTES**

**SHEET KEYNOTES**

- REFRIGERATOR: CIRCUIT AS SHOWN ON SHEET. PROVIDE GFCI BREAKER AT PANELBOARD. COORDINATE FINAL LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
- ELECTRIC RANGE: PROVIDE 208-VOLT, 40-AMP, 1-PHASE CONNECTION – CIRCUIT AS SHOWN ON DRAWINGS. PROVIDE AWG SIZE #8 CONDUCTORS AND GFCI TYPE BREAKER AT PANELBOARD. COORDINATE EXACT ELECTRICAL REQUIREMENTS WITH MANUFACTURE PRIOR TO ROUGH-IN.
- WASHER: CIRCUIT AS SHOWN ON SHEET. PROVIDE GFCI BREAKER AT PANELBOARD. COORDINATE FINAL LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
- DRYER (PLACEHOLDER): PROVIDE 208-VOLT, 30-AMP, 1-PHASE CONNECTION – CIRCUIT AS SHOWN ON DRAWINGS. PROVIDE AWG SIZE #10 CONDUCTORS AND GFCI TYPE BREAKER AT PANELBOARD. COORDINATE EXACT ELECTRICAL REQUIREMENTS WITH MANUFACTURE PRIOR TO ROUGH-IN.
- WALL MOUNTED EMERGENCY LIGHTING INVERTER - SEE SHEET E5.1 FOR MORE INFORMATION.



**1 FLOOR PLAN - POWER**



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**STRONGWORK  
ARCHITECTURE**

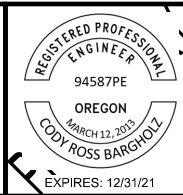
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**FLOOR PLAN - POWER**

SHEET

**E-843**

315 of 354

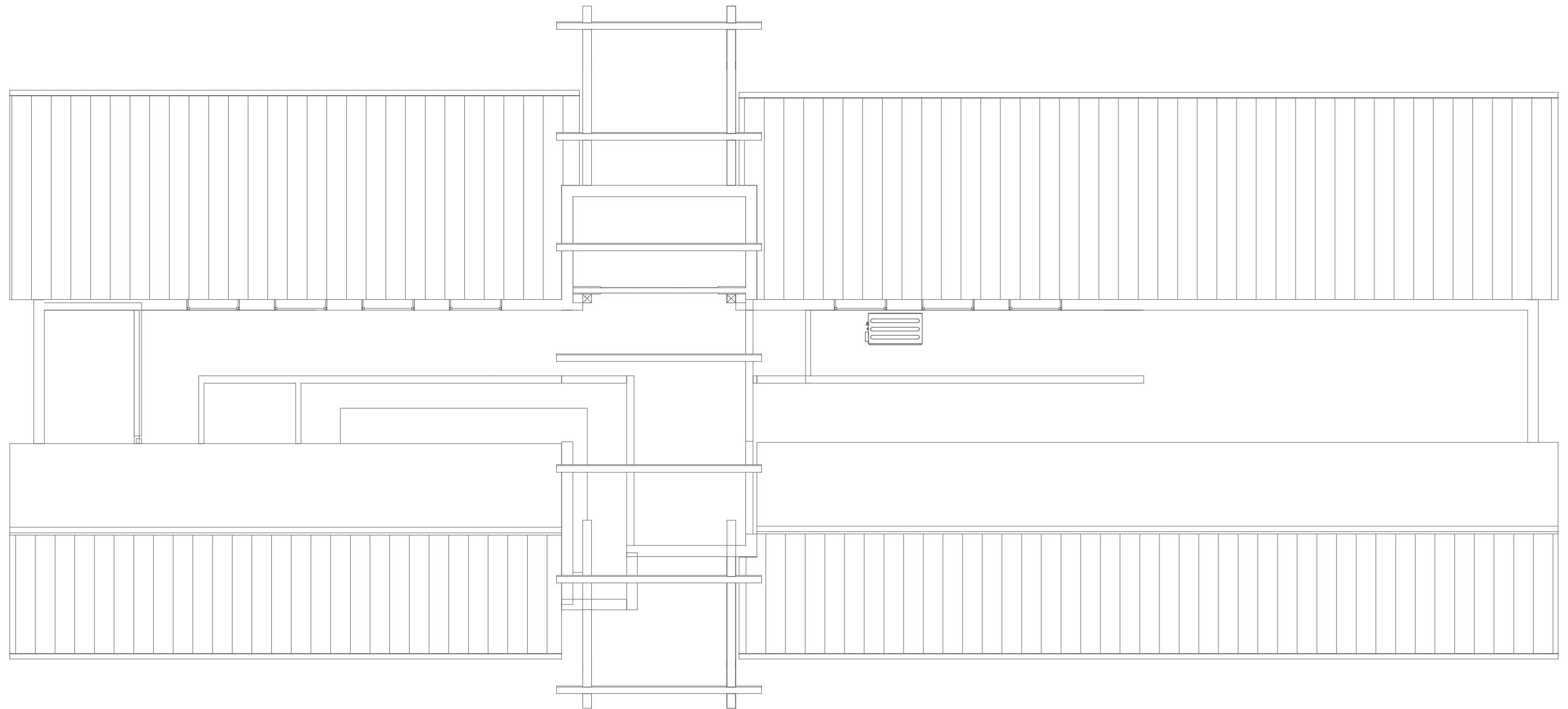
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

**GENERAL SHEET NOTES**

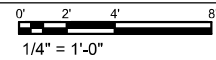
A. XXX

**SHEET KEYNOTES**

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**1 ROOF PLAN - POWER**



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|                          |           |        |          |
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| <b>ROOF PLAN - POWER</b> |           |        |          |
| PROJECT NO.:             | 19-2605   | SCALE: | AS SHOWN |
| DATE:                    | JUNE 2020 |        |          |

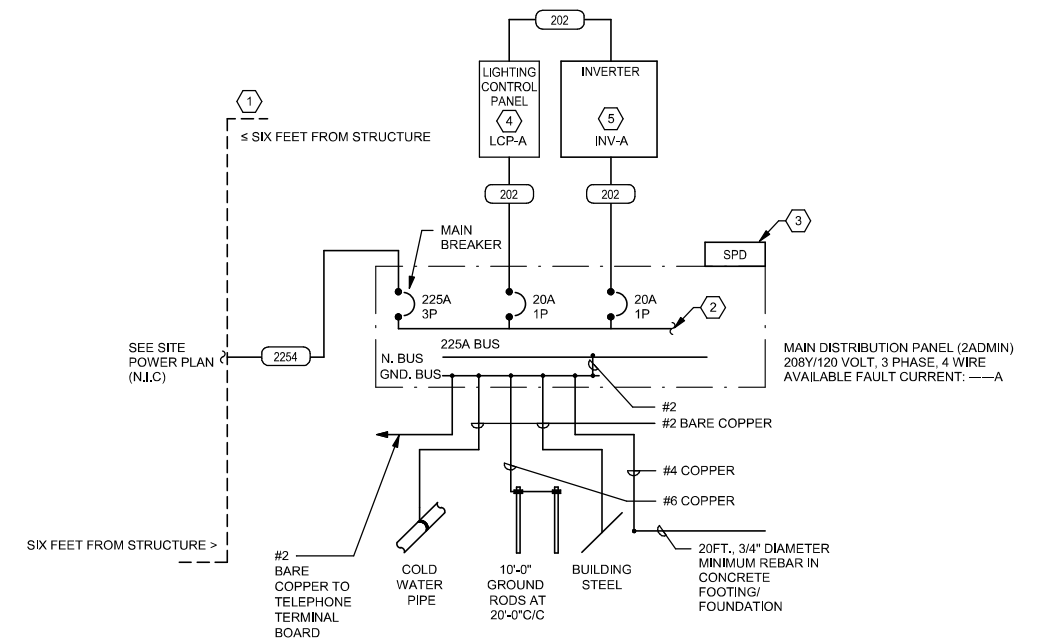
SHEET  
**E-844**  
16 of 354

**FEEDER SCHEDULE**

|      | A,C,S,X                               | A=Aluminum<br>C=Conduit only<br>S=Service secondary<br>X=Separately derived system |
|------|---------------------------------------|--|
| 202  | 2 #12 CU, 1 #12 CU GND., IN 3/4" C.   |  |
| 2254 | 4 #4/0 CU, 1 #4 CU GND., IN 2 1/2" C. |  |

**SHEET KEYNOTES**

- DIVISION OF LABOR - ELECTRICAL SITE WORK NOT IN CONTRACT (N.I.C.). INTERCEPT AND EXTEND SITE CONDUIT AS NECESSARY TO PROVIDE A COMPLETE RACEWAY. CONTRACTOR TO VERIFY EXACT INTERCEPT POINT AND DETERMINE REQUIRED MATERIALS.
- SEE PANEL SCHEDULE '2ADMIN' ON SHEET E6.1 FOR ADDITIONAL LOAD INFORMATION.
- SURGE PROTECTION DEVICE TO BE MOUNTED DIRECTLY TO MAIN BUS.
- LIGHTING CONTROL PANEL: PROVIDE PHYSICAL HIGH-VOLTAGE BARRIER BETWEEN NORMAL AND EMERGENCY RELAYS.
- EMERGENCY LIGHTING INVERTER: WALL MOUNTED INVERTER RATED FOR 500W, 120-VOLT INPUT/OUTPUT WITH 90-MINUTE RUN TIME. ABB EMERGLITE MINI INVERTER, MODEL NO. 120SG500-FTCM-120-90-ICB-OCB0420-WB OR APPROVED EQUAL.



**ADMIN BUILDING -  
1 ONE-LINE POWER DISTRIBUTION DIAGRAM**

NO SCALE

G:\ACTIVE PROJECTS\XXXX

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ARCHITECTURE**

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**SINGLE LINE DIAGRAMS - ELECTRICAL**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

SHEET  
**E-845**  
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| MECHANICAL EQUIPMENT CONNECTION SCHEDULE   |             |          |       |    |          |     |    |      |                |                |       |
|--|-------------|----------|-------|----|----------|-----|----|------|----------------|----------------|-------|
| SYMBOL   | DESCRIPTION | LOCATION | VOLTS | PH | LOAD(VA) | MCA | HP | MOCP | CIRCUIT NUMBER | WIRE / CONDUIT | NOTES |
| <b>GENERAL MECHANICAL EQUIPMENT CONNECTION NOTE:</b>   |             |          |       |    |          |     |    |      |                |                |       |
| A. THE ABOVE INFORMATION IS FOR A SPECIFIC MANUFACTURER. ACTUAL MANUFACTURER FOR EQUIPMENT MAY BE DIFFERENT. COORDINATE WITH MECHANICAL EQUIPMENT SUBMITTALS FOR LOADS AND OVER CURRENT PROTECTION REQUIREMENTS PRIOR TO INSTALLATION OF WIRING. |             |          |       |    |          |     |    |      |                |                |       |
| B. MOCP = MAXIMUM OVER CURRENT PROTECTION.<br>MCA = MINIMUM CIRCUIT AMPACITY   |             |          |       |    |          |     |    |      |                |                |       |
| C. PROVIDE DISCONNECTING MEANS FOR EACH ITEM OF EQUIPMENT LISTED IN THE SCHEDULE ABOVE, EXCEPT AS SPECIFICALLY NOTED OTHERWISE IN SCHEDULE NOTES, BELOW.   |             |          |       |    |          |     |    |      |                |                |       |
| <b>MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES</b>  |             |          |       |    |          |     |    |      |                |                |       |
| 1 XX   |             |          |       |    |          |     |    |      |                |                |       |
| 2 XX   |             |          |       |    |          |     |    |      |                |                |       |
| <b>WIRE/CONDUIT SCHEDULE</b>   |             |          |       |    |          |     |    |      |                |                |       |

| PANELBOARD: 2ADMIN  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      |     |
|---|----------------------|-------------------|-----------------|---------------------------------|------|-----------|---|---|---|--|---|-------------------------------|------|------|-------|----------------------|-----|
| MAIN CIRCUIT BREAKER: 225 A<br>BUS AMPACITY: 225 A<br>EQUIPMENT RATING: 120/208 V, 3PH, 4 WIRE<br>AIC RATING:   |                      |                   |                 |                                 |      |           |   |   |   | MOUNTING: SURFACE<br>ENCLOSURE: TYPE 1<br>LOCATION: Space 18<br>SUPPLIED FROM: |   |                               |      |      |       |                      |     |
| Accessories:  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      |     |
| CKT   | Description/Location | Type              | C.B.            | Pole                            | Note | Load (VA) |   |   |   |  |   | Note                          | Pole | C.B. | Type  | Description/Location | CKT |
|   |                      |                   |                 |                                 |      | A         | B | C | A | B  | C |                               |      |      |       |                      |     |
| 1   | LCP-A                | Other             | 20 A            | 1                               |      | 0         |   |   |   |  |   |                               |      |      |       |                      | 2   |
| 3   |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 4   |
| 5   |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 6   |
| 7   |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 8   |
| 9   |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 10  |
| 11  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 12  |
| 13  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 14  |
| 15  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 16  |
| 17  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 18  |
| 19  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 20  |
| 21  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 22  |
| 23  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 24  |
| 25  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 26  |
| 27  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 28  |
| 29  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 30  |
| 31  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 32  |
| 33  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 34  |
| 35  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 36  |
| 37  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 38  |
| 39  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 40  |
| 41  |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      | 42  |
| Total Connected load Ph. A  |                      |                   |                 |                                 |      | 0 A       |   |   |   |  |   | Panel Connected Load: 0.0 kVA |      |      | 0.0 A |                      |     |
| Total Connected load Ph. B  |                      |                   |                 |                                 |      | 0 A       |   |   |   |  |   | Total Demand Load: 0.0 kVA    |      |      | 0.0 A |                      |     |
| Total Connected load Ph. C  |                      |                   |                 |                                 |      | 0 A       |   |   |   |  |   |                               |      |      |       |                      |     |
| <b>Notes:</b>   |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      |     |
| <b>Load Type Definitions:</b>   |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      |     |
| Motor (125% largest Motor + 100% remaining... K = Kitchen (Demand as per NEC Table 220.56) C = Continuous Load (125%) X = X-Rays (Demand per NEC 660.6) |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      |     |
| R = Receptacles (to 10kVA 100%, over 10 kVA 50%) G = General Load (Non-continuous) (100%) L = Lighting (125%) H = Heating (100%)                        |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      |     |
| E = Existing Load 30-day metered (125%) EL = Elevator (Demand as per NEC Table... W = Water Heater (125%)   |                      |                   |                 |                                 |      |           |   |   |   |  |   |                               |      |      |       |                      |     |
| Load Type   | Connected Load       | NEC Demand Factor | NEC Demand Load | Panel Totals                    |      |           |   |   |   |  |   |                               |      |      |       |                      |     |
|   |                      |                   |                 | Total Connected Load: 0.0 VA    |      |           |   |   |   |  |   |                               |      |      |       |                      |     |
|   |                      |                   |                 | Total NEC Demand: 0.0 VA        |      |           |   |   |   |  |   |                               |      |      |       |                      |     |
|   |                      |                   |                 | Total Connected Current: 0.0 A  |      |           |   |   |   |  |   |                               |      |      |       |                      |     |
|   |                      |                   |                 | Total NEC Demand Current: 0.0 A |      |           |   |   |   |  |   |                               |      |      |       |                      |     |

| LIGHTING CONTROL PANEL - 'LCP-A' |                            |                              |                         |       |
|----------------------------------|----------------------------|------------------------------|-------------------------|-------|
| RELAY # / ZONES                  | CIRCUIT                    | DESCRIPTION                  | CONTROL                 | NOTES |
| 1                                |                            | BUILDING MOUNTED EXTERIOR    | PC, BAS, TC             |       |
| 2                                |                            |                              |                         |       |
| 3                                |                            |                              |                         |       |
| 4                                |                            |                              |                         |       |
| -----PHYSICAL BARRIER-----       |                            |                              |                         |       |
| 5                                |                            |                              |                         |       |
| 6                                |                            |                              |                         |       |
| 7                                |                            | EM BUILDING MOUNTED EXTERIOR | PC, BAS, SS, TC, FA     |       |
| 8                                |                            | EM HALLWAY                   | OS, PC, BAS, SS, TC, FA |       |
| <b>INPUTS:</b>                   |                            |                              |                         |       |
| TC                               | TIMECLOCK                  |                              |                         |       |
| PC                               | PHOTOCELL                  |                              |                         |       |
| FA                               | FIRE ALARM                 |                              |                         |       |
| SS                               | SECURITY SYSTEMS           |                              |                         |       |
| BAS                              | BUILDING AUTOMATION SYSTEM |                              |                         |       |

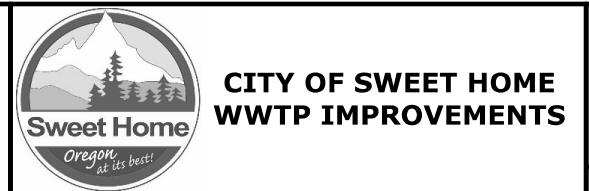
| LOAD SUMMARY ADMIN SERVICE                |      |      |
|---|------|------|
| AT EXISTING MAIN DISTRIBUTION SWITCHBOARD |      |      |
| (E) MAXIMUM DEMAND:                       | 0.00 | KW   |
| POWER FACTOR (0.9):                       | 0.00 | KVA  |
| +25% SAFETY FACTOR:                       | 0.00 | KVA  |
| +ADDED (NEW) DEMAND: 2ADMIN:              | 0.00 | KVA  |
| TOTAL NEW DEMAND LOAD:                    | 0.00 | KVA  |
| TOTAL AMPS (480V, 3 PHASE):               | 0.00 | AMPS |

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SCHEDULES - ELECTRICAL

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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# TECHNOLOGY SYMBOL LIST

# GENERAL TECHNOLOGY NOTES





NOTE: This is a standard symbol list and not all items listed may be used.

A. XXXX  
B. XXXX








### Abbreviations

|        |   |
|--------|---|
| AFF    | ABOVE FINISHED FLOOR                      |
| AV     | AUDIO VISUAL                              |
| ATS    | AUTOMATIC TRANSFER SWITCH                 |
| BC     | BARE COPPER                               |
| CATV   | CABLE TELEVISION                          |
| CAT    | CATEGORY                                  |
| CB     | CIRCUIT BREAKER                           |
| CCTV   | CLOSED CIRCUIT TELEVISION                 |
| COAX   | COAXIAL                                   |
| COM    | COMMUNICATION                             |
| C      | CONDUIT                                   |
| CFI    | CONTRACTOR FURNISHED CONTRACTOR INSTALLED |
| CFOI   | CONTRACTOR FURNISHED OWNER INSTALLED      |
| CNTL   | CONTROL                                   |
| CPT    | CONTROL POWER TRANSFORMER                 |
| CR     | CONTROL RELAY                             |
| CT     | CURRENT TRANSFORMER                       |
| EA     | EACH                                      |
| E      | EMERGENCY                                 |
| (E)    | EXISTING                                  |
| LC     | FIBER OPTIC CONNECTOR                     |
| SC     | FIBER OPTIC CONNECTOR                     |
| FDU    | FIBER OPTIC DISTRIBUTION UNIT             |
| FF     | FINISH FLOOR                              |
| FA     | FIRE ALARM                                |
| FACP   | FIRE ALARM CONTROL PANEL                  |
| FT     | FOOT, FEET                                |
| GRC    | GALVANIZED RIGID STEEL CONDUIT            |
| ANMW   | GEL-FILLED UNDERGROUND CABLE              |
| G, GND | GROUND                                    |
| HH     | HANDHOLE                                  |
| IN     | INCH, INCHES                              |
| IT     | INFORMATION TECHNOLOGY                    |
| IDF    | INTERMEDIATE DISTRIBUTION FRAME           |
| IMC    | INTERMEDIATE METAL CONDUIT                |
| LAN    | LOCAL AREA NETWORK                        |
| LV     | LOW VOLTAGE                               |
| MDF    | MAIN DISTRIBUTION FRAME                   |
| MSB    | MAIN SWITCHBOARD                          |
| MTS    | MANUAL TRANSFER SWITCH                    |
| MATV   | MASTER ANTENNA TELEVISION                 |
| MISC   | MISCELLANEOUS                             |
| M      | MOTOR                                     |
| NC     | NORMALLY CLOSED                           |
| NO     | NORMALLY OPEN                             |
| NA     | NOT APPLICABLE                            |
| NTS    | NOT TO SCALE                              |
| OSP    | OUTSIDE PLANT                             |
| OFCI   | OWNER FURNISHED, CONTRACTOR INSTALLED     |
| OFOI   | OWNER FURNISHED, OWNER INSTALLED          |
| PTZ    | PAN, TILT, ZOOM                           |
| PNL    | PANEL                                     |
| PVC    | POLY-VINYL-CHLORIDE                       |
| POE    | POWER OVER ETHERNET                       |
| PBX    | PRIVATE BRANCH EXCHANGE                   |
| QTY    | QUANTITY                                  |
| RFI    | REQUEST FOR INFORMATION                   |
| RM     | ROOM                                      |
| TBB    | TELECOMMUNICATIONS BONDING BACKBONE       |
| TGB    | TELECOMMUNICATIONS GROUNDING BUS BAR      |
| TELE   | TELEPHONE                                 |
| TTB    | TELEPHONE TERMINAL BOARD                  |
| TYP    | TYPICAL                                   |
| UPS    | UNINTERRUPTABLE POWER SUPPLY              |
| UON    | UNLESS OTHERWISE NOTED                    |
| WP     | WEATHERPROOF                              |
| WAN    | WIDE AREA NETWORK                         |
| WAP    | WIRELESS ACCESS POINT                     |
| WFI    | WIRELESS FIDELITY                         |
| W/     | WITH                                      |
| W/O    | WITHOUT                                   |




### Audio/Video

|   |  |
|---|--|
|  | AUDIO-VIDEO OUTLET IN FLOOR BOX WITH SINGLE-GANG ADAPTER PLATE AND 1-1/4" CONDUIT UNDER SLAB TO LOCATION SHOWN ON FLOOR PLANS.   |
|  | AUDIO-VIDEO OUTLET WITH 5-SQUARE RANDL BOX, SINGLE-GANG ADAPTER PLATE AND 1-1/4" CONDUIT TO ACCESSIBLE CEILING SPACE UON.<br>A = ABOVE COUNTER<br>C = FLUSH CEILING WITH 1-1/4" CONDUIT TO LOCATION SHOWN ON FLOOR PLANS |
|  | CEILING MOUNTED PROJECTOR AND BRACKET  |
|  | FLUSH MOUNTED AUDIO REINFORCEMENT SPEAKER IN CEILING WITH 1" C TO ACCESSIBLE CEILING AND CABLING PER SPECIFICATIONS  |



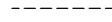



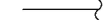
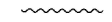


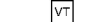

### Electronic Security

|   |   |
|---|---|
|  | DOOR POSITION SWITCH/CONTACT WITH 3/4" C TO ACCESSIBLE CEILING AND CABLING TO NEAREST TELECOM ROOM                |
|  | ELECTRIC LATCH CONNECTION WITH 3/4" C TO ACCESSIBLE CEILING AND CABLING TO NEAREST TELECOM ROOM                   |
|  | ELECTRIC STRIKE DOOR LOCKS WITH 3/4" C TO ACCESSIBLE CEILING AND CABLING TO NEAREST TELECOM ROOM                  |
|  | REQUEST TO EXIT DEVICE WITH 3/4" C TO ACCESSIBLE CEILING AND CABLING TO NEAREST TELECOM ROOM                      |
|  | WALL MOUNTED ACCESS CONTROL CARD READER WITH 3/4" C TO ACCESSIBLE CEILING AND CABLING TO NEAREST TELECOM ROOM     |
|  | WALL MOUNTED KEYPAD WITH 3/4" C TO ACCESSIBLE CEILING AND CABLING TO NEAREST TELECOM ROOM                         |
|  | VIDEO SURVEILLANCE CAMERA WITH 1" C TO ACCESSIBLE CEILING SPACE AND (1) CATEGORY 6 CABLE TO NEAREST TELECOM ROOM. |




### Equipment

|   |                                       |
|---|---------------------------------------|
|  | 2-POST EQUIPMENT RACK                 |
|  | DOUBLE-SIDED VERTICAL WIRE MANAGEMENT |
|  | MAJOR EQUIPMENT, CABINETS OR PANELS   |





### Raceways

|   |  |
|---|--|
|  | CABLE RUNWAY, WIDTH AS INDICATED           |
|  | CONDUIT AND CONDUCTORS ABOVE GRADE         |
|  | CONDUIT AND CONDUCTORS BELOW GRADE OR SLAB |
|  | CONDUIT DOWN                               |
|  | CONDUIT SLEEVE                             |
|  | CONDUIT UP                                 |
|  | CONDUIT/WIRING CONTINUATION                |
|  | FLEXIBLE CONDUIT                           |
|  | HANDHOLE                                   |
|  | PULL BOX                                   |
|  | TELECOMMUNICATIONS VAULT                   |
|  | TELEPHONE BACKBOARD                        |

### Reference Symbols

|  |                                   |
|--|-----------------------------------|
|   | DETAIL NUMBER AND SHEET LOCATION  |
|   | KEYED NOTES                       |
|  | SECTION NUMBER AND SHEET LOCATION |

### Telecommunications

|   |   |
|---|---|
|  | STANDARD COMMUNICATIONS OUTLET WITH (3) CAT6 CABLE(S) TO NEAREST MDF/IDF AND 1" C TO ACCESSIBLE CEILING SPACE.  |
|  | TELEPHONE OUTLET WITH (1) CAT6 CABLE TO NEAREST MDF/IDF AND 3/4" C, TO ACCESSIBLE CEILING SPACE.  |
|  | ALTERNATE COMMUNICATIONS OUTLET (X):<br>A = ABOVE COUNTER WITH (3) CAT6 CABLE(S) TO NEAREST TELECOM ROOM AND 1" C TO ACCESSIBLE CEILING SPACE.<br>W = LOCATION FOR FLUSH MOUNT WIRELESS ACCESS POINT OUTLET WITH (1) CAT6A CABLE TO NEAREST TELECOM ROOM AND 1" C, ACCESSIBLE CEILING SPACE, UON.<br># = XX CAT 6 CABLES TO NEAREST TELECOM ROOM AND 1" C TO ACCESSIBLE CEILING SPACE |
|  | FLUSH FLOOR COMBINATION COMMUNICATIONS OUTLET WITH (4) UL LISTED, INDOOR/OUTDOOR RATED CAT6 CABLE(S) AND 1" UNDER SLAB CONDUIT TO NEAREST TELECOM ROOM, UON.  |

G:\ACTIVE PROJECTS\XXXX

**STRONGWORK ARCHITECTURE**

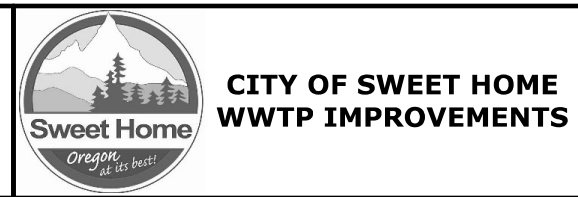
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**INTERFACE ENGINEERING**  
PROJECT 2020-0066  
CONTACT Michael Troyer  
100 SW Main Street, Suite 1600  
Portland, OR 97204  
TEL 503.382.2266  
www.interfaceengineering.com

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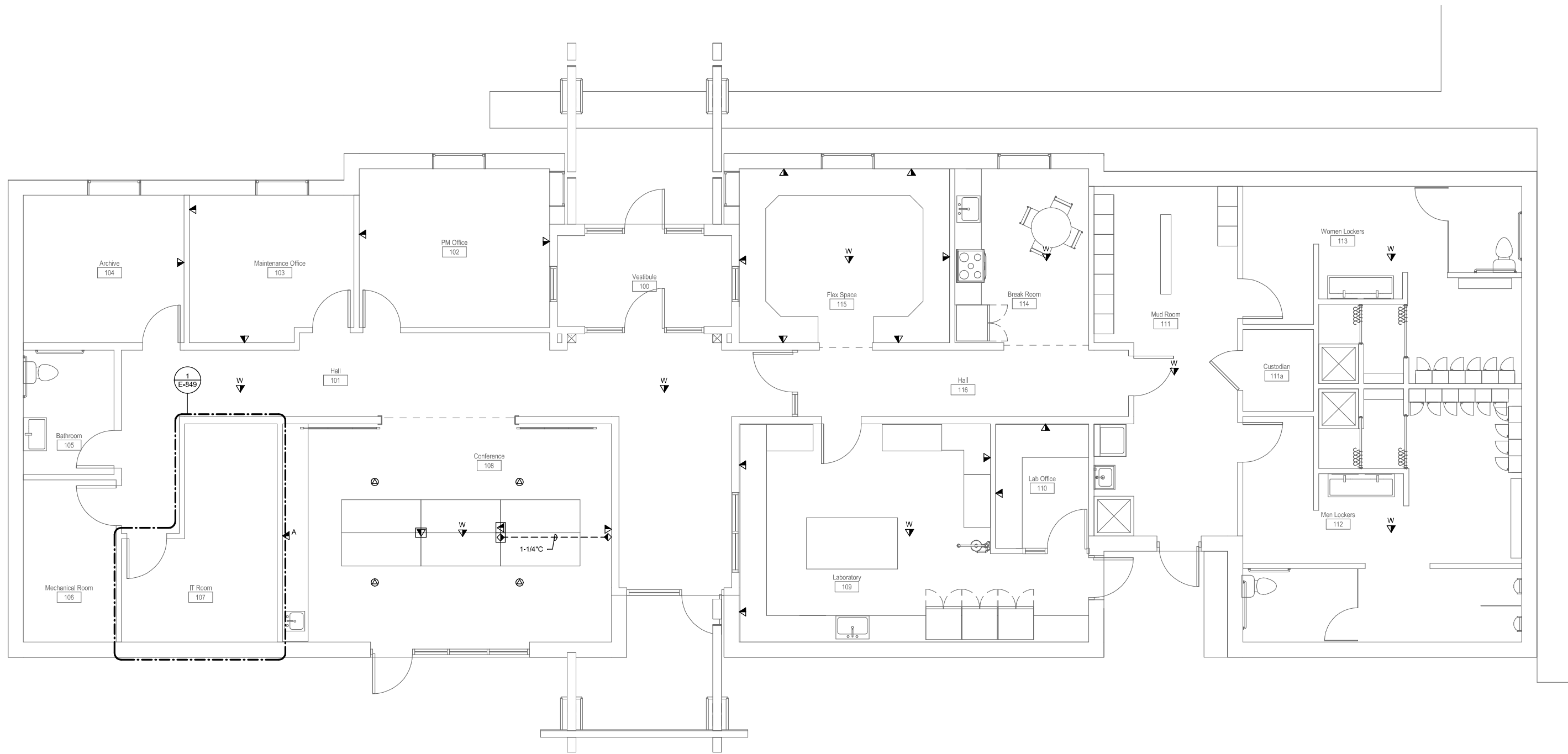
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Author  
DRAWN  
Checker  
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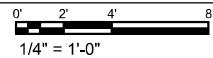


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| <b>SYMBOL LIST AND GENERAL NOTES - TECHNOLOGY</b> |           |        |          |
| PROJECT NO.:                                      | 19-2605   | SCALE: | AS SHOWN |
| DATE:   | JUNE 2020 |        |          |

SHEET  
**E-847**  
319 of 354



**1 FLOOR PLAN - TECHNOLOGY**



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**STRONGWORK  
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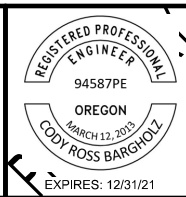
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**CITY OF SWEET HOME  
WWTP IMPROVEMENTS**

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| <b>FLOOR PLAN - TECHNOLOGY</b> |           |        |          |
| PROJECT NO.:                   | 19-2605   | SCALE: | AS SHOWN |
| DATE:                          | JUNE 2020 |        |          |

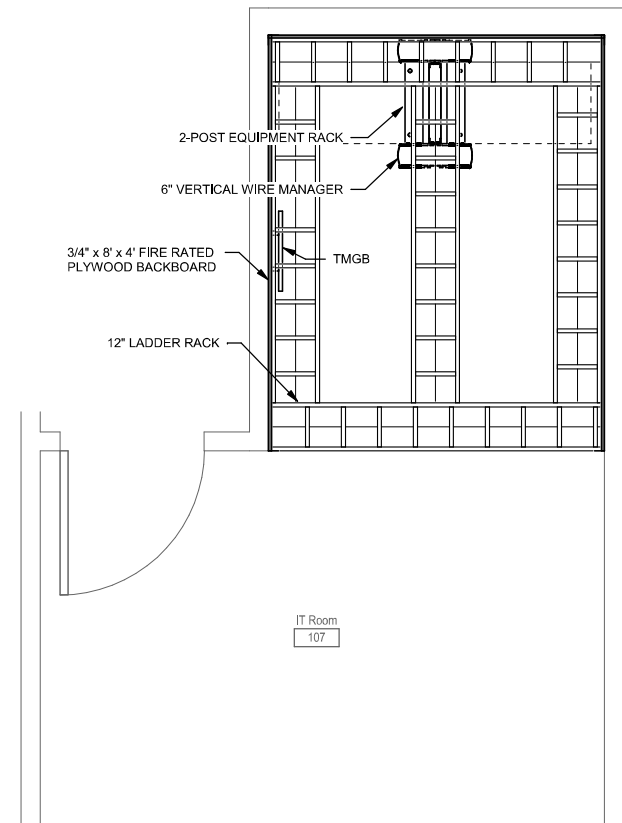
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**E-848**  
320 of 354

**GENERAL SHEET NOTES**

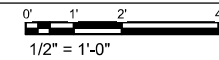
A. XXX

**SHEET KEYNOTES**

1. XXX



**1 ENLARGED PLAN - IT Room 107**



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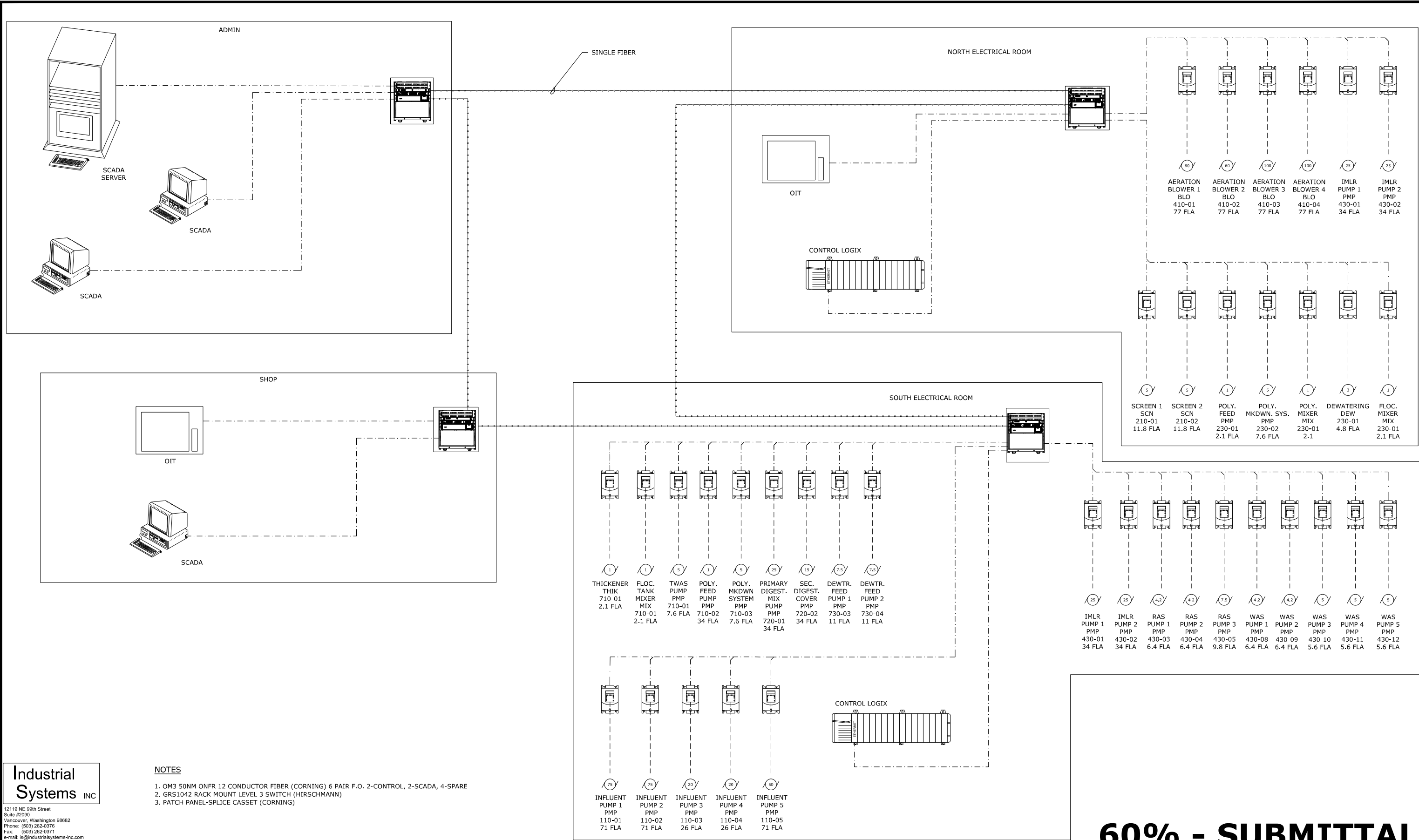
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**ENLARGED PLANS AND SECTIONS - TECHNOLOGY**  
PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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**E-849**  
321 of 354



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- NOTES**
1. OM3 50NM ONFR 12 CONDUCTOR FIBER (CORNING) 6 PAIR F.O. 2-CONTROL, 2-SCADA, 4-SPARE
  2. GRS1042 RACK MOUNT LEVEL 3 SWITCH (HIRSCHMANN)
  3. PATCH PANEL-SPLICE CASSET (CORNING)

**Industrial Systems INC**

12119 NE 99th Street  
 Suite #2090  
 Vancouver, Washington 98682  
 Phone: (503) 262-0376  
 Fax: (503) 262-0371  
 e-mail: [is@industrialsystems-inc.com](mailto:is@industrialsystems-inc.com)  
 OR CCB #196597 WA #INDUS18809  
 AK #1018436

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**SCADA NETWORK DIAGRAM**

PROJECT NO.: 19-2605 SCALE: AS SHOWN DATE: JUNE 2020

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